Quality of

Surface Waters of the

United States,

1970

Part 1. North Atlantic Slope Basins

GEOLOGICAL SURVEY WATER-SUPPLY PAPER 2151

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PREFACE

This report was prepared by the U.S. Geological Survey in cooperation with the States of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Virginia, West Virginia, and with the District of Columbia, and other agencies, by personnel of the Water Re-sources Division, J. S. Cragwall, Jr., chief hydrologist, G. W. Whetstone, assistant chief hydrologist for Scientific Publications and Data Management, under the general direction of G. A. Billingsley, chief, Reports Section, and B. A. Anderson, chief, Data Reports Unit.

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QUALITY OF SURFACE WATERS OF THE

UNITED STATES, 1970

PART 1

INTRODUCTION

The water-quality investigations of the United States Geological Survey are concerned with chemical and physical characteristics of surface- and ground-water supplies of the Nation. The data herein deal with the amounts of matter in solution and in suspension in streams, and represent that pan of the National Water Data System collected by the U.S. Geological Survey in cooperation with State, municipal, and other Federal agencies.

The records of chemical analysis, water temperature, and suspended sediment of surface waters given in this volume serve as a basis for determining the suitability of waters for various uses. The flow and water quality of a stream are related to variations in rainfall and other forms of precipitation. In general, lower concen-trations of dissolved solids may be expected during periods of high flow than during periods of low flow. Conversely, the suspended solids in some streams may change materially with relatively small variations in flow, whereas for other streams the quality of the water may remain relatively uniform throughout large ranges in discharge.

The Geological Survey has published annual records of chemical quality, water temperature, and suspended sediment since 1941. The records prior to 1948 were published each year in a single volume for the entire country, and in two volumes in 1948 and in 1949. From 1950 to 1958, the records were published in 4 volumes; from 1959 to 1963 in 5 volumes; from 1964 to 1967 in 6 volumes; and beginning with 1968 in 10 volumes. The drainage basins covered by the 10 volumes are shown in figure 1. The shaded area in figure 1 represents the section of the country covered in this volume for the water year 1970 (October 1, 1969 to September 30, 1970).

To meet interim requirements, water-quality records have been released by the Geological Survey in annual reports, beginning with the 1964 water year, by State. These reports are entitled, "Water Resources Data for (State), Part 2. Water Quality Records." These reports are for limited distribution, and are designed primarily for local needs. Any revisions or corrections found necessary to the records published in these annual State reports have been made and published in this volume without reference.

The records herein are listed by drainage basins in a 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 tribu-taries entering above all mainstream stations are listed before the first mainstream stations. Stations on tributaries to tributaries are listed in a similar manner. In the list of water-quality stations in the front of this volume, the rank of the tributaries is indicated by indention. Each indention represents one rank.

As an added means of identification, a station number has been assigned for each stream location where regular measurements of water quantity or quality have been made. The numbers have been assigned to conform with the standard downstream order of listing gaging stations. The numbering system consists of an 8-digit number, such as 01021000. The first 2 digits, "01" identifies the Part or hydrologic region used by the Geological Survey for reporting hydrologic data. The next 6 digits is the 1

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station number which represents the location of the station in the standard downstream order within each of the 16 parts (fig. 1). The complete number (01021000) appears just to the left of the station name. The assigned numbers are in numerical order but are not consecutive. Gaps are left in the numbers to allow for new stations that may be established.

Parts 9-10, WSP 2158
Part 11, WSP 2159
Parts 12-16, WSP 2160

Figure l.--Map of the United States showing basins covered by the 10 water-supply papers on quality of surface waters in 1970. The shaded
part represents the section of the country covered by this volume; the
unshaded part represents the section of the country covered by other water-supply papers.

Downstream order station numbers are not assigned to sites where only random water-quality samples are taken. These sites are classified as water-quality mis-cellaneous sites and as a means of location and identification a 15-digit number con-sisting of the latitude and longitude coordinates to the nearest second for each site plus a 2-digit sequential number are assigned. For example, the station number for a water-quality miscellaneous site with lat 42°28'47", long 07 1°41' 04 "would be 422847071410401.

Descriptive statements are given for each sampling station where chemical analyses, temperature measurements, or sediment determinations have been made. These statements include location of the station, drainage area, periods of records available, extremes of dissolved solids, hardness, specific conductance, temperature, sediment discharge, and other pertinent data. Records of discharge of the streams at or near the sampling station are included in most tables of analyses.

During the water year ending September 30, 1970, the Geological Survey main-tained 238 stations on 139 streams for the study of chemical and physical character-istics of surface water. Samples were collected daily and monthly at 183 of these locations for chemical-quality studies. Samples also were collected less frequently at many other points. Water temperatures were measured continuously at 72 and daily at 28 stations. All surface water samples collected and analyzed during the

INTRODUCTION 3

year have not been included. Single analyses made of daily samples before compositing have not been reported. Specific conductance is determined and reported for almost all daily samples.

For chemical-quality stations equipped with noncontinuous-digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be ob-tained by writing the district office listed under Division of Work on page 23.

Quantities of suspended sediment are reported for 36 stations during the year ending September 30, 1970. Sediment samples were collected one or more times daily at most stations, depending on the rate of flow and changes in stage of the stream. Particle-size distributions of sediments were determined at 17 stations.

Some of the stations for which data are published in this volume are included in special networks and programs. These stations are identified by their title, set in parentheses, under the station name.

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physi-ography, climate, and geology are similar to those in the undeveloped bench-mark basin.

International Hydrological Decade (1HD) River Stations provide a general index of runoff and materials in the water balance (discharge of water, and dissolved and transported solids) of the world. In the United States, IHD Stations provide indices of runoff and the general distribution of water in the principal river basins of the con-terminous United States and Alaska.

Irrigation network stations are water-quality stations located at or near certain streamflow gaging stations west of the main stem of the Mississippi River. Data collected at these stations are used to evaluate the chemical quality of surface waters used for irrigation and the changes resulting from the drainage of irrigated lands. Prior to water year 1966, these data were published in the annual water-supply paper series, "Quality of Surface Waters for Irrigation, Western States."

Pesticide program is a network of regularly sampled water-quality stations where additional monthly samples are collected to determine the concentration and distribution of pesticides in streams whose waters are used for irrigation or in streams in areas where potential contamination could result from the application of the commonly used insecticides and herbicides.

Pesticides are chemical compounds used to control the growth of undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Since the first application of DOT as an insecticide in the early 1930's, there have been almost 60,000 pesticide formulations registered, each containing at least one of the approximately 800 different basic pesticide compounds (Goerlitz and Brown, 1972, p. 24). The United States annually produces about 1 billion pounds of these compounds. Although efforts are being made to substitute many of the chlorinated hydrocarbon pesticides with more specific, fast-acting, and easily degrad-able compounds, chlorinated hydrocarbon pesticides are still commonly used in many areas of the country.

Radiochemical program is a network of regularly sampled water-quality stations where additional samples are collected twice a year (at high and low flow) to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Radioisotopes are isotope forms of an element that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight, but are very nearly exactly alike in chemical properties. The difference arises because the atoms of the

4 QUALITY OF SURFACE WATERS, 1970

isotopic forms of an element differ in the number of neutrons in the nucleus. For ex-ample: Ordinary chlorine is a mixture of isotopes having atomic weights 35 and 37, with the natural mixture having atomic weight about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been pro-duced in the operation of nuclear devices such as the cyclotron (Rose, 1966). There are 275 isotopes of the 81 stable elements in addition to over 800 radioactive isotopes.

Radioisotopes that are determined in this program are those of uranium in micro-grams per litre, radium as radium-226 in picocuries per litre, gross beta radiation as strontium/yttrium-90 in picocuries per litre, and gross alpha radiation as micrograms of uranium equivalent per litre.

A picocurie (PC/L, pCi/1) is one millionth of the amount of radioactivity represented by a microcurie, which is the quantity of radiation represented by one millionth of a gram of radium-226. A picocurie of radium results in 2.22 disintegration per minute.

COLLECTION AND EXAMINATION OF DATA

Quality of water stations usually are located at or near points on streams where streamflow is measured by the U.S. Geological Survey. The concentration of solutes and sediments at different locations in the stream-cross section may vary widely with different rates of water discharge depending on the source of the material and the turbulence and mixing of the stream. In general, the distribution of sediment in a stream section is much more variable than the distribution of solutes. It is necessary to sample some streams at several verticals across the channel and especially for sediment, to uniformly traverse the depth of flow. These measurements require special sampling equipment to adequately integrate the vertical and lateral variability of the concentration in the section. These procedures yield a velocity-weighted mean concentration for the section.

The near uniformly dispersed ions of the solute load move with the velocity of the transporting water. Accordingly, the mean section concentration of solutes de-termined from samples is a precise measure of the total solute load. The mean section concentration obtained from suspended sediment samples is a less precise measure of the total sediment discharge, because the sediment samplers do not traverse the bottom 0.3 foot of the sampling vertical where the concentration of suspended sediment is greatest and because a significant part of the coarser particles in many streams usually move in continuous contact with the bed and are not represented in the suspended sediment sample. Hence, the computed sediment discharges presented in this report are usually less than the total sediment discharges. For most streams the difference between the computed and total sediment discharges will be small, in the order of a few percent.

CHEMICAL QUALITY

The methods of collecting and compositing water samples for chemical analysis are described by Brown, Skougstad, and Fishman (1970). No single method of com-positing samples is applicable to all problems related to the study of water quality. Composites are made on the basis of dissolved-solids content as indicated by measure-ments of conductivity of daily samples, supplemented by other information such as chloride content, river stage, weather conditions, and other background information of the stream.

TEMPERATURE

Daily water temperatures were measured at most of the stations at the time samples were collected for chemical quality or sediment content. So far as practicable, the water temperatures were taken at about the same time each day. Large streams have a small diurnal temperature change while small, 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.

COLLECTION AND EXAMINATION OF DATA 5

At stations where continuously recording thermographs are present, the records consist of maximum and minimum temperatures for each day, and the monthly averages.

SEDIMENT

In general, suspended-sediment samples were collected daily with depth-integrating samplers (U.S. Inter-Agency, 1963). At some stations, samples were collected at a fixed sampling point at one vertical in the cross section. Depth-integrated samples were collected periodically at three or more verticals in the cross section to determine the cross-sectional distribution of the concentration of suspended sediment with respect to that at the daily sampling vertical. In streams where transverse dis-tribution of sediment concentration ranged widely, samples were taken at two or more verticals to define more accurately the average concentration of the cross section. During periods of high or rapidly changing flow, samples generally were taken several times a day and, in some instances, hourly.

Sediment concentrations were determined by filtration-evaporation method. At many stations the daily mean concentration for some days was obtained by plotting the velocity-weighted instantaneous concentrations on the gage-height chart. The plotted concentrations, adjusted if necessary, for cross-sectional distribution were connected or averaged by continuous curves to obtain a concentration graph. This graph represented the estimated velocity-weighted concentration at any time, and for most periods daily mean concentrations were determined from the graph. The days were divided into shorter intervals when either the concentration or water discharge was changing rapidly. During some periods of minor variation in concentration, the average concentration of the samples was used as the daily mean concentration. During extended periods of relatively uniform concentration and flow, samples for a number of days were composited to obtain average concentrations and average daily sediment discharges for each period. (See Expression of Results, p. 7).

For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment discharges for other periods of similar water discharge. The estimates were further guided by precipitation records and sediment discharge at other stations in the same or adjacent basins.

In many instances where there were no observations for several days, the suspended-sediment discharges for individual days were not estimated, because numerous factors influencing the quantities of transported sediment made it very difficult to make accurate estimates for individual days. However, estimated discharges of suspended sediment for missing days in an otherwise continuous period of sampling have been included in monthly and annual totals in order to provide a complete record. For some streams, samples were collected weekly, monthly, or less frequently, and only rates of sediment discharge at the time of sampling are shown.

In addition to the records of quantities of suspended sediment transported, records of particle sizes of sediment are included. The particle sizes of suspended sediment for many of the stations, and the particle sizes of the bed material for some of the stations were determined intermittently.

The size of particles carried in suspension by streams commonly ranges from colloids (finer than about 0.24 microns) to coarse sand (2.0 mm). The common methods of particle-size analysis cannot accommodate such a wide range. Hence, it was necessary to separate most samples into two parts, that part coarser than 0.062 mm and that part finer than 0.062 mm. The separations were made by sieve or by fall velocity technique. The coarse fractions were classified by sieve separation or by visual-accumulation tube (U.S. Inter-Agency, 1957). The fine fractions were classified by the pipet method (Kilmer and Alexander, 1949) or the bottom withdrawal tube method (U.S. Inter-Agency, 1943).

QUALITY OF SURFACE WATERS, 1970

EXPRESSION OF RESULTS

The quantities of solute concentrations analyzed in the laboratory are measured in either milligrams per litre or micrograms per litre. Milligrams per litre (mg/1, MG/L) is a unit which represents the weight of solute per unit volume of water. A microgram per litre (pg/l, UG/L) is one thousandth of a milligram per litre.

Milliequivalents per litre are not reported but they can be converted easily from milligrams per litre data. A milliequivalent per litre (me/1) is one thousandth of a gram equivalent weight of a constituent. Chemical equivalence in milliequivalents per litre can be obtained by (a) dividing the concentration in milligrams per litre by the combining weight of that ion, or (b) by multiplying the concentration (in mg/1) by the reciprocals of the combining weights. Table 1 on page 6, lists the reciprocals of the combining atomic weights based on carbon-12 (International Union of Pure and Applied Chemistry, 1961).

The hardness of water is conventionally expressed in all water analyses in terms of an equivalent quantity of calcium carbonate. Such a procedure is required because hardness is caused by several different cations, present in variable proportions. It should be remembered that hardness is an expression in conventional terms of a property of water. The actual presence of calcium carbonate in the concentration given is not to be assumed. The hardness caused by calcium and magnesium (and other cations if significant) equivalent to the carbonate and bicarbonate is called carbonate hardness; the hardness in excess of this quantity is called noncarbonate hardness. Hardness or alkalinity values expressed in milligrams per litre as calcium carbonate may be converted to milliequivalents per litre by dividing by 50.

The value^ usually reported as dissolved solids is the residue on evaporation after drying at 180'C for 1 hour. For some waters, particularly those containing moderately large quantities of soluble salts, the value reported is calculated from the quantities of the various determined constituents using the carbonate equivalent of the reported bicarbonate. The calculated sum of the constituents may be given instead of or in addition to the residue. In the analyses of most waters used for irrigation, the quantity of dissolved solids is given in tons per acre-foot as well as in milligrams per litre.

Table 1.--Factors for conversion of chemical constituents in milligrams per litre to milliequivalents per litre

Multi- Multi-

Ion ply by Ion ply by

Aluminum (Al«)*. .... 0.11119 Iodide (I-i) .... 0.00788 Ammonia as NH+1 .... .05544 Iron(Fe+3)*. .... .05372 Arsenic (As+3)*. .... .04004 Lead (Pb+2)* .... .00965 Barium (Ba+2) .... .01456 Lithium (Li +i) .... .14411 Bicarbonate (HCOs-1). ..... .01639 Magnesium (Mg*2) .... .08226 Bromide (Br-i) . ... .01251 Manganese (Mn+2)* . ... .03640 Cadmium (Cd +2)*. .... .01779 Mercury (Hg+2)*. .... .00997 Calcium (Ca+2) .... .04990 Nickel (Ni+2)*. .... .03406 Carbonate (CO3 -2)....... .03333 Nitrate (NOg-1). .... .01613 Chloride (Cl"1) .... .02821 Nitrite (NCyi). .... .02174 Chromium (Cr+6)* .... .11539 Phosphate (PO4 -3) . ... .03159 Cobalt (Co+a)*. .... .03394 Potassium (K+i) .... .02557 Copper (Cu +2)* .... .03148 Sodium (Na+i). .... .04350 Cyanide (CN-1) .... .03844 Strontium (Sr+2)* .... .02283 Fluoride (F'1) .... .05264 Sulfate (SO4-2) .... .02082 Hydrogen (H +1) .... .99209 Sulfide (S -2). .... .06238 Hydroxide (OH'1) .... .05880 Zinc (Zn-*)* .... .03060

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

EXPRESSION OF RESULTS 7

Specific conductance is given for most analyses and was determined by means of a conductance bridge and using a standard potassium chloride solution as reference. Specific conductance values are expressed in micromhos per centimetre at 25°C. Specific conductance in micromhos is 1 million times the reciprocal of specific resistance at 25°C. Specific resistance is the resistance in ohms of a column of water 1 centimetre long and 1 square centimetre in cross section.

The discharge of the streams is reported in cubic feet per second (see Streamflow, p. 20) and the temperature in degrees Celsius (D C). Color is expressed in units of the platinum-cobalt scale proposed by Hazen (1892). A unit of color is produced by one milligram per litre of platinum in the form of the chloroplatinate ion. Hydrogen-ion concentration is expressed in terms of pH units. By definition the pH value of a solution is the negative logarithm of the concentration of gram ions of hydrogen.

An average of analyses for the water year is given for most daily sampling stations. Most of these averages are arithmetical, time-weighted, or discharge-weighted; when analyses during a year are all on 10-day composites of daily samples with no missing days, the arithmetical and time-weighted averages are equivalent. A time-weighted average represents the composition of water that would be contained in a vessel or reservoir that had received equal quantities of water from the river each day for the water year. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all of the water passing a given station during the year. A discharge-weighted average is computed by multiplying the discharge for the sampling period by the concentrations of individual constituents for the corre-sponding period and dividing the sum of the products by the sum of the discharges. For most streams, discharge-weighted averages are lower than arithmetical averages because at times of high discharge the rivers generally have low concentrations of dissolved solids.

A program for computing these averages by digital computer was instituted in the 1962 water year. This program extended computations to include averages for pH values expressed in terms of hydrogen ion and averages for the concentration of individual constituents expressed in tons per day. Concentrations in tons per day are computed the same as daily sediment discharges.

The concentration of sediment in milligrams per litre is computed as 1,000,000 times the ratio of the weight of sediment to the weight of water-sediment mixture. Daily sediment discharges are expressed in tons per day and except for subdivided days, are usually obtained by multiplying daily mean sediment concentrations in mg/1 by the daily mean discharge in cubic feet per second, and the conversion factor, normally 0.0027.

For those days when the published sediment discharge value differs from the value computed, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method.

Particle-size analyses are expressed in percentages of material finer than classified sizes (in millimetres). The size classification used in this report agrees with recom-mendations made by the American Geophysical Union Subcommittee on Sediment Termi-nology. 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 the particle sizes of sediment in transport in the natural stream. Most of the organic matter is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native-water analysis (Guy 1969).

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

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were reported in degrees Fahrenheit (°F). In October 1967, the U.S. Geological Survey began reporting data for chemical constituents and concentrations of suspended sediment in milligrams per litre (mg/1) and water temperatures are given in degrees Celsius (DC). In waters with a density of 1.000 g/ml (grams per millilitre), milligrams per litre and parts per million can be considered equal. In waters with a density greater than 1.000 g/ml, values in milligrams per litre should be divided by the density to convert to parts per million. (See table 2 on page 9.) Temperature, in degrees Celsius may be converted to degrees Fahrenheit by using table 3 on page 9.

COMPOSITION OF SURFACE WATERS

All natural waters contain dissolved mineral matter. The quantity of dissolved mineral matter in a natural water depends primarily on the type of rocks or soils with which the water has been in contact and the length of time of contact. Ground water is generally more highly mineralized than surface runoff because it remains in contact with the rocks and soils for much longer periods. Some streams are fed by both surface runoff and ground water from springs or seeps. Such streams reflect the chemical character of their concentrated underground sources during dry periods and are more dilute during periods of heavy rainfall. The dissolved-solids content in a river is frequently increased by drainage from mines or oil fields, by the addition of industrial or municipal wastes, or--in irrigated regions--by drainage from irrigated lands.

The mineral constituents and physical properties of natural waters reported in the tables of analyses include those that have a practical bearing on water use. The results of analyses generally include silica, iron, calcium, magnesium, sodium, potassium (or sodium and potassium together calculated as sodium), carbonate, bicarbonate, sulfate, chloride, fluoride, nitrate, boron, pH, dissolved solids, and specific conductance. Aluminum, manganese, color, acidity, dissolved oxygen, and other dissolved constituents and physical properties are reported for certain streams. Microbiologic (coliforms) and organic components (pesticides, total organic carbon) and minor elements (arsenic, cobalt, cadmium, copper, lead, mercury, nickel, strontium, zinc, etc.) are determined occasionally for some streams in connection with specific problems and the results are reported. The source and significance of the different constituents and properties of natural waters are discussed in the following paragraphs. The constituents are arranged in the order that they appear in the tables.

MINERAL CONSTITUENTS IN SOLUTION

Silica (Si02)

Silica is dissolved from practically all rocks. Some natural surface waters contain less than 5 milligrams per litre of silica and few contain more than 50 mg/1, but the more common range is from 10 to 30 mg/1. Silica affects the usefulness of a water because it contributes to the formation of boiler scale; it usually is removed from feed water for high-pressure boilers. Silica also forms troublesome deposits on the blades of steam turbines. However, it is not physiologically significant to humans, livestock, or fish, nor is it of importance in irrigation water.

Aluminum (Al)

Aluminum is usually present only in negligible quantities in natural waters except in areas where the waters have been in contact with the more soluble rocks of high aluminum content such as bauxite and certain shales. Acid waters often contain large amounts of aluminum. It may be troublesome in feed waters where it tends to be deposited as a scale on boiler tubes.

Iron (Fe)

Iron is dissolved from many rocks and soils. On exposure to air, normal basic waters that contain more than 1 mg/1 of iron soon become turbid with the insoluble reddish

COMPOSITION OF SURFACE WATERS 9

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

Range of
concen-

tration
in 1000
mg/1

0 - 8
8.05- 24
24.2 - 40
40.5 - 56
56.5 - 72
72.5 - 88
88.5 -104
105 -120
121 -136
137 -152
153 -169
170 -185
186 -200

Di-
vide
by

1.00
1.01
1.02
1.03
1.04
1.05
1.06
1.07
1.08
1.09
1.10
1.11
1.12

Range of
concen-

tration
in 1000
mg/1

201-217
218-232
234-248
250-264
266-280
282-297
299-313
315-329
331-345
347-361
363-378
380-393
395-409

Di-
vide
by

1.13
1.14
1.15
1.16
1.17
1.18
1.19
1.20
1.21
1.22
1.23
1.24
1.25

Range of
concen-

tration
in 1000
mg/1

411-424
427-440
443-457
460-473
476-489
492-506
508-522
524-538
540-554
556-570
572-585
587-602
604-617

Di-
vide
by

1.26
1.27
1.28
1.29
1.30
1.31
1.32
1.33
1.34
1.35
1.36
1.37
1.38

Range of
concen-

tration
in 1000
mg/1

619-634
636-650
652-666
668-682
684-698
700-715
717-730
732-747
749-762
765-780
782-796
798-810

Di-
vide

by

1.39
1.40
1.41
1.42
1.43
1.44
1.45
1.46
1.47
1.48
1.49
1.50

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

Table 3.--Degrees Celsius (3C) to degrees Fahrenheit (0F)" (Temperature reported to nearest 0.5°C)

c

0.0
.5
1.0
1.5
2.0
2.5
3.0
3.5
4.0
4.5
5.0
5.5
6.0
6.5
7.0
7.5
8.0
8.5
9.0
9.5

°F

32
33
34
35
36
36
37
38
39
40
41
42
43
44
45
45
46
47
48
49

°C

10.0
10.5
11.0
11.5
12.0
12.5
13.0
13.5
14.0
14.5
15.0
15.5
16.0
16.5
17.0
17.5
18.0
18.5
19.0
19.5

°F

50
51
52
53
54
54
55
56
57
58
59
60
61
62
63
63
64
65
66
67

°C

20.0
20.5
21.0
21.5
22.0
22.5
23.0
23.5
24.0
24.5
25.0
25.5
26.0
26.5
27.0
27.5
28.0
28.5
29.0
29.5

°F

68
69
70
71
72
72
73
74
75
76
77
78
79
80
81
81
82
83
84
85

°C

30.0
30.5
31.0
31.5
32.0
32.5
33.0
33.5
34.0
34.5
35.0
35.5
36.0
36.5
37.0
37.5
38.0
38.5
39.0
39.5

°F

86
87
88
89
90
90
91
92
93
94
95
96
97
98
99
99
100
101
102
103

°C

40.0
40.5
41.0
41.5
42.0
42.5
43.0
43.5
44.0
44.5
45.0
45.5
46.0
46.5
47.0
47.5
48.0
48.5
49.0
49.5

°F

104
105
106
107
108
108
109
110
111
112
113
114
115
116
117
117
118
119
120
121

*C = 5/9 ('F - 32) or °F = 9/5 (3C) + 32.

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ferric compounds produced by oxidation. Surface waters, therefore, seldom contain as much as 1 mg/1 of dissolved iron, although some acid waters carry large quantities of iron in solution. Iron causes reddish-brown stains on porcelain or enameled ware and fixtures and on fabrics washed in the water. The highest desirable level of concentrations of iron in culinary and drinking-water is 0.1 mg/1 (100 jig/1) with a maximum permissible level of 1.0 mg/1 (1,000 ng/l). (International Standards for Drinking-Water (ISO-W), 1971).

Manganese (Mn)

Manganese is dissolved in appreciable quantities from rocks in some sections of the country. It resembles iron in its chemical behavior and in its occurrence in natural waters. However, manganese in rocks is less abundant than iron. As a result the concentration of manganese is much less than that of iron and is not regularly determined in many areas. It is especially objectionable in water used in laundry work and in textile processing. Concentrations as low as 0.2 mg/1 (200 jig/1) may cause a dark-brown or black stain on fabrics and porcelain fixtures. Appreciable quantities of manganese are often found in waters containing objectionable quantities of iron.

Calcium (Ca)

Calcium is dissolved from almost all rocks and soils, but the highest concentrations are usually found in waters that have been in contact with limestone, dolomite, and gypsum. Calcium and magnesium make water hard and are largely responsible for the formation of boiler scale. Most waters associated with granite or silicious sands contain less than 10 mg/1 of calcium; waters in areas where rocks are composed of dolomite and limestone contain from 30 to 100 mg/1; and waters that have come in contact with deposits of gypsum may contain several hundred mg/1.

Magnesium (Mg)

Magnesium is dissolved from many rocks, particularly from dolomitic rocks. Its effect in water is similar to that of calcium. The magnesium in soft waters may amount to only 1 or 2 mg/1, but water in areas that contain large quantities of dolomite or other magnesium-bearing rocks may contain from 20 to 100 mg/1 or more of magnesium.

Sodium and potassium (Na and K)

Sodium and potassium are dissolved from practically all rocks. Sodium is the predominant cation in some of the more highly mineralized waters found in the western United States. Natural waters that contain only 3 or 4 mg/1 of the two together are likely to carry almost as much potassium as sodium. As the total quantity of these constituents increases, the proportion of sodium becomes much greater. Moderate quantities of sodium and potassium have little effect on the usefulness of the water for most purposes, but waters that carry more than 50 to 100 mg/1 of the two may require careful operation of steam boilers to prevent foaming. More highly mineralized waters that contain a large proportion of sodium salts may be unsatisfactory for irrigation.

Bicarbonate, carbonate and hydroxide (HCO-.CCL, OH)

Bicarbonate, carbonate, or hydroxide is sometimes reported as alkalinity. The alkalinity of a water is produced by anions or molecular species of weak acids which are not fully dissociated above a pH of 4.5, Since the major causes of alkalinity in most natural waters are carbonate and bicarbonate ions dissolved from carbonate rocks, the results are usually reported in terms of these constituents. Although alkalinity may suggest the presence of definite amounts of carbonate, bicarbonate or hydroxide, there are other ions that contribute to alkalinity such as silicates, phosphates, borates, possibly fluoride, and certain organic anions which may occur in colored waters. The significance of alkalinity to the domestic, agricultural, and industrial user is usually dependent upon the nature of the cations (Ca, Mg, Na, K) associated with it. Alkalinity in moderate amounts does not adversely affect most users.

Hydroxide may occur in water that has been softened by the lime process. Its presence in streams usually can be taken as an indication of contamination and does not represent the natural chemical character of the water.

COMPOSITION OF SURFACE WATERS 11

Sulfide (S)

Sulfide occurs in water as a result of bacterial and chemical processes. It usually is present as hydrogen sulfide. Variable amounts may be found in waters receiving sewage and (or) industrial wastes, such as from tanneries, papermills, chemical plants, and gas manufacturing work (California State Water Quality Control Board, 1963).

Waters containing sulfides, especially hydrogen sulfide, may be considered un-desirable because of their odor. The toxicity to aquatic organisms differs significantly with the species and the nature of associated ions.

Sulfate (SO4)

Sulfate is dissolved from most sedimentary rocks. Large quantities may be derived from beds of gypsum, sodium sulfate deposits, and some types of shale. Organic material containing sulfur adds sulfate to the water as a phase of the sulfur cycle. In natural waters, concentrations range from a few mg/1 to several thousand mg/1.

ISD-W (1971) recommends 200 mg/1 as the highest desirable level of sulfate concentration in drinking and culinary water.

Sulfates are less toxic to crops than chlorides.

Chloride (Cl)

Chloride is dissolved from rock materials in all parts of the country. Surface waters in the humid regions are usually low in chloride, whereas streams in arid or semiarid regions may contain several hundred mg/1 of chloride leached from soils and rocks, especially where the streams receive return drainage from irrigated lands or are affected by ground-water inflow carrying appreciable quantities of chloride. Large quantities of chloride in water that contains a high content of calcium and magnesium increases the water's corrosiveness. The presence of abnormal concen-trations of chloride and nitrogenous material together in water supplies indicates possible pollution by human or animal wastes.

Fluoride (F)

Fluoride has been reported as being present in some rocks to about the same extent as chloride. However, the quantity of fluoride in natural surface waters is ordinarily very small compared to that of chloride. Investigations have proved that fluoride concentrations of about 0.6 to 1.7 mg/1 reduced the incidence of dental caries and that concentrations greater than 1.7 mg/1 also protect the teeth from cavities but cause an undesirable black stain (Durfor and Becker, 1964, p. 20). Public Health Service, 1962, states, "When fluoride is naturally present in drinking water, the concentration should not average more than the appropriate upper control limit (0.6 to 1.7 mg/1). Presence of fluoride in average concentration greater than two times the optimum values shall constitute grounds for rejection of the supply." Concentration higher than the stated limits may cause mottled enamel in teeth, endemic cumulative fluorosis, and skeletal effects.

Bromide (Br)

Bromine is a very minor element in the earth's crust and is normally present in sur-face waters in only minute quantities. Measurable amounts may be found in some streams that receive industrial wastes, and some natural brines may contain rather high con-centrations. It resembles chloride in that it tends to be concentrated in sea water.

Iodide (1)

Iodide is considerably less abundant both in rocks and water than bromine. Measur-able amounts may be found in some streams that receive industrial wastes, and some natural brines may contain rather high concentrations. It occurs in sea water to the extent of less than 1 mg/1. Rankama and Sahama (1950) report iodide present in rainwater to the extent of 0.001 to 0.003 mg/1 and in river water in about the same amount. Few waters will contain over 2.0 mg/1.

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Nitrogen, organic (N)

Organic nitrogen includes all nitrogenous organic compounds, such as amino acid, polypeptides, and proteins. It is present naturally in all surface waters as the result of inflow of nitrogenous products from the watershed and the normal biological life of the stream.

Organic nitrogen is not pathologically significant but is sometimes an indication of pollution.

Nitrogen, ammonia (NH , as N)

Ammonia nitrogen includes nitrogen in the forms of NH. and NH . As a component of the nitrogen cycle, it is often present in water, but usually in only small amounts. More than 0.1 mg/1 usually indicates organic pollution (Rudolph, 1931).

There is no evidence that ammonia nitrogen in water is physiologically significant to man or livestock. Fish, however, cannot tolerate large quantities.

Nitrite (NO2)

Nitrite is unstable in the presence of oxygen and is, therefore, either absent or present in only minute quantities in most natural waters under aerobic condition. The presence of nitrite in water is sometimes an indication of organic pollution.

Recommended tolerances of nitrite in domestic water supplies differ widely. A generally accepted limit is 2 mg/1, but as little as 0.1 mg/1 has been proposed (California State Water Quality Control Board, 1963).

Nitrate (NOg)

Nitrate in water is considered a final oxidation product of nitrogenous material and may indicate contamination by sewage or other organic matter, such as agricultural runoff, or industrial waste. The quantities of nitrate present in surface waters are generally less than 5 mg/1 (as NO.) and have no effect on the value of the water for ordinary uses.

It has been reported that as much as 2 mg/1 of nitrate in boiler water tends to decrease intercrystalline cracking of boiler steel. Studies made by Faucett and Miller (1946), Waring (1949) and by the National Research Council (Maxcy, 1950) concluded that drinking water containing nitrates in excess of 44 mg/1 (as NO,) should be regarded as unsafe for infant feeding. ISD-W (1971) sets 45 mg/1 as the upper limit.

Phosphorus (P)

Phosphorus is an essential element in the growth of plants and animals. It occurs in water as organically bound phosphorus or as phosphate (PO). Some sources that contribute nitrate, such as organic wastes are also important sources of phosphorus. The addition of phosphates in water treatment constitutes a possible source although the dosage is usually small. In some areas phosphate fertilizers may yield some phosphorus to water. Another important source is the use of phosphates in detergents. Domestic and industrial sewage effluents often contain considerable amounts of phos-phorus. Concentrations of phosphorus found in water are not reported to be toxic to man, animal, orfish. However, the element can stimulate the growth of algae, which may cause taste and odor problems in public water treatment and esthetic problems in recreation areas.

Boron (B)

Boron in small quantities has been found essential for plant growth, but irrigation water containing more than 1 mg/1 boron is detrimental to citrus and other boron-sensitive crops. Boron is reported in Survey analyses of surface waters in arid and semiarid regions of the Southwest and West where irrigation is practiced or con-templated, but few of the surface waters analyzed have harmful concentrations of boron.

Dissolved solids

The reported quantity of dissolved solids--the residue on evaporation--consists mainly of the dissolved mineral constituents in the water. It may also contain some

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organic matter and water of crystallization. Waters with less than 500 mg/1 of dissolved solids are usually satisfactory for domestic and some industrial uses. Water containing several thousand mg/1 of dissolved solids are sometimes successfully used for irrigation where practices permit the removal of soluble salts through the application of large volumes of water on well-drained lands, but generally water containing more than about 2,000 mg/1 is considered to be unsuitable for long-term irrigation under average conditions.

Arsenic (As)

Arsenic compounds are present naturally in some waters, but the occurrence of quantities detrimental to health is rare. Weed killers, insecticides and many industrial effluents contain arsenic and are potential sources of water pollution. The upper limits of arsenic concentration in drinking-water should not exceed 0.05 mg/1 (50 fig/1) and it would seem wiser to keep the level as low as possible (ISD-W, 1971). Concentrations of 2-4 mg of arsenic per litre are reported not to interfere with the self-purification of streams (Rudolfs and others, 1944) but concentrations in excess of 15 mg/1 may be harmful to some fish.

Barium (Ba)

Barium may replace potassium in some of the igneous rock minerals, especially feldspar, and barium sulfate (barite) is a common barium mineral of secondary origin. Only traces of barium are present in surface water and sea water. Because natural water contains sulfate, barium will dissolve only in trace amounts. Barium sometimes occurs in brines from oil-well wastes.

Barium concentrations in excess of 1.0 mg/1 is not suitable for drinking and culinary use because of the serious toxic effects of barium on heart, blood vessels, and nerves.

Cadmium (Cd)

This element is found in nature largely in the form of the sulfide, and as an impurity in zinc-lead ores. The carbonate and hydroxide are not very soluble in water and will precipitate at high pH values; the chloride, nitrate, and sulfate are soluble and remain in solution under most pH conditions.

The extensive use of the element and its salts in metallurgy, electroplating, ceramics, and photography makes it a frequent component of industrial wastes.

The results of animal studies suggest that very small amounts of cadmium can produce nephrotoxic and cardiovascular effects. The reproductive organs of animals are specifically affected after parenteral administration of very small amounts of cadmium salts. The level of cadmium concentration proposed for water use is 0.01 mg/1 (10 fig/1) or the lowest concentration that can be conveniently measured (ISD-W, 1971).

Chromium (Cr)

Few if any waters contain chromium from natural sources. Natural waters can probably contain only traces of chromium as a cation unless the pH is very low. When chromium is present in water, it is usually the result of pollution by industrial wastes. Concentrations of more than 0.05 mg/1 of chromium in the hexavalent form constitute grounds for rejection of a water for domestic use on the basis of the standards of the U.S. Public Health Service (1962).

Cobalt (Co)

Cobalt occurs in nature in the minerals smaltite, (Co,Ni)As 9, and cobaltite, CoAsS. Alluvial deposits and soils derived from shales often contain cobalt in the form of phosphate or sulfate, but other soil types may be markedly deficient in cobalt in any form (Bear, 1955). Ruminant animals may be adversely affected by grazing on land deficient in cobalt.

For domestic water supplies, no maximum safe concentration has been established.

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Copper (Cu)

Copper is a fairly common trace constituent of natural water. Small amounts may be introduced into water by solution of copper and brass water pipes and other copper-bearing equipment in contact with the water, or from copper salts added to control algae in open reservoirs. Copper salts such as the sulfate and chloride are highly soluble in waters with a low pH but in water of normal alkalinity the salts hydrolyze and the copper may be precipitated. In the normal pH range of natural water containing carbon dioxide, the copper might be precipitated as carbonate. The oxidized portions of sulfide-copper ore bodies contain other copper compounds. The presence of copper in mine water is
common.

Copper imparts a disagreeable metallic taste to water. As little as 1.5 mg/1 can usually be detected, and 5 mg/1 can render the water unpalatable. Copper is not con-sidered to be a cumulative systemic poison like lead and mercury; most copper ingested is excreted by the body and very little is retained. The pathological effects of copper are controversial, but it is generally believed very unlikely that humans could unknowingly ingest toxic quantities from palatable drinking water. The U.S. Public Health Service (1962) recommends that copper should not exceed 1.0 mg/1 (1,000 /Jg/1) in drinking and culinary water. ISD-W, 1971 gives 0,05 mg/1 (50 /Jg/1) as the highest desirable level.

Lead (Pb)

Lead seldom occurs in most natural waters, but industrial mine and smelter effluents may contain relatively large amounts of lead which contaminates the streams. Also, atmospheric contamination which is produced from several types of engine exhausts has considerably increased the availability of this element for solution in rainfall, resulting in contamination of lead in streams (Hem, 1970).

Lead in the form of sulfate is reported to be soluble in water to the extent of 31 mg/1 (Seidell, 1940) at 25 3C. In natural water this concentration would not be approached, however, since a pH of less than 4.5 would probably be required to prevent formation of lead hydroxide and carbonate. It is reported (Pleissner, 1907) that at 18°C water free of carbon dioxide will dissolve the equivalent of 1,4 mg/1 of lead and the solubility is increased nearly four fold by the presence of 2,8 mg/1 of carbon dioxide in the solution. Presence of other ions may increase the solubility of lead. Reports on human tolerance of lead vary widely. U.S. Public Health Service (1962) states that lead shall not exceed 0 05 mg/1 (50 fj.g/1) in drinking and culinary water on carriers subject to Federal quarantine regulations. ISD-W, 1971 gives 0.10 mg/1 (100/jg/1) as the upper limit.

Lithium (Li)

Lithium is present in some minerals but is not abundant in nature. From available information, most fresh waters rarely contain lithium of concentrations exceeding 10 mg/1, but larger quantities may be present in brines and thermal waters. Lithium is used in metallurgy, medicinal water, and some types of glass and storage batteries. Waste from such industries may contain lithium.

Mercury (Hg)

Mercury is the only common metal which is liquid at ordinary temperatures.
It occurs free in nature but its chief source is cinnabar (HgS). Mercury compounds are virulent culminative poisons which are readily absorbed through the respiratory and gastrointestinal tracts or through unbroken skin (Weast and Selby, 1967).

The main source of high concentrations of dissolved mercury in water, in the form of highly toxic methyl mercury, Hg(CH,,), comes from waste discharges from industrial users of mercury and from mercurial pesticides.

Fish from streams and lakes subject to mercury contamination have been found to contain amounts of mercury above the safe limits for food consumption. The U.S. Public Health Service has proposed that the upper limit of dissolved mercury in water for domestic use should not exceed 5 micrograms per litre (0.005 mg/1). ISD-W, 1971 recommends 0.001 mg/1 (1 /Jg/1) as the upper limit of concentration.

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Nickel (Ni)

Elemental nickel seldom occurs in nature, but its compounds are found in many ores and minerals. Many nickel salts are quite soluble and may contribute to water pollution, especially when discharged from metal-plating industries.

No set limit of nickel concentration has been established for public water supply.

Strontium (Sr)

Strontium is a typical alkaline-earth element and is similar chemically to calcium. Strontium may be present in natural water in amounts up to a few mg/1 much more frequently than the available data indicate. In most surface water the amount of stron-tium is small in proportion to calcium. However, in sea water the ratio of strontium to calcium is 1:30.

Zinc (Zn)

Zinc is abundant in rocks and ores but is only a minor constituent in natural water because the free metal and its oxides are only sparingly soluble. In most alkaline surface waters it is present only in trace quantities, but more may be present in acid water. Chlorides and sulfates of zinc are highly soluble. Zinc is used in many commer-cial products, and industrial wastes may contain large amounts.

Zinc in water does not cause serious effects on health, but produces undesirable esthetic effects. ISD-W, 1971 gives 5 mg/1 (5,000 jug/1) of zinc content as the highest desirable level for drinking water and 15 mg/1 as the maximum permissible level.

PROPERTIES AND CHARACTERISTICS OF WATER

Dissolved solids

Theoretically, dissolved solids are anhydrous residues of the dissolved substances in water.

All solutes affect the chemical and physical properties of the water and result in an osmotic pressure. Water with several thousand mg/1 of dissolved solids is generally not palatable, although those accustomed to highly mineralized water may complain that less concentrated water tastes flat. The U.S. Public Health Service (1962) recommends that the maximum concentration of dissolved solids not exceed 500 mg/1 in drinking and culinary water on carriers subject to Federal quarantine regulations, but permits 1,000 mg/1 if no better water is available. ISD-W (1971) recommends 500 mg/1 as the highest desirable level and 1,500 mg/1 as the maximum permissible level. Reported livestock tolerances range from 3,000 mg/1 (Colorado Agricultural Experiment Station, 1943) to 15,000 mg/1 (Heller, 1933).

Industrial tolerances for dissolved solids differ widely, but few industrial processes will permit more than 1,000 mg/1. The Geological Survey classifies the degree of salinity of these more mineralized bodies of water as follows (Swenson and Baldwin, 1965):

Dissolved solids (mg/1) Degree of salinity

Less than 1,000 .... Nonsaline.
1,000 to 3,000 .... Slightly saline. 3,000 to 10,000. .... Moderately saline. 10,000 to 35,000 .... Very saline.

Hardness

Hardness is the characteristic of water that receives the most attention in industrial and domestic use. It is commonly recognized by the increased quantity of soap required to produce lather. The use of hard water is also objectionable because it contributes to the formation of scale in boilers, water heaters, radiators, and pipes, with the resultant decrease in rate of heat transfer, possibility of boiler failure, and loss of flow.

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Hardness is caused almost entirely by compounds of calcium and magnesium. Other constituents--such as iron, manganese, aluminum, barium, strontium, and free acid--also cause hardness, although they usually are not present in quantities large enough to have any appreciable effect.

Generally, bicarbonate and carbonate determine the proportions of "carbonate" hardness of water. Carbonate hardness is the amount of hardness chemically equivalent to the amount of bicarbonate and carbonate in solution. Carbonate hardness is approx-imately equal to the amount of hardness that is removed from water by boiling.

Noncarbonate hardness is the difference between the hardness calculated from the total amount of calcium and magnesium in solution and the carbonate hardness. The scale formed at high temperatures by the evaporation of water containing non-carbonate hardness commonly is tough, heat resistant, and difficult to remove.

Although many people talk about soft water and hard water, there has been no firm line of demarcation. Water that seems hard to an easterner may seem soft to a westerner. In this report hardness of water is classified as follows:

Hardness range
(calcium carbonate in mg/1) Hardness description

0-60 .... Soft
61-120 .... Moderately hard
121-180 .... Hard
More than 180 .... Very hard

Durfor and Becker, 1964, p. 23-27.

Acidity (H+1)

The use of the terms acidity and alkalinity is widespread in the literature of water analysis and is a cause of confusion to those who are more accustomed to seeing a pH of 7.0 used as a neutral point. Acidity of a natural water represents the content of free carbon dioxide and other uncombined gases, organic acids and salts of strong acids and weak bases that hydrolyze to give hydrogen ions. Sulfates of iron and aluminum in mine and industrial wastes are common sources of acidity.

Sodium-adsorption-ratio (SAR)

The term "sodium-adsorption-ratio (SAR)" was introduced by the U.S. Salinity Laboratory Staff (1954). It is a ratio expressing the relative activity of sodium ions in exchange reaction with soil and is an index of the sodium or alkali hazard to the soil. Sodium-adsorption-ratio is expressed by the equation:

Ni

SAR =

where the concentrations of the ions are expressed in milliequivalents per litre.

Waters are divided into four classes with respect to sodium or alkali hazard: low, medium, high, and very high, depending upon the SAR and the specific conductance. At a conductance of 100 micromhos per centimetre the dividing points are at SAR values of 10, 18, and 26, but at 5,000 micromhos the corresponding dividing points are SAR values of approximately 2.5, 6.5, and 11. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Specific conductance (micromhos per centimetre at 25°C)

Specific conductance is a convenient, rapid determination used to estimate the amount of dissolved solids in water. It is a measure of the ability of water to transmit a small electrical current (see p. 7). The more dissolved solids in water that can transmit electricity the greater the specific conductance of the water. Commonly,

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the amount of dissolved solids (in mg/1) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream or from well to well and it may even vary in the same source with changes in the composition of the water (Durfor and Decker, 1964 p. 27-29).

Specific conductance of most waters in the eastern United States is less than 1,000 micromhos, but in the arid western parts of the country, a specific conductance of more than 1,000 micromhos is common.

Hydrogen-ion concentration (pH)

Hydrogen-ion concentration is expressed in terms of pH units (see p. 7). The values of pH often are used as a measure of the solvent power of water or as an indicator of the chemical behavior certain solutions may have toward rock minerals.

The degree of acidity or alkalinity of water, as indicated by the hydrogen-ion concentration, expressed as pH, is related to the corrosive properties of water and is useful in determining the proper treatment for coagulation that may be necessary at water-treatment plants. A pH of 7.0 indicates that the water is neither acid nor alkaline. pH readings progressively lower than 7.0 denote increasing acidity and those progressively higher than 7.0 denote increasing alkalinity. The pH of most natural surface waters ranges between 6 and 8. Some alkaline surface waters have pH values greater than 8,0 and waters containing free mineral acid or organic matter usually have pH values less than 4.5.

The investigator who utilizes pH data in his interpretations of water analyses should be careful to place pH values in their proper perspective.

Temperature

Temperature is an important factor in properly determining the quality of water. This is very evident for such a direct use as an industrial coolant. Temperature is also important, but perhaps not so evident, for its indirect influence upon aquatic biota, concentrations of dissolved gases, and distribution of chemical solutes in lakes and reservoirs as a consequence of thermal stratification and variation.

Surface water temperatures tend to change seasonally and daily with air temperatures, except for the outflow of large springs. Superimposed upon the annual temperature cycle is a daily fluctuation of temperature which is greater in warm seasons than in cold and greater in sunny periods than with a cloud cover. Natural warming is due mainly to absorption of a solar radiation by the water and secondarily to transfer of heat from the air. Condensation of water vapor at the water surface is reported to furnish measur-able quantities of heat. Heat loss takes place largely through radiation, with further losses through evaporation and conduction to the air and to the streambed. Thus the temperature of a small stream generally reaches a maximum in mid- to late afternoon due to solar heating and reaches a minimum from early to mid-morning after nocturnal radiation.

Color

In water analysis the term "color" refers to the appearance of water that is free from suspended solids. Many turbid waters that appear yellow, red, or brown when viewed in the stream show very little color after the suspended matter has been removed. The yellow-to-brown color of some waters is usually caused by organic matter extracted from leaves, roots, and other organic substances in the ground. In some areas objectionable color in water results from industrial wastes and sewage. Clear deep water may appear blue as the result of a scattering of sunlight by the water molecules. Water for domestic use and some industrial uses should be free from any perceptible color. A color less than 15 units generally passes unnoticed (U.S. Public Health Service, 1962). Some swamp waters have natural color in excess of 300 units.

The extent to which a water is colored by material in solution is commonly reported as a part of a water analysis because a significant color in water may indicate the presence of organic material that may have some bearing on the dissolved solids content. Color in water is expressed in terms of units between 0 and 500 or more based on the above standard (see p. 7).

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Turbidity

Turbidity is the optical property of a suspension with reference to the extent to which the penetration of light is inhibited by thepresence of insoluble material. Turbidity is a function of both the concentration and particle size of the suspended material. It is reported in terms of mg/1 of silica or Jackson turbidity units (JTLJ).

Turbid water is abrasive in pipes, pumps, and turbine blades. Although turbidity does not directly measure the safety of drinking water, it is related to the consumer's acceptance of the water. The highest desirable level of turbidity for drinking water is 5 JTU with a maximum permissible level of 25 JTU (ISD-W, 1971).

Density at 20'C

Density is the mass of any substance per unit volume at a designated standard temperature. Density should not be confused with specific gravity, which is a mass-to-mass relation.

The density value has some use in industries that utilize brines and whose basic unit of concentration of dissolved material is density. Density is used primarily by the chemist in the computation of milligrams per litre for highly mineralized waters.

Dissolved oxygen (DO)

Oxygen dissolved in water is derived from the air and from the oxygen given off in the process of photosynthesis by aquatic plants.

Dissolved oxygen in water has no adverse physiological effect and actually increases the palatability of the water. No minimum concentration of dissolved oxygen required to support fish life has been listed because the oxygen requirements of fish vary with the species and age, with temperature, and with concentration of other substances in the water.

Dissolved oxygen is responsible for many of the corrosion problems in industry.

Chemical oxygen demand (COD)

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

Biochemical oxygen demand (BOD)

Biochemical oxygen demand is a measure of the oxygen required to oxidize the organic material usable as a source of food by aerobic organisms.

Biological and microbiological information

Biological and microbiological information is an important aspect in the evaluation of water quality. The kinds and amount of aquatic biota in a stream or lake can be useful "indicators" of environmental conditions and particularly of the degree of pollution of water with organic wastes (Doudoroff and Warren, 1957). Biological information includes qualitative and quantitative analyses of plankton, bottom organisms, and paniculate inorganic and amorphous matter present. Microbiological information includes quantitative identification of certain bacteriological indicator organisms.

Chlorophyll (plant pigment).--The concentrations of photosynthetic pigments in natural waters vary with time and changing aquatic conditions. Concentrations of chlorophyll a, b, and £ (spectrophotometric determination) are used to estimate the biomass and photosynthetic capacity of phytoplankton (blue-green algae). Ratios between the different forms of chlorophyll are thought to indicate the taxonomic composition or the physiological state of the algae community (Slack, 1970).

Plankton.--Plankton is the floating (or weakly swimming) animal or plant life in
a body of water consisting, chiefly of minute plants (as diatomes and blue-green algae) and of minute animals (as protozoan, entomostracans and various larvae). Algae are known to cause tastes and odor in water supply.

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Plankton population in water is obtained by count level (the number of organisms per millilitre).

Coliform bacteria.--Coliform organisms have long been used as indicators of sewage pollution, although the group includes bacteria from diverse natural sources and habitats. For example, members of the coliform group are indigenous to soil and vegetation as well as feces. Standards for drinking-water quality provide definite minimums as to number of samples examined and the maximum number of coliform organisms allowable per 100 millilitres (ml) of finished water (Slack, 1970). The coliform population of water is determined either by the most probable number (MPN), or by the incubation membrane filter method, a direct count of coliform colonies per plate.

Fecal coliform bacteria.--Fecal coliform is that portion of the coliform group that is present in the intestinal tract of warm-blooded animals and is capable of producing gas from lactos in suitable culture medium at 44.5°C. Organisms from other sources generally cannot produce gas in this manner. (American Public Health Assoc. and others, 1965). Thus, in general, the presence of fecal coliform organisms indicates recent pollution (Slack, 1970).

Organics

Phenols.--Phenolic material in water resources is invariably the result of pollution. Phenols are widely used as disinfectants and in the synthesis of many organic compounds. Waste products from oil refineries, coke areas, and chemical plants may contain high concentrations. Fortunately, phenols decompose in the presence of oxygen and micro-organisms, and their persistence downstream from point of entry is relatively short lived. The rate of decomposition is dependent on the environment.

Very low concentrations impart such a disagreeable taste to water that it is highly improbable that harmful amounts could be consumed unknowingly. Reported thresholds of detection of taste and odor range from 0.001 to 0.01 mg/1.

Cyanide (CN).--Cyanides are not found free in nature, but may become contaminants of water supplies by means of effluents from gasworks, coke ovens, steel mills, electro-plating processes, and chemical industries. In natural streams and organic soils, simple cyanides are decomposed by bacterial action, whereas the metal-cyanide complexes are often quite stable and more resistant to degradation. The U.S. Public Health Service (1962) set a recommended limit of 0.01 mg cyanide per litre and a mandatory limit of 0.2 mg/1 for waters subject to interstate regulations. ISD-W (1971) sets the upper limit for drinking water as 0.05 mg/1.

Detergents (methylene blue active substance, MBAS).--Anionic surfactants in detergents resist chemical oxidation and biological breakdown. Soap is an example of this class and the synthetic members are sodium salts of organic sulfonates or sulfates (Rose, 1966). Their persistence in water over long periods of time contributes to pollution of both ground water and surface water. Some of the effects produced from detergent pollution are unpleasant taste, odor, and foaming (Wayman, and others, 1962). Although the physiological implications of MBAS to human beings is unknown, prolonged ingestion of this material by rats is believed to be nontoxic (Paynter, 1960). The U.S. Public Health Service (1962) recommends that MBAS should not exceed 0.5 mg/1 in drinking and culinary waters. ISD-W (1971) sets 0.2 mg/1 as the highest desirable level and 1.0 mg/1 as the maximum permissible level.

Total organic carbon (TOG).--Total organic carbon is a measure of the organically related carbonaceous content of water. It includes all natural and manmade organic compounds which are combustible at a temperature of 950°C.

Sediment

Fluvial sediment generally is regarded as that material which is transported by, suspended in, or deposited by water. Suspended sediment is that part which remains in suspension in water owing to the upward components of turbulent currents or by colloidal suspension. Much fluvial sediment results from the natural process of erosion,

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which in turn is part of the geologic cycle of rock transformation. This natural pro-cess may be accelerated by agricultural practices. Sediment also is contributed by a number of industrial and construction activities. In certain sections, waste materials from mining, logging, oil-field, and other industrial operations introduce large quantities of suspended material.

The quantity of sediment, transported or available for transportation, is affected by climatic conditions, form or nature of precipitation, character of the solid mantle, plant cover, topography, and land use. The mode and rate of sediment erosion, transport, and deposition is determined largely by the size distribution of the particles or more precisely by the fall velocities of the particles in water. Sediment particles in the sand size range (larger than 0.062 mm) do not appear to be affected by flocculation or dispersion resulting from the mineral constituents in solution. In contrast, the sedimentation diameter of clay and silt particles in suspension may vary considerably from point to point in a stream or reservoir, depending on the mineral matter in solution and in suspension and the degree of turbulence present. The size of sediment particles in transport at any point depends on the type of erodible and soluble material in the drainage area, the degree of flocculation present, time in transport, and character-istics of the transporting flow. The flow characteristics include velocity of water, turbulence, and the depth, width, and roughness of the channel. As a result of these variable characteristics, the size of particles transported, as well as the total sediment load, is in constant adjustment with the characteristics and physical features of the stream and drainage area.

STREAMFLOW

Most of the records of stream discharge, used in conjunction with the chemical analyses and in the computation of sediment loads in this volume, are published in the Geological Survey water-supply paper series, "Surface Water Supply of the United States, 1966-70." The discharge reported for a composite sample is usually the average of daily mean discharges for the composite period. The discharges reported in the tables of single analyses are either daily mean discharges or discharges obtained at the time samples were collected and computed from a stage-discharge relation or from a discharge measurement.

PUBLICATIONS

Reports giving records of chemical quality and temperatures of surface waters and suspended-sediment discharges of streams in the area covered by this volume for the water years 1941-70, are listed below:

Numbers of water-supply papers containing records for Part 1, 1941-70

Year WSP Year WSP Year WSP Year WSP

1941 942 1949 1162 1957 1520 1965 1961
1942 950 1950 1186 1958 1571 1966 1991 1943 970 1951 1197 1959 1641 1967 2011
1944 1022 1952 1250 1960 1741 1968 2091
1945 1030 1953 1290 1961 1881 1969 2141
1946 1050 1954 1350 1962 1941 1970 2151
1947 1102 1955 1400 1963 1947
1948 1132 1956 1450 1964 1954

Geological Survey reports containing chemical quality, temperature, and sediment data obtained before 1941 are as follows. Publications dealing largely with the quality of ground-water supplies and only incidentally covering the chemical composition of surface waters are not included. Publications that are out of print are preceded by an asterisk.

COOPERATION

PROFESSIONAL t/iPER

"135. Composition of river and lake waters of the United States, 1°24.

*479. The geochemjcal interpretation of water analyses, 1911.
770 The data of geochemistry, 1924.

WATER -SUPPLY PAPERS

*108, Quality of water in the Susquehanna River drainage basin, with an i
chapter on physiographic features, 1904.
*16L Quality of water in the upper Ohio River basin and at Erie, Pa., 1906.
*193, The quality of surface waters in Minnesota, 1907,
*236. The quality of surface waters in the United States, Part 1, Analyses of waters
east of the one hundredth meridian, 1909.
*237. The quality of the surface waters of California, 1910.
*239. The quality of surface waters of Illinois, 1910.
*273. Quality of the water supplies of Kansas, with a preliminary report on stream
pollution by mine waters in southeastern Kansas, 1911.
*274. Some stream waters of the western United States, with chapters on sediment
carried by the Rio Grande and the industrial application of water analyses,
1911.

*339. Quality of the surface waters of Washington, 1914.
*363. Quality of the surface waters of Oregon, 1914.
*418. Mineral springs of Alaska, with a chapter on the chemical character of some
surface waters of Alaska, 1917.
*596-B. Quality of water of Colorado River in 1925-26, 1928.
*596-D. Quality of water of Pecos River in Texas, 1928.
*596-E. Quality of the surface waters of New Jersey, 1928.
*636-A. Quality of water of the Colorado River in 1926-28, 1930.
*636-B. Suspended matter in the Colorado River in 1925-28, 1930.
*638-D. Quality of water of the Colorado River in 1^28-30, 1932.
*839. Quality of water of the Rio Grande basin above Fort Quitman, Tex., 19HX.
*889-E. Chemical character of surface water of Georgia, 1944.
*998. Suspended sediment in the Colorado River, 1925-41, 1947.
1048. Discharge and sediment loads in the Boise River drainage basin, Idaho,
1939-40, 1948.
1110-C. Quality of water of Conchas Reservoir, New Mexico, 1939-49, 1952.

Many of the reports listed are available for consultation in the larger public and institutional libraries. Copies of Geological Survey publications still in print may be purchased at a nominal cost from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402, who will, upon request, furnish lists giving prices.

COOPERATION

Many municipal, State, and Federal agencies assisted in collecting records for these quality-of-water investigations. Many investigations were supported by funds appro-priated directly to the U.S. Geological Survey. State, local, and Federal agencies that cooperated in these quality-of-water investigations are as follows:

Connecticut Connecticut Water Resources Commission, E. J. McDonough, chairman, and J. J. Curry, director.

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

District of Columbia--Department of Sanitary Engineering, N. E. Jackson, director.

22 QUALITY OF SURFACE WATERS, 1970

Maine Maine Public Utilities Commission, J. G. Feehan, chairman; U.S. Department of State. Bangor Hydro-Electric Company aided in the collection
of records.

Maryland--Maryland Geological Survey, K. N. Weaver, director; Maryland National Park and Planning Commission, R. C. McDonell, executive director; Montgomery County, R. A. Passmore, deputy chief administrative officer for administration; Washington Suburban Sanitary Commission, R. J. McLeod, gen-eral manager and chief engineer; Environmental Protection Agency; Soil Con-servation Service, U.S. Department of Agriculture.

Massachusetts Massachusetts Water Resources Commission, A. W. Brownell, chairman, C. F. Kennedy, director and chief engineer of Division of Water Re-sources, and T. C. McMahon, director of Division of Water Pollution Control; Environment Protection Agency.

New Jersey--New Jersey Department of Environmental Protection, R. J. Sullivan, commissioner; Division of Water Resources, C. M. Pile, director; Division of Fish, Game, and Shellfisheries, R. A. Cookingham, director; Dela-ware River Commission, J. F. Wright, executive director; Corps of Engineers, U.S. Army; Environmental Protection Agency. The Passaic Valley Water Com-mission, North Jersey District Water Supply Commission, and Delaware River Master, J. V. Wells provided some basic records.

New York--New York State Department of Environmental Conservation, H. L. Diamond, commissioner; Environmental Quality, D. W. Metzler, deputy commis-sioner; *New York State Department of Health, H. S. Ingraham, commissioner; *New York State Department of Conservation, R. S. Kilborne, commissioner; Division of Water Resources, F. W. Montanari, assistant commissioner; city of New York, Board of Water Supply, V. G, Terenzio, chief engineer; county of Dutchess, D. C. Shoentag, county executive; county of Nassau, Department of Public Works, J. H. Peters, commissioner; county of Suffolk, Department of Environmental Control, J. M. Flynn, commissioner; county of Suffolk, Water Authority, Louis Weinfurt, general manager; city of Albany, Department of Water and Water Supply, W. F. Devane, commissioner; Delaware River Basin Commission, J. F. Wright, executive director; Atomic Energy Commission; Environmental Protection Agency. The municipality of Cortland, Beaunit Corp-oration, Chase Bag Company, New York Electric and Gas Corporation, Texaco Incorporated, Westvaco Corporation, New York State Department of Transporta-tion, and Corps of Engineers, U.S. Army supplied water-temperature records.

Pennsylvania--Pennsylvania Department of Environmental Resources, M. K. Gaddard, secretary, through Office of Engineering and Construction, C. H. Mc-Connell, deputy secretary; Pennsylvania Soil and Water Conservation Commis-sion, W. N. Peechatka, executive secretary; Pennsylvania Department of Trans-portation, J. G. Kassab, secretary, through the Bureau of Materials, Testing, and Research, L. D. Sandvig, director; Delaware River Basin Commission, J. F. Wright, executive director; Chester County Water Resources Authority, D. C. Yaeck, executive director; city of Easton, F. L. Ashton, Jr., mayor; city of Philadelphia, Water Department, C. F. Guarino, water commissioner; Delaware Geological Survey, J. J. Groot, State geologist; Corps of Engineers, U.S. Army, Baltimore and Philadelphic Districts.

Rhode Island Rhode Island Water Resources Board, A. A. DeMartino, chair-man; Environmental Protection Agency.

Vermont--Vermont Department of Water Resources, R. W. Thieme, commis-
sioner, succeeded by M. L. Johnson; Environmental Protection Agency.

Virginia--Virginia Department of Conservation and Economic Development,
M. M. Sutherland, director.

*Certain functions and the associated cooperative programs of these two agencies were combined into the Depanment of Environmental Conservation, July 1, 1970.

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West Virginia--West Virginia Department of Natural Resources, E. N. Henry, chief; Corps of Engineers, U.S. Army.

DIVISION OF WORK

The quality-of-water work was performed by the Water Resources Division of the Geological Survey, J. S. Cragwall, Jr., chief hydrologist, and under the direction of the district chiefs listed in the preface.

Correspondence regarding the records in this report or any additional information should be directed to the district chief of the appropriate Geological Survey-Water Resources Division district office as indicated below.
State

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Delaware

District of Columbia

Maine

Maryland
Massachusetts

New Hampshire

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New York

Pennsylvania

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District Office

Hartford 06101

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Room 235

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228 Walnut Street
P. 0. Box 1107

Room 304
200 West Grace Street

Room 3303

Federal Bldg. and
U.S. Court House
500 Quarrier Street, East

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WATER-QUALITY STATIONS IN DOWNSTREAM ORDER

NORTH ATLANTIC SLOPE BASINS

ST. CROIX RIVER BASIN

01021000 ST. CROIX RIVER AT BARING, MAINE

LOCATION. Lat

DRAINAGE AREA. 1,370 sq mi (revised).

PERIOD OF RECORD. Water temperatures: October 1959 to September 1970.

EXTREMES. 1969-70:

April.

Period of record:
Water temperatures: Maximum, 30.5°C
periods.

iARKS. Recorder inoperative Oct. 7 to

TEMPERATURF (°C) C

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July 28, 1963; minimum, freezing point on many days durin

Nov. 18 and Dec. 18-30. Discharge records unpublished.

<= WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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DENNYS RIVER BASIN

O1021200 DENNYS RIVER AT DENNYSVILLE, MAINE

LOCATION. Lat 44°54'03", long 67°14'56", Washington County, temperature recorder at gaging station on right bank, 1OO ft upstream from railroad bridge, O.9 mile upstream from Cathance Stream, and 1 mile west of Dennysville.

DRAINAGE AREA. 92.4 sq mi.

PERIOD OF RECORD. Water temperatures: October 1958 to September 1970.

EXTREMES. 1969-70:

Water temperatures: Maximum, 27. 5°C July 29, 30; minimum, freezing point on many days during December to April.

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Water tempe

ord:

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PENOBSCOT RIVER BASIN

01034500 PENOBSCOT RIVER AT WEST ENFIELD, MAINE

(International Hydro logical Decade River Station)

DRAINAGE AREA. 6,670 sq mi (including 249 sq mi drained by Chamberlain Lake through Telos Canal).

PERIOD OF RECORD. Chemical analyses: January 1966 to September 1970.
Water temperatures: July 1966 to September 1970.

EXTREMES. 1969-70:

ximum, 27. 0°C July 16-20, 1968, July 29, 30, 1970; minimum, freezing point on many days

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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SPE-
NON- CIFIC
CAR- CON-

NESS HARD- ANCE

(CA.MG) NESS (MICRO- PH
[MG/L) (MG/L) MHOS) (UNITS)

6.7

18 7 62 7.3

60 6.7

64 5.9

18 6 57 6.7

68 6.9

59 6.9

16 4 50 7.4

60 6.7

55 6.9

21 7 80 6.2

80 6.3

. 2 15

. 3 15

. 4 17

DIS-
SOLVED
OXY-
COLOR SEN

(UNITS) (MG/L)

8.8

70 11.2

12.0

12.8

45 11.6

12.2

13.0

39 9.5

5.8

3.3

55 2.«

3.5

0

BIO-
OXY-
GEN
DE-
MAND

(MG/L)

3.4

1.9

1.7

3.1

2.2

2.0

1.2

1.8

3.5

4.3

LI 2

LO 2

9.2 1

. 4 4

TOTAL
COLI-
FORM

(COL-
ONIES
PER

100 ML)

10000

1500

1700

1100

1400

730

800

160

1100C

1500'

120C

480C

. 4 .0

. 9 .1

FECAL
COLI-
FORM

(COL-
ONIES
PER

100 ML)

6

29

110

20

110

100

A INCLUDES 1.2 UG/L OF MERCURY (HG).

OCT.
29. ..
NOV.
24...
DEC.
30...
JAM.
26.. .
FEB.
25...
MAR.
30.. .
APR.
16.. .
MAY
27. ..
JUNE
25...
JULY
20...
AUS.
26...
SEPT.
22. ..

PENOBSCOT RIVER BASIN

01034500 PENOBSCOT RIVER AT WEST ENFIELD, MAINE Continued

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DISSOLVED

GROSS
ALPHA

(US/L)

SROSS
BETA

(PC/L!

3.2

2.9

2.9

3.3

2.5

4.4

2.<?

3.7

4.5

SUSPENDED SEDIMENT

GROSS
ALPHA

(UG/L)

SROSS
BETA

(PC/L)

1.4

1.3

1.5

1.6

1.6

1.5

1.3

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

AY OCTOBER NOVEMBER

MAX MIN MAX MIN

1 14.5

3

^

5

0
7
8
9
0

1
2
3
4

5

4.0
4 .0
3.5

3.5
3.5
3.5
3.5
3.5

3.5
3.5
3.5
3.5
2.5

6 11.5
7 11.0

4.0 5.5 5.5

4.0 6.0 5.5
3.5 6.5 6.0
2.0 7.5 6.5

2.0 8.5 7.5
2.5 8.5 8.5
3.5 9.0 7.5
3.5 9.0 9.0
3.5 9.0 8.5

2.5 8.5 7.5
2.5 7.5 7.5
3.5 7.5 7.0
2.5 7.0 t.5
1 .b 6.5 6.0

1.0 6.0 5.5
1.0 5.5 4.5

* 10.5 9.5 5.0 4.5 C 9.5 9.5 5.0 5.0

1 9.5 9.5 5.0 4.5 2 9.5 7.0 4.5 2.5 3 7.0 6.5 2.5 2.0 4 0.5 5.5 2.0 1.5 5 5.5 5.5 1.5 1.0

6 5.5 5.5 1.0 1.0 7 o.O 5.5 l.C 0.5 8 6.0 6.0 0.5 0.0 J 6.0 5.5 0.0 0.0 0 5.5 5.5 1.0 0.0 1 5.5 5.5

MAX

1.0

1.0
0.0
0.0

0.0
0.0
0.0
0.0
0.0

1.0
z.o
. 5
. 5
. 5

. 0
. 0

0.5
0.0

0.0
0.0
0.0
0.0
0.5

0.5
0.5
0.5
0.5
1.0
1.0

DECEMBER

MIN

1.0

0.0
0.0
0.0

0.0
0.0
0.0
0.0
0.0

0.0
1.0
1.5
1.5
1.0

0.5
0.5

0.0
0.0

0.0
0.0
0.0
0.0
0.0

0.5
0.0
0.5
0.5
0.5
0.5

MAX

1.0

0.5
0.5
0.5

0.0
0.5
0.5
0.5
0.5

0.5
0.5
0.5
0.5
0.5

0.5
0.0

0.0
0.0

0.0
0.0
0.0
0.0
0.0

0.0
0.5
0.5
0.5
0.0
0.5

JANUARY

MIN

1.0

0
0.

5
5
0.0

0.
0.
0.
0.
0.

0.
0.
0.
0.
0.

0.
0.

0.
0.

C.
0.
0.
0.
0.

0.
0.
0.
0.
0.
0.

0
0
5
5
5

5
5
5
5
5

0
0

0
0

0
0
0
0
0

0
0
5
0
0
0

FE

MAX

0.5

0.5
0.0
0.5

0.5
0.5
0.5
0.5
0.5

0.5
0.0
0.5
0.5
0.5

0.5
0.5

0.5
0.5

0.5
0.5
0.5
0.5
0.5

0.5
0.5
0.5

BRUARY

MIN

0.5

0.0
0.0
0.0

0.5
0.5
0.5
0.0
0.5

0.0
0.0
0.0
0.0
0.5

0.5
0.5

0.5
0.5

0.5
0.5
0.5
0.5
0.0

0.0
0.0
0.0

MAX

0.0

0.0
0.0
0.0

0.0
0.0
0.0
0.0
0.0

0.0
0.0
0.0
0.0
0.0

0.0
0.5

0.0
0.0

0.5
0.5
0.5
0.0
0.0

0.0
0.0
0.0
0.0
0.0
0.0

MARCH

MIN

0.0
0.0
0.0
0.0
0.0

0.0
0.0
0.0
0.0
0.0

0.0
0.0
0.0
0.0
0.0

0.0
0.0

0.0
0.0

0.0
0.5
0.0
0.0
0.0

0.0
0.0
0.0
0.0
0.0
0.0

PENOBSCOT RIVER BASIN

01034500 PENOBSCOT RIVER AT WEST ENFIELD, MAINE Continued

TEMPERATURE <°C) OF WATERi WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

APRIL MAY JUNE JULY AUGUST

MAX MIN MAX MIN MAX MIN MAX MIN MAX KIN

4 0.0 0.0 7.0

r 0.5 o.o 6.0
B 0.5 0.5 5.5

10 0.5 0.5 7.0

1 1.0 0.5 7.0
I 1.0 1.0 7.0
3 1.5 1.0 7.0
4 1.5 1.5 8.5

a 1.5 i.o 10.0
9 1.0 0.5 9.5

1 1.5 1.3 11. 5
2 1.5 1.5 11. 5

7 2.5 1.5 12.5
8 2.5 2.5 12.5
9 4.0 2.5 14.0

1 ~ 15.5

VU 1.5 1.0 9.5

7.0

5.5

6.0

7.0

9.5
9.5

1°5

2.0

4.0

9.0

6.5

4.5

7.5

8.5

0.0

a. 5

a. 5

6.0 18.5 18.5 26.0 25."

*.0 20.5 20.0 25.0 ?<i.O

5.5 22.5 21.0 26.0 25.0 6.0 24.0 22.0 26.0 25.0

8.5 22.0 21.0 24.0 22.5

9.5 22.0 21.0 24.5 24.0

7.5 22.5 21. s 22.0 21.5

6.5 26.0 25.5 20. 5 20.5

26.5 26.5 20.0 19.5

7.0

7.0

6.5

7.5

6.0

7.0
6.0

6.5

6.5

6.0

7.5

5.5
5.5

7.0

7.0
6.0
5.5
5.0

-

SHEEPSCOT RIVER BASIN 3

01038000 SHEEPSCOT RIVER AT NORTH WHITEFIELD, MAINE

LOCATION. Lat 44°13'23", long 69°35'38", Lincoln County, temperature recorder at gaging station on left bank at North Hhitefield just upstream from highway bridge, 0.5 mile downstream from Pleasant Pond Brook.

DRAINAGE AREA. 148 sq mi.

PERIOD OF RECORD. Water temperatures: October 1957 to September 1970.

EXTREMES. 1969-70:

Period of record:

BAY OCTOBER

MAX MIN

1

,

1

1
i

1
L

:: ::

1.0 .0
1.5 .0
1.5 .5
1.5 ,0

1.0 .0
1.0 .0

1.0 .0
1.0 0.5

0.5 0.5
0.5 0.5
18 0.5 0.5
19 0.0 9 ,5

i<< 7.0 6.5

30 7.0 7.0
31 7.0 7.0

AVO 9.5 9.0

BAY APR[L

MAX Hlrt

Maximum, 29. 0 C Ai

NOVEMBER

MAX M[N

7.0 7.0

9.0 7.5

9.0 9.0
9.0 9.0
9.5 9.0
9.5 9.0
9.0 8.5

8.5 8.5
8.5 8.5

7.5 7.0
7.0 7.0

7.0 6.0
6.0 5.5
6.0 5.5
6.0 6.0

3.5 3.5

2.5 2.5

6.5 6.0

MAY

MAX MIN

BECEMBER

MAX MIN

2.0 1.0

. 5 1.0

. 0 1.0
. 0 1.0
. 0 1.0
3.5 0.0
1.0 0.5

2.5 0.0
2.0 1.5

1.0 1.0
1.0 0.5

0.5 0.5
0.5 0.5
1.5 1.0
1.0 1.0

1.5 1.5

1.5 1.5

1.0 0.5
1.0 1.0

1.5 1.0

JUNE

MAX MIN

JANUARY FEBRUARY

MAX MIN MAX MIN MAX

1.0 0.5 0.5 0.0 1.0

0.5 0.0 0.5 0.0 1.0

0.5 0.0 0.0 0.0 1.0 0.0 0.0 0.0 0.0 1.0 0.0 0.0 0.0 0.0 1.0 0.0 0.0 0.0 0.0 1.0 0.0 0.0 0.0 0.0 1.0

0.5 0.0 0.5 0.0 0.0 0.5 0.0 0.0 0.0 0.5

0.5 0.0 0.5 0.5 0.5 0.0 0.0 0.5 0.5 0.0

0.5 0.0 0.5 0.5 0.0 0.0 0.0 0.5 0.5 0.0 0.0 0.0 1.0 0.5 0.0 0.5 0.0 1.0 1.0 0.5

1.0 0.0 0.5 0.5 0.5

1.0 0.0 1.0 0.5 0.0

0.5 0.0 1.0 1.0 0.0 1.0

0.5 0.0 0.5 0.5 0.5

MARCH

MIN

1.0

1.0

1.0
0.5
0.5
0.0
0.0

0.0
c.o

0.0
0.0

0.0
0.0
0.0
0.0

0.0

0.0

0.5
1.0

0.0

JULY AUGUST SEPTEMBER

MAX MIN MAX MIN MAX MIN

1.5 1.0

4.0 3.5

4.0 12.0

5.5

8.5

4.5

6.5

0.0 8.5 21.0 20.5 24.5 24.0

24.0 23.5 22.0 21.5

1.5

9.0

1.0

9.0

8.5

8.5

8.5
8.5

8.5

32 KENNEBEC RIVER BASIN

01046500 KENNEBEC RIVER AT BINGHAM, MAINE

(International Hydrological Decade River Station)

LOCATION. Lat 45°03'06", long 69°53'12", Somerset County, at gaging station on right bank at Bingham, 200 ft down-

IRAINAGE AREA. 2,720 sq mi.

y

>ERIOD OF RECORD. Chemical analyses: January 1966 to September 1970.

OCT.
22...
NOV.

DEC.
23...
JAN.

MAR.
2...
APR.
6...
APR.
16. . .
MAY
21. . .
JUNE
25...
JULY
23...
AUG.
26...
SEPT.
22...

DATE

OCT.
22...
NOV.
5...
DEC.
23...
JAN.
28..
MAR.
2...
APR.
6. ..
APR.
16...
MAY
21...
JUNE
25...
JULY
23...
AUG.
26...
SEPT.
25...

MAG-

CHARGE ATURE SILICA AMMONIA CIUM SIUM SODIUM

(MG/L) (MG/LI (MG/L) (MG/LI (MG/L)

6620 8.0 3.2 .08 4.4 .8 1.2

6070 0.5

8050 0.0

6000 1.5

4820 1.5

15600 8.5 3.4 .07 4.5 .7 1.3

5440 17.2

3620 21.0

7180 22.5 3.1 .16 4.0 .8 .9

5760 15.5

DIS- SPE-
SOLVED NON- CIFIC
SOLIDS CAR- CON-

NITRATE PHATE DUE AT NESS HARD- ANCE

(N03) (P04I 180 C) (CA.MGI NESS (MICRO- PH
(MG/L) (MG/LI (MG/LI (MG/LI (MG/L) MHOS 1 (UNITS)

52 7.0

. 1 .02 30 14 2 40 7.2

45 7.5

39 6.6

. 7 .02 32 14 6 47 7.5

50 6.8

46 6.8

. 5 .02 26 14 6 42 7.3

38 6.9

39 7.7

. 3 .02 24 13 3 39 6.2

119 6.5

PO-

TAS- BICAR-
SIUM BONATE I

(MG/LI (MG/LI 1

. 2 10

. 2 12

DIS-

SOLVED
OXY-

CQLOR GEN
(UNITSI (MG/LI

8.2

19 9.2

11.2

14.8

16 12.6

12.6

13.0

26 11.3

8.6

6.9

7 6.6

8.0

CAR- SUL- CHLO- FLUO-
30NATE FATE RIDE RIDE

(C03I (S04I (CD (F):MG/D IMG/LI (MG/LI (MG/LI

0 7.3 1.0 .0

0 4.9 .8 .1

TOTAL FECAL
BIO- COLI- COLI-
OXY- FORM FORM

GEN (COL- (COL-
DE- ONIES ONIES
MAND PER PER

(MG/L) 100 MLI 100 ML)

. 4 190

. 2 1200

. 1 58

. 3 32

. 3 23

. 230

. 410

. 382

. 9 49 4

. 7 112 9

520 12

. 2 25 2

ANDROSCOGGIN RIVER BASIN

01054200 WILD RIVER AT GILEAD, MAINE (Hydrologic bench-mark station)

LOCATION. Lat 44°23'25", long 70°58'53", Oxford County, temperature recorder at gaging station on left baiiK a upstream side of highway bridge on U.S. Route 2, 1,800 ft upstream from mouth and 0.4 mile west ot Gllcad.

DRAINAGE AREA. 69.5 sq mi.

PERIOD OF RECORD. Chemical analyses: August 1967 to September 1970.

ErrRBaE -
Water

Period o

peri

DATE

OCT.
29A..
NOV.
25...
JAN.
6...
JAN.
27...
FEB.
24...
MAR.
26...
APR.
21...
MAY
25...
JUNE
24...
JULY
30...
AUG.
24...
SEPT.
24...

DATE

OCT.
29A..

NOV.
25...
JAN.
6...
JAN.
27...
FEB.
24...
MAR.
26...
APR.
21...
MAY
25...
JUNE
24...
JULY
30...
AUG.
24...
SEPT.
24...

- 1969-70

temperatv

f record

DIS-
CHARGE

(CFS)

32

143

100

100

316

28

21

58

13

(N03)
(MG/L)

. 0

. 1

. 1

. 2

. 3

. 1

. 0

. 0

. 0

. 0

. 0

ires: Maximum, 27. 5°C July 26; minimum, f

CHEMICAL ANALYSES, WATER YEAR

MAN- MAG-
GAN- CAL- NE-
SILICA IRON ESE CIUM SIUM

(SI02) (FE) (MN) (CA) (MG)

7.7 .060 .010 3.1 .5

5.2 .040 .000 2.0 .4

5.7 .050 .010 1.8 .4

4.4 .100 .000 1.9 .5

6.1 .030 .000 2.3 .2

6.5 2.1 .4

7.5 2.2 .5

DIS- SPE-
SOLVED NON- CIFIC
SOLIDS CAR- CON-

PHOS- (RESI- HARD- BONATE DUCT-

(P04) 180 C) (CA.MG) NESS (MICRO-
(MG/LI (MG/L) (MG/L) (MG/L) MHOS

. 02 23 10 3 27

. 01 20 6 4 28

. 02 20 6 4 26

. 03 15 6 0 25

. 00 18 6 1 32

. 12 18 7 4 26

. 01 27 6 4 26

. 01 19 5 2 23

. 00 19 6 2 26

. 02 27 6 0 26

28

. 06 33 8 1 29

reezing point on many days during December to

965; minimum, freezing point on many days dui

OCTOBER 1969 TO SEPTEMBER 1970

PO-
TAS- BICAR- CAR- CHLD

(NA) IK) (HC03) (C03) (S04) (CD

1.6 . 480 4.8 .8

1.2 . 240 5.5 1.0

1.0 . 130 5.0 .9

1.3 . 260 4.5 .9

1.4 . 440 5.3 .4

. 8 .2 4 0 5.0 1.0

1.3 . 460 5.5 .0

1.4 . 780 5.0 1.0

1.5 . 480 4.0 .5

TOTAL
BIO- COLI-
DIS- OXY- FORM

SOLVED GEN (COL-
OXY- DE- ONIES
PH COLOR GEN MAND PER

(UNITS) (UNITS) (MG/L) (MG/L) 100 ML)

7.0 8 11.0 .4 150

6.1 8 11.0 .2 40

6.4 9 13.4 .0 37

7.5 4 13.0 .4 24

7.2 3 12.8 .0 9

7.1 2 13.8 .2 5

6.1 10 13.1 .1 b

7.1 7 10.2 .9 8

6.5 2 9.8 .4]*

6.8 24 8.5 .8 7bO

6.7 8.8

6.8 2 9.6 .0 120

April.

ing Wlnti

- FLUO-

. 1

. 0

. 0

. 1

. 1

. 1

. 0

. 0

. 0

. 0

FECAL
COLI-
FORC

(COL-
ONIES
PER

100 ML)

2

0

0

1

150

1

A INCLUDES MICROGRAMS PER LITER OF: 600 ALUMINUM(AL), 0 LITHIUM!LI>i 0 COPPERICUli 30 CHROMIUMICR),
6 NICKEL(NI), 10 ZINC(ZN), 1 COBALT(CO), 0 ARSENIC(AS), 10 BORON1BI, 10 STRONTIUM(SR)i AND 0 CADMIUM(CD).

34 ANDROSCOGGIN RIVER BASIN

01054200 WILD RIVER AT GILEAD, MAINE Continued

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DISSOLVED SOLIDS SUSPENDED SEDIMENT

GROSS GROSS GROSS
URANIUM RADIUM BETA ALPHA BETA

DATE (UG/L) (PC/L) (PC/L) IUG/L) (PC/L)

OCT.
29... .03 .05 3.4 .5 <.4
APR.
25... .05 .02 2.4 .5 <.4

PESTICIDES CONCENTRATION, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIEL- HEPTA- LIN- 2,4,
ALDRIN DDD DDE DDT DRIN ENDRIN CHLOR DANE C.4-D 5-T

DATE (UG/L) (UG/L) (UG/L) (UG/L) (UG/L! (UG/L) (UG/L) (UG/L) (UG/L) (UG/L)

OCT.
29... .00 .00 .00 .01 .00 .00 .00 .00 .00 .00 SEPT.
24... .00 .00 .00 .00 .00 .00 .00 .00 .00 .00

SEDIMENT CONCENTRATION, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

SEDIMENT
CONC EN-
DISCHARGE TRATION DISCHARGE

DATE (TFS) (MG/L) DATE (CFS)

OCT. 29, 1969 32 1 APR. 21, 1970 316
NOV. 25...... 143 2 MAY 25...... 100
JAN. 6, 1970 100 2 JUNE 24...... 28
27...... 55 1 JULY 30...... 21
FEB. 24...... 100 2 SEPT. 24. 13
MAR. 26...... 50 2

GROSS
ALPHA

(UG/L)

<.4

. 4

CHLOR-
SILVEX DANE

(UG/L) (UG/L)

. 00

. 00 .00

SEDIMENT
CONCEN-
TRATION

(MG/L)

3
3
2
2
2

ANDROSCOGGIN RIVER BASIN

01054200 WILD RIVER AT GILEAD, MAINE Continued

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

OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY

IAX MIN MAX MIN MAX MIN MAX MIN MAX WIN

1 13.5
2 11.5
3 12.5
4 12.5
5 11.5

o 12.0
7 13.5
3 14.5
9 14.0

11 13.5

13 13.5
14 12.5
15 11. 0

16 9.5
17 10. 0
la 10.0

20 9.0

21 9.0

23 4.5
24 2.5
Z5 4.0

26 5.5
27 5.5
<.S 5.0
29 3.5
J3 4.5
31 3.5

AVG 9.5

DAY

MAX

9.5
10.0
11. 1
11 .0
8.5

8.5
10. 0
12.0
11.?

10.0

11 .5
10.5
8.5

6.:
8.b
7.5

8.0

7.5

1.5
0.5
2.5

4.0
5.0
3.5
1.0
1 .5
1.0

7.D

APRIL

MIN

5.0 1.5 0.5
5.0 4.0 0.5
6.5 5.0 0.5
7.0 6.0 0.5
7.0 7.0 0.5

7.0 6.5 0.5
7.0 6.5 0.5
7.5 7.0 0.5
7.5 7.5 0.5

6.5 6.5 0.5

7.0 5.5 1.0
5.5 5.0 0.5
5.0 5.0 0.5

5.0 2.5 0.5
2.5 1.5 0.5
2.0 1.5 0.5

5.0 3.5 0.5

4.0 1.0 0.5

0.5 0.5 0.5
0.5 0.5 0.5

0.5 0.5 0.5
0.5 0.5 0.5
0.5 0.5 0.0
0.5 0.5 0.0
0.5 0.5 0.0
0.0

4.0 3.5 0.5

MAY

MAX MIN MAX

0.5
0.5
0.5
0.5
0.5

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5 2.5 0.5 11. 0 8.5

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ANDROSCOGGIN RIVER BASIN

01059000 ANDRuSCOGGIN HIVER NEAR AUBURN, MAINE (International Hydrological Decade River Station)

LOCATION. Lat 44°04'20", long 70°l:

DRAINAGE AREA. 3,257 sq mi.

BIS- TEMPER-
CHARGE ATURE SILICA

MTE (CFS) (DEC C) (SI02)
(MG/L)

OCT.

NOV.
25... 7860 3.0 5.0
JAN.

JAN.

FEB.

MAR.

APR.

JUNE
4... 5950 19.0 4.5
JUNE

JULY

AUG.
25... 3400 23.5 4.3
SEPT.

DIS-

SOLVED
SOLIDS

PHOS- (RESI-

BATE (N03) (P04) 180 C)
(MG/L) (MG/L) (MG/L)

OCT.
20...
NOV.
25... .4 .16 42
JAN.

JAN.
27...
FEB.
24... .6 .34 45
MAR.
26...
APR.
14...
JUNE
4... .2 .14 60
JUNE

JULY
22. ..A
AUG.

SEPT.
23...

2'31" (revised), Androsco

MAG-
CAL- NE-
AMMONIA CIUM SIUM

(NH4) (CA) (MG)
(MG/L) (MG/L) (MG/L)

4.8 .7

. 29 5.0 .8

. 50 7.1 .9

SPE-

NON- CIFIC
CAR- CON-
HARD- BONATE DUCT-

(CA,MG) NESS (MICRO-
(MG/L) (MG/L) MHOS)

116

15 4 66

79

112

It 4 68

85

83

16 2 92

113

119

ggin County, at gaging station on right Lank, 1.5 mill

PO-

TAS- BICAR- CAR- SUL- CHLO- FLUO-
SOBIUM SIUM BONATE BONATE FATE RIBE RIBE

(NA) (K) (HC03) (COS) (S04) (CD (F)
(MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L)

4.6 .5 13 0 9.2 5.8 .1

8.7 .7 16 0 10 8.8 .1

19 1.1 30 0 18 22 .1

TOTAL FECAL
BIO- COLI- COLI-
BIS- OXY- FORM FORM

SOLVED GEN (COL- (COL-

PH COLOR GEN MAND PER PER

(UNITS) (UNITS) (MG/LI (MG/L) 100 ML) 100 ML)

7.1 5.8 2.9 40000

6.5 50 10.4 2.2 14000

6.9 14.0 2.2 9200

7.3 13.6 3.0 9700

7.5 17 13.4 2.2 18000

7.9 13.8 3.4 10000 1400

7.6 11.2 2.8 3800 260

7.6 42 8.2 6.0 10000 2100

6.8 5.9 4.0 39000 3500

6.b 4.8 0.1 23000 6000

A INCLUDES 0.2 UG/L OF MERCURY (HG).

HERRMIACK RIVER BASIN 3i

01094700 NORTH NASHUA RIVER AT NORTH VILLAGE, MASS.

LOCATION. Lat 42°28'47", long 71°41'04", Worcester County, on right bank 600 ft downstream from bridge at Ponakln Hill, 0.6 mile upstream from Ponakin Brook, 0.9 mile northwest of North Village, and 5 miles downstream from gaging station near North Leominster (station 01094500).

DRAINAGE AREA. 124 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1968 to September 1970.
Water temperatures: October 1968 to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum, 857 micromhos Jan. 29; minimum recorded, 88 micromhos Feb. 11.
pH: Maximum, 7,6 Dec. 13, 14; minimum recorded, 5.3 Nov. 13.
Dissolved oxygen: Maximum recorded, 13.8 mg/1 Mar. 30; minimum, 0.0 mg/1 July 26, 30.
Water temperatures: Maximum, 30.0°C July 29; minimum, freezing point Jan. 22, Mar. 9.

Period of record:

Specific conductance: Maximum, 857 micromhos Jan. 29, 1970; minimum, 70 micromhos Apr. 23, 1969.
pH: Maximum, 7.9 Sept. 13, 14, 1969; minimum, 5.1 Sept. 3, 1969.
Dissolved oxygen: Maximum recorded, 13.8 mg/1 Mar. 30, 1970; minimum, 0.0 mg/1 July 26, 30, 1970. Water temperatures: Maximum, 30.0°C July 29, 1970; minimum, freezing point Jan. 22, Mar. 9, 1970.

REMARKS. Records of hourly water-quality values and figures of dally discharge, computed on basis of i gaging station near Leominster (station 01094900), are available in district office, Boston, Mass.
not operating Oct. 1 to Nov. 11.

3cords for

pH probe

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 2S°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCTOBER NOVEMBER DECEMBER JANUARY

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297

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344
321

293
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310
317

315

317
320
346
321

255
254
229
213
213

21B
221
236
231
264

262
264
255
240

277
274
288
292
259

240
258
26 1
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276

267

241
268
289
275

275
274
259
219
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221
226
251
255
288

281
286
278
271

301
290
314
315
294

270
278
281
298
298

291

281
287
322
292

171
193
191

14*
147
159

160
167
134

13J
139
139

165
176
156

139
143
146

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289

185
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491
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155
173
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216
216
208
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152

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151
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124
127
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226
227
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169
175
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168
268
221
172
163

141
142
154

194
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200
207
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173
177
210
268
244
200

KERRIMACK RIVER BASIN

01094700 NORTH NASHUA RIVER AT NORTH VILLAGE, MASS. Continued

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

FEBRUARY

MAX MIN MEAN

229 18* 202
244 173 199

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116 94 107
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202
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15 122
29
32

29
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MAX

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IIERRIHACK RIVER BASIN

0109470O NORTH NASHUA RIVER AT NORTH VILLAGE, MASS. Continued

PH (UNITS, MATER YEAR OCOTBER 1969 TD SEPTEMBER 1970

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MERRIMACK RIVER BASIN

01094700 NORTH NASHUA RIVER AT NORTH VILLAGE, MASS. Continued

PH (UNITS], HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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JULY

MAX MIN

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OCTOBER 1969

DECEMBER

TO SEPTEMBER

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JANUARY

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MERRIHACK RIVER BASIN

01094700 NORTH NASHUA RIVER AT NORTH VILLAGE, MASS. Continued

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

FEBRUARY MARCH APRIL MAY

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2 11.6 10.1 11.2 12.1 10.9
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SEPTEMBER

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HERRIHACK RIVER BASIN

01094700 NORTH NASHUA RIVER AT NORTH VILLAGE, HASS. Continued

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

OCTOBER NOVEMBER DECEMBER

MAX

8.0
7.0
8.5
3.0
7.0

6.0
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4.5 11.5 13.
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14.0 13.5 4.0 5.0 3.0
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9.5 8.5 .0 4.0 2.5
10.0 8.0 .0 4.0 2.0

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6.5 4.5 .5 3.0 2.0
9.0 6.5 .5 3.0 1.5
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11.0 7.5 1 .0 3.5 2.5

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JANUARY

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9.0 18.0 14.0
8.0 20.5 16.5

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MEAN

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HERRIHACK RIVER BASIN

01094700 NORTH NASHUA RIVES AT NORTH VILLAGE, MASS. Continued

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

JUNF JUIV AUGUST

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26.0
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7.5 19.5 22.5 20.5 22.0 28.0 24.0 26.0

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7.0 18.5 26.5 23.0 25.0 26.0 22.0 24.0

7.0 20.5 26.0 21.5 24.0 23.0 20.5 21.5

6.0 17.0 26.5 22.0 24.5 25.5 22.5 24.0
5.5 18.5 29.0 25.0 27.0 24.5 21.0 23.0

8.0 19.0 29.5 26.0 28.0 24.0 20. 5 22.5
29.0 26.0 27.5 24.0 21.0 22.5

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MAX

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MERRIHACK RIVER BASIN

vised) MERRIMACK RIVER ABOVE LOWELL, MASS.

LOCATION. Lat 42°38'20", long 71°22'U", Middl 2.7 miles upstream from Pawtucket Dam and 6

PERIOD OF RECORD. Chemi
(month ly).

REMARKS. Published

downstream from Massachusetts-New Hampshire State line.

August to September 1969 (miscellaneous), October 1969 to September 1970

n number 01096500 in WSP 2141.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE

OCT. 6
NOV. 3

JAN. 12
FEB. 2
MAR. 11

MAY 4
JUN. 8
JUL. 14
AUG. 3
AUG. 31

TIME

. 0900
. 1100

. 0930
. 1100
. 1030

. 1500
. 1130
. 0900
. 1000
. 1000

DIS-
CHARGE

(CFS)

1420
2900

8410
5310
7130

15300
5750
3260
3050
2940

SPECI-

FIC
CON-
DUCT- DIS-

(MICRO-
MHOS)

130
114

79
98
106

50
102
110
138
143

TOTAL
KJEL-
DAHL TOTAL
NITRO- PHOS-
NITRATE GEN PHORUS

DATE (N) (N) (P)
(MG/L) (MG/L) (MG/L)

OCT. 6.. 0.50 1.2 0.20
NOV. 3.. .40 2.4 .21
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APR
MAY
JUN
JUL
AUG
AUG

AUG. 3-
AUG. 31.

. 2..
. 11..

6..
4..
. 8..
3"

31. .

CHLO-
RIDE

(MG/L)

24
. 18

. 40
. 28

. 20
. 20
. 30
1.5
. 30
2.4

SULFATE

(MG/L)

14

1.2
. 82

. 44
. 68
1 .4
1.7
1.3
. 56

DIS-
SOLVED
SOLIDS

(RESI-
DUE AT

(MG/L)

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HARD-
NESS

(MG/L)

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MINOR ELEMENTS,

OXYGEN

(MG/L)

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7.5

13.8
13.0
13.1

9.9
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4.6
5.8

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(DEG C)

15.5
9.8

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2.0

14.0
19.8
24.3
27.2
23.9

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(UNITS)

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100 ML) 100

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72000 1

17000 1
15000 2
15000

5900
37000
42000 1
53000 1
40000
3200

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LENE
BLUE CHEM- COLOR DIS-

TUR- ACTIVE ICAL (PLAT- SOLVED BID- SUB- OXYGEN INUM- IRON

ITY STANCE DEMAND COBALT (FE) (JTU) (MG/L) (MG/L) UNITS) (UG/L)

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. 0 .05 31
. 0 .07 8.0

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. 0
. 0

TOTAL
ACIDITY
AS

(MG/L)

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ML)

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30

00
30
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20
99

DIS-
SOLVED
MAN-
GANESE

(MNI
(UG/LI

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. 04 14

. 03 8.0
. 08 10
. 06 12
. 06 18
. 07 2 0
. 06 25

ORGANIC
NITRO-
GEN

(N)
(MG/L)

3.0 0.47

RADIOCHEMICAL, AND

BIO-
CHEM-
ICAL

34 290

OIL
OXYGEN AND CYANIDE

DEMAND GREASE (CNI

(MG/L) (MG/L) (MG/L)

PESTICIDES

__

60

PHENOLS

(UG/L)

14

DIS- DIS- DIS-

DATE

AUG.
31...

DATE

AUG.
31...

ALUM-
INUM

(AL)
(UG/L)

0

DIS-
SOLVED
GROSS

(PC/L

CS-137)

5.7

ARSENIC

(AS)
(UG/L)

0

TOTAL
DIS-

SOLVED

(MG/L)

92

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MERRIMACK RIVER BASIN

01096570 MEHR1MACK RIVER ABOVE CONCORD RIVER, AT LOWELL, MASS.

LOCATION. Lat 42°38'57", long 71°19'50", Middlesex Co
Dam, 0.8 mile upstream from Beaver Brook, 1.8 mile
gaging station downstream from Concord River.

nty, at Mammoth Road Bridge, in gatehouse at Pawtucket upstream from Concord River, and 2 miles upstream from

DRAINAGE AREA. Total above gage, 4,131 sq mi; net ibove gage, 4,014 sq mi (diversion r of Worcester).

as needed from 117 sq mi

PERIOD OF RECORD. Chemical analyses: October 1967 to Septe
Water temperatures: October 1967 to September 1970.

EXTREMES. 1969-70:

Specific conductan
Water temperatures

: Maximum, 254 micromhos Aug. 2; minimum, 44 micromhos Apr. 28.
Maximum, 31. 5°C July 29; minimum, freezing point on many days during winter period.

Period of record:
Specific conducta
Water temperature

ice: Maximum, 254 micromhos Aug. 2, 1970; minimum, 34 micromhos Apr. 22, 1969.
3: Maximum, 31.5°C July 29, 1970; minimum, freezing point on many days during winter periods.

REMARKS. Records of hourly water-quality values and figures of daily discharge, computed on basis of records for gaging station below Concord River (station 01100000) and gaging station on Concord River (station 01099500) are available in district office, Boston, Mass. Monitor not in operation most of December, January, February, September.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C>, WATER YEAR OCTOBER 1970

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JANUARY

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HERRIHACK RIVER BASIN

01096570 MERRIHACK RIVER ABOVE CONCORD RIVER, AT LOWELL, MASS. Continued

SPECIFIC CONDUCTANCE (HICROHHOS AT 25°C1, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FEBRUARY

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HERRIHACK RIVER BASIN

01096570 MERRIMACK RIVER ABOVE CONCORD RIVER, AT LOWELL, MASS. Continue

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

OCTOBER NOVEMBER DECEMBER JANUARY

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MERRIHACK RIVER BASIN

01096570 MERRIHACK RIVER ABOVE CONCORD RIVER, AT LOWELL, MASS. Continued

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01100000 MERRIHACK RIVER BELOW CONCORD RIVER, AT LOWELL, MASS. (International Hydrological Decade River Station)

LOCATION. Lat 42°38'45", long 71°17'56", Middlesex County, at gaging station on right bank, 1,100 ft downstream from Concord River at Lowell.

DRAINAGE AREA. Total above gage, 4,635 sq mi; net above gage, 4,425 sq mi (diversions as needed from 210 sq mi for use of Boston metropolitan district and city of Worcester).

PERIOD OF RECORD. Chemical analyses: January 1966 to September 1970.
Water temperatures: January 1966 to September 1967.
Sediment records: April 1967 to September 1970.

EXTREMES. 1969-70:

Sediment concentrations: Maximum daily, 270 mg/1 Feb. 13; minimum daily, 1 mg/1 on several days in October and December.

Sediment discharges: Maximum daily, 29,000 tons Feb. 13; minimum daily, 4.3 tons Aug. 16.

Period of record:

Sediment concentrations: Maximum daily, 270 mg/1 Feb. 13, 1970; minimum daily, 1 mg/1 on several days each year.

Sediment discharges: Maximum daily, 29,000 tons Feb. 13, 1970; minimum daily, 2.0 tons July 20 27 1969.

REMARKS. Samples for chemical and suspended-sediment discharge collected from Hunt Falls Bridge, 300 ft upstrea: from gaps.

CHEMICAL ANALYSES. WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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01100000 MEKRIHACK RIVER

CHEMICAL ANALYSES,

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MERRIHACK RIVER BASIN

BELOW CONCORD RIVER, AT LOWELL, MASS

WATER YEAR OCTOBER 1969 TO SEPTEMBER

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COLI-
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(COL-
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100 ML)

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2600
1400
1400

1100
850
3600
1400
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2000

NOTE! ALL ANALYSES, EXCEPT BIOCHEMICAL OXYGEN DEMAND, ARE FIELD ANALYSES.

HERRIHACK RIVER BASIN

01100000 HERRIHACK RIVER BELOW CONCORD RIVER, AT 1OWELL, MASS. Continued

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

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TOTAL

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MEAN
DISCHARGE

(CFS)

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1680

2380
2*50
2260
2290
2130

1670
1**0
1890
2210
2030

2260
1990
1*20
090
2350

2060
2060
2090
2070
1710

2150
2880
2*90
2560
26*0
2320

636*0

MEAN

(CFS)

20*00
17800
15300
1*100
13000

12200
11700
11100
10200
9700

9000
9000
8800
9100
8500

7600
7930
7*90
7950
7500

7190
7000
6600
6100
6700

6190
6*50
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6250
7230
6730

MEAN
CONCEN-
TRATION

(MG/L)

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(MG/L)

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SEDIMENT

(TONS/DAY)

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176

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62

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13*
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87
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137
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MEAN
DISCHARGE

(CFS)

2110
2210
3000
3710
*970

6880
11800
17600
21900
21100

19200
19200
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16000
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7300
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MEAN
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TRATION
(MG/L)

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MEAN
CONCEN-
TRATION

FEBRUARY

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SEDIMENT
DISCHARGE
(TONS/DAY)

*0
*8
*05
90
9*

1*9
605
2090
5**0
48*0

2800
1970
1250
86*
657

5*1
3*0
198
236
187

405
661
536
270
208

151
129
82
79
109
~

25*7*

SEDIMENT
DISCHARGE

110
110
156
1180
3790

2320
1390
821
697
1120

4620
27000
29000
9*50
36*0

1990
1550
1210
816
467

398
327
287
265
235

212
300
309

__

MEAN
DISCHARGE

6*60
6700
6380
6020
5730

4850
t610
5090
6780
9800

12600
19800
!2300
18800
15000

12800
1120C
9710
8650
8440

8030
8250
8950
8580
8110

7*00
10000
20100
30500
30600
2*900

3671*0

MEAN
DISCHARGE
(CFS1

8620
8690
8510
7970
8*70

8080
7620
7860
7680
7620

7660
7230
7260
6680
6590

6520
6*90
6590
6630
6880

7620
88*0
10800
12300
13000

13000
15500
21800
22100
19900
17500

MEAN
CONCEN-
TRATION

DECEMBER

7
13
8
*

1

5
6

*

2
6

12
38
*2
20
10

8
5
5
9
7

6
9
9
9
12

16
2*

**

82
80
36

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MEAN
CONCEN-
TRATION
(MG/L)

MARCH

13
9
6
9
10

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10
11
8
10

9
10
9
8
11

7
8
5
5
6

9
12
7
9
12

12
23
36
7*
50
25

SEDIMENT
DISCHARGE

122
235
138
65
15

65
75
55
37
159

408
2030
2530
1020
405

276
151
131
210
160

130
200
217
208
263

320
6*8
2390
6750
6610
2*20

28443

SF JIMENT
DISCHARGE
(TONS/DAY)

303
211
138
19*
229

218
20
23
16
20

18
19
176
1*4
196

123
1*0
89
90
111

185
296
20*
299
421

421
963
2120
4420
2690
1180

TOTAL 291230 167*3

MERRIHACK RIVER BASIN

01100000 MERRIMACK RIVER BELOW CONCORD RIVER, AT LOWELL, MASS. Continued

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

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31

MEAN
DISCHARGE

15300
16200
27900
34400
30700

27200
24600
23300
23100
24900

?6500
26*00
24600
22700
22400

23100
23900
24000
23900
22900

20800
19700
19000
18300
20400

26400
27300
24700
23500
22100

MEAN
CONCEN-
TRATION

APRIL

17
22
74
140
66

37
30
IS
22
27

38
51
25
30
19

20
30
44
38
36

43
22
17
17
18

34
97
40
36
34

MEAN
SEDIMENT
DISCHARGE

725
962
5570
13000
5470

2720
1990
1130
1370
1S20

2720
3660
1660
1840
1150

1250
1940
2850
2450
2230

2410
1170
872
*40
991

2420
7150
2670
2280
2030

MEAN CONCE N- SEDIMENT
DISCHARGE TRATION DISCHARGE

MAY

19700 30 1600
17000
15600
15900 i

7 1240
0 342
3 9S7
15700 18 763

13500 84 3060
11SOO 4
11000 1
10300

0 1270
6 475
4 389
8890 12 28S

8140 10 220
R760

3770]
H370
7200

8 189
8 426
8 181
7 136

6630 10 179
6530
9700 1
19200

4 247
4 367
0 518
23000 62 3150

20100 36 1950
17200 <
13500 2
11400 1

8 1300
0 729
5 462
10300 12 334

9630 10 260
8900
8420 1
7610 1
7120 1

9 216
4 311
0 205
2 231

MEAN
MEAN CONCE >4- SEDIMENT

DISCHARGE TRATION DISCHARGE (CFS) (M6/L) (TONS/DAY)

JUNE

5630
5360
5120
5540
5S60

5120
5470
6410 1
5870 1
5660

4820 1
4590
3830
3200 1
3310 1

91
72
111
90
111

41
133
173
153
133

208
112
83
121
107

3190 15 129
2920 1
2680 '
2830 1(

87
65
76
2300 6 37

2240 16 97
3260
2930 2'
2670 5
2410 11

70
214
411
72

2300 15 93
1480 11
1720 1

3510 1(
3350 I 1

68
84
152
118
6180 10 167

710900

MEAN

3130
2970
2960
2390
2920

3410
3100
2980
2620
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1660 lino ,

2930
2330
2510

2210
2090
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1320
2250

2340
2240
2130
1970
1230

442
1920
1930
1900
1810
1600

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MEAN
CONCEN-

jULr

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6

79340 366050 23399

MEAN
SEDIMENT

135
104
96
117
126

101
92
93
85
66

49
22
95
99
88

66
56
33
25
61

120
60
75
53
33

14
166
36
36
29
29

MEAN CONCEN- SEDIMENT

AUGUST

1120 7 21
693
2190 1
2250 1

i 11
3 59
1 67
2330 11 69

2350 10 63
2370 1
1160
829

j 96
3 25
b 13
2300 17 106

1990 12 64
1670 1
1510
1510
838

397
1600
1600
1350
1280

1370
763
573
1890
2190

2140
2070
2330
1130
680
1960 1

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3 33
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11
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MEAN

3522

MEAN CONCEN- SEDIMENT

(CFS) (MG/L) (TONS/DAY)

SEPTEMBER

1740 11
1640 10
1620 12
1710 8
950 15

475 8
721 6
2440 6
2030 6
1790 8

1630 14
974 16
1050 5
1720 12
1540 5

1610 12
1600 10
1900 18
1450 11
1570 6

2170 14
2460 4
2720 8
2620 6
2110 10

1770 6
1260 7
1410 9
1960 11
2100 10

52
44
52
37
38

10
12
40

3)
39

62
42
14
56
21

52
43
92
43
25

82
27
59
42
57

29
24
34
58
57

TOTAL 69392

52 HERRIMACK RIVER BASIN

01100750 MERRIHACK RIVER AT WEST NEWBURY, MASS.

LOCATION. Lat 42°48'38", long 71°03'02", Essex County, at Bridge Street Bridge, 0.9 mile northwest of West N

PERIOD OP RECORD. Chemical analyses: October 1968 to September 1970.
Water temperatures: October 1968 to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum, greater than 1,000 mlcromhos Aug. 17, 18, 20; minimum, 50 micromhos Apr. pH: Maximum, 8.2 July 25; minimum, 5.4 Sept. 30.
Dissolved oxygen: Maximum, 16.2 mg/1 Feb. 6; minimum, 0.1 mg/1 Sept. 11.
Water temperatures: Maximum, 29. 5 C July 29; minimum, freezing point on several days during January and February.

than 1,000 micromhos Aug. 17, 16, 20, 1970; minimum, 50 mic

Period of record:
Specific conductance: Maximum, g
Apr. 19, 1970.
pH: Maximum, 8.2 July 25, 1970; minimum, 5.4 Sept. 30, 1970.
Dissolved oxygen: Maximum, 16.2 mg/1 Feb. 6, 1970; minimum, 0.1 mg/1 Oct. 21, 1968, Sept. 11, 1970. Water temperatures: Maximum, 29.5 C July 29, 1970; minimum, freezing point on many days during winte

REMARKS. Rec
to Jan. 13 due to fr

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

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OCTCBSR

MAX MIN MEAN

83 1
87 1
Bl 1
83 1
82 1

181 1
187 1
178 1
181 1
197 1

210 1
243 1
435 1
312 1
262 1

249 1
210 1
268 1
326 1

281 1
303 1

237 1
246 1

328 1
288 1
199 1
180 1

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169 152

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PAX

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DECEMBER

PE4N PAX MIN MEAN

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MAX

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11C
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JJMJ4PY

MIN

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1C4

106
11C
111
1C7
112

109
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122
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147
174
155

HERRIHACK RIVER BASIN

01100750 MERHIHACK RIVER AT WEST NETOURY, MASS. Continued

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

FEBRUARY MtRCH APRIL

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MONTH

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16
18

175
157
194
173
170

173
173
220
161
157

98

?7
97
97
1C2
1C1

ICC
1C6
112

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JUNE

97
98
102
106
116

118
12C
114
116
114

118
118
118
115
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118
124
132
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372
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520
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873
729
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HERRIMACK RIVER BASIN

01100750 MERRIMACK RIVER AT WEST KEWBURY, MASS. Continued

PI

MEAN

6.7

TSI, M

MAX

6.8
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6.9
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MIVEPBEP DECEMBER

MIN MEAN MAX PIN MEAN

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6.6 6.7
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6.5 6.7
6.7 6.6
6.5 6.6
6.4 6.5
6.4 6.4

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6.3 6.5
. 3 6.5
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MAX

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JANUARY

MIN MEAN

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FEBRUARY P«RCH APRIL MY

MAX MtN MEAN PAX MIN ME«N MAX PIN MEAN MAX MIN MEAN

7.0 6.8 6.9 6.5 4.3 6.4 6.2 5. 9 6.1 . 5.7 .8

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6.7 6.4 6.6 6.7 6.2 6.5

6.8 6.5 6.6
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7.0 6.5 6.7
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HERRIMACK RIVER BASIN

01100750 MERRIMACK RIVER AT WEST NEWBUOT, MASS. Continued

PH (UNITS), HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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6.3
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JUNE

PIN

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JULY AUGUST SEPTEMtER

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DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITRE, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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HERRIHACK RIVER BASIN

01100750 MERRIMACK RIVER AT WEST NEWBURY, MASS. Continued

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

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FEBRUARY

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3.4 14.6

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5.3 15.9

4.1 15.4

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fARCH

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13.0
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MEAN

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JULY AUGUST

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HERRIHACK RIVER BASIN

01100750 MERRIMACK RIVER AT WEST NEKBURY, MASS. Continued

TEMPERATURE <°C> OF HATER, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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MAX

OCTOBER

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16. C

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12.5
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9.C

E.5
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FEBRUARY

HIN

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16.5

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14.0

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13.5
11.0

10.0

B.5
9.0

MEAN

MAX

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9.5

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MAX

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KARCH

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1.0 1.0 l.C

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2.5 13.5
2.5 14. C
3.0 14.0

3.0 13.5
2.5 12.5
2.C 12.5
2.0 12.5
2.0 13.5

4.0 15.5
5.0 16.0
5.5 1C.S
6.0 17.0

(.0 1C. 5
6.0 16.0
5.0 15.5

4.5 15.0

4.5 15.0
5.0 16.0

6.5 17.5
7.0 17.5

6.5 17.0
7.0 17.5

1.0 18. C 7.0 16.0
7.0 16.C
7.5 18.5

MERRIHACK RIVER BASIN

01100750 KERRIMACK RIVER AT WEST IfBWBURY, MASS. Continued

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

JLME JULY AUGUST

KIN MEAN MAX MIN PEAN MAX PIN MEAN MAX

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22.0
22.0
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22.5
23.0
24.0
24.0

22.5
21.0

22. 5
22.0

24.0

19.
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21.

20. C

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22.
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18.

20.5
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22.0
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22.5 20.0 22. C 29.0
22.5 20.0 21.5 28.0
23.5 22.0 22.5 28.0
24.0 22.5 23.5 21. C

26. C 24.0 25.0 21.5

27.0 26.0 26.; 25.5

28.5
28.0
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. . . . 27.0
26. C

25.5
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27.5 25.0 21. C 24. «

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27. C
27.0
24. C

26.0

24. C

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24.0
23.5

23. C

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IS. 5
2C.O
21. C
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21.0
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21. C
22.0

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20.0

20.5
2C.5

18.5

16. C
18.0
1E.C
18.5
19.0

19.5
20.5
22. C
22.0

22.5

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20.5

NORTH RIVER BASIN

01105730 INDIAN HEAD RIVER AT HANOVER, MASS.

LOCATION. Lat 42°06'02", long 70°49'23", Plymouth County, at gaging station on right ba Eln dge,

DRAINAGE AREA. 30.3

PERIOD OF RECORD. Chemical

ecords Nov

lalyses: November 1969 to September 1970. vember 1969 to September 1970.
mber 1969 to September 1970 (partial records).

EXTREMES. November 1969 to September 1970:
Specific conductance: Maximum, 291 micromhos Feb. 1, Sept. 24, 28, 29; minimum. 111 micromhos Dec. 28. Water temperatures: Maximum, 32.0°C July 29, 31; minimum, freezing point on many days during December to February.

REMARKS. Records
operation May
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Massachusetts" and

avai

nt data in "Analys ollected at water-quality

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 2S°C), NOVEMBER 1969 TO SEPTEMBER 1970

NOVEMBER DECEMBER JANUARY

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i 194
i 197

3 198
r 199
r 166
r 151

r 161

190
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99 207
11 214
11 212
13 216

22 226
26 229
28 232
87 198
75 180

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NORTH RIVER BASIN

01105730 INDIAN HEAD RIVER AT HANOVER, MASS. Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°CI, NOVEMBER 1969 TO SEPTEMBER 1970

FEBRUARY

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AUGUST

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SEPTEMBER

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285 28
286 28
287 28
285 28

NORTH RIVER BASIN

01105730 INDIAN HEAD RIVER AT HANOVER, MASS. Continued

TEMPERATURE (°C> OF WATER, NOVEMBER 196,9 TO SEPTEMBER 1970

NOVEMBER DECEMBER JANUARY

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MONTH

FEBRUARY

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2.0 1.0
3.0 2.0
4.0 2.5

7.5 4.0
9.5 7.0 6.5
9.0 6.0 4.0
7.5 4.0 3.0
7.5 2.5 1.0

5.5 1.0 0.5
4.0 1.0 0.0
4.0 0.5 0.0
5.0 1.0 0.5
6.5 0.5 0.0

4.5 0.5 0.0
2.5 1.0 0.0
2.5 1.0 0.0
4.0 0.5 0.0
3.0 1.0 0.0

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MARCH

MAX MIN MEAN

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APRIL

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NORTH RIVER BASIN

01105730 INDIAN HEAD RIVER AT HANOVER, MASS. Continued

TEMPERATURE <°C) OF WATER, NOVEMBER 1969 TO SEPTEMBER 1970

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JUNE

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JULY

MIN

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28.5
2B.O

18.5

MEAN

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21.0
21.0

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MAX

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AUGUST

MIN

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MEAN

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MAX

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SEPTEMBER

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JONES RIVER BASIN

01105870 JONES RIVER AT KINGSTON, MASS.

LOCATION. Lat 41°59'27", long 70°44'03", Plymouth County, at gaging station on left bank, 100 ft downstream from Elm Street Bridge at Kingston and 2.8 miles upstream from mouth.

DRAINAGE AREA. 15.8 sq mi, excludes 4.09 sq mi above outlet of Silver Lake, from which flow is diverted for municipal supply of Brockton and Whitman.

PERIOD OF RECORD. Chemical analyses: November 1969 to September 1970.
Water temperatures: November 1989 to September 1970.
Sediment records: November 1969 to September 1970 (partial records).

EXTREMES. November 1969 to September 1970:
Specific conductance: Maximum, 135 micromhos Dec. 26; minimum, 56 micromhos Feb. 4. Water temperatures: Maximum, 25.0°C June 25, July 31, Aug. 2; minimum, freezing point December to March.

many days during

SPECIFIC CONDUCTANCE (MICROMHOS/CM

NOVEMBER

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JANUARY

MtN

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94
89
102

FEBRUARY

MIN

MAY

MIN

JONES RIVER BASIN

01105870 JONES RIVER AT KINGSTON, MASS. Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), NOVEMBER 1969 TO SEPTEMBER 1970

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

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JONES RIVER BASIN

01105870 JONES RIVER AT KINGSTON, MASS. Continued

TEMPERATURE (°C> OF WATER, NOVEMBER 1969 TO SEPTEMBER 1970

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3-0 5.5 3.5 4.5 3.0 9.0 11. 0 13.0 12.5 13.0
1.5 6.5 2.5 5.0 0.5 6.0 9.0 17.5 12.0 14.5

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1.5 7.5 4.5 6.0 0.0 8.0 9.0 18.0 13.5 16.0
2.0 6.5 5.5 6.0 1.0 8.0 9.5 18.0 16.5 17.0
1-5 7.0 4.5 5.5 0.5 9.0 0.0 16.5 15.0 17.0
2-5 8.0 4.0 6.0 5.0 9.5 2.0 17.0 15.0 15.5

1.5 8.0 6.0 6.5 6.0 2.0 4.0 16.5 14.5 15.5

1.0 8.5 6.5 7.5 9.5 5.5 7.5 19.0 16.0 18.0
7.0 0.5 5.0 8.5 6.0 7.0 18.5 15.0 17.0
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JUNE

MAX MIN MEAN MAX

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7.0 24.0
8.0 24.0

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JULY

MIN

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MEAN

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AUGUST

MAX MIN

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MEAN

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SEPTEMBER

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BLACKSTONE RIVER BASIN

C1111230 BLACKSTONE RIVER AT MILLVILLE, MASS.

LOCATION. Lat 42°01'16", long 71°34'04", Worcester County, on left bank 400 ft upstream from railroad bridge,

DRAINAGE AREA. 277 sq mi.

PERIOD OF RECORD. Chemical analyses: July 1969 to September 1970.
Water temperatures: July 1969 to September 1970.

EXTREMES. July 1969 to September 1970:
Specific conductance: Maximum, 704 micromhos Jan. 30, 1970; minimum, 130 micromhos Feb. 11, 1970.
pH: Maximum, 8.1 July 9, 1970; minimum, 5.5 Sept. 9, 1970.
Dissolved oxygen: Maximum, 13.3 mg/1 Feb. 22, 197O; minimum, 0.4 mg/1 Aug. 15-18, 20, 1970.
Water temperatures: Maximum, 29. 0 C July 29, 1970; minimum, freezing point on several days in January 1970.

gaging stations at Woonsocket, R.I. (station 01112500) and for Branch River at Forestdale, R.I.

SPECIFIC CONDUCTANCE

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MONTH

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MAX

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MAX

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OCTOBER

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FEBRUARY

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(MICROHHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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MEAN

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MARCH

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BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MASS. Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25"C>, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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AUGUST

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PH (UNITS)p WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT BILLVILLE, MASS. Continued

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

FEBRUARY

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APRIL

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BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MASS. Continued

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

OCTOBER

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DECEMBER

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BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MASS. Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITRE, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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

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BLACKSTONE RIVER BASIN

01111230 BLACKSTONE RIVER AT MILLVILLE, MASS. Continued

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

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PAWTUXET RIVER BASIN

01116500 PAWTUXET RIVER AT CRANSTON, R.I.

LOCATION. Lat 41 45 T 03", long 71 26'44", Providence County, at gaging station on left bar upstream from Pocasset River.

DRAINAGE AREA. 200 sq mi.

PERIOD OF RECORD. Chemical analyses: June 1969 to September 1970.
Water temperatures: November 1961 to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum, 409 micromhos Sept. 23; minimum, 65 micromhos Apr. 5.

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of record:

r temperatures: Ma
65-70.

Maximum, 409 n
ximum, 30. 0°C July 1, 1964; minimum,

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT

OCTOBER

MAX MIN MEAN MAX

335 ?94 326 313
231 266 27'
272 226 25
298 260 27

343
» 346
> 259
278 243 25B 189

?53 2?3 237 209
307 223 26
255 232 23
235 221 22

215
3 220
708
275 238 254 151

311 277 29
331 314 32
330 317 32
335 309 >?

141
1B1
J 159
1=2
33B 325 335 202

324 287 306 202
?86 270 27
272 267 26
276 268 27

1"
1 157
1 B3
2f 286 279 282 201

?1 296 237 291 220
22
23

25

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31

MONTH

DAY

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2B
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30
31

MONTH

294 275 28 206
2B1 270 273 209
274 267 271 207
278 ?75 276 159

289 280 285 179
291 284 2fl
325 288 29

J 109
. 205
324 300 302 214
303 209 301 232

307 301 304

338 221 282 346

FEBRUARY

MAX MIN MEAN MJX

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181 18
155 17
154 16
143 17
132 14

132 13
135 14
130 14
127 13
135 14

139 14
131 14
123 12
118 12
114 11

11B 12
131 13
137 14
141 14
138 14

136 14
124 13
113 H
110 11
114 12

146
1 5
1 4
1 4
1 2

1 1
1 2
1 0
1 3
169

223
222
199
214
178

161
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199
219
209

191
201
221
182
193

130 135 402
133 13
130 13
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16C
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197
146

19" 110 140 4^2

NOVEMBER

MIN

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315
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1 79
171

178
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204
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137

137
142
152
156
1B6

194
160
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145
179

188
1S7
195
161
147

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214
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137

MARCH

MIN

130
124
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127
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175

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103

25°C) , WATER

MEAN

3CB
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249
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207
212
1B5
145

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189

2C6
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2C2
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MFAN

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freezing point on many days during winter

YEAR OCTOBER 1969 TO SEPTEMBER 1970

DECEMBER JANUARY

MAX MIN MEAN MAX MIN

221
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12 218 171 156
B8 199 156 131
70 173 154 130
71 181 158 123
94 201 157 123

05 211 175 131
14 220 169 151
23 226 160 149
88 210 170 156
75 200 1B2 161

46 163 179 164
78 193 172 135
93 200 156 133
71 188 178 157
71 182 174 161

67 175 179 164
99 217 199 163
90 200 183 171
97 211 179 131
16 226 157 131

Cl 211 164 142
54 179 174 157
54 165 167 157
60 164 191 166
47 155 201 187

32 162 195 176
46 162 185 176
25 133 1«5 176
10 116 225 186
26 137 235 209
34 159 206 182

242 110 185 235 123

APRIL MAY

MAX MIN MEAN MAX MIN

159 112 1
170 77 1
127 75
76 67
67 65

76 66
86 75
BB 82
120 92 1
124 96 1

103 90
B8 72
76 70
111 75
107 99

103 88
106 87
123 90
182 126
172 81

119 81
168 11
151 31
148 35
172 35

199 66
203 44
160 43
210 59
230 95

5 222 180
0 222 181
1 206 190
0 207 201
6 228 187

8 1B5 150
3 164 152
5 186 161
4 177 167
8 206 179

6 220 207
7 226 209
2 228 218
2 238 231
9 267 239

6 281 253
6 256 233
9 225 119
8 132 115
2 168 103

8 145 114
9 157 109
8 162 148
2 223 159
2 236 172

9 169 110
5 196 137
0 197 157
7 215 174
3 216 204
213 208

230 65 116 281 103

period

MEAN

163
144
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MEAN

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208
209

187

PAWTUXET RIVER BASIK

01116500 PAWTUXET RIVER AT CRANSTON, R.I. Continued

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

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JUNE

MAX WIN MEAN

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241

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119
205

217
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237
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253

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196
220
273
294

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284
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250

253
317
317

293 2*84

5B 193
60 169
66 172
86 2^6
07 227

79 217
16 143
04 108
11 1 0
57 1 7

75 1 8
"4 2 1
86 28
11 22
05 24

41 18
45 1 0
86 22
22 24
56 24

77 280
14 244
26 263
10 218
17 228

2B 236
54 273
87 3"2
35 259
07 263

MAX

225
245
283
276
280

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267
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3C1
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280

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JULY

MIN MEAN

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269

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316
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315
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267

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3C1
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292
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303

302
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283
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302

MAX

317
347
339
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290

332
355
358
159
330

323
286
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2n
299

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308
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279

290
352
2^2
309
315

320
2«7
269
247
264
270

AUGUST

MIN

29"2

299
280
264
253

249
293
317
326
315

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254
243
275

2*4
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268
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200
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258
241
184
1X8
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MEAN

302
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MAX MIN

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349 315

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MEAN

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316

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364
303
323

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360
335
315
332

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

OCTOBER NCVEfflER DECEMBER J<NU<RY

MAX MIN MEAN KAX MIN MEAIV MAX MIN MEAN MAX MIN ME<N

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6.5 17.
7. C 17.
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6.C 17.
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2.0 S.5 11.
0.5 8.5 9.
0.0 9.0 9.

0.5 7.5 9.
1.0 9.0 10.
0.5 ?.C 10.
0.0 8.0 9.
0.0 8.0 8.
9.5 7.5 8.

9.0 7.5 8.5 5.C 3.5 4.C 1.
1C.O 7.5 9.0 4.0 3.0 3.5 1.
11.5 10.0 11.0 3. £ 2.5 3.0 0.
12.5 11.5 12.0 3.0 2.0 2.5 1.
12.5 11. C 12. C 2.5 1.0 2.0 1.

11.0 10.5 10.5 3.0 1.0 1.5 1.
10.5 10.0 10.5 3.0 1.0 2.0 0.
12.0 10.5 11.0 3.C 2.C 2.5 C.
11.5 10.5 11.0 ' 4.5 3.5 4.0 0.
1C. 5 9.5 10. C 5.0 4.5 5.0 0.

10.0 9.5 9.5 9.0 5.0 7.5 0.
10.5 9.5 10. C 7.5 6.5 7.0 0.
10.5 10.0 10.0 7.C 5.0 6.0 C.
1C. 5 9.0 9.5 5.5 3.0 4.0 0.
?.5 8.0 S.C 3.C 2.5 3.0 0.

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. 5 6.5 2.5 1.5 2.0 1.
. 5 6.5 2.0 1.0 1.5 C.
. 5 7.0 2.5 1.0 2.0 0.
.5 8.C 2.C l.C l.C 0.

. 5 6.5 1.5 0.0 1.0 0.
.0 4.5 2.0 l.C 1.5 0.
.0 4.5 1.5 C.O 1.0 C.
. 5 5. C 1.0 0.0 0.5 0.
.0 4.5 0.5 C.C 0.0 0.

.0 4.5 0.5 0.0 0.5 1.
. 5 4.0 0.5 C.C 0.5 1.
. 5 4.0 1.0 0.0 0.5 2.
5.0 3.5 4.C 1.5 0.5 1.0 2.
6.0 3.5 4.5 2.C 1.0 1.5 3.
2.0 0.5 1.0 2.

C.C C.5
C.O C.5
0.0 0.0
C.O C.5
0.0 0.5

0.6 0.5
C.O C.O
C.O 0.0
0.0 C.O
0.0 0.0

C.O C.O
0.0 0.0
C.O 0.0
C.O 0.0
0.0 0.0

0.0 C.O
0.0 0.5
C.O 0.0
0.0 C.C
0.0 0.0

C.O O.C
0.0 0.0
C.O C.C
C.O C.C
0.0 O.C

C.O C.O
0.0 0.5
C.O 1.0
1.0 2.0
2.0 2.5
0.5 1.0

PAHTUXET RIVER BASIN

01116500 PAHTUXET RIVER AT CRANSTON, R.I. Continued

TEMPERATURE (°C) OF HATER. HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

MAX

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PAX

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21.5
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25.0
24.5

24.0

20.5

FEBRUARY

MIN

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l.C
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21.5
22. C

19.0

19.5

MEAN

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2.0
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1.0
1.5

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JULY

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MEAN

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MAX

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AUGUST

MIN

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MEAN

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SEPTEMBER

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19. C

THAMES RIVER BASIN 75

01122500 SHETUCKET RIVER NEAR WILLIMANTIC, CONN.

LOCATION.--Lat 41°42'01", long 72°10'S7", Windham County, at gaging station on right bank at downstream side of Bingham Bridge on Plains Road, 500 ft upstream from New York, New Haven, and Hartford Railroad bridge, 500 ft

DRAINAGE AREA. 401 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1956 to September 1957, June 1968 to September 1970.
Water tenperatures: October 1956 to September 1957.

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APR.
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MAY
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JUNE
03..
OB..
JULY
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CHEMICAL ANALYSES, MATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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MAG- TOTAL CAR- FIC
CAL- ME- BICAR- CAR- CHLO- PHOS- HARD- BONATE COND-
CIUM SIUM BONATE BONATE SULFATE RIDE PHORUS NESS HARD- UCTANCE

(CAI (MGI (HC03I (C03I (S04I (CLI (POM (CA.MGI NESS (MICRO-

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0 13 15 .5) 2) 11

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0 12 IB 1.3 23 12

0 36 IB .93 36 12

7.B 20 1.9 35 16

COLI- FECAL STREP-
PER- FORM COLI- TOCOCCI OIS-

DIS- CENT (COL- FORM (COL- SOLVED SOLVED SATUR- ONIES (COL. ONIES MERCURY

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10.5 74 15000

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6.6 69 42000 1900 560

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THAMES RIVER BASIN

01124000 QUINEBAUG RIVER AT QUINEBAUG, CONN.

LOCATION. Lat 42°01'20", long 71°57'22", Wlndham County,
on State Highway 197 and 0.2 mile downstream from Mass ichi

-ight bank at Quinebaug, 500 ft upstream from bridge isetts-Connecticut State line. Multiple-parameter nito

fro gaging station, and 2.0 mile

October 1959 to September 19

uthwest of Dudley, Mass.

January to November 1962 (miscellane

State line, 0.4 mile upst
DRAINAGE AREA. 157 sq mi.
PERIOD OF RECORD. Chemical analyse
October 1968 to September 1970.
Water temperatures: October 1959 to September I960, October 1968 to September 1970.
EXTREMES. 1969-70:

Specific conductance: Maximum recorded, 393 micromhos Sept. 24; minimum, 69 micromhos Apr. 14. pH: Maximum, 7.6 Sept. 6; minimum, 4.9 July 18.
Dissolved oxygen: Maximum, 15.3 mg/1 Feb. 14; minimum, 0.4 mg/1 Aug. 28.

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

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ICC
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r 11* 11 12 99
121 15 17 10*
121 C8 15 101

107 8* 9 100
67 8* 8 1C1
85 82 8 103
69 75 7 107
S3 75 7 1C?

8* 76 8 105
83 78 8 113
91 82 8 130 1
102 91 9 118 C
i 102 It 98 112

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1*7 92 112 113
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« LC3 ?7 99 116 1C
98 52 95 111

92 6? 90 129 1
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t 112 105 108 170 1
1C* 10C 102 231 1
99 9* 97 23C 1
99 9* 95 172 1

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THAMES RIVER BASIN

01124000 QUINEBAUG RIVER AT QUINEBAUG, CONN. Continued

XTHEMES. --1969-70: Continued

to March.
Period of record:
Specific conductance
49 micromhos Apr.
pH (1968-70): Maxin
Dissolved oxygen (IE
Water temperatures:

(1959-60
2, 1960.

1968-70) : Maximu

68-70): Maximum, 15. 3 mg/1
Maximum recorded, 32.5°C Ju

EMARKS. Records of hourly water-

SPECIFIC CONDUCTANCE

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urn, 0.4 mg/1 Aug. 28, 1970.
, freezing point on many days during

quality values are available in district office, Boston, Mass.

(MICROMHOS/CM AT 25°CI, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

PARCH <PRIL

MAX M IN MEAN MAX MIN MEAN MAX

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THAMES RIVER BASIN

01124000 QUINEBAUG RIVER AT QUINEBAUG, OOWN. Continued

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

JUKE JUIY MJEUST SEPTEMBER

MAX MN MEAN MAX M IN HEAN MAX M1N KEAN MAX PIN

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17

155

ICC
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1C4
1C4
10B

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97
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JANUARY

M1N MEAN

THAMES RIVER BASIN

01124000 QUINEBAUG RIVER AT QUINEBAUG, CONN. Continued

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

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THAMES RIVER BASIN

01124000 QUINEBAUG RIVER AT QUINEBAUG, CONN. Continued

OCTOBER NnvEMBER DFCFMRER JANUARY

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7.B .1 7.3
8.5 .1 7 . fl
8.9 .5 B.2

9.5 .4 fl.?
9.0 .1 8.5

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7. 5 6. B 7.0
1.9 7.0 7.7

o.l 7.5 8.2
«.7 7.3 7. 8
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1.8 fl. 8 °.3
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2.? 11. 0 11.5
1 .9 10. fl 11.1

1.9 10.7 1.0
l.l 1".* 0.7
1 .ft l n.4 0.9
1.9 in. 5 i.n
l.« 10.7 1.1

1.4 10. 0 10.6
1.3 10.0 I'1. 5
C.3 0.8 13.0
0.1 9.6 9.B
0.1 9.1 9.6

0.3 9.7 10.1
0.4 10." 10.2
0.2 10.0 10.1
0.3 10.1 1". 2
0.6 10.4 10.5

0.6 10.4 10.5
0. 8 10.5 10.6
1.2 10.5 10.8
1.? 10.9 11.1
1.4 10.9 11.1

2.1 11.4 11.8
2.5 12.0 12.?
2.4 11.7 12.1
1.6 10.9 11.4
1.7 11.0 11.3

2.6 11.9 12.3
3.3 12.7 12.9
3.1 12.4 12. fl
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3.4 12.9 13.2

3.5 13.0 1J.2
3.6 13.0 13.3
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3.4 12.9 13.2
1 1.7 10.5 0.9 -

3.2 12. 8 13.0 14.2 14.0 14.1
3.4 12. n 13,1 14.1 13.9 14.0
3.2 12.9 13.1 14.2 13.8 14.0
3.9 12. fl 13.4 14.1 13.8 14.0
4.3 13.7 13.9 14.2 13.9 14.0

4.3 13.9 14. ( ]4.1 13.5 13.9
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3.4 13.2 13.3 14.0 13. » 13.9

3.2 12.7 13.0 14.2 13.6 14.0
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4.7 13.9 14.0 14.0 13.5 13.6
3.9 13.5 13.7 13.6 13.6 13.7
4.3 13.6 14,1 13. B 12.5 13.5
4.4 14.7 14.? 13.7 12.3 13.2
4.6 14.3 14.4 13.7 13.1 13.4

4.3 13.7 14,0 13.3 12.8 13.0
4.0 13.6 13.8 ---
4.7 14.0 14.1
4.3 14.1 14.2 14.0 11.4 13.7
4.2 13.9 14.1 13.7 13.? 13.6
4." 13.5 13. B 14.3 13.8 14.1

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FEBRUARY MARCH APRIL MAY

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THAMES RIVER BASIN

01124000 QUINEBAUG RIVER AT QUINEBAUG, CONN. Continued

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

JUNE JULV AUGUST SEPTEMBER

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TEMPERATURE t»C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCTOBEO NOVEMBER

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12.5 14.0 S.5 6. 8.0 1.0

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THAMES RIVER BASIN

01124000 QniHEBAUO RIVER AT QUIHEBADO, CONN. Continued

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

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THAMES RIVER BASIN ej

01127000 QUINEBAUG RIVER AT JEWETT CITY, CONN.

LOCATION. Lat 41°35'52", long 71°59'05", New London County, at gaging station on left bank in rear of high school on Slater Avenue at Jewett City, 570 ft downstream from outlet of canal from Wedgewood Mills at mouth of Pachaug River, 1,000 it downstream from railroad bridge, and at mile 6.1.

DRAINAGE AREA. 711 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1955 to September 1956, June 1968 to September 1970.
Water temperatures: October 1955 to September 1956, October 1958 to September 1970.

EXTREMES. 1968-70:

Water temperatures: Maximum, 29. 5°C Aug. 2; minimum, freezing point on many days during January.

Period of record:

conductance, and pH of daily samples available in district office, Hartford, Conn.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

MAG- TOTAL
NE- BICAR- CAR- CHLO- PHOS- HARD-
BIS- CALCIUM SUM BONATE BONATE SULFATE RIDE PHORUS NESS

CHARGE (CD (MG) (HC03) (COS) (504) (CD (POM (CA.MG) NESS (MICRO
(CFS) (MG/D (MG/L) (MG/D (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/LI MHOS)

NON- SPE-
CAR- CIFIC
BONATE CONDUCT-
HARD- ANCE

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82

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70000

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THAMES RIVER BASIN

01127000 QUINEBAUG RIVER AT JEWETT CITY, CONN. Continued

TEMPERATURE (°C) OF WATER, OCTOBER 1969 TO SEPTEMBER 1970 (WATER-STAGE RECORDER WITH TEMPERATURE ATTACHMENT)

OCTOBER NOVEMBER

MAX MIN MAX MIN

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8.0 7.0 9.0 8.5
8.0 6.5 8.5 8.0

6.5 5.5 8.0 6.5
6.0 5.5 6.5 5.5
5.5 4.5 5.5 5.5
5.0 4.0 5.5 5.0
5.0 4.0 6.5 6.0

5.5 4.5 6.5 4.5
4.5 4.0 5.5 4.5
4.0 2.0 4.5 4.0
2.0 1.5 4.0 4.0
1.5 0.5 4.0 4.0

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1.5 11.0 17.0 5.5
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9.5 9.0 18.0 8.0
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MIN

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2.0
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RUARY

MIN

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AUGUST

MIN

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25.9

MIN

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25.5
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3.5

SEPTEMBER

MAX

23.
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MIN

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20.0
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20.0
19.0
19.0
19.0
18.5

18.5
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20.0
22.0
23.0

23.0
21.5
20.5
19.5
19.0

20.0

THAMES RIVER BASIN 8=

01127500 YANTIC RIVER AT YANTIC, CONN.

LOCATION. Lat 41°33'31", long 72°07'19", New London County, at gaging station on left bank at Yantlc, 700 ft downstream from stone-arch highway bridge, 1 mile downstream from Susquetonscut Brook, and 4.8 miles upstream

DRAINAGE AREA. 88.6 sq ml.

PERIOD OF RECORD. Chemical analyses: October 1957 to September 1958, June 1968 to September 1970. CHEMICAL ANALYSES, MATER YEAR OCTOBER 19*9 TO SEPTEMMR 1970

MAG-
NE-
SIUM

NON- SP6CI-
TOTAL CAR- fit
PHOS- HARD- BONATE COND-
PHORUS NESS HARD- UCTANCE
(PO4I ICA.MS) NESS IMICRO-
(MS/LI (MS/LI IMG/LI MHOS)

NCV.
10...
10...A 351
DEC.
08...
08...A 103
JAN.
15...
15...A 163
FES.
09...
09...A 286
M«R.
09...
39...A 140
4 PR.
13...
13...A 2^0
MAY
11...
11...A 93
JUNE
08...
03...A 251
JULY
06...
06...A 22
MJG.
11...
11...A 9.5
SEPT.
09 ...
09...A 8.5

7.0

7.0

9.5

7.7

.32

.25

103

88
110

82
102

COLI- FECAL

ICOL- FORM

STREP-

ICOL- SOLVED LINITY

DATE (UNITS! IMG/LI IOEG Cl (HG/LI

OCT.
13... 7.0
13. ..A 7.6
0V.
10... 6.3
10.. .A 7.1
EC.
8... 6.6
8. ..A 6.9
N.
5... 6.7
5. ..A 7.4
B.
9... 7.0
9. ..A 7.4
R.

9. ..A 7.4
R.
3... 6.7

3... A 7.4
Y
1... 7.1
1...A 3.3
NE
8... 7.0
8. ..A 7.4
ULY
06... 7.0
06. ..A 7.6
UG.
11... 7.3
11. ..A 7.9
EPT.
09... 6.8
09. .4 7.7

. 9
15.0 9.5

J.O
7.5 11.5

. 8
1.0 12.0

. 5
. 0 9.6

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. 7
3.0 11.7

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9.0 10.0

. 4

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17.0 8.0

1.0

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22.2 10.1

5 -
16.5 8.1

93

96

84

66

72

87

86

82

- _

110

-

83

900

1900

_ .

690

__ «..
1200

240

67

5200 330

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620 330

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24000 520

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7600 2500 6800

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A FIELD DETERMINATION.

86 CONNECTICUT RIVER BASIN

01141900 CONNECTICUT RIVER AT WHJDER, VT,

LOCATION, Lat 43°40'04", long 72°18'13", Windsor County, at Wilder Dam at Wilder.

PERIOD OF RECORD. Chemi alyses: August 1969 to September 1969 (miscellaneous), October 1969 to September
1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD DETERMINATIONS

DATE

OCT 7.
NOV 3.
DEC 8.
JAN 12.
FEE 2.
MAR 10.

APR 6.
MAY 5.
JUN 9.
JUL 14.
AUG 4.
SEP 1.

TIME

. 0900
. 1500
. 1700
. 1530
. 1600
. 0900

. 1500
. 1630
. 0900
. 1615
. 1500
. 0900

DIS-
CHARGE

(CFSI

4000
4000
4100
4100
4400
5000

6000
5400
8800
4300
3500
4100

SPECI-
FIC
CON-
DUCT-
ANCE

(MICRO-
MHOS 1

115
118
97
95
88
93

105
5
8
10
11
10

DIS-
SOLVED
OXYGEN

(MG/LI

7.0
9.5
11.8
12.5
12.2
12.0

12.6
10.8
7.9
8.2
5.6
5.6

TEM-
PERA-

TURE (°CI

15.0
8.
1.

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1.
9.
18.
23.
25.
21.

PH

(UNITSI

,t

COLI-
FORM

(COL-
ONIES
PER
100 ML

540
230
930
370
390
360

530
200
130
150
170
50

FECAL
COLI-
FORM

(COL-
ONIES
PER
100 ML

120
20
200
100
240
81

64
40
9
2
7
2

LABORATORY ANALYSES

N
BATE

OCT 7..
NOV 3..
DEC 8..
JAN 12..
FEE 2..

APR 6..
MAY 5..
JUN 9..
JUL 14..
AUG 4..
SEP 1..

CHLO-
RIDE

ITRATE

(Nl

0.20
. 30
1.5
. 40
. 50

. 30
. 40
. 30
. 80
1.4
. 50

TOTAL
KJEL-
DAHL
NITRO-
GEN
INI

0.99
. 13
1.6
. 44
. 53

. 48
. 42
. 37
. 73
. 21
. 25

DIS-
SOLVEI

TOTAL
PHOS-
PHORUS

(PI

0.02
. 03
. 04
. 03
. 02

. 03
. 03
. 02
. 02
. 02
. 03

SOLIDS

SULFATE DUE AT NESS

(M6/LI (MG/L) (MG/L

AUG 4.. 16
SEP 1.. 6.5 11 72

(MG/LI

36

TUR-
BID-
ITY

4.0
4.0
3.0
2.0
4.0

6.0
6.0
2.0
2.0
5.0
2.0

METHY-
LENE
BLUE
ACTIVE
SUB-
STANCE

0.04
. 02
. 04
. 03
. 04

. 03
. 03
. 03
. 03
. 05
. 03

CHEM- C

ICAL (
OXYGEN

OLOR
P LAT-
IN UM-
DEMAND COBALT

23
24

(81'7

21

11
10
10
11
14
19

BIO-
TOTAL ORGANIC CHEM-

AS GEN OXYGEN

(MG/LI (MG/LI (MG/LI

2. 0 0.00 0.6

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32

OIL
AND
GREASE

(MG/LI

600

49

DIS- S
SOLVED
IRON G

DIS-
OLVED
MAN-
ANESE

(FEI (MN)
(UG/LI (UG/LI

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210

CYANIDE

(CNI
(MG/LI

o.or

. 03

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80

PHENOLS

(UG/LI

2

12

MINOR ELEMENTS, RADIOCHEMICAL, AND PESTICIDES

E

E

ALUM-
INUM

(ALI
(UG/LI

0

DIS-
SOLVED
GROSS
BETA

(PC/L

CS-137)

4.1

DATE

ARSENIC

(ASI
(UG/LI

0

TOTAL
DIS-

(MG/L)

78

DDE

(UG/LI

COPPER

(CUI
(UG/LI

10

SUS-
PENDED
GROSS
ALPHA

U NATI

<.6

DOT

(UG/L)

CHRO-
MIUM

(CRI
(UG/LI

0

SUS-

PENDED
GROSS
ALPHA

U NATI

<.2

DI-

ELDRIN

(UG/LI

LEAD

(PBI
(UG/LI

7

SUS-

PENDED
GROSS
BETA

Y-901

<1.0

ENDRIN

(UG/LI

MERCURY

(HGI
(UG/LI

. 1

SUS-

PENDED
GROSS
BETA

(PC/L

CS-1371

<1.1

HEP-
TACHLOR

(UG/LI

ZINC

(ZNI
(UG/L)

20

SUS-
PENDED
SEDI-

(MG/Ll

<1

LINDANE

(UG/LI

DIS-
SOLVED
GROSS
ALPHA

(UG/L
AS
U NATI

<1.0

DIS-

(CFSI

4100

2,4-D
(UG/LI

DIS-
SOLVED
GROSS
ALPHA

(PC/L
AS
U NATI

<. 3

(UG/L)

. 00

2,4,5-T
(UG/LI

DIS-
SOLVED
GROSS
BETA

(PC/L
AS SR/
Y-901

3.3

(UG/LI

. 00

SILVEX

(UG/LI

. 00 TRACE

CONNECTICUT RIVER BASIN

01160000 SOUTH BRANCH ASHUELOT RIVER AT WEBB, NEAR MARLBOROUGH, N. H.

LOCATION.--Lat 42°52'20", long 72°12'51", Cheshire County, temperature recorder at gaging static right bank,

RAINAGE AREA. 36.0 sq mi.

2RIOD OF RECORD. Water temperatures: October 1954 to September 1970.

XTREMES. 1969-70:

Water temperatures: Maximum, 29.5°C July 29; minimum, freezing point on many days during December to March.

Period of record:
Water temperatures: Maximum, 33.5°C July 14, 1965; minimum, freezing point on many days during winter periods.

EMARKS. Recorder stopped Jan. 22-29 (range, freezing point to 1.0°C>, May 6-12 (range, 9.0° to 19.5°C).

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

Y OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH

MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN

E> 13.0 9.0 8.5

1 12.0 9.5 9.0

1 5.0 2.0

Y APRIL MAY

MAX MIN MAX

8.0 4.5 0.5 0.3 0.0 0.5 0.5 1.0 0.5

9.0 2.0 1.5 0.0 0.0 0.5 0.0 1.0 0.5

JUNE JULY AUGUST SEPTEMBER

MIN MAX MIN MAX MIN MAX MIN MAX MIN

1.0 0.5 18.0 15.5 21. 5 19.0 18.5 17.0 28.5 23.0 18.5 3.0

1.5 0.5 14.0
1.5 1.0 15.5

1.5 1.0
2.0 1.5
3.0 1.5
2.0 1.5
2.0 1.5

3.0 1.5

13.0 19.5 18.0 21.5 17.0 23.5 20.5 20.5 6.0 3.0 18.5 18.0 21.0 18.5 23.0 19.0 21.0 8.0

16.5 15.5 21.0 16.0 24.0 19.5 18.0 6.5
19.0 15.5 23.0 1T.O 26.0 19.0 18.0 6.0
21.0 17.0 24.5 18.5 25.5 19.5 16.5 5.5
21.5 19.5 23.0 18.5 26.5 20.0 17.0 5.5

23.0 19.0 23.5 19.5 23.0 20.5 19.0 5.5

3.5 2.0 19.0 17.0 21.5 16.5 23.5 1T.O 2T.O 19.5 1T.O 2.0
4 5.0 3.0 18.0 15.5 21.0 14.5 19.0 16.5 28.0 20.5 16.5 4.0

9 6.5 5.0 10.5

7 11.5 8.5 16.5
8 14.0 11.0 16.5

1 -- 19.0

4.0 19.0 15.5 22.0 17.0 28.0 21.0 16.0 2.0

0.0 21.5 18.5 21.5 IB. 5 24.5 16.5 15.5 4.5

4.0 15.5 15.0 28.0 20.0 22.0 18.5 19.5 16.5 4.0 18.0 14.0 27.0 21.5 22.0 17.0 16.5 15.0

4.5 28.5 23.5 21.5 1T.O

CONNECTICUT RIVER BASIN

01161200 CONNECTICUT RIVER AT NORTHFIELD, MASS.

IOD OF RECORD. Chemical analyses: August 1969 to September 1969 (miscellaneous), October 1969 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD DETERMINATIONS

SPECI- FECAL
FIC COLI- COLI-
CON- FORM FORM

DUCT- DIS- TEM- (COL- (COL-

DATE

OCT 7
NOV 4
DEC 9
APR 7

JUN 9
JUL 15
AUG 4
SEP 1

DATE

OCT 7..
NOV 4..
DEC 9..
APR 7. .
MAY 5 . .

JUN 9..
JUL 15..
AUG 4..
SEP 1..

DATE

JUN 9.
AUG 4.
SEP 1.

ALUM-
INUM

(AD
DATE (UG/L)

SEP
01... 0

DIS-

SOLVED
GROSS
BETA

(PC/L

SEP
01... 3.7

TIME

.. 1230
.. 1000
.. 1215
.. 0900

.. 1230
.. 0930
.. 1800
.. 1400

NITRATE

IN)

0.30
. 30
1.6
. 30
. 30

. 20
. 20
. 60
. 18

CHLO-
RIDE

(CD
(MG/L)

. 20
. 12

ARSENIC

(AS)
(UG/L)

0

TOTAL
DIS-

160

DIS- ANCE SOLVED PERA- ONIES ONIES

CHARGE (MICRO- OXYGEN TURE PH PER PER
(CFS) MHOS) (MG/D (<>C1 (UNITS) 100 ML) 100 ML)

9600 127 8.5 15.0 6.9 4400 160
10500 142 10.2 8.1 6.9 35000 85
12000 109 10.9 2.0 6.3 6000 380
19400 95 13.4 2.5 7.4 1800 20

10900 104 9.4 20.5 7.6 20000 240
7100 129 8.5 22.6 7.9 12000 35
1100 143 9.7 26.4 8.2 82000
9000 146 8.0 22.5 7.8 7700 <1

LABORATORY ANALYSES

TOTAL METHY-
KJEL- LENE DIS-
DAHL TOTAL BLUE CHEM- COLOR DIS- SOLVED

GEN PHORUS BID- SUB- OXYGEN INUM- IRON GANESE

IN) (P) ITY STANCE DEMAND COBALT (FE) (MN)

0.31 0.03 10 0.05 20
. 21' .04 .6 .04 29
. 38 .03 4.0 .04 14
. 35 .03 6.0 .02 6.0
. 77 .04 10 .04 9.0

. 78 .03 2.0 .03 9.0
. 87 .04 6.0 .04 11
1.0 .03 8.0 .05 12
. 03 .04 3.0 .02 15 12 80 10

DIS-

SOLVED BIO-
SOLIDS TOTAL CHEM-

SULFATE DUE AT NESS AS OXYGEN AND CYANIDE PHENOLS

(S04) 180°C) (CA.MG) CAC03 DEMAND GREASE (CN)
(MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (UG/LI

36 0.00 2

10 85 50 4.0 1.4 1.0 .02 4

MINOR ELEMENTS, RADIOCHEM ICAL , AND PESTICIDES

DIS- DIS- DIS-
SOLVED SOLVED SOLVED
GROSS GROSS GROSS
CHRO- ALPHA ALPHA BETA

COPPER MIUM LEAD MERCURY ZINC (UG/L) (PC/L (PC/L
(CU) (CR) (PB) (HG) (ZN) AS AS AS SR/
(UG/L) (UG/L) (UG/L) (UG/L) (UG/L) U NAT) U NAT) Y-90)

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SUS- SUS- SUS- SUS-
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DI- HEP-
DDE DDT ELDRIN ENDRIN TACHLOR LINDANE 2,4-D 2,4,5-T SILVEX

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CONNECTICUT RIVER BASIN 89

01170000 DEERFIELD RIVER NEAR WEST DEERFIELD, MASS.

LOCATION. Lat 42°32*09", long 72°39'14", Franklin County, at gaging station on right bank, 0.4 mile downstream from South River, 1.2 miles west of West Deerfield, and 2.5 miles west of Deerfield.

DRAINAGE AREA. 558 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1952 to September 1953, October 1967 to September 1968 (miscellan-eous), October 1968 to April 1970 (discontinued).
Water temperatures: October 1968 to April 1970 (discontinued).
Sediment records: October 1967 to September 1969 (miscellaneous).

EXTREMES. October 1968 to April 1970:

Water temperatures: Maximum, 26. 0°C July 17, 1969; minimum, freezing point Dec. 10, 11, 1969, and on many days during winter period 1970.

REMARKS. Records of hourly water-quality values are available in district office. Boston. Mass October 1967 to

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), OCTOBER 1969 TO APRIL 1970

OCTOBER NOVEMBER DECEMBER

103
110
11.1
123
121

109
116
120

105
100
102

101
115
112
111

126
105
102

121
123
119

APRIL

MIN MEAN

113
115
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125
135
135
144
137

105

10B

CONNECTICUT RIVER BASIN

01170000 DEERFIELD RIVER NEAR WEST DEERFIELD, MASS. Continued

OCTCBER

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2.0 0.5 1.5
3.0 1.5 2.0
2.0 1.0 1.5
1.0 0.5 0.5

FEBRUARY

MAX MIN

1.5 0.5
2.5 1.0
1.5 0.0
0.0 0.0
0.0 0.0

1.0 0.0
1.0 1.0
1.0 0.5
1.5 1.0
1.5 0. 0

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CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOHPSONVILLE, CONN. (International Hydrological Decade River Station and radiochemical program)

LOCATION. Lat 41°59'14", long 72°36'21", Hartford County, at gaging station on canal of Connecticut Light and Power Co., 1 mile downstream from Thompsonville. Multiple-parameter monitor on right bank at Agawam, Mass., 4.5 miles upstream from gaging station and 1.4 miles upstream from Massachusetts-Connecticut State line.

DRAINAGE AREA. 9,661 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1955 to September 1956, January 1966 to September 1970. Water temperatures: October 1955 to September 1956, January to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum, 215 micromhos Dec. 8; minimum, 62 micrombos Nov. 21.
pH: Maximum, 9.7 Aug. 9; minimum, 5.9 May 26.
Dissolved oxygen: Maximum, 14.8 mg/1 Feb. 14; minimum recorded, 1.3 mg/1 Sept. 4.
Water temperatures: Maximum, 31.5 C Aug. 16; minimum, freezing point on several days during December to January.

Period of record (1968-70):
Specific conductance: Maximum, 215 micromhos Dec. 8, 1969; minimum, 49 micromhos Apr. 23, 1969.
pH: Maximum, 9.7 Aug. 9, 1970; minimum, 5.9 July 20, 21, 1969, May 26, 1970.
Dissolved oxygen: Maximum, 14.8 m|/l Feb. 14, 1970; minimum recorded, 1.3 mg/1 Sept. 4, 1970.

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CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THCWPSONVILLE, CONN. Continued

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WATER

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TOTAL
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SOLVED
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84

COLI-
FORM

(COL-

100 ML)

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43000

48000

32000

13000

12000

9700

13000

190000

54000

110000

38000

YEAR OCTOBER 1969

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ALDRIN

(UG/LI

ODD DOE DOT

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SOLVED LOSS
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TO SEPTEMBER 1970

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44

BIO-
CHEM-
ICAL

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NON-
CAR-
BONATE

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CHEM-
ICAL
OXYGEN

(MG/LI

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SPECI-
FIC
COND-

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136

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SEPT.

CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CONN. Continued

RABIOCHEMICAL ANALYSES, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

COLLECTION

BISSOLVED

GROSS ALPHA

SR-90/Y-90) SOLI [MG/

OCT 7.

NQV 5.
DEC 11.
JAN 5.
FEE 4.

MAR 12.
APR 7.
MAY 6.
JUN 4.
JUL 8.

5220
10400
22400
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COLLECTION GROSS ALPHA

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(PC/L AS (PC/L AS
SR-90/Y-90) CS-137)

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(MG/L)

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DEC 11.
JAN 5.
FEB 4.

MAR 12.
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MAY 6.
JUN 4.
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SPECIFIC CONDUCTANCE [MKROMHOS/CM AT 25°C), HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCT08ER NCVEMBER DECEMBER JANUARY

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CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOHPSONVILLE, CONN. Continued

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

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131 137

138 14
132 13
136 14
132 13
136 13

CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CONN. Continued

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

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MAX

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CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CONN. Continued

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

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DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITRE,

OCTOBER NOVEMBER

WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DECEMBER JANUARY

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DISSOLVED OXYGEN (DO)

CONNECTICUT RIVER BASIN

CONNECTICUT RIVER AT THOMPSONVILLE, CONN. Continued

IN MILLIGRAMS PER LITREi WATER YEAR OCTOBER 1969 TO SEPTEMBER

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CONNECTICUT RIVEH BASIN

01184000 CONNECTICUT RIVER AT THOMPSOHVILLE, CONN. Continued

TEMPERATURE (°C> OF WATERi WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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6.5

6.0
7.0
7.0
7.5
7.5
fl.O

CONNECTICUT RIVER BASIN

01184000 CONNECTICUT RIVER AT THOMPSONVILLE, CONN. Continued

TEMPERATURE (°CI Of WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

MAX

?n .0

22.5
22.0

21. -1
21.5
'2.5
2?.0

23. C

2>.5
23. P

21.5
23.5

24.'!

21.0

24.0.

JUNE

HIM

21. C
21.5

19. i
19.0
20. 5
21.0

21.5

21.0

19.5

20.5

1B.O

MFAN

?I.
21.

la.
20.
21.
22.0

22.5

22. n

21. P

21.0

21.0

21.5

JULY AUGUST

MAX MtN MEAN WAX WIN MEAN

22.0 21.0 21.5 29. P 2fc.5 29.0
22.5 21.5 22.0 28.5 25.5 27.5

25.5 23. P 24.0 2<3.5 25.0 27.0
26. P. 23.0 24.5 31. P 25.5 2B.O
26.0 2*. 5 25.0 28.5 J5.5 27.0

26.5 24.5 25.5 27.5 24.5 26.0

26.0 23.5 25. n 29.0 26.0 27.5

27.5 25.0 26.0 2«.P 24.0 ?5.5

30.0 2R.O 29.0 26. P 23.5 24.5

11.0 21.0 25.5 31.5 23.0 26.0

SEPTFMBFR

MAX MIN MEAN

24.5 2?.0 J3.0
23.5 2". 5 22.0
22.5 20.5 21.5
24.0 21.5 23.0

72.5 20.0 21.5
21.5 21.0 21.0
21.5 20.5 21.0

22.5 2 .0 21.0
23.0 1 .5 21.0

21.5 1 .0 20.0
19.5 1 .0 19.5

23.5 72.5 23.0
22.5 21.0 22.0

19.5 1C. 5 lo.O

__ __ __

100 CONNECTICUT RIVER BASIN

01188000 BURLINGTON BROOK NEAR BURLINGTON, CONN.

LOCATION. Lat 41°47'10", long 72°57'55", Hartford County, at gaging station on left bank, 1.2 miles north of Bur-lington, 3 miles upstream from mouth, and 3 miles southwest of Collinsville.

DRAINAGE AREA. 4.12 sq mi.

MARKS. The second of two samples

MAG-
CAL- NE-
DIS- CIUM SIUM

CHARGE (CM (MCI

OCT.
16...
16... 2.1
NOV.
12...

12... e.T
DEC.
12...
12... 17
JAN.
12...

FEB.
12...
12... 2*
MAR.
10... 3.6 1.2

APR.
16...

>"W

15... -- 3.6 1.0
15... 5.5
JUNE
10... 5.2 1.0
10... 4.0

JULY
C8... 5.0 1.2
08... 1.9
AUG.
12... 5.0 1.3
12... .93
SEPT.
11... 5.0 1.6
11... 1.8

TUR-

OCI.

16... 7.4
NOV.

12... 7.3
DEC.
12... 6.2 .5
12... 6.7
JAN.
12... 6.8 .3
12... 7.5
FEB.

12... 7.0
MAR.

10... 7.1
APR.

16... 7.0
MAY
15... 6.6 .6
15... 7.5
JUNE
10... 6.9 .5
10... 7.4
26... 7.2
JULY
08... 6.7 .9
08... 7.5
AUG.
12... 6.8 .7
12... 7.4
SEPT,

11... 7.9

collected on the same date is a field determination.

NON- SP6CI-
TOTAL CAR- MC
BICAR- CAR- CHLO- PHOS- HARD- BONATE COND-
BONATE BONATE SULFATE RIDE PHQRUS NESS HARD- UCTANCE
(HC03I (C03I (S04I (CD 1P04I (CA.MGI NESS (MICRO-

14 0 7.6 12 .00 19 8 75
78

8 0 10 4.0 .05 16 10 65

4 0 11 6.3 .05 12 9 52
55

10 0 7.5 8.7 .05 19 10 62

4 0 9.5 7.5 .03 10 7 52
62

5 0 7.8 12 .01 14 10 72

6 0 7.2 8.8 .00 13 8 57

8 0 7.7 11 .04 13 6 66

12 0 6.5 11 .02 17 7 67
7,

13 0 13 13 .05 IB 7 75
84

12 0 6.5 12 .04 18 8 76
87

12 0 14 12 .04 19 9 83
97

COLI- FECAL STREP-

5.0 10. B 94 130

7.0 10.2 91 100

3.4 10.6 79 1100

. 0 12.5 86 19

1.0 11. 8 63 16

2.0 10.0 72 B

10. 0 8.3 73 20 0

7
13.2 9.3 89 82 80

18.2 7.5 79
14.6 9.7 94 1500 170

23
18.2 7.9 83 250 56 180

<.l 10
19.0 7.5 80 240 11 100

14. B 9.0 79 l»00 24 92

CONNECTICUT RIVER BASIN

01189998 RAINBOW RESERVOIR AT RAINBOW, CONN.

on from gaging station on the Farmington Riv

DRAINAGE AREA. ~591 sq mi.

PERIOD OF RECORD. Water temperatures: October 1957 to September 1970.

EXTREMES. 1969-70:

Water tenperatu Maximum, 28. 0°C July 30; minimum, freezing point Feb. 4, 5.

any days during winter

8.0 a. o

9.0 9.0

0.0 9.0

i.o a.o
0.5 a. 5

a.o 9.0

6.0 9.0

5.0 8.0
4.5 5.5

4.5 5.0
2.0 4.0

1.0 4.5

2.0 4. 5

9.0 4.5
B.5 4.5
7.0

15.3 6.9

3.0

2.0

2.0

3.0

2.0

2.0
1.0

1.0

0.5
0.5

0.5

0.5

1.0
1.0
1.0

1.4

1.0 2.0 4.0 5.0

1.0 0.0 4.0 4.5

l.C 2.0 5.5 8.0

1.0 2.0 5.0 7.0

1.0 1.0 5.5 10.5

1.0 1.0 5.5 10.5
1.0 1.0 7.0 11.0

1.0 3.5 6.0 10.0
1.0 4.0 5.0 10.0

1.0 4.0 7.0 10.0

1.0 4.0 T.O 12.;

2.0 6.0 15.5
2.0 6.0

l.l 2.2 5.7 9.2

6.0

T.O

4.5

T.O

9.0

a.;
8.0

3.;

T.O
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5.;
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0.0 18.5

0.0 19.0

8.0 20. 5

0.0 21.0

9.0 21.0

9.0 21.0
9.0 20.;

B.5 21.5

9.0 22.0
9.0 23.0

9.; 23.;

8.5 23.5

a.o 28.0
2T.O

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20.0

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10.0

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10.0

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10.0

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iU-S CONNECTICUT RIVER BASIN

01190000 FARMINGTON RIVER AT RAINBOW, CONN.

LOCATION. Lat 41°54'51", long 72°41'16", Hartford County, at gaging station on left bank at Rainbow, 300 ft down-stream from Stevens Paper Mill, 0.4 mile downstream from Farmington River Power Company dam, 1.3 miles uostream

DRAINAGE AREA. 591 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1957 to September 1958, June 1968 to September 1970.

REMARKS. The second of two samples collected on the same date is a field determination. Records of iron, specific

CHEMICAL ANALYSES, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OATE

OCT.
16...
16...
NOV.
12...
12...
DEC.
12...
12...
JAN.
16...
16...
FES.
12...
12...
MAR.
11...
11...
APR.
14...
14...
MAY
15...
15...
JUNE
10...
10...
26...
JULY
08...
08...
AUG.
12...
12...
SEPT.
11...
11...

DIS-

ICFSI

1010

1900

3810

11

3980

1020

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1870

970

1000
80

1010

1000

1920

MAC-
CAL- NE-
CIUM SIUW

IMG/LI (MG/LI

. -

11 2.7

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18 3.9

18 3.5
» __

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11

13 2.2

_

9.1 2.0

BICAR-
BONATE

IMG/LI

36

24

12

30

11
_

22
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15

45

46

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20

26

20

CAR-
BONATE

1 MG/L 1

0

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0

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0

0

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0

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0

0

0

SULFATE

IMG/LI

21

16

15

23

12
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16

13

25

20

*

13

16
»

20

CHLO-
RIDE

1 MG/L 1

16

11

7.9

16

14
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17

11

23

20
__

12

10
«

12

TOTAL

PHQS- HA)
PHORUS NE!

IMG/LI (Ml

. 59 '.

. 34 :

. 17 i

. 68 '

.13 :
__ .

. 38 :

. 24 i
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. 64 <

. 68 <

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.43 :
_ -

. 38 '
_

. 78 :

NON- SPECI-
CAR- FIC
ID- BONATE CONO-
»S HARD- UCTANCE

,MGI NESS (MICRO-
S/LI IMG/LI MHOS)

195
220
153

DATE

OCT.
16...
16...
NOV.
12...
12...
DEC.
12...
12...
JAN.
16...
16...
FEB.
12...
12...
MAR.
11...
11...
APR.
14...
14...
MAY
15...
15...
JUNE
10...
10...
26...
JULY
08...
08...
AUG.
12...
12...
SEPT.
11...
11...

PH

(UNITS)

7.1
6.6

7.0
7.3

6.7
7.4

6.8
7.4

6.6
7.2

6.9
7.5

6.8
7.4

6.9
7.6

7.1
7.5
7.2

6.8
7.6

7.1
7.3

6.9
7.4

TUR-
BID-

(MG/LI

5.0

4.0

7.0

3.0

3.0

3.0

2.0

5.0

3.0

1.0

2.0

1.0

(OEG Cl

13.0

8.5

3.0

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3.5

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7.5

18.0

20.5
17.0

21.5

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24.0

19.8

DIS-

(HG/Ll

11.3

10.0

11.2

13.0

12.5

11.2

9.1

9.1

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8.0
10.0

8.0

-

7.1

6.5

PER-
CENT

108

85

83

92

87

85

76

»

96

88
103

88

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83

-

71

FOAM
ICOL-

PER

100 ML)

4100

27000

«

29000

120DO

>

8000

1900

8800

500

3 SO

46000

490

1100

COLI-
FORM
ICOL.
PER

100 ML)

"

2200

40

4

40

96

88

TOCOCCI OIS-

(COL- SOLVED
QNIES MERCURY
PER (HGI
100 ML) (UG/LI

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30

< .1
68

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40

ALKA-
LINITY
AS

CACQ3
(KG/LI

30

20

10
~

25

9
-

18

12
~

37

38

16

21
- -

16
- -

CONNECTICUT RIVER BASIN

01193050 CONNECTICUT RIVER NEAR MIDDLE HADDAM, CONN.

LOCATION. Lat 41 32'30",
Connecticut Advanced
south of Mlddletown.

DRAINAGE AREA. 10,880 sq

Nuclear Engineering Laboratory, CANED, 0.8

ml.

mile south of Middl e Haddam and 6.1

rly
niles

Water temperatures: October 1967 to September 1970.

office, Hartford, Con

nis-

SH1CA [RUN
(Sin'l (FEI

n. Periods of missing record due to malfunc

DIS-
SHLVEO MAG- PO-

GANESE CIUM STUP SODIUM SIUM

(MM ICAI IMGI (NAI IK)

tion of monitoring

BICAR-
AMMONIA fldNATE

unit.

BONATE SULFATE

OCT.
It
u

. . . 4.1 17C

NOV.
12... .6 IRC

12...
OEC
[2... 6.0 450

70 15 2.3 [0 1.8

20 9.7 1.4 4.7 1.2

10 10 l.H 6.B 1.2

41

23

24

0
- -

0

0

19

15

IB

CHLO-
RIDE

15
- -

6.7

1C
12...

12 -... 6.0 350
12...
FtH.

10...
MAO
10
10
APR
14
14
MAY
14
14
JUN
09

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6.6 540

. . .

4.9 240

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. . . 4.R 300

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F
1' 21

70 U 1.7 7.1 1.1

50 I? 2.0 7.8 .9

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40 9.1 1.5 4.8 .8

60 12 1.6 5.4 1.0 ._ _. -~ .- __

0 13 1.7 7.1 1.2

.39 25

.43 20

26

20

-_

28

-_ _-

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16

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15

11

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IB

12
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7. 6
- -

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- -

11

JULY
06
06
AUG
13
13

sep
11
11

QCT
16
16

12
12
DEC
12
12
JAN
12
12
FEP
1C
1C
MAR
10
1C
APR
14
14
MAY
14
14
JUK
09
09
JUL1
06
06.
AUG
13.
1?.
SEPT
11.
11.

... 1." 190

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3.1 0
... "- --
T.
1.1

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FLun-
OIOF N1T«ITF

(Fl (N02I

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2^ 15 2.C R.5 1.4

-- _- -_ _- __

0 17 l.» 11 l.C
_- __ __ __ __

15 2.2 11 1.6

01 S-
SOLVFd DIS-

NITRATE PMOPUS DUE AT I T CNS IGN1-

(NH3I (P0.4I 180 Cl PER TION

3.6 .74 92 .13 10
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?.5 .19 74 .10 14

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?.6 .27 77 .10 19

_-

2.1 .32 77 .10 14

_- _- __ __

2." .24 71 .10 15
__

2.6 .30 R? .11 15

_-. __ __ __ ._

1.8 .13 54 .07

2.7 .27 5fl .OR 17

4.2 .30 76 .10 13

- - __ __ __

2.4 .21 73 .10 3

5.4 .76 R6 .12 4

4.8 .6' 89 .12 7
- -

.IB 40

-_ _-

38

-- _-

.08 36

NON-
CAR-

NFSS MARD-
ICA.MGI NESS

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- -

30 11
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32 13

36 16

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30 14

3B 16
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28 12

36 14

40 14

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46 12

50 19

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0

SPECI-
FIC

JCTANCE

(MICRO-

165
16B

94
93

110
115

115
126

10B
130

131
146

B6
101

10B
120

126
136

148
162

166
192

165
190

15

16

25
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PM

(UNITS!

6.9
7.3

6.9
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6.9
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7.4

6.7
6.B

7.1
7.4

7.3
8.0

6.8
7.4

7.0
7.5

12

_-

16
-

16

COLOR

(PLAT-
INUM-
COBALT

UNITS)

19

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33

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19
- -

26

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14

9
~_

6

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11
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11

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CONNECTICUT RIVER BASIN

01193050 CONNECTICUT RIVER NEAR MIDDLE HADDAM, CONN. Continued

CHEMICAL ANALYSESi WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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JF

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»T .

DAY MAX

17D
169
164
155
160

156
159
8 164
9 164
10 156

11 154

13 160
14 164
15 166

17 168
18 160

20 152

22 163
23 168
24 163
25 164

26 166
27 164
28 167
29 170
30 168
31 157

ATURE

(OFG f 1

- -

18.5

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P. 3

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2.7

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1.0

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1 7.0

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71. C

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7P.2

?1. 1

SPECIFIC

OCTOBER

MIN

163
164
156
152
152

153
155
159
154
152

152

154
158
162

160
151

150

157
157
158
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161
160
161
166
156
154

DIS-

PCR- FHR* CTLI-
CFNT IC'U- FORM

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11. P

q, \

Q. Q

9. n

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7. *

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ft. S

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7.5

CONDUCTANCE

MEAN

167
165
161
154
156

154
157
162
159
153

153

157
160
164

165
156

151

159
160
161
160

164
162
164
168
162
155

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57 33000

81 ">)001

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SI 14000

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57 ?1000

63 noop

-_
7T P. 000

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77 2*000 670

- -

<)4 J4000 110"

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59 0600 1600

- -

(MICROMHOS/CM AT 25°C),

NOVEMBER

MAX MIN MEAN

155 149 151
154 152 152
157 152 154
164 160 163
169 154 162

161 151 156
152 128 137

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Ill III III

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TOC.nCCI ALKA-

(COL- TUR- LINITY

6.0 J4

-_ __ ._

4.P 19

_- __ __

11 20

- - - - __

1.0 21

__ __

2.0 16

-- __ __

2.0 21

3.0 16

4.0 23

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2.0 26

-_ __

33

31
40

3.0 30

WATER YEAR OCTOBER 1969 TO

DECEMBER

MAX MIN MEAN

... _ ...

115 102 108
104 89 95
98 86 91
95 86 90

107 94 101
106 92 89
97 88 92

96 87 92

100 95 97
100 93 96
125 100 114
127 119 23
123 101 10

116 100 03
112 00 07
126 08 17
137 22 28
135 19 27
124 16 20

SOOUJM

31

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25

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32

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SODIUM
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(UG/L

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SEPTEMBER 1970

JANUARY

MAX

121
125
132
128
127

128
132
132
127
129

133
133
135
146
146

143
137
140
149

III

MIN

113
110
120
120
121

122
120
120
120
124

120
126
126
133
143

132
120
132
140

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CONNECTICUT RIVER BASIN

01193050 CONNECTICUT RIVER NEAR MIDDLE HADDAM, CONN. Continued

SPECIFIC CONDUCTANCE IMICROMHOS/CAM AT 25°C)i WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FEBRUARY

MAX MIN MEAN MAX

143

155
160
163

MARCH

MIN MEAN

132
120
143
149
152

APRIL

MIN MEAN

MAY

MIN

12

14
15

16
17
IB
19
20

21
22
23
24
25

27
26
29
30
31

)AY

146

112
11B

125
125
129
127
131

128
126
133
134
136

145
141

MAX

117

94
107

113
110
117
116
121

120
120
120
120
132

133
132

JUNE

MIN

129

106
112

118
116
123
121
126

125
123
128
131
135

140
137

MEAN

138
132
137
143
148

154
165
171

120
125
121
135
121

146
152
163

134
129
132
138
144

150
161
167

JULY

MIN

187
191

193
198
202
198
198

205
200
203
200
202

202
212
221
218
221
218

L22
L27

86
90
94
92
91

43
92
94
92
97

84
46
52
46
48
52

172
180

190
194
197
196
195

195
197
198
197
199

195
194
182
174
193
188

MAX

AUGUST

MIN MEAN

SEPTEMBER

MAX MIN MEAN

217 152 190
215 200 206
205 196 201
200 191 196
197 191 193

199
199
200
199
197

19 196
197
198
196
195

CONNECTICUT RIVER BASIN

01193050 CONNECTICUT RIVER NEAR MIDDLE HADDAM, CONN. Continued

PH (UNITS)i HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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OBER NOVEMBER DECEMBER

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7.3 7.0 6.8 6.9 7.5 7.5 7.5

7.2 6.9 6.8 6.8 7.5 7.4 7.5
7.1 7.3 6.8 7.1 7.5 7.2 7.4
7.1 7.3 7.2 7.3 7.3 7.2 7.2
7.1 7.3 7.2 7.3 7.3 7.2 7.3
7.1 7.3 7.2 7.3 7.3 7.3 7.3

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JANUARY

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CONNECTICUT RIVER BASIN

01193050 CONNECTICUT RIVER NEAR MIDDLE HADDAM, CONN. Continued

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

JUNE JULY AUGUST SEPTEMBER

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DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITRE, WATER

OCTOBER NOVEMBER

YEAR OCTOBER 1969 TO SEPTEMBER 1970

DECEMBER JANUARY

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CONNECTICUT RIVER BASIN

01193050 CONNECTICUT RIVER NEAR MIDDLE HACOAM, CONN. Continued

DISSOLVED OXYGEN (DOli IN MILLIGRAMS PER LITRE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FEBRUARY MARCH APRIL MAY

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JUNE

MIN

JULY

MAX MIN MEAN

SEPTEMBER

MAX MIN

CONNECTICUT RIVER BASIN

01193050 CONNECTICUT RIVER NEAR MIDDLE HADDAM, CONN. Continued

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

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OCTOBER

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JANUARY

MAX MIN MEAN

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SEPTEMBER

MAX MIN MEAN

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NOTE. TEMPERATURE UNIT NOT IN OPERATION FEBRUARY TO MAY.

liu CONNECTICUT RIVER BASIN

01193500 SALMON RIVER NEAR EAST HAMPTON, CONN.

LOCATION.--Lat 41°33'11", long 72°26'57", Middlesex County, at gaging station on right bank at Old Comstock Bridge, 150 ft downstream from New London-Middlesex County Line, 0.6 mile downstream from Dlcklnson Creek, and 3.5 miles southeast of East Hampton.

DRAINAGE AREA. 105 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1960 to September 1961, June 1968 to September 1970.
Water temperatures: October 1960 to September 1961.

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conducta

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CH6MICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 19TO

MAG-
CM.- NE- BICAR- CAR-
DIS- CIUM SIUM BONATE BONATE S

CHARGE 1C* I IMG I IHCD3I IC03)

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^t>

B 0
373

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e o
195

7 o
325

5.6 1.4 7 0
B9

B 0
200

5.9 1.4 12 0
106

6.0 1.1 12 0
271

7.3 1.6 15 0
39

9.0 1.6 16 0
22

9.0 2.0 16 0
13

TUR- DIS- CENT

(UNITS! IMG/LI (DEC Cl IMG/LI

7.1 .9
. 7.5 12.5 9.5 B9

. 6.6 .9
. 7.1 7.0 13.5 110

6.8 1.0
6.B .1 11.7 80

6.7 .*
7.5 .0 7.6 52

6.7 1.0
7.6 1.0 10.7 75

7.B .0 11.5 79

. 6.8 .5
7.4 6.5 B.3 67

6.9 .5
7.5 17.0 7.6 78

. 7.6 14.1 9.4 90

. 7.0 .6

7.6 IB. 5 7.5 80

. 8.2 21.5 8.0 90

. 6.B .5
. 7.6 14.9 9.5 93

CHLO-
ULFATE RIDE

ISD4I (CL)

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- .

14 9.7

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12 12

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11 11
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11 12

11 9.8

9.5 13

9.4 10

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19 19

COLI- FECAL

(COL- FORM

NON- SPEC1-
TOTAL CAR- FIC
PHOS- HARD- BONATE COND-
PHORUS NESS HARD- UCTANCE

IP04I (CA.MGI NESS IMICRO- (MG/LI (MG/LI (MG/LI MHOS)

. 02 30 17 93
97

. 04 19 12 77
80

. 02 22 14 92
9B

. 04 21 14 B4
98

. 02 IB 12 B6
106

. 01 20 14 82
96

. 02 18 12 75
92

. 03 20 10 84
94

. 04 20 10 T5
B6

. 03 24 12 91
102

. 02 29 16 115
12B

. 04 30 18 119
135

STREP-

ICOL- SOLVED LINITY

100 MLI 100 MLI 100 MLI <UG/L> (MG/LI

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1300

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110

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200 --

QUINKIPIAC RIVER BASIN

01195468 QUINNIPIAC RIVER NEAR SOUTHINGTON, CONN.

LOCATION. Lat 41°38'35", long 72°52'42", Hartford County, at bridge on Newell Street, 0.7 mile downstream from

DRAINAGE AREA. 9

PERIOD OF RECORD.

EXTREMES. Januar

Maximum, 23.5

REMARKS. The sec

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ISIC2I

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CEC.
IS... .8
FEB.
09... 11
PAR.
2T... 8.9
27...
APR.

MAY
11... B.2
JUNE
11... 10
JULY
13... 11
13...
AUG.
17... 11
SEPT.
10... 11

FLUO-
RIOE

(Ft

OCT.
31...
DEC.
15...
FES.
09...
MAR.
?7...
27...
APR.
13...
MAY
11... .2
JUNE
11... .1
JULY
13... .1
13...
AUG.
17... .1
SEPT.
10... .4

. 94 sq mi.

Chemical analyses

y to September 1970
July 29; minimum,

ond of two samples

DIS-
OIS- SOLVED

IRON GANESE

(FEI (MNI

190 110

440 100

240 130

330 170

270 130

380 180

430 110

240 70

0

NITRITE NITRATE

(N02I IN03I

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MAY
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JUNE
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JULY
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AUG.

of South ington.

: October 1969 to Septembei
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r 1970.

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MAG-

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5.5 16

5.6 20

5.9 13

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5.4 17

5.0 30
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SOLVED DIS-

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160 Cl PER

215 .21

116 .16

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163 .22

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177 .2*

182 .25

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ALKA-
LINITY

CAC03 SODIUM

(NG/LI

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51 28
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NON-
CAR-

HARD-
NESS

(MG/LI

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HEXA-
VALENT
CHRO-
MIUM

(CR6)
IUG/LI

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IHC03I (C03I

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102 0

94 0

SPECI-
FIC

UCTANCE PH

(MICRO-
MHOS) (UNITS

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222 9.3

271 7.2

293 7.4
315 7.5

252 7.1

297 8.0

296 7.7

290 7.6
310

311 7.6

339 8.0

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SULFATE RIDE

(S04I (CD

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29 17

32 32

27 38

31 25

31 23

30 22

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35 29

COLOR

(PLAT-
INUM-
COBALT
1 UNITS!

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QUINNIPIAC RIVER BASIN

01195468 QUINNIPIAC RIVER NEAR SOUTHINGTON, CONN. Continued

OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH

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APRIL MAY JUNE JULY AUGUST SEPTEMBER

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QUINNIPIAC RIVER BASIN 11

01198500 QUINNIPIAC RIVER AT WALLINGFORD, CONN.

LOCATION. Lat 41°28'58", long 72°50'29", New Haven County, at gaging station on right bank on Wilbur Cross High-way, 0.8 mile'downstream from bridge on Quinnipiac Street in Wallingford and 2 miles upstream from Worton
Brook.

DRAINAGE AREA. 109 sq mi.

PERIOD OF RECORD. Chemical analyses: October 19S8 to September 1957, June 1968 to September 1970. Specific conductance: November 1989 to September 1970.

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IS. November 1989 to September 1970:
iciflc conductance: Maximum, 530 micromhos July 18; minimum, 47 micromhos July 4
er temperatures: Maximum, 31.0°C July 28; minimum, 0.0°C freezing point on seve:

ductance, and pH of daily samples f<

CHEKICAl ANALYSE!
DIS-
CI IS- SOLVED
SOLVED HAN-
DS S- SILICA IRON GANESE

CHARGE (S102I <FEI (MNI
<CFS) (MG/LI (UG/LI (UG/LI

12 31D 330

1.1 960 230

10 720 2*0
311

13 600 3*0

B.l 3000 250

10 420 280

8. 8 *50 230

B.T 860 330

10 1320 230

10 210 170

9.8 *BO 370

10 390 10
us

10 130 260

CHLC- FLUO-
RIOE RIOE NITRITE NITRATE

(CD (Fl (N02I (N03I

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*0 12

27 -- 10

25 7.0

26 « 13

25 .2 .09 13

23 .2 .02 1*

26 .2 .42 12

30 .5 .02 16

25 13

24 .1 .66 IB

ral days di

>r 1958-57 available in district office, Hartford, Conn.

I, MATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

MAG- PO-
CAL- NE- TAS- B1CAR-
CIUM SIUM SODIUM SIUM AMMONIA BONATE

(CAI (MGI INAI (Kl (NH*I (HC03I

32 6.0

23 *.0

2B 5.4

17 3.*

27 *.9

28 5.0

29 4.8

27 *.7

30 5.1

33 t.O

33 4.5

31 5.6

DIS-
SOLVED
TOTAL SOLIDS

PHOS- (RESl-
PHORUS DUE AT

(P0*l 180 C)

2.6 183

1.6 ITS

1.8 169

1.6 196

1.1 ISO

1.* 175

1.0 169

1.* 168

183

1.* 16*

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2.7

2.9

HARD-
NESS

(CA.MGI

10*

82

7*

97

88

90

92

87

96

107

101

100

. 13

. 16

2.0

. 88

. 23

. 16

NON-
CAR-
BONATE
HARD-
NESS

36

3*

25

38

32

*2

29

3*

36

38

36

36

8*

59

60

72

3*

67

59

77

6*

73

8*

80

78

SPECI-
FIC
COND-
UCTANCE

(M(CRO-

321
330

2*7
250

300

290

220

2 68

250
309

281
321

268
310

28*
32*

337

306

322
3B1

a ring Ja

CAR-
BONATE

(C03I

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SULFATE

(S0*l
(MG/LI

30

3*

30

3*

23

28

27

27

25

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27

39

CDLOR

(PLAT-
INUM-
COBALT

U

27

2L

16

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3

19

11

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3

5

5

QUINNIPIAC RIVER BASIN

01196500 QUINNIPIAC RIVER AT WALLINOFORD, CONN. Continued

DATE (DEC Cl

CCT.
15...
15... 15.0
NOV.
13...
13... 8.0
DEC.
10...
10... 3.0
JAN.
14...
14... 1.0
FEB.
13...
13... 1.0
PAR.
11...
11... 3.0
APR.
16...

MAY
15...

JUNE
10...
10... 21.0
JULY
07...

AUG.
03...
03... 30.0
12...

SEPT.
10...

CHEMICAL

PER-

1 MG/L 1

10.0 97

10.5 88

11.9 as

9.2 65

12.0 84

12.2 90

8.0 89

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COLI- FECAL STREP-
FORM COLI- TOCOCCI

PER PER PER
100 MLI 100 MLI 100 NL 1

163000

88000

95000

46000

42000

68000

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ITY
IMG/LI

5.0

6.0

6.0

4.0

7.0

4.0

3.0

15

4.0

2.0

2.0

ALKA-

CACOJ
IMG/LI

69

48

49

59

28

55

48

63

52

60

69
- -

66

64

1970

SODIUM

30

25

43

28

31

27

26

27

27

2S

29

27

30

SODIUM
AD-
SORP-

RATIO

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1.3

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HEXA-
VALENT
CHRO-

(CR6I
(UG/LI

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SOLVED

(HG)
(UG/LI

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

OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH

MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN

-

8
9

12

20

27
28

30
31

AVG

260 255 320 320 235

255 250 320 320 255

285 2ff5 320 ~ 255
285 285 320 320 255

250 240 295 295 370 370 320 220 375

320 320 290

290 284 344 338 316

235

250

255
240

300
310

330

300
315

340

270

290

295

QUINNIPIAC RIVER BASIN

01196500 QUINNIPIAC RIVER AT WALLINGFORD, CONN. Continued

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

APRIL MAY

DAY MAX MIN MAX MIN

375 290 345 335

25 335 320 350 350

26 330 325 355 350

31 -- 295 295

VG 320 287 327 318

JUNE JULY AUGUST SEPTEMBER

MAX MIN MAX MIN MAX MIN MAX MIN

335 305 295 295 320 320

360 320 330 320

440 380 320 290 295 290

335 315

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

DAY OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY

MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN

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6.5 5.5

9.5 8.5 5.0 3.5

5.5 5.0 1.5 1.0

8.0 6.5 2.0 1.5

7.0 5.0 4.0 1.0

4.5 4.0 .5 0.0
4.5 3.5 .5 0.0

5.5 4.0 0.0 0.0
4.5 4.0 0.0 0.0
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. 5 0.0 5.0

. 5 0.0 2.0 1.5 6.0
. 5 0.0 .5 0.0 6.0
. 5 .5 .5 0.0 6.0

1.0 .5 1.0 .5 6.5

1.0 0.0 1.0 .5 6.0

1.0 .5 3.0 1.5 6.5 5

1.5 .5 2.0 1.0 7.0 6

1.0 0.0 2.0 1.0 7.0 6

. 5 0.0 5.0 4.5 3.5 6
. 5 0.0 5.5 4.5 9,0 8

1.5 0.0 4.5 3.0 10.0 9 2.0 1.0 4.0 3.0 10.0 9 4.5 4.0 10.0 8
8.5 4

QUINNIPIAC RIVER BASIN

01196500 QDINNIPIAC RIVER AT WALLINGFORD, CONN. Continued

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

APRIL MAY JUNE JULY AUGUST

; MU, MAX MIN MAX MIN MAX MIN MAX MIN

SEPTEMBER

MAX MIN

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QUINNIPIAC RIVER BASIN 117

01196523 QUINNIPIAC RIVER NEAR NORTH HAVEN, CONN.

LOCATION. Lat 41°24'46", long 72°51'10", New Haven County, at United Aircraft Corp. plant, 0.8 mile downstream from Pine Branch and 1. 7 miles north of North Haven.

DRAINAGE AREA. 124 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1969 to September 1970.
Specific conductance: November 1969 to September 1970 (discontinued).
Water temperatures: November 1969 to September 1970 (discontinued).

EXTREMES. November 1969 to September 1970:

Water temperatures: Maximum, 26.5°C July 28; minimum,'freezing point Jan. 31.

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17...

SEPT.
1C...

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SOLVED MfiN- CAL- NE-
SILIC1 IRON GfiNESE CIUM SIUM SODIUM

(S!fl2> (FF) (MNI ICA) (MG) (NAI

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. 2 660 230 22 3.6 14

9.9 -- 27 5.1 17

R.2 520 240 30 5.9 19

11 490 240 31 5.4 19

0.9 100 30" 34 6.3 27

10 280 1 2

B.4 0 34 ').« 23
DIS-

SOLVED DIS-

FLUO- PHOS- (RESI- SOLIDS
RIDE NITRITE NITRATE PHORUS DUE AT (TONS
(Fl (N02I (N03I (P04I 1BO C) PER

49 240 .33

4.7 131 .18

13 -- 207 .28

12 166 .23

- - - - - - __ __ __

12 157 .21

. 5 .07 16 192 .26

3 .14 22 233 .32

- - - - - - __ __ __

2 .14 17 198 .27

. 6 .11 12 216 .29

PO-
TAS-
SIUM A

IK)

3.5

1.4

1.4

1.6

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3.2

2.3

2.9

HARD-
NESS

(CA.MG)
(MG/L)

121

70

116

R8

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86
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10P

111
- -

104

109

MMONIA

(NH4I

1.1

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NON-
CAR-
BONATE
HARD-
NESS

(HG/L)

0

28

44

40

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42

3P

44
~_

40

34

BICAR-
BONATE

(HC03)

154

a

59

54

84

85

78

92

SPECI-
FIC
COND-
UCTANCE

(MICRO-
MHOS)

413

231

340

274
310

245
285

320

304

381
345

323

3*1

CAR- CHLO-
BONATE SULFATE RIDE

(C03) (S04) (CD
(MG/L) IHG/LI (MG/L

0 32 31

21 27 23

0 2B 26

0 28 25

0 28 27

0 27 27

0 30 36

0 37 28

0 31 27

COLOR

(PLAT-
PH I NUM-
COBALT

(UNITS) UNITS)

6.9 10

10.1 19

7.5 10

7.3 2

6.8 4

7.0 14

6.5 3

7.4 7

8.1 7

QUINNIPIAC RIVER BASIN

01196523 QUINNIPIAC RIVER NEAR NORTH HAVEN, CONN. Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

SODIUM HEXA-
AO- V4LENT
SORP- CHRO-
TION MIUN

RATIO (CR6)
(UG/L)

DEC.
15...
FEB.
19...
M«R.
99...
09. ..
«PR.
13...
13...
MAY
11...
11...
JUNE
11...
11...
JULY
13...
n...
AUG.
17. ..
17...
SEPT.
10...
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4.7

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?4. C

23.5

24.5

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21.0

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

OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH

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2

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17
18

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21
22
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30

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II II II

II II "

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280

300

230
225
236

295
310

300
312

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260

208
20B
219

255
277

297
300

320
320

285
2BO

360

103

300

320
320

350
330

350
357

312
260

260
250

265

90

290

250
280

250
280

33C
320

350
390

4BO
480

555

347

352

380
380
380

390
520

500
480

335
330

460

~

322

340

380
380
380

347
350

410
430

420
400

108
200

210

172

153

172
158
155

300
298

~

400
220

79
103

120

130

150

158
155
155

290
285

285
305

330
325

335

350

355

342
293
275

320
290

360
360

275
280

318
315

318

320

320

293
275
240

285

295
218

230
250
287

QUINNIPIAC RIVER BASIN H9

OH96523 QUINNIPIAC RIVER NEAR NORTH HAVEN, CONN. Continued

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

APRIL MAY JUNE JULY AUGUST SEPTEMBER

MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN

1
2
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18
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22
23
2*
25

28

30

AVG

312
295

145

265
260

315
305
340

318
340
370
385
385

320

350

295
125

140

260

280
280
305

310
318
340
370
380

300

335

248

380 350 37C 355 445 395 1425 525 1270 1000

420 415 430 345 460 350

460 410 450 400 330 315 440 330

490 490 1000 440 1350 1140

400 380 590 525 975 350

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

OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY

MAX MIN MAX MIN MAX MIN MAX MIN MAX MI

5.5 2.0
5.0 1.0 3.5 2.0 3.5 2.0 5.5 3.0 3.5 2.0 3.5 1.0

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MARCH

MIN

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5.9

QUINNIPIAC RIVER BASIN

01196523 QUINNIPIAC RIVER NEAR NORTH HAVEN, CONN. Continued

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

MAY
MAX HIN

JUNE
MAX KIN

JULY
MAX MIN

AUGUST
MAX KIN

SEPTEMBER

MAX KIN

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5.5

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9.0 21.0 18.5 24.5 22.0
7.0 21.5 18.5 21.5 20.5

0.0 23.5 20.0 2<>.0 20.0
9.0 24.0 20.0 25.0 21.5

3.0 24.0 20.0 25.5 21.0

9.0 25.0 22.0 23.5 22.0

8.5 25.0 21.0 21.5 20.0

6.5 26.0 22.0 24.0 20.0

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AVG 9.6 8.8 16.1 14.0 19.2 17.7 23.6 20.6 23.9 20.6

HOUSATONIC RIVER BASIN

01198990 FALLS VILLAGE RESERVOIR AT FALLS VILLAGE, CONN.

LOCATION. Lit 41°57'45", long 73°22'18", Litchfield County, on Housatonlc River at Great Falls, 0.4 mile from hydroelectric plant of Hartford Electric Light Company and gaging station at Falls Village.

DRAINAGE AREA. 629 sq ml.

PERIOD OF RECORD. Chemical analyses: October 1955 to September 1956.
Water temperatures: October 1955 to September 1970.

EXTREMES. 1969-70:

Water temperatures: Maximum, 26.0°C July 30, 31; minimum, freezing point on many days during December January, February, and March.

Period of record:

Water temperatures: Maximum, 27.0°C June 20, 1957; minimum, freezing point on many days during winter

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24.5
23.5
24.5

23.5
22.0
21.0
20.5
20.5

22.0
22.0
21.5
21.5
22.0
22.0

20.0
20.0
20.0
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19.5
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18.0
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18.5
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IB. 5
18.0
19.5

19.5
20.0
20.5
21.0
21.5

21.0
20.5
20.0
18.5
17.0

Xl" HOOSATONIC RIVER BASIK

01199980 TENHILE RIVER AT WEBATOCK, N.Y.

LOCATION. Lat 41°39'14", long 73°32'21", Dutchess County, at highiroy bridge on county road, 200 ft north of State Highway 53, 0.7 mile upstream from gaging station near Gaylordsville, Conn, (station 01200000), and 0.9 mile

:NAGE AREA. 203 sq mi (at gaging station).

'ERATION. Samples furnished by New York State Department of Environmental Conservation.

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

DIS-
DIS- SOLVED
TOTAL SOLVED MAG- Pn-

DATE

APR..
14...

HAY
14...
JUNE
12...
JULY
10...
AUG.
06...
26...
SEPT.
26...
DEC.
02...
12...
JAN.,
19...

11...
MAR.
09...
APR.
17...
MAY
15...
JUNE
12...
JULY
08...
AUG.
07...
SEPT.
02...

APR.,
14..
MAY
14..,
JUNE
12...
JULY
10..
AUG.
06..
26..
SEPT.
26..
DEC.
02..
12..
JAN.,
19..
FEB.
11..
MAR.
09..
APR.
17..
MAY
15..
JUNE
12..
JULY
08..
AUG.
07..
SEPT.
02..

TIME

1969
1120

1030

1420

1315

1125
1025

1320

1000
1115
1970
1130

1345

1430

1530

1102

1330

1330

1500

1530

SULFATE

(504)

1969
21

22

23

22

16
22

24

26
22
1970
24

16

24

21

20

20

22

. 27

34

SILICA

(SI02)

3.3

1.9

3.1

1.1

6.7
1.4

2.5

5.5

5.9

4.4

4.4

3.1

3.6

4.1

3.6

3.2

3.7

CHLO-
RIDE

(CD

10

11

13

13

7.4
12

15

11
8.0

11

7.5

9.7

11

9.2

10

12

1.0

15

IRON

(FE)

20

10

10

30

30
10

10

30
10

40

50

80

20

10

20

10

10

10

DIS-
SOLVED
FLUD-
RIDE

(F)

. 0

. 1

. 1

. 2

. 0
. 1

. 1

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.1

MAN- CAL- ME-
GANESE CIUM SHIM SODIUM

(MN) (CA) (MR) (NA)

10 34 13 4.6

0 41 13 5.2

0 51 14 7.0

40 47 14 6.5

0 31 B.9 3.5
0 51 14 6.5

0 54 14 7.4

10 45 13 5.7

0 41 13 5.3

0 20 7.1 3.5

10 37 11 4.5

0 34 10 4.4

0 38 11 5.1

0 45 12 5.8

0 43 12 6.2

40 45 14 8.5

10 52 18 8.9

ORGANIC

NITRO-
GEN NITRITE NITRATE AMMONIA

I / 1 ,1 / >

. 10 .05 4.6 .08

. 05 .07 3.8 .10

. 13 .15 5.1 .15

. 22 .04 3.0 .17

. 25 .03 2.fl .09
. 37 .04 4.3 .11

. 27 .04 6.3 .13
. 28 .10 4.4 .19

. 33 .04 6.2 .07

. 44 .19 5.4 .11

. 18 .02 6.2 .00

. 31 .09 5.1 .08

. 32 2.5 1.2 .15

. 45 .03 3.1 .12

. 51 .08 4.3 .85

. 22 .36 15 .05

. 22 .24 4.0 .11

TAS- BICAR-
SIUM RONATE

IK) (HC03)

1.6 130

1.4 161

1.9 1BB

1.9 174

2.2 12B
l.B 190

2.3 206

2.0 113

1.5 157

1.5 72

1.4 145

1.5 131

1.8 157

1.9 172

2.5 178

2.3 1 90

2.8 204

DIS-
SOLVED
TOTAL SOLIDS

PHOS- (RESI-
PHORUS DUE AT

. 12 175

. 10 177

. 35 22fl

. 19 209

. IB 139
. 40 236

. 24 195
. 30 14D

. 17 186

. 69 104

. 11 168

. 13 167

. 30 166

. 43 197

. 41 215

. 34 203

. 46 234

CAR-
BflN/STE

(C03)

D

0

0

0
4

0

0
0

0

0

0

0

0

0

8

12

0

DIS-
SOLVED
SOL IDS

(SUM OF
CONSTI-

156

17B

211

195

142
211

198
141

IBS

101

169

155

170

187

202

217

239

ALKA-
LINITY
AS
CAC03

(MG/L)

107

132

154

143

105
162

169

138
93

129

59

119

107

129

141

159

176

167

LOSS
ON
IGNI-

1B

25

62

26

23
? 1

32
6

22

12

20

23

19

31

30

31

IB

HOUSATONIC RIVER BASIN

01199980 TENMILE RIVER AT WEBATUCK, N.Y. Continued

CHEMICAL ANALYSESt APRIL 1969 TO SEPTEMBER 1970

DATE

APR.>

14.'.
MAY
14..
JUNE

JULY
10...
AUG.
06..
26...
SEPT.
26..
OK.
02...
12...
JAN..

FM.
11...
MAR.
09...
APR.
17...
MAY

JUNE

JULY
08...
AUG.

SEPT.

TIME

1969
1120

1030

"

1315

1125
1025

1320

1000

1970

1345

1430

1530

1330

HARO-

(C A , MR)

139

156

175

114
1H5

192

166

79

138

126

157

NflN-
CAR-
BniMATE
HARP-
MESS
I MC./L)

32

?4

32

q
2*5

23

28

20

18

18

0

SPECI-
FIC
CHNO-
UCTAMCF PH
I MICRD-
MHOS) (UNITS)

200 R.2

3IR fl.2

363 B.R

243 7.R
3R4 S.4

413 7.9

361 8.2

177 7.6

274 8.1

273 8.2

320 8.2

375 8.4

MFTHY-
LFNE
COLOR THFM- RLIIF

(PLAT- TCAL ACTIVE
INUM- OXYGEN SUB-

UNITS] (wr,/Ll («r,/L)

7 2.0 .02

1R 2.0 .07

6 4.0 .04

Q 2.0 . H3

?2 14 .01
K 6.0 .03

11 4.0 .03

17 5.0 .01

5 4.0 .02

23 4.0 .02

8 2.0 .04

3 4.C .04

11 5.0 .02

12 3.0 .03

16 6.0 .02

9 3.0 .01

3 7.0 .02

* ** HOUSATONIC RIVER BASIN

01204000 POMPERAUG RIVER AT SOUTHBURY, CONN.

LOCATION. Lat 41°28'50", long 73°13'30", New Haven County, at gaging station on right bank, 200 ft upstream from bridge on Poverty Road, 800 ft downstream from Bullet Hill Brook, 0.6 mile west of Southbury, and 5.8 miles

DRAINAGE AREA. 75.3 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1960 to September 1961, April 1966 to September 1967, June 1968 to September 1970.
Water temperatures: October 1960 to September 1961, November 1966 to October 1967.

conductance, and pH of daily samples for 1960-61 available in district office, Hartford, Conn

CHEMICAL ANALYSES, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

NON- SPECI-
KAG- TOTAL CAR- FIC
CAL- NE- BICAR- CAR- CHLO- PHOS- HARD- BONATE CONO-
OIS- CIUH SIUK BONATE BONATE SULFATE RIDE PHORUS NESS HARD- UCTANCE

CHARGE (CAI (MGI (HC03I (COS I < S04 I (CD (P04I (CA.KGI NESS (HICRO-
OATE (CFSI (KG/LI (WG/LI IMG/LI IMG/LI IMG/LI (KG/LI (MG/LI (HG/LI IMG/LI MHOS)

OCT.
15...
15...
NOV.
13...
13...
DEC.
10...
0...

1...
11...
APR.

170

123

433

. 03

. 04

. 05

. 09

. 06

. 03 U4
12*

156

10...
26...
JULY

SEPT.
10...
AID...

11

3.2

3.5

4.0

115
130
156

TUR-
BID- TEMPER-
ITY ATURE

PER-
CENT
SOLVED SATUR- ONIES
OXYGEN AT ION PER

DIS-

COLI-
FORH

(COL-

FECAL STREP-
COLI- TOCOCCI
FORM ICOL-

(COL.
PER

100 ML) 100 ML) 100 ML)

ONIES MERCURY

PER (HGI
(UG/LI

c .

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7.4

. . . 7.2

. . . 7.4

. . . 7.4

7.5

... 7.7

. . . 7.6

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Y

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T.

8.1

12.0 9.8

8.0 9.5

2.2 13.9

1.0 9.5

2.0 12.8

3.0 10. 0

10. 0 9.0

14.4 10.0

16.3 9.2

23.0 9.0

20.4 7.0

18.2 6.2

91

79

98

67

92

T>

BO

98

84
94

103

76

82

150

960

340

180

1200

16

30

510 500

200 44

6400 81 190

320 100 150

2100 170 120

HOUSATONIC RIVER BASIN 12

01205000 LAKE ZOAR AT STEVENSON, CONN.

LOCATION. Lat 41°23'00", long 73°10'18", Fairfield County, on Housatonlc River at tailrace of dam of Connecticut Light and Power Co. at Stevenson, 0.2 mile upstream from gaging station and 0.4 mile upstream from Eightmile Brook.

DRAINAGE AREA. 1,545 sq mi.

PERIOD OF RECORD. Water temperatures: October 1960 to September 1970.

EXTREMES. 1969-70:

Water temperatures: Maximum, 30. 0°C July 29, 30; minimum, freezing point on many days during December to February.

REMARKS. Records furnished by the Connecticut Light and Power Company.

0.5 4.0 4.0 0.
9,0 3.5 3.0 0.

9.0 2.0 0.

9.0 1.0 0.
9.5 1.0 0.
8.0 0.0 0.
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8.0 10.0 0.
8.0 9.5 0.
8.5 9.5 0.
8.0 9.5 0.
7.0 9.5 0.

8.0 9.0 0.
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7.0 9.5 0.
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7.0 7.0 0.0 0.

7.0 8.5 0.0 0.

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15.5
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2 .5

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25.0
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27.0
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23.0
27.0

26.0
26.0
26.0

26.0

25.5
25.5
25.5
25.0

24.0
23.5
23.5

22.0
22.0
24.0
24.0

23.5
23.5
23.5
23.0
22.0

23.5
24.5

22.0
22.0

25.0
26.0
26.0

25.5

25.0
20.0
20.0

126 HOUSATONIC RIVER BASIN

01205500 HOUSATONIC RIVER AT STEVENSON, CONN.

LOCATION.~Lat 41°23'02", long 73°10'05", New Haven County, at gaging station on left bank, 0.2 mile downstrea from dam of Connecticut Light and Power Co. at Stevenson, 0.2 mile upstream from Eightmile Brook, and at
mile 19.2.

DRAINAGE AREA. 1,545 sq mi.

PERIOD OF RECORD.--Chemical analyses: June 1968 to September 1970.

DIS-

CHARGE

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: ... 4soo
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5540
"...

. . . 3040

: !..

: ... 8660 '...
. . . 5470

. . .

5610

:...
. . . 2900
E
C . . .
. . . 5470
. . . 2760
Y

. . .

.. . 4700

. . .

1660
T.
0...
0... 2350

CAL-
CIUM

(CAI

_

25

22

25

«

29

30

29

MAG-

SI UM

(MGI

__

__

7.7
~

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6.2

6.4

-

7.0

7.0
-

8.3

BICAR-
BONATE

(HC03I

98

98

68

82

59

84

68

B2

93

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93

110

110

CAR-
BONATE

(C03I

0

0

0

0

0

0

0

0

0

0

0
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0

SULFATE
IS04I

18

23

19

24

17

19

15

16

16

-

16

14

24

RIDE

(CLI

12

12

8.8

11

14
~

12

9.6

11

11

12

7.3

_ .

14
- -

TOTAL

PHORUS

(P04I

. 09

. 26

. IS

. 18

. 13

. 18

. 11

. 10

. 14

-

. 11

. 16*._

. 19

NESS

(CA.MGI

103

102

78
"

94

66

94

72

"

BO

89

_

102

104
..

106

NON-
CAR-

HARO-
NESS

22

22

22
~

27

18

25

16

14

13

_

26

14
»

22

SPECI-
FIC

UCTANCE

(MICRO-

237
238

239
242

185
187

228
245

175
195

227
254

173
208

207
234

216
24$
246

222
248

254
288

259
293

COLI- FECAL STREP-
PER- FORM COLI- TOCOCCI PIS- ALKA-

TUR- OIS- CENT (COL- FORM (COL- SOLVED LINITY
BIO- TEMPER- SOLVED SATUR- ONIES (COL. ONIES MERCURY AS
ITY (HGI CACQ3

CCT.
15... 7.9 3.0

15... 8.4
NOV.
13... 7.5 3.0
13... 8.0
DEC.
10... 7.7 .9
10... 7.8
JAN.
14... 7.8 1.0
14... 7.8
FES.
13... 7.5 3.0
13... 7.6
MAR.
11... 7.6 1.0
11... 7.9
APR.
16... 7.7 1.0
16... 7.8
MAY
15... 7.7 2.0
15... 8.0
JUNE
10... 7.7 1.0
10... 7.8
26... 7.8
JULY
07... 7.4 .6
07... 8.2
AUG.
13... 7.4 3.0
13... 7.9
SEPT.
10... 7.4 .8
10... 8.0

17.0 9.0 90

« _.. »
8.5 9.5 79

1.6 10.5 75

_.. ..

1.0 8.1 57

. * _ .
1.0 11.3 80

_

1.5 10.3 74

__

7.0 7.5 61

-_

14.5 7.9 77

18.5 7.4 79
19.6 8.2 89

22.0 7.0 80

-_ .

24.0 4.4 51

22.8 4.2 48

100 MLI 100 MLl 100 MLI

58

. ._ _-.

600

46

__ w «_
96

__ ~-
1000

. . __ «_
4 ..

__

62"

M »

- . __

84

.. _ _

200 28

3800 8 220

«

220 88

3700 6 66

(HGI
IUS/1

«

-

-
-

-

II

C.I

II

SAUGATUCK RIVER BASIN 127

01208990 SAUGATUCK RIVER NEAR REDDING, CONN.

LOCATION. Lat 41°17'40", long 73°23'44", Fairfield County, at gaging station on downstream side of bridge on State Highway 53, 100 ft south of the intersection of State Highways 53 and 107, 0.8 mile upstream from Sauga-tuck Reservoir, and 1 mile southwest of Redding.

DRAINAGE AREA. 20.4 sq mi.

PERIOD Of RECORD. Chemical analyses: June 1968 to September 1970.

REMARKS. The second of two samples collected on the same date is a field determination.

CT.
15...
5...
V.
3...
3...
C.
0...
0...
N
4 ..
4 ..
B

3 .. ^ ..
R

i .. i ..

R
6 ..
6...
Y
5...
5...
NE
0...
0...
6.. .
LY

7...
G.
3...
3...
PT.
0...
0...

CAL-
01S- CIUM

CHARGE (CM

3.6

_ _

28

_ _

32

_ _

23

_ _

179

17
2B

_ _

47

19
23

21
19
6.3

23
6.4

1.3

1.2

MAG-
Ht- BICAR- CAR-

84 0 15

56 0 20

4* 0 21

50 0 18

28 0 16

4.9 47 0 17

46 0 16

4.8 56 0 16

4.6 6B 0 14

5.6 77 0 13

TOTAL
CHLO- CMOS- HARO-

12 .03 BB

15 .04 73

12 .03 60

12 .04 66

13 .04 42

13 .02 62

12 .01 58

12 .05 67

12 .07 72

13 .06 80

7.8 .04 84

13 .49 84

NON-
CAR-
BONATE

11

27

24

25

19

24

20

21

16

18

19

19

SPECI-
FIC
COND-

(MICRO-
MHOSI

204
208

IBS
183

154
156

168
190

122
140

151
179

145
121

176
190

171
192
212

IBS
210

202
228

209
241

TUR-
PH BIO-
ITY

OATE (UNITS) (MG/LI

COLI- FECAL STREP-
PER- FORM COLI- TOCOCCI DIS-

OIS- CENT (COL- FORM (COL- SOLVED
TEMPER- SOLVED S»TUR- ONIES (COL. QNIES MERCURY
ATURE OXYGEN ATION PER PER PER (HGI
(066 Cl (MG/LI 100 ML I 100 ML I 100 MLI (UG/LI

14...
FEB.
13...

2.0

10.0

16.0

9.0

9.0

26... 7.7
JULY
07... 8.2

AUG.

13... 8.8
SEPT.

10... 8.1

17.5

. 5

25.8

18.5

9.0

8.7

7.5

94 520 220

106 45 230

80 1300 62 140

HUDSON RIVER BASIN

01316500 SCHROON LAKE AT POTTERSVILLE, N.Y.

County, at outlet at bridge on River Road, 0.8 mile upstream fr

PERIOD OF RECORD. Chemical analyses: April 1969 to September 1970.

COOPERATION. Samples furnished by New York State Department of Envli

DATF

APR.',
07..
JUNE
30..
AUG.
27..
MAY .
26..

TIME

1969
1415

113D

nso
1970
1345

SILICA
(SI02I

6.0

5.2

5.4

5.7

CHEMK

IRON

(FE 1

70

50

50

30

TOTAL
MAN-
GANESE

1 MN)

0

0

0

0

DIS-
SOLVED
CAL-
CIUM

(CAI

7.3

8.0

7.1

6.0

DIS-
SOLVED

MAG- pri- ALKA-
NF- TAS- PICAS- CAR- LINIT'
MUM SHDIUM SIUM RONATF ROMATF AS

(MR) (NAI IK) (HC03) (COD f«C03

1.1 1.6 .3 17 0 14

. « 1.7 .1 is D 15

. 8 1.4 .0 15 0 12

. 8 1.5 .1 14 o 11

APR . ,
07..
JUNE
30..
AUG.
27..
MAY,
26.,

SIILFATE
1 S04I

1969
9.0

9.6

R.7
1970
8.5

CHLO-
RIDE

(CD

1.7

2.0

1.9

3.0

DIS-
SOLVED ORGANIC
FLUO- NITRO-
RIDE GEN

IF) IN)

. 1 .08

. 5 .14

. 0 .23

. 0 .04

NITRITF NITRATE AMMONIA

(N02) (N03) (MH4I

. 00 .7 .04

. 01 .3 .11

. 01 .0 .34

. 02 1.4 .22

SOLVED
TOTAL SOLIOS
PHOS- (RESI-
PHORIIS DUE AT
IP04) 180 C I

. 00

. 00 3R

. 04 37

. 01 30

DIS-
SOLVED
SOLIDS LOSS
(SUM OF ON
CHHSTI- IRM-
TUFMTSI T10N

36

37 6

33 R

34 8

DATE

APR,/ 1969
07...
JUNE
30...
AUG.
27...
MAY. 1970
26...

TIME

1415

1 130

1330

1345

HARO-

(CA.Mfi)
(MC/L)

22

23

20

18

Cf.fl-
BOMATF

NFSS

(MG/L 1

8

8

8

6

SPFf I-

Fir

[MI fPO-

MHOS) (UNITS)

5R 7.3

5H 7.0

5? 7.3

48 6.9

COL OP CHFM-

(PLAT- TCAL

CORALT DFMAfjO
UNITS) [MR/D

10 7.0

? 1 10

14 9.0

16 5.0

LFNF
PLIIF
8CTIVF

STANCE

(MT-/L)

. 04

. n 3

. 0?

. 02

HUDSON RIVER BASIN

01316808 LOON LAKE NEAR CHESTERTOWN, N.Y.

LOCATION. Lat 43°44'40", long 73°50'20", Warren County, at dam at outlet of lake at U.S. Highway 9 Highway 8, 1.6 miles northwest of Chestertown.

PERIOD OF RECORD. Chemical analyses: April 1969 to September 1970.

COOPERATION. Samples furnished by New York State Department of Environmental Conservation.

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970 N

DATE

APR.,
07..
AUG.
27..
MAY,
26..

A R.,
7..
A G.
7..
M Y,
6..

SILICA
TIME (S102)

1969
1500 4.6

1*10 2.7
1970
1*30 *.*

CHLO-
SULF4TE RIDE
(SO*) ICL1

1969
7.9 3.7

7.9 3.8
1970
8.5 3.8

TIME
DATE

APR., 1969
07... 1500
AUG.
27... 1*10
MAT , 1970
26... 1*30

01S-
01S- SOLVED

MAN- CAL- ME- TflS- B1CAR- CAR- UNITY
IRON GANESE CIUM 5 HIM SODIUM SIUM BONATF RflNATF AS

(FE) (MN) (CA) IMG) (NA) (K) (HCH3 (en?) C»CH3

90 0 fl.O 1.2 2.8 .4 19 0 16

50 0 B.O 1.0 3.0 .2 21 0 17

*0 10 8.0 .9 2.7 .2 20 0 16

015- 015-
01S- SOLVED SOLVED
SOLVED ORGANIC TOTAL 50LIDS SOLIDS LC1SS
FLUO- N1TRO- PHOS- (RESI- (SUM OF ON
RIDE GEN NITRITE N1TR/STE AMMONIA PHORII5 HUE AT CONSTI- IKNI-
(F) IN) (N02) (N03) 1NH4) I P04) ISO C TllEMTS) T 1 OM

. 1 .06 .00 1.5 .07 .01 40

. 1 .17 .00 .0 .30 .02 40 37 8

. 1 .16 .00 1.* .15 .02 *0 *0 12

ME HY-
NON- SPEC1- L NF
CAR- FIC COLOR CHFM- B HE

H4RO- BON4TF COMD- (PLAT- ICAL AC IVF
NfSS HARD- tlCTANC^ PH IN1IM- OXYr.FN S 8-

(CA.MG) NESS (MICRO- COB»LT HFMANO STANCE
(Mfi/L) (MG/L) MH05) (UNITS) IIMITS) (MG/L) (Mfi/L)

25 10 67 7.2 15 9.0 .04

24 1 63 7.6 11 11 .0?

2* 7 63 6.9 19 8.0 .03

130 HDDSON RIVER BASIN

01316815 FRIENDS LAKE NEAR CHESTERTOWK, N.Y.

LOCATION. Lat 43°38'12", long 73°50'25", Warren County, on east side of lake, 0.2 mile south of outlet 2.0 miles southwest of Chestertown.

SILICA

TIME (SI02)
DATE (MG/L)

APR., 1969
07... 1545 4.3
AUG.
27... 1450 2.4
MAY, 1970
26... 1510 3.2

CHLO-

(504) (CLI

APR., 1969
07... 7.3 2.8
AUG.
27... 8.1 1.1

MAY. 1970

26.j_. 7.4 1.9

TIME
DATE

APR., 1969
07... 1545
AUG.
27... 1450
MAY, 1970
26... 1510

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

DIS-
DIS- SOLVED
TOTAL SOLVED MAG- PO- ALKA-
MAN- CAL- NE- TAS- BICAR- CAR- LINITY
IRON GANESE CIUM SHIM SODIUM SIUM BONATE BONATE AS
(FEI I MN I (CA) IMG) (NA) (K) (HC03) (C03I CAC03

20 0 5.9 .8 2.0 .3 12 0 10

50 0 6.5 .9 1.5 .2 17 0 14

10 0 6.4 1.0 1.6 .3 18 0 15

DIS- DIS-
OIS- SOLVER SOLVED
SOLVEO ORGANIC TOTAL SOL IDS SOLIDS LOSS
FLUO- NITRO- PHOS- (RESI- (SUM OF ON

(F) IN) (N02) (N03) (NH4) (P04) 1 RO C) TUFNTS) TION

. 0 .06 .01 .7 .07 .01 30

. 1 .16 .00 .0 .29 .03 37 30 3

. 0 .29 .03 .3 .38 .03 40 32 9

MFTHY-
NON- SPECI- LFNE
CAR- FIC COLOR CHFM- RLUF

HARD- BONATE CONn- (PLAT- ICfiL flCTIVF
NFSS HARD- IICTAMCF PH INHM- OXYGEN s"R-

(MG/L) (MG/L) MHOS) (UNITS) UNITS) (MG/L) (MG/L)

1R 8 53 7.1 5 5.0 .10

20 6 5? 7.2 4 .02

20 5 52 7.0 6 7.0 .03

HUDSON RIVER BASIN

01316895 BRANT LAKE OUTLET AT BRANT LAKE, N.Y.

State Highway 8 in Brant Lake.

PERIOD OF RECORD. Chemical analyses: April 1969 to September 1970. COOPERATION. Samples furnished by New York State Department of Environmental Con

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

APR., 1969
07... 1330 3.2 60 10 10 1.4 1.6
AUG.
27... 1245 .9 40 0 11 1.1 1.7

MAY, 1Q70
26... 1300 2.* 10 0 9.9 1.1 1.9

(Sri4)

APR., 1969
07... 10

Aur, .
27... 11
MAY. 1970
26... 10

CHLO-

(CL)

2.6

2.6

3.4

DIS-

SOLVED ORGANIC TOTAL
FLIIO- NITPI1- PMPS-

IF) IN) (M02I (M03I (NH4> (P04)

. 0 .05 .01 .5 .07 .01

. 1 .35 .00 .0 .33 .07

. 1 .19 .04 3.9 .32 .02

DIS- DIS-
SOLVED SOLVFD
SOLIDS SOLIDS
(REM- (SMf OF

IflO Cl TIIFMTS)

42

47 41

48 46

LOS'

ON

I r,N I
TION

10

SPECI-

FIC
C HMD-

APR ., 1969
07... 1330 31 12 7« 7.4
our-.
?7... 1245 32 12 7ft 7.2
MAY, 1970
26... 1300 29 10 73 7.1

HUDSON RIVER BASIN

01317000 SCHROON RIVER AT RIVERBANK, N.Y.

LOCATION. Lat 43°36'34", long 73°44'17", Warren County, at to gaging statio
0.6 mile upstream from Alder Brook, 6.4 miles downstream from dan

DRAINAGE AREA. 527 sq mi.

PERIOD OF RECORD. Chemica 1 analyses: April 1969 to September 197O,

COOPERATION. Samples funilshed by New York

DATE

APR. ,

AUG.
27...
OCT.
20...
APR.,
20...
29...
JUNE
24...
AUG.
18...
SEPT.
16...

TIME

1969

1155

1230
T970

1201

1050

1100

1255

DIS-
CHARGE

(CFS)

692

4680

633

8B

SILICA

(SID2)

5.4

6.2

4.3
5.8

5.2

5.2

5.5

IRON

(FE)

70

6O

30

40

50

State Department

TOTAL
MAN-
GANESE

(MNI

0

10

0

0

0

0

DIS-
SOLVED
CAL-
CIUM

(CA)
(MG/L)

7.4

7.2

8.2

7.0
6.5

9.0

9.5

8.0

of Envirc

DIS-
SOLVED
MAG-
NE-

SIUM

(MG)

1.1

. 8

1.0

1.1
. 9

1.1

1.5

1.4

inmental Cc

SODIUM

INA)

1.6

1.5

1.7

1.6
1.4

2.2

2.0

1.4

nservation.

PO-
TAS- BICAR-
SIUM BONATE

IK) (HC03)

. 3 16

. 1 16

. 1 19

. 1 14
. 1 15

. 3 24

. 1 ?4

. 1 18

CAR-

BONATE icrm

0

0

0

0
0

0

0

0

ALKA-
LINITY
AS
CAC03

13

13

16

11
12

20

20

15

27... 1155
flCT.
20... 1230
APR., 1970
20...
29... 1201
JUNE
24... 1050
AUG.
18... 1100
SEPT.
16... 1255

SPECI-
FIC
crmn-
MCTANCF PH
IMICRD-

MHUS) (UNITS)

56 7.0

55 7.0

61 7.1

51 7.1
49 7.1

68 7.3

89 7. 1

64 7.0

COLOR
1 PLAT-
INIIM-
CHRALT
UNITS 1

13

9

9

9
9

9

5

4

CHFM-
ICAL
nXYKEN

nFMiNn
(MG/L)

R.O

7.0

5.0

_

6.0

4.0

-

4.0

LFNF
PLUF
SCTIVF
SIIB-
^TANCF

(Mr,/i)

. 04

. 02

. 03

. 02

. 02

-

. 02

L MLU-

SIILFATF RIDF

(S r>4) (CD

APR., 1 Q 6 C>
07...
AUG.
27...
OCT.
20...
APR., 1970
20...
29...
JUNE
24...
AUG.
18...
SEPT.
16...

10 1.7

9.1 2.0

10 2.3

11 2.2
10 2.5

9.0 3.0

B.5 4.0

10 2.8

RIDE

(F)

. 0

. 0

. 0

. 0
. 0

. 0

. 1

. 1

KFN NITRITE NITRATE AMMONIA P

(Ml (NH2I (ND3) (MH4) (

. 07

. 10

. 11

. 00
. 12

. 00

. 04

. 01 .7

. 01 .1

. 01 .5

. 01 .7
. 01 .7

. 02 .2

. 00 .7

. 05 .2

. 07

. 31

. 01

. 02
. 03

. 16

. 07

. 09

'HORIIS

PH4)
MCVL)

. 01

. 0?

. 01

.03

. 02

. 02

HUE AT

ISO C)
(MG/L)

34

48

39
44

46

52

48

cnwsTi-
TUEWTS)
(MR/I.)

37

34

39

35
35

42

44

38

HUDSON RIVER BASIN

01319000 EAST BRANCH SACANDAGA RIVER AT GRIFFIN, N.Y.

DRAINAGE AREA.

PERIOD OF RECORD

114 sq mi

. Chemic

New York. "

DATE

OCT.
21...
NOV.
20...
D C.
9...
J N.
6. ..
F B.
9...
M R.
3...
A 'R.
2...
M Y
1...
JUNE
22...
JULY
15...
23...
AUG.
19...
SEPT.
23...

OCT.
21...
NOV.
20...
DEC.
19...
JAN.
26...
FES.
19...
MAR.
23...
APR.
22...
MAY
21...
JUNE
22...
JULY
15...
23...
AUG.
19...
SEPT.
23...

TIME

0920

1415

1140

1300

1210

1335

1400

1030

1230

1045
1045

1000

1330

SULFATE

(S04)

10

12

12

12

11

11

9.4

10

10

9.0

8.2

15

DIS-
CHARGE
(CFS)

47

514

136

43

B7

72

966

170

25

30
21

158

CHLO-
RIDE

(CL!

2.1

2.1

1.8

2.0

1.7

2.3

1.2

1.1

2.5

1.5

2.5

1.2

tation 300 ft upstream from bridge at

al analyses: August 1965 to September 1970.

SILICA IRON

(SI02) (FE)

7.6 260

6.3 100

7.5 60

9.3 1BO

7.8 110

8.2 100

5.4 30

4.8 90

4.B 170

5.4 190

6.4 1 10

DIS-
SOLVED ORGANIC

FLUO- NITRO-
RIDE GEN

(F I (N)

. 0 ,25

. 0 .17

. 0 .05

. 1 .28

. 1 .02

. 0 .12

. 0 .57

. 0 .03

. 1 .OB

. 1 .53

. 1 .00

. 1 .16

TOTAL

GANESE

(MN)

0

0

0

0

0

0

0

0

0

30

0

NITRITE

(N02)

. 01

. 02

. 02

. 05

. 02

. 02

. 01

. 01

. 03

. 02

. 01

. 02

DIS-
SOLVED
CAL-
CIUM
ICA)

5.7

4.8

5.0

6.0

5.5

5.9

4.0

4.9

7.0

7.0

7.5

6.0

NITRATE

(N03)

. 1

1.0

1.5

1.6

1.6

1.5

2.0

. 3

. 1

. 1

. 0

. 3

DIS-
SOLVED
MAG-

SIUM

(MG)

1.0

. 6

. 6

1.2

. 9

1.0

. 7

. 6

. 9

. 9

1.2

AMMONIA

(NH4)

. 02

. 15

. 06

. 44

. 14

. 04

. 07

. 13

. 24

. 11

. 20

. 16

SODIUM
(NA)

2.2

1.-

1.3

2.1

1.6

2.1

1.2

1.7

2.0

1.7

1.7

PHOS-
PHORUS

I P04)

,01

. 04

. 02

. 00

. 02

. 01

. 00

. 02

. 02

. 04

. 02

. 04

PO-

SIUM
(K)

. 5

. 3

. 0

. 2

. 1

. 1

. 1

. 1

. 3

. 2

. 3

DIS-
SOLV6D

(RESI-
DUE AT

180 C)

44

40

36

41

40

46

30

25

32

40

33

50

80NATE
(HC03)

16

6

8

12

9

10

5

9

17

13

18

11

DIS-
SOLVED

(SUM OF
CONSTI-

TUENTS)

37

32

34

41

35

37

27

28

36

33

36

38

BONATE
(C03)

0

0

0

0

0

0

0

0

0

0

0

0

ON
IGNI-
TION

6

11

8

5

10

6

4

13

4

12

5

17

ALKA-

AS
CAC03

13

5

7

10

7

8

4

7

14

11

15

9

TEMP-
ERATURE

10.0

3.5

. 0

. 0

. 0

. 0

3.0

15.0

18.5

18.0
23.0

20.0

IB. 5

HUDSON RIVER BASIN

01319000 EAST BRANCH SACANDAGA RIVER AT GRIFFIN, N.Y. Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE

T.
1...

0...
c.
9...
N
6...
B.
9...

:.. "...

£

Y

. . .

U .
1 ...
E T.
2 ...

TtME

0920

1415

1140

1300

1210

1335

1400

1030

1230

10*5
1045

1000

1330

HARD-
NESS

(CA.MGI
(MG/LI

18

14

15

20

17

IB

13

14

21

21

22

22

NON-
CAR-
BONATE
HARD-
NESS

(WG/L)

5

10

B

10

10

10

9

7

7

10

6

11

SPECI-
FIC

UCTANCE

(MICRO-
MHOS)

51

42

*4

56

46

53

33

38

50

48

57

54

PH

(UNITS)

7.2

6.5

6.7

6.7

6.7

6.7

6.5

6.7

7.4

6.7

6.9

6.6

COLOR

INUH-
COBALT

UNITS)

19

23

16

9

1*

14

19

24

19

47

B

37

CHEM-

OXYGEN
DEMAND

IMG/L)

5.0

1*

3.0

4.0

5.0

6.0

10

9.0

6.0

1*

9.0

IS

METHY-
LENE
BLUE

SUB-
STANCE

(HG/L)

. 0*

. 03

. 02

. 03

. 02

. 02

. 02

. 02

. 03

. 03

. 02

. 04

DtS-

MERCURY

IHG)
IUG/L)

- _

"

-

-

. 1

HUDSON RIVER BASIN

01325005 SACANDAGA RIVER AT HADLEY, N.Y.

LOCATION. Lat 43°18'50", long 73°50'45", Saratoga County, at bridge on Corinth Road in Had] from mouth and 1.3 miles downstream from gaging station near Hadley (station 01325000).

DRAINAGE AREA. 1,005 sq mi (at gaging station).

PERIOD OF RECORD. Chemical analyses: May 1969 to September 1970.

COOPERATION. Samples furnished by New York State Department of En ental Conservation.

CHEMICAL ANALYSES, HAY 1969 TO SEPTEMBER 1970 DIS-
01 S- SOLVED
TOTAL SOLVED MAG-

DIS- SILICA IRON KANESE CIUM SIUM SODIUM SIUM BONATE BONATE AS

TIME CHARGE (SI02) (FE) (MN) (CA) (MG) (NA I (K) (HC03) (C03I CAC03

1300 2090 4.9 40 10 4.9 .9 1.4 .3

1250 1970 3.1 30 0 6.4 .7 1,1 .2

1150 2110 2.3 90 0 5.4 ,8 .B .1

1970

1200 2190 4.0 20 0 4.8 .8 1.4 .3

1355 2340 2.1 60 0 5.8 1.2 1.0 .2

nis- SOLVED
SOLVED ORGANIC TOTAL SOLIDS

CHLO- FHin- NITRO- PHOS- (RESI-
SULFATE RIDE RIOE GEN NITRITF NITRATE AMMONIA PHORUS DUE AT
IS04) ICL) IF) (N) (N02I (N03) (NH4) (P04) 1 BO C)

, 1969
. . . 9.0 1.6 .0 .01 .0? .9 .06 .02 32
Y
B.5 1.0 .1 .05 .01 .B .37 .0? 30
T.
B.O 1.0 .0 .10 .02 .? .13 .0 31

"... 9.5 1.0 .1 .05 .01 .3 .10 .05 31
., 1970
9.4 2.1 .0 .01 .01 1.0 .04 .03 42

£

8.5 1.5 .0 .15 .02 1.5 .IB .17 27
T.
9.5 1.4 .1 .17 .04 .7 .07 .02 27

12

9

10

13

11

1?

SOLVED
SOLIDS

(SUM OF
CONSTI-

TUENTS)

30

27

24

26

33

28

28

0 10

0 7

0 f>

0 11

0 9

0 10

LOSS
ON

I r,N I -
TION

3

6

3

10

8

13

6

1300

1250

1150

1115
0
1330

1200

1355

HARD-
NESS
ICA.MGI
IMG/LI

, -

SR-
JATE
!D-

;s
;/LI

6

L2

B

°

6

6

LO

SPECI-
FIC
CONO-
IICTHNCF
(MICRO-
MHOS)

45

43

45

49

46

42

45

COLOR
I PLiT-
PH INIIM-
COB4LT

(UNITS) UNITS)

7.0 16

6.4 37

6.? 16

7.0 16

7.1 14

7.0 5

6.8 3

CH£fl*_
I COL
BXYT.EN
DFMflND
IMC./L)

3.0

6.0

7.0

7.0

6.0

4.0

5.0

MFTHY-
LFNF
PLUF
ACTIVE
SUB-
STANCF
(MR/LI

. 0?

. or

. 02

. 02

. 04

. 02

. 02

136 HUDSON RIVER BASIN

01325420 HUDSON RIVER AT COHINTH, N,T.

LOCATION. Lat 43°14'55", long 73°50'06", Saratoga County, at bridge on River Street in Corinth, 0.2 mile stream from Sturdevant Creek and 2.0 miles downstream from Barber Brook.

PERIOD OF RECORD. Chemical analyses: April 1969 to September 1970.

COOPERATION. Samples furnished by New York State Department of Environmental Conservation.

CHEMICAL ANALYSESt APRIL 1969 TO SEPTEMBER 1970

DATE

APR. ,
23..
MAY
22..
JUNE
17..
JULY
16..
AUG.
12..
SEPT.
OB..
OCT.
06..
NOV.
03..
DEC.
09..
JAN. .
21..
FEB.
IB..
MAR.
1R . .
APR.
15..
MAY
11..
JUNE
08..
JULY
06..
AUG.
03..
31..
SEPT.
29..

I960

1970

.

.

,.

,.

DATF

APR.,
23..
MAY
22..
JUNE
17..
JULY
1ft..
AUG.
12..
SEPT.
08..
OCT.
06..
NOV.
03..
DEC.
09..
JAN. ,
21..
FEB.
IB..
MAR.
IB..
APR.
15..
MAY
11..
JUNE
08..
JULY
06..
AUG.
03..
31..
SEPT.
29..

DIS-

01 S- SOLVED
TOTAL SOLVED MAG-
MAN- CAL- NE-
DIS- SILICA IRON GANESE CILIM SIUM

TIME CHARGE (SI02) (FE) (MN) (CA) (MG)

1655 17400 4.8 70 20 5.0 .5

1625 22BOO 4.4 60 0 5.1 .7

1540 3900 5.2 90 0 7.3 1.1

1545 2970 3.9 40 0 5.6 1.0

1450 4370 5.2 130 0 7.7 1.1

1515 3700 4.9 100 0 6.4 1.1

1515 5.2 160 0 6.6 1.0

1515 4060 5.6 420 0 6.5 1.1

1530 4190 5.5 60 0 7.1 .9

1700 4400 5.2 130 0 6.4 1.2

1545 5400 5.6 110 0 6.5 1.2

1515 45BOO 6.5 170 20 6.9 1.2

1300 8550 6.1 50 0 7.0 1.0

1400 5740 5.7 130 0 6.5 .9

1340 3400 5.5 80 0 7.5 1.0

1315 3310 5.0 60 20 9.0 1.1

1330 3100 5.1 40 10 7.3 1.0 1345 2900 3.2 20 10 6.0 1.3

1315 3710 3.1 40 0 6.0 1.0

DIS-
SHLVFri ORGANIC
CHLO- FLIIO- NITRn-
SIILFSTE RIDE PIDE GEN NITRITF MITRSTE A"'

(SD4) (CD (F) (IU) (ND2) (Nri3> (1 (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) IMG/LI (1

1969
12 1.2 .0 .05 .01 .5

9.0 1.1 .0 .OR .0? .8

8.0 1.9 .0 .08 .01 ,7

R.s 1.2 .3 .03 .nl .7

B.6 1.9 .1 .16 .02 .5

H.6 l.B .1 .19 .01 .4

8.5 2.0 .1 .20 .01 .2

9.3 2.4 .1 .18 .01 1.4

12 1.7 .0 .16 .01 .8 1970
15 2.4 .1 .26 .02 1.0

9.4 1.8 .0 .06 .01 1.2

10 2.5 .0 .20 .04 1.4

9.8 1.8 .0 .18 .01 .9

9.5 2.3 .1 .22 .05 .9

9.1 1.6 .0 .20 .02 .6

9.0 2.5 .1 .10 .02 .9

10 2.0 .1 .00 .02 .5
B.O 2.0 .1 .12 .02 1.0

8.0 1.4 .1 .09 .04 4.9

PO- ALKA-
TAS- BICAR- CAR- LINITY
SODIUM SIDM BONATE BOMATE AS
(NA) (K) (HC03) (COS) CAC03

1.2 .3 B 0 7

l.l . 3807

1.5 .3 IB 0 15

1.3 .2 12 0 10

l.B .2 14 0 11

1.8 .1 17 0 10

1.7 .1 IB 0 15

2.0 .2 16 0 13

1.7 .2 16 0 13

2.0 .2 15 0 12

1.7 .2 15 0 12

1.8 .2 16 0 13

1.5 .1 13 0 11

1.4 .1 16 0 13

1.8 .2 18 0 15

1.8 .5 26 0 21

. 9 .2 18 0 15
1.3 .2 16 0 13

1.5 .2 16 0 13

SOLVED SOLVED
TOTAL SOLIDS SOLIDS LHSS
PHOS- (PESI- (SUM DF ON
*ON!S PHQPII<; DUE AT CHNSTI- IGNI-
MH4) (P04I 180 C) TUFNTSI T I ON
"G/D (MG/LI (MG/L) (MG/LI (MG/L)

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. OR .04 34 ?ft 11

. 09 .01 3? 35 R

. 13 .04 36 29 6

. 09 .05 39 34 7

. 12 .04 40 31 f,

. 11 .03 36 34 6

. 11 .02 42 37 10

. 12 .04 38 38 6

. 10 .03 42 41 11

. 03 .02 41 35 9

. 13 .02 32 39 7

. 11 .03 44 35 14

. 12 .04 36 36 12

. 16 .03 42 36 12

. 07 .04 40 43 6

1.3 .02 34 37 26
. 05 .02 33 31 7

. 11 .02 34 34 B

HUDSON RIVER BASIN

01325420 HUDSON RIVER AT CORINTH, N.Y. Continued

DATE
APR., 1969
23...

22...
JUNE
17...
JULY
16...
AUG.
12...
SEPT.

CHEM

^

NON-
CAR-
1ARD- BONATF

TIME ICA.MG) NESS I
(MG/L) (MS/L!

1655 14 8

1625 16 9

1540 22 fl

1545 IB fl

1450 24 12

Oft... i?iy
OCT.
06... 1515
NOV.
03... 1515
DEC.
09... 1530
JAN., 1970
21... 170*
FEB.
18... 1545
MAR.
18... 1515
APR.
IS... 1300
MAY

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SPECI-
FIC

cnNn-

MICRO-

MHOSI (1

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41

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55

5*

5*

5B

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56

58

4fl

MPTHV-

LENE

COLOR CHFM- RLUF

PH

INTTSI

h. 8

6. B

7. ?

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6.8

6.8

6.9

6.9

6.9

IN1IV- OXYGEN SIIR-
CORAL.T DEMAND STANCE

UNITS) (MC,/LI (MG/LI

?4 13 .03

31 13 .0*

9 b.f) .05

13 6.0 .03

?4 10 .03

9 7.0 "">

6 10

IB 7.0

19 9.0

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8 9.0

10 6.0

16 8.0

JUNE
08... 1340 22 8 58 6.9 13 5.0
JULY
06... 1315 27 6 62 7.7 17 3.0
AUG.
03... 1330 22 7 59 7.5 7 3.0
31... 1345 20 8 53 6.9 6 7.0
SEPT.
29... 1315 19 & 51 6.8 7 6.0

0132640O HUDSON RIVER AT SPIER FALLS, N.Y.

LOCATION. Lat 43°14'00", long 73°45'20", Saratoga County, upstream from Niagara Mohawk Pov

PERIOD OF RECORD. Chemical

COOPERATION

DSTF
APR., 196
23...
MAY
22...
JUNE
17...
JULY
16...
AUG.
12...
SEPT.
08...
OCT.
06...
NOV.
03...
DEC.
09...
JAN., 197*
21...
FEB.
18...
MAR.
18...
APR.
29...
NAY
11...
JUNE
24...
JULY
22...
AUG.
14...
SEPT.
16...

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TIME

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1430

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1610

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1300

1330

1300

1*55

es turn is

SILICA

(SI02)

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4.0

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3.1

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3.1

5.9

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6.1

5.0

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3.6

3.3

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bed by N«

IRON

(FE)

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70

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200

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rer Plants

: April 1969 to September 1970.

sw York Sti

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SOLVED
CAL-
CIUM

(C»)

5.0

4.8

5.9

7.0

7.2

6.3

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7.*

5.8

6.5

6.*

5.1

6.5

7.0

6.8

6.0

6.5

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SOLVED

MAG-
NE-
SIUM
(MG)

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mental Conservation.

PO-
TAS- RICflR-
SIUM BflNATE

do (Hcnai

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HUDSON RIVER BASIN

01326400 HUDSON RIVER AT SPIER FALLS, N.Y. Continued

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

APR.,
23...

(S04)

1969
12

CHLO-

(CL)

1.2

DIS- RIS-
DIS- SOLVER SOLVE')

FLUD- NITRO- PHOS- (RESI- (SUM OF PN

(F) IN) IN02) IN03) (NH4) (P04) 1 BO Cl TUENTS) TION

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MAY
22... 8.1 2.1 .0 .08 .02' .H .06 .04
JUNE
17... 9.0 1.7 .0 .01 .00 .5 .10 .OR
JULY
16... 9.4 2.0 .2 .02 .02 .5 .15 .04
AUG.
12... 9.0 2.0 .1 .12 .02 .4 .09 .06
SEPT.
08... 9.3 1.3 .1
OCT.
06... 9.0 1.6 .1
NOV.
03... 9.3 1.9 .1
DEC.
09... 13 2.0 .0
JAN., 1970
21... 10 1.5 .1
FEB.
' IB... 9.6 1.6 .0
MAR.
18... 10 2.8 .0
APR.
29... 9.5 1.2 .0
MAY
11... 10 2.1 .0
JUNE
24... 9.5 2.0 .1
JULY
22... 9.5 2.0 .1
AUG.
19... 8.9 2.5 .1
SEPT.
16... 11 1.7 .1 .37 .04 .7 .07 .05 44 41

NON- SPECI- LFNE
C4R- FIC COLOR CHEM- RLUE

HARD- BONATE COND- (PLAT- ICAL SCTIVF
NESS HARD- UCTANCF PH INUM- (1XYBE1I SUB-
D4TE T ' HE (">M61 NESS (MICRO- COBALT DFMAND STONCE
DATE IMG/L) (MG/L) MHOS) (UNITS) UNITS) (MG/L) (MG/L)

APR., 1969

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17... 1455 18
JULY
AUG.'"

12... 1400 22
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08... 1430 20 10 51 6.3

^Ofcl.. 1425 22 2 50 6.4

03... 1430 19

21... 1610
FEB.
18... 1445
MAR.
18... 1425
APR.

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6.5 26 10 .04

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HUDSON RIVER BASIN

01327700 HUDSON RIVER AT HUDSON FALLS, N.Y.

LOCATION. Lat 43°18'00", long 73°35'30", Saratoga County, at Arkell and Smiths Pumphous across river from Hudson Falls, 1,500 ft upstream from Fenimore Dam.

DRAINAGE AREA. 3,491 sq mi, approximately.

PERIOD OF RECORD.-- Water temperatures: November 1957 to Septemb

st bank in Fenin

EXTREMES. 1969-70:
Water temperatu
to January.

1970.

, 26.5°C Aug. 12-16, 19, 20; minimum, freezing point on many days durin

Period of rd:

periods.

REMARKS. Stream froz

COOPERATION. Water t

Dec. 26 to Jan. 31.

the Chase Bag Corporation.

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

13.0 10.0
16.5 13.5
1S.O 11.0
15.5 10.0
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18.0 9.0
16.5 9.0
16.5 9.0

18.0 9.0
19.0 9.0
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16.0 8.0

15.5 S.O

16.5 6.0
15.5 R.O
15.0 6.5

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10.0 5.5

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11.0 4.0

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5.0 21.0 23.0 2
5.0 20.5 J3.0 2
5.5 21.0 73.0 ?
5.5 21.0 23.5 2
5.5 20.0 24.0 ?

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HUDSON RIVER BASIN

01327750 HUDSON RIVER AT FORT EDWARD, N.Y.

from bridge on St ate Highireiy 197.

DATE

APS. ,
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APR.
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HAY
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JUNE
08...
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JULY
06...
22...
AUG.
03...
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SEPT.
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TIME

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IRON

(FE)
tUG/L)

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GANESE
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DIS-
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HUDSON RIVER BASIN

01327750 HUDSON RIVER AT FORT EDWARD, N.Y. Continued

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

CHLO-
SULFATE RIDE

(S04) (CD
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APR., 1960
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44

52
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48
51

68
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41
68
119

61
56

DIS-
SOLVED
SOL IDS

(SUM OF
CONSTI-

TUENTS)

42
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HUDSON RIVER BASIN

01327750 HUDSON RIVER AT FORT EDWARD, N.Y. Continued

DATE

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MAY
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22..
JUMP
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JULY
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NOV.
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DEC.
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JAN.,
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FEB.
02..

MAR.
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APR.
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MAY
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JUNE
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JULY
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AUG.
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31..
SEPT.
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TIME

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1335

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0950

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1015

1340
0945

1250
1970
1100
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1100

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1045

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1235
0950

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1230
1100
1245

1050
1200

HARD-
NESS
(CA.MGI
(MG/L)

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NON-
CAR-
BONATE
HARD-
NESS

(MG/L)

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12

SPETI-
FIC
CONO-
UCTANCF
(MICRO-
MHOS !

67
52

60

6ft
81
69

93

69
SO

97
S3

79
101

75
73

91

78
74

70

75
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78

56
45

67
81

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84
73

75
87

81
80

PH

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7.4
ft. 6

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6.7

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6.5

COLOR

INtlM-
COBALT

UNITS)

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39
41

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4'

40
32

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25

CH6M-

OXYGFN
DEMAND

(MG/L 1

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10
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HUDSON RIVER BASIN ±4J

01329640 BATTEN KILL AT MIEDLE FALLS, N.Y.

LOCATION. Lat 43°05'05", long 73°31'32", Rensselaer County, at Niagara Mohawk Power Plant in Middle Falls, 0.5 mile downstream from Hartshorn Brook and 4.5 miles upstream from mouth.

PERIOD OF RECORD. Chemical analyses: April 1969 to September 1970.

COOPERATION. Samples furnished by New York State Department of Environmental Con

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

DATE

APR. ,
23...
MAY
22...
JUNE
17...
JULY
16...
AUG.
12...
SEPT.
OR...
OCT.
06...
NOV.
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DEC.
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JAN. ,
21...
FEB.
IB...
MAR.
IB...
APR.

MAY
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JULY
06...
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TIME

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CIUM

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SOLVED

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2.B .8

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BONftTE
IHC03)

37

58

B2

100

101

113

95

104

94

106

B4

100

64

79

96

89

96
116

5B

ALKA-
CAR- LINITY
BONATE AS
IC03I C4C03

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0 82

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nis- SOLVED SOLVFO
SOLVED ORGANIC TOTAL SOLIDS SOLIDS
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RIDE r,EN NITRITE NITR4TF AMMONIA PHORIIS DUE AT CONSTI-
IFI IN) (N02) IM01I (NH4I IP04 I 180 Cl TUEWTS)

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09... 14 4.0 .0
JAN., 1970
21... 14 6.0 .0
FEB.
IB... 14 6.4 .1
MAR.
18... 13 7.3 .1
APR.
15... 12 5.1 .0
MAY
11... 12 4.5 .1
JUNE
OB... 11 4.5 .0
JULY
06... 11 4.5 .0
AUG.
03... 11 5.5 .1
31... 9.0 7.0 .0
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HUDSON RIVER BASIN

01329640 BATTEN KILL AT MIDDLE FALLS, N.Y. Continued

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

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1130

NESS

(CA.MGI
(MG/L)

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HUDSON RIVER BASIN 14 =

01329995 GLOWEGEE CREEK NEAR WEST MILTON, N.Y.

LOCATION. Lat 43°02'29", long 73°56'40", Saratoga County, specific conductance and temperature recorders 60 It upstream from S3G drainage ditch of the U.S. Atomic Energy Commission, 0.1 mile downstream from a small tribu-

DMINAGE AREA. 21.5 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1964 to December 1966, July 1967 to September 1970.
Water temperatures: October to December 1966, July 1967 to September 1970.

EXTR EH ES. 1969-70:

Specific conductance: Maximum, 320 micromhos Feb. 10; minimum, 85 micromhos Mar. 27.

April.

Period of record:

Specific conductance:

pe

REMARKS,
aval
years

DAY

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BAY

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able Jv ly 8-10, 22

Maximum, 340 micromhos Jan. 16, 1966

, 23, 28-30, Sept. 10, 11, 18-21. Specific conductanc

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT

OCTOBER NOVEMBER D

MAX MIN MAX MIN MAX

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MAX

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170

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170

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175

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180

195

230

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270

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245
260

270

270

APRIL

MIN

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175
155

145

145

165

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165

165
170

175

185

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225 215
230 205

275 270
275 275

235 195

220 210
220 215
220 215

245 235

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MAY

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275

270

MAX

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CEMBER

MIN

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275
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275
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JUNE

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JANUARY

MAX MIN

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JULY

MAX

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MIN

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omhos Mar. 27, 1970.

e records fo r 1965

FEBRUARY

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AUGUST

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HUDSON RIVER BASIN

01329995 GLOWEGEE CREEK NEAR WEST MILTON, N.Y. Continued

DAY OCTOBER

MAX

1 13.0
2 12.0
3 15.0
4 14.0
5 11.5

6 13.0
7 13.5
8 15.0
9 13.0
10 12.0

11 13.0
12 14.5
13 14.5
14 14.5
15 11.0

17 10.0
18 9.0
19 8.0
20 11.0

21 11.0
22 9.0
23 4.5
24 3.5
25 6.5

26 7.0
27 8.0
28 6.5
29 4.0
30 5.0
31 4.5

AVG 10.0

DAY

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2 1.5
3 3.0
4 3.5
5 4.0

6 4.5
7 5.0
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11 5.5
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13 B.O
14 10.0
15 10.5

16 11.5
17 13.5
18 12.0
19 11.5
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21 5.5
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26 15.5
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WIN

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APRIL

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S.O
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NOVEMBER

MAX

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HUDSON RIVER BASIN

01330000 GLCWEGEE CREEK AT WEST MILTON, N.Y.

LOCATION. Lat 43 Ol'SO", long 73 55'40", Saratoga County, specific conductance and temperature recorders at former

mouth, and 4 miles northwest of Balist on Spa.

DRAINAGE AREA. 26.0 sq ml.

PERIOD OF RECORD. Chemical analyses: March 1953 to September 1956, October 1964 to September 1970.
Water temperatures: March 1953 to September 1970.

EJtTREMES. 1969-70:

Specific conductance: Maximum, 430 raicronhos Aug. 20; minimum, 130 mlcromhos Apr. 2, June 19.
Water temperatures: Maximum, 25.0°C July 30; minimum, freezing point on many days during December to April.

Period of record:
Specific conductance (1964-70): Maximum, 480 micromhos Aug. 31, Sept. 4, 1969; minimum, 125 mlcromhos Mar. 25, 1968.

Water temperatures: Maximum, 28.0°C July 24, 1961, July 3, 1966, July 16, 1968; minimum, freezing point on many days during winter periods.

1EMARKS.-

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2 In temperature, 13.0°C to 14.5°C.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C>, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH

MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN

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295

MAX

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170

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230

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245
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265

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285

APRIL

MIN

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196
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245
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275

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280

MAY

MAX

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MIN

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275

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MAX

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JUNE
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272

MAX

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325

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JULY

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MAX

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410

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375
420
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243

AUGUST

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SEPTEMBER

MAX MIN

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330 315
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335 320
365 245

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295 2R5
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290 255
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HUDSON RIVER BASIN

01330000 GLOWEGEE CREEK AT WEST MILTON, N.Y. Continued

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

OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY

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18.0 14.5

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HUDSON RIVER BASIN

01330500 KAYADEROSSEHAS CREEK NEAR WEST MILTON, N.Y.

LOCATION. Lat 43°02'25 11, long 73 54*30", Saratoga County, temperature recorder at gaging station on left bank,

DRAINAGE AREA. 90 sq mi, approximately.

PERIOD OF RECORD. Chemical analyses: October 1953 to June 1955, October 1969 to September 1970 (miscellaneous) Water temperatures: October 1952 to June 1970.

EXTREMES. 1969-70:

Water temperatures: Minimum, freezing point on many days during December to March.

Period of record:

periods.

REMARKS. No temperature records available for June 4 to Sept. 30.

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HUDSON RIVER BASIN

01330500 KAYADEROSSERAS CREEK NEAR WEST MILTON, N.Y. Continued

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

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HUDSON RIVER BASIN

01331095 HUDSON RIVER AT STILLWATEH, N.Y.

LOCATION. Lat 42°56'16", long 73°39'04", Saratoga and Rensselaer Counties, at bridge on State Highway 67 In

PERIOD OF RECORD. Chemlca

COOPERATION. Sampl es furn

1 analyses: April

ished by New York

DATE

APR., 1°69
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MAY
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J NF
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JULY
?9...
AUG.

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FEB., 1970
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APR.
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MAY
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JUNE
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JULY
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AUG.
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SEPT.
21...

TIME

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(SP4)

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SILICA
(SI02)
(MC./L)

4.7

5.3

4.7
4.5

3.7

1.6
4.3

3.3

3.2

4.3

5.5

5.8

4.8

4.7

4.3

3.9

3.0

3.3

CHLO-

(CL)

3.2

5.4

5.2
6.1

6.0

13
4.8

4.8

7.5

6.7

5.0

12

2.3

6.5

6.5

5.0

8.5

5.0

IRON

(FE1
(UG/L)

60

100

160
150

210

20
190

?20

290

170

120

270

60

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110

180

150

80

nis-
SCILVFO
FLUO-

(Fl

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ORGANIC
NITRO-

IN)

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1969 to September 1970.

State Department of Environm

nis-
nis- SOLVED

CAL- NF-
CIUM SHIM SODIUM

(CA) (MO) (NA)

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9.fl J.O 3.9

10 1.9 4.9
12 ?.0 5.7

13 2.2 5.2

36 4.5 9.6
9.2 1.5 5.0

9.5 1.7 6.8

10 2.0 7.2

11 1.9 7.5

13 2.8 3.4

12 2.5 9.1

7.4 1.2 1.7

11 2.1 5.2

15 2.3 5.6

11 1.8 2.2

8.9 2.0 4.1

(NO?) (M03) (MH4I

. 0? l.R .05

. 03 .7 .OR

. 0? 1.6 .14
. 02 1.4 .13

. 03 1.5 .70

. 14 1.9 .35
. 0? ,R .38

. 03 .9 .25

. 02 1.6 .09

. 01 2.3 .67

. 06 1.6 .04

. 03 1.8 .24

. 17 3.3 .30

. 05 .1 4.4

. 55 1.8 1.2

PO-

SIUM RONATF BONAT6

(K) (HC03) (CH3)

. « 2fl 0

. 5 ?8 0

. 4 23 0
. 4 31 0

. 6 30 0

1.5 103 0
. 3 22 0

. 3 21 0

. 4 24 0

. 4 23 0

. 5 33 0

.4 32 0

. 3 16 0

. 4 32 0

. 6 36 0

. 6 26 0

. 6 28 0

. 5 14 0

BIS- DIS-
SOLVED SOLVED

PHOS- (REST- (SUM OF

(P04I ISO C) TUENTS)

. 04 63 55

. 16 ^6 54
. 06 67 63

. 05 56 65

. 5? 153 150
. 1? 55 52

. 12 64 55

. 08 77 66

. 07 73 68

. 13 94 78

. 16 50 40

. 12 58 56

. 13 65 61

. 18 74 54

ALKA-

AS
C4C03

23

23

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84
1C

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ON
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TION

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24

HUDSON RIVER BASIN

01331095 HUDSON RIVER AT STILLWATER, N.Y. Continued

DATE

APR.!

23..
MAY
05..
JLINF
04..
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JULY
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AUG.
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SEPT.
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OCT.
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NOV.

FEB.,
IB..
MAR.
IB..
APR.
29..
MAY

JUNE
24..
JULY
22..
AUG.
19..
SEPT.
21..

TIME

1969
0845

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0935

1970
0825

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HARD-
NESS
(CA.MGI

36

32

33
38

42

10B
29

30

33

44

40

24

47

35

33

30

NON-
CAR-
BONATF

MFSS

(MG/LI

14

10

14
1?

17

24
11

14

14

17

14

10

18

14

10

18

SPECI-
FIC
rnNn-

(MICRn-
MHOS) (UNITS)

94 7. 1

90 7.3

94 7.3
106 7.0

110 6.6

266 7.B
H9 6. B

96 6.4

110 6.6

116 7.0

130 6.B

62 6.9

114 7.1

95 6.8

110 7.1

97 6.6

COLOR
(PLAT-
INIIM-
COPALT

UNITS)

37

?7

26
16

^9

21
32

40

31

12

24

19

26

13

18

23

HFM-
r»L
n YT,EN
n MAND

14

3.0

15
14

12

8.0
16

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2.0

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6.0

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13

MFTHY-
LENE
BLIIF
ACTIVF

STANCF

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. 05

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. 05

. 02

HUDSON RIVER BASIN

01333300 HOOSIC RIVER BELOW WILLIAMSTOWN, MASS.

LOCATION. Lat 42°44'28", long 73°12'47", Berkshire County, on right bank 0.3 mile upstream from Massachusetts-

Koosic River near Will iamst own (station 01332500).

DRAINAGE AREA. 203 sq mi.

PERIOD OF RECORD. Chemical analyses: November 1968 to September 1970.
Water temperatures: November 1968 to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum, 560 micromhos Aug. 20; minimum, 66 micromhos Apr. 16.
pH: Maximum, 9.5 Dec. 23, Jan. 7, 8; minimum, 5.8 July 5.
Dissolved oxygen: Maximum, 14.7 mg/1 Nov. 6; minimum, 0.0 mg/1 July 24, 25, 27, 28.

Period of record:
Specific conductance: Maximum, 560 micromhos Aug. 20, 1970; minimum, 66 micromhos Apr. 16, 1970. pH: Maximum, 9.6 Nov. 23, Dec. 20, 1968; minimum, 5.8 July 5, 1970.
Dissolved oxygen: Maximum, 14. 7 mg/1 Nov. 6, 1969; minimum, 0.0 mg/1 July 24, 25, 27, 28, 1970.

REMARKS. Records of hourly watei^quality values are available in district office, Boston, Mass.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD DETERMINATIONS

SPECI- FECAL
FIC COLI- COLI-
CON- FORM FORM

DUCT- DIS- TEM- (COL- (COL-
DIS- ANC£ SOLVED PERA- ONIES ONIES

DATE TIME CHARGE (MICRO- OXYGEN TURE PH PER PER
(CFSI MHOS] (MG/LI (°CI (UNITS) 100 ML] 100 MLI

OCT 7.. 1700 115 405 3.8 16.0 7.8 810000 52000
NOV 4.. 1700 180 285 6.5 11.1 8.0 1700000 94000
DEC 9.. 2100 310 225 11.8 3.5 7.4 190000 34000
JAN 13.. 1500 210 270 11.5 .5 8.8 220000 28000
FEE 3.. 1300 1070 148 12.7 1.4 7.7 -- 30000
MAR 12.. 0800 200 310 12.3 .9 6.5 180000 22000

APR 7.. 1430 910 179 12.2 5.5 7.6 32000 3500
MAY 5.. 1000 680 147 10.3 10.0 8.4 56000 7200
JUN 9.. 1730 190 270 8.3 22.5 8.3 250000 18000
JUL 15.. 1500 95 380 7.1 19.1 7.9 380000 58000
AUG 5.. 1000 85 374 4.6 45.7 7.9 210000 37000
SEP 2.. 0930 85 299 5.4 10.1 7.9 53000 5700

LABORATORY ANALYSES

OCT 7.
NOV 4.
DEC 9.
JAN 13.
FEE 3.
MAR 12.

APR 7.
MAY 6.
JUN 9.
JUL 15.
AUG 5.
SEP 2.

(N)
(MG/LI

0.30
. 40
3.0
. 60
1.0
. 58

. 60
. 30
.40
4.0
.40
1.4

TOTAL
KJEL-
DAHL

(N)
(MG/L)

0.07
1.3
. 97
1.2
. 67
. 55

. 50
. 51
1 .0
I .3
4.2
. 27

TOTAL

(PI
(MG/L)

0.80
. 53
. 30
. 39
. 29
. 28

. 13
. 11
.41
. 30
. 61
. 44

ITY

(JTU)

15
30
9.0
22
30
13

11
3.0
4.0
5.0
21
5.0

METHY-
LENE
BLUE

STANCE
(MG/L)

0.35
. 07
. 21
. 14
. 04
. 09

. 04
. 07
. 14
. 10
. 11
. 08

CHEM-

DEMAND

(MG/L)

33
44
10
21
25
20

4.0
7.0
11
13
13
21

COLOR

INUM-

COBALT
UNITS!

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16

DIS-

IRON
(FE)
(UG/L)

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GANE
(Ml*
(UG/

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SEP 2.

CHLO-

(MG/L)

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DIS-
SOLVED
SOLIDS

(RESI-

(MG/L) (MG/L)

23 176

HARD-
NESS

(MG/L)

120

TOTAL
ACIDITY
AS

CMG/L)

3.0

ORGANIC
NITRO-
GEN

(MG/L)

0.14

BIO-
CHEM-
ICAL
OXYGEN

(MG/L)

3.7

OIL
AND

(MG/L)

2.0

CYANIDE

(MG/L)

. 01

PHENOLS

(UG/L)

9

HUDSON RIVER BASIN

01333300 HOOSIC RIVER BELOW »ILLIAMSTO»N, MASS. Continued

MINOR ELEMENTS, RADIOCHEHICAL, AND PESTICIDES

BATE

SEP'

02...

DATE

SEP
02...

ALUM-
INUM

(AL)
(UG/L)

0

DIS-
SOLVED
GROSS
BETA

CS-1371

5.0

ARSENIC

(AS)
(UG/L)

0

TOTAL
DIS-

(UG/L)

200

CHRO-
COPPER MIUM

(CU) (CR)
(UG/L) (UG/L)

10 8

SUS- SUS-
PENDED PENDED
GROSS GROSS
ALPHA ALPHA

U NAT) U NAT)

1.0 .3

DI-

LEA»
(PB)
(UG/L)

34

SUS-
PENDED
GROSS
BETA

Y-90)

<1.2

MERCURY

(HG)
(UG/L)

. 2

SUS-
PENDED
GROSS
BETA

CS-137)

<1.3

DIS-
SOLVED
GROSS

ZINC (UG/L
(ZN I AS
(UG/L) U NAT)

10 3.3

SUS-
PENDED

(MG/L) (CFS)

9 85

HEP-

DATE (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (

SEP

02, .00 .00 .00 .00 .00 .00 .00

DIS- SIS-
SOLVED SOLVED
GROSS GROSS

(PC/L (PC/L
AS AS SR/

U NAT) Y-90)

1.1 4.1

(UG/L) (UG/L)

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UG/L) (UG/L)

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SPECIFIC CONDUCTANCE (NICRONHOS/CM AT 25°C),

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MAX

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OCTOBER

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241
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MEAN P"

445
441

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4P8
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10VEMBER

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190

WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DECEMBER JANUARY

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n 234

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HUDSON RIVER BASIN

0133330O HOOSIC RIVER BELOW WILLIAMSTOWN, MASS. Continued

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

FEBRUARY MARCH APRIL

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AUGUST

MIN

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333 378
3"4 366

288 307
274 3C4
310 337

HUDSON RIVER BASIN

01333300 HOOSIC RIVER BELOW WILLIAIISTOWN, MASS. Continue

PH (UNITS), HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

ncTOHER NOVEMBER

AY MAX MIN MFAN MAX MIN MEAN MA

1 7.9 7.5 7.7 0.9 8.1 0.4 8.'
2 9.0 7.6 7.8 8.2 7.6 7.9 9.
3 7.0 7.6 7.8 7.7 7.5 7.5 9.
4 9.3 7.0 0.0 8.2 7.0 7.9 o.
5 8.9 6.9 8.2 9.

6 R.I 7.0 9.P 7.0 7.3 7.7 0.

8 R.I 7.5 7.7 7.8 7.2 7.6 9.
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1" 9.3 7.5 7.8 7.8 7.4 7.6 ---

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2 7.9 7.5 7.7 -

4 8.P 7.5 7.8
5 9.9 7.5 7.9

6 7.7 7.6 7.7
7 0.1 7.7 7.0 9.5 7.6 7.9 9.
9 9.6 7.6 7.9 9.2 7.7 9.4 9.
q 9.0 7.6 0.1 0.
0 q.

2 9.4 7.3 7.7 9.
3 9.3 7.5 8.3 9.
4 9.3 7.8 9.7 9.
5 9.3 7.6 8.3 8.4 7.7 8 .P 9.

6 9.5 7.7 8.6 8.7 .7 3.1 9.
7 8.5 7.6 7.8 9.C .6 7.9 7.
8 9.0 7.6 9.3 8.4 .6 7.8 7.
9 9.0 9.0 9.4 8.6 .6 7.9 7.
0 9.1 7.9 9.5 7.9 .6 7.7 9.
1 9.0 7.9 8.7 - 9.

FEBRUARY MARCH

AY Mix MIN MEAN MAX MIN MEAN MA

DECEMBER

MIN MEAN

7.6 7.9
8.2 9.7
7.9 8.5
8.0 ft. 7
8.4 9.9

9.0 9.3

7.9 7.0
7.7 7.9

7.9 0.6
7.9 9.6
9.0 9.5
9.2 8.7

7.0 7.9
7.8 7.9
7.0 8.7
8.1 8.7
7.8 8.T

7.0 9.0
7.6 7.7
7.4 7.6
7.3 7.5
7.6 3.2
0.1 3.6

APRIL

MIN MEAN

JANUARY

MAX MIN

9.2 7.8
8.3 7.4
8.6 7.3
7.0 7.4
0.6 7.7

9.2 9.2

9.5 8.1
9.4 8.2
9.4 8.0

8.2 7.9
9.0 8.2

8.9 8.1
8.0 8.2

8.8 X.2
9.0 8.0
8.5 7.7
8.3 7.T
9.0 8.0

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HUDSON RIVER BASIN

01333300 HOOSIC RIVER BELOW WILLIAMSTOWN, MASS. Continued

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HUDSOX RIVER BASIN

0133330O HCOSIC RIVER BELOW WILLIAMSTOWN, MASS. Continued

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HUDSON RIVER BASIN

HOOSIC RIVER BELOW WILLIAMSTCWN, MASS. Continued

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MEAN

3.5
1.5
2.0
1.0
1.0

0.5
0.5
1.5
3.0
4.0

4.0
3.5
3.0
2.0
2.0

1.5
0.5
0.5
1.0
1.0

1.0
0.5
0.5
0.5
0.5

0.5
0.5
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C.5
C.5

JANUARY

MAX MIN

0.5 0.5
0.5 0.5
0.5 0.5
0.5 0.5
0.5 0.5

0.5 0.5
0.5 0.5
0.5 0.5
0.5 0.5
0.5 0.5

0.5 ".5
0.5 0.5
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0.5 0.5
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0.5 0.5

0.5 0.5
0.5 0.5
0.5 0.5
0.5 0.5
0.5 C.5

0.5 0.5
0.5 0.5
1.0 C.5
0.5 0.5
1.5 C.5
1.5 1.0

MEAN

0.5
0.5
0.5
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0.5

0.5
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0.5
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1.0
1.0

FEBRUARY

Max

2. r
2.r

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1 .C
1.5

i.r i .1

1.5
? . r
3.C
3.D
1.5

l.:
3.C
2.5
2.0
3.C

1.0
l.C
1.0

...

MIN Ml= A N

0.5 1.5
1.5 1.5
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. . . . . .
. . .

0.5 0.5
0.5 1.0
0.5 0.5
".5 0.5

0.5 1.0
0.5 1.0
1.0 2.0
1. n 2. 1
0.5 1. 1

0.5 1.0
1.0 1.5
".5 1.5
0.5 1. 5
0.5 2.0

0.5 0.5
n.5 0.5
1.5 1.0

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MARCH

MAX MIN

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4.5 1.0
3.5 2.5
4.0 2.0
4.5 2.0

3.5 1.0
5.1 1.5
5.0 2.0

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_ -

6.0 3.0

5.5 3.5
4.5 2.5
5.0 1.5
4." 1.0
4.5 1.0
4.5 2.5

MEAN

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. . .

3.5
3.0
3.0
3.0

3.0
2.5
4.0

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. . .

4.0

4.5
3.5
3.5
2.5
2.5
3.5

MAX

6.5
5.0
4.0
4.0
5.0

t.O
6.0
7.5
6.0
5.0

5.5
6.5
6.5
8.0
8.0

8.5

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6.0
7.0
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13.5
14.5
14.5

APRIL

MIN

2.0
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3.5
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3.5

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5.0
4.0
5.0

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6.5
10.0
10.5

MEAN

4.5
3.0
2.5
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4.5
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3.5
4.5
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6.0
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5.5
6.0
5.5

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11.5
12.0
13.0

MAX

17.5
19.0
16.0
14.0
16.0

13.5
11.0
11.0
15.0
17.5

18.5
19.5
17.5
16. ">
14.0

14.5
13.0
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12.5
16.0

17.0
17.5
16.5
16.5
14.5

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15.0
16.5
17.0
18.0
19.0

MAY

MIN

11.5
14.5
11.0
9.0
10.5

7.5
6.0
7.5
11.0
12.5

14.5
14.5
16.0
14.0
12.0

12.0
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10.5
10.0
11.0

12.0
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12.0
13.5

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13.5
12.0
11.5
1 ?. 5
13.0

MEAN

14.0
16.5
12.5
11.5
11.0

10. 0
8.5
9.5
12.5
15.0

16.5
17.0
16.5
14.5
13.0

13.0
12.5
11.0
11.0
13.5

14.0
15.5
15.0
14.0
14.0

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14.5
14.0
14.5
15.0
16.0

HUDSON RIVER BASIN

01333300 HOOSIC RIVER BELOW WILLIAIISTOWN, MASS. Continued

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

JUNE

MAX MIN MEAN

21.0 16.0 18.5
23. C 17." 20.0
21.0 8.C 19.5

!=).< 5. c 17."
17." 6.0 16.5

16.5 5.0 16.1

21. r 5.0 18."
27.5 7.5 20.0
>2.5 8.1 20.5

22.5 19.0 21.0
2?. 5 19." 21."
21.0 16.5 19.0
20.5 15.0 18."
21 .0 16.0 18. 5

19.5 17.5 18.5
2". 5 17.5 19.0
21.5 17.5 19.0
20.0 17." 18.5
17.5 14.5 15.5

16.0 13. r 14.5
17.5 15.0 16.0
20. *. 15.0 18."
21. " 16.5 19.0
22.5 18.0 20.0

2"." 15.0 16.5

19.0 12.5 16."
19.5 15.0 18.0
18.5 17.5 18.0

JULY

MAX MIN

24.0
22.0
23.0
22. 5
2T.5

23.0

23.5

22.5

22. C
23.0
22. 5
20.5
IQ. 5

20.5
22.5
22.0
22.5

21.5
23. 0
24.5
25."

:::

6.5
8.5
7.5
9.5
R.C

7.0

9.0

0.0

9. 5
9.5
8.0
8.0
8.0

8. 5

8.5
8.0

6.5
8. 5
9.5
1.0

1.5

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MEAN

20.0
20.0
20.0
21.0
19.5

10.5

21.5

21.0

21.0
21.0
21.0
19.0
18.5

19.0

20.5
20.5

19.0
2C.O
22.0
23.0

23.5

- I:

MAX

__

_

24.0

24.0

24.0
25. r
24.5
26.0
26.0

26.0
24.5
24.0
23.0

22.0
21.0
20.0
20.5

22.5

21.5
20.0
20.0

AUGUST

MIN

__

_-_

20.0
21.0
21.5

20.5
21.5
21.0
22.0
22.5

22.5

20.0
18.0

18.5
17.5
16.5
17.0

18.0

19.0
17.5
17.0

MEAN

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- - -

22.0

23.0

?2.5
23.0
22.5
24.0
24.0

24.0
23.5
22.0
21.0
21.5

21.5
20.5
19.0
18.0
19.0

20.5
19.0
18.0

SEPTEMBER

MAX MIN MEAN

19.
18.
1 7.
20.
20.

18.

19.
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13.0

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6.5
7.5

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6.0
6.5
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7.5
5.5
6.0
5.5
4.C

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5.5
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9.0
9.0
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6."

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9.0

7.5
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7.5
7.0
8.5

9.f
7.5
8.0
7.C
5.1

5."

6.5
6.0

7.0
9. 5
1.0
1.0
2.0

5.0
3.5
2.5

01333350 HOOSIC RIVER NEAR NORTH POWNAL, VT.

LOCATION. Lat 42°48'33", long 73°17'12", Rensselaer County, N.Y., at bridge on ^ at State line, 1.3 miles northwest of North Pownal, Vt.

York-Vermont State Highway 346

PERIOD OF RECORD

New York. "

DATE

OCT.
06...
NOV.
04...
DEC.
04...
JAN.
06...
FEB.
03...
MAR.
02...
APR.
07... A
MAY
07...
JUNE
04...
JULY
07...
AUG.
03. ..A
SEP.
08. ..B

T IME

1100

1015

0935

1100

0845

0930

0900

0930

0935

1145

1500

1430

CHEMICAL ANALYSES, WATER V

ALKA-
LINITY
DIS- AS SULFATE
CHARGE CAC03 IS04I

(CFS) (MG/L) (MG/L)

131

237

359

296

1010

654

598

167

167

175 103 26

to September 1970.

'EAR OCTOBER 1969 '

TOTAL
KJEL-
DAHL
CHLO- NITRO-
RIDE GEN

(CD IN)
(MG/L) (MG/L)

15 .84

l.l

. 40

1.1

1.2

. 43

. 60

. 42

. 75

2.8

. 34

17 .29

TO SEPTEMBER 1970

AMMONIA
NITRO-
GEN NITRATE

(N) (N)
(MG/L) (MG/L)

>4

. 5

3.2

. 7

1.0

. 8

. 7

. 3

. 3

. 9

_ "

. 15 1.0

TOTAL
PHOS-
PHORUS

(P)
IMG/LI

. 22

. 30

. 23

. 19

1.0

. 22

. 07

. 12

. 16

. 41

. 28

. 30

DIS-
SOLVEn
SOLIDS

(RESI-
DUE AT

180 C)
(MG/L 1

- -

-

163

HUDSON RIVER BASIN

01333350 HOOSIC RIVER NEAR NORTH POWNAL, VT. Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE

OCT.
06..
NOV.
04..
DEC.
04..
JAN1.
06..
FEB.
03..
MAR.
02..
APR.
07..
MAY
07..
JUNE
04..
JULY
07..
AUG.
03..
SEP.
08..

A
B
AND
C

TOTAL
NON-
FILT-

RABLE
RESIDUE

(MG/L)

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f

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it

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SPECI-

FIC
COND-

UCTANCE PH
(MICRO-
MHOS) (UNITS)

C270 C7 ' 5

C170 " *

C210

C210

170

C200

C175

160

175

200

240

TUR-
TEMPER- BID-
ATURE ITY

(DEG C) (JTU)

13.0 3

10.5 7

2.0 10

. 0 4

5 80

2.0 9

3.0 9

6.5 5

17.0 2

20.0 25

7

20 250 7.6 19.0 13

INCLUDES 0.1 UG/L OF MERCURY (HG).

FIELD DETERMINATION.

DATE

JULY
07...
AUG.
03...
SEP.
08...

ALDRIN
TIME

(UG/L) 1

1145

15DO .DO

1430

F.THTDN MAI A-

JULY
07...
AUG.
03...
SEP.
08...

THION

. 00 .00

. 00 .00

. 00 .00

ODD DDF f

[UG/L) (UG/L) (1

. 01 .00

<.01 .00

METHYL
METHYL TRI-
PARA- THION P
THION T

. 00 .00

. 00 .00

. 00 .00

CHEM-

OIS- ICAL

SOLVED OXYGEN'
OXYGEN DEMANO
(MG/L) (MG/L)

C 9.1 12

C 6.3 12

C14.6 15

C12.4 6

12.2 61

C11.9 9

CIO. 6 5

11.0 10

6.1 15

6.6 9

6.2 13

7.0 15

DI-
WT FLORIN FNI

ir,/L) iur,/L) tu<

. 02 .00

. 00 .00

TRI-
ARA- THION 2,
HION

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.00 .on

. 00 .00

FECAL COLI-
COLI- FORM

FORM (COL-
(COL. DNIES
PER PER

100 ML) 100 ML)

24000

12500

"

2200

103000

_

2200

6900 27000

2500 21000

18000

22000

2100 46000

HFPTA-
TRIN CHLHR LINT

. 00 .00

. 00

4-D 2,4,5-T SII

. 00 .00

. 00 .00

. 00 .00

METHY-

LENE
BLUE
ACTIVE
SUB-
STANCE

(MG/L)

. 08

. 13

. 06

. 18

. 07

. 09

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. 05

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IANF

./L)

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LVFX

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RADIOCHEMICAL ANALYSES

DATE

TIME

DIS- DIS-
SOLVED SOLVED
GROSS GROSS
ALPHA ALPHA
AS AS
U-NAT. U-NAT.

(UG/L) (PC/L)

DIS- DIS-
SOLVED SOLVED
GROSS GROSS
BETA BETA
AS SR90 AS
/Y90 CS-137
(PC/L) (PC/L)

TOTAL
FILT- SUS-
RABLE PENDED
RESIDUE ALPHA

(MG/L) (PC/L)

SUS-
PENDED
SUS- GROSS
PENOED ALPHA
BETA AS
U-NAT.

(PC/L) (PC/LI

SUS-
PENDED

GROSS

BETA
AS
CS-137
(PC/L)

TOTAL
MDN-
FILT-
RABLE
RESIDUE

(MG/L I

HUDSON RIVER BASIN

01333360 HOOSIC RIVER AT NORTH PETERSBURG, N. Y.

LOCATION. Lat 42°49'35", long 73°19'21", Rensselaer County, at bridge
Little Hooslc River and 0.5 mile northeast of North Petersburg.

PERIOD OF REOOHD. Chemical analyses: April 1969 to September 1970.

COOPERATION. Samples furnished by New York State Department of Environmental Conservatlo

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

County Highway 11, 1,200 ft upstr

APR.
23.
MAY

JUNE

JU Y
1 .
AU .
1 .
SE T
0 .
OC .
0 .
NO .
0 .
DEC.
09.
JAN.
21.
FEB.
18.
MAR.
IB.
APR.
15.
MAY
11.
JUNE

JULY
08.
AUG.

31.
SEPT
29.

HAN-
OI S- SILICA IRON GANESE

TIME CHARGE (SI02) (FE) (MN)

, 19i9
1140 2.6 20 30

1025 160 3.4 50 0

1010 352 4.4 100 0

1115 4.9 90 0

1100 4.5 90 0

1115 190 3.9 ISO 10

1025 360 3.9 0 0

, 197Q
1210 4.5 70 0

1055 -- 4.5 30 0

1045 210 4.0 90 90

. . 1015 490 3.1 30 0

0935 517 2.6 110 0

0945 4.0 30 0

1015 322 4.0 20 10

0950 4.4 70 0

DIS-

CHLD- FLtID- NITRO-

(504) (CD (F) IN) |N

APR., 1969
23... 13 4.9 .1 .13

2 ... 14 8.6 .0 .05
Jl E
1 ... 15 7.3 .0 .05
JU Y

AU .
1 ... 14 12 .1 .09
SE T.
0 ... 23 19 .1 .36
OC .
0 ... 20 16 .1 .24
NO .
0 ... 26 15 .0 .38
D .
9... 19 *1 .1 .19
J N. , 1970
1... 22 18 .1 .33
F 8.
8... 20 26 .1 .48
M R.
8... 23 22 .1 .66
A R.
5... 12 4.9 .0 .26
M Y
1... 15 9.5 .0 .36
JUNE
08... 16 11 .1 .26 JULY
08... 16 9.0 .0 .22
AUG.
03... 26 18 .1 .48
31... 24 19 .2 .51
SEPT.
29... 20 16 .0 .21

01 S-
OIS- SOLVED

CAL- NE- TAS- BICAR- CAR- LINITY
CIUM SIUM SODIUM SIUM BONATE BONATE AS

(CA) (MG) (NA) (K) (HC03) (C03) CAC03

17 2.6 3.5 1.1 51 0 42

34 7.2 17 l.B 121 0 99

25 5.6 10 1.2 90 0 74

37 8.2 19 2.1 136 0 112

33 7.2 19 1.8 128 0 105

31 7.5 23 2.1 136 0 112

2B 6.4 27 1.2 97 0 BO

32 7.8 17 1.5 125 0 103

30 5.9 18 1.0 103 0 84

32 7.4 16 1.2 11B 0 97

12 2.9 3.7 .5 38 0 31

23 5.0 6.1 .8 Bl 0 66

26 5.5 6.1 1.2 84 0 69

36 B.4 IB 2.0 133 0 109

26 5.4 12 1.2 86 0 71

ois- nrs-
SIUVED SOLVED

PHOS- IRESI- (SUM OF nw

">2> ("031 (NH4) (Pf]4) ISO C) TUENTS) TIOW

. 02 1.5 .11 .25 ml 72 R

. 05 1.9 .26 .?« 100 92 10

10 1.6 .06 .17 93 9] 19

35 2.7 .16 1.1 123 120 R

' 9 4.J .24 |.? 201 1R6 15

. 19 2.0 .38 .80 169 167 8

01 5.1 .06 .85 176 181 11

95 4.8 .39 .70 168 181 10

08 2.9 .96 .80 169 168 9

06 4.0 .16 .59 171 161 10

09 2.5 .65 .63 169 168 11

. 04 2.4 .11 .24 73 61 12

10 1.5 .27 .42 101 104 10

02 3.4 .13 .59 130 129 6

. 48 3.7 .80 .60 112 114 8

89 4.1 ,10 1.0 169 180 15
. 02 6.2 .14 1.6 194 185 19

. 08 5.6 .16 .87 150 134 24

HUDSON RIVER BASIN

01333360 HOOSIC RIVER AT NORTH PETERSBURG, N.Y. Continu

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

ATF

R. ,

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V

T ,

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C.

N.,
1..
B.
8..
R.
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G.
3..
1..
PT.
9..

TIME

1969
1 140

1025

1000

1025

1010

1 U5

1100

1115

1970
1210

1055

1045

1015

0935

0945

0955
1015

0950

HARD-
NESS

(CA.MGI
(MG/L)

53

65

67

114

B6

126

112

108

112

99

110

42

78

86

116
124

87

NON-
CAR-
BONATE
HflRD-
NFSS

(MG/L I

U

U

13

16

I?

14

7

0

10

14

14

11

12

18

8
16

16

SPECI-
FIC
COND-
UCTANCE

(wicun-
MHDSI

176

16q

1A4

319

220

343

299

314

310

299

300

104

197

204

327
336

244

PH

(UNITS!

7.7

7.7

7. ft

7.5

7.4

7.2

7.1

7.3

7.4

7.8

7.6

7.7

7.7

7.5

7.5

7.6
7.3

7.5

COLOR

I PLAT-
INUM-
COBALT
UNITS I

43

16

10

34

9

q

6

4

34

2

4

11

1

6

17

B
9

8

CH :M-
IC L
OXV EM
DFM ND

(M /L)

9.0

5.0

3 .0

7.0

4.0

5.0

4.0

4.0

3.0

8.0

2.0

6.0

4.0

4.0

2.0

9.0

11
4.0

6.0

MFTHV-
LFNF
BLUF
ACTIVE
SUB-
STANCE
(wr,/L)

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. 05

. 07

. 05

. 06

. 07

. 04

. 03

. 07

. 02

. 04

. 01

. 02

. 04

. 02

. 05
. 06

. 05

HUDSON RIVER BASIN

01335500 HUDSON RIVER AT MECHANICVILLE, N.Y.

LOCATION. La t

DRAINAGE AREA. 4 ,500 sq mi.

PERIOD OF RECORD. Water ten

EXTREMES. 1969-70:

October 1954 to September 1970.

Wate

Period of re 3rd:

COOPERATION. Water tempe > rd furnished by Westv

6.5
6.5
5.5
6.5
1.5

11.5
2.0
0.5
1.5
3.0

12.0

12.0
13.5
13.5
14.5
14.5
15.5

12.0

HID SON RIVER BASIN

01335770 HUDSON RIVER AT WATEHFORD, N.Y.

PERIOD OF RECORD. Chemici

COOPERATION. Samples fun

3n U.S. Highway 4 in Waterford.

il analyses: April 1969 to September

lished by New York State Department o

DATE

APR. ,
07...
23...
MAY
06...

JUNE
04...
17...
JULY

29...
AUG.
12...

SEPT.
oe...
23...
OCT.
06...
21...
NOV.

03.,. la...
DEC.
01...
09...
JAN. .
OS...
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FEB.
02...

MAR.

02... la...
30...
APR.
15...
29...
MAY
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DIS-
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(CFS)

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HUDSON RIVER BASIN

01335770 HUDSON RIVER AT WATERFORD, N.Y. Continued

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

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HUDSON RIVER BASIN

01335770 HUDSON RIVER AT WATERPOHD, N.Y. Continued

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

DATE

APR. .
07...
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MAY
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JUNE
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JULY
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MAR.
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TIME

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COLOR (PLAT-

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COBALT
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io° HUDSON RIVER BASIN

01336000 MOHAWK RIVER BELOW DELTA DAM, NEAR ROME, N. Y.

LOCATION. Lat 43°15'52", long 75°26'12", Oneida County, temperature recorder at gaging station on right bank at Rome Fish Hatchery, 1.0 mile downstream from Delta Dam and 4.0 miles north of Rome.

DRAINAGE AREA. 150 sq mi.

PERIOD OF RECORD. Water temperatures: October 1960 to September 1962, October 1963 to December 1965 September 1966 to September 1970.

EXTREMES. 1969-70:

Period of record:

Water temperatures: Maximum, 24.0°C on several days in September 1961 and July 1962; minimum, freezing point on many days during January and February 1967.

REMARKS. Prior to May 1964 water temperature measurements were made at Delta Dam, 1 mile upstream from present site. Thermograph installed September 1966. Recorder stopped: Dec. 25 to Jan. 28, Feb. 4-21, Feb 27 to Mar 10, May 25 to June 24; ranges in temperature, 1.5°C to 2.0°C, 1.0°C to 3.5°C; 3 5°C to 4 0°C- 9 0°C to 14.0 C, respectively. '

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MIN

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6.5

HUDSON RIVER BASIN

01340000 MOHAWK RIVER AT UTICA, N.Y.

LOCATION. Lat 43°06'05", long 75 12'10", Oneida County, at intake of Beaunit Fibers Division of tion on State Highway 5S (Broad St.) in Utica, 1 mile downstream from Genesee Street Bridge.

DRAINAGE AREA. 514 sq mi.

PERIOD OF RECORD. Water temperatures: October 1960 to September 1970.

EXTREMES. 1969-70:

Water temperatures: Maximum, 25.5°C Aug. 16; minimum, 1.0°C on many dayfc during January and

Period of record:

COOPERATION. Water temperature record furnished by

TEMPERATURE <°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (ONCE-DAILY MEASUREMENT BETWEEN 0900 AND 1500)

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. 5 1.5 6.0

. 0 2.0 8.5
. 5 2.0 10.0

. 5 3.0 9.5

. 5 3.0 9.0
. 0 4.0 8.5
. 0 4.0 8.0

. 0 4.5 8.0

. 0 2.0 8.0

. 0 2.0 9.0

. 5 2.0 0.0
. 5 2.0 0.5
. 5 2.0 3.5

2.0 5.0
2.0

ft.O
5.0
4.5
3.5
3.5

4.0
3.5
4.0

7.0
s.n

7.0
6.5

5.5

3.5
3.5
4.0

6.5

ft. 5

6.5

5.5
ft. 5
5.5

6.0
6.5

9.0 IB. 5 ?4.0
0.0 19.0 23.5
1.0 19. 0 23.5
8.5 IB. 5 22.0
B.O 1R.5 ?1.5

8.5 19.0 21.5
8.5 20.5 22.0
9.5 ?1.5 22.0

1.0 ??.0 23.5
2.0 ?1.5 24.0

1.0 ?1.0 24.5
O.n 21.0 25.0

O.n 21.0 25.5

O.n 21.5 ?4.0
9.5 21.5 23.5
8.5 ?1.5 23.0

7.0 21.0 23.0

8.0 ?0.0 21.0

9.5 21.5 20.0

0.0 22.0 ?0.5
0.5 23.0 ?1.0
9.5 23.5 21.5

24.5 20.5

0.0
0. n
9.5
O.n
9.0

9.5
9.5
9 . n

9.5

9 . n

fti's
7.0

6."i

7.0
7 . n
7.0

7.0

9.5

0.5

9. 0
H.5
fl . 0

1/u HUDSON RIVER BASIN

01349520 CAYADUTTA CREEK AT FONDA, N.Y.

LOCATION. Lat 42°57'10", long 74°22'49", Montgomery County, at railroad bridge 0.1 mile dow on State Highway 5 in Fonda and 0.2 mile upstream from mouth.

PERIOD OF RECORD. Chemical analyses: April 1969 to September 1970.

COOPERATION. Samples furnished by New York State Department of Environmental Conservation.

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

stream from bridge

ATF

.

. . .

e

Y

T.

,

'.

. . .

N.,
3...
8.
0...
R.
0...
R.
I...
Y
0...
NE
8...
LY
4...
G.
1...
PT.
8...

SILICA

TIME (SIC2)

1969
1320 1.6
1510 6.4

1145 6.1
1415 6.7

1220 6.B
1410 7.4

1105 7.2
1440 R.4

1225 9.4
1455 7.3

1120 8.2
1155 fl.2

1155 8.9

1400 8.1
1510 8.2
1970
1400 9.5

1100 .7

1210 8.5

1355 5.8

1430 6.6

1510 5.2

1420 7.3

1435 8.5

1445 9.0

IRON
<FEI

30
200

100
240

120
250

330
160

200
110

90
70

630

3D
110

230

60

190

240

120

210

150

210

60

TOTAL
MAN-
RANESE
1 MNI

10
7 n

0
30

0
50

0
10

30
20

30
20

4D

10
20

50

0

30

40

5D

12D

10

7D

0

DIS-
SOLVED
CAL-
CIUM

(CA)

56
67

65
72

7?
57

52
54

74
70

53
63

74

62
76

80

7.3

90

50

67

56

61

75

63

nis-
SOLVED

MAC,-
NE-

1 MR)

6.4
7.4

7.4

1?
5.9

1.8
B.7

7.5
6.6

9.9
B.9

9.3

7.8
7.5

11

1.2

8.4

5.7

6.5

5.4

8.0

8.0

9.7

SODIUM

(NA)

114
123

66
116

9S
146

101
120

162
45

106
127

253

94
182

86

155

92

125

198

81

155

260

57

PO-
TAS-
SIUM

2.9
3.?

2.5

3.?
2.7

7.?
4.9

3.6
3.1

6.6
5 '

4.5

2.4
4.2

2.9

2.4

2.4

2.2

4.6

4.2

4.9

6.4

4.0

BICAR-
BONATE

1HC03)

171
219

200
0

2?«
196

172
232

310
2?3

259
?? ft

230

190
222

184

202

211

148

262

182

238

278

238

ALKA-
CAR- L INI TV
BOMATE AS

1C03) CAC03

0 140
0 ISO

0 164
0 1RO

0 1R7
0 161

0 141
0 190

0 254
0 1B3

0 212
0 1B5

0 189

0 156
0 182

0 151

26 208

0 173

0 121

0 215

0 149

0 195

0 228

0 195

HUDSON RIVER BASIN

01349520 CAYADUTTA CREEK AT FONDA, N.Y. Continued

CHEMICAL ANALYSES, APRIL 1969 TQ SEPTEMBER 1970

APR.
15.
2R.
"AY
14.
27.

JUMP
09.
25.
JULY
OR,
21.

Aur, ,
06.

SEPT
02.
29.

OCT.
29.
OEC.
01.
17.
JAN.
13.
FEB.
10.
MAR.
10.
APR.
21.
MAY
20.
JUNE
16.
JULY
14.
AUG.
11.
SEPT
08.

(S04)

, 1969
79
92

57
117

36
6R

. . 45
39

7«
35

67
c <-

120

39
137
, 1970
112

45

122

92

123

73

97

84

44

DATE

15..
2R..
MAY
14..

27..
JUNE
09..
25..
JULY
OR..
21..

Aur, .
06..
1R .
SEPT.
02..
29..
OCT.
29..
DEC.
01..
17..
JAN.,
13..
FEB.
10..
MAR.
10..
APR.
21..
MAY

JUNE
18..
JULY
14..
AUG.
11..
SEPT.
06..

CHLH-

(CL)

147
157

134

164
194

130
160

66

12R
1RO

345

148
246

116

94

120

160

248

111

180

450

68

TIME

1969
13?0
1510

1145
1415

1410

1105
1440

1225
1455

1120
1155

H55

1400
1510
1970
1400

1100

1210

1355

1510

1420

1435

1445

DIS-
SOLVED ORGANIC
FLIIO- NITRO-

(F) (N) ('

. 4 .R5
. 7 3.7

. 3 .52

. 4 .57
. 4 .77

. 1 .39
. 4 3.H

. 1 ?.6
.? ?.

. 5 .90
. 7 1.6

. 2 .77

. 3 .87
. 5 2.6

. 5 1.0

. 2 .46

. 4 .55

. 4 2.5

1.5 11

. 5 6.7

1.2 .40

. 8 1.4

. 4 2.1

NON-
CAR-
HARD- BONATF

MESS HARD-

(CA.Mf,) M6SS

166 26
19R 1«

195 31
210 30

166 6

137 0
171 0

216 0
?02 19

173 0
194 R

223 3*

187 31
221 38

245 94

23 0

259 B6

149 28

162 12

185 0

220 0

197 2

. 43
. 0?

. 0?

. 01
. 03

. 3?
. 05

. 04
. 13

. 03
. 0?

. 04

. 25
. 04

. 37

. 37

. 50

. 04

. 03

. 13

. 25

. 09

. 05

SPFCI-

Fir
COMD-
UCTAMCF
1 MICRO-

MHHS)

RR«
99R

700
9RO

1050

R?9
1010

1220
600

966
1040

1645

853
1380

803

885

928

778

1130

1810

711

SOLVEP SHLVFn
TnT6L SOL Ins SOLIDS

PHOS- (RES!- ISII" OF

031 (NH4I 1 P04) 1RO Cl TUFNTS)

. ° 3.4 .64 50R 497
. 0 n .RS 5R4 579

. 1 4.4 .5fl 431 395
. 1 7.4 1.2 5P5 573

. 0 5.6 3.1 50R MO
. 0 5.7 ,R4 613 5R3

. 9 3.4 3.9 46? 435
. 1 13 IR 36? 5?6

. 1 9.R ?.0 679 711

. 1 19 ?4 535 526
. 1 12 R.R 573 574

. 1 9.0 5.8 936 938

2.4 3.9 3.5 465 462
. 0 13 2.6 813 788

. 4 7.4 5.6 530 517

1.2 2.7 5.2 494 435

. 4 3.8 6.8 557 553

. 0 9.4 1.8 507 526

. 1 20 .63 805 810

. 2 12 3.4 438 444

. 2 5.1 8.4 649 638

. 0 46 16 945 1090

. 1 8.4 9.1 369 392

LFNF
COLOR CHFM- BLIIF

PH INIIM- OXYT.EM StlR-
CORALT DFMAND STANCF

7.7 17 11 .11
7.3 55 44 .35

7.6 ?4 19 .10
7.R ?0 56 .5R

7.7 14 15 .32
7.6 60 47 .33

7.6 29 ?3 ,?9
7.2 72 41 .44

R.! 25 63 .90
7.7 31 73 .3?

7.5 49 58 .25
6.9 55 19 .44

7.3 31 56 .73

7.6 26 12 .16
8.2 70 56 .17

9.4 B 13 .16

7.6 11 2* .18

7.2 31 51 .34

7.5 32 31 .17

8.1 90 39 .22

7.5 36 224 .49

7.3 4 18 .17

LOSS

IfiNT-
TiriM

2?
R

51

27
??

? 1
43

?0

34
?R

41

21
41

25

6

18

77

33

35

41

7

HUDSON RIVER BASIN

01349527 MOHAWK RIVER AT FONDA, N.Y.

3CATION. Lat 42°57'01", long 74°22'21", Montgomery County, at dock of State Department of Transportation

from Cayadutta Creek.

3iIOD OF RECORD. Chemical analyses:

^OPERATION. Samples furnished by New

CHEMICAL

SILICA IRON

TIME (SI02) (FFI
DA T F
SEPT.i 19*9
29... 122 3.1 10

Septembe r 1969 to

York State Departm

ANALYSES

TOTAL

MAN-
GANESE
1 MN)

0

om bridge Ifeln. downst

September 1970.

ent of Env

, SEPTEMBER 1969 TO

nis- s
SPLVFn
CAL-
CIUM

(CA)

40

nis-

OL VFH MAG-
NE-
SIUM sr
(MR) I

5.?
OCT.
29... 1115 3.8 60 0 33 5.0
DEC.
01... 1325
17... 143!
JAN., 1970
13... 131!
FEB.
10... 114C
MAR.
10... 113C
APR.
21... 143C

4.7 70
5.5 20

5.8 30

5.6 30

5.4 10

4.2 30

10
0

0

0

30

0

38
45

44

47

44

27

5.8
6.6

6.7

7.2

7.1

3.5
MAY

JUNE
18... 140:
JULY
14... 134C
AUG.
11... 135
SEPT.
08... 135

. 8 30

3.0 25

2.1 10

1.6 20

0

40

20

10

35

32

33

31

4.9

4.1

4.7

4.6

ironmental

SEPTEMBER

PO
TA
DIUM SI
MA] (K

10 1

9.2 1
15 1

24 1

21 1

24 1

20 1

10 1

7.9 1

15 1

8-2 1

Con

1970

-

S-
IM
I

. ?

. 3

. 1
. 4

. 5

. 6

. 8

. 0

. 1

. 1

. 1

. 2

. 1

nis-
SPLVEO ORGANIC Tn-r.i

CHLO- FLuo- NITRO-

(SP4 (CD (F)

SEPT. , 1"6Q
79... 40
OCT.
29... 33
DEC.
01... 40
17... 45
JAN., 1970
13... 39
FEB.
10... 40
MAR.
10... 36
APR.
21... 29
MAY
20... 29
JUNE

JULY
14... 24
AUG.
11... 33
SEPT.
08... 34

S

D(

D

J

F

M

A

M

J

J

A

S

12 .1

17 .0

14 .2
20 .1

33 .2

30 .7

38 .2

28 .2

10 .1

14 .2

10 .1

18 .2

10 .2

NESS

TIME (CA.MG
DATE (MG/L
EPT.. 1959
29... i225 122
T.
9... 1115 103
C .
1... 1325 119
7... 1*35 139
N., 1970
3... 1315 138
B.
0... 11*0 1*7
R.
0... 1130 139
R.
1... 1*30 82
Y
0... 1355 112
JNE
8... 1*03 108
JLY
4... 13*0 97
JG.
1... 1355 102
EPT.
08... 1355 96

(M)

. 55

. 70

. 50

. 38

. 52

. 85

. 68

. 28

. 26

. 47

NON-
CAR-
BONATE
HARO-
NESS

I MG/L)

38

27

40
40

30

38

28

22

27

27

15

28

26

ITRITF M

(NO?)
(MG/L) I

,R5

1.2

. 39

. 21

. 24

. 23

. 21

. 81

1.5

. 80

SPECI-
FIC
CPNP-
IICTANCF

(MICRP-
MHOS)

2RS

276

29*
345

390

397

37*

260

262

279

236

281

235

TRATE AMK

MO 3) (IV
MG/L) ("

4. ft

2.3

3.8

2.9

4.7

3.2

3.1

2.7

1.2

3.0

PH

(UNITS)

7.0

7.2

7.6
7.4

7.3

7.3

7.*

7.2

7.6

7.7

8.2

7.7

7.3

PHPS-

H4I (PP
G/L) (MR

. 05

. 07

. 02 1

2.3 1

1.0

2.0 2

1.5

. 16

. 14

. 32

COLOR

INUM- n
COflALT r
UNITS)

10

12

21
24

1*

12

9

31

11

13

27

15

8

4)

/L)

. 74

. 64

. 3

. 6

. 71

. 3

. 54

. 55

. 72

. 87

XYC.E
FMAN

(Mf,/

10

10

9
10

10

8

10

13

4

7

*

8

12

servation.

RICAR- rAR-
BONATF BOMATF

(HC03 (rri3)

1P1 n

93 0

96 0
121 0

132 0

133 0

136 0

74 0

104 0

98 0

100 0

90 0

84 0
nis- nis-
SOLVED SOLVFP

(REM- ISUM OF

ISO C TIIEMTS)

1R1 16fl

157 157

201 203

221 225

216 225

228 230

153 154

131 135

156 155

129 137
ME HY-
L NE
R HE

N S B-
n ST NCF
L) IM /L I

. 04

. 05

. 0 .08
. 04

. 28

. 0 .05

. 09

. 06

. 0 .04

. 0 .05

. 0 .0*

. 0 .0*

. 04

AL K A-
L I M I TY
A S
CAC03

83

76

79
99

108

109

112

61

85

80

82

74

69

ON
IGNI-
TION

24

11

16
10

13

4

16

4

6

16

12

8

HUDSON RIVER BASIN

01353995 SCHOHARIE CREEK AT FORT HUNTER, N.Y.

LOCATION. Lat

upstream f uth.

DRAINAGE AREA. 926 sq ml.

PERIOD OF RECORD Chemical analyses: April 1969 to September 1970.

COOPERATION. Samples furnished by New York State Department of Environmental Con

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

DATE

APR., 1969
15... 1220
JUNE
13... 1135
SEPT.
2fl... 1115
APR., 1970
07... 1215
JUNE
30... 0900
SEPT.
21... 1155

DIS- SILICA IRON

CHARGE (SI02) IFE)

2040 2.9 80

. 4 10

3.8 130

66 .8 10

1.5 10

TOTAL

GANESE

(MN)

10

0

0

0

0

DIS-
SOLVED
CAL-
CIUM

(CA)

IB

39

22

44

38

DIS-
SOLVED
MAG-
NE-
SIUM

(MG)

2.0

4.6

2.2

4.3

5.6

SODIUM

INA)

3.0

8.3

3.5

7.0

8.7

PO-

SIUM

IK)

. 9

1.3

1.6

. 9

2.0

1.5

BONATE

46

106

52

114

107

ALKA-

BONATE AS

0 38

0 87

0 43

0 94

0 88

DATE

flPR. ,
15..
JUNE
13..
SEPT.
2R..
APR.,
07..
JUNE
30..
SEPT.
21..

SIILFflTE

(S04I

1969
15

16

?5
1970
19

30

32

CHLO-
RIDE

(CD

4.8

6.3

13

6.3

10

16

DIS-
SOLVED
FLUO-
RIDE

(F)

. 1

. 1

. 1

. 0

. 1

. 1

ORGANIC
NI TRO-
GEN

(N)

. 20

. 11

. 22

. 00

. 82

. 09

NITRITF

(N02)

. 02

. 06

. 02

. 05

. 08

. 03

NITROTE

I N03)

1.4

. 0

. 2

2.6

. 3

. 5

AMMONIA
I NH4I

. 03

. 21

. 01

. 19

. 20

. 13

TOTAL
PHOS-
PHORUS

(P04)

. 09

. 07

. 07

. 22

. 12

. 11

DIS-
SOLVED
SOLIDS

(RESI-
DUE AT

ISO C)

92

111

170

91

156

168

DIS-
SOLVED
SOLIDS

(SUM OF
CONSTI-

TUENTS)

71

1D9

144

86

156

157

LDSS
ON
IGNI-
TION

11

4

19

4

8

30

DOTE

APR. ,
L5...
JUNE
13...
SEPT.
28...
APR.,
07...
JUNE
30...
SEPT.
21...

122D

1135

1115
0
1215

0900

1155

HARD-
NESS

CA.MG)
(MG/L)

53

94

116

64

128

118

NON-
CAR-
BONATE
HARD-
NESS

(MG/L)

16

18

30

22

34

30

SPECI-
FIC
COND-
UCTANCE
1 MICRO-

MHOS)

126

2D5

265

148

287

290

PH

(UNITS)

7.7

a.i

7.7

7.4

7.7

7.7

COLOR

INUM-
CORALT
UNITS 1

17

14

9

27

CHEM-

OXYGEN
OFMOND

(MG/L)

1.0

3.0

6.0

4.0

METHY-
LENE
BLUE

SUB-
STANCE

(MG/LI

. 02

. 03

. 01

. 01

1 '* HUDSON RIVER BASIN

01354160 MOHAWK RIVER AT LOCK 10, AT CRANESVILLE, N.Y.

LOCATION. Lat 42°55'03", long 74°08'31", Montgomery County, at Erie (Barge) Canal Lock 10, 0.2 mile upstream

)D OF RECORD. Chemical analyses:

:RATION. Samples furnished hy New

nATF

APR. ,
?H!"

MAY
14...
?7...
JUNF
09...
25...
JULY
09...
21...

Aur,.
Oft...
IB...
SFPT.
02. ..
17.. .
29...
OCT.
15...
29...
NOV.
12...
DEC.
01...

JAN. ,
13...
27...
FEB.
10...
24...
MAR.
10...
24...
APR.
07...
21...
MAY
05...
20...
JUNE
04...
18...
30...
JULY
14...
30...
AUG.
11...
27...
SEPT.
08...
21...

TIME

1969
1120
1410

1045
1325

1055
1320

1020
1355

1125
1405

1030
1350
1035

1245
1035

1310

1250

1970
1200
1340

1205
1330

1045
1340

1125
1300

1050

1020
1335
0950

1255
1025

1310
1030

1310
1110

SILICA
I S1D2I

3.5
3.5

3.0
3.1

2.B
3.6

1.5
2.5

2.7
1.2

. 1
2.4
2.3

2.3
2.8

11

4.7

5.5
5.6

4.8
4.8

4.7
4.3

4.0
3.6

3.2

. 6
3.4

1.3
6.7

. 1
.3

. 1
3.2

IRON

(FEI

60
60

0
ISO

20
50

70
20

20
10

10
30
10

10
150

70

60

50
70

50
30

20
70

160
70

30

40
10

30
10

10
30

20
20

April 1969

York State

TOTAL
MAN-
GANESE

(MN)

10

0
10

10
0

0
0

0
0

0
0
0

0
0

0

0

0
0

0
0

30
0

0
0

0

0
0

30
10

20
10

10
0

Depart in

01 S-
SOLVFD
CAL-
CIUM

(CAI

25

31
23

34
33

34
37

31
34

35
3B
41

37
38

33

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(MG/L)

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57

75
54

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7B

7B
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BO

B2
79
B?

82
88

69

77
81

92
98

72
87

99
89

56
43

48

80
75

87
74

74
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66

HUDSON RIVER BASIN

01354160 UOHAWK RIVER AT LOCK 10, AT CRANESVILLE, N.Y. Continued

APR., 1060
16...
2S...

27...
JUNE
09.. .
25...
JULY
09...
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APR.
07...
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MAY
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JUNE
04...
18...
30...
JULY
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AUG.
11...
27...
SEPT.
08...
21...

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32

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32

DIS-
SOLVED ORRANIC
CHLii- FLlirt- NITRO-

(CLI I Fl (N)

ft. 3 .0 .18
5. ft .0 .02

9.2 .1 .09
5.0 .1 .05

13 .1 .05
14 .1 .15

9.5 .3 .14
1ft .2 .13

13 .0 .31
1ft .2 .19

IS . 7 .54
21 .3 .42
IS .2 .57

17 .1 .06
16 .0 .68

11 .1 .35

11 .1 .33
14 .0 .30

13 .1 .41
24 .2 .35

15 .2 .50
18 .1 .22

23 .1 .28
20 .2 .51

8.0 .1 .08
4.8 .0 .06

4.4 .1 .32
9.4 .2 .64

10 .2 .26
18 .1 .57
20 .1 .08

8.5 .4 .21
12 .1 .23

17 .1 .20

18 .2 .59
16 .1 .16

(Nfl2) (MD3)

.03 2.3

.49 ?.ft
. 10 1.5

. 52 2. ft
. 25 I.ft

.09 .0
. 25 1.4

. 54 2.0
.?Q 1.1

. 15 1.2
.fl5 3.0
1.1 4.4

. 59 3.6
.60 2.8

. 24 2.9

.04 2.2

.09 2.9
. 10 3.9

. 15 4.0

.05 3.5
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. 05 2.4

.03 2.4
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. 01 3.0
.49 2.4
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.96 3.4
.92 4.0

[NH4)

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1.3

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PHOS- (REST- (SUM OF

(PD4I ISO C) TUFMTSI

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. 14 134 l?ft
.nn 103 05

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.?5 153 13S

. 75 13ft 135
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.?7 131 13S
.60 153 153

. 5fl Ift2 154
. 73 102 Ifl?
.ft? 200 17R

. 60 175 166
. 55 175 177

. 31 148 147

.31 159 150

1.2 172 172
. 76 212 203

.30 131 146
.41 189 168

.43 195 196
1.1 184 175

.23 120 108
.24 75 80

. 18 91 85
.27 137 136

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. 63 159 155
.47 153 156

. 54 135 140
. 35 117 132

. 52 162 152

. 50 158 164
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IRNI-
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HUDSON RIVER BASIN

01354160 MOHAWK RIVER AT LOCK 10, AT CRANESVILLE, N.Y.-

flTF

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1970
1200

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1125
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1310
1110

HEMICAL A

HARD-
NESS

ICfl.MG)
(MG/LI

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78

99
72

107
101

103
112

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104

106
116
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100

110
112

124

118

137
126

82
55

64

98

90

107
106

107
100

NnN-
Cfld-
BONflTF
HARD-
NESS
(MG/LI

1R
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IS

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SPECI-
FIC
cnNn-
UCTflNCF

(MCRO-
MHDSI

163
1*9

230
161

260
244

230
287

235
276

283
313
313

308

252

258
274

299

285

317
288

190
130

144

251

230

287
297

289
265

PH

(UNITS]

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7. R

7. a
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fl.O
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7.5

COLOR

INtlM-

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MFTHY-
LENE
BLUF

SI.R-

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LOCATION. Lat 4J2°49'07", long
Avenue in Schenectady, 0.3
Creek.

HUDSON RIVER BASIN

01354490 MOHAWK RIVER AT SCHENECTADY, N.Y.

73°56'59", Schenectady County, at abutment of former mile downstream from Western Gateway Bridge and 1.0

alyses: April 1969 to September 1970.

bridge at end of Washingto
lile upstream from Collins

KRATION

DATE

APR.,
IS...

MAY
14...
27...
JUNE
09...
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JULY
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AUG.
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SEPT.
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0805
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CHEMICAL ANALYSESi APRIL

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3.6 80

3.1 10
3.4 30

2.5 20
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3.1 10
1.1 160

12 140

4.9 60
3.9 70
4.7 50

5.3 60
4.5 210
5.8 80

5.2 80
5.1 60

5.1 50
4.3 80

4.3 190
3.8 30

3.4 30
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1969 TO SEPTEMBER "1970

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5.5 6.5 .R
3.5 4.5 .8

4.7 B.I 1.1
5.0 B.O 1.?

4.5 7.4 I.I
4.8 8.8 1.3

3. a 9.6 1.1

5.1 5 1.3
5.0 2 1.?
5.3 8 1.4

5.3 1 1.3
5.7 5 1.5

4.3 6.6 2.1

4.9 8.7 1.2
2.7 6.1 .5
4.2 6.9 1.1

5.7 8.5 1.0
2.3 4.7 .4
6.2 10 1.1

4.8 9.0 1.2
5.8 11 1.0

6.2 14 1.3
6.3 13 1.7

4.3 8.2 1.3
3.0 5.4 .7

2.9 3.9 .7
5.1 6.9 1.2

5.0 8.9 1.0
5.7 13 1.4
4.4 10 1.4

4.6 6.1 1.3
4.2 9.7 1.1

4.5 10 1.1
5.0 13 1.1

5.1 14 1.2
4.7 13 1.1

PICflR-
RnN«TF
IHC03I

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92
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106

9R
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114

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49
82

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103
84

77
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77
71

HUDSON RIVER BASIN

01354490 MOHAWK RIVER AT SCHENECTADY, N. Y, Continued

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

SULFATE

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APR., 1969
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J N., 1970
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1... 17
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F B.
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4... 34
M R.
0... 35
4... 34
A R.
7... 25
1... 16
MAY
05... 19
20... 28
JUNE
0*... 27
18... 35
30... 29
JULY
14... 28

30... 28
AUG.
11... 28
27... 31

SEPT.
08... 36
21... 30

SOLVED
CHLO- FLUO-
RIDE RIDE

(CD (F)

7.1 .0
6.6 .0

R.n .1
5.7 .1

12 .2
10 .1

10 .3
12 .3

14 1.1

20 .2
15 .3

22 .2

14 .1

18 .0

19 .1

14 .1
6.9 .1
11 .1

12 .1
5.6 .1
15 .1

16 .3
18 .1

24 .1
25 .2

14 .1
8.6 .0

7.0 .1
10 .2

12 .3
17 .2
14 .1

11 .2
14 .1

16 .1
17 .2

18 .7
19 .1

ORGANIC
NITRO-
GEN

IN)

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AMMONIA

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TOTAL
PHOS-
PHORUS

(P04)

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DIS-
SOLVED

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117

13S
157

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170

171

205

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162
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180

148

188
192

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94
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152
187
158

141

148

DIS-
SOLVED
SOLIDS

(SUM nF
CONSTI-

TUENTS)

96
100

12K
99

175
150

134
151

133

166

194

178

129

158
62
178

149

192
188

129

91
143

140
172
144

151

141

LOSS
ON
IRNI-
TION

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B

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10

12

HUDSON RIVER BASIN

01354490 MOHAWK RIVER AT SCHENECTADY, N.Y. Contim

CHEMICAL ANALYSES* APRIL 1969 TO SEPTEMBER 1970

DATE

APR. ,
15...
2fl...
MAY
1 4 ...
27...
JUNE
09...
25...
JULY

21. ..

AUr,.
06...
SEPT.
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JAN.,
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FEB.
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MAR.
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APR.
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MAY
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JUNE
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JULY

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AUG.
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SEPT.
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1200

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HARO-

(CA.Mf,)

75
80

100
80

97
113

114

RR

116
116
124

117
124

102

110
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118
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128

104
119

133
131

90
65

64
111

106
118
103

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98
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106

NDN- SPECI-
CAR- FIC
BflNATE CnNP-

NFSS (MICRP-
IMG/L) "HUSI (UNITS)

20 173 7.3
22 1R1 7.6

24 230 7.7
19 17R 7.P

26 22R 7.4
26 261 7.P

26 276 7.5

12 232 7.7

29 301 7.R
34 292 7.1
39 329 7.2

34 288 8.0

30 246 7.6

34 265 7.7
13 127 7.0
29 245 7.5

35 288 7.5
10 104 6.7
32 320 7.5

30 250 7.5
34 289 7.5

34 311 7.6
38 310 7.7

27 228 7.4
19 160 7.4

16 150 7.6
29 257 7.7

20 312 7.7
26 267 7.7

81 270 7.4

22 259 7.8
25 279 7.2

29 286 7.4

rni_nR
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CORALT

UNIT'S)

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CHFM-
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9.0

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HUDSON RIVER BASIN

01357000 MOHAWK RIVER AT CRESCENT DAM, N. Y.

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HUDSON RIVER BASIN

01357000 MOHAWK RIVER AT CRESCENT DAM, N.Y. Continued

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

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HUDSON RIVER BASIN

01358000 HUDSON RIVER AT GREEN ISLAND, N.Y. (International Hydological Decade River Station)

LOCATION. Lat 42°43'46", long 73°41'48", Albany-Rensselaer County line, at bridge on State Highway 7, 1.7 miles

of the Mohawk River.

DRAINAGE AREA. 8,090 sq mi, appi

PERIOD OF RECORD. Chemical analyses: October 1963 to September 1970.
Water temperatures: October 1954 to September 1970.

EXTREMES. 1969-70:

Water temperatures: Maximum, 26. 5°C Aug. 11-17, 19; minimum, freezing point during December to April.

Period of record :
Water temperatures: Maximum, 28, 5°C July 27-30, 1963; minimum, freezing point on many days during winte per iods.

REMARKS.

TIME

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9430

13300

21400

30000

6520

5400

2740

11800

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(SI02I

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4.9

4.6

5.3

4.6

4.8

3.1

3.2

1.9

1.2

IRON

(FE)

100

160

60

80

80

60

220

170

160

40

TOTAL
MAN-
GANESE

(MN)

10

0

10

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50

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o April 2

DIS-
SOLVED
CAL-
CIUM

(CA)

25

32

23

29

32

12

29

19

24

26

18.

DIS-
SOLVED
MAG-
NE-
SIUM

(MG)

4.1

4.6

3.6

4.B

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4.1

3.1

3.4

3.8

SODIUM

(NA)

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B.I

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PO-
TAS- BICAR-
SIUM BONATE

(K 1 (HC 03)

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1.2 80

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NESS HARD- UCTANC6
TIME (CA.MG) NESS (MICRO-

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LENE
CHEM- SLUE

(MG/L) (MG/L) MHOS) (UNITS) UNITS)

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251

200

24B

278

102

167

162

205

228

7.1 25

7.6 30

7.4 23

7.5 19

7.6 24

7.2 21

7.4 21

7.6 B5

7.1 35

7.3 23

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HUDSON RIVER BASIN

01358000 HUDSON RIVER AT GREEN ISLAND, N.Y. Contin

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(S04) (CL) IF) (N)

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21 9.5 .1 .60

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25 10 .1 .66

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27 14 .1 .21

(N02)

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(N03) (NH4)

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3.4 .06

3.3 .53

2.8 .45

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1.7 .25

l.B 1.6

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3.8 .40

TOTAL
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(P04)
(MG/L)

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BUE AT CONSTI-

180 C) TUENTS) IMG/D IMG/D

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121 112

134 138

172 148

76 63

103 96

104 102

130 117

140 126

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APR.
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MAY
22... .0 .0
JUNE
23... .0 .0
JULY
15... .0 .0
AUG.
24... .0 .0
SEP.
24... .0 .0

DIS-
SOLVED
GROSS

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1.2

<1.3

<1.6

<.9

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DIS-
SOLVED TOTAL
GROSS FILT-

/Y90

4.1 160

3.0 140

3.1 130

3.0 150

3.0 230

3.1 76

3.6 120

4.8 150

3.6 110

3.9 130

3.7 140

SUS-
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HUDSON RIVER BASIN

01358000 HUDSON RIVER AT GREEN ISLAND, N.Y. Continued

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (ONCE-DAILY MEASUREMENT AT 0800)

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HUDSON RIVER BASIN

01359560 HUDSON RIVER AT GLENMONT, N. Y.

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HUDSON RIVER BASIN

01359560 HUDSON RIVER AT GLENHONT, N.Y. Continued

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HUDSON RIVER BASIN

01359560 HUDSON RIVER AT GLENMONT, N.Y. Continued

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

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72

61
75
75

110
70

66

72
68

NON-
CAR-
BONATE

NFSS

(Mf, /L)

20
22

20
19

?2
18

22
16

13
19

18
22
22

26
20

22

22
23

23
22

28
26

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28
23

12
20

14
22
28

42
22

28

37
26

SPECI-
FIC

COND-
UCTANCE PH
(MICRO-
MHOS) [UNITS)

141 7.2
154 7.4

1R3 7.6
130 7.1

154 7.0
24' 7.2

199 7.3
209 6.9

206 7.5
191 7.2

181 7.0
214 6.4
211 6.3

221 7.6
217 7.1

174 7.0

196 7.5
174 7.1

218 7.1
228 6.9

210 7.0
242 7.4

196 7.3
148 7.3

128 7.2
195 7.2

182 7.0
214 7.2
215 7.4

224 7.6
199 6.9

191 7.2

216 6.7
206 6.8

COLOR

INIIM-
CORALT

UNITS)

20
30

28
?6

31
31

45
43

32
?7

44
35
39

32
38

48

34
35

31
36

28
16

19

29
13

19
26

39
33
31

45
36

34

55
24

CHFM-

DFMAND
(Mf,/L)

6.0
14

R.O
11

14
11

20
22

21
14

20
17
?B

20
21

18

15
14

15
17

10
14

20
17

2.0
8.0

7.0
14

14
20
24

12
22

17

34
17

MFTHY-
LFNE
BLUF

SUB-
STANCE

(Mfi/L !

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. 06
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. OR
. OR

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. 06

190 HUDSON RIVER BASIN

01359803 HUDSON RIVER AT COEYHANS, N. Y.

LOCATION. Lat 42°28'57", long 73°47'20", Albany County, at dock at Powell and llinnock Brick Works, 0.4 mile upst ream

PERIOD OF RE

from Coeym

CORD. --Chem

COO PERA TI ON. Sampl e s f

OATF

APR. T
28...
MAY
27...
JUNE
25...
JULY
21...
AUfi.
18...
SFPT.
17...
OCT.
15...
NOV.
12...
DEC.
17...
JAN.,

FEB.
24...
M R.
4...
A R.

M Y
0..
JUNE
18..
JULY
14..
AUG.
11..
SEPT.
08..

»PR.,
28..
MAY
27..
JUNE
25..
JULY
21..
AUG.
Ifl. .
SEPT.
17..
OCT.
15..
NOV.
12..
DEC.
17..
JAN.,
27..
FEB.
24..
MAR.
24..
APR.
21..
MAY
20..
JUNE
18..
JULY
14..
AUG.
11..
SEPT.
08..

TIME

1969
0930

0923

0850

0855

0945

0950

0910

0910

1970

0915

OB45

0845

0900

0910

0835

0900

0855

SULFATF

I S04I IHG/LI
1969
15

14

23

24

24

25

26

27

30
1970
31

27

33

17

22

24

25

27

33

ans Cree

urn ish ed

SILICA

(SI02)

4.3

4.2

3.4

3.0

2.9

3.3

2.5

8.6

5.4

5.1

3.6

3.1

2.8

2.3

2.1

CHLO-
RIDF

(CL I

6. ft

5.5

13

16

18

18

11

14

22

15

23

5.5

11

16

13

18

17

lyses: April 1969 to September 1970.

by New Yo

CHEMICAL

IRON

(FE)
(UG/L)

70

50

160

200

130

210

200

160

110

140

80

270

140

110

140

DIS-
SOLVED
FLUO-
RIDE

(F)

. 0

. 2

. 1

. 3

. 1

. 2

. 1

. 1

. 1

. 2

. 1

. 1

. 0

. 2

. 1

. 1

. 1

. 2

rk State

ANALYSES

MAN-
GANESE

(MNI

0

20

0

0

0

0

30

0

10

60

0

0

10

50

0

ORGANIC
NITRO-
GEN

. 10

. 12

. 12

. 27

. 51

. 12

. 28

. 17

. 16

. 31

. 41

1.1

. 50

. 65

. 33

1.2

. 00

Department of Environmental Conservation.

, APRIL 1969 TO SEPTEMBER 1970

DIS-

CAL-
CIUM

(CA)

17

14

24

24

23

22

21

20

25

30

24

23

24

21

20

NITRITE

(NO?)

. 0?

. 05

. 50

. 14

. 24

. 15

. 06

. 05

. 05

. 08

. 06

. 14

. 29

. 60

1.5

1.7

DIS-
SOLVED

NE-
SIUM SOOIUM

(MG) (NA)

2.3 4.3

3.8 11

3.9 12

3.4 11

3.5 14

3.5 14

3.2 6.2

4.3 9.4

5.4 14

3.6 7.7

3.7 11

3.6 8.8

3.8 13

4.1 13

NITRATE AMMONIA

(N03) (NH4)

1.4 .02

1.4 .19

1.9 .29

. 3 .P3

1.2 .36

1.4 .6R

1.7 .62

2.6 .06

2.5 .47

3.2 .81

2.8 .37

2.1 .24

1.9 .49

1.3 1.3

3.8 .31

1.2 .22

10 1.0

pn-
TAS- BICAR-
SIUM BONATF

(K) (HC03)

. 7 42

. 5 35

1.0 75

1.1 70

1.0 61

1.0 54

1.1 58

1.5 48

1.2 72

. 8 65

1.3 79

. 9 66

1.1 68

1.1 76

1.1 60

1.1 54

DIS-
SOLVED

PHOS- (RESI-
PHORUS DUE AT

(P04) 180 C 1

. 14 83

. 00 «4

. 21 132

. 44 134

.4ft 133

. 54 l?4

. 50 139

. 36 131

. 50 139

. 32 147

. 49 166

. 31 115

. 51 130

. 39 128

. 50 119

. 38 117

SONATE

(C03)

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

0

DIS-
SOLVED
SOL IOS

(SUM OF
CONSTI-

TUENTS)

73

64

119

122

113

lift

117

128

137

123

154

108

lie

120

121

130

ALKA-
LINITY
AS
CAC03

29

62

57

50

44

48

39

59

53

53

65

31

54

56

62

49

44

ON
I RN I -
TION

10

15

11

11

16

16

27

9

16

40

11

20

26

15

12

4

HUDSON RIVER BASIN

01359803 HUDSON RIVER AT COEYHANS, N.Y. Continued CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

DATF

APR. t
2ft...
MflY
27...
JUNE
?5. . .
JULY
21...

AUG.

1R...
SEPT.
17...
OCT.
15...
NOV.
12...
DEC.
17...
JAN. ,

FEB.
24...
MAR.
24...
APR.
21...
MAY
20...
JUNE
18...
JULY
14...
AUG.
11...
SEPT.
08...

TIME

1969
0930

0923

0850

OB55

0945

0950

0910

0910

0850
1970

0915

0845

0845

0900

0910

0835

0900

0855

HARD-

54

44

76

76

72

70

67

63

84

80

97

48

75

72

75

68

67

NUN-
CAR-
BDNATF

NFSS

20

16

14

18

22

2ft

20

24

25

27

32

17

21

17

13

19

23

SPECI-
FIC
CONn-

(MICRP-
MHC1S) (UNITS)

1?7 7. ?

113 7.4

206 R.O

223 6.S

109 7.1

211 6.=)

212 7.9

163 7.1

238 7.3

217 7.3

252 7.4

114 7.2

193 7.2

209 7.2

204 7.6

212 7.1

219 7.0

COL no

INIIM-

UNITS)

1"

21

37

< !

3B

52

37

40

34

8

26

16

16

34

50

27

27

CHFM-

nXYREN

trfG/L)

B.O

12

14

?0

1ft

17

21

17

7.0

7.0

15

16

7.0

13

17

14

20

22

METHY-
LFNE
BLUR

MiB-
ST«MCF

. 14

. OR

. OS

. OR

. OB

. OR

. 09

. 04

. 04

. 07

. 05

. 10

. 04

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. 06

. 06

. 06

!92 HUDSON RIVER BASIN

01361450 HUDSON RIVER AT CATSKILL, N.Y.

o , 73°51'12" Greene County, at right bank at Greene County Highway Department dock,

PERIOD OF RECORD.-Chemical analyses: April 1969 to September 1970. COOPERATION.-Sampled furnished by New York State Department of Environmental Conservation. CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

DATF

APR.,

MAY
27...
JUNE
25...
JULY
21...
AUG.
18...
SEPT.
17...
OCT.

NOV.
12...
DEC.
17...
JAN.,
27...
FEB.
2*...
MAR.
24...
APR.
21...
MAY
20...
JUNE
18...
JULY
14...
AUG.
11...
SEPT.
08...

APR. ,

MAY
27...
JUNE
25...
JULY
21...
AUG.
1!!...
SEPT.
17...
OCT.
15...
NOV.
12...
DEC.
17...
JAN.,
27...
FEB.
24...
MAR.
24...
APR.
21...
MAY
20...
JUNE
18...
JULY
14...
AUG.
11...
SEPT.
08...

TIME

1969
1030

1025

0950

0945

1045

1050

1010

0950
1970
1000

1015

0930

0945

1000

1010

0935

1000

0950

SULFATE
I S04I

1969
17

12

22

22

26

27

28

29

30
1970
30

26

31

17

21

24

26

28

31

SILICA

1 SI02)

4.3

3.8

3.4

. 5

?.3

3.1

11

4.6

5.0

5.2

5.2

4.8

4.1

3.0

1.3

1.1

2.3

CHLO-

tCL)

6.D

5.2

12

14

14

1R

20

11

11

14

15

21

5.2

10

14

13

16

17

DIS-

MAN- CAL-
IRON GANESE CIIIM

I FE 1 (MNI (CA!

90 0 17

130 0 14

150 0 2?

90 0 24

110 10 25

200 0 22

110 0 24

80 0 24

190 70 24

100 20 24

180 40 26

80 0 15

110 20 19

280 0 24

120 10 24

140 30 23

130 0 21

DIS-
SOLVED ORGANIC
FLHO- NITRO-
RIDE GFN NITRITE

(F) IN) (M02)

. 0 .13 .02

. 1 .OB .07

. 1 .39 .43

. 7 .04 .01

. 1 .30 .04

. 1 .22 .01

. 1 .18 .03

. 2 .33 .24

. 1 .20 .07

. 2 .14 .04

. 1 .38 .10

. 1 .52 .13

. 1 .54 .72

. 2 .47 .03

. 1 .05 .02

. 2 .23 .08

nis-
SPLVFD

NE-
SIUM SODIUM
(MG 1 (NAI

2.2 4.0

3.7 9.2

3.8 11

3.8 11

3.4 13

3.8 7.0

3.8 7.3

4.2 10

4.2 9.2

4.8 13

2.6 3.8

3.1 7.9

3.8 10

3.6 9.2

3.7 11

3.8 14

NITRATE AMMONIA

(N03) (NH4I

1.8 .02

1.2 .10

1.0 .28

2.7 .17

2.2 .23

3.0 .00

3.5 .16

3.1 .18

2.6 .05

3.2 .69

2.3 .27

1.7 .51

2.8 .42

4.7 .18

4.9 .19

3.8 .29

PO-
TAS-
SIUM
(K)

. 5

1 .0

1.0

1.1

1.1

1.7

1.3

. 9

. 9

1.1

. 6

. 8

1.1

1.2

1.0

1.1

TOTAL
PHOS-

(PO4)

. 09

. 27

. 30

. 37

. 50

. 44

. 43

. 32

. 27

. 34

. 31

. 46

. 44

. 48

. 51

BICAR-
BONATE

(HCri3>

42

34

68

64

70

54

59

62

66

64

70

38

52

70

74

58

58

ms-
SOLVFO
SOLIDS

(RESI-
DUE AT

ISO C)

78

113

13?

142

134

144

119

113

141

68

102

130

124

121

119

CAR-
RONATF
(C03>

0

0

0

0

0

0

0

0

0

0

0

0

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0

0

0

0

0

DIS-
SOLVED

SOL ins
[SIIK OF
crwsTl-
TIIFNTSI

ftO

111

120

117

129

120

115

120

71

95

118

121

117

123

ALK A-
L IMITY
AS
CACD3

(M G /L)

34

28

5h

52

57

44

52

48

51

54

52

57

31

43

57

61

48

48

LOSS
ON
IGNI-
TION

(MG/L)

17

20

q

21

21

26

23

6

25

11

2

23

24

17

12

4

HUDSON RIVER BASIN

01361450 HUDSON RIVER AT CATSKILL, N.Y. Continued

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

DATF

APR.,
28...
HAY
27...
JUNE
25...
JULY
21...
AUG.
IS...
SEPT.
17...
OCT.
15...
NOV.

DEC.
17...
JAN.,

FEB.
24...
MAR.

APR.
21...
MAY
20...
JUNE
18...
JULY
14...
AUG.
11...
SEPT.
08...

TIME

1969
1030

1025

0950

1045

1050

1000

0950
1970

1015

0945

1000

1010

0935

1000

0950

HARD-

1 CA.MG)
'MG/LI

53

44

70

7B

67

72

76

77

48

60

76

75

72

68

NON-
CAR-
BONATF

NESS
IMG/L I

18

16

14

20

23

20

24

24

17

18

18

15

25

20

SPECI-
FIC
CPNO-

MHOS)

126

113

105

?13

211

223

210

219

118

166

213

210

209

214

(UNITS)

7.3

7.5

7.4

7.1

7.3

7

7.5

7.3

7.3

7.3

7.1

7.4

7.8

7.3

7.0

COLOR
I PLAT-
INUM- ,
COBALT

UNITS')

?1

25

27

2 -*

47

36

34

10

24

27

36

40

48

27

CHEM-
ICAL
OXYGEN
nFMANn
(Mj-,/L |

1 1

1 2

13

16

14

14

18

12

13

14

14

11

14

13

8.0

16

20

METHY-
LFNF
BLUE
CCTIVP
SIIB-
STCMCF

(Mf,/L I

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.Oft

. OS

. 07

.Oft

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. 02

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. 04

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. 03

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. 05

. 07

HUDSON RIVER BASIN

01362198 ESOPCS CREEK AT SHANDAKEN, N.Y.
(Hydrologlc bench-mark station)

LOCATION. Lat 42"06'59", long 74°23'20", Ulster County, temperature recorder at gaging station at Shandaken, 0.5 mile downstream from Bushnellsville Creek and 1.3 miles upstream from Shandaken Tunnel Outlet. DRAINAGE AREA. 59.9 sq ml.

PERIOD OF RECORD. Chemical analyses: August 1983 to September 1970.
Water temperatures; July 1963 to July 1968, January to September 1970.
Sediment record": October 1969 to September 1970 (partial records).

EXTREMES. January to September 1970:
Water temperatures: Maximum, 27.0°C July 27; minimum, freezing point Jan. 6-8.

Period of record:

Water temperatures: Maximum, 28. 5*C Aug. 16, 1965; minimum, freezing point on many days during winter periods. REMARKS. Temperature recorder reinstalled Jan. 6, 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE

NOV.
06...
DEC.
'04...
JAN.
29...
FEB.
26...
MAR.
25...
APR.
30...
MAY
2B...
JUNE
29...
JULY
28...
AUG.
26...

NOV.
06...
DEC.
04...
JAN.
29...
FEB.
26...
MAR.
25...
APR.
30...
MAY
28...
JUNE

JULY
28...
AUG.
26

TIME

113C

1030

1100

1040

1030

1100

1045

1400

1300

1205

CHLO-
RIDE

(CD

4.9

1.9

4.6

3.8

6.7

1.6

2.1

2.5

DIS-
CHARGE

(CFS)

66

85

70

60

58

395

85

IB

18

DIS-
SOLVED
FLUO-
RIDE

(F)

. 0

. 0

. 1

. 0

. D

. D

. 0

. 0

SILICA

ISID2)

3.2

2.7

2.4

2.7

2.2

2.2

2.6

3.7

2.2

ORGANIC
NITRO-
GEN

(N)

. 20

. 24

. 05

. 00

. 12

. 23

. 00

DIS-
SOLVED
CAL-
CIUM

ICA)

7.3

5.6

5.0

5.5

6.3

3.6

4.8

6.9

6.8

NITRITE

(N02)

. 03

. 01

. 03

. 02

. 02

. 01

. 03

. 02

DIS-
SOLVED
MAG-
NE-
SIUM

(MG!

1.4

1.1

1.1

1.2

1.3

1.2

1.1

1.2

1.3

NITRATE

(N03I

. 8

. 7

1.4

. 5

. 3

. 8

. 4

. 2

SODIUM

3.0

1.5

2.2

1.9

3.0

1.4

1.5

1.9

2.3

AMMONIA

(NH4)

. 09

. 21

. 32

. 26

. 09

. 05

. 29

. 06

PO-
TAS-
SIUM

IK)

. 6

. 1

. 1

. 1

. 2

. 5

. 2

. 6

. 3

PHOS-
PHORUS

(P04)

. 08

. 02

. 03

. 02

. 02

. 03

. 03

. 04

BICAR-

(HC03I

18

10

11

11

12

3

12

15

18

DIS-
SOLVED

(RESI-
DUE AT
180 C!

40

31

26

35

38

25

28

34

i»LKA-
CAR- LINITY

(C03I CAC03 (SOM

0

0

0

0

0

0

0

0

0

DIS-
SOLVED

(SUM OF
CONSTI-

TUENTS)

44

29

32

31

35

21

24

36

15

8

9

9

10

2

10

12

15

ON
IGNI-
TION

1

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS,

BATE

D&.
DEC.
04.
JAN.
29
FEB.
26.
MAR.
25.

DIS-

TIME CHARGE!

(CFS)

1130

1030

11.00

1040

1030

66

85

70

60

58

SUS-
PENDED
SEDI-
MENT

(MG/L)

10

12

5

4

4

SUS-
PENDED
SEDI-
MENT
DIS-
CHARGE

(T/DAY)

1.8

2.8

. 90

. 60

. 60

WATER YEAR OCTOBER

DATE

APR.
30...
MAY
28...
JUNE
29...
JULY
28...
AUG.
26...

TIME

HDD

1045

1400

1300

1205

1969 TD

DIS-

CHARGE

(CFS)

395

85

24

18

18

SEPTEMBER 1970

SUS-
PENDED
SEDI-
MENT

(MG/L)

3

_

2

1

14

10

9.5

10

9.3

8.4

8.0

9.0

12

7.0

TEMPER-
ATURE

0 5.5

6 .0

5 .0

8 .0

4 3.5

4 10.0

9

2 24.0

1 18.0

SUS-
PENDED
SEDI-
MENT
DIS-
CHARGE

(T/DAY)

. 70

. 10

. 05

HUDSON RIVER BASIN

01362198 ESOPU8 CREEK AT SHANDAKEN, N.Y. Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

NON- SPECI-
CAR- FIC COLOR

HARD- BONATE COND- (PLAT- DIS-
NESS HARD- UCTANCE PH INUM- SOLVED

DATE

V .
6. . .
C.
4. . .
N.
9...
e.
6...
R.
5...
R.
0...
Y
8...
UNE
29...
ULY
26...
JG.
26...

COL I- FECAL
FORM COLI-

(COL- FORM
ONIES (COL.

11 3D

1030

1100

10*0

1030

1100

1045

1*00

1300

1205

2*

18

17

IB

21

1*

16

22

22

22

9

10

B

10

11

12

6

9

10

B

69 7.0

46 6.9

56 7.2

51 7.1

6* 7.2

37 6.8

B 7.

58 7.1

59 7.5

63 7.1

19 11.3

6 13.4

* 13.5

1 13.4

3 A. 6

1 10.9

3

3 <>.l

2 B.2

2 9.B

555

90

120

84

90

1900

220

200

-

-

-

_

-

-

-

4

PESTICIDE ANALYSIS

DATE

NOV.
06..
AUG.
26..

ALORIN

(UG/L)

ALORIN
IN
BOTTOM
OE-
POSI TS

CHLOR-
DANE

CHLOR-
DANE
IN
BOTTOM
DE-
POSITS

DDD

lllfi/L)

DDD
IN
BOTTOM
DE-
POSITS

DDF

DDF
IN
BOTTOM
DE-
POSITS

DOT

(UG/L)

DOT
IN
BOTTOM
DE-
POSITS

1130 .00 .00 ~ .00 1.6

1205 .00 .00 .00 .00 .01 1.3

MALA- METHYL
LINDANE THION PARA-
IN IN THION

DATE

NOV.
06...
AUG.
26...

DATE

NOV.
06...
AUG.
26...

LINDANE

(UG/L I

. 00

. 00

m-
AZINON

(UG/L)

- -

. DO

BOTTOM
DE-
POSITS

(UG/KG)

1.7

. OC

DI-
A2INON
IN
BOTTOM
DE-
POSITS

(UG/KG)

. 00

BOTTOM
MALA- DE-
THION POSITS

(UG/L) (UG/KG)

. 00 .00

DI-
5LORIN
IN
DI- BOTTOM
ELDRIN DE-
POSITS

(UG/L) (UP/KG)

. 00 .00

. 00 .00

MFTHYL
PARA-
THION

I UG/L)

. 00

EN OR IN

(UG/L)

. 00

. nn

IN BOT-
TOM DE-
POSITS

(UG/KGI

. 00

FNDRIN
IN
BOTTOM
DE-
POSITS

(UG/KG)

. 00

. 00

. 00 3.7 .00 17

. 01 2.0 .02 6.<

PARA-
THION

(UG/L)

. 00

HFPTA-
CHLOR

(UG/L)

. 00

. 00

2,4-D

(UG/L >

. 00

HEPTA-
CHLOR
IN
BOTTOM
DE-
POSITS

(UG/KGI

. 00

. 00

2,4,5-T

(UG/L I

. 00

HFPTA-
CHLOR
EPOXIDF

(UG/L)

. 00

SILVEX

dir./L)

. 00

HFPTA-
CHLOR

FpnxinF
IN POT-
TDM OE-

pnsiTS
(UG/KG)

. 00

ANALYSIS OF MINOR ELEMENTS

DIS-
SOLVED
ARSENIC

(AS)
IUG/L)

DIS- HEXA-
SOLVED VALF.NT
CAD- CHRO-
MIUM MIUM

(CD) (CRfc)
(UG/L) IUG/L)

nis-
SOLVFO
ZINC

(ZN)
(IIG/L)

RADIOCHEMICAL ANALYSES
01 S- DIS- SUS- SUS- TOTAL
DIS- DIS- SOLVED SOLVED TOTAL PENDED PENDED NON-
SOLVED SOLVED GROSS GROSS FILT- GROSS GROSS FILT-

URANIUM 226

IU) (RA)

AS AS SR90 RESIDUF AS AS SR90 RESIDUE
U-NAT. /Y90 U-NAT. /Y90

HUDSON RIVER BASIN

01362198 ESOPUS CREEK AT SHANTJAKEN, N. Y. Continued

TEMPERATURE (°C> OF HATER, JANUARY TO SEPTEMBER 1970

NOV DEC JAN

MAX WIN MAX MIN MAX MIN MAX

0.0 f

1.0 C

1.0

i.o

. 0 3.0 2.0 3.0

2.5 2.0 ?.0

.0 4.0

1.5

2.0

2.0

Y

1

3

5

6

fl
9
0

1

3

5

6
7
fl
9

'2
3
?4
>5

'ft
?7
>8
29
?0
31

APR

MAX MIN

5.0 2.5

5.0 2.0

1.0 4.0

5.5 4.0

8.0 4.0

8.0 4.0

8.0 4.0
1.0 5.0

7.0 4.0

7.0 5.0
5.0 5.0
6.0 5.0
fl.5 5.5

1.0 7.0
1.5 7.0
3.0 7.5

MAY

MAX

11.0
14.0

9.0

11.5

17.0

16.5

11.0

12.5
11.0

12.5

18.5
14.0
16.0
12.5

17.5
17.5
18.0
19.5

MIN

7.5

6.5

6.5

11.5

11.0

10.0

9.5
10.0

9.5

10.5
12.0
11.5
11.0

9.5
9.0
9.5
10.0

JUN

MAX

18. 5
15.0

14.5

71.0

21.5

21.0

IS. 5

16.0
19.0

2?. 5

16.5
20.5
?2.5
23.5

21.5
?0.0
18.0

MIN

13.0

13. r

13.0 <

12.0

14.5

12.5

13.0

] 4.0

15.5

13.0
1?.5
14.0
16.5

11.5
12.5
15.5

JUL

MAX M

9.0 16

2.5 15

3.0 16

2.0 17

4.0 15

7.5 16

9.5 17

3.0 16

4.0 15
2.0 15
6.0 16
4.0 18

5.0 19
>6.5 ?0
>4.5 19
'1.5 19

IN

. 0
.0

.0

.0

. 5

.0

. 5

.n

. 5

.0
. 5
.0
. 5

. 0
.0
.0
. 5

MAX

2.5
1.5

3.0

5.0

5.0

6.0

6.5

5.5

3.5

?4.5
?0.0

??.o
>2.0

?4.0
74.0
9.5
22.0

ii ir,

MIN

17.0
15.5

16.5 ;

16.0

17.0

18.0

1«.0

19.0

16.0

16.0
17.5
16.0
16.0

7.0
8.0
6.5
18.0

MAX

0.5
2.5

2.0

8.0

u. 0

0.5

9.5

4.0

R.5

7.5

0.5
1.5

?.n
2.0

7.0

4.5
3.0
2.5

SFP

MIN

14.0

16.0
17.5

16. n

15.0

16.0

15.0

1?.5

13.5

13.5

14.5

15.5
17.5
17.5
17.5

18.0
13.5
12.0
11.0
10.5

HUDSON RIVER BASIN 1M7

01372003 WALLKILL RIVER NEAR ROSENDALE, N.Y.

LOCATION. Lat 41°48'53", long 74°03'33", Ulster County, at bridge on State Highways 32 and 213, 0.2 mile upstreun tram Interstate Highway 87, 1,0 mile south of Tlllson, and 1.7 miles southeast of Rosendale.

PERIOD OF RECORD. Chemical analyses: April 1969 to May 1970 (discontinued).

COOPERATION. Samples furnished by New York State Department of Environmental Conservation.

CHEMICAL ANALYSES. APRIL 1969 TO MAY 1970

OATF

APR.,
30..
JIINF
12..
JULY
23..
SEPT.
23..
OCT.
21..
DEC.
03..
HAY,
21..

APR. ,
30..
JUNF
1?..
JULY
23..
SEPT.
23..
OCT.
21..
DEC.
03..
MAY,
21..

nis-
DIS- SOLVED
TOTAL SDLVFO MAT,- PO-
MAN- CAL- ME- TAS- BIC4R- CAR-
SILICA IRON GANFSE CIIIM SHIM SHOIUM SHIM BONATF RONATE

TIME (Sir>2) IFE) (MN) (TAI (MR) (NA) IKI (HC03I (COS)

1969

?300 1.0 20 0 3» ft. 6 10 1.9 1IA 0

1300 .1 50 0 41 7.9 12 2.1 1?5 0

1100 4.7 50 0 45 9.7 10 2.0 133 0

111$ 2.6 60 0 43 9.6 11 2.3 130 0

1000 6.1 190 JO 35 7.4 7.7 1.5 86 0 1970
1300 4.9 120 10 42 7.2 9.5 1.7 102 0

nis- DIS-
DIS- SDLVFD SnL-vlD
SOLVED ORfiANIC TOTAL SHLIDS SOLIDS
CHLO- FLUO- NITRO- PHOS- (RESI- ISUM OF
SIILFATF RIDF RIDE GEN NITRITF NITRATE AMMONIA PHDRUS DUE AT CONSTI-

IS04] ir.L) IF) (N) (Nn?l INn-)) INH4) (P04) IflO Cl TtlFNTSI

1969
35 13 .0 .33 .05 7.4 .03 .34 14R 128

32 17 .2 .27 .14 .] ,fl5 .Rfl 171 Ifc7

34 21 .2 .34 .03 .0 .31 1.1 190 180

38 IK .3 .44 .07 .0 .21 ,8fl 207 193

43 15 .1 .05 .05 4.2 .23 .50 167 162
1970
31 17 .2 .59 . Ifl 3.6 .41 .58 174 166

MFTHY-
NriN- SPECI- LFNE
CAR- FIC COLOR CHFM- BLUE

TIMF ICA,«r>) NFSS (MICRO- COBALT OFMAND STANCF
RATF IMH/L) IMf,/L) MHOS) IUNITSI UNITS) (MR/L) IMr./L)

APR., 1969
30... 2400 93 3g 2?4 7.8 ?fl 14 .04
JUNE
12... 2300 131 36 303 7.6 ?3 10 .04
JdLY
23... 1300 135 32 323 7.5 43 15 .05
5FPT.

OCT.
21... 1115 146 41 342 6.1 25 12 .05
DEC.

MAY, 1970
21... 1300 135 51 290 7.8 29 18 .05

ALKA-
L I N I TY
AS
CAC03

56

95

103

109

107

71

64

LOSS
ON
IGNI-
TION

?7

10

15

23

43

31

35

198 HUDSON RIVER BASIN

01372005 RONDOUT CREEK AT EDDYVILLE, N.Y.

LOCATION. Lat 41°53'39", long 74°01'13", Ulster County, Just upstream from dam, about 200 ft on State Highway 213 at Eddyville and 1.2 miles upstream from Twaalfskill Brook.

PERIOD OF RECORD. Chemical analyses: April 1969 to Hay 1970 (discontinued). COOPERATION. Samples furnished by New York State Department of Environmental Conservation. CHEMICAL ANALYSES, APRIL 1969 TO MAY 1970

upstream from bridge

DATE

APR..
30..
JUNE
12..
JULY
23..
SEPT.
23..
OCT.
21..
DEC.
03..
MAY,
21..

APR.,
30..
JUNE
12..
JULY
23..
SEPT.
23..
OCT.
21..
DEC.
03..
MAY,
21..

TIME

1969
1300

1200

1315

1200

1030

1110
1970
1200

SULFATE

(504)

1969
26

25

30

32

29

38
1970
27

SILICA IRON

(SI02) (FE)
[MG/L) (UG/L)

3.3

2.5

2.6

5.3

3.2

6.1

2.9

CHLO-
RIDE

1CL)

9.7

12

15

16

15

13

14

100

110

80

90

80

150

40

DIS-
SOLVED
FLUO-
RIDE

(F)

. 0

. 1

. 2

. 2

. 1

. 1

. 1

TOTAL
MAN-
GANESE

(MN)
(UG/L)

30

0

0

0

20

40

10

ORGANIC
NITRO-
GEN

IN)

. 24

. 20

. 25

. 20

. 40

. 44

. 34

DIS-
SOLVED
CAL-
CIUM

(CA)
(MG/L)

20

25

32

35

34

30

30

NITRITE

(N02)

. 04

. 11

. 12

DIS-
SOLVED
MAG-
NE-
SIUM

(MG)
tMG/L)

4.2

4.B

5.7

6.9

7.3

5.7

5.8

NITRATE

(N03)

2.4

1.2

1.6

. 20 3.0

. 05

. 18

3.8

2.6

SODIUM

(NA)
(MG/L)

5.5

6.9

8.8

B.3

9.4

6.8

7.8

AMMONIA

(NH4)

. 02

. 26

. 21

. 02

. 26

. 37

PO-
TAS-
SIUM

IK)

1.1

1.4

1.6

2.0

2.0

1.6

1.4

TOTAL
PHOS-
PHORUS

(P04)

. 18

. 49

. 44

. 54

. 37

. 40

BICAR-
BONATE

(HCD3)

46

64

B9

96

102

66

B6

DIS-
SOLVED
SOLIDS

(RESI-
DUE AT
180 0

93

117

164

137

146

CAR-
BONATE

(C03)

0

0

0

0

0

0

0

DIS-
SOLVED
SOLIDS

(SUM OF
CONSTI-

TUENTS)

96

110

142

154

138

134

ALKA-
LINITY
AS
CAC03

3#

52

73

79

84

54

71

LOSS
ON
IGNI-
TION

25

12

26

31

28

36

METHY-

TIME
OATE

APR.
30.
JUNE
12.
JULY
23.
SEPT
23.
OCT.
21.

03.
NAY,
21.

, 1*>9
1300

1200

1315

1200

1030

1110
1970
1 200

NON

CAR

SP
F

ECI-
: IC
HARD- BONATE CONO-
NESS HARD- UCTANCE

(CA,MG) NESS (MICRO- UUOAL i urw«r*i-» siantt

COLOR CH_ _

LE
EM- BL

NE
UP

PH INUM- OXYGEN SUB-

(MG/L) (MG/L) MHOS) (UNITS) UNITS) IMG/U) (MG/L)

67 30

82 30

104 30

116 38

119 32

98 44

99 28

165

190

251

27'

274

233

245

7.6 26

7.5 22

7.4 56

7.4 34

8.1 24

7.7 41

T.8 24

11

8.0

13

18

10

14

12

. 02

. 03

. 05

. 04

. 05

. 04

. 03

HUDSON RIVER BASIN

01372043 HUDSON RIVER HEAR POOCHKEEPS1E, N.Y.

ION. Lat 41'44'OS", long 73°S6'1S", Out chess County, at city pumping station ot ,3 mile west of North Road and 1.4 miles north of Mid -Hud son Bridge.

iGE AREA. 11,700 sq ml.

) OF RECORD. Chemical analyses: April 1969 to September 1970.
>r temperatures: June 1959 to September 1966.

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

DIS-
OIS- SOLVED

DATE

TIME

APR., 1969
14...
MAY
14...
JUNE
11...
JULY
OR...
AUG.
06...
26...
SEPT.
24...
OCT.
20...
28...
NOV.
24...
DEC.
12...
JAN.,
21...
FEB.
11...
MAR.
10...
APR.
13...
MAY
12...
JUNE
09...
JULY
09...
SEPT.
01...

APR.,
14...
MAY
14...
JUNE
11...
JULY
oe...
AUG.
06...
26...
SEPT.
24...
OCT.
20...
28...
NOV.
24...
DEC.
12...
JAN.,
21...

111..
MAR.
10...
APR.
13...
MAY
12...
JUNE
09...
JULY
09...
SEPT.
01...

1400

1130

1430

1045

0915
0930

0945

1030
1345

1100

0915
1970
1015

0900

1000

1000

1315

1115

1030

(504)

1969
18

15

15

22

23
26

29

30
27

28

31
1970
28

28

28

21

20

21

24

27

SILICA

(SI02I
(MG/L)

4.1

3.B

3.3

1.5

1.2
. 8

^4

. 3
. 4

4.8

5.3

5.2

4.8

5.2

4.3

3.8

3.0

. 2

CHLO-

(CL)

7.0

5.6

11

13
13

15

16
18

9.4

11

14

18

15

9.3

6.3

10

14

16

IRON

(FE)
(UG/L)

130

50

70

60

60
90

90

120
220

110

50

200

130

80

90

190

60

100

OIS-
SDLVED
FLUO-

(F)

. 0

. 1

. 0

. 1

. 1
. 1

. 1

. 1
. 1

. 1

. 1

. 1

. 1

. 1

. 0

. 2

. 1

. 0

.?

MAN-
GANESE

(MN)

0

0

0

0

0
0

0

0
0

0

0

0

50

0

0

20

10

0

ORGANIC
NITRO-

(N)

. 13

. 04

. 22

. 25
. 29

. 22

. 24
. 33

. 36

. 35

. 37

. 34

. 31

1.1

. 78

. 27

. 34

. 43

CAL-
CIUM

(CA)

20

11

16

22

26
28

26

24
22

23

24

22

22

25

22

23

26

IN02I

. 15

. 03

. 01
. 00

. 10

. 01
. 02

. 07

. 02

. 22

. 18

. 07

. 14

. 10

. 02

. 07

. 02

NE-
SIIIM

(MO

3.5

3.4

2.6

3.5

4.0
4.2

4.2

4.0
4.2

3.6

4.0

4.5

4.0

4.5

3.8

3.6

4.1

IN03)

1.9

2.1

2.6
2.7

. B

2.7
2.9

2.2

3.2

3.1

4.9

3.5

3.6

2.2

3.0

3.1

2.0

SnOIUM

(NA)

4.7

5.1

4.1

R.I

9.2
9.1

11

11
15

6.6

8.2

8.6

11

8.6

5.5

7.5

9.6

(NH4)

. 19

. 11

. 08
. 37

. 07

. 02
. 09

. 06

. 16

. 06

. 20

. 46

. 19

. 33

. 25

. 19

. 10

TAS-
SIUM

(Kl

1.1

. B

. 7

1.1

1.1
1.3

1.2

1.4
1.3

1.5

1.3

1.0

1.4

1.0

1.2

1.0

l.l

1.2

PHOS-

(P04)

. 33

. 01

. 22
. 4R

. 46

. 52
. 74

. 62

. 52

. 32

. 56

. 63

. 41

. 67

. 36

. 05

. 38

i east bank at Poughkeepsl'

SICAR-

BONATF (Hcn3)

55

4B

42

61

77
72

61

66
74

56

61

68

54

66

58

34

68

74

DIS-
SOLVED

(RESI-

100 Cl

77

108

107
13B

141

132
125

124

124

127

125

114

106

70

109

117

135

CAR-
BDNATF

(CH3I

0

0

0

0

0
0

0

0
0

0

0

0

0

0

0

0

0

0

0

DIS-
SOLVED

(SUM OF
CONSTI-

TUENTS)

70

102

lie
121

lie

122
127

108

118

120

121

124

100

76

90

116

128

LINITY
AS
CAC03

45

39

34

50

63
59

50

54
61

46

50

56

44

54

48

34

21

56

61

ON
IGNI-
TION

5

9

10
22

22

12
6

30

16

11

9

5

14

6

12

7

13

HUDSON RIVER BASIN

01372043 HUDSON RIVER NEAR POUGHKEEPSIE, N.Y. Continued

CHEMICAL ANALYSES. APRIL 1969 TO SEPTEMBER 1970

DATE

APR. t
14...
MAY
14...
JUNE
11...
JULY
08...
AUG.

26...
SEPT.
24...
OCT.
20..
28..
NOV.
24..
DEC.
12..
JAN.,
21..
FEB.
11..
MAR.
10..
APR.
13..
MAY
12..
JUNE
09..
JULY

TIME

1969
1400

1130

1430

1045

0930

0945

1030
1345

1100

0915
1970
1015

. 0900

1000

1000

1315

1115

HARD-
NESS

(CA.MG)
(MR /LI

64

59

50

70

S7

B2

76
72

72

76

74

72

81

70

48

72

NON-
CAR-
BONATE
HARD-
NESS

(MR/L)

20

20

16

20

2R

32

22
12

26

26

IB

2B

27

23

14

44

SPECI-
FIC
COND-
UCTANCE

(MICRO-
MHOS)

156

140

122

1RR

211

219

217
225

1B4

206

227

210

215

177

127

1B6

PH

(UNITS)

7.3

7.3

7.4

7.1

7.R

6.B

7.7
7.5

7.3

7.3

7.2

7.1

7.2

7.4

7.2

7.2

COLOR

INUM-
CfmALT

UNITS)

15

24

16

24

?7

26

14
24

45

33

24

32

19

24

24

22

CHFM-

rtXYREN
OFMANO

(Mfi/L)

4.0

9.0

11

10

14
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13

10
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10

7.0

9.0

6.0

METHY-
LENE
BLUE

SUB-
STANCE

(MC./L)

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HUDSON RIVER BASIN

01372058 HUDSON RIVER BELOW POUG KEEPS IE, N.Y.

LOCATION. La t 41°39'03", long 73°56'42", Dutcheas County, at Intake of IBM water treatment plant on left bank, 2.3 Bile* so'uth of Poughkeepsle and 3.5 nlles downstream of Mid-Hudson Bridge.

DRAINAGE AREA.--11,740 iq ml, approximately.

PERIOD OF RECORD. Chemical analyses: Auguit 1969 to September 1B70.

REMARKS.--Spectrographlc analysis of minor element* In "Analyse* of (ample* collected at miscellaneous cites In New York." See also "Dissolved mercury in New York streams."

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

ALKA-
LINITY
AS
CAC03

(MG/L)

SULFATE

ISO*)
(M6/L)

CHLO-
RIDE

ICL)
IM6/L)

TOTAL
KJEL-
DAHL
NITRO-
GEN

IN)
(MG/L)

AMMONIA
NITRO-
GEN

IN)
(MG/L)

NITRATE

IN)
(MG/L)

TOTAL
PHOS-
PHORUS

(P)
IMG/L)

DIS-
SOLVED
SOLIDS

(RESI-
DUE AT
180 0

IMG/L)

TOTAL
NON-
F1LT-
RA8LE
RESIDUE

(MS/L)

SPECI-
FIC
COND-
UCTANCE

(MICRO-
MHOS)

160

OCT.
08... 1230
NOV.
05... 1030 -- ~ .27 .8 .13 ~ 175
DEC.
04... 1340 .44 4.0 .15 135
JAN.
06... 1500 .64 .8 .16 170
FEB.
03... 1330 ~ ~ ~ .85 « .7 .11 ~ ~ 170
MAR.
02... 1400 .41 1.0 .09 210
APR.
07... 1500 ~ 1.1 .8 .12 ~ ~ 160
MAY
07... 1345 .44 .4 .13 ~ 105
JUNE
04... 1400 .43 .6 .08 ~ 136
JULY
06... 1210 « ~ .31 .6 .10 21S
AUG.
03... 1030 -- .05 .4 .10 2*5
SEP.
09... 1200 61 33 21 .62 .18 .7 .11 175 16 285

TIIO-
PH TEMPER- BTo-
ATURE ITY

DATE (UNITS) (DEC C) (JTU)

OCT.
08...
NOV.
05...
DEC.
04...
JAN.
06...
FEB.
03...
MAR.
02...
APR.
07...
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06...
AUG.
05...
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6.5 23.0

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CHEM-
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SOLVED OXYGEN
OXYGEN DEMAND

IMG/L) IMG/L)

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7.6

14.5

10.1

9.7

10.6

11.9

8.5

5.8

7.3

5.6

8.3

18

13

25

1*

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BIO-
CHEM-
ICAL
OXYGEN CHLORO-
DEMAND PHYLL A

IMG/L) IUG/L)

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100 ML) 100 ML)

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10300

2700

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3800

4500 2*000

1000 12000

710 13000

4400

METHY-
LENE
BLUE

SUB-
STANCE

(MG/L)

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. 06

. 04

. 08

. 09

. 06

. 07

. 05

. 04

. 08

. 06

. 12

HUDSON RIVER BASIN

01372058 HUDSON RIVER BELOW POUGHKEEPSIE, N.Y. Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

NESS

APR.

JUNE
0<t...
SEP.
09... B8

TOTAL

AS

5

COLOR

INUM- PHENOLS CYANIDE

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27 0 .04

AND
GREASE

120

CIS-

ARSENIC

IAS)

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CIS-

MERCURY

IHG)

DATE

JULY
06... 1210
AUG.
05... 1030
SEP.
09... 1200

ODD

DI-
DDF DDT ELDRIN ENDRIN FTHION CALA-THION

JULY
06.
AUG.
05.
SEP.

MET
PAR

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METHYL

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SOLVED

ALPHA
AS

DIS- DIS- DIS-
SOLVED SOLVED SOLVED

ALPHA BETA BETA
AS AS SR90 AS

TOTAL

RABLE PENDED PENDED

SUS-
PENDED

ALPHA

U-NAT.

SUS- TOTAL
PENDED NON-

BETA RABLF

CS-137

HUDSON RIVER BASIN '

01372500 WAPPINGER CREEK NEAR WAPPINGERS FALLS, N.Y.

LOCATION. Lat 41°39'05", long 73°52'20", Dutchess County, at gaging station 700 ft downstream from Red Oak Mill dam and 4.S miles northeast of Wappingers Falls.

DRAINAGE AREA.

PERIOD OF RECORD
Water

REMARKS.
New

DATE

OCT.
27...
NOV.
21...
DEC.
24...
JAN.
26...
FEB.
20...
MAR.
25...
APR.
23...
MAY

JUNE
22...
JULY
21...
AUG.
25...
SEPT.
23...

OCT.
27...
NOV.
21...
DEC.
24...
JAN.
26...
FEB.
20...
MAR.
25...
APR.
23...
MAY
22...
JUNE
22...
JULY
21...
AUG.
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SEPT.
23...

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York. "

TIMF

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1200

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(504)

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35

181 sq mi.

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ures : Oct

o graphic a
See also "

DIS-
CHARGE

36

582

180

110

468

634

280

61

28

63

40

CHLfl-

(CL)

20

12

14

16

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17

1 analyse
ober 1963

nalysis o
'Dissolved

CHEMICAL

SILICA

(SI 02)

1.9

6.9

6.0

6.8

6.1

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3.2

3.4

5.3

3.6

DIS-
SOLVFD
FLUO-

(F)

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to Sept

f minor
mercury

ANALYSES

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ORGANIC
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ber 1963 to Septembe
ember 1964.

elements in "Analyse
in New York streams

, WATER YEAR OCTOBER

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TOTAL snLVFn
MAM- CAL-
fiftNFSF CIUM
(MM) (CA)

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0 34

0 37

0 30

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0 45

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.07 3.7

.04 3.0

. 24 1.0

. 03 2.9

.02 1.1

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s of sam

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1969 TO

DIS-
SOLVED
MAG-
NE-
SIUM

I MG)

11

5.9

6.8

9.2

7.8

5.8

8.0

7.4

9.0

9.8

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9.8

(NH4)

.05

.05

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.08

.04

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August 1965 to September 1970.

pies collected at

SEPTEMBER 1970

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snnniM SIMM

(MA) (K)

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5.7 1.4

7.6 .9

8.0 .7

6.7 .8

5.9 .7

6.9 .8

7.6 1.0

8.6 1.0

11 1.2

8.3 1.3

9.5 1.2

nis-

SDLVFD
TOTAL SOL ins

PHns- (RESI-

(prni mo c)

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. 08 203

miscellaneous site

RriNATF ROMATF

(Hcm> icrm

156 0

83 0

97 0

114 0

91 0

70 0

104 0

119 0

147 0

140 1

122 0

124 0

nis-
snLVFn

(SUM OF ON

TUFNTS) TIPN

195 6

137 13

152 19

171 19

115 16

157 22

186 2

207 52

172 30

187 51

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r«rn3

128

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116

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102

TEMPER-
ATURE

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HUDSON RIVER BASIN

01372500 WAPPINGEH CREEK NEAR WAPPINGERS FALLS, N.Y. Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

RATE

OCT.
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NOV.
21...
DEC.
24...
JAN.

FEB.
20...
MAR.
25...
APR.
23...
MAY
22...
JUNE
22...
JULY
21...
AUG.
25...
SEPT.

TIME

1100

1200

1045

1225

1115

1100

1045

1235

1115

1020

HARfl-

(CA,MR)
(MG/L 1

155

99

113

107

B9

120

120

149

141

132

NriN-
r«R-
RnNATF

NFSS
(MS/LI

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31

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2B

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2B

SPFCI-
Fir
r. m r>-

[Mic«n-

364 8.0

231 7.6

275 7.8

245 7.9

22B 7.B

262 7.9

262 7.9

322 7.9

335 8.3

304 7.8

MFTHY-
LFNF
CninR THFM- RI.IIF

10 6.0 .02

24 12 .04

9 2.0 .03

6 1.0 .02

4 4.0 .02

6 9.0 .02

9 5.0 .03

16 4.0 .03

11 3.0 .02

9 3.0 .02

14 9.0 .02

7 B.O .02 10.4

HUDSON RIVER BASIN

01372550 HUDSON RIVER NEAR CHELSEA, N. Y.

of Danskammer Point

ind 1.3 miles north

)D OF RECORD. Chem

:RATION. samples t

TIMF
OATF

APR., libs
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0940
MAY
14... OQ45
2R... OQ50
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HUDSON RIVER BASIN

01372550 HUDSON RIVER NEAR CHELSEA, N.T. Continued

nis-

SIILFATF

(SD4)

APR., 1969
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JUNE
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CHLO-
RIDF

(CL)

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FLlin- NITRD- PHOS-
RIDF KEN NITRITF NITRATF AMMONIA PHORIIS

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DIS-
SIUVED

nis-
snLVFn

(RESI- (SUM OF
HUE AT CrWTI-

1RO C) TUFNTS)

106
109

93
11R

86
R2

10R
108

113
142

122
151

197

143
127

118

123

129
134

119

115
85
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69
89

91
101

121
127

132
158

148
200
154

94
89

84
105

R6
7R

96
105

120
117

115
141

122
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126
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121

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73
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90
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175
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HUDSON RIVER BASIN

01372550 HUDSON RIVER NEAR CHELSEA, N.V. Continued

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

DATF

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NDN-
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|Mr,/L)

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CHFM-

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208 HUDSON RIVER BASIN

01372575 HUDSON RIVER AT BEACON, N. Y.

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103

and 1.0 mile downstream from Beacon-Newburgh Bridge.

emical analyses: April 1969 to September 1970.

furnished by New York State Department of Environments

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER

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nis- SOLVFD
TOTAL SOLVFH MAR-
MAN- CAL- NF-
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7.9 70 0 IB 1.0 5.7

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1.? 40 0 75 4.3 12

. 2 20 0 12 14 112

3.7 140 0 25 4.7 14

4.8 60 0 25 3.9 8.5

5.1 70 50 26 4.6 9.0

4.2 70 0 23 3.8 5.6

3.7 60 20 17 2.8 4.8

1.2 20 0 26 3.9 14
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nis-
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396 .2 .28 .02 2.9 .06

18 .3 .38 .18 3.1 .09

13 .1 .21 .06 3.4 .08

15 .1 .20 .05 3.4 .35

8.9 .1 .23 .09 3.0 .24

8.1 .2 .25 .03 3.1 .30

24 .0 .40 .10 1.6 .05
14 .1 .52 .02 2.7 .17

62 .2 .00 .04 3.6 .18

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nis-

PHOS- IRFST-

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. 29 132

. 33 110

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HUDSON RIVER BASIN

01372575 HUDSON RIVER AT BEACON, N.Y. Continued

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NFSS

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IMR/L)

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77

NDN-
CAR-
BflNATF
HARD-
NFSS

(MR/L)

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(MICRD-
MHMS) (UNIT 1;)

1 5q 7. ft

154 7.7

14? 7.5

276 7.7

236 7.5

206 7.5

230 7.7

162 7.7

137 7.1

231 7.5
363 7.6

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INIIH- nXY FM

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210 HUDSON RIVER BASIN

01372800 FISHKILL CREEK AT HOPEWELL JUNCTION, N.Y.

LOCATION. Lat 41°34'22", long 73°48'25", Dutchess County, temperature recorder at gaging station on right bank, 400 ft upstream from bridge on State Highway 376, 500 ft upstream from small tributary, and 0.6 mile south of State Highway 82 at Hopewell Junction.

DRAINAGE AREA. 57.3 sq ml.

PERICD OF RECORD. Water temperatures: October 1963 to Sep

EXTREMES. 1969-70:

Water temperatures: Maximum, 25.0 C July 28; minim

er 1970.

zing point on many days during Dec

Period of record:
Water temperatures: Maximum, 27.0°C July 13, 1966; minimum, freezing point on many days during winter periods

REMARKS. No record Oct. 11-20.

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

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OCTOBER

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NOVEMBER DECEMBER

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7.0 2.0
8.5 3.0
8.5 3.0

8.5 4.5
8.5 4.5
8.5 4.0
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HUDSON RIVER BASIN 211

01373500 FISHKILL CREEK AT BEACON, N.Y.

LOCATION (revised). Lat 41°30'40") long 73°56'55", Dutchess County, at former gaging station at Bridge Street Bridge in Beacon, 2.5 miles upstream from mouth

DRAINAGE AREA. 190 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1961 to September 1962, April 1969 to September 197O. Water temperatures: October 1961 to September 197O.

EXTREMES. 1969-70:

Water temperatures: Maximum, 26. 5°C July 29, 30, Aug. 17; minimum, freezing point on several days during December and January.

Period of record:
Water temperatures: Maximum, 27. O°C July 2O, 1964, July 14, 1966, July 18, 1969; minimum, freezing point on

REMARKS. WE

COOPERATION
records

te r temperature measurett

Samples furnis
furni

TIME
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APR.. 1969
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LFATE
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CHLO-
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48

ents are

bed by New York
aco Incc

CHEM1

IRON

(FEI

130

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DIS-
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TOTAL
MAN-
GANFSE

(MN)

20

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10

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40

10

40

20

10

0
0

220

10

ORGANIC
MI TRO-
GEN

(Ml

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27

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1.1
. 36

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1.5

made at la

State Depar

DIS-
SOLVED
CAL-
C I UM

(CAI

?7

33

34

34

34

42

44

26

30

27

31

31

33

38
36

43

44

NITRI TF

(NO?)

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06

. 07

. 02

2.8

. 07
. 09

. 10

. 04

t 41°31'01", long

tment of

DIS-
SOLVED
MAG-
NF-

(MG|

«.3

9.5

R.?

R.5

R.O

9.7

11

6.7

7.6

8.2

8.5

7.7

B.I

9.4
8.5

11

13

IITRATE

(N03 1

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3.0

3.5

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3.5

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3.5

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Environme

1 NAI

5.7

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B.6

9.6

R.O

13

17

7.0

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7.3

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11
20

26

36

AMMONIA

(NH4)

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1.1

. 05

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2.8

2.1

73°56'17'

ntal Cons

PO-
TAS-

IKI

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1.0

1.4

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1.3

1.8

1.2

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1.2
1.5

1.5

2.0

TOTAL
PHOS-

(P04I

. 13

. 21

. 34

. 30

. 2R

. 52

1.1

. 36

. 30

. 39

. 19

. 86

. 21

. 48
. 62

. 49

1.1

, at Tex

ervation

BICAR-

(HCH3I

RR

109

112

118

11R

n*

159

B3

99

86

96

96

114

128
134

158

146

DIS-
SOLWFD
SOLIDS

(RESI-
DUE AT

ino Cl

1?3

140

177

1R7

176

193

234

139

136

133

154

159

147

175
213

243

277

ico Rese

Water

CAR-

(CP3I

0

0

0

0

0

0

0

0

0

0

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0

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0
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0

DIS-
SOLVED
SOL IDS

(SUM OF
CONSTI-
TUENTS!

(MG/LI

130

146

155

163

!56

1«8

216

132

146

140

145

141

155

1BO
202

251

286

irch Center,

temperature

SLKA-
LTNITY

CACH3

72

R9

92

97

97

110

130

66

Bl

71

79

79

94

105
110

130

120

LOSS
ON
IKNI-
TIOM

4

3

?0

30

30

27

28

26

15

18

7

26

22

17
25

2*

20

HUDSON RIVER BASIN

01373500 FISHKILL CREEK AT BEACON, N. Y. Continued

NDN- c PErr-

CAR- Fir cninp
HARD- BnNATF rnMP- (PLAT- TCAL
MESS HARP- HfTaNCF PH [MUM- n*YGEN

DATE

A °* . ,
21..

19...
JUNE
26...
JULY
22...

18...
SEPT.
25..
OCT.

NOV.
20..
OEC.
22..
FEB.,
19..
MAR.

APR.
22..
MAY
21..
JULY
01..
13..
AUG.
13..
SEPT.

NOV

9.5
10.0
11.0

9.0
7.0

9.5

10.0
10 .0
9.0
8.5
- -

__

4.5
5.0
7.0
8.0

5.0

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4.5
4.5

4.0

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1969
0945

1030

1045

1035

1031

1030

1145

1140
1970
1040

1020

1045

1040
1045

1140

TEMPERATURE

DEC

3.5
3.0
2.0
2.0
1.0

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1.5
2.0
3.5

5.5
5.5

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- -

2.0

1.5
0.5
0.0
1.0
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1.0
0.5
0.5
- -

__

IMf./Ll (Mf,/L> MHnS) (UNITS) UNIT?

102 30 230 7.9 23

122 32 259 8.1 ?n

118 26 274 8.1 17

120 74 294 7.3 22

118 22 277 7.8 15

145 35 345 7.2 10

155 24 379 7.5 16

92 24 228 7.8 21

106 25 266 7.8 8

109 30 242 7.7 15

116 22 282 7.8 14

134 28 314 8.0 11 129 19 381 7.9 16

152 22 453 7.6 20

(°C> OF WATER, WATER YEAR OCTOBER 1969 TO (ONCE-DAILY MEASUREMENT AT 08001

2.0 15.5
0.5 1.0 3.5 3.5
l.n 3.5 2.0
n.5 4.0 14.0
0.5 n.5 3.5 13.0

0.5 1.0 4.0 5.5 13.5
0.5 6.0 10.5
0.5 7.0 11.0
0.0 1.0 3.0 10.0
1.0 2.0 10.0

1.0 2.0 18. 5
0.5 0.5 3.0 19. n
0.0 1.0 3.5 8.0 20.0
0.0 20.0
0.0 17.0

0.0 1.0 3.^
1.0 3.0
1.5 4.5 13.5
0.0 3.0 4.0 12.0
0.0 3.0 4.S 10.0 13.0

0.0 8.0 14.5
0.5 9.5 16.5
0.0 5.0 9.0
3.0 5.0
3.5 5.5 17.0

0.5 1.5 6.5 15.5
0.5 1.0 14.5 14.5
0.0 14.5 14.5

1 IMP,/ LI

4.0

5.0

8.0

11

6.0

7.0

8.0

2.0

1.0

6.0

9.0

5.0

1.0
4.0

30

40

SEPTEMBER

JUM

19.0
21.0
21.5
20.5
20.0

- -

17.0
20.0
20.5

21.0
21 .0
- -

19.5

19.0
IB. 5
19.5
20.0
- -

- -

18.0
16.0
18.5
20.0

20.0

- -

MFTHY-
LFNF

AfTIVF
SI'R-

(ir,/L)

.03

.05

. 03

. 04

. 05

.04

. 17

.03

. 03

.01

.04

. 04

.04

.03
.05

. 10

. 10

1970

JllL

19.5
20.0

"~

71.5
21.0
22.0
23.0
23.5

-_

- -

22.0
23.0
?1.5

22.0
22.0
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- -

24.5

74.0
22.0
21.5
2?.0

--

25.5
26.0

17.0
10.0
21.0
21.5
23.0

HUDSON RIVER BASIN

01373860 MOODNA CREEK NEAR NEW WINDSOR, N.Y.

COOPERATIOI

OATF

APR.,
21...
MAY
19...
JUNE
27...
JULY
?2...
AUG.
IB.. .
SEPT.
25...
OCT.
22...
NOV.
20...
DEC.
22...
FEB.,
19...
MAR.
19...
APR.
22...
MAY
21...
JULY
01...
13...
AUG.
13...
SEPT.
09...

APR.,
21...
MAY
19...
JUNE
27...
JULY
22...
AUG.
If...
SEPT.
25. ..
OCT.
22...
NOV.
20...
DEC.
22...
FEB.,
19..,
MAR.
19...
APR.
22...
HAY
21..,
JULY
01..,
13..,
AUG.
13..
SEPT.
09..

TIME

1969
0920

1030

1 100

1030

lllf

1130

1010

1030

1000
1970
0950

1000

1000

1000

1045
0940

0942

1115

(S04I

1969
32

26

2R

26

2B

31

33

30

36
1970
31

33

30

24

30
25

34

47

SILICA

(51021
(MG/L)

2.3

. 9

3.9

5.1

5.1

3.7

3.3

5.2

5.7

6.2

2.5

2.4

4.1

4.5
2.5

6.2

5.5

CHLO-

(CL)

26

24

27

36

24

67

62

19

30

26

34

23

23

41
34

49

53

IRON

(FE)
IIIG/L)

1RO

40

70

140

130

110

270

160

70

50

50

BO

120

140
100

240

nis-
sriLVEO
FLIJO-

(F)

. 1

. 1

. 9

. 4

. 1

. 2

. 1

. 1

. 0

. 2

. 1

. 1

. 1

. 1
. 1

. 2

. 2

MAN-
GANESE
I MN)

10

0

0

140

0

0

280

0

40

30

50

0

D

400
0

50

ORGANIC
NITRO-

(N)

. 24

. 22

.47

. 23

. 66

. 72

. 33

. ^7

. 08

. 08

. 33

. 31

. 12
. 14

1.5

. 28

' t0 SePtenb" 1970.

ms-
DIS- SOLVED

CAL- ME- TAS-
C1IJM MUM SODIUM S1UM

(CAI (MG| (NAI (K)

26 5.3 15 1.7

'1 5.5 13 1.4

33 4.R 17 l.B

41 5.9 23 2.0

14 4.7 13 1.9

42 6.5 40 2.6

40 7.0 37 3.4

23 3.8 10 1.9

28 4.5 15 1.5

22 4.4 12 1.2

28 5.1 18 1.3

28 4.3 13 1.3

28 4.3 13 1.2

36 5.8 26 1.6
40 5.7 19 1.8

38 6.3 38 2.5

TOTAL
PHCIS-

(N02) ("031 INH4) (P04I

. 04 .R .12 .41

. 16 .6 .15 .22

. 10 .0 .93 .61

. 06 .8 .IB .65

1.7 11 .12 .92

. 22 .6 1.2 .70

. 09 2.3 .08 .69

. 05 5.3 .14 .24

. 08 2.3 .18 .73

. 06 1.5 .33 .18

. 02 11 2.4 .54
. 16 .9 .11 .OR

. 08 .5 2.0 1.2

. 20 .0 12 1.6

irat on.

R1CAR-
BONATE

IHC03)

62

HO

94

11R

RR

114

116

48

58

46

62

60

72

118
110

124

DIS-
SOLVED

SOL ins
'(RESI-

1RO Cl

166

147

210

1«1

2RO

239

139

129

162

138

218
191

279

281

CAR-
RONATF

(C03)

0

0

0

0

0

0

0

0

0

0

0

0

0

0
0

0

0

DIS-
SOLVED
SOLIDS

(SUM OF
CONSTI-
TUfNTS)

140

142

199

155

263

246

132

155

134

218
183

240

306

ALKA-
L I N 1 TY
AS
CAC03

51

66

77

97

72

94

95

39

48

38

51

49

59

97
90

102

156

LOSS
ON
IGNI-
TION

19

7

20

3?

34

3

16

15

6

8

30
20

32

39

HUDSON RIVER BASIN

01373860 MOODNA CREEK NEAR NEW WINDSOR, N.Y. Continued

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

DATE

APR. .
21..
MAY
19..
JUNE
27..
JULY
22..
AUG.
18..
SEPT.
25..
OCT.

NOV.
20..
DEC.
22..
FEB.,
19..
MAR.
19..
APR.
22..
MAY
21..
JULY
01..

AUG.
13..
SEPT.
09..

TIME

1969

1030

1100

1030

1115

1130

1000
1970

1000

1000

1045

0942

1115

NON-
CAR-
HARD- BONATE

(CA,MG) NESS
(MG/L) (MG/L)

100 34

102 25

126 30

104 32

132 38

8B 41

1

88 38

8B 2B

114 12

121 4

138 0

SPECI-
FIC
COND-

1 MICRO-

MHOS)

265

354

358

270

461

275

235

249

373

474

521

COLOR

CORALT

(UNITS) UNITS)

7.6 35

7.7 30

7.5 29

6.6 32

7.8 41

6. 6 38

7.6 24

7.4 16

7.5 16

7.3 32

7.4 34

7.4 34

7.2 90

6.B 46

1

CHFM-

PXYGEN
PFMtND

(MG/L 1

16

12

17

17

20

28

28

13

7.0

5.0

14

13

10

31
11

80

53

MFTHY-
LENF
BLUE

SUB-
STANCE

(MG/L)

. 06

. 05

. 07

. 09

. 06

. 12

. 10

. 04

. 04

. 02

. 06

. 06

. 05

. 13
. 08

. 20

. 28

HUDSON RIVER BASIN

01374085 HUDSON RIVER AT BEAR MOUNTAIN, N.Y.

LOCATION. Lat 41°18'51", long 73°59'OB", Rockland County, at south dock of Bear Mountain State Park at Bear Mountain, 0.4 mile downstream from Bear Mountain Bridge.

PERIOD OF RECORD. Chemical analyses: April 1969 to September 1970.

COOPERATION. Samples furnished by New York state Department of Environmental Conservation.

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

OATE

APR. ,
21...

20...
JUNE
27...
JULY
22. .,

Aiir,.
18...
SFPT.
25..
OCT.
22..
NOV.
20..
DEC.
22..
FEB.,
19..
MAR.
19..
APR.
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MAY
21..
JULY
01..
13..
AUG.
13..
SEPT.
09..

T IME

1969
1010

0930

1145

0945

1000

1030

0930

1000

1100
1970
0910

0915

1050

1010
1035

1031

1020

SILICA

I SI02)
(HG/L)

4.2

4.0

2.e

2.0

1.4

. n

. 9

2.9

4.B

5.5

12

3.B

2.0
1.0

. 8

. 8

IRON

(FE)

220

60

70

30

30

30

30

160

50

110

BO

50

50
40

10

20

TOTAL
MAN-
GANESE
(MN)

0

30

0

50

0

20

80

0

10

70

60

70

10
0

20

100

nis-
sOLVFn
CAL-
CIUM

(CA)

?0

1«

?4

34

27

5?

58

24

24

27

43

24

30
28

49

61

nis-
snu/Ffi
MAR-
NF-
SIIIM

(MCI

3.8

3.6

7.9

38

4.6

76

96

4.8

3.9

11

43

3.8

18

12
12

73

102

SODIUM

(NA)

6.0

5.9

61

317

14

695

950

21

11

67

388

5.9

142

87
76

610

1000

PO-

SIUM
(K 1

1.0

. 9

3.0

1?

1.5

16

38

1.7

1.3

3.5

16

1.1

6.4

4.1
3.9

21

30

RONATF

|Hcn3)

54

50

50

57

70

71

78

64

57

63

64

60

46

56
62

70

75

RONATF

(C03)

0

0

0

0

0

0

0

0

0

0

0

0

0

0
0

0

0

ALKA-

AS
CAC03

44

41

41

47

57

58

64

52

47

52

52

49

38

46
51

57

62

HUDSON RIVER BASIN

01374085 HUDSON RIVER AT BEAR MOUNTAIN, N. Y. Continued

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V

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>T.

(SH41

1969
21

17

30

S2

25

?02

248

33

27
1970
46

150

22

53

44
41

188

122

DIS-
SOLVED ORGANIC
CHin- Finn- MTRn-

1CL) 1FI IN) (N02) (IM03I (^

9.3 .1 .07 .0* 2.2

R.3 .0 .11 .03 2.0

107 .1 .33 .00 2.2

560 .3 .11 .01 2.4

22 .1 .23 .00 2.B

1320 .3 .23 .02 3.?

1680 .2 .01 .02 3.3

26 .1 .24 .08 3.3

19 .1 .37 .05 3.2

120 .2 .14 .08 4.2

720 .2 .27 .26 3.2

9.4 .1 .30 .07 3.2

256 .2 .50 .13 2.3

127 .1 .16 .04 3.3

1170 .2 .00 .08 2.4

1800 .2 .20 .16 3.0

WON- SPFCI-
CAR- Fir
HARD- BONATF CONn-
NESS HARn- UCTANCF PH

TIME (CA.MC.I NFSS IMICRn-
DATF (M(VLI (nr,/LI MHOM UJNITSI

APR.
21.
MAY
20.
JUNE
27.
JULY
22.
AUR.
IB.
SEPT

OCT.

NOV.
20.
DEC.
22.
FEB.
19.
MAR.
19.
APR.
22.
MAY
21.
JULY
01.
13.
AUG.
13.
SEPT
09.

, 1969
1010 66 22 161 7.5

0930 60 19 150 7.6

11*5 92 5? 506 7.2

09*5 2*1 44 ?070 7.0

1000 86 29 243 7.7

1030 442 3B4 4210 7.3

1000 80 27 269 7.5

1100 76 30 223 7.4 , 1970
0910 112 61 560 7.3

0915 284 232 2620 7.4

0920 73 19 170 7.7

1050 134 96 1020 7.2

1010 124 78 711 7.5
1035 120 68 637 7.5

1031 422 365 4010 7.6

. . 1020 572 510 6030 7.3

ois- nrs-
SOLVED SOLVED
TOTAL SOLIDS snuns
PHOS- (RESI- (SUM HE

H4> (PP4) IflO C) TIJFNTS)

. 12 .24 114 94

. 06 .IS 90 B4

. 0« .30 280 ?62

. 30 .36 11RO 1080

. 16 .3« 157 133

. 52 .45 3260 3110

. 08 .44 160 150

. 01 .36 126 123

. 47 .42 315 316

. 37 .33 1440 1410

. 20 .30 114 103

. 34 .38 537 530

. IB .06 365 323

. 08 .40 219O 2150

. 27 .43 3080 3160

MFTHY-
LFNF
COLOR CHF.M- aiUF
(PLAT- ICAL SCTIVF
INnp- nxvr-FM SIIR-
COPALT OFMANd STAMCF
UNITS) IMG/L) (M(VL)

?0 9.0 .04

3R 14 .04

21 11 ,os

20 15 .10

in 11 .05

19 22 .16

14 22 .20

34 17 .06

24 7.0 .05

24 10 .05

14 6.0 .11

19 7.0 .04

14 6.0 .08

34 8.0 .05
12 7.0 .06

19 9.0 .17

8 .20

LOSS

I r,M i -
TIO.M

11

10

70

153

?4

270

254

16

6

32

120

18

53

56

167

1

HUDSON RIVER BASIN

01374350 HUDSON HIVER AT VERPLANCK, N. Y.

:ATION.
the river from Tomkins Cove

)PERATI ON. Samples furnished by New York Stats; Departmer

CHEMICAL ANALYSES, APRIL

OATF

APR. i
21...
MAY
19..
JUNE
2ft..
JULY
22..
AUR.
Ift..
SEPT.
25..
OCT.
22..
NOV.
20..
DEC.
22..
FE8.,
19..
MAR.
25..
APR.
22..
MAY
21..
JULY
01..
13..
AUG.
13..
SEPT.
09..

APR. ,
21...
MAY

JUMP
26...
JULY
22...
AUR.
18...
SEPT.
25...
OCT.
22...
NOV.
20...
DEC.
22...
FEB.,
19...
MAR.
25...
APR.
22...
MAY
21...
JULY
01...
13...
AUG.
13...
SEPT.
09...

TIME

1969
1110

1130

1700

1140

1135

1130

1240

1310

1245
1970
1145

1000

1125

1145

1155
1230

1005

1145

SULFATF

(S04)

1969
17

16

79

141

36

352

364

42

29
1970
78

180

23

152

110
105

310

124

SILICA
(SI02)
(MR/L)

3.9

3.9

2.6

2.3

1.4

1.1

l.l

2.5

5.2

5.2

5.0

4.4

3.6

2.3
1.6

1.0

. 8

CHLO-
RIDE

(CD

9.0

8.6

30fl

1000

92

7300

2620

96

15

375

1210

29

1020

750
600

2100

2200

TOTAL
MflN-
IRON GANESE

(FE) (MNI
(IIR/L) (UR/L)

210 20

60 0

50 0

20 0

30 0

70 0

40 50

130 0

60 0

120 80

BO 80

30 20

50 130

20 0
40 20

20 100

240 10

OIS-
SDLVFD DRRANIC
FLUn- NITRO-

I F 1 (N)

. 0 .32

. 0 .12

.2 .15

. 3 .12

. 1 .33

. 3 .27

. 4 .11

. 2 .78

. 1 .29

. 2 .11

. 1 .36

. 3 .37

. 1 .36
. 1 .07

. 3 .00

. 3 .00

DIS- S
SOLVFP
CAL-
CIUM

(CA)
(MR/L) (

21

IK

37

40

29

«3

77

26

27

30

50

23

39

34
36

46

64

HTBITE MI

(M0?| (
(MR/L) 1

.03

. 06

,or>

. 11

. 05

. 08

. 03

. 19

. 36

. 70

. 07
. 06

. 14

. 18

iber 1970.

1969 TO SEPTEMI

nis-
OUVFD
MAR-
MF-
SIIIM SPDIIIM

(MR) (KiA)
MR/L) (MR/L)

3.7 5.7

3.6 6.0

26 72«

60 542

8.2 55

137 1740

166 1480

8.0 60

4.2 10

27 206

80 660

5.2 17

66 565

39 392
40 338

116 1120

140 1200

MP3) (MH4)
MR/LI (MG/L)

2.3 ,n«

7.2 .05

7.1 .10

2.7 .21

7.6 .14

2.3 .25

3.2 .89

3.4 .11

3.8 .02

2.6 .41

3.4 .11

4.5 6.4

. 0 .20
3.0 .34

8.9 .26

3.1 .44

ital Conse

IER 1970

pn-

SIIIM

(K)
(MP/L 1

1 .0

1.0

11

22

3.1

3°

52

3.6

1.6

9.1

24

1.6

21

15
13

42

33

TriTAI.
PWS-

(P04)
(MR/L)

. 71

. 17

. 73

. 3?

. 73

. 56

. 65

. 98

. 38

. 37

. 36

. 38
. 10

1.2

. 74

ovation.

RDNATF

(HCP3)

5ft

50

58

59

70

76

81

67

68

60

69

61

53

58
62

74

76

nis-

(RESI-
nilE AT

iBo r)
(MR/L)

86

84

RftO

1950

4371

4920

324

137

2340

145

2000

1510
1180

3860

4160

RPNATF

irn3)

0

n

0

0

n

0

0

0

0

0

0

0

0

0
0

0

0

nis-

sriL ins

CONSTI-

TUENTS)
IMR/L)

02

84

1841

4191

4800

276

129

2250

138

1900

1370
1170

3780

3800

ALKA-
LI N I TY

AS
CACH3

(MR /!_)

4ft

41

48

48

57

67

66

55

56

49

57

50

43

48
51

61

62

Lnss
nw
I RM 1 -

TIO.N
(MR/LI

II

ft

ftO

177

410

520

49

14

340

12

100

168
70

280

444

HUDSON RIVER BASIN

01374350 HUDSON RIVER AT VERPLANCK, N.Y. Continued

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

DATE

APR. ,
21...
MAY
19...
JUMP
26...
JULY

AUG.
18...
SEPT.
25...
OCT.
22...
NOV.
20...
DEC.
22...
FEB. ,
19...
MAR.
25...
APR.
22...
MAY
21...
JULY
01...

AUG.

13:..
SEPT.

TIME

1969
1110

1130

1200

1140

1135

1130

12*0

1310

12*5
1970
11*5

1000

1125

11*5

1155

1005

HARD-
NESS
(CA.MG)
IMG/L)

68

60

1B7

106

771

876

98

8*

186

T9

2*6

592

NON-
CAR-
BONATF
HARD-
NESS

(MG/L)

22

19

140

4R

709

809

*3

29

137

398

29

198

532

SPECI-
FIC
COND-
UCTANCE PH
(MICRO-
MHOS) (UNITSI

lf,4 7.6

152 7.R

1540 7.7

3350 7.2

402 7.3

7210 7.2

8230 7.8

531 7.3

228 7.7

1280 7.2

252 7.3

2700 7.4

6820 7.6

COLOR CHFM-

[PLAT- ICAL
INIIM- OXYGEN
COBALT DFMANP

UNITS.! [Mf,/L>

24 11

33 9.0

13 10

21 15

17 10

19

18

32 19

2* 7.0

23 11

22 1*

11 *.0

19 8.0

20 12

7 22

8

LFME
RLUF
ACTIVF
SUB-
STANCF
IMG/L 1

. 07

. 03

.OR

. 14

. ns

. 23

. 26

. 07

. 0*

. 06

. 15

. 06

. 13

. 10
. 10

. 21

. 22

"° HUDSON RIVER BASIN

01376269 HUDSON RIVER AT PIERMONT, N.Y.

LOCATION. Lat 41°02'34", long 73°53'48", Rockland County, at end of pier in Piermont, 0.3 mile upstream fr Sparklll Creek and 1.8 miles downstream from Tappan Zee Bridge.

PERIOD OF RECORD. Chemical analyses: Hay 1969 to September 1970.

COOPERATION. Samples furnished by New York State Department of Environmental Conservation.

CHEMICAL ANALYSES, MAY 1969 TO SEPTEMBER 1970

TIME
DATE

MAY, 1969
27... 0910
JULY
02... 0950

AUG.
25... 0940
OCT.
02...
30... 1330
NOV.
25... 1400
JAN., 1970

FEB.
23... 1130
MAR.
25... 1130
APR.
29... 0930
MAY
28... 1000
JUNE
25... 11-05
JULY
22... 0955
AUG.
19... 1010
SEPT.
17... 0915

SULFATE

(5041

MAY, 1969
27... 123
JULY
02... 327
30... 5B1
AUG.
25... 500
OCT.
02... 550
30... 610
NOV.
25... 98
JAN., 1970
28... 460
FEB.
25... 350
MAR.
25... 500
APR.
29... 43
MAY
28... 610
JUNE
25... 600
JULY
22... 600
AUG.
19... 750
SEPT.
17... 1500

SILICA
ISI02I

2.6

2.1
2.9

1.0

1.5
1.6

1.9

5.1

4.0

4.4

2.0

. 0

2.3

1.4

CHLO-

ICLI

784

2120
4050

3270

4360
4240

508

3200

1950

3560

140

2160

3000

3600

4700

5200

nis-
nis- SOLVED

MAN- CAL- ME-
IRON GANESE CIUM SHIM

IFEI (MNI (CAI (MR)

30 40 39 46

0 0 65 124

40 0 S9 ?08

20 20 124 250

70 80 63 106

20 80 98 216

30 0 24 12

20 80 71 132

10 0 95 211

10 50 80 189

40 20 125 262

DIS-
SOLVED ORGANIC
FLUO- NITRO-

IFI INI (N02I (Mil

. 2 .00 .0? l. c

. 3 .08 .02 2.tl
. 6 .59 .15 2.0

. 5 .32 .53 -2.0

7 .10 .04 2.5
2 .44 .OS 2.8

2 .36 .09 3.0

5 .05 2.5 2.4

1 .52 .12 3.2

* .00 .04 5.5

*> .25 .11 2.5

* .26 1.0 1.5

* .00 .04 4.9

PO-
TAS- BIC'°-
SODIUM SIUM RONUF
1 MA) (K 1 (HC03)

430 17 55

1?30 46 6R

1810 72 76

2300 70 82

1000 41 71

1920 60 78

80 4.3 64

1150 42 64

1780 64 77

2050 79 70

2900 105 82

OIS-

TOTSL SOLIDS

PHOS- (RESI-

|NH4| IP04) ISO Cl

. OS .45 4170
. 25 .90 7610

. 25 1.0 6340

. 15 .69 8080
! * .86 7010

27 .74 1060

. 76 .75 6680

. 40 .77 4220

57 2.5 6170

. 25 .92 6560

. 66 1.2 9380

C«R-
RONATF

iro3i

0

0
0

0

0
0

0

0

0

0

0

0

0

0

0

0

DIS-

sni.ins (SUM nF

CONSTI-

TUENTS)

1470

3950
BOftO

5990

7700
7780

1020

6400

4200

5790

6640

8890

ALK A-
L I N I TY
AS
CAC03

45

f,Q

6?

67
73

57

66

58

64

52

52

63

57

67

LOSS

ON ir.Ni-

235
74P

300

630
770

92

720

260

680

549

616

1200

HUDSON RIVER BASIN

01376269 HUDSON RIVER AT PIERMONT, N.Y. Continued

CHEMICAL ANALYSES, MAY 1969 TO SEPTEMBER 1970

04TE

MAY, 1969

JULY
02... 0950
30... 1120
4UG.
25... 0940
OCT.
02...

NOV.

JAN., 1970
28... 1345
FES.

M R.

A R.
9... 0950
M Y
8... 1000
JUNE

JULY

AUG.

SEPT.
17... 0915

NDNI- SP6CI-
CAR- FIC

NESS H4RD- UCTANCF PH

(MG/LI (MG/L) MHOS! (UNITS!

672 617 6R60 7.2
1320 1250 11<500 7.7

1080 1070 9RBH 7.4

953 88B 7400 7.5

110 57 667 7.5

720 668 7100 7.4

1690 1620 15000 7.5

cm.nR CHEM-

INIIM- OXYGEN

UNITSI (MG/L!

?0
15

17

18

21

11 5.0

9

4

METHY-
LFNF
BLIIF

SUB-

(MR/L)

. 23
. 32

. 27

. 37

. 24

. 05

. 21

. 34

HUDSON RIVER BASIN

01376510 HUDSON RIVER AT YONKERS, N.Y.

LOCATION. Lat 40°55'00", long 73°54'41", Westchester County, at south end of do stchester County joint

PERIOD OF RECORD. Chemical an

DATF

4PR.,
2R . * .
M4Y
27.. .
JULY
02...
30...
4UG.
25...
OCT.
02...
30...
NOV.
25...
JAN.,
28...
FES.
25...
MAR.
25...
APR.
29...
MAY
28...
JUNE
25...
JULY

AUG.
19...
SEPT.
17...

TIME

1969
1015

1030

1040
1317

1110

1430

1510
1970
1500

1510

1340

1105

1100

0920

1130

1050

SILICA

(SI02)
(MR/L)

4.1

2.R

2.0
2.9

. 9

1.4
1.5

1.6

3.6

3.8

4.0

3.9

3.2

5.2

1.2

1.3

alyses: April 1969 to September 1970.

CHEMICAL ANALYSES, APRIL

01 S-
TOT4L SOLVED

IRON

(FFI
(IIG/L 1

70

10

10
100

20

20
20

20

20

40

30

20

10

40

20

60

M4N-
G4NESE

(MNI
(UG/LI

250

50

30
90

50

50
40

20

80

80

70

10

70

80

70

40

CAL-
CIUM
1 C 4 I
I MG/L 1

3D

6R

97
153

169

160
188

94

144

136

118

39

105

140

185

190

1969 TO

DIS-

SOLVED
M4R-
MF-

MIIM
(MR|
(MG/LI

25

126

?26
367

400

340
447

186

331

328

233

47

238

286

400

510

SEPTEMBER

SODIUM

INA)
(MG/LI

?B2

1?00

1950
3440

3700

3240
4380

1720

3280

2960

2510

448

2200

3190

4800

4800

1970

PO-
TAS-
SIUM
IK 1

(MG/L 1

13

iO

RO
123

129

108
167

58

140

120

77

18

78

90

13

180

160

RICAR- C4R-
RONJTF RPWATE
(HCH3) (C H3)
(MG/LI (MR/I.)

52 0

62 0

76 0

in6 n

Rfl 0

88 0
101 0

81 0

90 0

86 0

82 0

64 0

74 0

80 0

79- 0

88 0

90 0

ALK1-

L i M r
IS
C ACCV

(MR A

43

M

ft?
R7

7?

72
83

66

74

71

67

52

61

66

65

72

74

HUDSON RIVER BASIN

01376510 HUDSON RIVER AT YONKERS, N.Y. Continued

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

r>ATF

APR.,
28 . .

27..
JULY
02..
30..
ALG.
25..
OCT.
0?..
0..
N V.
5..
J N.,
B..
F 8.
5..
M R.
5..
A R.
9..
MAY

JUNE
25..
JULY
22..
AUG.
19..
SEPT.
17..

SULFAT
1 S04>

1969
3.

165

129
R75

1030

825
1110

4*2
1970
950

770

620

121

600

570

1260

1500

nis- nis-
nis- snLVFf sriLVfn

CHLO- FLUO- NITRO- PHOS- (PESI- (MIM nF ON
F RIDF PIPE r,EN NITRITF NITRATE AMMONIA PHORUS tlUE AT (TINSTI- [GM[-

ICLI (F) (N) |N'n?) (MOD (NH4> (pri4i 1 BO o TUFMTSI TinM
1 (MG/L) (MG/L) (MG/L) (MG/|_) (MG/L) IMG/LI (MG/L) (MG/LI (MG/L) («r,/'_)

7 544 .1 .10 .01 2. 6 .11 .pi inpn 931 12

?710 .3 .05 .06 1.? .02 .14 44<ln 3P50 220

3360 .0 . Ofl .11 I.ft .23 .65 693H 6?80 6^6
6030 .9 4.3 .01 .0 .25 6.1 11 son 11000 1270

65RO ,R .27 .45 ,fl .14 .9? 12^00 12000 410

5790 .0 .51 .10 2.3 .29 .93 10300 10500 650
7720 .7 .41 .24 2.0 2.2 .96 15300 14100 139

6000 .7 .50 .08 1.7 2.3 .84 11100 10900 860

765 .1 .19 .03 2.4 .38 .48 1620 1480 77

5100 .6 .01 2.7 1.4 .65 .90 10200 9150 1340

7500 .7 .58 .54 1.4 .65 1.5 16000 14400 959

8200 .1 .08 1.0 .9 .66 1.6 16600 13800 2210

MfTHY-
NnN- C5 PFCI _ LFNF
CAR- FIC COLOR CHEM- RLUF
HARO- BONATF CHMP- 1 PL A T- ICAL ACTIVE
MESS HARD- UCTAMCF PH INIIM- OXYGEM SUB-

OAT F (MG/L) IMG/LI MBC1SI (UNITS) UNITS! 1 MG/ L) (MG/L)

APR., 196 q
2R... 1015 17R 136 10 in 7.6 ?0 14 .10
MAY
27... 1030 6flfl 637 709n 7.3 9 30 .27
JULY
07... 1040 1170 1110 lOROn 7.3 12 .29
30... 1317 1890 1800 16ROO 7.3 76 -- .47
AUG.
25... 1110 2070 2000 18200 7.4 7 .44
OCT.
02... 1800 1730 16400 7.3 6 .44
30... 1430 2310 2230 21000 7.5 9 .56
NOV.
25... 1510 1000 934 10100 7.4 21 .30
JAN., 1970
28... 1500 1720 1650 18000 7.5 19 .43
FEB.
25... 1510 1690 1620 16800 7.3 7 .40
MAR.
25... 1340 1250 1190 14200 7.5 15 .38
APR.
29... 1105 297 239 2890 7.5 21 8.0 .10
MAY
28... 1100 1240 1180 12400 7.3 16 .32
JUNE
25... 0920 1250 1190 16800 7.2 20 .44
JULY

AUG.
19... 1130 2110 2040 24100 7.3 9 10 .62
SEPT.

HACKENSACK RIVER BASIN

01376905 HACKENSACK RIVER NEAR ORANGEBURG, N.Y.

300 ft east of Hunt Road and 2 miles west of Orangeburg.

PERIOD OF RECOHD. Chemical analyses: April 1969 to September 1970.

DAT

APR.
28.
MAY
27.
JULY
0'.
30.
AUG.

3CI .
02.
30.
NOV.
25.
DEC.
30.
JAN.
28.
FES.
25.
MAR.
25.
APR.
29.
MAY
28.
JUNE
25.
JULY
22.
AUG.
19.
SEPT
17.

APR.,
28..

27..
JULY
02..
30..
AUK.
25..
OCT.
02..
30..
NOV.
25..
DEC.
30..
JAN.,
28..
FEB.
25..
MAR.
25..
APR.
29..
MAY
28..
JUNE
25..
JULY
22..
AUG.
19..
SEPT.
17..

TIMF

OR55

D830

0850

iioo

0855

0958
1200

1255

1345
, 1970
1230

1300

1200

0915

0920

1035

0915

0920

0955

1969
34

?7
27

26

32'

30

29

30
1970
34

32

33

31

25

30

28

27

24

CHEMICAL ANALYSES, APRIL 1969 TO SEPTEMBER 1970

nis-
nis- SHLVFD

SILICA IRllN
(S IH2) I FF)

2.0

. 0

2.8

2.3

6.1
4.3

2.6

5.0

6.1

4.7

. 2

2.2

1.8

. 3

3.4

2.9

CHLO-

(CL)

46

40

40
34

37

44
38

35

54

81

45

71

42

41

46

40

40

52

110

50

60

90
470

40

70

270

170

50

20

20

160

70

60

20

DIS-
SOLVED
FLUn-

(Ft

. 2

. 2

. 0
. 2

. 2

. 3
. 1

. 2

. 1

. 2

. 2

. 2

. 1

. 3

. 2

. 2

. 1

. 1

MAN- C6L- NE-

GANESE CIUM SIMM
(MNt (CA) (MC,)

20 33 5.7

0 34 5.2

20 33 5.0

0 42 6.2

0 34 5.3

SO 36 6.1

10 41 7.1

0 34 5.8

70 34 6.4

0 31 4.9

0 30 6.5

DPT, AN 1C
NITRH-

(N) (N02) (M03)

. 19 .13 Z.I

. 27 .02 .0

. 51 .69 4.2
. 53 .94 4.6

. 31 .98 3.5

. 47 .15 3.7

. 17 .06 4.2

. 19 .06 3.2

. 64 .04 1.0

. 44 2.9 .0

. 49 .12 1.5

. 23 .07 3.1

. 30 .02 5.9

1.4 .02 2.8

SODIUM SHIM

(NAt (Kt

22 2.7

21 2.4

25 3.5

19 2.1

30 2.6

46 3.0

23 2.1

37 2.3

24 2.1

29 2.3

pHns-

(NH4I (P04I

.4"! .17

. 35 .06

- 28 .17

1.0 .59
. 07 .51

. 54 .28

. 83 .40

1.7 .22

. 55 .37

. 22 .11

. 12 .13

. 44 .18

. 15 .50

. 10 .35

. 24 .52

>ad (Vete

;rvation.

RONATF

83

87

104
108

88

94

112

86

80

74

76

DIS-
SOLVED

(RFS1-

180 C t

185

187

201

221
231

177

228

215

250

191

197

229

200

178

222

rans Kemoi

80MATF

0

0

0

0
0

0

0

0

0

0

0

0

DIS-

(SUM nF

TMENTS)

186

179

170

216
206

175

215

195

231

173

184

199

186

177

189

ial Driv

ALKA-

AS

68

75

71

85
89

72

77

92

71

66

61

62

ON
IKNI-
TION

10

10

23

13
32

26

26

18

36

35

18

12

39

53

28

41

HACKENSACK RIVER BASIN

01376905 HACKENSACK RIVER NEAR ORANGEBURG, N.Y. Continued

HARD-
NESS

TIME (CA.MG)
DATE (MG/L)

APR., I960
2R... 0855 100
MAY
27... 0830 106
JULY
02... 0850 106
30... 1100 90
AUG.
25... 0855 103
OCT.

30... 1200 132
NOV.

DEC.

JAN., 1970

FEB.
25... 1300 109
MAR.

APR.
29... 0915 98
MAY

JUNE

JULY
22... 0915 11*
AUG.

SEPT.

NON-
CAR-
BONATE
HARD-
NESS

(MG/L 1

40

38

31
22

43

38

37

36

SPECI-
FIC
COND-
UCTANCF PH
I MICRO-

MHOS) (UNITS)

341 7.8

330 7.7

340 7.5
310 7.9

317 7.R

383 7.*

350 7.6

298 7.9

3*9 7.6

COLOR

INUM-
COPALT

UNITS)

26

21

20
28

16
11

15

9

16

3*

21

4

CHPM-

DXYGEN
DEMAND

(MG/L)

19

15

19
19

18

8.0
9.0

10

1*

18

10

14

16

2B

METHY-
LENE
RLUF

SUB-
STANCE

(MG/L)

. 09

. 06

. 07
. 07

. 06

. 08
. 04

. 05

. 05

. 05

. 06

. 11

. 04

. 05

. 03

. 04

HACKENSACK RIVER BASIN

01378570 HACKENSACK RIVER AT HACKENSACK, N. J.

LOCATION. Lat 40°52'45", long 74°02'25", Bergen County, at Court Street bridge in Hackensack. DRAINAGE AREA. 128 sq mi, approximately.

PERIOD OF RECORD. Chemical analyses: June to September 1970.

DIS-
SOLVED UIS-
ALUM- SOLVbJ
INU" IRON
(AL) (f-tl

JUNE
22.. .A 110
JULY

AUG.
24... C 0 560
SEPT.

2")...D

CHLO-
SULFATE RIDE
(504) (CD

JUNE
22... 275 1510
JULY
29...
AUG.
24... 494 3120
SEPT.
29...

CHEMICAL ANALYSES

DIS-
SOLVED
MAN- CAL-
GANFSE CIUM

(MN) (CA)

680 80

1QO 94

ORGANIC
FLUO- NITRO-
RlOt GF.N
IF) (N)

. 4

1.3

, JUNE TO SEPTEMI

MAG-
NE-
SIUM SllOIUM

IMG) (NA)

110 820

220

TOTAL
KJEL-
DAHL AMMONIA
NITRD- NITRO-
GtN GtN

(N) (N)

4.1

2.6

5.2 3.9

2.6

SER 1970

PO-
TAS- 8ICAK-
SIUM 80NATE

IK) (HCD3I

36 122

149

PHOS-
NITRATt PH»TE

(NU3) IP04I

2.2 4.5

2.0 .76

1.2 4.7

1.0 7.6

ALKA-
CAH- LINITY
80NATE AS

IC03) CACD3

0 100

0 122

DIS-
SOLVED
ORTHO SOLIDS
PHDS- IRES1-
PHATE DUE AT

(P04I 180 C)

4.5

2.3

6110

HACKENSACK RIVER BASIN

01378570 HACKENSACK RIVER AT HACKENSACK, N.J. Continued

CHEMICAL ANALYSES, JUNE TO SEPTEMBER 1970

SU5- HAftO-

JUNfc
12... 653
JULY
2t...
AUG.

StPT.
2'»...

A INCLUDES D.09 MG/L DF
B INCLUDES 0.04 MG/L OF
C INCLUDES 0.21 MG/L OF
D INCLUDES 0.16 MG/L OF

AL WIN

. 00

. 00

. 00

. 00

JULV

z«... .on .00
AUG.
2"»... .00 .00
SEPT.

29... .00 .00

IMTE

JUNE

22... 0<i<,5
JULY
23... mo
AUG.
24... 1400
SEPT.
29... 0900

NON-
CAH- TOTAL
OUNATfc AUDIT*

553

SPcCL- BIO-
FIC COLOR CHEW- TOTAL

' CUNO- (PLAT- TUR- ICAL ORSANIC
UCTANCE PH INU4- BID- OXYGEN CHLGRO- LAR90N PHENOLS

5210 7.3 25 27 <V.7 22 L6

3260 7.5 20 6.2 37 1^

1*900 6.9 L2 5.6 30 1*

METHYLENE-BLUE ACTIVE SUBSTANCE (MBS).
METHYLENE-BLUE ACTIVE SUBSTANCE (MBS) AND 9.4 MG/L OF OIL AND GREASE. METHYLENE-BLUE ACTIVE SUBSTANCE (MBS) AND 6.4 MG/L OF OIL AND GREASE. METHYLENE-BLUE ACTIVE SUBSTANCE (MBS).

PESTLCIDE, RADIOCHEMICAL, AND MINOR ELEMENTS

DL- HEPTA-
DJT DJE D'JT 6LORIN ENOiUN CHLUR L LNOANE

. 01 .00 ."0 .00 .00 .00 .00

. 02 .00 .OU .00 .00 .00 .01

,uo .00 .on .00 .no .00 .00

. 01 .00 .01 .00 .00 .00 .00

DIS- DIS- SUS- SUS- TOTAL
SOLVED SOLVED PENDED PENDEO CHRO-

. 00

. 00 <38

. 00

PtR-

CENT
OF

(FT)

16 50

12 50

15 50

18 50

(AS) (CR) (GUI (PB) (ZN)

6« 2.3 1.6 0.5 10 10 0 50

FIELD DETERMINATIONS

SPEC!- FECAL COL1-
FIC CdLI- FORM

AIR COND- U1S- FORM (CUL-

IJEG C) (DEt. Cl MHOS) (UNITS) (MS/L) 100 ML) 100 MLI

2-1.5 18. 4 3250 7.3 1.2 60000

2d.4 33.0 4250 7.* J.2 525UO 590DO

26.2 27.9 3000 7.3 6.8 5000

2^.2 13.5 7.2 1.0 36000 41500

HACKENSACK RIVER BASIN

LOCATION. Lat

DRAINAGE AREA.-

PERIOD OF RECO

REMARKS. St at

DATir
LCT.

' 1 V.
4. .
J C.

9..
F B.

6..
A R.
3..
MAY

i~!C T .

NCV.

J C.
6..

F 3.
6..
M * .

4 Q.

M Y
5. .

OCT.

MOV.

ObC.
16..

19..
FE3.

M4K .
16..

13..
MAY
25..

01378575 HACKENSACK RIVER AT LITTLE FERRY, N.J

40°51'04", long 74°01'47", Bergen County, at bridge on U.S. Highw

3). Chemical analyses: August 1969 to May 1970 (discontinued),

on operated in cooperation with Environmental Protection Agency.

SODIUM
DIS- PLUS

11 S- SOLVE 1) MAG- fO-
SlUVbLl M4iN- CAL- Ntr- TAS-
SILICA HG\ GANCSb CIUC SIU" SOT I UM SIUM
(Slil?) (FF) (MM) (CAI IMG) (MA) (NA»K)

13B 2S4 ?630

110 104 (98 1780

0.7 1300 530 73 105 733

9.6 8bO 10K) 100 185 1 3 d 0

34 9.0 52

5 70 108 857

7.7 270 2EO 42 16 126

60 630 28 12 1240

TP L
KJFL-
4LK4- 04HL
LINIIY CHLH- FLUU- NITRO- PHPS-

C5CJ3 (SI14) ICL] (Fl (Nl (N'13) IPG4I

142 714 4500 8.8 2.3 4.B

113 515 3050 11 2.1 5.3

!>0 41 90 2.5 6.3 1.9

116 251 1490 6.7 4.9 3.5

76 71 190 .3 16 7.3 1.9

107 2bO 1710 8.0 1.? 7.3

NtlN- SPbCl- tun-
LAR- FIC COLOR f.HFM-
m«U- CONATt CONO- (PLAT- TOR- 1C4L

(C4,MGI txtSS (MICRO- C'JBALT |TY 1JEM4ND
(Mo/LI (MG/LI MHCISI (UMTSI UN [1 S) (JTIII (MG/LI

615 507 5130 7.5 20 50

101.1 379 8700 7.0 20 42 3.8

122 62 541 7.0 10 30 3.6

61* 503 5430 7.3 10 12 4.6

171 95 910 7.0 7 48 4.6

120 U 58<,o 6.8 27 44 5.6

ay 46 in Little Ferry.

pn-
T4S- HICAR- C«R-
SIUW HHNATE 80NAT6

(Kl (HCU3I (C13I

173 0

138 0

32 132 0

67 160 0

73 0

141 0

7.2 93 0

131 0

BIS- DIS-

iRTHn sruius SOLIOS
PHOS- IRE SI- (SUM OF

(PT4) HO Cl TUENTSI

4.4

6.9

1.?

3.2

1.5 564 514

METHY-

LENE
THTAL 8LUb
llRGANIC ACTIVE
CHLORH- CARBON SU8-

PHYLL 4 1C) 3T4NCb
IUG/LI IMG/LI (MG/L)

8 15 .19

6 18 .24

5 13 .24

2 13 .44

4 5.0 .07

5 In .33

7 10 .13

14 15 .11

P-jR- SPFCI- C'JLI-
" NT HC FURM
"! 418 CONJ- DIS- ICOL-
TiiTAL TEMPER- TEMPER- I1CT4NCE PH SOLVED ONIFS
HMt "tPTH QtPTH ATURE ATURE (MICRO- OXYGFM PER
n _ fc (Frl I0t<", C) (DbG Cl MHOSI (UNITS) IMG/LI 100 MLI

^ " 1245 lb 53 17 -° 12." 13400 6.6 2.0 165000

j ' li ^ 14 5Q l 6 -^ 10. 0 7000 7.0 1.4 15800

12J) '" ba H-5 11.5 3700 7.3 6.? 6250J

; 101<i 16 .0 -9.0 6. 5 7. 4

" Ulb 16 Sri 3 -0 4.0 680 7.5 9.4 1S50J

, I" n " S1 l6 !>0 "-8 5.0 4(100 7.S 3.2 12500

°9 '° 14 " !? ? If. 9 ROn 7.4 4.6 8600

' ' l) 'K'') I S 50 22.8 13. J 3600 7.4 S i,v,«n

HACKENSACK RIVER BASIN

01378640 HACKENSACK RIVER AT JERSEY CITY, N. J.

LOCATION. Lat 40°44'41", long 74°04'30", Hudson County, at Intake of Marion Plant, Public Service Electric and

(discontinued).

SILICA IRON

TINE (SI02) (FEt

OCT.
29... 1000 2.2 1*00
NOV.

DEC.

(C03) (SD4I (CLI

OCT.

NOV.
06... 0 1280 B500
DEC.
02... 0 960 6000

AMMONIA
NITRO-

(Nl INI

OCT.
21... 2.0 .15
NOV.
06... 3.0 .15
DEC.
02... 3.0 .11

It jr.

TOTAL MAG- RO-
MAN- CAl- NF- TAS- BICAR-
GANESE COPPER NICKEL CIUN SIUN S3DIUH SIUM BONATE

(MN) (CUI INI) (CAI (NGI (NAI (Kl (HC03)

DIS- DIS-
SOLVED SOLVED NON-
SOL I OS SOLIDS CAR- ALKA-

2.0 I. l.B 12200 12000 20 0 1 10 1*3

TOT At NETHY-
KJEL- BIO- LENE C3LI-
OAHL CHEM- CHEM- BLUE FORM

. 00 4.0 1.0 1314 .83 .00 25 50

. 00 5.0 2.0 10** .60 .00 210000 5*200

1.0 5.0 1.0 389 .15 .00 2*OD 2JDO

SPECI-
FECAL FIC COLOR

COLI- FECAL SUS- Oil COND- (PLAT- TUR- DENSITY
FORM STREP- PENDED AND TEMPER- UCTANCE PH INUM- BID- (GM/ML
TOCnCCI SOLIDS GREASE ATURE (NICRO- COBALT [TY AT
(MPN) (MPNI (MG/LI (MG/LI (DEC Cl MHOS I (UNITS) UNITS) (MG/L) 20 C)

OCT.

NOV.

DEC.

HACKENSACK RIVER BASIN

01378640 HACKENSACK RIVER AT JERSEY CITY, H. J. Continued

FIELD DETERMINATIONS

TEMPER-

TIME ATURE

SPECI-
FIC COLOR

COND- (PLAT-
UCTANCE INUM-

(MICRO- COBALT

ALKA-

BONATE BONATE

(HCD3» ICD3I
I1G/K IMG/LI

01...
02...
03...
10...

16...

NOV.

10...

1?...

18...

DEC.
01...

03...

1730
1730
1730

1730

1330

22.
21.
23.

22.

16.

20000 80 26
19600 80 39
22500 80 32

70100 80 38

84
92
75

8*

118
104
107

107

36

103
112
92
118
102

144
127
130

130

44

CHLD-
RIOE

(CL»

.. .
. . .

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.. .

... 11000

. . . 8650

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...

AMMONIA
NITRD- 01 <

4.8
3.8
4.4
4.2
. 30
. 30
2.4

2.5
5.0
4.0
4.0
4.8
3.9
3.2

. 90
3.5
1.1
2.1
2.6

FREE
AVAIL-
HYDRO- ABLE

. 8 .00
2.7 .00
3.9 .00
. 0 .00
1.3 .00
1.1 .00
. 2 .00

. 7 .00
. 00
. 00
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. 00
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'.00

. 5 .00
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. 00

TOTAL
RESI-
DUAL

. 00
. 00
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. 33
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TOTAl

20
00
50
00
1 00
1 00
1 00

_

HACKENSACK RIVER BASIN

01378640 HACKENSACK RIVER AT JERSEY CITY, N. J. Continued

SPECTROGRAPHIC ANALYSES. MATER YEARS OCTOBER 1967 TO SEPTEMBER 1969

DIS-
CHARGE

DATE (CFS)

SEPT., 1968
25...
NOV.

FE3..1969
28...
MAY
02...
MAY
21...
JUNE
10...
JUNE
23...
SEPT.
04...
SEPT
10...

LEAD

(PB)
DATE (UG/L)

SEPT. .1968
25... .0
NOV.

FEB. .1969
28... 6
MAY
02... 1
MAY
21... 1
JUNE
10... 3
JUNE

SE°T.
04... < 1
SEPT
10... < 1

INUM

(AD
(UG/L)

240

59

80

110

42

170

130

LITH-
IUM

(LII
(UG/LI

85

35

74

55

62

IUM

(BA)
(UG/LI

<60

25

45

19

16

35

24

MAN-
GAN-
ESE

(MN)
(UG/LI

320

380

220

340

250

IUM

(BE)
(UG/L)

<120

1

1

. 7

1

1

< .4

MO-
LYBDE-

(MO)
(UG/LI

<12

5

14

8

8

MUTH RON

(BI) (B)
(UG/L) (UG/LI

. 0 1800

< .4 740

< 1 740

< 1 1000

< 1 880

< .4 780

< .4 910

RU-
NIC- BID-

(NI) (RB)
(UG/L) (UG/LI

. 0 40

57 14

20 <75

12 <27

MIUM MIUM HALT

(CD! (CR) (CO)
(UG/LI (UG/LI (UG/LI

. 0 .0 .0

:6900 <320 <320

< .5 190 < 2

<10 320 < ?

<10 36 < 2

<10 58 < 2

< 5 140 < 2

< 5 3 < 1

STRON-

(AG) (SR) (SN)
(UG/L) (UG/L) (UG/L)

<30 5400 .0

. 4 2400 <13°

. 4 3900 <450

< .2 3900 <*00

PER

(CU)
(UG/LI

46.

20.

2.

150.

47.

29.

25.

TI-
TAN-

(TII
(UG/LI

. 0

. 2

4

1

1

z

IUM

(GEI
(UG/L)

. 0

<690

<260

__

- -

- -

VAN-
AD-

(V)
(UG/L)

. 0

<320

<200

<80

<120

<230

<190

IRON

(FEI
(UG/LI

800

200

76

160

130

130

23

14

(ZN)
(UG/L)

. 0

<1500

120

60

<22

<22

<22

<11

228 PASSAIC RIVER BASIN

01382000 PASSAIC RIVER AT TWO BRIDGES, N. J.

LOCATION. Lat 40°53'50", long 74°16'23", Passalc County, water-quality recorder at partial-record gaging static at bridge on Two Bridges Road just above Pompton River, 0.3 mile northeast of Two Bridges.

DRAINAGE AREA. 361 sq mi.

PERIOD OF RECORD. Chemical analyses: June 1963 to September 1965, October 1965 to September 1968 (partial-records), July 1969 to September 1970.
Water temperatures: October 1962 to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum, 1,230 micromhos Sept. 15; minimum, 124 micromhos Apr. 4-5.
pH: Maximum, 7.7 Oct. 4-5; minimum, 6.2 Apr. 5, 7-9.
Dissolved oxygen: Maximum, 12.6 mg/1 Apr. 4; minimum, 0.0 mg/1 several days in June.
Water temperatures: Maximum, 28. 0 C July 29.

Period of record:
Specific conductance (1969-70): Maximum, 1,230 micromhos Sept. 15, 1970; minimum, 124 micromhos Apr. 4-5, 1970.

pH (1969-70): Maximum, 7.7 Oct. 4-5, 1969; minimum, 6.2 Apr. 5, 7-9, 1970.
Dissolved oxygen (1969-70): Maximum, 12.6 mg/1 Apr. 4, 1970; minimum, 0.0 mg/1 several days in June 1970.

PUDS
MAG- PO- Pn-
CAL- NE- TAS- TAS-
CtUM StUM SODIUM MUM SlUM
(CAI <MG) (NA) (NA+KI (K)
(Ml./L) IMG/L) ("G/LI (MG/LI (MG/LI

ALK A-
UIC4K- C4K- LI'IITY CHLO-tlli'MTt "L'lATf IS SULFATt 1'IUE (HCH3I (C"3) CACJ3 (Sn<il (CLI

PASSAIC RIVER BASIN

01382000 PASSAIC RIVER AT TWO BRIDGES, N.J. Con

ifs- 'i|s-

uTF

HIO-

1CAL

IT!

DATh

r f.T.
24.. .
MOV.
2b...
PFC.
29. ..
JAN.
20...
HH.
?6. . .
MAK .
25.. .
APR.

2 a ...
M *u...

JUNE
<>5. ..
JULY
24. ..
AUG.
25 ...
SEPT.
30.. .

14, M ,r, ,n3

' " ^ ^

FIELD DETERMINATIONS

SPECI-
FIC
CflNLl-
TEMPER- UCTANCE PH

TIMt ATURE (MICRO-
|r\EG Cl MHOSI IUNI TSI

1300 9.7 465 S.2

1245 5.7 345 7.0

1150 .0 280 7.0

122S .0 6.9

1430 3.6 295

1015 5.8 260 7.8

1210 16.5 285 7.0

1400 16. d 340 7.0

1330 22.5 4Cu 7.1

1500 25.1 540 7.2

1500 2^.1 265 7.0

1045 16.8 650 7.4

«. 1

7..,

11 [S-
sui veu
OXYGEN

(MG/LI

1.2

4.4

9.8

7.8

9.5

8.6

4.4

3.0

. 9

3.2

2.2

1.4

la 6,

b 3,

COLI-
FORM

(COL-
ONIES
PFR
100 ML 1

2950

350

26

9400

234

120

17?0

2060

1100

500

325

PASSAIC RIVER BASIN

01382000 PASSAIC RIVER AT TWO BRIDGES, N. J. Continued

SPECIFIC CONDUCTANCE IMICROMHOS/CM AT 25»C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

MAX

433
473
438
3T5
332

377
382
383
416
431

478
480
466
490
494

542
540
542

548
518
524
522
514
526

OCTOBER

MIN

383
440
386
303
292

337
350
361
358
377

460
438
434
472
464

500
516
514

514
496
494
492
500
512

MEAN

407
460
405
317
308

352
367
373
385

:::

:::

455
444
480
478

515
525
520

524
508
510
506
506
516

FEBRUARY

MIN MEAN

533
496
524
474

NOVEMBER

492
474
478
430

506
488
504
446

393

338

340

364
300

338
330

363
374
394
316
300

MAX

348
356
361

357
348
336
339
337

346
384
395
376
363

324
331
350
371
436

405
333
300
375
360

269
384
275
360
345
360

368

318

333

392
386

276
300

320
324
308
300
386

MARCH

MIN

334
346
307

347
326
316
315
315

333
342
379
363
319

314
313
336
333
366

319
254
240
331
324

315
300
197
196
191
220

378

330

330

316
393

398
318

340
346
356
310
290

MEAN

. . .

351
342

351
335
333
334
335

330
373
386
369
338

318
330
333
345
394

369
317
285
360
245

241
336
224
205
209
343

434
416
468
496
536

438
398
324
168
180

176
172
176
184
206

334
236
360
384
330

334
323
396
308
340

DECEMBER

MIN

384
360
372
446
354

280
313
124
124
148

170
164
162
168
182

306
312
306
350
386

332
254
260
390
302

JANUARY

MIN

353
400
434
478
474

406
354
166
140
170

172
168
168
174
192

212
322
338
266
310

344
358
378
380
364

378
380
406
430
430

333
338
352
358
340

364
364
376
394
394

332
3*4
364
368
350

373
373
398
406
410

338
330
381
300
330

PASSAIC RIVER BASIN

01382000 PASSAIC RIVER AT TWO BRIDGES, N. J. Continued

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

DAY

1
2
3

5

6
7
8
9
10

11
12
13
14
15

16
17
18
19
20

21
22
23
24

27
26
29
30
31

MONTH

DAY

1
2
3
4
5

6
7
8
9
10

11
12
13
14
15

16
17
18
19
20

21
22
23
24
35

76

MAX

384
404

442

462
508
500
406
431

45
47
63
59
59

497
495
465
525
481

437
515
493
415

__
_

526
536

536

MAX

6.8
7.0
7.4
7.7
7.7

6.9
6.9
7.1
b'.B

. . .

__

7.3
7.2
7.2
7.1
7.0

6.9
6.9
6.9
7.4

. . .

JUNE

MIN

368
370
382
410

436
462
402
386
396

425
431
445
443
433

459
455
441
467
383

415
405
383
387

__

. . .

502
520

368

OCTOBER

MIN

6.7
6.8
7.0
7.0
6.8

6.8
6.8
6.8
6.8
6.8

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MEAN

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386

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45
48
43
399

433
437
457
451
447

483
483
453
499
411

426
453
428
399

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530

442

PH

MEAN

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6.8
7.3
7.4
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MAX

543
571
562
518
491

561
575
446
448
452

480
456
426
418
410

432
457
460
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476
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562
584
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540
624
658

658

(UNITS) ,

MAX

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JULY

MIN

533
537
510
472
475

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438
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454
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MEAN

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401

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481

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MEAN

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MAX

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MAX

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AUGUST

MIN

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DECEMBER

MIN

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SEPTEMBER

MEAN

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JANUARY

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MEAN

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MEAN

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PASSAIC RIVER BASIN

01382000 PASSAIC RIVER AT TWO BRIDGES, N. J. Continued

PH (UNITS)* WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FEBRUARY MARCH APRIL

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AUGUST

MAX MIN MEAN

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7.2 7.1 7.1
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7.3 7.1 7.2

PASSAIC RIVER BASIN 23:

01382000 PASSAIC RIVER AT TWO BRIDGES, N. J. Continued

DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITRE, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCTOBER NOVEMBER DECEMBER JANUARY

MAX MIN MEAN MAX MIN MEAN MAX MIN MEAN MAX MIN MEAN

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FEBRUARY

MAX MIN MEAN MAX

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MARCH APRIL

MIN MEAN MAX

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8.2 8.
7.6 7.

10.9
11.3
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7.4 7.6 10.1
7.6 7.
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6.2 7.4 9.1

5.6 7.3 10.1
5.3 6.
6.6 7.
7.0 7.
8.0 8.

8.4 8.
8.0 8.
7.8 8.
7.0 7.
5.3 7.

6.6 7.
6.3 8.
7.1 8.
7.4 9.
7.8 9.

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MEAN

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5.3 8.3

PASSAIC RIVER BASIN

01382000 PASSAIC RIVER AT TWO BRIDGES, N. J. Continued

MAX

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1.4
1.4
1.8

3.2

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3.0

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3.2
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1.2
3.1
3.3
3.2
3.5

3.0
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3.7
3.7

3.7

DISSOLVED OXYGEN

JUNE

MIN MEAN

0.8 1.4
0.3 1.1
0.2 0.5
0.3 0.4

0.4 0.5
0.5 0.8
0.7 1.0
0.8 1.1

0.3 1.6
1.0 1.5
0.4 0.9
0.5 1.1
0.3 0.8

0.3 0.5
0.3 1.1
0.0 0.5
0.0 0.8
0.0 0.4

0.2 0.7
0.2 1.2
0.3 1.6
0.3 1.8
0.4

0.5 1.6
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0.8
0.9 2.8
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0.0 1.0

(DO), IN

MAX

4.0
4.0
4.3
4.6
4.9

4.9
2.3
2.8
2.1

1.9
1.7
1.5
1.3
1.2

1.3
1.6
2.2
4.3
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3.7

3.8
5.0
4.2
3.8
3.7
3.3

5.0

MILLIGRAMS

JULY

MIN

1.0
1.2
1.2
1.2
1.2

0.6
0.8
0.9
0.9

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0.9
0.9
1.0
1.0

0.5
0.7
1.1
1.6
1.9

2.1
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1.6

1.7
2.0
1.8
2.0
2.0
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PER LITRE,

MEAN

3.2
2.4
2.9
3.6
3.4

2.5
1.3
1.5
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1.1
1.1

1.1
1.1
1.5
2.5
2.4

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2.6

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WATER

MAX

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3.4
3.7
3.9
3.9

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2.4
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1.2
1.3
0.8
0.7

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1.3
2.3

YEAR OCTOBER 1969

AUGUST

MIN MEAN

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0.7 1.4
0.9 1.9
1.2 2.6
1.3 2.1

1.2 1.8
0.4 1.4
0.4 1.0
0.4 1.0
0.3 0.7

0.4 0.5
0.5 0.6
0.5 0.7
0.6 0.7
0.7 0.7

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1.4 1.7

1.1 1.5
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0.7 1.1
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1.1 1.6

TO SEPTEM

MAX

3.0
3.4
2.6
3.1
2.5

2.3
2.8
3.5
2.2
1.6

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2.3
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3.1
2.5
1.6
1.9
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6.4
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2.3
3.0
2.5

1.1
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6.4

3ER 1970

SEPTEMBER

MIN MEAN

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1.4
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TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCTOBER NOVEMBER DECEMBER

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16.5
18.0
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15.0
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17.0
16.5

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15.5
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8.5
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MIN

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MEAN

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MAX

9.0
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MIN

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MEAN

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MAX

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MIN MEAN

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JANUARY

MIN

PASSAIC RIVER BASIN

01382000 PASSAIC RIVER AT TWO BRIDGES, N.J. Continued

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MAX

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24.5
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FEBRUARY

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JUNE

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JULY

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23.5

23.5
23.5

25.0

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24.5

25.5
26.5
26.5
27.0
27.0
25.5

4.5
4.5
4.5
5.5
6.5

6.5
B.O
10.0
11.0
11.0

10.0
10.5
11.0
10.5
10.5

12.0
13.5

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. . .

5.0
6.0
7.5
8.5
B.O

MAX

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. . .

24.5

24.5

25.0

25.5

25.5

26.5

27.0
27.0

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23.0
23.5
24.5
25.0
25.0
25.0

APRIL

MIN

3.5
3.S
3.0
4.0
5.0

5.5
6.0
7.5
9.0
10.0

a.o
7.5
9.0
9.0
9.0

9.5
11.0

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12.0
13.5
15.0
16.0
16.5

AUGUST

MIN

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24.0

23.0

23.0
23.5

24.0

23.5

24.5

25.0
26.0

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21.5
21.5
22.5
24.0
24.0
23.5

4.0
4.0
4.0
5.0
5.5

6.0
7.0
8.5
10.0
10.5

9.0
9.0
10.5
10.0
10.0

11.5
12.0

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. . .

13.5
14.5
16.0
17.5
17.0

MEAN

. . .

24.0
23.5
24.0
24.0
24.0

24.5

24.5

25.5

26.0
26.0

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22.0
22.5
23.5
24.5
24.5
24.5

18.0
19.5
19.5
1B.O
17.0

16.0
15.5
15.0
18.5

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MAX

24.0
23.0
21.5
22.5
23.0

23.5
23.0
22.0
21.5
22.0

21.5
21.5
21.5

20.0

21.0
21.0

22.0
23.0

23.5
22.5
23.0
24.0
25.0

26.0
25.0
22.5
20.5
17.5

MAY

MIN

16.0
17.0
17. S
15.5
14. S

14.5
13.5
12.5
13. S

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SEPTEMBER

MIN

22.5
21.0
20.5
20.5
21.0

21.5
21.0
21.5
21.0
21.0

20.5
20.0
19.5

19.0

19.5
19.5

20.0
19.0

19.0
20.5
21.0
22.0
23.0

24.0
22.5
20.5
17.5
16.0
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17.0
18.5
IB. 5
17.0
16.0

15.5
14.5
13,5
16.0

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MEAN

23.0
22.0
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22.0
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21.0
20.5
20.5
20.0
19.5

20.0
20.0
20.0
21.0
21.0

21.0
21.0
22.0
23.0
24.0

25.0
24.0
21.5
19.0
17.0

PASSAIC RIVER BASIN

01387000 WANAQUE RIVER AT WANAQUE, N. J.

LOCATION. Lat 41°02'33", long 74°17'36", Passalc County, at gaging station 50 ft upst
Highway 511, 50 ft downstream from Raymond Dam In Wanaque.

DRAINAGE AREA. 90. 4 sq ml.

PERIOD OF RECORD. Chemical analyses: October 1963 to September 1970 (miscellaneous).
Water temperatures: October 1963 to September 1970.

Period of record:
Water temperatures (1966-70): Maximum, 22.0°C on many days during August and September 1969; minimum, 2.0 C on many days during winter periods.

REMARKS. One

1 ... h. 9 .1 1.4 .03 f- ' ' 1S

FIELD DETERMINATION

SPECI-

FIC
cruo-

UMF ATURE [MC3H- 0
04] L (JEG C 1 '-"Hnsl (UNITS) I

SEPT.
11... 1645 17.5 102 6.6

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 (ONCE-DAILY MEASUREMENT BETWEEN 0800 AND

)AY OCT NOV DEC JAN FEB MAR APR

lh 111 1.1

COLI-
FOP"
DIS- 1 CDL-
OLVED J'JIFS
XYGEN PEO

MG/L) 110 VL}

H.4 138

TO SEPTEMBER 1970

1000)

MAY JUN JUL

HMJIS) ("[-/[

? 1 .

AUG SEP

1
2
3
4
5

6
7
8
9
0

1
2
3
4
5

6
7

9
0

1
2
3
4
5

6
T
8
9
0
1

20.5
21.0
21.0
21.0
21.0

20.0
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20.0
19.5

20.0
20.0
20.0
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19.0
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18.0
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16.0
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15.5
15.0
15.0
15.0
14.0
14.0

4.0 10.0
4.0 9.0
4.5 8.5
5.0 8.0
5.0 8.0

4.0 8.0
3.5 7.5
3.0 7.0
2.5 8.0
2.0 7.0

2.0 7.0

1.0 7.B
1.0 7.0
1.0 6.5

2.0 6.0
2.0 6.5

2.0 6.0
1.5 6.0

1.0 6.0
1.0 6.0
1.0 5.0
1.5 5.0
0.0 5.0

0.0 5.0
0.0 4.5
0.0 4.0
0.0 4.0
0.0 4.0
3.5

3.5 4.0
3.0 4.0
3.0 4.5
3.0 4.5
3.5 4.0

3.5 4.0
3.0 4.0
3.0 4.0
3.0 4.0
3.0 4.0

3.0 4.0
3.5 4.0
3.0 4.0

3.0 4.0
3.0 4.0

3.5 4.0
3.5 4.0

3.0 4.0
3.0 4.5
3.0 5.0
3.0 5.0
3.0 5.0

3.5 4.0
4.0 4.5
4.0 4.5
4.0
4.0
4.0

4.5 5.0 9.5
4.5 6.0 9.5
5.0 5.5 9.0
4.5 5.5 9.0
5.0 6.0 9.0

5.0 6.0 9.5
5.0 6.0 9.0
5.0 6.5 9.0
5.0 7.0 9.5
5.0 7.0 10.5

5.0 7.0 10.5
5.0 7.0 10.0
5.0 7.0 10.0

5.0 T.5 10.0
6.0 8.0 10.5

5.0 8.5 10.5
5.0 8.5 10.5

5.0 8.5 10.5
5.0 8.0 10.5
5.0 8.5 10.0
6.0 8.0 11.0
6.0 8.5 11.0

6.0 8.5 11.0
6.0 9.0 11.0
6.0 9.0 11.0
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5.5 9.0 11.0
6.0 11.0

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11.5
11.5
£1.0

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6.0
T.O
T.O
T.O
7.0

17.0
1T.O
1T.O
1T.O
17.0

17.0
17.0
17.0
1T.O
17.5

19.0
18.0
IB. 5
IB. 5

IB. 5
1B.O

18.0
17.5

1B.O
18.0
18.0
18.0
IB. 5

1B.O '*"
IB. 5
19.0
19.0
19.0
IB. 5

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. 5
. 5

0.0
0.0
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0.0
0.0
0.0
0.0

9.5
9.5
0.0
0.0
0.0

0.0
0.0
0.0
0.0
9.0

PASSAIC RIVER BASIN

01387500 RAMAPO RIVER NEAR MAHWAH, N. J.

County, at gaging station 350 ft downstr State Highway 17,

DRAINAGE AREA. 118 sq mi

EXTREMES. Period
Sediment conce
1965.
Sediment disch

analyses:
ry 1964 to

daily, 210 mg/1 Feb. 8, 1965; minimu daily, 2 mg/1 Jan. 19-21, Feb. 5-6,

y, 0.1 ton Sept. 27, Nov. 23-24, 1964.

REMARKS. St

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DEC.
16.. .A
APR.
13. ..B
JULY
28. ..C
AUG.
24.. .D

MEAN
DIS-

CHARGE

(CFS)

288

21

37

DIS-

SOLVED
ALUM-
SILICA INUM

(SI02) (AD
(MG/L) (UG/L)

7.1

6.1

8.7 0

DIS-
DIS- SOLVED
SOLVED MAN- CAL-
IRON GANESE CIUM

(FE) (MN) (CA)
(UG/L) (UG/L) (MG/L)

100 70 20

35

550 100 40

MAG-
NE-
SIUM

(MG)

4.8

5.7

11

14

SODIUM
PLUS
PO- PO-

SODIUM SIUM SIUM BONATE

(NA) (NA+K) (K) (HC03)

15 .5 37

11 .9 50

22 91

17 -- 1.3 130

BONATE

(COS)

0

0

0

0

DATE

DEC.
16...
APR.

JULY
28...
AUG.

DEC.
16.. .
APR.
13...
JULY
28...
AUG.
24.. .

ALKA-
LINITY
AS SULFATE

CAC03 (S04)
(MG/L) (MG/L)

30 21

75 33

SUS- HARD-
PENDED NESS

SOLIDS (CA.MG)
(MG/L) (MG/L)

62

74

133

17 158

CHLO-
RIDE

(CD
(MG/L)

49

NON-
CAR-
BONATE
HARD-

NESS

(MG/L)

32

33

58

51

TOTAL
KJEL-
ORGANIC DAHL
FLUO- NITRO- NITRO-
RIDE GEN GEN

IF) IN) IN)
(MG/L) (MG/L) (MG/L)

1.5

. 0 .06 .07

SPECI-
TOTAL FIC
ACIDITY COND-
AS UCTANCE PH

CAC03 (MICRO-
(MG/L) MHOS) (UNITS)

215 7.1

244 7.2

385 7.5

5.5 380 7.2

AMMONIA
NITRO-
GEN

(N)
(MG/L)

. 01

COLOR

(PLAT-
INUM-

UNITS)

5

4

4

10

(N03)
(MG/L)

2.4

4.0

. 6

TUR-
BID-

(JTU)

5.0

2.0

4.0

7.0

PHOS-
PHATE

(P04)
(M6/D

2.2

. 33

BIO-
CHEM-
ICAL
OXYGEN

(MG/L)

1.7

2.8

2.2

DIS-
SOLVED
ORTHO SOLIDS

PHOS- (RESI-
PHATE DUE AT

(PL4) 180 C)
(MG/L) (MG/L)

1.6

. 1? 260

TOTAL
ORGANIC
CHLORO- CARBON

(UG/L) (MG/L)

2 5.0

3 7.0

2 6.0

7 8.0

DIS-
SOLVED
SOLIDS

(SUM OF
CONSTI-

TUENTS]
(MG/L)

PHENOLS

(UG/L)

3

A INCLUDES 0.04 MG/L OF METHYLENE-BLUE ACTIVE SUBSTANCE (MBS).
B INCLUDES 0.02 MG/L OF METHYLENE-BLUE ACTIVE SUBSTANCE (MBS).
C INCLUDES 0.03 MG/L OF METHYLENE-BLUE ACTIVE SUBSTANCE (MBS) AND 10 MG/L OF GREASE. D INCLUDES 0.04 MG/L OF METHYLENE-BLUE ACTIVE SUBSTANCE (MBS) AND 6.0 MG/L OF GREASE.

PASSAIC RIVER BASIN

01387500 RAMAPO RIVER NEAR MAHWAH, N. J. Continued

FIELD DETERMINATIONS

PER-
CENT
OF AIR
TOTAL TEMPER- TEMPER-

OATF IFT! (DEG C) (DEG C)

DEC.
16... 1430 3 50 2.5 4.0
APR.
13... 1045 3 50
JULY
2H... 1115 2 50
AUG.
24... 1030 2 SO

PESTICIDES

ALDRIN DDD

DATE (UG/L! (UG/LI

AUG.
24... .00 .00

DIS-

AUG.
24... .00 .00 .00 <2.8

3.9 18. T

24.1 30.8

23.3 23.8

, RADIOCHEMICAL,

DDE DDT

(UG/L) (UG/L!

. 00 .00

01 S- SUS-

SPfcCI-
FIC
COND-
UCTANCE

MHOS)

200

220

390

390

PH

(UNITS)

T.2

7.9

7.4

7.6

FECAL COLI-
COLI- FORM

DIS- FORM (COL-
SOLVED (COL. ONIES

IMG/L) 100 ML! 100 ML I

14.0 384

12.2

5.4

8.2

46

828

103

300

AND MINOR ELEMENTS

DI-
ELDRIN

(UG/L)

. 00

ENDRIN

(UG/L)

. 00

SUS-

HEPTA-
CHLOR L

(UG/L!

. 00

TOTAL
CHRO-

(AS) (CR)

3.2 <0.

SPECTROGRAPHIC ANALYSES. tfATER YEARS

BE-
MEAN ALUM- BAR- RYLL-
DIS- INUM IUM IUM

CHARGE (AL) ISA! (BE)
DATE (CFS) (UG/L) (UG/L) (UG/L)

OCT.. 1968
24... 46 17. 21. < 1.
SEPT. .1969
30... 64 20. 24. < 1.

««N- MO-
LlTH- GAM- LYBDE-
LEAD IUM ESE NUM

(PB) (LI) (MN) (MO)
DATE (UG/L! (UG/L) (UG/L) (UG/L!

OCT.' 1968
24... < 5. 2. 180. < 1.
SEPT. .1969
30... 3. 3. 140. < 1.

BIS- 80-
MUTH RON

(BII (B)
(UG/L) (UG/L)

< 5. 90.

< 3. 95.

RU-
NIC- BID-
KEL IUM

INI) (RB!
(UG/L) (UG/L!

4. 2.

7. 2.

8 1

OCTOBER

CAD-
MIUM

(CD)
(UG/L)

<50.

<50.

SILVER

(AG)
(UG/L)

< .1

< .5

. 5 1 0

INDANE

(UG/L)

. 00

COPPER

(CU)

10

LEAD

IPS)

0

ZINC

(ZN)
(UG/L

10

1968 TO SEPTEMBER ,1969

CHRO-
MIUM

(CR)
(UG/L)

< 8.

5.

STRON-
TIUM

(SR)
(UG/L)

80.

70.

CO- COP-
BALT PER

(CO) (CU)

GER-
MAN-
IUM

(GE)
(UG/L) (UG/L) (UG/L)

< 5. 4

< 2. 8

TI-
TAN-
TIN IUM

(SN) (TI)

. <10 .

. < 5.

VAN-
AD-
IUM

(V)
(UG/L) (UG/L) (UG/L)

<10. < 2.

< 5. < 5.

< 3.

a.

IRON

(FE)
(UG/L)

45.

31.

ZINC

(ZN)
iUG/L)

<140

<190

PASSAIC RIVER BASIN

01389000 POMPTON RIVER AT TWO BRIDGES, N. J.

LOCATION. Lat 40°53'52", long 74°16'22", Passalc County, water-quality recorder at partial-record gaging at bridge on Two Bridges Road just upstream from mouth, 0.3 mile northeast of Two Bridges.

DRAINAGE AREA. 380 sq mi.

PERIOD OF RECORD. Chemical analyses: Jui
records), July 1969 to September 1970
Water temperatures: October 1962 to September 1970.

EXTREMES. 1969-70:

Specific conductance: Ma

1963 to September 1965, October 1965 to September 1968 (partial-

650 micromhos Oct. 22; minii 123 micromhos Feb. 12.

February.

aximum, 15.3 mg/1 July 24; minimum, 2.8 mg/1 July 16.
Maximum, 29.5 C July 28; minimum, freezing point on many days during Decembe

Period of record:

Specific conductance (1969-70): Maximum, 650 micromhos Oct. 22, 1969; minimum, 123 micromhos Feb. 12, pH (1969-70): Maximum, 9.0 July 24, 1970; minimum, 6.6 Feb. 11, 1970.
Dissolved oxygen (1969-70): Maximum, 15.3 mg/1 July 24, 1970; minimum, 2.8 mg/1 July 16, 1970. Water temperatures: Maximum, 29. 5°C July 28, 1970; minimum, freezing point on many days during winter

REMARKS. Missing continuous water-quality records due to malfunction of sensor or sampling mechanism.

CHEMICAL ANALYSTS, WATfcR YEAR OCTOBER 1969 TU SEPTEMUFR 1970

1970.

periods.

OCT.
24. .
NOV.

SILICA

(sIn?i
C1G/LI

115-
SOLVED
MAN-
GANESE
MM)
I U G/ L I

CAL-
CIUM
(CAI
(1G/LI

NE-
SIUM
(MG)
IMG/L I

7.0

5.2

6.0

7.0

5.3

4.0

SODIUM

(NAI
IMG/L)

STOIUM
PLUS
PO-
TAS-
SIUM
(NA»K)
IMG/LI

PO-
TAS-
SIUH

(K)
IMG/LI

CT.

?<,.. . nv.
2u...
tc.
21. . .
N.
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6...

b.. . ' >.
a.. .

o. . .
UNt
25...

ULr
24...
JC.
25.. .
EPT.
30...

R I CAR-
BONATE

(HCC 3)

6^

<,5

<.6

57

42

45

52

43

63

6P

65

62

4LK4-
C4P- UNITY
BCN4TF AS

(Cn3| C4C03

0 57

0 37

0 38

0 47

0 fi

0 37

0 43

(1 35

0 52

0 56

0 53

0 51

SULFATE
IS04I

55

31

33

31

23

28

31

30

39

29

30

38

CHLO-
RIDE

(CD

23

16

37

30

21

25

21

18

31

79

32

29

OKTHO
FLUO- PHOS-
RIOE NITR4TE PHATE

IF) <N03> (PCT,)

7.3 1.5

6.2 .89

. 3 10 .00

9.2 1.3

. 1 2.8 .35

5.9 .53

. 2 4.0 .56

5.6 .60

7.5 l.l

5.8 1.6

. 1 6.2 1.3

6.6 1.5

PASSAIC RIVER BASIN

01389000 POMPTON RIVER AT TWO BRIDGES, N. J. Continued

;Ft>T.
3.i...

JATL

OCT.
24...
NOV.
2B...

"29!..
J4N.
20...
FtB.
^26...

25...
APR.
28...
"AV
20...
JUNE
25...

JJLV
24.. .
AUG.
25...

30...

If-r

"

TIME

114f

1245

1200

1230

1200

1040

1530

1530

1315

1220

1515

1015

41 u I ;<7

FIELD DETERMINATIONS

SPECI-
FIC
CONU-
TEMPER- UCTANCE PH

ATURE (MICRO-
(DEG C) MHDSI (UNITS!

9.0 275 6.8

4.9 180 7.0

. 0 200 7.2

. 0 7.2

1.6 200 7.1

b.B 225 7.B

15.9 225 6.4

16. B 210 7.2

23.0 290 7.1

24.1 272

23.9 290 7.4

16.0 300 7.6

7. J

DIS-
SOLVED
OXYGEN

(MG/L!

B.6

9.6

14.2

13.2

12.7

11.4

9. a

6.6

11.6

10.0

7.8

"

3 ?

CflLI-
FORM

(COL-
ONIES
PER

no MLI

1550

1650

800

112

140

384

613

1280

20300

2120

425

PASSAIC RIVER BASIN

01389000 POMPTON RIVER AT TWO BRIDGES, N. J. Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°CI, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY

1
2
3
<>
5

6
7

s
9
10

MAX

30*
308
292
285
286

285
282
289
294
299

OCTOBER

HIM

2BS
294
238
261
2BO

273
270
279
2BO
279

NOVEMBER

MEAN

299
305
259
278
283

278
275
283
285

MAX

348
346
324
326

__

. . .
. . .
. . .

MIN

336
328
306
306

__

. . .
.
. . .

MEAN

331
338
314
314

__

. . .
. . .

DECEMBER

MAX

400
390
392
358
446

__

. . .

. . .

HIN

288
308
318
326
336

__

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. . .

MEAN

324
344
332
334
384

__

. . .

. . .

JANUARY

MIN

314 310
318 314 316
324 314 319
318 310 314
308 286 294

286 252 271
650 2S8 301
306 292 300
342 302 325
340 334 336

340
328
316
330
340
344

330
316
312
312
330
338

334
322
314
320
333
342

216

222

218

200
430
350
348
302

212

210

210

190
186
188
304
288

214

218

213

196
248
264
324
294

302
291
275
231
210

282
277
243
211
200

293
282
265
216
204

210 196 202
208 196 202
328 184 243
321 313 318
315 142 293

162 124 131
137 123 127
148 136 140
159 147 151
156 152 154

177 153 160
180 166 173
191 179 184
200 186 192
201 193 198

210 200 203
213 195 204
208 198 202
213 201 206
214 202 208

259 211 235
224 216 220
228 218 224

240
231
254
258
261

260
271
276
281
278

263
276
269
258
249
250

MARCH

MIN MEAN

225
225
234
252
233

250
261
270
269
262

217
200
195
194
191
216

230
229
245
256
253

260 244
263 259 261
262 252 257
257 251 254

255
264
273
276
269

267 255 260
260 252 254
251 234 242
259 229 240
256 224 236

236
231
228
226
227
237

APRIL

MIN

MAY

MIN

270
240

PASSAIC RIVER BASIN

01389000 POMPTON RIVER AT TWO BRIDGES, N. J. Continued

SPECIFIC CONBUCTANCE (MICROMHOS/CM AT 25°C), HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

MAX

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228

2*3
251
253
261
259

271
381
283
283
387

391
387
315
313
317

322
. . .
. . .

293
288
. . .

MAX

6.8
7.0
7.5
7.8
7.8

7.0
6.9
7.0
6.9
6.9

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7.
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7.
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6-

JUNE

MIN

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226

233
2*1
247
253
251

257
273
277
365
275

387
267
275
291
299

308
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286
38*
. . .

OCTOBER

MIN

6.7
6.8
6.9
7.3
7.0

6.9
6.8
6.8
6.8
6.8

7.5
7.*
7.3
7.2
7.0

6.9
6.9
6.9
A. A

MEAN

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239
2*7
2*8
25T
355

361
277
280
373
381

389
277
283
299
310

316
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. . .

288
386

MEAN

6.8

7^1
7.5
7,3

6,9
6,9
6.9
6.8
6.8

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7.
7.
7.
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7.
6.
6.

MAX

314
323
322
326
302

288
280
280
300
308

300
276
282
274
290

290
399
386
292
393

290
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291
296

396
29*
281
283
398
252

326

PH (UNITS),

MAX

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JULY

MIN

286
310
318
302
280

266
254
2*8
280
288

354
356
370
270
368

368
271
278
282
281

276

281
378

278
278
267
272
256
214

21*

NOVEME

MIN

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Ill

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MEAN

300
316
320
312
288

274
265
261
287
397

280
266
375
272
378

283
382
283
385
286

283

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288

286
284
273
277
276
336

282

ER

MEAN

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Ill

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MAX

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293

301
309
307
311
311

313
303
36*
370
379

284
292
301
378
311

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293

309
333
3*9
353
374
362

MAX

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AUGUST

MIN

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291

293
303
299
305
301

297
235
252
252
267

266
280
367
363
372

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283

293
315
339
3*2
358
354

DECEMBER

MIN

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Ill

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SEPTEMBER

MEAN

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291

298
307
303
308
306

303
266
258
261
273

375
286
383
369
286

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299
321
3*4
3*7
366
358

MEAN

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MAX

362
3**
357
371
363

358
350
351
371
323

3*7
356
368
377
384

374
386
382
371
349

391
355
337
*24

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2

MAX

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MIN

34
28
33
59
56

350
3*0
339
306
307

333
340
346
369
367

366
366
376
357
335

321
390
293
396

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390

JANUARY

MIN

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Ill

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MEAN

345
336
341
36*
360

353
3*5
343
328
311

341
350
357
373
376

371
376
379
363
3*1

337
30*
307
326

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. . .
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346

MEAN

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Ill

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PASSAIC RIVER BASIN

01389000 POMPTON RIVER AT TWO BRIDGES, N. J. Continued

PH (UNITS)i WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FEBRUARY

MAX MIN MEAN MAX

7.3
7.3
7.2
7.3
7.3

7.*
7.4

6.8 6.6 6.7
6.8 6.7 6.7 7.1
6.8 6.7 6.8 7.1
6.9 6.8 6.8 7.1
6.9 6.9 6.9 7.1

6.9 6.8 6.8 7.1
7.0 6.9 6.9 7.1
7.0 6.9 6.9 7.0
6.9 6.8 6.9 7.0
7.0 6.8 6.9 7.0

7.0 6.8 6.9 6.9
7.0 6.9 7.0 6.8
7.0 6.9 6.9 6.8
7.0 6.9 7.0 6.7
7.0 6.9 6.9 6.8

7.3 7.1 7.2 6.8
7.3 7.3 7.3 6.8
7.3 7.2 7.3 6.7
6.8
6.8
6.8

7.4

JUNE

MAX MIN MEAN MAX

7.6
7.5
7.4
7.4
7.6

7.8
8.0
8.2
7.3 7.3 7.7

7.5 7. .3 .5
7.4 7. .3 .6
8.2 7. .8 .6
8.0 7. .8 .5
7.5 7. .4 .4

7.3 7. 7.2 7.5
7.2 7. 7.2 7.6
7.1 7. 7.0 7.8
7.1 7. 7.0 8.2
7.2 7. 7.2 8.4

7.3 7. 7.1 8.6
7.1 7. 7.1
7.2 7. 7.1
7.2 7. 7.1 9.0
7.4 7. 7.3 8.8

7.* 7. 7.3 8.1
8.6
8.4
7.5 7. 8.0
7.7 7. 7.6 7.3
7.2

MARCH APRIL

6.8 7.1
7.2 7.2
7.2 7.2
7.3 7.3
7.3 7.3

7.3 7.3
7.3 7.3

7.1
7.1 7.1
7.1 7.1
7.0 7.1

7.0 7.0
7.0 7.0
6.9 7.0
6.9 7.0
6.9 6.9

6.8 6.9
6.7 6.8
6.7 6.7
6.6 6.7
6.7 6.7

6.6 6.7
6.7 6.7
6.7 6.7
6.7 6.8
6.7 6.8

6.6 7.0

JULY AUGUS

MIN MEAN MAX MIN

7.5 7.5
7.4 7.3
7.4 7.4
7.3 7.4
7.S 7.5 7.7 7.6

8.2
7.5 7.6 8.0
7.6 7.7 8.4
7.5 7.7 8.5
7.3 7.5 8.7

7.3 7.4 8.6
7.4 7.5 8.7 .
7.4 7.5 8.7
7.4 7.4 8.9
7.3 7.3 8.7

. 2 7.3 8.9
. 2 7.4 8.7
. 4 7.6 8.4
. 6 7.8 7.9 .
. 5 7.9 7.4

7.5 8.0
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8.5
7.8 8.3 8.2 7.7

7.3 7.6 8.1 .5
7.3 7.8 8.0 .4
7.3 7.7 7.8 .3
7.2 7.5 7.8 .3
7.2 7.2 7.5 .2
7.0 7.1 7.4 .2

MAY

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T SEPTEMBER

MEAN MAX MIN MEAN

8.6 7.2 7.9
8.5 7.4 7.8
8.1 7.3 7.
7.7 7.2 7.
7.7 7.3 7.

7. 8.2 7.3 7.
7. 8.4 7.3 7.
7. 7.9 7.3 7.
7. 7.6 7.1 7.
8. 7.3 7.1 7.

8. 7.4 7.2 7.
7. 7.5 .2 7.
7. 7.6 .1 7.
8. 7.5 .2 7.
8. 7.3 .1 7.

8. 7.3 .1 7.
7. 7.5 .2 7.
7. 7.3 .2 7.
7. 7.5 .2 7.
7. 7.9 .3 7.

8.3 7.3 7.
8.8 7.4 8.
8.6 7.5 7.
8.7 7.5 8.
8.3 7.4 7.

. 7 8.1 7.1 7.
. 7 7.2 6.9 7.
. 5 7.2 6.9 7.
. 5 7.7 6.9 7.
. 3 7.4 7.2 7.
. 3

PASSAIC RIVER BASIN

01389000 POMPTON RIVER AT TWO BRIDGES, N. J. Continued

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

OCTOBER NOVEMBER DECEMBER JANUARY

MAX MIN MEAN MAX MIN MEAN MAX MIN MEAN MAX MIN MEAN

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6.1, 3.3 5.3

FEBRUARY

MAX MIN

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13.1 10.5

13.3 10.0
13.8 8.6
14.0 12.6
13.6 12.7
13.7 12.5

14.0 13^7
U.I 13.6
14.1 13.8
14.5 14.2

14.5 14.3
14.5 13.9
14.7 14.1
14.8 12.1
12. 3 11.7

12.9 12.5
11.9 11.6
11.6 11.0

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MARCH

4EAN MAX MIN

11. 2 10.9
12.2 10.3
12.6 11.1
12.2 11.9
11.9 11.6

11.7 11.4
11.6 11.2
11.2 10.7

10.5 10.2

2.7 10.3 9.3
2.2 12.1 9.8
3.6 11.8 11.5
3.3 12.0 11.5
3.3 11.8 11.4

3.3 11.6 11.1

3.8 11.5 10.9
3.9 11.2 10.7
3.9 11.7 11.0
4.3 11.4 10.8

4.4 11.4 10.8
4.1 11.4 10.7
4.4 11.2 10.6
4.3 11.5 8.9
2.0 11.6 8.9

2.6 11.2 8.4
1.7 11.0 7.9
1.3 10.5 7.5
9.5 8.0
10.8 9.2
11.4 10.3

MEAN

11.0
11.3
12.1
12.0
11.8

11.6
11.5
10.9

10.7
11.7
11.7
11.5

11.4
11.2
11.0
11.3
11.1

11.1
11.1
10.9
10.8
10.7

10.1
9.6
8.9
8.7
10.0
10.7

APRIL MAY

MAX MIN MEAN MAX MIN MEA

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PASSAIC RIVER BASIN

01389000 POMPTON RIVER AT TWO BRIDGES, N. J. Continued

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

JUNE

MAX MIN MEAN

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11.0 10.5

10.9 8.1 9.8
10.2 8.0 9.2
10.4 6.5 8.7
9.9 6.9 8.5

6.8 4.6 5.2
5.0 4.2 4.6
4.8 3.4 4.0
4.7 3.2 4.0

6.2 4.9 5.5
6.1 4.9 5.5
6.3 5.5 5.9
6.4 5.2 5.9
6.7 5.6 6.0

7.3 5.7 6.3

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7.2 6.8
8.0 6.6 7.2
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MAX

7.5
6.6
4.5
5.3
6.3

6.5
8.9
9.6
10.3
8.3

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8.1

10.4

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15.3
13.8

11.5
13.6
12.1
9.5
6.9
6.5

15.3

JULY

HIN MEAN

6.3 6.9
3.9 5.4
4.0 4.2
4.5 4.9
5.2 5.8

5.4 6.1
5.7 7.5
7.1 8.5
6.9 8.4
5.4 6.9

4.7 5.8
5.4 6.0
3.9 4.9
3.6 4.2

2.8 4.3
4.0 5.0
5.0 5.8
6.2 6.9

6.5 8.3

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11.5
8.6 11.3

6.4 8.8
6.1 9.6
6.8 9.4
5.9 7.5
5.0 5.9
4.6 5.4

2.8 6.6

MAX

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7.1

9.1
9.1
9.8
9.4
9.2

8.1
11.8
11.1
11.4

10.8
10.4
9.5
8.3

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11.0

10.1
10.4
10.3
10.7
9.2
10.0

AUGUST

MIS

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6.3

5.4
6.4
6.8
7.2
6.7

5.5
4.9
5.6
5.4

4.7
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3.8
3.9

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6.8
5.8
5.3
4.9
4.4
4.2

SEPTEMBER

MEAN

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7.1
7.6
8.0
8.0
7.7

6.8
7.8
8.2
8.3

7.6
6.8
6.4
6.0

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8.3
7.9
7.8
7.5
6.7
7.1

MAM

10.3
10.0
10.0
8.7
8.3

9.8
10.2
8.9
7.5
6.1

7.6
8.1
8.8
7.8

7.0
7.1
6.0
6.7
7.2

7.9
10.6
9.9
9.4
8.5

8.1
5.4
5.5
7.8
6.9

10.6

MIN

5.5
5.6
6.0
5.3
5.8

5.8
5.5
5.4
3.7
3.8

5.0
5.6
5.6
5.6

4.3
5.1
4.3
4.4
5.2

4.9
3.5
6.4
6.1
5.2

4.3
3.4
3.5
4.7
5.6

3.4

MEAN

8.0
8.0
7.9
7.0
7.0

7.7
7.7
7.2
5.6
4.8

6.1
6.8
7.2
6.6

5.6
6.0
5.4
5.4
6.3

6.3
7.8
7.9
7.5
6.7

6.0
4.4
4.3
6.3
6.4

6.5

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

MAX

17.0
16.5
18.0
17.0
16.0

14.0
14.0
13.5
13.0
15.0

15.0
13.5
11.5
9.0
9.0

9.0
9.5
9.0
8.0
8.5
8.0

MIN

IS.5
16.0
16.5
15.5
14.0

13.5
14.0
15.5
15.0
14.5

13.5
11.5
9.0
8.0
8.5

6.5
8.0
7.5
7.0
6.5
6.5

MEAN

16.0
16.5
17.5
16.5
15.0

14.5
15.0
16.0
16.0

13.5
13.0 13.5
12.0 13.0
12.0 12.5
12.5 14.0

14.5
13.0
10.0
8.5
9.0

8.0
8.5
8.0
7.5
7.5
7.0

NOVEMBER

MAX MIN MEAN

9.0 7.0
10.0 8.5
11.0 10.0
12.0 11.0

6.5

6.0

5.5
5.0
5.0
5.0
5.0

5.5

4.5

4.5
4.0
4.0
3.5
4.0

8.0
9.5
11.0
11.5

6.0

5.0

5.0
4.5
4.5
4.5
4.5

3.5
3.0
2.5

3.5
4.0
5.0

6.0
7.0
6.5

4.0
3.0
2.5
2.0
1.5

1.0
1.5
2.0
3.5
3.0

5.5
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Z.5

3.5
3.0
2.5
2.0

2.5
3.5
4.0

JANUARY

MIN

PASSAIC RIVER BASIN

01389000 POMPTON RIVER AT TWO BRIDGES, N.J. Continued

FEBRUARY

MAX MIN MEAN

1.5
2.0
2.0
0.0
0.0

1.0
1.5
1.5
2.0
2.0

1.5
1.5
1.5
1.0
1.0

2.0
2.5
3.0
3.5
2.5

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3.5
4.0

3.0
3.0
3.5

0.5
1.0
1.0
0.0

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0.5
1.0
1.0
1.5
1.5

1.5
1.5
1.0
0.5
0.5

1.0
1.5
2.0
2.5
2.0

2.0
2.5
3.0
3.0
3.5

2.0
2.0
3.0

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4.0 0.0 1.5

JUNE

MAX MIN MEAN

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22.5 22.5

24.0 21.5 23.0
24.0 22.5 23.5
24.0 22.0 23.5
25.0 21.5 23.0
22.5 20.5 21.5

21.0 19.5 19.5
21.0 19.0 20.0

22.5 20.5 21.5
23.5 21.5 22.5
23.0 21.5 22.0

22.0 19.0 20.5
20.0 18.5 19.0
21.5 19,0 20.0
22.5 21.5 22.0
23.5 22.0 23.0

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22.5 21.0

MAX

4.0
4.0
5.0
4.0
5.0

5.0
5.0
5.0
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4.0

4.5
3.5
3.5
4.0
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4.0
5.0
4.5
5.5
4.5

6.0
5.0
5.5
6.0
7.0

8.0
8.5
7.5
7.0
4.5
3.5

8.5

MAX

25.0
24.0
22.5
23.5
24.5

26.0
26,0
28.5
25.0

25.0
25.5
25.5
24.5
23.0

24.5

26.0
27.0

27.0

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27.0
27.5

29.0
29.5
29.0

26.0

29.5

MARCH

MIN

1.5
3.0
3.0
4.0
3.5

4.0
3.0
4.0
. . .

2.0

2.0
3.0
3.0
2.5
2.5

2.0
2.5
3.0
3.0
4.0

4.0
4.5
4.5
4.0
4.5

6.0
6.5
6.0
3.5
2.5
2.5

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JULY

MIN

22.5
22.5
22.0
22.0
22.5

22.0
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22.5
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22.5
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22.5

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25.5
24.5

25.5
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27.0

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22.0

MEAN

3.0
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7.5
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3.0

4.5

MEAN

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MAX

4.5

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MAX

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23.5

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28.5

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25.0

APRIL

MIN

3.0
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MIN

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MEAN

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25.0
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MAX

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MAX

23.0
22.0
21.5
23.5
24.5

24.0
22.5
22.0
21.0
22.0

23.0
22.0
22.0
20.5
19.5

21.5
22.5
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22.0
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24.5
25.0
25.5

25.0
21.0
18.5

26.0

MAY

MIN

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SEPTEMBER

MIN

21.0
19.5
19.5
21.0
22.5

21.5
20.5
20.5
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20.0

21.0
19.5
18.5
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18.5
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19.5
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21.0
18.5
16.5

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15.5

MEAN

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T"

MEAN

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21.0
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20.5

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22.0
23.5
24.0
24.5

23.5
20.0
18.0

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21.0

PASSAIC RIVER BASIN

01389500 PASSAIC RIVER AT LITTLE FALLS, N. J.

247

LOCATION. Lat 40°53'05", long 74°13'35", Passaic County, 0.5 mile upstream from gaging station at Passaic Valley

DRAINAGE AREA. 762 sq mi.

PERIOD OF RECORD. Chemical analyses: November 1962 to September 1965, October 1965 to September 1970. Water temperatures: October 1962 to September 1970.
Sediment records: August 1963 to July 1965.

EXTREMES. 1969-70:

Period of record:

winter periods.
Sediment concentration (1963-65): Maximum daily, 250 mg/1 Feb. 8, 1965; minimum daily, 4 mg/1 Nov. 13-14, 1964. Sediment loads (1963-65): Maximum daily, 1,800 tons Feb. 8, 1965; minimum daily, 1 ton on many days.

CHEMICAL ANALYSES. HATER YEAR

DIS-

JAN.
20...
JUNE
23...
SEPT.
02...
29...

MEAN DIS-
CHARGE

41 1

328

102
193

SILICA

(SI02)

- -

»

13
14

DIS-
SOLVED
IRON

(FE)

....

60
0

SOLVED
MAN-
GANESE

(MN)

110
100

OCTOBER 1969 TO SEPTEMBER 1970

SODIUM
PLUS

CAL-
CIUM

(CA)

29

17

30
29

MAG-
NE-
SIUM

(MG)

9.0

5.0

11
9.6

SODIUM

(NA)

. .

32
48

PO-
TAS-
SIUM

(NA«K)

39

55

PO-
TAS-
SIUM

IK)

.

»

4.7
4.9

JAN.
20...
JUNE
23...
SEPT,
02...
29...

JAN.
20...
JUNE
23...
SEPT.
02...
29...

BICAR-
BONATE

(HC03)

63

65

81
85

DIS-
SOLVED
SOLIDS

(RESI-
DUE AT

180 C)

262
300

CAR-
BONATE

(C03)

0

0

0
0

DIS-
SOLVED
SOLIDS

(SUM OF
CONSTI-

TUENTS)

253
290

ALKA-
LINITY
AS
CACD3

52

53

66
70

HARD-
NESS

(CA.MG)

110

63

121
112

SULFATE

(S04)

44

41

53
S9

NON-
CAR-
BONATE
HARD-
NESS

58

10

54
43

CHLO- FLUO-
RIDE RIDE

(CD (F)

60

51

49 .4
58 .4

SPECI-
FIC
COND-
UCTANCE PH

(MICRO-

387 7.9

393 7.3

435 7.6
480 7.0

NITRATE

(N03)

16

18

20
25

COCOR

(PLAT-
INUM-
COBALT

UNITS)

6

8

4
5

ORTHO
PHOS-
PHATE

(P04)

3.9

1.9

6.0
9.3

BIO-
CHEM-
ICAL
OXYGEN
DEMAND

(MG/L)

5.4

4.2

4.4
8.2

FIELD DETERMINATIONS

SPECI- COLI-
FIC FORM

COND- DIS- (COL-
TEMPER- UCTANCE PH SOLVED ONIES

ATURE (MICRO- OXYGEN PER
(DEG C) MHOS) (UNITS) (MG/L) 100 ML)

20... .0 7.0 12.8 7750
JUNE
23... 1130 20.4 380 5.0 4000
SEPT.

PASSAIC RIVER BASIN

01389500 PASSAIC RIVER AT LITTLE FALLS, N. J. Continued

SPECTROGRAPHIC ANALYSES* WATER YEARS OCTOBER 1968 TO SEPTEMBER 1970

MEAN
DIS-
CHARGE

DATE (CFS)

OCT. .1968
24... 157
SEPT. .1970
02... 102

LEAD

DATE (UG/L)

OCT.. 1968
24... < 6
SE»T. .1970
02... < 3

C1CT N'

ALUM-
INUM

(UG/L)

30

58

LITH-
IUM

(UG/L)

4

4

BAR-
IUM

(3A)
(UG/L)

12

IB

MAN-
GAN-

ESE

(UG/L)

160

120

BE-
RYLL-
IUM

(BE)
(UG/L)

< 2

< .6

MO-
LYBDE-
NUM

(UG/L)

< 2

1

BIS-
MUTH

(BI)
(UG/L)

< 6

< 4.

NIC-
KEL

(UG/L)

10

11

BO-
RON

(B)
(UG/L)

210

270

RU-
BID-
IUM

(UG/L)

5

5

CAD-
MIUM

(CD)
(UG/L)

<60

<S5

SILVER

(UG/L)

< .6

< .3

CHRO-
MIUM

(CR)
(UG/L)

< 5

STRON-
TIUM

(UG/L)

110

120

CO-
BALT

(CO)
OJG/L)

< 6

< 6

TIN

(UG/L)

< 6

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER (ONCE-DAILY MEASUREMENT BETWEEN 0800 AND 1000)

COP-
PER

(CU)
(UG/L)

5

4

TI-
TAN-
IUM

(UG/L)

< 3

< 3

1970

GER-
MAN-
IUM

(GE)
(UG/L)

< 6

VAN-
AD-
IUM

(UG/L)

< 4

5

JUL

IRON

(FE)
(UG/L)

40

81

ZINC

(UG/L)

<230

AUG

1
2
3
4
5

6

9
C

1

3

6

q

1
2

4
5

6
7
8

0
1

G

8.0 12.0 5.0 0.5 2.0 4.0

6.C 10.5 1.5 l.C 1.0 5.0

5.0 10.5 5.5 0.5 1.0 4.5

6.5 9.5 5.5 0.5 0.5 4.5

4.0 7.0 2.0 l.C 0.5 3.5

3.5 4.5 1.0 1.0 1.0 3.5 3.5 B.O 0.5 0.5 1.0 4.0

4.5 4.5 2.0 0.5 1.0 4.5 4.5 5.0 1.5 1.0 0.5 3.5

0.0 6.5 2.0 0.5 1.5 5.5 9.5 6.0 0.5 0.5 1.5 4.5

8.0 5.0 1.0 0.5 3.5 5.5 0.5 4.5 0.5 1.0 1.5 8.0

1.5 5.5 1.0 1.5 2.0 8.0 8.5 5.5 1.5 l.C 3.5 9.0 2.0 1.5 3.5

3.5

5.5

6.0

0.0

0.5

2.0
2.0

1.0
0.0

0.5
1.0

2.0

6.5
5.5

9.0 22.0

6.0 21.0
5.0 21.0

6.5 22.0

0.5 22.0

8.0 21.5

5.0 21.0
4.5 21.0

6.5 21.0
8.5 20.0

9.5 20.5
9.0 22.0

8.0 23.0

8.0 21.5
8.0 22.0
8.5

21.0
21.0

21.5

24.5

25.0

24.5

24.0
>4.5

25.5
24.5

23.0
25.0

25.5

26.5
26.5
26.0

25.5
25.5

23.5

24.5

25.0

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25.5
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24.0
24.0

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23.5
23.0
23.5

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21.

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2 .

20.5

19.5

20.5
20.5

20.5
21.0

23.5
24.0

23.5

19.0
17.0

21.0

PASSAIC RIVER BASIN

01392100 PASSAIC RIVER AT RUTHERFORD, N. J.

LOCATION. Lat 40°49'22", long 74°07'27", Bergen County, at bridge on N.J. Route 3 in Rutherford.

DRAINAGE AREA. 881 sq mi, approximately.

PERIOD OF RECORD. Chemical analyses: August 1969 to May 1970 (discontinued).

REMARKS. E

HCT

28
NOV
24
DEC
16
JAN
23
FEB
16
MAR
16
APR
13
MAY
25

nCT
2f

DIS-
S UL V E D
SILICA IRON

(SI02) (FEI

. . .

160

9.5 650

13

. . .

... -- o

7.7 160

. . . 50

ALKA-
LINITY
AS SULFATc

L.AC03 (S04)

94 5U

24. .. 48 3f
DEC
16... 31 30

23... 82 96
FEfl
It
HAR
16
APfi

. . . 24 24

35 45

13... 34 29

25... 61 39

NON-
CAR-

HAR'J- BUNATfc
NESS HARD-

(CA.MGI NFSS

OCT.
2
NO
2
DE
1
JA
2
FE
1
MA
1
AP
1
MA
2

136 42

. . . 84 37

. . . 67 36

234 152

5B 34

. . . 100 65

62 28

121 61

DIS-
SHLVFD
MAN- CAL-
GANESE CI'JM

(MN) (CA)

33

22

950 18

44

16

26

70 16

190 32

CHLO- FLUO-
RlOt RIDE

(CD IF)

r, I

17

34 .0

410 .3

24

42

24 .2

35

SPECI-
FIC
COND-
UCTANCE PH

(MICRO-

501 7.4

288 7.4

296 7.4

1 730 7. 1

2,18 6.8

364 7.3

22R 7.J

354 6.9

snoiuw
PLUS

MAG-
NE-
SIUM snoiur"
(MG) (MA)

10

7.0

5.4 21

30 2J5

4.2

8.5

5.3 14

10

TLlTAL
KJEL-
OAHL
NITRO-
GEN NITRATE

IN) (NM3)

2.3 14

1.4 4.4

. 60 4.7

3.2 7.1

. 66 3.2

1.8 4 .^

2.5 3.4

1.3 7.1

COLOR

(PLAT- TUP-
INIIM- BID-

4 40

20 18

25 30

12 20

18 4.n

5 8.0

12 16

10 23

PG- PO-
TAS- TAS- SICAP-
SIUM SIUM HONATt
(NS*K) IK) (HCtlJ)

47 114

14 58

1.6 38

11 100

13 29

21 43

1.8 41

16 74

DIS-
SHLVcD
ORTHU SULIOS

PHOS- PHOS- (KESI-
PHATE PHATt ODE AT

IP04) (P04) 180 Cl

4.9 3.1

2.7 1.8

1.3 1.9 159

3.9 3.7 951

. 81 .62

2.1 2.1

1.2 .42 156

3.0 2.2

^i n-

CHFH- TOTAL
ICAL "RSANIC
UKYGEN CHL^RJ- CARRUN

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4.S 11 10

3 13

3 «.0

1 9.0

3.2 2 7.0

3.6 2 10

1.4 3 7.0

3.8 <, 11

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DIS-
SOLV
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142

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122

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23

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06

PASSAIC RIVER BASIN

01392100 PASSAIC RIVER AT RUTHERFORD, N. J. Continued

FIELD DETERMINATIONS

PER- SPECI-
CENT FIC
OF AIR CPND-

LULI-
FORM

OIS- (CQL-

TIME DtPTH DEPTH ATURE ERATURE («ICRn- OXYGEN PER
L, 4Tf (FT | (DEC C) (DEC Cl MHOS) (UNITS) (MG/L) 100 ML)

°2 '... 1115 U 50 9.0 17.0 6.4 5.7 3750

"" "... nua 12 50 5.5 R.O 260 7.4 11.4 3150

°1 i.. LQ3T 9 50 2.0 3.0 240 7.2 1 3 . (. 13700

2:!.. 1230 10 50 1.0 -8.9 H-8

f l *.. U jj 6 50 4.0 8.0 320 7.0 14. o 11700

"J !.. uon 12 50 4.1 8.0 360 7.5 11.8 12500

" i:!.. 1230 18 50 9.7 14.6 223 7.7 12.0 5500

M * ... 10 3T l& 50 19.3 12.8 345 7.4 4.5 42000

PASSAIC RIVER BASIN

01392600 PASSAIC RIVER AT HARRISON, N. J.

DRAINAGE AREA.

PERIOD OF RECORD

DATE

JUNE
22. ..A
JULY
23. ..B
AUG.
24. ..C
StPT.
29. ..D

DATE

JUNE
22...
JULY
23...
AUG.
24...
SEPT.
2 1 ...

PCNOED

JUNE
22...
JULY
28...
AUG.
24... 11
SEPT.
29...

964 sq mi, approximately.

Chemical analyses: June to September 1970.

CHEMICAL ANALYSES, JUNE TO SEPTEMBER 1970

UlS- DIS-

SOLVED ois- SOLVEO MAG- pn-
ALU»1- SOLVED MAM- CAL- NE- TAS-
INUM IPUN GlVNtSt CIUM S IUM SOUIU" SIUM
(ALI (Ft) (MM) (CAI (1GI (N4) (Kl

110 220 160 500' 375J l&O

167 90 220 120 37U

T n TAL
KJEL-

DRGANIC DAHL A-MONIA
CHIR- FLUU- NITRC- NITRO- MTKO-

(S04) (CL) (Fl INI (N) (N) I NO 3)

12ol) 6760 .9 1.7 3.0

4.2 1.0

701 5)00 .50 1.8 1.2 ?.4

2.1 2.9

MON- SPECI-
CAR- TOTAL FIC CClLOh

NtSS HAPO- AS UCTANCE PH I'lUM- BIO-

246 230 19713 7.2 10 12

21300 7.4 3.0

1620 1520 12 13000 7.0 15 h.1

22900 6.4 8.0

ALKA-
SICAR- CAK- LINITY
rtONATE HPNATE AS

(HCD3) (C03) CAC03

117 0 90

119 0 i» B

01 S-
SOLVEO
HRTHO SOLIDS

PHIS- PHOS- (RESI-

(PD4I (P04I 180 Cl

2.4 2.3

3.1

4.4 12100

2.4

nin-

CHE«- IOTAL
ICAL ORGANIC

OXYUEN CHLORU- CA^SIIN pntNOts

3.C 6 8.0

3.0 9 13

5.4 13 10 2

'.2 7 8.0

A INCLUDES 0.06 MG/L OF METHYLENE-BLUE ACTIVE SUBSTANCE (MBS).
B INCLUDES 0.04 MG/L OF METHYLENE-BLUE ACTIVE SUBSTANCE (MBS) AND 7.0 MG/L OF OIL AND GREASE. C INCLUDES 0.28 MG/L OF METHYLENE-BLUE ACTIVE SUBSTANCE (MBS) AND 6.2 MG/L OF OIL AND GREASE D INCLUDES 0.09 MG/L OF METHYLENE-BLUE ACTIVE SUBSTANCE (MBS).

PASSAIC RIVER BASIN

01392600 PASSAIC RIVER AT HARRISON, N. J. Continued

FIELD DETERMINATIONS

FtCAL CLILI-
COLI- FDKf
J1S- FDP" (CC1L-
SOLVEn (CHL. ClMtS
OXYGt^J CCR PtR
(MG/L) 1)0 ML) UO ML)

7.2 2.1

7.0 .8

7.2 3.2

7.2 1.*

PESTICIDE, RADIDCHEMICAL, AND SPECTRDGRAPHIC ANALYSES

i-1- HEPTA-

JULY

AUG.
24...
SEPT.

2.V-D

. 06

DIS-

. 01 .02 190

DIS- SUS- SUS- TOTAL

(ASI (CRI (GUI (PBI (ZNI

100 <0.6 <1.1 0 0 90 0 60

RARITAN RIVER BASIN

01396500 SOOTH BRANCH RARITAN RIVER NEAR HIGH BRIDGE, N. J.

LOCATION. Lat 40°40'40", long 74°52'45", Hunterdon County, water-quality recorder at gagln
Road bridge, 1 mile northeast of High Bridge, and 4.4 miles upstream from Spruce Run.

DRAINAGE AREA. 65.3 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1960 to September 1965 (partial-records) January 1966 to Sentem-ber 1970. '
Water temperatures: October 1960 to September 1970.
Sediment records: October 1969 to September 1970 (miscellaneous).

EXTREMES. 1969-70:

Period of record :
Specific conductance (1968-70): Maximum, 237 micromhos Jan. 9, 1969; minimum, 9D micromhos Aug. 5 1969 Water temperatures: Maximum, 28. D°C July 3, 1966; minimum, freezing point on many days during winter periods REMARKS. Missing continuous

RARITAN RIVER BASIN

01396500 SOUTH BRANCH RARITAN RIVER NEAR HIGH BRIDGE, N.J. Contin

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD DETERMINATIONS

CONO-
TEMPER- UcraNCE

ATURE (MICRH-

SPECTROGRAPHIC ANALYSIS

DATE

SEPT.. ^6...

DIS-
CHARGE

(CTSI

1969
52

INUM

(ALI
(UG/LI

19

BE-

IUM IUM

(BA) |BE)
(UG/LI (UG/LI

18 < .6

MUTH

(BI)
(US/LI

< 3

RON

IB)
(US/LI

35

MIUM

(CO)
(UG/LI

<30

MIUM

(CRI
(UG/LI

< 3

BALT

(CO)
(UG/LI

< 3

PER

(CUI
(UG/LI

1

GER-
MAN-
IUM

OE)
(UG/LI

< 3

IRON

(FEl
(UG/LI

90

MAN-
GAN-
ESE

(MNI

MO-
LYBDE-
NUM

(MOI
(UG/LI (UG/LI (UG/LI (UG/LI

NIC-
KEL

(Nil
(UG/LI

RU-
BID-
IUM

(RBI

STRON-
SILVER TIUM

(AGl (SR)
(UG/LI (UG/LI (UG/LI (UG/L)

TI-
TAN-
IUM

(Til
(UG/LI

ZINC

(ZNI
(UG/LI

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

DATE

NOV !«,. 1969

SUSPENDED
CONCEN- SEDIMENT
TRATION DISCHARGE

(MG/L) (TONS/DAY)

SUSPENDED
CONCEN- SEDIMENT
TRATION DISCHARGE

(MO/LI (TONS/DAY!

12 1.3

RARITAN RIVER BASIN

01396500 SOUTH BRANCH RARITAN RIVER NEAR HIGH BRIDGE, N. J. Continued

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

:::

* 163

164

159
164
170
176
16?

141
150
157
158
157

159
160
160
163
161

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161
159

152
155
161
165
120

124
142
151
156
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RA8ITAN RIVER BASIN

01396500 SOUTH BRANCH RARITAN RIVER NEAR HIGH BRIDGE, N. J. -

bF

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DAY MAX

1 200
2 204

4 205
5 188

6 190
7 184
8 192

10 205

11 205
1? 207
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ECIFIC CONDUCTANCE (MICRON

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UN MEAN MAX

94 196
97 200
01 203
76 192
76 182

81 185
72 177
78 184
92 196
99 202

02 203
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05 206
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04 205

06 207
03 206
97 202
46 161
48 163

81 184
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77 187
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JULY

MIN MEAN MAX

III III

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OCTOBER NOVEMBER

DAY MAX MIN MEAN MAX

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25 4.5

26 5.0
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MIN MEAN

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AUGUST

MIN MEAN

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DECEMBER

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3.5
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MIN MEAN

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3.0 3.5
3.5 4.0

5.0 6.0
4.5 5.0
3.0 3.5
2.5 2.5
2.5 3.0

1.5 2.5
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1.5 2.5
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SEPTEMBER

MAX MIN MEAN

III III

III III

JANUARY

MAX MIN

2.0 1.0
1.0 0.0
0.5 0.0
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0.0 0.0

2.0 0.0
1.5 0.5
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RAHITAN RIVER BASIN

01396500 SOUTH BRANCH RARITAN RIVER NEAR HIGH BRIDGE,

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

FEBRUARY

MAX

2.5
3.0
2,0
0.0
1.0

3.0
3.0
3.0
3.5
3.5

3.0
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2.5
2.5
3.5
4.5
3.0

1.5
4.0

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1.5
2.0
3.5

4.5

MAX

21.0
23.0
24.0
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16.5
18.0
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23.0
22.5
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MIN

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JUNE

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SEPTEMBER

MAX MIN MEAN

RARITAN RIVER BASIN

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, X. J.

LOCATION. Lat 40°34'21", long 74°52'10", Hunterdon County, at gaging station on highway bridge at Sta

DRAINAGE AREA. 147 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1960 to September 1965 (partial-records), January 1966 ber 1970.
Water temperatures: December 1959 to November 1961, December 1968 to September 1970.

EXTREMES. 1969-70:

eriod of record:
Specific conductance (1968-70): Maximum, 315 micromhos Aug. 11, 1969; minimum, 125 micromhos Aug. Water temperatures (1959-61, 68-70): Maximum, 29.0°C July 2, 1961; minimum, freezing point on mar winter periods.
Sediment concentrations (1959-63): Maximum daily, 920 mg/1 Mar. 6, 1963; minimum daily, 1 mg/1 01

days.

2, 1970.
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REMARKS. Water-tempe
sampling mecha

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RARITAN RIVER BASIN

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, N. J. Conti nued

FIELD DETERMINATION

SPECI- COLI-
FIC FORM

CONO- DIS- (COL-
TEMPER- UCTANCE PH SDLVtU ONUS

TIME ATURE (MICRO- OXVGEN PE<*
DATE IDEG Cl MHMSI (UN 1 T S) (M&/L 1 100 ML)

JAU.
29... .0 190 7.H 13.6 556
MAR.
27... 7.0 175
JUNE
IB... 23.1 195 8.6 1.4 ^i:3
sue.
27... 1000 25.5 H.H

SPECTROGRAPHIC ANALYSES. WATER YEARS PCTOBF9 19o6 TO SEPTEMHER 1970

MEAN
DIS-
CHARGE

DATE (CFSI

OCT. .1968
2*... 95
SEPT.. 19,69
26... 235
AUG. .1970

LEAD

(PB)
DATE (UG/L)

OCT. .1968
2*... < 3.
SEPT. .1969
26... 2.
AUG. .1970

ALUM-
INUM

(ALI
(UG/Ll

18.

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LITH-
IUM

(LI)
(UG/Ll

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BE-
BAR- RYLL- BIS- BO- CAD- CHRO-
IUM IUM MUTH RON MIUM MIUM

(BAI (BE) (BI) (B) (CD) (CR) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L)

30. < .6 < 3. 28. <30. < 5.

29. < .t> < 3. 43. <27. < 3.

MAN- MO- RU-
GAN- LY8DE- NIC- BID- STRON-
ESE NUM KEL IUM SILVER TIUM

(MN) (MO) (Nil (RB) (AG) (SRI
(UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L)

95. < .6 16. 2. < .3 60.

420. < .6 < 3. 2. < .3 60.

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER

DATE TIME

NOV 14. 1969 1130
DEC 11...... 1140
FEB 3, 1970 1345

DISCHAR

(CFS)

132
1*40
1710

SUSPENDED
CONCEN- SEDIMENT
GE TRATION DISCHARGE

(MG/L) (TONS/DAY) DATE

3 1.1 JUL 30......
176 684 JUL 30......
348 1610 JUL 30......

CO- COP-
BALT PER

(CO) (CU)
(UG/L) (UG/L)

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TI-
TAN-
TIN IUM

(SN) (TI)
(UG/L) (UG/L)

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< 3. < 3.

1969 TO SEPTEMBER

DISCHAR&t

TIME (CFS)

Ib30 84
1SIOS 131
1950 365

GER-
MAN-
IUM

(GEI

IRON

(FE)
(UG/L) (UG/L)

< 6.

< 3.

< 2.

VAN-
AD-
IUM

(V)

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180.

ZINC

(ZN)
(UG/L) (UG/L)

< 2.

< 2. <

1970

CONCEN-
TRATION

(MG/L)

31
25
69

<85.

:100

110

SUSPENDED
SEDIMENT
DISCHARGE

(TONS/OAYI

7.0
8.8
49

RARITAN RIVER BASIN

01397000 SOUTH BRANCH RARJTAN RIVER AT STANTON, N. J. Continued

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

MAX

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OCTOBER NOVEMBER

MIN MEAN MAX MIN MEAN

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DECEMBER JANUARY

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MIN MEAN

SPECI

JUNE

MIN MEAN

RARITAN RIVER BASIN

01397000 SOUTH BRANCH RARITAN RIVER AT STANTON, N.J. Continued

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

JULY

MAX MIN MEAN

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OS 207

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71
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58
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98
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78
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75
90
09 236

AUGUST

MAX MIN

197 142
152 125
174
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202
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213
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176
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MEAN M

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227
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182
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MIN

174
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176
181

TEMPERATURE

OCTOBER

MAX MIN

7.5
7.S
9.5
9.5

8.5
8.5
8.5
8.5
8.5

8.0
9.5
8.5
8.0
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4.0
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14.5

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

NOVEMBER DECEMBER

MAX MIN MEAN MAX MIN MEAN

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3.5
RARITAN RIVER BASIN
01397000 SOOTH BRANCH RARITAN RIVER AT STANTON, N. J. Continued
TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
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RARITAN RIVER BASIN

01400480 RARITAN RIVER AT TECHNICON SITE NO. 1, AT MANVILLE, N. J.

LOCA

about 0.6 mi upstream from gaging sta

DRAINAGE AREA. 492 sq mi, approximately.

PERIOD OF RECORD. Chemical analyses: Fe

REMARKS. C

Rarita Riv at Manville , N. J. (station 01400500).

CHEMICAL ANALYSESi FEBRUARY TO SEPTEMBER 1970

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RARITAN RIVER BASIN

01400480 RARITAN RIVER AT TECHNICON SITE NO. 1, AT UANVILLE, N.J. Continued

CROSS
SECTION

^TH»)

HA^D-

(CA.MG)

NON-
CAR-
BONATE

NESS

SPECI-
FIC
CONU-

IMICRP-

MHOS) (UNITS)

COLOR
IPLftT-

CnBftLT
UNITS)

(CU)
IUG/L) IUG/L)

70
71
71
68
70
63

38
oo
9h
96

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7 174 6.9
8 174 6.8
4 173 6.7
7 172 6.8
1 171 6.9

3 253 7.4
6 251 7.5
0 254 7.5
0 248 7.7

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14 5
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FIELD DETERMINATIONS

DATE

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12...
JUNE

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1430
1431
1432
1433
1434
1435

1500
1501
1502
1503

1400
1401
140Z
1403
1404
1405

SPECI-
FIC
COND-
UCTANCE
IMICRO-

265
Z45
240
23S

230
240
240
242
24S
24S

DIS-
SOLVED
OXYGEN

MHOS) (UNITS) IMG/L)

7.6
7. .8
7.7
7.7

8.6
8.8
B.8
8.B
8.7
B.6

RARITAN RIVER BASIN

01400510 RARITAN RIVER NEAR MANVILLE, N. J.

LOCATION (revised). Lat 40°32'34", long 74°34'03", Somerset County, water-quality recorder 400 ft upstream fr confluence with Millstone River about 1.4 miles downstream from gaging station near Manville.

DRAINAGE AREA. 497 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1962 to Septemb
ber 1970.
Water temperatures: November 1967 to January 1968, October 1968 t
Sediment records: October 1969 to September 1970 (miscellaneous).

1965 (partial records), January 1966 to Septem-

September 1970.

REMARKS. Prior

are given fo
malfunction

o 1966 records collected at gaging station near Manville (station 01400500). Raritan River at Manville, N. J. (station 01400500). Missing water-quality

Records of discharge
ecorder data due to

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CAL-
CIUM

(CM

PO-
TAS-
SIUM

IK)

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FEB.

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1.7

2.4

2.6

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CAR- LINIIV CHLO- FLUH-HONATE 4S SULFiTc KlOt RIOt (CO^I C4CI13 isn't! (CD (Fl

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RARITAN RIVER BASIN

01400510 RARITAN RIVER NEAR MANVILLE, N. J. Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD DETERMINATIONS

TEMPER-
ATURE

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API-.
30... Id.?

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')J... 1715 26.6
SbPT.
13. .. 1115 2UO
>b... 1200 20.5

SPECTROGRAPHIC ANALYSES, WATER

DATE

OCT..
18..
SEPT.
23..
SEPT.
03..

DATE

OCT..
18..
SEPT.
23..
SEPT.
03..

DIS-
CHARGE

(CFS)

1968
164
. 1969
409
. 1970
168

LEAD

(PB)
(UG/L)

1968
. < 4
. 1 969
3
. 1970
< 2

INUM

(AD
(UG/L)

70

35

28

LITH-
IUM

(LI)
1UG/L)

3

2

3

BE-

IUM IUM

(BAI (BE)
(UG/L) (UG/L)

35 < 2

27 < .6

36 < .4

MAN- MO-
GAN- LYBDE-
ESE NUM

1MN) (MO)
(UG/L) (UG/L)

45 1

30 1

28 1

MUTH

1BI)
(UG/L)

< 4

< 3

< 2

NIC-
KEL

(NI)
(UG/L)

< 5

3

< 3

209

220

225

2-.0

192

?70
240

YEARS

RON

(B)
(UG/L)

70

70

75

RU-
BID-
IUM

(R9)
(UG/L 1

3

5

1

7.3

7. 1

7.5

7.5

7.5

8. 0
1. 3

OCTOBER

MIUM

(CD)
(UG/L)

<35

<30

<35

SILVER

(AG)
(UG/L)

< .4

< .3

< .2

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR

MOV
DFC
FEB
APR

DATE TIME

OISCHAR

1CFS)

14, 1969 1145 415
11....

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2....

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70 1230
1315

10400
4840
B680

CONCEN-
GE TRATION

(MG/L)

5
162
8
926

SUSPENDED
SEDIMENT
DISCHARGE

(TONS/DAY)

5.6
4550
105
21700

1 3

12

1 0

9

6

7

7

1968 TO

MIUM
(CR)
(UG/L)

< 5

a

< 3

STRON-
TIUM

(SR)
(UG/L)

210

160

230

OCTOBER

DATE

APR 2
JUL 30
JUL 30
JUL 30

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SEPTEMBER 1970

SALT

(CO)
(UG/L)

< 4

< 3

< 4

TIN

(SN)
(UG/L)

< 7

< 4

< 3

1969 TO

TIME

1600
1305
1650
2045

PER

(CU)
(UG/L)

4

7

4

TI-
TAN-
IUM
ITI)
(UG/L)

< 2

4

< 2

SEPTEMBER

DISCHAR&t

(CFS)

11000
806
897
670

GER-

IUM IRON

(GE) (FE)
(UG/L) (UG/L)

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< 3 120

< 3 54

VAN-
AD-
IUM ZINC

(V) (ZN)
1UG/L) (UG/L)

< 3 .0

. 9 <120

2 <140

1970

SUSPENDED
CONCEN- SEDIMENT
TRATION DISCHARGE

IMG/LI (TONS/DAY)

488 14500
298 649
297 719
142 257

RARITAN RIVER BASIN

01400510 RARITAN RIVER NEAR MANVILLE, N. J. Continued

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

BATE MAX MIN MEAN BATE MAX MIN MEAN

MAR
19
20
21
22

BISSOLVEB OXYGEN

BATE

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26
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MAX

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3.7
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JUNE

MIN

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MEAN

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262
259
247
211

229
239 247
202
203 207

SEP 28 220
29 238
30 246

213
221
227

216
228
238

DO), IN MILLIGRAMS PER LITRE, WATER YEAR OCTOBER 1969 TO SEPTEMI

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8.2

10.8
11.2
10.5
9.0
7.4

7.8
11.2
11.4
12.0
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8.1
7.3

BATE MAX

21 12.1

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JULY

MIN MEAN

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MAX

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MEAN

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

DATE MAX MIN MEAN DATE MAX MIN

MAR 19 1970 9.2 7.1 __ MAR 22 1970 95
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MEAN

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RARITAN RIVER BASIN

01400510 RARITAN RIVER NEAR MANVILLE, N. J. Contir

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AUGUST

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SEPTEMBER

MEAN MAX MIN ME

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6.5 9.2
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7.9 7.3
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TEMPERATURE (°C) OF HATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

MAX MIN MEAN BATE MAX MIN MEAN DATE MAX MIN

MAR

20
21
22
23
24
25
26
11 1970
12
13

S.O 6.6 7.5 15
. 5 4.5 5.5 19
. 5 3.5 4.0 20
. 0 3.5 4.5 21
. 0 5.0 5.5 22
. 0 5.0 5.5 23
. 0 5.0 5.5 APR 13
. 0 2.5 14
. 5 0.5 2.5 15
. 0 2.5 2.5 16

3.5 0.0 2.0 IB
5.0 4.5 19
4.5 4.0 4.5 20
5.0 4.0 4.5 21
5.0 4.5 5.0 JUN 16
4.5 4.0 17
9.5 9.0 9.5 SEP 28
9.0 B.O B. 5 29

a. 5 a.o a.o 30
9.5 a.O 9.0

11.5
11.0
10.5

a. 5
19.5
19.0
20.5

19.5 ia.o

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18
17

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11.0
11.0
9.5

a. 5

IB. 5
20.0
19.0
17.5

RARITAN RIVER BASIN

01401000 STONY BROOK AT PHINCETON, N. J.

56", Mercer County, at gaging station at brid on U.S. Highway 206, 1.6 mile
southwest of Princeton.

DRAINAGE AREA. 44.5 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1959 to September 1965 (partial records), January 1966 to S ber 1969, October 1969 to September 1970 (partial records).
Water temperatures: October 1956 to September 1962, October 1963 to September 1964, October 1965 to Jun Sediment records: January 1956 to June 1970.

sptem-

1 1970.

daily, 593 mg/1

Water
ing

(1956-62, 1963-64, 1965-68):
y days during winter periods.

32.0°C July 3, 1958 and June 30, 1959; minimum, fr

5
01 S-

uis- SOLVED "sn-

Mt«N SGLVEO MAN- CSl- N E-
!JIS- SILICA 1-tHN uAMtSE CIU" SIUM SDOIUM

CHAKUE (SI02) (FE) (MM) (CA 1 I *G 1 INAI (

JAvl.
15... If, 16 It 7.5 15
JUNE
18... 13 13 6.5
SEPT.

HUM
LUS

n- PD-
AS- TAS-
IIIW SIUM

AtK) IKI

?..<>

20

JAN.
15...
JUNE
18...
SEPT.
03.. .
28...

DATE

JAN.
15...
JIINF
IB...

BICAR-
BllNATt
[Htn3>

42

60

61
82
UIS-

SULVEn

SOL ins
(XESI-
DUF AT
100 Cl
(M(,/L)

16rt

- -

CAR-
BONATE

(CQ3I

0

0

0
0

nis-

SOLVFI) soLins
(SUM OF
CONSTI-
TUENTS!

(MG/LI

148

~

L INI TV
AS
CAC03

34

49

50
67

HAwn-
NFSS

(CA.MGI
(MG/L)

76

72

SULFATL
IS04I

37

36

31
31

NON-
CAH-
HONATE
HARD-
MESS
IMG/LI

42

2J

CHLO- FLUO-

(CLI IFI INT3I

24 .0 7.7

20 .0

30 .1 .5
34 .2

SPFCI-
FIC CULO.V

COW)- (PLATI-
UCT4NCE PH INUM-

(MICWO- CObil.T
MHOSI (UNITS) UNITS)

r>49 7.9 1

^34 7,b jl

PHGS-

(P04I

. 07

. 06

. 94
. 14

M (fl-
LHEM-
IC4L
OXYGEN
UEMAND

("(./L)

1.1

. «

FIELD DETERMINATIONS

FIC
COND-
TEMPER- UCTANCE

ATURE (MICRO-

SOLVEU
OXYGEN
(MG/LI

14.0

7.0

10.8

COLI-
FORM

(COL-
ONIES
PER
100 MLI

2700

75
500

HAHITAN RIVER BASIN

01401000 STONY BROOK AT PRINCETON, N. J. Continued

SPECTROGRAPHIC ANALYSES' WATER YEARS OCTOBER 1968 TO SEPTEMRER 1970

DATE

OCT..
18..
SEPT.
23..
SE°T.
03..

DATE

OCT.,
18..
SE°T.
?3..
SE»T.
03..

MEAN
DIS-

CHARGE

(CFS)

19*8
. 80
. 1969
10
t!970
. 85

LEAD

<DB>

(UG/L)

1968

,1969
2
. 1970
< 2

ALUM-
INUM

(AD
(UG/L)

40

15

23

LITH-
IUM

(LI)
(UG/L)

5

2

3

BAR-
IUM

(BA)
(UG/L)

60

30

37

MAN-
GAN-
ESE

(MNI
(UG/L)

140.

14.

17.

BE-
RYLL-
IUM

(BE)
(UG/L)

< .8

< .6

< .4

MO-
LYBDE-
NUM

(UG/L)

< .8

. 5

1.

BIS-
MUTH

(BI)
(UG/L)

< 4

< 3

< 2

NIC-
KEL

(NI)
(UG/L)

7

3

<: 3

BO-
RON

(B)
(UG/L)

90

60

63

RU-
BID-
IUM

(UG/L)

6

2

2

CAD-
MIUM

(CD)
(UG/L)

<40

<30

<35

SILVER

(UG/L)

< .4

< .3

< .2

CHRO-
MIUM

(CR)
(UG/L)

< 7

< 3

< 3

STRON-
TIUM

(UG/L)

320

110

150

CO-
BALT

(CO)
(UG/L)

< 4

< 3

< 4

TIN

(UG/L)

< 8

< 4

< 3

COP-
PER

(CU)
(UG/L)

5

5

3

TI-
TAN-
IUM

(Tl)
(UG/L)

< 2

< 2

< 2

GER-
MAN-
IUM

(GE)
(UG/L)

< 8

< 3

< 3

VAN-
AD-
IUM

(UG/L)

< 3

. 8

2

IRON

(FE)
(UG/L)

50

42

50

ZINC

(UG/L)

<120

<100

<140

PARITCLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, OCTOBER 1969 TO JUNE 1970
(METHODS OF ANALYSIS: 8. BOTTOM WITHDRAWAL TUBE! C. CHEMICALLY DISPERSED! N. IN NATIVE WATER; P, PIPET; S, SIEVE' V. VISUAL ACCUMULATION TUBE! W, IN DISTILLED WATER)
WATER PARTICLE SIZE
TEM- SUSPENDED MFTwnn

PER *- CONCEN- SEDIMENT PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICSTED 0F
TURE DISCHARGE TRATION DISCHARGE »Nil v

DATE TIME (C) (CFS) (MG/L) (TONS/DAY) .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00 SIS

DEC Hi 1969 0750 3 2580 265 1850 4 2 54 67 78 89 97 98 99 100 <;rnu
FEB 3. 1970 1600 3 1650 498 2220 0 29 40 55 74 91 95 98 99 100 SCPW

RAKITAN RIVER BASIN

01401000 STONY BROOK AT PRItfCETON, tf. J. Continued

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2
3

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6
7

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11
12
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14

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19
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27
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31

V(j

«L

(ONCE-DAILY

3.D
15. C 1C. 6
5.0
lb.0 14.0 C.C
12. C A.0 1.0

12. C

17. C
15.0 3.0

16. C

17.0

4.0 1.0

7.0 1.0

0.0

5.0

8.0
2.C
3.C -- l.C

OCTOB

KEHN
*EAN CONCE
DISCHARGE TRATI
(CFSI (MG/L

7.1
7.1
13
11
8.9

7.4
6.4
8.0
7.2
7.3

6.9
6.1
5.6
5.4 I
5.3 1

5.1 1
4.5 I
4.0
3.9
3.8

6.2
5.7
6.9
5.9
5.2

4.6
4.4
4.1
4.0
3.9
4.9

189.8

MEASUREMENT BETWE

2.0
1.0
3.0 2.0

EN 0800 AND 1000)

APR MAY

5.0 14.0
B.O

15.0
1.0 3.0

11.0 11.0
1.0 0.0

B.O 18.0

3.0 10.0 22.0

0.0

2.0 3.0 10.0

4.0 11.0 17.0

7.0 15.0
15.0
14.0

SUSPENDED-SEDIMENT DISCHARGE, DC

ER NOVEMB

MEAN
N- SEOIKENT MEAN CONCE
ON DISCHARGE DISCHARGE TRATI
1 ITCNS/CAYI ICFSI IMG/L

. 04 4.1
. 06 4.3
. 11 7.2
. 06 7.4
. 02 9.2

. 02 34 1
. 02 31
. 04 19
. 06 32
. OB 39

. 09 22
. 12 17
. 12 17
. 15 16
. 17 17

. 19 14
. 13 12
. 10 12
. 07 13
. 05 79 5

. 08 45 2
. 09 27
. 06 22
. 03 20
. 04 17

. 05 16
. 04 15
. 08 14
. 03 14
. 02 13
. 01

2.25 609.2

TOBER 1969 TO JUNE

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N- SEDIMENT
ON DISCHARGE
1 ITONS/OAYI

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. 05
. 06
. 04
. 05

1.4
. 50
. 10
. 60
. 53

. 18
. 14
. 09
. 09
. 09

. 08
. 06
. 06
. 24
12

2.9
. 44
. IB
. 22
. 18

. 22
. 16
. 11
. OB
. 04

20.92

EMBER 1970

JUN JUL

18.0

21.0

18.0

16.0

22.0

18.0

20 .0

17.0

HUG

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"

1970

DECEMBER

HEAN
MEAN CONC EN-
DISCHARGE TRATION
<CFSI IMG/LI

1* 1
13 1
13 1
11 2
10 2

9.9 4
10 9
15B 54
107 15
133 23

1350 306
193 52
113 21
90 16
B6 11

72 8
52 7
43 6
46 5
42 4

32 4
445 103
216 65
88 14
52 7

46 7
75 -S
57 «
49 5
43 9
185 41

3873.9

btc

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SEDIMENT
DISCHARGE
(TONS/DAY!

. 04
. 04
. 04
. 06
. 05

. 11
. 24
26
4.3
36

1B10
27
6.4
3.9
2.6

1.6
. 98
. 70
. 62
. 45

. 35
223
38
3.3
. 98

1.2
1.6
. 92
. 66
1.0
21

2213.14

RARITAN RIVER BASIN

01401000 STONY BROOK AT PRINCETON, N.J. Continued

SUSPENDED-SEDIMENT DISCHARGE, OCTOBER 1969 TO JUNE 1970

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26
27
28
21
30
31

TOTAL

13Z
81
64
45
33

33
30
27
25
23

21
19
18
17
16

15
15
42
55
40

31
27
21
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14

16
19
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3T
204
111

1270

HEAN
DISCHARGE

238
1690
415
176
120

92
81
67
60
52

46
36
33
50
335

118
79
65
50
Z21

147
90
72
221
325

108
81
68
58
47

5241

JANUARY

HEAN

14
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APRIL

MEAN
CONCEN-
TRATION

32
593
113
26
15

14
14
11
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3

2
4
4
8
49

12
5
3
3
28

10
4
4
169
86

15
10
7
6
6
- -

5.0
. 66
. 52
. 49
. 21

. 09
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1.7
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1.5

22.27

SED1CENT
DISCHARGE

19
2940
150
12
4.9

3.5
3.1
2.0
1.1
. 42

. 25
. 39
. 36
1.1
44

3.8
1.1
. 53
. 41
17

4.0
. 97
. 78
217
122

4.4
2.2
1.3
. 94
. 76

3559.31

MEAN
DISCHARGE

(CFSI

81
430
941
268
101

84
83
75
67
712

340
1 1
7
8
8

0
3
8
101
81

46
43
4*
36
37

29
26
25

_~

4205

MEAN
DISCHARGE

40
34
31
30
27

23
18
17
17
16

16
11
9.6
8.4
7.7

7.4
22
41
30
83

33
18
58
106
44

34
70
31
20
15
12

930.1

FEBRUARY

MEAN
CONCEN- SEDIMENT
TRATION DISCHARGE

(MG/LI (TONS/DAYI

4 .87
201 563
372 1120
77 97
' 1.4

3 .68
4 .90
4 .81
3 .54
191 589

48 44
19 7.2
8 2.1
3 .55
2 .37

3 .49
4 .57
8 1.5
8 2.2
3 .66

1 .12
1 .12
2 .24
2 .19
1 .10

1 .08
I .07
2 .14

__ _«

2434. 90

MAY

MEAN
CONCEN- SEDIMENT
TRATION DISCHARGE

. 65
. 55
. 42
. 32
. 15

. 06
. 05
. 09
. 09
. 09

. 09
. 06
. 08
. 16
. 17

. 16
. 95
. 89
. 65
5.4

. 98
. 29
4.4
10
Z.3

1.2
3.8
. 84
. 32
. 16
. 23

35.60

MEAN
DISCHARGE

(CFSI

21
22
22
23
55

50
37
35
29
25

24
29
90
72
46

35
30
33
70
106

226
115
234
113
83

74
165
84
186
204
2Z1

2559

MEAN
DISCHARGE

(CFSI

9.6
8.4
7.7
31
186

108
67
41
23
17

13
10
. 8
. 1
. 7

. 5
. 7
1
31
15

209
159
47
31
20

18
Z3
21
14
8.8

1164.3

MARCH

MEAN
CONCEN- SEDIMENT
TRATION DISCHARGE

(MG/L

2

1

1

3

3

2

2
1
1

(TONS/DAY)

. 17
. 18
. 24
. 19
1.2

. 95
. 60
. 57
. 39
. 20

. 06
. 23
6.6
1.2
. 87

. 95
. 65
. 36
1.1
4.0

21
2.2
21
2.7
1.3

1.6
9.8
2.0
13
8.8
6.0

110.11

JUNE

MEAN
CONCEN- SEDIMENT
TRATION DISCHARGE

(MG/L) (TONS/DAY)

10 .26
8 .18
7 .15
18 1.5
43 22

16 4.7
8 1.4

1

14
1C
1

. 66
. 31
. 37

. 07
. 03
. 05
. 06
. 06

. 06
. 06
. 28
l.S
. 24

174
43
1.3
. 50
. 27

. 24
. 12
. 11
. 08
. 07

253.63

20042.3
86S2.13

RARITAN RIVER BASIN

01402900 MILLSTONE RIVER NEAR MANVILLE, N. J.

LOCATION. Lat 40°32'33", long 74°34'03", Somerset County, at water-quality recorder 200 ft upsti fluence with Raritan River and about 6.4 miles downstream from gaging station near Manville.

DRAINAGE AREA. 287 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1967 to September 1970.
Water temperatures: October 1968 to September 1970.
Sediment records: October 1969 to September 1970 (miscellaneous).

REMARKS. Records of discharge are given for Millstone River at Blackwells Mills, N. J. (station 01402000).

missing periods.

UEC.

JAN.
14..
PET.
27 . .
MAS.
23 ..

357 11 110 130 14 6.5

il4 16 5.6

175 15 6.0

197 17 6.0

QCI.
31...
NOV.
16...
DEC.
29. ..
JAN.
14.. .
FEB.
27...
MAK .
23.. .
APR.
30. . .
1AY
19.. .
JUNE
26...
AUG.
03. . .
S = PT.
T3.. .
28. ..

BILSK- CA--

<HU)3) 1CH3I

42 0

35 0

17 0

39 0

51 1

20 J

25 0

37 0

27 0

45 n

44 0
57 0

ALKA-
L 1NITY

c«cnj

34

29

14

32

42

lis

21

30

22

37

36
47

(504)

42

46

40

42

39

39

39

33

32

36

41
49

CHLO-
RIDE

(CO

27

31

1 R

23

16

16

13

20

15

18

20
27

FLUO-
R1DE
1FI

. 5

. 6

. 0

. 2

,3

PRTHO
PHHS-
NITRATt PHATE

(N33) (P04)

16 1.7

14 1.-,

9.3 .40

14 .95

7.8 .16

7.0 .50

6.0 .57

11 .89

11 1.4

7.5 .75

H.? 1.2
11 ?-7

RARITAN RIVER BASIN

01402900 MILLSTONE RIVER NEAR MANVILLE, N. J. Continued

FIELD DETERMINATIONS

SPFCI-
FIC

nfii
nri .
11.
M1V,
IP.

UF<;

JAN
It
FEP
27

23

30

TML
't (

ATURE I*

DEG C) "

d.Q

7.0

1. t

5.4

17.1

19 ... l f .u
JUNt
26... 1015 22.0

Alir, .
T3... 1700 26.2
StPT.
13... 1015 21.0
2:3... 1200 20.5

SPECTROGRAPHIC ANALYSES. WATER

BE-

DATE

OCT..
18..
SEPT.
23..
SE»T.
03..

DATE

OCT..
18..
SE°T.
23..
SEPT.
03..

MEAN
DIS-
CHARGE

(CFS)

1968
63
. 1969
103
. 1970
49

LEAD

(PB)
IUG/L)
1961
. 5
. 1969
2
. 1970
< 2

ALUM-
INUM

IAL)
(UG/L)

230

17

23

LITH-
IUM

(LI)
(UG/L)

5

2

3

BAR- RYLL-
IUM IUM

ISA) 1BE)
1U6/L) IUG/L)

45 < 3

41 < .6

43 < .3

MAN- MO-
6AN- LYBDE-
ESE NUM

(MN) (MO)
(UG/L) (UG/L)

130 6

70 1

140 2

SUSPENDED- SEDIMENT DISCHARGE

DATE TIME

NOV 14, 1969 1215
DEC 11....
DEC 11....
DEC 11....
DEC 11....

1 335
.. 1440
1510
1527

OISCHAR

(CFS)

144
3030
3130
3160
3180

CDNCEN-
GE TRATIDN

(M6/L)

80
57
51
57
54

BIS-
MUTH

(Bl)
(UG/L)

< 4

< 3

< 2

NIC-
KEL

(NI)
IUG/L)

25

3

3

IICRO-

IMOS)

260

305

200

265

230

202

195

(UNITS)

7.3

6,<3

7.0

6.6

190 6.9

220 7.4

250 7.2
310 8. 2

YEARS OCTOBER

BO-
RON

IB)
(UG/L)

110

100

94

RU-
BID-
IUM

(RB)
(UG/L)

6

. 4

5

CAD-
MIUM

(CD)
(UG/L)

OS

00

<30

SILVER

(AC)
IUG/L)

< .4

< .3

< .2

MEASUREMENTS, WATER YEAR

SUSPENDED
SEDIMENT
DISCHARGE

(TONS/DAY)

31
466
431
486
464

nis-

CHLI-
F-3P-1

(CfL-

PKYiEN PER

11G/L) 1 50 ^L)

5.6 750

9.6 2650

12.4 106

13.4 187

ll.K 100

11.6 3660

S.8 10400

1.2 11300

iS.fl 6250

6.4 2620
3.6 10400

1968 TO SEPTEMBER 1970

CHRO-
MIUM

1CR)
(UG/L)

< 5

< 3

< 3

STRON-
TIUM

(SR)
(UG/L)

140

140

160

OCTOBER

DATE

APR 2, APR a.
APR 3.
JUL 30.
JUL 30.

1970

. . . . «

. .

. . . . .

co-
BALT

(CO)
(UG/L)

< 4

< 3

< 3

TIN

(SN)
(UG/L)

< 7

< 4

< 3

COP-
PER

(CU)
(UG/L)

13

6

3

TI-
TAN-
IUM

(TI)
(UG/L)

7

2

< 2

GER-
MAN-
IUM

(GE)
(UG/L)

. 0

< 3

< 3

VAN-
AD-
IUM

(V)
(UG/L)

2

2

3

IRON

(FE)
(UG/L)

450

95

55

ZINC

(ZN)
(UG/L)

. 0

<120

<:130

1969 TO SEPTEMBER 1970

TIME

1345
1610
0940
1325
1620

DISCHARGE

(CFS)

3150
4140
7640
150
147

CONCEN
TRATIO

(MG/L)

262
183
93
216
331

SUSPENDED
- SEDIMENT
N DISCHARGE

(TONS/DAY)

2230
2050
1920
87
131

JUL 30......

RARITAN RIVER BASIN

01402900 MILLSTONE RIVER NEAR MANVILLE, N. J. Continued

SPECIFIC CONDUCTANCE (MICRDMHDS/CM AT 25°Cli WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCT 11 1959
12

14
15
16
17
18
19
20
21
22
23
24

344

286
276
266
311
351
358
353
327
328
305
325

282
280

223
259
259
258
311
335
265
275
304
278
254

295
314

275
258
253
281
333
350
316
294
315
288

OCT 25 1969 307
26 344
31 315
NOV

3
293

DATE MAX

MAR 19 1970 ~" >

20

MAX

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8.2
10.0
9.3

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8.8
8.7
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JUNE

MIN

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DISSOLVED OXYGEN (DO!

DATE

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30
31
NOV 1

MAX

6.6
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5.2
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5.8
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5.4
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6.4
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6.2
6.2
6.7
6.7
6.0
5.9

MIN

4.3
3.9
4.0
3.8
3.9
3.9
4.3
4.4
4.3
4.2
4.0
4.4
4.7
5.4
5.3
5.4
5.3
5.5
4.9
5.2
4.7

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MEAN

5.3
4.7
4.5
4.6
4.5
4.6
4.9
5.0
5.0
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6.0
5.8
5.8
6.0
5.9

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5.3

8.8
9.4

MAX

7.4
7.7
7.8
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7.9

8.1
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8.4
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8.7
8.9
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9.3

9.2
9.0
8.5
8.6
8.1

8.6
8.7
8.2

1 328
2 331
3 327
4 329
5 332
6 347
7 328
8 311
9 258
0 255

MIN MEAN

7.0 7.9
7.4 8.4

JULY

MIN MEAN

6.8 7.2
7.3 7.5
7.1 7.4
6.8 7.4
7.0 7.5

6.7 7.3
6.7 7.1
7.0 7.8
7.2 8.4
8.1 8.5

7.6 8.0
7.5 8,0
7.4 7,9
7.3 7.7
7.3 7.5

7.3 7.5
7.4 7.9
7.5 8.2
7.7 8.4
7.9 8.6

7.8 8.5
7.5 8.1
7.4 7.9
7.7 8.0
7.4 7.8

7.4 7.7
7.5 7.9
7.5 7.8

MILLIGRAMS PER LITRE,

DATE MAX

4 4.0
5 4.5
6 5.1
7 5.6
8 5.4
9 6.2
0 5.7
1 6.0
2 6.1
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4 6.5
5 6.9
5 7.4
9 11.1
0 9.2
1 11.4
2 12.2
3 12.5
4 12.1
5 12.4
6 12.7

272
288
273
313
301
300

300
294
294
239
232
248

DATE

MAR 22 1
23

286
321

320
313
310

321
311
310
259
243
257

MAX

970 9.3
9.0

NOV 11 196
12

15
16

20
21
22
23
SEP 28
29

MIN

8.0

9 254
246

252
252

229
246
205
205
305
310

MEAN

f^f

AUGUST

MAX

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8.0

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6.2
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MEAN

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6.8
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6.6
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WATER YEAR OCTOBER 1959 TO

MIN

3.5
3.3
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MEAN

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MAX

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III

SEPTEMBER

MAX

11.5
10,9
11.0
8.8
11.1
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10.4
7.5
7.4
9.2
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239 253
233 239

234 242
255

217 226
186
184 1
195
296 3
304 3

SEPTEMBER

MIN

6.9
7.0
7.3
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6.9
6.3
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6.7
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1970

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95

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08

MEAN

7.9
8.1
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MIN MEAN

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9.9 10.6
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RARITAN RIVER BASIN

01402900 MILLSTONE RIVER NEAR MANVILLE, N. J. Continued

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

MAX

8.5
8.2
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7.6
7.8
8.2

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6.7
6.2
7.2
7.4
7.6

JUNC

MIN MEAN

6.1 7.1
5.4 6.8
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6.4
6.4 7.0
5.7

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5.6
5.1 5.6
5.6 6.5
5.6 6.4
5.2 6.1

JULY AUGUST

MAX MIN MEAN MAX MIN MEAN

7.4 4.4
5.2 4.4
5.2
6.4
7.8

7.0
7.4
7.4

7.2

8.7
9.8
10.2
8.8
7.3

8.7
10.6
11.2
12.5
11.8

10.9
10.3
10.7
10.9
9.0

10.6
11.1
9.4

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8
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. 6 8.3 6.6
. 1 8.8 6.8 7.6
. 9 6.6 1.5 3.6

. 6 3.7 2.3 2.5
. 7 2.7 2.3 2.5
. 6 2.6 2.1 2.3

. 3 2.4 2.1 2.3

. 6 3.1 2.5 2.7
. 3
. 8 - . --
. 9 ...
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>6
. 8
. 3
. 9 8.8

. 2 8.5
. 7 7.9
. 5 8.7
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. 3 6.9
. 1 8.1
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MAX

9.0
9.6
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8.6

5.3

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4.0
3.9
3.4
3.6

4.0
2.9
4.0
4.7
4.4

4.9
3.4
4.6
4.6
3.4

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7.4
5.6
5.6

SEPTEMBER

MIN MEAN

4.6 6.9
S.O 7.2
4.8 6.6
4.4

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5.1
4.3 5.1
3.7 4.5

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4.6
3.6
3.6
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3.0

3.3
2.4
3.3
3.6
3.5

3.6
3.0
2.9
3.0
3.0

3.4 5.0
2.1 4.0
3.5 4.4

2.0

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

BATE MAX

1
1
1
1
1
1
1
1
2
2
2
2
2
2
2
2
2
2
3
3

8.5
8.5
8.5
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. 5
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.0

MIN MEAN DAT

6.5
6.0
7.0
6.0
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3.5
2.0
1.5
2.0
3.5
2.0
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. 5 7.0
. 5 8.5
. 0 8.5
. 0 7.5
8.5 7.0

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0
5

) 0
9.0 8.5

1.0 9.5 1
2.5 11.0 1

3.0 10.5 1
0.5 9.0
9.5 8.5
9.5 8.5
o.o :
0.5 10.0 1
1.0 10.0 1
0.0 9.5 1
0.0 8.5
9.0 8.5
8.5 6i5
6.5 6.0
7.0 6.5
7.5 6.0
6.0 3.5
3.5 2.5
4.0 2.5

. 0 25
. 5 26

. 0 20
. 5 21
. 0 22
. 0 23
. 5 APR 13
. 0 14
. 5 15
. 0 16
. 0 7
. 0 18
. 0 19
20
21
. 5 JUN 16
. 5 17
. 0 SEP 28
. 5 29

5 3.5
5 3.0
0 5.0
0 4.0
5 4.0
5 5.0
5 4.5
5 10.5
5 8.0
5 7.5
5 7.5
0 9.5
5 10.0
0 9.5
5 8.5
5 8.5
5 18.0
5 18.0
5 10.0
5 18.0

4.0
3.5

4.5
4.5
5.0
- __

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9.0
8.5
0.5
1.5
2.5
1.5
0.0
9.0

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9.0
0.5
8.5

RARITAN RIVER BASIN

01402920 RARITAN RIVER AT TECHNICON SITE NO. 2, NEAR MANVILLE, N. J.

LOCAT

DRAINAGE AREA. 768 sq mi, approximately.

PERIOD OF RECORD. Chemical analyses: May to September 1970.

Riv below Calc

re in feet from right bank looking upstre it Bound Brook, N.J. (station 01403060).

ischarge are giv

MAV
06...
06...
06...
06...
JUNE

CROSS
SECTION
LOC-
ATION

7
45
as
IDS

DIS-
HEAN
DIS-
CHARGE

664

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SILICA

(SI02)

6.5
7.4
8.1
7.7

SOLVED
IRON

<FE)

510
400
280
290

DIS-
SOLVED
MAN-
GANESE

<MN)

130
90
50
60

CAL-
CIUM

(CAI

15
21
20
20

MAG-
NE-
SIUM

IMG)

5.5
6.0
6.5
6.5

SODIUM

(NA)

12
12
11
9.1

PO-
TAS-
SIUM

(K)

2.4
3.2
1.9
1.6

BICAR-
BONATE
<HC03I

21
37
55
56

CAR-
BONATE

(C03I

0
0
0
0

12...
16...
16...

30...
30...
30...
30...
30...

90
105
120

5.9
9.3
8.9

9.0
7.0
7.5
6.0

2.6
3.8
4.4
3.1

SECTION

ATION

LINITY

CAC03 (S04)

CHLO-

(CLI

FLUO-

(F) (N03)

TOTAL
KJEL-

NITRO-

(Nl

PHOS-

(P04)

DIS- DIS-
SOLVED SOLVED

(RESI- (SUM OF

180 Cl TUENTS)

134
149
143
142

11B
134
124
121

167
181
179
161

152
156
154
134

RARITAN RIVER BASIN

RARITAN RIVER AT TECHNICON SITE NO. 2, NEAR MANVILLE, N.J. Continued

CHEMICAL ANALYSES, MAY TO SEPTEMBER 1970

DATE

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i. . .

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i. . .

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0...

CROSS
SECTION

ATION

(FT)

7
45
as
10S

7
45
as
105
30
60
90
120
25
50
75
90
105
120

HARD-

(CA.MG)
(MG/L)

60
77
77
76

__

105
97
91
65

_

- -

__

__

NON-
CAR-
BONATE

NESS

(MG/L)

43
47
32
31

- -

*-

42
43
48
31
- -

_ -

- _

SPECI-
FIC COLOR

COND- (PLAT-

(MICRO- COBALT (CU)
MHOS) (UNITS) UNITS) (UG/L)

212 7.2 12 10
235 7.6 15 10
219 7.6 15 10
213 7.6 12 10

265 8.3 4
275 7.9 5
273 7.5 4
246 6.8 4

_ - -_ __ -_

__ _ - .» -

. . _- __ __

(ZN)
(UG/L)

520
1100
350
210

_ -

- -

-

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- -

PHENOLS

(UG/L)

- -

~

- -

- -

~

4
10
- -

4
- -

3

FIELD DETERMINATIONS

TIME
DATE

MAY
06... 1300
06... 1301
06... 1302
06... 1303
JUNE
12... 1100
12... 1101
12... 1103
12... 104
16... 615
16... 616
16... 617
16... 618
30... 430
30... 431
30... 432
30... 433
30... 434
30... 43S

TEMPER-
ATURE

(DEG C)

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21 6
21 2
21 0
21 0
25 1
2 8
2 2
2 0
2 8
2 0

SPECI-
FIC
COND- DIS-
UCTANCE PH SOLVED

(MICRO- OXYGEN
MHOS) (UNITS) (MG/L)

290
310
290
aas

217
245
228
223
235
260
255
225
250
260
23S
215
205
200

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, __
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.) 7.8
7.4
7.0
. 6.8
8.4
8.6
8.4
B.4
3.2
8.4

RARITAN RIVER BASIN

01403065 RARITAN RIVER AT TECHNICON SITE NO. 3, AT SOOTH BOUND BROOK, N. J.

tluence ueneUhddle with Middle Brook confluence ' and about 0.5

DRAINAGE AREA. 781 sq mi, approximately.

PERIOD OF RECORD. -Chemical analyses: May to September 1970.

Interstate Highway 287 bridge upstream
downstream from gaging station in South Jound Brook.

Rarita below Calc

feet fr right bank looking upstr
at Bound Brook, N. J. (station 01403060).

CHEMICAL ANALYSES, MAY TO SEPTEMBER 1970

of discharge

PO-
TAS- BICAR-
SIU« BONATE
(K) (HCQ3)

CAR-
BONATE
IC03I

Ck^jS ALKA-
StCTlir, UNITY
t I C- AS SULFATE
ill JM CACO? (S04I
(FI I (rlb/LI (1G/LI

7U 55 287
5 J 11 175
11J dt, bt
14J ?t, 51

CHLG-
RIOE

(CD

134
RO
13
2?

FLUQ-
PI'JE

(FI

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. i
. 3
. 4

TOTAL
K.JEL-
OAHL
NITRO-
NITRATE GEN
(ND3I (NI

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3.2 B.2
11 .90
8.7 .49

QRTHO
PHOS-
PHATE

IPD4)

. 95
,82
. 77
. 72

DIS-
SOLVED
SOLIDS

(RESI-
DUE AT

180 C)

462.
214
169

DIS-
SOLVED
SOLIDS

(SUM DF
CONSTI-
TUENTS!

662
395

148

ri * Q-
1ESS

(«,',/L)

17' 1
132

7h

106

N'~!N-
C»R-

£ |H fj 4 y ^
HARD-
NESS

117
121
e>4
50

H2

SPEC I-
FIC
COND-
UCTANCE

(MICBH-
MHns)

1)30
739
341
270

1023

PH

(UNITS)

7.4
b. 1
6.7
7.4

5.5

COLOR

(PLAT-
I NUM-

c on ALT
UNI TS)

75
50
17
15

SO

COPPFR

(CU)
(UG/L)

20
20
?0
10

0

145 144 684 3.5 40 0

FIELD DETERMINATIONS

DATE

MAY
12...
12...
12...
12...
JULY
01...
01...
01...
01...
01...
01...
AUG.
26...
26...
2b...
26...

TIME

1200
1201
1202
1203

1600
1601
1602
1603
1604
1605

1400
1401
1402
1403

TEMPER-
ATURE

(OEG C)

...

27.0
27.0
27.0
26.7
26.5
26,3

24.2
24.2
2^.^
24.1

SPECI-
FIC
COND-
UCTANCE

(MICRO-
MHOS)

1260
773
347
273

1050
1050
975
800
600
340

698
750
750
531

PH

(UNITS)

6.8
7.0
6.8
6.8

7.6

7.7
- -

7.6
7.7

7.1
7.6
7.5
7.2

DIS-
SOLVED
OXYGEN

(MG/L)

- -

7.6
8.0
8.3
8.4
8.8
8,9

9.4
9.3
9.5
9.1

ZINC PHENOLS
I ZN)
(UG/L) (UG/L)

350
430
I 100
700

27B RABITAN RIVER BASIN

01404100 RARITAN RIVER NEAR SOUTH BOUND BROOK, N. J.

LOCATION. Lat 40°30'47", long 74°32'24", Somerset County, water-quality recorder 0.1 mile upstream from Fields-ville Dam, 0.3 mile upstream from south crossing of Interstate Highway 287, and 1.5 miles southeast of South Bound Brook.

DRAINAGE AREA. 862 sq mi.

PERIOD OF RECORD. Chemical analyses: May 1969 to September 1970.
Water temperatures: May 1969 to September 1970.
Sediment records: October 1969 to September 1970 (miscellaneous).

er-quality recorder data due to malfunction periods.

DIS-
UIS- SOLVED
IFA'J SHLVED MAN-
DIS- SILICA IRON GANtSE

CHA^Gt (SIG2) (FE> (MN)

137

. . . 410 840 490

1170 11

. . . b04 5.8 140 240

29'0

700 6.1 110 120
. . . 927
t
335
V
140
T.
. . . 120 7.3 190 700
263

ALK«-
BtCAR- CAR- LINITV

(HCU3) (C03) CACU3 (S04

OCT.
?9... 403 179
NUV.
13... 18 0 15 108 CEC.
29... 27 0 22 40
JAN.
20... 19 0 If, 51 FEI.
27... 807 104
MAK.
23... 24 0 20 40
MAV
05... 36 0 31 52
21... 40 0 33 34
JUNE
26... 23 0 19 81
JULV
23... 34 0 28 Bl SEPT.
03... 202 325
2S... 15 0 12 145

uIS- iMS-
S.JLVH SOl.^'l NO"
S 11 I SOLII'S CAM

I'.uT r»l' M n F M FSS" HA N n

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SODIUM
PLUS
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CAL- NE- FAS- TAS-
CIUM SIUM SODIUM SIUM SIUM (CA) IMG) (NA) (NAtK) (K)

5.8 11 83

32 10 51

17 6.3 11 1.2

20 8.0 23

33 10 35 3.4

18 6.5 9.7

20 6.0 14 3.5
16 5.5 13

17 5.0 49

37 9.5 34

70 18 145 8.8
36 9.7 71

ORTHO
CHLO- FLUO- PHOS-

(CL) (Fl (NO 3) IP04)

102 45 1.6

57 29 1.1

19 .2 10 .36

37 17 .91

49 .2 23 .28

17 9.5 .35

22 .3 8.5 .44
IB 8.6 .56

38 16 .87

52 25 1.7

160 .2 37 1.0
66 34 1.3

5PKCI- PIO-
FIC COLO* CHEM-

TF CONO- (PCATI- ICAL

. 1 MHOS) (UNITS) UNITS) IMG/LI

RARITAN RIVER BASIN

01404100 RARITAN RIVER NEAR SOUTH BOUND BROOK, N. J. Continued

NALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD DETERMINATIONS

DATE

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N V.
H. . .
D C .

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J N.
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JUNE
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23...
SEPT.
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1400

TEMPER-
ATURE

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20.8

SPECI-
FIC
CONO-
JCTANCt
(MICRO-
MHOS)

560

200

475

210

223

380

445

1320
650

PH

(UNITS

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SOLVE
OXYSF

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FOKK
ICTL-
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IMG/L 1 100 ML)

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6 8500

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SPECTROGRAPHIC ANALYSES

CHARGE

DATE ICFS)

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SEPT.
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SEPT.
03..

DATE

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s PT!
3..

1968

1969
748
1970
120

LEAD

(PB)
(UG/L)

1968
. <15
1969
3
. 1970
< 7

SPECIFIC

LATE MAX

25
26
27
28

30
31
NOV 1
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11
12
13

MAR 13
14
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16
17
18
19

952
80S
684
830

862
820
856
826
722
432
652
666

272
244
236
248
294
302

1970 279
255
246
244
264
237
285

IAL) (BA)
(UG/L) (UG/LI

40 31

50 62

MAN-
LITH- GAN-
IUM ESE

(LI) (MN)
(UG/L) (UG/LI

8 440

3 110

8, 660

BE-

(BE)
(UG/L)

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MO-
LYBDE-
NUM

(MO)
(UG/LI

10

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12

BIS

(BI)
(UG/L)

< 4

< 9

NIC-
KEL

(NI)
(UG/L)

13

7

13

CONDUCTANCE 1 MI CROMHOS/CM AT

MIN MEAN

812 866
688 780
556 718
540 626
592 680

694 804
706 769
738 814
664 754
332 518
304 329
408 558
214 375
172 236

218 254
180 220
178 220
172 230
182 238
132 248

235 247
233 239
210 224
210
20B
227 233
229 247

DATE

MAY

JUN

21
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(BI
(UG/L)

73

170

Rt
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= 150

CHRO-

(CR)
(UG/LI

< 4

<12

CO-
BALT

(COl

COP-
PER

(CUl
(UG/L) (UG/L)

<15

< 2

<15

3

6

8

TI-

ILVER

(AGI
(UG/LI (UG/LI

13

7

< 2

< .6

25°C) , WATER YEAR

MAX MIN

226
216
217
237
240
146
204
416
530
472
352
600
648

276
338
544
412
496
634
753
822
755
736
579
463
554
229

06
92
93
83
8
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g
12
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32
21
94
15
88
65
75
32
59

STRON-
TIUM

(SRI
(UG/L)

310

360

OCTOBER

MEAN

218
204
203
205

138
170
276
458

514
604

300
362
338
378
512

746
693
628
367
333
472
175

TIN

(SNI

TAN-
IUM

(Til
(UG/LI (UG/L)

<30

<12

< 6

7

GER-
MAN-
IUM

(GEI
(UG/LI

<30.

< 4

<12

VAN-
AD-
IUM

(VI
(UG/LI

< 9

< 7

IRON

(FEI
(UG/LI

55,

55

160

ZINC

(ZNI
(UG/L)

<430

<620

1969 TO SEPTEMBER 1970

DATE

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JUL 22
23

SEP 8
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30

MAX

357
437
602
505
530
485
530
482
594

1160
1520
1290

1260
1240
1050
1110
829
865
1010
997
957
1240

718
1010
1120

MIN

247
283
346
311
292
313
402
438
478

1090
1100
896

1090
849
795
863
637
757
841
853
927
1020

567
743
984

MEAN

221
273
347
456
401

381

528

1360
1130
796

1050
921
1010
___

925
929

1130

649
835
1030

RARITAN RIVER BASIN

01404100 RARITAN RIVER NEAR SOOTH BOUND BROOK, N.J. Contir

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

OCT 10 1969 9.9
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10.4
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11.5
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10.6
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13 10.
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10.3 18 8
8.5 19 9
8.9 20 8
8.2 21 8
8.8 22 1
9.4 23 1
0.6 24
2.2 25
2.2 26
1.0 27
0.1 28
8.6 29
10.2 30
8.5 MAY 14
8.0 15 1
16
7.8 17 1
9.4 28
7.6 29
7.6 30
7.3 31

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JULY

MIN

AUGUST

MIN MEAN

7.7
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MAX

7.6
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7.9
8.0

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SEPTEMBER

MIN

7.0
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6.0
6.0
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6.8

6.9

7.2
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MEAN

7.1
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DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITRE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE MAX MIN MEAN DATE MAX MIN MEAN DATE MAX MIN

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14
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16

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18]

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1.9 21 10.5
1.6 22 10.0
1.7 23 10.5
2.0 MAY 14 5.1
1.0 15 6.2

. 9 10.4 17 4.5 3.5 3.9
. 5 10.1 28 8.3 3.9
5 9.8 29 5.2 1.8 3.8
7 30 6.9 1.0 3.7
6 31 5.1 1.6 3.7
. 9 5.0

RARITAN RIVER BASIN

01404100 RARITAN RIVER NEAR SOUTH BOUND BROOK, N. J. Continued

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

JIINF JULY

MA* "IN MEAN MA< MIN

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4.3 2.3 ?.9 5.1 2.6
4.0 2.2 3.0 3.8 2.6
4.0 2.8 3.2 3.9 2.4
4.9 2.9 3.<5 3.5 2.2

4.6 2.
4.2 3.
4.0 3.
4.8 3.
4.2 3.

5.4 2.
5.6 2.
5.4 3.
5.5 3.
4.9 3.

3.8 2.
4.5 2.
5.1 2.
6.5 2.
4.5 3.

5.4 3.
5.4 4.
5.8 4.
5.8 3.
5.3 3.

3.7 3.6 2.3
3.6 3.6 1.7
3.6 3.8 2.3
4.2 5.6 1.4
3.5 5.7 1.9

3.7 3.8 1.4
3.9 3.1 1.5
4.0 3.1 1.8
4.4 2.8 0.8
4.1 1.8 0.6

3.3 1.6 0.5
3.6 3.1 1.0
3.2 3.6 1.2
4.4 4.8 1.3
4.0

4.1
5.0
5.2 3.3 1.2
4.7 2.3 0.4
4.3 3.5 0.5

4.8 4.0 4.4 2.1 0.3
4.7 4.0 4.5
5.4 4.4 4.9
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TEMPERATURE °C) OF HATER, HATER YEAR OCTOBER 1969 TO

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0.5 8.0 .5 3
9.5 8.0 .5 4
9.5 6.5 .5 5
6.5 5.0 .5 6
6.0 4.0 .0 7
4.0 2.5 .5 8
4.0 2.0 .0 9
6.5 3.0 .5 0
6.5 5.0 .5 1
5.0 12.5 .0 2
3.5 9.5 .0 3
0.5 8.5 .5 4
0.0 8.0 .0 5
1.5 8.0 .5 6
1.0 9.0 .0 17
0.5 9.0 .0 MAR 12 1970
0.0 8.0 .0 13
1.0 8.0 .5 14

MAX MIN MEAN

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SEPTEMBER

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MAY 4
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30
31

1970

M«X

3.7
3.4
3.9
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3.8

3.5
3.4
3.2
2.7
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3.8

3.7

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MAX

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MFAN

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3.2

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MIN MEAN

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RARITAN RIVER BASIN

01404100 RARITAH RIVER HEAR SOUTH BOUND BROOK, N. J. Continued

TEMPERATURE (°C> OF HATER, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

MAX

24.5
27.0
28.0
26.0
21.5

20.0
20.0
22.5
25.0
25.5

27.0
26.5
86.5
26.5
25.5

22.0
22.5
23.5
24.5
24.5

23.0
20.0
22.5
23.5
24.0

23.5
22.0
23.5
24.0
25.5

?R.n

JUNE

MIN MEAN

17.
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IB.

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19.
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21.

20.
IB.
IB.
19.
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21.0
24.0
25.5
23.0
20.0

IB. 5
20.0
22.0
23.0

24.0
25.0
24.5
24.0
23.0

21.0
21.0
22.5
23.0
23.0

21.0
19.0
20.0
21.5
22.5

22.0
21.5
19.0 2!.0
20.0 2?.0
21.0 23.5

17. ft ??.n

MAX

27.0
26.5
24.0
26.0
25.5

2B.O
26.0
26.5
26.0

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26.0
24.5

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29.0

27.-;
26.5
25.0
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29.5

27.5

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JULY

MIN

23.0
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MEAN-

25. 0
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?5.5

AUGUST

MAX MIN MEAN MAX

25.0
23.5
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SEPTEMBER

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MEAN

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SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS AND PARTICLE-SIZE DISTRIBUTION, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (METHODS OF ANALYSES: B, BOTTOM HITHDRAHAL TUBEj C, CHEMICALLY DISPERSED! N, IN NATIVE WATERi P, PIPETj S, SIEVEi V, VISUAL-ACCUMULATION TUBEj M, IN DISTILLED HATER)

HATER
TEM-

PERA- CONCEN- SEDIMENT

PARTICLE SIZE

PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED

DATE

TURE

TIME (°C)

DISCHARGE

1CFS)

TRATION

(MG/L)

DISCHARGE

(TONS/DAY)

ANALY-
. 002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00 SIS

MANASQUAN RIVER BASIN = 8J

01408000 MANASQUAN RIVER AT SQUANKUM, N. J.

LOCATION. Lat 40°09'47", long 74°09'21", Monmouth County, water-quality recorder at bridge on State Highway 547 in Squankum.

DRAINAGE AREA. 43.4 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1962 to September 1968 (partial records), July 1969 to September 1970. Water temperatures: July 1969 to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum, 321 micromhos Sept. 18; minimum, 93 micromhos Dec. 23.
pH: Maximum, 8.2 Sept. 23; minimum, 5.2 Dec. 22, 25.
Dissolved oxygen: Maximum, 13.6 mg/1 Feb. 24; minimum, 2.2 mg/1 July 4.

Period of record:

Specific conductance: Maximum, 321 micromhos Sept. 18, 1970; minimum, 93 micromhos Dec. 23, 1969.
pH: Maximum, 8.4 Sept. 25, 27, 28, 1969; minimum, 5.2 Dec. 22, 25, 1969.
Dissolved oxygen: Maximum, 13.6 mg/1 Feb. 24, 1970; minimum, 2.2 mg/1 July 4, 1970.
Water temperatures: Maximum,
period.

REMARKS. Missing water-quality recorder data due to malfunction of sensor or sampling mechanism. Tabular data omitted for missing periods.

OIS-

[>IS- SOLVED MAG- PD- Pn-
SLLVED MAN- CAL- Mf T4S- TAS-
IPUN GANESE CIUM SIUM SODIUM SI U'< S I Urt

IFF) IMM (Cftl ("Gl <N4) (NdtKI (K)

20... 2*0 9.0 H60 13 2.6 6.7 3.1
JA.'J.
23... fi7 13 11 3.3 13 3.3
FEB.
27... 67 13 340 MO 16 4.5 9. 5 2.8
M4R .
25... 1JO 16 3.0 13
APR.
2a... Jd 11 1100 60 16 4.0 8.1 3.3
MAY
20... 37 14 2.6 14
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HANASQUAN RIVER BASIN

01408000 MANASQUAN RIVER AT SQUANKUM, N. J. Continued

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SPECTROGRAPHIC ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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MANASQUAN RIVER BASIN

01408000 MANASQUAN RIVER AT SQUANKUM, N. J. Continued

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

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MANASQUAN RIVER BASIN

01408000 1IANASQUAN RIVER AT SQUANKUM, N. J. Continued

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

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01408000 MANASQUAN RIVER AT SQUANKUM, N. J. Continued

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MANASQUAN RIVER BASIN

01408000 MANASQUAN RIVER AT SQUANKUM, N. J. Continued

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MANASQUAN RIVER BASIN

01408000 MANASQUAN RIVER AT SQUANKUM, N. J. Continued

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290 METEDECONK RIVER BASIN

01408155 METEDECONK RIVER AT LADRELTON, N. J.

LOCATION. Lat 40°03'58", long 74°08'01", Ocean County, at bridge on State Highway 70 in Laurelto

DRAINAGE AREA. 71.2 sq mi.

PERIOD OF RECORD. Chemical analyses: August 1969 to September 1970.

DIS-
SOLVED DIS-

SILICA INJM I RUN

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8...

310

5.7 950

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40

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F.

DIS-
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(fH> (CA)

13

19

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80 7.b

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4.6

30 5.6

40 5.5

40 5.4

90 5.f,

SODIUM
PLUS
>1AG- PO- PO- ALKA-

SIUM St'DIUM SIUM SIUM BON»rt BUN4FE AS

(MG) <NA) (NAtK) (K) (HC03) (C03) CAC03

14 la 15 0 12

3<i 330 -- U 0 11

1.7 6.0 2.4 7 0 6

2.0 12 2.8 1U 0 8

1.5 11 2 0 2

1.7 9.7 7 0 6

1.5 6.4 2.6 '. 0 3

2.5 4.8 403

1.6 5.2 2.4 907

2.4 5 0 4

rnrAL

HRGANIC 'JAHL AMMONIA
CHL1- FLUO- MTRO- NIFKP- NlrRfl-iULFATF RIDE RlDt GEN GEN GE'I "lirRAFE IS04) (CLI (F) (N) (N'l (N) (NT3I

23 ol .73 7.1

110 560 l.'l 6.9

15 l(J .0 l.l «.d

17 21 .0 1.2 6.5

. . . 13 19 .70 4.4

15 9.3 1.0 6.6

16 10 .1 1.6 5.3

. . . 13 3.5 1.2 6.9
t
12 1.1 .4 .60 5.5
Y
. . . -- .80 4.9

22 12 .13 .24 .11 2.1
T.
. 03 4.5

ORTHH
PHOS- PHOS-

(PU4) (PT4)

2.2 1.1

1.7 .47

. 84 1.2

. 93 .H4

. 64 .49

. 95 .78

1.0 .76

. 99 .89

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1.6

. 56

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TJIS-

SOLIDS
(Rtbl-
OUc AT
IdO C I

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73

86

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75

91

D1S-

SULIOS
(SUM CF
CONSTI-

TUENTS)

54

80

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53

IIETEDECONK RIVER BASIN

01408155 IIETEDECONK RIVER AT LAUHELTON, N. J. Continued

5JS-

SOLIDS

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<>*...

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2'....
FPT.

\rjN- SPECI-
CAl- THTAL FIC COLHk
. <(UL>- unNiATH ACUITY CONO- (PLAT- TUR-
NERS HAPO- AS UCTANCF PH INUM- 8111-

(Tj/L) IMb/L) (MG/L) MHUS) (UNITS) UNITS) (JTU)

90 73 410 <>.5 10 16

2H4 114 2060 8.0 60 15

21 15 16 7.3 30 40

21 11 123 5.7 17 8.0

14 13 1* 6.2 5 2P

20 1 f 1" 6.0 15 18

24 21 11 a.O 50 33

70 H 14 ft. 3 45 45

101 6.8 5.0

J4 21 h.7 108 0.0 70 16

120 6.7 6.0

FIELD DETERMINATION

PE.<- s°tr i-
CtNT FIC
OF AIR CUNO-

TI-t UFPTH OEPTH ATURE ATURE ("IICRO-
(I-TI (Of, C) (DEC C) "IHl.S) (UNITS)

104) 5 50 11.6 700 b.4

1200 5 50 S.O 27.0 liOO S.O

1131 '- 50 5.r 0.0

100J 4 50 .0 -3.9 140 5.S

l^lb 4 50 ?.5 2.0 118 b . 0

101'j 4 50 3.7 3.2 102 6.6

1100 6 50 lit. 3 16.4 105 6.3

1030 b 5J 15.1 13.7 10 6.4

11JO 4 50 Id.S 23.6 8S 5 . S

J930 7 50 23.1 26.7 105 5.8

133J 5 50 22.3 26. b 108 5.2

IhJO 5 5J 17.0 17.5 130 6.6

PESTICIDE ANALYSES

Dl-
ALDKIN DOU DJF HOI ELORlN tNJPIN

lin-
CHE1-
ICAL
OXYGEN CHLORI3-

(MG/L) UG/L)

1.8 1

2

2

1.8 1

1.3 2

2.2 3

1.0 1

1.6 0

2.4 0

1.8 5

2.3 10

2.0 2

F TAL
C LI-
01 S- f-r KM

nxYGFN Fk
(M5/L) 10 ML)

7.2

9.0

11.0

11.8

10.4

11.2

5.7

5.5

3.0 320

4.4 M40

t>.6 50

HEPTA-
CHLOR LINOAME

THTAL
ORGANIC
CARBON

(C)
(MG/L)

5.0

S.O

11

6.0

5.0

1.0

7.0

10

10

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14

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COLI-
l-URM
(Cl)L-

PEK

100 "D

l rJ 50

575

510

438

110

4

3940

1720

4700

bSOO

A INCLUDES 10 MG/L OIL AND GREASE.
B INCLUDES 2.6 MG/L OIL AND GREASE.
C INCLUDES 4 UG/L PHENOLS.

METEDECONK RIVER BASIN

01408155 METEDECONK RIVER AT LAURELTON, N.J. Continued

PESTICIDE, RADIOCHEMICAL, AND MINOR ELEMENT ANALYSES

L I «JA'lh
II Ms-)Ii- illj- S'JS- TJTAL
il ,T1\ ' s ll\T I S..LVf> PC'OED I1 1-\ H ' C Hti n-
Jt - ,',! >H1 ^CT6 SLP'IA IcM SBScMIC "IU" mPPtR LCAO ZIMC
Hi'jl r ., (AS) (CP I (CUI (PR I (i Jl IJj/<ul I^'I./L) IPC/L) (PL/LI (PC/LI (Ur,/LI Ur,/L) (ll'-,/L) HJO/L) (UG/LI

TOMS RIVER BASIN

01408700 TOMS RIVER AT TOMS RIVER,

LOCATION. Lat 39 57'0

DRAINAGE AREA. 163 sq

PERIOD OF RECORD. Che

REMARKS. Operated in

alyses: August 1969 to September 1970.

ion with Environmental Protection Agency.

TOMS RIVER BASIN

01408700 TOMS HIVEH AT TOMS RIVER, N. J. Continued

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Jo. . .
II. V.
24. . .
IbL.
1 'J . . .
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CHI i- FLU'J- NITKO- NITPG-

ISH4I ICLI (r l INI INI

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NITKC-

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ORTHO
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SOLIUS

(RtSI-

50

44

DIS-
SOLVED
SOLIDS

(SUM OF

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1.9 1.3 .06

. 48 -- 1.8 .23

. 42 2.4 .33

1.7 2.3 .36

. 40 .14 3.0 .30

. 03 ?.5 .26

28.. .A
AUG.
24...B
SEPT .

ICN- SPECI- <UO- LEN|E
CAS- TOTAL TOTAL F 1C COLOR C HE M- TOTAL 3LUE

HASH- rtO^ATk ACIDITY ACUITY CONO- [PLAT- TUR- ICAL ORGANIC * CTIVE
NtSS HARu- AS AS UCTANCE PH I HUM- BIO- OXYGEN CHLORO- CARSON S1)B ~
(LA.Wbl MLSS H+ CA(,H3 [MICRO- COBALT ITY DEMAND PHYLL A (Cl STANCE

11 10 67

11 10 72

M 13 .1 74

13 13 .1 73

6 l> .1 46

» - - 01

1 , 55

» 9 .2 65

10 t, 60

66

15 14 23 81

5.0 9 10 1 5.0 01

7.9 25 10 2 6.0 - 03

4.5 35 20 2 9.0 °'v

4.2 12 15 .8 l 4.C - 00

4.2 10 5.0 .,4 1 5.0 - 01

4.6 15 10 .6 1 7.0 - 00

4.5 15 11 .4 0 7.0 '">0

4.3 150 hO .8 3 13 - 00

4.8 100 55 .d 3 12 - 02

5.4 4.0 1.0 2 9.0 ' 01

4.6 80 8.0 1.0 3 12 - 03

620 *.9 9.0 .6 2 8.0 - 02

FIELD DETERMINATIONS

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CENT
HF
TOTAL TEMPER-
riMF DI PTH PFPTH ATURE

T.
i... 101J 6 5C 10.9

4... 1050 6 50 6.0
r .
0... 11)45 H 50 3.0

^... 1230 6 ->0 .5
B.
o.. . 11 10 5 50 4.0

i, . . . 1 1 ', 5 h 50 5.0
R.
5... 1?30 0 50 11.3

)... 11 (0 t> 50 Ib.H
ME
2... lllb 3 50 1R.6 ILY
1... 0730 h SO 20.8

4'... 153J 3 SO 21.7
PT.

)... 1430 '3 bO 16.5

SPbCI- FFCAL COLI-
F(C COLI- FORM
AIR COND- OIS- FORM (CDL-
TEMPER- UCTANCt PH SOLVED (COL. ONIES

51 5.2 9.6 20

17.0 60 7.9 9.0 82

7.0 110 9.2 1570

1.5 75 3.9 12.4

3.5 52 4.0 11.4 10

2.6 68 5.2 11.5 6

13.9 62 5.0 10.0 148

13.8 6P S.Z 7.0 740

23.2 60 4.5 7.3 1100

f>8 4.7 6.6 148 800

?4.9 77 4.6 B.4 450 3600

20.0 600 6.6 4.2 440

A INCLUDES 8.2 MG/L OIL AND GREASE.
B INCLUDES 13 MG/L SUSPENDED SOLIDS, 7 UG/L PHENOLS, AND 6.2 MG/L OIL AND GREASE.

TOMS RIVER BASIN

01408700 TOMS RIVER AT TOMS RIVER, N.J. Continued

DATE

DATE

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DATE (UG/LI

JUNE
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SEPT.
29... .00

LINOANE
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POSITS

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(UG/LI (UG/LI

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PESTICIDE, RADIOCHEMICAL, AND MINOR ELEMENT ANALYSES

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UIN ODD One DOT ELDKIN ENORIN CHLOR L1NDANE

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SPECTRDGRAPHIC ANALYSES

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IUM IUM MUTH RON MIUM MIUM BALT PER IUM

(BA) (BE) IBI) IB) (CD) (CRI ICOI (CUI (GEI (UG/LI (UG/L) (UG/L) (UG/L) (UG/LI (UG/L) (UG/LI (UG/LI (UG/LI

17 <-2 <>6 32 <6 .B .4 7 <.6

MAN- MO- RU- TI- VAN-
GAN- LYBOE- NIC- BIO- STRON- TAN- AD-
ESE NUM KEL IUM SILVER TIUM TIN IUM IUM

IMNI IMDI (Nil <RB) (AC) ISR) (SN) (TI) (VI (UG/L) (UG/LI (UG/L) (UG/L) (UG/LI (UG/LI (UG/LI (UG/LI (UG/LI

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IRON

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IUG/LI

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ZINC
IZNI

(UG/L)

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GREAT EGG HARBOR RIVER BASIN

01411000 GREAT EGG HARBOR RIVER AT FOLSOM, N. J.

at gaging station on State High-
earn.

DRAINAGE AREA. 56.3 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1961 to September 1968 (partial records), December 1968 to Sep-tember 1970.
Water temperatures: October 1960 to September 1970.
Sediment records: December 1965 to September 1970.

EXTREMES. 1959-70:

Wate
ary.
Sediment

Period of

Water temperatures: Maximum, 22.0°C on several ing point on many days during winter periods,
davs" " " al0nS ' ax mum a y- m«

REMARKS. Missing

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1968 TO SEPTEMBER 1969

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CH/Vir (SIL2) ((-F)

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SODIUM SIUM SIUM

(NA) (NA*K) (K)

16

5.5

JIM.
21...
MAR.
25...
JUNE
IB.. .
AUG.
27...

inTf

HICAP-

(HCCI3)

0

0

7

5

ilIS-
SDLVEn
SOLIDS

(HF5I-
OUt- AT
1«0 C)
IMG/LI

CAK-
RHNATt

(CO 3)

0

0

0

0

nis-
SOLVFn
snuns

(su'i OF
CO'lSTT-
TUFNTsl
IMO/I 1

LINITY CHLO- FLUO-
AS SULFATC R(0t RIDE
CACG3 (SU4I (CD (Fl

0 32 8.6

0 11 6.0

6 5.<) 6.8

4 6.0 6.6 .2

Nfl\i- Sf-ECI-
CAW- FIC

HAkll- HOUI'U CO-I,)-
'ihss MAKIJ- IICT4NCF Pr.
(T4.UI,) JtSS (MICKO-
(«(i/L) <« (./!_ 1 MH()S> (UNITS,)

NITRATE

(ND3I

2.0

4.5

4.2

4.2

COLOW

(^LATI-
IMUM-
COBALT
UM1TS)

ORTHll
PHIIS-
PHATb

. 21

. 33

. 97

. 83

RIO-
CHEM-
ICAL
OXrfaEN
DEMAND

(MG/L)

FIELD DETERMINATIONS
SPECI- COLI-
F1C F3RM

COND- OIS- (COL-
TEMPER- UCTANCE PH SOLVFD (1NIES
ATURE (MICRO- rxrGEN PCX
(DEC C) MH3SI (UNirSI (MG/L) 100 ML)

. 5

6.0

1/1.5

17.9

b.7

5.4

7.7

7.6

1460

360

GREAT EGG HARBOR RIVER BASIN

01411000 GREAT EGG BARBOR RIVER AT FOLSOM , N. J. Conti nued

SPECTROGRAPHIC ANALYSES

DATE

OCT.,
18..
AUG. .

DATE

OCT.,
18..
AUG.,

MEAN
DIS-
CHARGE

(CFS)

1968
30
1970

LEAD

(PB)
: (UG/L)

1968
. 9
1970

ALUM-
INUM

(AD
(UG/L)

100

LITH-
IUM

(LI)
(UG/L)

7

BAR-
IUM

(BA)
(UG/L)

23

MAN-
GAN-
ESE

(MN)
(UG/L)

11

BE-
RYLL-
IUM

(BE)
(UG/L)

<.l

MO-
LYBDE-
NUM

(MO)
(UG/L)

<.l

BIS-
MUTH

(BI)
(UG/L)

<.6

NIC-
KEL

(NI)
(UG/L)

2

BO-
RON

(B)
(UG/L)

27

RU-
BID-
IUM

(RB)
(UG/L)

2

CAD-
MIUM

(CD)
(UG/L)

<6

SILVER

(AG)
(UG/L)

<.l

CHRO-
MIUM

(CR)
(UG/L)

<.9

. 6

STRON-
TIUM

(SR)
(UG/L)

8

CO-
BALT

(CO)
(UG/L)

. 7

. 6

TIN

(SN)
(UG/L)

<1

COP-
PER

(CU)
(UG/L)

. 9

2

TI-
TAN-
IUM

(TI)
(UG/L)

1

GER-
MAN-
IUM

(GE)
(UG/L)

<1

<.4

VAN-
AD-
IUM

(V)
(UG/L)

. 6

IRON

(FE)
(UG/L)

320

260

ZINC

(ZN)
(UG/L)

<17

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

JANUAHY

MAX MlN

GREAT EGG HARBOR RIVER BASIN

01411000 GREAT EGG HARBOR RIVER AT FOLSOU, N. J. Continued

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

FEBRUARY MARCH APRIL

MIN MEAN MAX MIN MEAN MAX MIN MEAN MAX

MAT

MIN

DATE

JUN 14 1970
15
16
17
18
19
20
21

MAX

72
63
62
61
63
64
67
65

MIN MEAN

63
62
60
59
59
63
64
61

2
1
0
1
4
5
3

DATE

JUN 25 1970
26
27
28
29
30
JUL 23
24

80 76 79

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

OCTObEH NOVEMBER DECEMBER

MIN MEAN MAX MIN MEAN MAX MlN MEAN

14.0 12. S
14. S 3.0
16.0 4.5
17.0 6.0
16.0 4.0

14.0 2.5
13.5 2.0
14.5 3.5
15.0 4.0
14.0 3.0

14.0 3.0
15.0 4.0
15.0 4.5
IS. 5 5.0
15.0 13.5

13.0 11. b
12.0 11.5
11.5 10.5
12.0 10.5
14.0 12.0

14.0 13.5
13.5 12.0
11.5 9.0
9.0 7.5
8.0 7.5

9.0 7.5
11.0 9.0
11.0 10.0
9.5 8.5
8.5 7.5
9.0 f.5

13.0
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15. S
16. S
15.0

13.0
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14. S
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13.5
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12. b
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7.b

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b.O
5.5
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6.0
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6.5 b.b
5.5 4.5
5.5 4.b
5.0 4.0
4.0 3.5

3.5 3.0
4.5 3.0
6.5 4.5
6.5 6.0
B.O 5.5

9.0 8.0
8.0 6.5
6.5 4.5
4.0 3.5
3.5 3.0

3.0 2.0
1.5 1.0
1.5 0.0
-J.O 1.5
2.5 2.0

2.0 1.0
3.0 2.0
2.5 1.0
1.0 0.0
0.5 0.0

1.0 0.0
0 .'5 0.0
0.5 0.0
O.b 0.0
1.5 0.5
2.0 1.5

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b
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2.0 1.0 1.5
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1.0 0.0 O.b
0.5 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0

0.0 0.0 0.0
0.0 0.0 0.0
0.5 0.0 0.5
1.0 O.b 0.5
0.5 0.0 O.S

1.0 0.0 O.S
2.0 1.0 l.b
3.0 1.0 2.0
1.0 0.0 0.5
0.0 0.0 0.0

0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0
0.0 0.0 0.0
1.5 0.0 0.5

3.0 1.5 2.5
3.0 2.0 2.5
J.O 2.0 2.5
4.5 3.0 4,0
0.0 2.5 4.0
2.5 1.0 2.0

GREAT EGG HARBOR RIVER BASIN

01411000 GREAT EGG HARBOR RIVER AT FOLSOM, N. J. Continued

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

FEBRUARY

MAX

3.5
5.5
6.0
3.5
0.5

2.0
2.5
3.0

5.5

5.0
3.5
3.0

2.0 2.0
a. 5
3.0
4.0
5.0
4.0

2.5
4.0
5.5
5.5
6.0

3.5
5.0

III

6.0

MIN MEAN

1.5 2.
3.0 4.
4.0 5.
0.0 1.
0.0 0.

0.0 1.
1.0 2.
1.5 2.

4.0 5.

3.5 4.
2.5 3.
2.0 2.
0.0 0.
0.0 1.

2.0 2.
2.0 2.
1.5 2.
3.0 4.
2.0 3.

1.0 1.
1.5 3.
4.0 4.
3.5 4.
4.0 5.

1.5 2.
3.0 4.

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0.0 3.

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MAX

4.5
6.0
5.5
5.0
6.0

6.0
5.5

5.5

6.5
6.0
5.5
6.0
5.5

5.5
5.5

6.0
5.5

7.0
6.0
7.0
7.0
8.5

11.0
10.0

6.5
5.5

11.0

JUNE

MAX MIN MEAN

18.0 15.5 16.
20.0
20.5
20.0

7.0 IB.
8.0 19.
8.0 19.
18.0 17.0 17.

18.0 ' " "

17.0
17.5
18.0
1B.O

19.5
20.0
1 .5
1 .0
1 .5

1 .0
1 .0
1 .5
2 .0
2 .0

19.0
1B.O
1B.O
IB. 5
20.0

20.0
19.5
18.5
18.0
19.5

f>'.0 16.
5.5 16.
6.5 17.
6.5 17.

7.0 18.
8.0 19.
8.0 19.
6.5 17.
6.0 16.

5.5 16.
6.0 16.
7.0 IB.
8.0 19.
9.0 19.

7.5 18.
7.0 17.
6.b 17.
7.0 17.
8.0 19.

9;? 19.
8.0 19.
7.0 17.
6.0 17.
7.0

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MAX

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18.0
18.5
20.5

20.5
21.0
2J.O
22.5
21.0

MARCH

MIN

3.0
4.0
5.0
5.0
5.0

5.0
4.0

4.0

5.0
5.5
5.0
4.5
4.0

3.5
3.5

5.0
5.0

5.0
5.5
5.5
5.0
5.5

9.0
7.5

4.5
4.5

3.0

JULY

MIN

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17.0
17.0
17.5

19.0
19.0
20.0
20.5
19.5

MEAN

4.0
5.0
5.5
5.0
5.5

5.5
5.0

5.0

6.0
5.5
5.5
5.0
4.5

4.0
4.5

S.5
5.0

6.0
6.0
6.0
6.0
7.0

10.0
9.0

5.5
5.0

6.0

MEAN

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17.5
19.5

20.0
20.0
21.0
21.0
20.5

MAX

6.5
8.5
9.5
8.5
9.5

8.5
10.0

12.5

11.0
11.0
11.5
11.0
9.0

10.5
11.5

12.0
10.0

10.0
12.5
12.0
12.0
14.5

16.0
16.5

16.5

18.0

MAX

22.5
23.5
23.0
22.5
20.5

20.5
20.0
20.0
19.5
19.0

19.5
20.0
20.5
20.0

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APRIL

MIN

4.0
6.0
7.0
7.5
7.0

7.0
7.5

11.0

9.0
8.0
8.5
9.0
8.0

7.5
9.5

10.0
9.0

9.0
9.0
11. b
11.0
11.0

4.0
b.O

5.0

4.0

AUGUST

MIN

20.0
20.5
21.0
20.5
19.0

19.0
18.0
18.0
17.5
17.5

17.5
17.5
18.5
19.5

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MEAN

5.5
7.5
8.0
8.0
8.5

8.0
8.5

11.5
11.5

10.0
9.5
10.0
10.0
8.5

9.0
10.5

11.0
9.5

9.5
11.0
12.0
11.5
13.0

15.0
lb.5

16.0

10.5

MEAN

21.0
22.0
21.5
21.5
19.5

19.5
19.0
19.5
19.0
18.0

18.5
19.0
19.5

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. . .
. . .

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. . .

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MAX

18.0
19.0
17.5
15.0
lb.5

15.5
13.5

17.0
19.0

19.5
19.5
20.0
19.0
17.0

15.5
15.0

13.0
17.0

17. - 5
17.5
1V.O
17.5
16.5

17.0
17.0
16.0

15. S
16.5

20.0

MAX

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Ill

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MAY

MIN

14.5
16.0
15.0
1J.O
12.5

13.5
11.5

13.5
16.0

17.5
17.5
17.5
17.0
15.5

14.5
14.5

1J.O
14.5

16.0
16.0
16.5
16.5
15.5

16.0
16.0
14.5

13.5
14.0

11.5

SEPTEMBER

MIN

. . .

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in

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MEAN

16.5
17.5
16.0
14.0
14.0

14.5
12.5

15.5
17.5

18.5
18.5
19.0
18.5
16.5

15.0
15.0

14.0
lb.5

16.5
17.0
17.5
17.0
16.0

16. b
16.5
lb.5

15.0
lb.5

16.0

MEAN

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Ill

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GREAT EGG HARBOR RIVER BASIN

01411000 GREAT EGG HARBOR RIVER AT FOLSOM, N. J. Continued

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

MEAN
MEAN CONCEN- SEDIMENT
DISCHARGE TRATION DISCHARGE

(CFS) (MG/LI (TONS/DAY)

52 2 .28
50 2 .27
63
74
74

69
63
62
76
77

74
69
65
63
62

59
57
56
55
54

54
56
56
56
55

54
53
53
52
51
50

. 68
. 60
. 40

. 37
. 34
. 17
. 21
. 21

. 20
. 19
. 18
. 17
. 17

. 16
. 15
. IS
. 15
. 15

. 15
. 15
. 15
. 15
. 15

. 15
. 14
. 14
. 14
. 14
. 14

MEAN
DISCHARGE

(CFS)

50
50
55
59
56

59
63
64
71
82

87
90
90
88
85

80
74
70
68
73

80
81
81
77
74

70
68
66
64
63
- -

MEAN
CONCEN-
TRATION

(MG/L)

1
1
1
1
2

2
3
4
5
5

5
4

3
2
2

2
2
2
1
1

1
1
1
1
1

1
2
2
2
2

SEDIMENT
DISCHARGE

(TONS/DAY)

. 14
. 14
. 15
. 16
. 30

. 32
. 51
. 69
. 96
1.1

1.2
. 97
. 73
. 48
. 46

. 43
. 40
. 38
. 18
. 20

. 22
. 22
. 22
. 21
. 20

. 19
. 37
. 36
. 35
. 34
~

MEAN
DISCHARGE

(CFS)

63
62
61
60
58

57
56
78
97
112

155
206
228
220
194

168
143
12J
110
100

9J
95
110
123
126

189
296
31B
308
28b
270

MEAN
CONCEN-
TRATION

(MG/L)

2
2
2
2
2

3
4
4
3
3

2
7
14
11
3

2
1
1
<0.5
tO. 5

1
2
2
4
9

18
24
13
2
1
1

SEDIMENT
DISCHARGE

(TONS/DAY)

. 34
. 33
. 33
. 32
. 31

. 46
. 60
. 84
. 79
. 91

. 84
3.9
8.6
6.5
1.6

. 91
. 39
. 33
. 25
. 20

. 25
. 51
. 59
1.3
3.1

9.2
19
11
1.7
. 78
. 73

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

TOTAL

MEAN
MEAN CDNCEN- SEDIMENT
DISCHARGE TRATION DISCHARGE

276 <
268 <
249 <
216
182

157
138
125
134
107

102
99
97
95
93

90 <
89 <
98
112
118

113
120
102
96
90

89
92
93

. 5 .50
5 -Z3
5 .20
. 58
. 49

. 42
. 37
. 68
2.5
. 58

. 28
. 27
. 26
. 21
. 15

5 .10
5 .15
. 23
. 30
. 32

1.2
1.6
. 55
. 26
. 24

. 24
. 21
. 16
96 <0.5 .11
103 <0.5 .08
105 <0.5 .12

3944 13.59

MEAN
MEAN CONCEN-
DISCHARGE TRATIDN

(CFS) (MG/L)

10 1
10 1
11 2
13 3
13 1

13 1
13 1
12 1
11 1
11 1

12 2
13 2
13 1
13 1
125 1

121 <0.5
121 <0.5
123 1
124 1
121 1

115 1
109 1
102 <0.5
97 <0.5
94 1

90 1
87 1
85 1

- - _

. .

3258

SEDIMENT
DISCHARGE

(TONS/DAY)

. 20
. 28
. 59
1.1
. 37

. 36
. 35
. 33
. 31
. 31

. 70
. 75
. 38
. 30
. 22

. 15
. 21
. 28
. 33
. 33

. 25
. 17
. 10
. 13
. 17

. 21
. 23
. 23
__

. _
"

9.34

MARCH

MEAN
MEAN CONCEN- SEDIMENT
DISCHARGE TRATION DISCHARGE

(CFS) (MG/L) (TONS/DAY)

8J

. 25
. 25
. 25

. 19
. 60
. 42
. 43

109
117
120

117
114
113
118
133
158

. 32

. 32
. 11
. 31
. 32
1.4
6.0

19.83

GREAT EGG HARBOR RIVER BASIN

01411000 GREAT EGG HARBOR RIVER AT FOLSOM, N. J. Conti nued

SUSPENDED-SEDIMENT DISCHARGEt WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

APRIL MAY

2
3
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c.

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11
13
14
IS

16
17
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1?
20

21
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23
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25

26
27
28
29
30
31

MEAN
MEAN CONCEN- SEDIMENT

174 16 7.5
201 1
233
242
238

214
184
!56
135
120

112
105
101
110
'.fll

489 2
517 4

6.0
3.8
3.3
2.6

1.7
1.5
1.7
1.5
1.6

1.2
1.1
. 82
1.2
6.1

33
59
43S 22 26
320 B 6.9
257 3 2.1

253 2.0
252 2.0
237 1.9
226 2.4
230 2.4

208 2.2
194 2.1
170 1.8
154 1.2
142 1.2

MEAN

(CFS)

132
124
119
116
116

116
111
106
102
98

95
92
88
85
83

81
81
90
98
98

99
95
90
94
104

106
102
100
104
104
98

MEAN
CONCEN- SEDIMENT

(MG/U (TONS/WAY)

3 1.1
3 1.0
2 .64
1 .31
1 .31

2 .63
2 .60
3 .86
3 .83
2 .53

2 .51
3 .75
3 .71
3 .69
3 .67

3 .66
3 .66
3 .73
5 1.
3 . 9

3 . 0
4 1.
4 .7
5
6

5
4
4 .
5
5
5

MEAN
MEAN CONCEN- " SEDIMENT

87
79
72
68
6«

85
90
88
79
72

68
64
6J
62
60

60
64
69
78
84

8b
93
111
154
162

133
106
91
86
77

1.2
. 85
. 78
. 73
1.3

,11
. 97
. 95
. 64
. SP

. 5?
. 5!

,f>7
h*.

. 65
. 52
. 56
. 63
. 68

. It
1.0
1,8
2.9
2.2

1.1
. 86
. 18
. 93
. 83

SEPTEMBER

i
2
3
4
5

6
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a
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11
12
13
14
IS

16
17
IB
19
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21
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26
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30
31

MEAN
MEAN CONCEN- SEDIMENT

68
63
63
63
66

78 1
81
73
63
73

69
64
59
55
52

53
53
48
47
45

44
42
42
52
73

68
69
80
69

. 55
. 68
1.2
. 68
. 71

2.1
1.3
. 59
. 51
. 59

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. 52
. 64
. 59
. 56

. 57
. 86
. 52
. 38
. 36

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. 34
. 45
. 56
1.2

1.1
1.1
1.5
1.3
66 8 1.4
76 5 1.0

MEAN

(CFS)

86
92
95
90
93

106
93
68
63
61

56
53
52
47
48

45
44
45
44
42

42
1
2
0
2

1
1
8
6
35
34

MEAN
CONCEN- SEDIMENT

(MG/U (TONS/DAY)

5 1.2
4 .99
3 .77
3 .73
4 1.0

5 1.4
4 1.0
3 .55
3 .51
2 .33

2 .30
3 .43
3 .42
4 .51
3 .39

3 .36
2 .24
2 .24
2 .24
3 .34

3 .34
3 .33
3 .34
3 .41
2 .23

2 .22
2 .22
2 .21
2 .19
3 .28
3 .28

MEAN
MEAN CONCEN- SEDIMENT

(CFS) (MG/L) (TONS/DAY)

34 3 .28
34 3
34 2
34 2
33 2

33 2
31 2
31 2
31 2
32 2

32 2
31 2
30 3
30 3
30 2

3D 2
29 1
2» 1
29 1
29 2

29 2
28 2
28 1
26 1
26 1

26 1
30 2
36 2
3J 1
32 1

. 28
. 18
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. 09

DELAWARE BAY -

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

LOCATION. Lat 3tT18'19", long 75°22'37", Cumberland County, water-quality recorder on light ship In bay opposite Bombay Hook Island, Del., 3 miles south-southwest of mouth of Cohansey River, N. J.

PERIOD OF RECORD. Chemical analyses. April 1969 to September 1970.
Water temperatures: February to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum recorded, 52,800 mlcromhos Feb. 10; minimum recorded, 8,600 micromho.. AH 3.

Period of record:
Specific conduct a
Apr. 3, 1970.
Water temperature
15, 1970.

I
2
3

5

10

11
17
13
14
15

16

1"
11
20

21

23

26
27

30
31

ITH

nee: Maximum recorded, 52,800 mlcromhos Feb. 10, 1970; minimum rec

s (February to September 1970): Maximum, 30.0°C Aug. 1, 1970; mini

OCTOBER

3?ftCO

35500
345CO

34600
35100
15800
15900
36HOO

34600
"3500
34400

3B500

34300
36300

36100
164CO

36400 (

35900

39700

21 200

75900
3010C"

30600
31000
30700
30100
29900

269CC
77400
274QO

27600

78500
2PSOO

29400
30100

79600

32300

21200

28720

31100
32400

32200

32700
33100
33000
32700
33100

30800
31100
31100

30900

31200
33000

32700
33300

31800

M4X

37000

34900

36700
'7*00

40300

15500

37700
34600
11600

30300
29000
7.0600
29300

30200

7.K900
10000

40100

NOVEME

WIN

28600

10500

10500

14300

10000

28000
211 00
76400

74000
25000
25100
74700

22500

72800
21400

21400

IER DECEMBER

MEAN MAX "UN MEAN

33700 31500 24200 27980

33000 33700 28900 31010

34100 35600 29900 31900

32500 26500 22100 24900

30100 25100 19100 22200
31600 25HOO 20000 22000
28500 - -

27500
26700
26800
26900

27000

26000 ---
25700

30700

orded, 8,600 mlcromhos

mum recorded, 0. 5°C Feb.

JANUARY

MAX MIN MEAN

::: ::: :::

DELAWARE BAY

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

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

FEBRUARY MARCH APRIL HAY

M4X MrN MEAN MSX MIN MEAN MAX MIN MEAN MAX MIN MEAN

8600 12400
It
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b

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11

14
15

I"'

1"

?0

21
2?

25

?7
2fl

30
31

MONTH

P4Y

1
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5

7

10

11

13
14

If
1<!

?1

?3
24

26r>
?°
?°
30
31

40000 76000

37200 10600

:::

...

JUNF

MA X MIN

30000 5200
24ROO 9600
276CO "200

21200 4400

IflOOO 4000

16ROO 3200
16800 3600

26000 4000

17600 4400
17600 3200

22400 6000
216CO 6°00

28900 7200

20000 6000
20400 5AOO

2P800 6PCO
32400 6 ROD
28ROO 6400
20400 5600

I<)600 6POO

:::

MEAN

23700
22500
23700

18200

15200

15100
15700

18000

16200
15900

21000
20400
19200

20700

17400
18300

20800
19500
18100
18200

26800
30400 i

24800

19000

24200
2^400

24000
21200

19200

19400
IPOOO
19200

MAX

20000
23200
23600

24HOO

21600

30000
33600

31200

2 '000
24000

:::

0400
0000

«000

3900

7000
0400

8500
1500

5600

4700
4400
17800

JULY

MIN

7200
8000
7600

1000

«400
8000
1400
5200

9200

7600
7200

__

:::

23100
24100

21300

23200

21000
21600

18000

17000
16600

MEAN

18700
20600
21400

20500

19P 00
20000
25700
29100

24300

19700
20300

:::

14200

:::

:::

MAX

30800
32000

31600

30000
31600

35600

36000

34ROO
34000
36400

11300

. . .

:::

:::

AUGUST

MIN

- I

27200
22»00

21400

26400
27200

29200

31200

30000
30400
31200

lif!

:::

:::

MEAN

..:

29500

30100

27600
28800

31600

33970

31920
32270
32770

19300
20600

19600
23200

22600

:::

23600
23200
23200
26000

MAX

35600
34800
38800

36000

35200
37200

35200

38800

34ROO
34800

34POO

38400

35600

34400

36400
36800
36800

1*400
1*700

13700
13700

18600

:::

16000
17200
18000
18800

S EPT EM

MIN

31600
33200
33600

31600

31600
32800

30000

J2400

33600
31600

31600

J2HOO

32400

30000

33600
32800
34000

18400

16500
17400

16600
18700

:::

:::

19800
21200
22100

ER

MEAN

34000
34300
35300

33680

33400
34600

33300

34400

34200
33400

33100

34900

33900

31900

35400
35600
35600

3?400 13200 18800 40400 30000 34200

DELAWARE BAY

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

FERBUAP Y

MAX "IN MEA-I

_ ___ ___

.__ --_ ___
. 0 0-5
. 5 1.0 1.5

. 5 1.0 .0
. 0 1.0 .0
. 5 1.0 .5
.0 1.0 .1
. 0 0. 5 .0

,0 1.0 1.0
.0 1.0

___ -__ -_-

__ __

~_- -__ __-

_

__

~__ ~__ __.

-

JUNE

MAX MIN MEAN

20.5 2
21.0 2
21 ,5 7
21.5 2

27.0 7
72.0 7
22.0 2
77.0 7
21.0 '

23. 5 2
71.5 7
24.0 2
21.5 7
27.0 2

22.0 2
?'.0 7
7,3.0 2
23.5 2
J3.5 7

21.5 '
73.5 2
23.5 2
21.5 2
24.5 7

24.5 7
24.0 2
24.0 '
74.0 . >
?4. 0 2

. 0 20.0
.C '0.5
.0 21.0
. 0 21.5

.0 21.5

. 5 21.5
. 0 71.5
. 5 71.5
. 5 71.5
. 5 72,0

.-; ??.o
.0 27.5
. 0 23.0
. 0 ?'.5
. 5 22. T

. 5 21.5
. 5 ?1.5

.0 >'.-;
.0 27. =>
. 0 23.0

. 0 23.0
.0 23.0
. 0 71.0
.0 73.5

. 5 24.)

. 5 24-0
. 5 24.0
.C 23.5
. 0 '3.5
.0 71. T

24.5 20.0 22.5

»AX

3.0
1.5
3.5
3. 5
3.?

4.0
4.0
4.0
4.0
4.0

3.5
4.0
3.5
4.0
1.5

4.0
4.0
4.0
4.5
5.0

5.5
5.5
6.0
6.0
6.0
5.5

.. 0

MAX

24.0
24.0
'4.5
25.5
25.0

25.0
'5.0
24.5
24.5
75.0

75.0
>5. 5
25.5
75. 5
24.5

24.5
24.5
74.5
2^.0
'5.0

24.5
24.5
74.5

25.0

75.5
26.0
26.0
?6.0
26.0
26. 0

26.0

MARCH

2.0
1.0
1.0
3.0
3.0

3. 5
1.5
4.0
3.5
1.5

1.0
3.5
1.5
1.5
1.5

3.5
4.0
4.0
4. 0
4.5

4.5
5.0
5.5
5.5
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7.0

JULY

MIN

23.0
23.0
7,1.5
74.0
24.5

24.5
24.0
24.0
24.0
'4.0

24.5
75.0
24.5
24.5
23.5

23.0
24.0
24.0
73.5
24.0

24.0
24.0
23.5

21.5

24. 0
24.5
24.5
25.0
75.0
?5.0

21.0

MEAN

3.0
3.0
3.0
3.0

1. 5
4.0
4.0
4.0
3.5

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1. 5
1.5
3.5

4.0
4.0
4.0
4.0
4.5

5.0
5.5
5. 5
5.5
5.5
5.5

MEAN

21.5
21.5
24.0
24.5
24.5

24.5
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24.5

'4.5
25. 0
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MAX

6^5

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R. 0

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MAX

30.0
27.0
26. 5

26.0

26.0
26.0
25.5
76.0
26.0

25.0
25.5
26.5
27.0
26. 5

26.5
26. 5
26.5
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26.5

26.5
26.5
26.0

26.5

27.0
27.0
27.0
27.0
27.0
27.0

30.0

APRIL

MIN

5.5
S. 5
6.0
6.5
6. 5

6.5
7.0
7.0
8.0
fl.O

ft.O
8.0
8.5
8.0
8.0

8.5
P. 5

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°.5
9.5
10.0

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AUGUST

MIN

25.0
25.5
76.0

75.0

24.5
25.0
25.0
25.0
74.5

24.0
24.0
25.0
26.0
76. 0

76.0
25.5
26.0
26.5
26.0

26.0
26. 0
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25.5

25.5
26.0
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26. 0
26.5
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MEAN

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MFAN

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MAX

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ER

MEAN

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DELAWARE RIVER BASIN

01420500 BEAVER KILL AT COCKS FALLS, N. Y.

DRAINAGE AREA. 241 sq mi.

PERIOD OF RECORD. Chemical analyses: January 1966 to September 1970.

PATF

OCT.
27...
NOV.
21...
DEC.
24...
JAN.
26...
FEB.
20...
MAR.
25...
APR.
24...
MAY
21...
JUNE
23...
JULY
24...
AUG.
24...
SEPT.
22...

OCT.
27...
NDV.
21...
DEC.
24...
J N.
6...
F 8.
0...
M R.
5.. .
A R.
4.. .
M Y
1...
JUNF
23...
JULY
24...
AUG.
24...
SEPT.
22...

nis-
nis- sriLvFn
TOTAL SPLVFIl MAG-
MAM- CAL- NF-

TIMF CHARGE (SIP?) (FH (MM) (r.A) (Mr) (NA)

1100 79 1.7 10 0 8.4 1.1 2.8

1030 340 2.4 0 0 6.6 .8 1.6

1005 380 2.2 10 0 6.0 1.0 1.6

1030 235 1.6 0 10 7.7 1.1 5.0

1330 1960 1.8 10 0 4.7 .9 1.2

1135 925 1.9 10 10 5.8 .8 1.3

1600 132 2.3 20 0 8.0 1.0 2.1

1145 218 2.0 40 20 8.0 1.0 1.7

1610 287 2.1 190 0 6.5 1.0 1.5

DIS-
SOLVED ORGANIC TOTAL
CHLD- FLUO- NITRG- PHOS-
SULFATE RIDE RIDE GEN NITRITE NITRATE AMMONIA PHORUS
(S04) (CD IF) (N) (N02) (N03) (NH4) (P04 1
G ,/ 1 /L (/L

9.0 4.7 .0 .01 .00 .6 .00 .06

10 2.8 .0 .21 .02 1.4 .04 .OR

11 2.9 .0 .27 .01 2.0 .19 .03

10 4.0 .1 .13 .02 2.1 .12 .03

9.2 3.1 .1 .00 .02 t.B .17 .03

9.6 9.4 .1 .06 .01 1.2 .04 .03

9.0 3.0 .0 .10 .01 1.6 .05 .02

9.9 2.1 .1 .38 .01 .9 .08 .03

10 3.4 .1 .42 .0? 1.1 .14 .06

9.0 4.0 .1 .00 .06 .3 .12 .07

9.5 3.0 .1 .13 .00 1.4 .18 .10

11 2.1 .1 .47 .02 .8 .02 .06

NON- SPFCI-
CAR- FIC CDLnR CHFM-

HARrt- RPNATF COND- (PLAT- ICAL
NFSS HARD- UCTANCF PH IMUM- OXYGEN

OCT.
27... 1100 26 10 72 7.4 4 2.
NOV.
21... 1320 18 11 47 6.7 8 4.
DEC.
24... 1030 20 10 58 6.8 3
JAN.
26... 1130 20 8 62 7.1 6 23
FEB.
20... 1005 19 11 53 7.0 1 4.
M R.
5... 1030 24 14 82 7.3 3 6.
A R.
4... 1330 15 10 42 6.8 3 1.
M Y
1... 1135 18 10 48 7.0 3 3
JUNE
23... 1600 24 11 65 7.2 3 3
JULY
24... 1510 22 8 64 8.0 5 7
AUG.
24... 1145 24 11 60 7.2 7 2
SEPT.
> >... 1610 20 8 56 7.3 2 6

neous sites in New York. "

Ptl- A'_<A-
TAS- R TCAP- CA°- 1. (MI TV
SIMM RDNATF RflMATF A^

(KI inrrn) icrn) cflrr*
1 /L) (r/u (r/D (,/L)

. 5 19 0 16

. 3807

. 4 11 0 9

. 2 10 0 8

. 4 12 0 10

. 3605

. 3 10 0 8

. 6 16 0 13

. 7 18 0 15

. 5 16 0 13

.4 15 0 12

DIS- DIS-
SOLVED SOLVED
SGLIDS SOLIDS LPSS

(RES!- (SUM DF ON
DUE AT CDNSTI- IGNI- TEMPER-
180 C) TUENTSI TIDN ATURE

36 38 2 6.0

24 29 A 3.0

34 34 2 .0

32 36 7 .0

37 30 7 .0

42 42 10 3.0

31 26 2 6.5

26 28 5 13.5

34 37 10 20.0

34 37 7 22.0

35 35 2 18.0

41 34 10 19.0

MFTHY-
LEMF
RLHF
ACTIVE PIS-

SUF- sm.vFn

0 .02

0 .01

4 .00

. 01

0 .01

0 .02

0 .01

0 .01

0 .01 9.0

0 .02

0 .01

0 .01 8.8

DELAWARE RIVER BASIN

01421000 EAST BRANCH DELAWARE RIVER AT FISRS EDDY, N.Y.

LOCATION.--Lat 41°58'23", long 75°10'28", Delaware County, temperature recorder at gaging station on left bank 3 000 ft upstream from bridge on County Highway 28 at Flshs Eddy, 0.6 mile upstream from Fish Creek, 4.2 mile downstream from Beaver Kill, and 11 miles upstream from confluence with West Branch at Hancock.

DRAINAGE AREA. 783 sq ml.

PERIOD OF RECORD. Chemical analyses: October 1
Water temperatures: November 1967 to Septembe

EXTREMES. 1969-70:
Water temperatui
ary.

Maximum, 29.0°C July 27-30; minimum, freezing point on many days during January and Febru-

Period of record:
Water temperatures: Maximum, 31.0°C July 17, 1968; minimum, freezing point on many days during winter periods.

COOPERATION. Water temperatu corder graph furnished by the Board of Water Supply, City of New York.

CHEMICAL ANALYSES, MAY TO SEPTEMBER 1970

DATE

MAY
21...
JUNE
23...
JULY
24...
AUG.
24...
SEP.
22...

TIME

1030

1310

1245

130D

1020

SULFATE

(SD4)

DIS-
CHARGE

1790

245

336

3B4

771

CHLO-
RIDE

(CD

SILICA

(SI02I

1.7

2.2

l.B

1.7

l.B

DIS-
SOLVED
FLUD-
RIDE

IF)

IRON

(FEI

10

20

20

20

3BO

ORSANIC
NITRO-
SEN

IN)

TOTAL
MAN-
SANESE

IMN)

0

0

10

10

0

NITRITE

IN02)

DIS-
DI - SOLVED
SOL ED MAS-
CA - NE-
CI M SIUM

(C) IMS)

6.4 1.0

8.0 1.2

8.2 1.1

7.0 1.4

7.5 1.4

NITRATE AMMONIA

(ND3) INH4I

INA)

2.0

2.1

1.4

2.5

1.6

TOTAL
PHOS-
PHORUS

I P04)

PO-

(K)

. 4

. 6

. 6

. 6

. 4

DIS-
SOLVED
SOLIDS

(RESI-
nUE AT

IBO C)

IHC03)

12

IB

1°

16

14

DIS-
SOLVFD
SOLIDS
ISUM OF
CONSTI-

TUENTS)

ALKA-

(CD3) CAC03

0 10

0 15

0 16

0 13

0 11

LOSS
ON
I6NI- TEMPER-
TltlN ATURE

MAY
21...
JUNE
23...
JULY
?4...
AUG.
24...
SEP.
22...

9.0

8.5

2.2

3.5

3.5

3.9

2.4

.0 .16

. 1 .13

. 1 .00

. 1 .13

.0 .24

.01 1.0

.02 .9

. 11 2.6

.01 1.2

.02 1.1

.09

. 16

. 10

. 18

. 08

.02

.04

.02

.09

.02

26

34

36

43

40

3;

3'

3'

3!

3'

NDN- SPECI-
CAR- FIC
HARD- BONATE COND-
NESS HARD- UCTANCE
TIME (CA.MG) NESS (MICRD-

METHY-
LENE
CHEM- BLUE
ICAL ACTIVE DIS-
DXYGEN SUB- SOLVED
STANCE OXYGEN

14.0

19.5

21.5

22.0

16.0

IMG/LI IMG/LI MHOS) (UNITS) UNITS) (MG/L) (MS/LI (MS/L)

JUNE
23...
JULY
24...
AUG.
24...
SEP.
22...

1030

131D

1245

1300

1020

7.0

7.2

7.1

7.0

6.8

. 01

. 01

. 01

. 01

. 01

DELAWARE RIVER BASIN

01421000 EAST BRANCH

OCTOBER NOVEMBER

Max

1 6.5
2 5.0
3 R.O
4 5.5
5 5.0

6 5.5
7 4.0
8 6.5
9 6.0
0 5.0

1 5.5
2 6.5
3 R.O
4 7.0
5 4.0

6 11.5
7 9.0
8 R.5
9 7.0
'0 11.0

>1 10.5
22 9.0
23 5.0
?4 4.5
25 5.5

26 5.5
77 5.5
28 5.0
29 5.5
30 6.0
31 5.0

KG 11.5

Max

2 3.5
3 4.0
4 5.0
5 6.0

6 6.0

8 11.0
9 9.0
10 6.5

11 6.5
12 5.5
13 8.5

15 8.0

16 8.0
17 8.0
18 7.0
19 6.5
70 5.5

71 5.5
22 7.0
23 6.0
74 6.0
75 R.5

26 10.0
27 11.0
28 11.5
29 12.0
30 14.5
31

MIN Max

3.5 6.0
4.0 7.0
4.0 9.0
3.0 9.0
1.5 6.5

1.5 3.5
3.0 5.0
3.5 5.5
2.0 6.0
1.0 6.5

1.5 7.0

5.0 6.5
3.5 5.5
0.5 6.0

9.0 3.5
6.5 4.0
5.5 5.0
5.0 8.5
7.0 7.0

9.0 3.5
5.0 1.5
2.0 3.5
2.0 4.0
3.5 3.5

3.5 4.0
3.0 3.5
3.0 3.0
3.0

8.5 5.0

APRIL

MIN Max

1.5 16.0
1.5 15.0
1.0 13.5
3.5 12.0
3.0 14.5

3.5 13.0

6.5 15.5
5.0 18.5

3.5 21.0
3.5 20.5
4.0 ?1.0
4.5 19.0
4.5 16.0

3.5 13.5
4.5 13.0
4.5 14.0

4.5 1R.5

5.0 19.5

5.0 16.5
5.5 16.0

6..0 15.5
6.5 15.5
R.O 18.5
8.5 19.5
9.5 20.0
21.5

MIN

5.0
6.0
7.0
6.5
3.0

3.0
3.5
5.0
4.5
6.0

6.5

5.5
5.0
3.5

2.0
2.0
3.0
5.0
3.5

1.0
0.5
1.0
3.0
1.0

2.0
3.0
7.0
2.0

3.5

MAY

MIN

11.0
13.0

8.5
10.0

10.5
13.5

16.5
16.5
17.0
16.0
13.5

12.0
12.0
11.0
11.0
13.6

15.0

14.0

13.5
13.5
11.5
13.5
14.0
15.0

DECEMBER

Max

7.0
1.0
1.0
0.5
0.5

0.5
0.5
0.5
0.5
1.0

4.0

3.0
1.5
1.0

0.5
0. 5
0.0
o.o
0.0

0.0
0.0
0.0
0.5
0.5

0.5
0.5
0.5
0.5
0.5

1.0

23.5
73.5

21.0
20.0

19.0

75.0
25.0

25.5
24.0
24.0
23.5
22.0

1R.5
19.5
24.0
24.0
71.5

23.5

?6.0

73.5

72.0
21.5
71.5

MIN

1.0
0.0
0.5
0.0
o.o

o.o
0.0
o.o
0.5
0.0

1.0

1.5
1.0
0.5

0.0
0.0
0.0
0.0
0.0

o.o
0.0
0.0
0.0
0.0

0.5

o.o
0.0
0.0
0.5

0.5

JUNE

MIN

19.0

17.0
17.0

70.0
70.5

71.0
71.0
1 8.0
17.0
1R.5

17.0
17.0
19.0
70.5
18.0

16.0

?1.0

18.5
15.5
14.5
17.0
19.5

EDDY, N.Y

JANUARY

Max

0.5
0.0
0.0
0.0
0.0

0.0
0.5
0.5
0.0
0.5

0.5

0.5
0.0
0.0

0.0
0.0
0.0
0.0
0.0

0.0
0.0
0.0
0.0
0.0

0.0

0.5
0.5
0.0
0.0

u.O

Max

75.5
74.0
74.5
24.0
71.5

74.5

75.5
74.5

73.5
25.0
24.5
?2.0
70.0

>L.O

74.0
?4.0

25.0

74.0
23.5

76.5

78.5

29.0
?9.0
79.0
77.0

MIN

0.0
0.0
0.0
0.0
o.o

0.0
0.0
0.0
0.0
0.0

0.5

0.0
0.0
o.o

0.0
0.0
0.0
0.0
0.0

0.0
0.0
0.0
0.0
0.0

o.o
0.0
0.0
0.0

0.0

JULY

MIN

27.0
21.0
21.5
20.0

21.5
21 .5

21 .5
20.5
1R.O

1R.O

1R.5
1P.O

?n.5

21 .5

18.0
19.0

23.0

24.0
24.5
24.5
25.0
25.0
24.5

FEBRUARY

Max MIN

o.o o.o
o.o o.o
o.o o.o
o.o o.o
0.0 O.C

1.0 0.0
1.0 0.0
0.5 0.0
1.0 0.5
1.5 1.0

1.5 0.5
0.5 0.0
0.0 0.0
0.0 0.0
0.0 0.0

0.5 0.0
0.5 0.0
1.5 0.5
1.5 0.0
0.0 0.0

0.0 0.0
1.5 0.0
1.0 0.0
2.0 0.0
1.0 0.0

0.5 0.0
0.0 0.0
0.5 0.0

__

0.5 0.0

auGUST

M4X MIN

77.n

73.5
74.0

26.0
75.0

26.5
28.0
?R.5

?9.0

28.0
28.0
26.5
24.0
24.5

24.0

23.5

24.0

17.0
17.0
15.0
16.0

7.0
1.5
0.0

0.0

0.5
1.6

1.0
3.0
3.5
4.0
4.0

4.5
4.5
1.5
0.0
2.0

1.0
9.5

R.5

9.0

4.0
4.0
1.0
1.0

MAX

1.0
0.5
1.5
1.0
1.5

1.5
3.0
3.0
1.0
2.0

3.0
2.0
1.5
7.0
2.0

1.5
4.0
2.0
6.5
4.5

4.0
3.5
2.0
4.5
6.0

6.0
5.0
4.5
4.0
4.0
5.0

3.0

MARCH

M,N

0.0
0.0
0.0
0.5
0.5

0.5
0. 0
0.0
0.0
0.0

0.0
0.0
0.0

0. 0

0.0
0.0
1.0
7. 0
2.0

2. 0
1.5
I.n
1.5
3.n

2. 0
1.5
o.n
0.0
1.5

1.0

SEPTEMBER

Max

16.5
15.0
14.5
16.5
18.0

16.0

13.0
15.0

16.5
15.5
15.0
13.5
11.0

15.5
15.5
15.0

17.0

18.0
20.0
70.0

23.5

21.5

13.5
1?.0
10.5

12.0
10.6
17.0
13.0
16.0

17. n

11.6
11.0

12.0
11.5
11.0

10.5

11.0
11.6
14.0
14.0
13.5

16.0
15.6
17.0

19.5

13.5
12.0
10.6
9.5

DELAWARE RIVER BASIN

01425000 VEST BRANCH DELAWARE RIVER AT STILESVILLE, N. Y.

LOCATION. Lat 42°04'29", long 75°23'47", Delaware County, temperature recorder at gaging static right bank at

northeast of Deposit.

DRAINAGE AREA. 456 sq mi.

PERIOD OP RECORD. Water temperatures: October 1962 to September 1970.

EXTREMES. 1969-70:

ry.

13.0
13.5
13.0
14.0
14.5

15.0
15.0
15.5
15.5
15.5

1ft.0
15.5
16.0
16.0
16.0

15.5
15.0
15.0
14.5
14.0

14.0
13.5
13.0
13.0
13.0
12.0

NOVEMBER

MAX MIN

2.0
3.0
2.0
2.0
4.0

4.5
5.0
5.0
5.5
5.5

5.5
5.5
6.0
6.0
6.0

6.0
6.0
6.0
6.0
5.5

2.0
1.0
1.5
1.0
1.0

10.0
9.5
10.0
9.5
9.5

9.0
8.5
R.O
6.5
6.5

5.5
7.0
6.5
R.5
6.5

1.0
1.0
1.0
1.0
0.0

9.0
9. 0
9 . 0
9.0
9.0

R.5
7.0
6.0
6.0
4.5

4.5
5.5
5.5
6.5
4.5

0.7

AUGUST

1 1.5
2 1.5
3 1.5
4 1.5
5 1.5

6 1.5
7 1.5
8 1.5
9 1.5
10 1.5

1 1.0
2 1.0
3 1.5
4 1.5
5 1.5

6 1.5
7 1.5

8 1.5
9 1.5
0 2.0

1 2.0
2 3.0
3 3.0
4 3.0
5 3.0

7 3.5

a 3.5

o 9.0
1

VG 2.3

. 5 7.0 5.n
. 5 7.0 5.0
. 5 9.0 6.5
. 5 9.5 9.Q
. 5 10.0 5.5

. 5 8.0 5.5
.5 R.O 6.5
. 5 R.O 6.5
. 5 11.5 R.O
. 0 13.5 9.0

.0 1?.0 8.5
.0 14.5 R.5
.0 15.0 13.0
.5 14.5 12.0
. 5 12.0 8.0

. 5 12.0 6.5
. 5 15.0 Q.5
. 0 16.0 12.0

. 0 16.0 2.0
.0 15.0 3.0
. 0 14.5 3.0
.0 15.5 4.5
. 0 15.5 5.0

. 5 15.0 4.0
. c 15.5 4.0

. 0 lfl.0 4.5
1R.O 3.5

. 0 12.8 10.1

9.0 4.5 4.5 4.5

n.o 5.0 5.0 5.0
9.0 5.0 7.0 5.0
7.0 4.0 10.0 5.5
7.0 5.0 10.0 5.0

6.5 4.0 5.0 5.0
7.0 0.0 5.5 5.0
R.O 9.0 6.5 5.0
7.0 10.0 6.0 5.5
6.5 R.5 5.5 6.6

6.5 o.O 5.0 5.0
1.5 R.O 5.5 5.0
fl.O 6.6 6.0 5.5
R.6 6.0 5.5 5.0
7.0 6.5 6.0 5.5

R.O 5.5 6.0 6.0
6.5 6.0 8.0 6.0
6.0 6.0 10.5 6.5

6.0 6.0 7.0 6.6
6.0 6.0 7.0 6.0
6.5 6.0 7.0 6.0
6.0 5.0 6.5 6.0
5.0 4.5 6.5 6.0

4.5 4.0 7.0 6.5
4.5 4.5 8.0 6.0

4.5 4.5 10.5 7.0
9.0 7.0

0.5 R.O 7.0 5.7

7.0

8.5
9.0
R.O
R.5

8.5
8.5
9.0
9.5
0.0

9.5
9.5
9 . 0
9.0
9.0

0.5
0 .5
0.5

1.0
1 .5
1.5
2.0
3.0 J

3.5
4. 5

4.0
5.0

0.5

7.0 15.0
R.O 1^.5
R.O 14.5
R.O 1^.0
8.0 15.0

fl.O 15.5
R.O 16.0
R . 0 16.5
R.5 16.0
R.O 16.5

fl.6 17.0
R.6 17.0
H.5 17.0
9.0 17.0
9.0 17.0

9.0 17.0

9.0 17.0
9.5 17.0
0.0 1R.O

0.0 1R. 0
0.0 1H.5
1.6 19.5

1.0 71.5
1.5 19.0

3.0 19.0
3.0 17.0
3.0 17.0

4.0 16.0
4.0

9.f 17.0

3.6
4.0
4.5
s. n
4.5

4.6

5.n

5. 5
6.0
6.0

6.0
6.5
6. 5

7 . r
7 . 0

7 . 0
7.0

5.0

5.5
7.0
7.1
7 . n
7.0

7.0

5.5

6.0

308 DELAWARE RIVER BASIN

01426500 WEST BRANCH DELAWARE RIVER AT BALE EDDY, N.Y.

LOCATION. Lat 42°00'10", long 75°23'15", Orange County, temperature recorder at gaging in Hale Eddy, 9 miles upstream from confluence with East Branch at Hancock.

DRAINAGE AREA. 593 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1957 to September 1959, May to September
Water temperatures: October 1967 to September 1970.

EXTREMES. 1969-70:

Water temperatures: Maximum, 27. 0°C June 11.

Period of record:
Water temperatures: Maximum, 30.0°C June 28, 1969.

COOPERATION. Water temperature recorder graph furnished by the Board of Water Supply, City of New York.

REVISIONS. Revised figures for water temperatures for water year 1969 supercedlng those previously published ar given herewith: June 2, minimun 18.CTC.

CHEMICAL ANALYSES, MAY TO SEPTEMBER 1970

DATE

MAY
21...
JUNE
23...
JULY
23...
AUG.
24...
SEPT.
22...

TIME

1445

1230

1400

1310

DIS-
CHARGE

1280

946

5B4

548

SILICA

(SI02)

3.1

2.7

l.B

2.6

TRON
(FE)

50

20

50

200

MAN-
GANESE

1 MN)

10

10

20

0

DIS-

CAL-
CIUM

(CA)

. 6

7.0

7.2

6.7

8.0

DIS-
SOLVED

NE-
SIUM

(MG)

1.7

1.6

1.6

2.0

2.2

SODIUM

(NA)

3.3

2.8

2.2

2.3

3.4

PD-
TAS- BICAR-
SIUM BDNATE

. 8 IB

1.1 14

. 9 12

. 8 16

. 9 20

ALKA-
CAR- LINITY
BONATE AS

0 15

0 11

0 10

0 13

0 16

MAY
21...
JUNE
23...
JULY
23...
AUG.
24...
SEPT.
22...

SULFATE

(S04)

12

12

11

9.5

13

DIS-
SOLVED
CHLO- FLUO-
RIDE RIDE

(CD IF)

5.3 .1

4.2 .0

5.0 .3

3.7 .1

6.0 .0

ORGANIC
NITRO-
GEN

(N)

. 24

. 04

. 71

. 19

. 16

NITRITE

(N02)

. 03

. 03

. 03

. 01

. 48

NI TRATE

(N03)

1.6

3.7

3.5

2.6

2.0

AMMONIA

(NH4)

. 24

. 12

. 12

. 25

. 22

PHOS-
PHORUS

(P04)

. 11

. 13

. 29

. 08

. 16

DIS-
SOLVED

(RESI-
DUE AT
1BO Cl

36

42

47

31

55

DIS-
SOLVED

ISUM OF
CONSTI-

TUENTS)

43

43

4B

3B

49

ON
IGNI-
TION

10

5

B

10

14

TEMPER-
ATURE

14.0

8.0

11.5

18.0

23.0

DATE

MAY
21...
JUNE
23...
JULY
23...
AUG.
24...
SEPT.
22...

TIME

0925

1445

1230

140Q.

1310

HARD-
NESS

(CAtMG)
(MG/L)

26

24

24

24

29

NON-
CAR-
BONATE
HARD-
NESS

(MG/L)

12

12

14

12

12

SPECI-
FIC
COND-
UCTANCE PH

(MICRO-
MHOS) (UNITS)

7B 7.0

73 6.5

74 7.0

72 6.8

82 6.9

COLOR

INUM-
COBALT

UNITS)

4

9

6

3

0

CHEM-

OXYGEN
DEMAND

(MG/L)

4.0

5.0

2.0

3.0

5.D

METHY-
LENE
BLUE

SUB-
STANCE

(MG/L)

. 01

. 02

. 03

. 01

. 03

DIS-
SOLVED
OXYGEN

IMG/L)

12.5

9.8

DELAWARE RIVER BASIN

01426500 WEST BRANCH DELAWARE RIVER AT HALE EDDY, N.Y. Continued

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

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4
5

6
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6
9
10

11
12
3
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6
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1
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0
1

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OCT

MAX

15.5
14.5
14.5
16.0
16.5

17.0
16.0
6.0
6.0
6.0

8.0
6.0
6.0
6.5
7.0

15.5
15.5
16.5
16.0
16.5

15.5
14.0
13.5
14.0
14.5

14.0
12.0
12.0
13.0
13.0
12.0

15.5

OBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH

MIN MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN

13.5

AUGUST

MAX MIN

SEPTEMBER

MAX MIN

1 3.5 0.0

3 3.5 1.0
4 3.0 1.5
5 3.5 1.5

6 3.5 1.0
7 4.5 1.5
8 5.0 1.5
9 4.0 2.0
0 3.5 2.0

1 3.5 1.5
2 4.5 1.5
3 5.0 1.5
4 5.0 2.0
5 6.0 3.0

9 5.0 3.0
>0 4.0 3.5

1 4.0 3.5
2 6.0 4.0

4 5.0 4.5
5 6.5 4.5

6 7.0 4.5
7 8.5 4.5
6 8.5 5.0
9 9.0 5.5

Jl

3.0 5.0

0.0 6.5
1.5 B.O
3.5 8.5

6.5 4.0
0.0 4.5
0.0 5.5
5.0 B.O
6.0 9.5

9.0
1.0
0.0
6.5
5.0

6.0
9.0

9.5
0.0

6.5
5.5

6.0
5.0
6.0
9.5

3.0

1.5
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1.5

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3.5
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4.0
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9.0
1.5
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7.0
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6.0 9.0 5.0

0.5 9.5 6.0
5.5 16.5 6.0
6.0 17.0 6.5

6.0 11.5 6.0
3.5 11.0 7.0
5.5 13.0 6.5
9.0 11.5 7.0
8.5 9.5 7.0

0.5 9.5 7.0
5.0 11.0 7.0
6.5 7.0 11.0 6.5
6.0 6.0 8.5 6.5
3.0 7.0 9.0 6.5

1.0 6.0 14.5 8.5
9.0 5.0 18.5 10.5

7.0 5.0 16.5 11.5
9.0 6.5 14.5 10.0

3.5 6.5 11.5 9.0
1.5 7.0 13.0 8.5

3.5 8.0 6.5 15.0 6.5 1.5 6.0 6.5 13.5 6.5 2.0 10.5 6.5 16.0 6.0 3.0 9.5 6.0 16.0 11.0

4.0 15.5 10.5

3.5 9.5

6.0 10.0
. 5 9.0
.0 8.0

. 5 6.5
. 5 6.0
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. 5 9.5
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8.0

9.0

9.5

0.0
1.0

1.0
1.0

1.5
1.5

3.0
4.0
4.0
4.0
5.0
6.0

8.0

6.0
1.0
0.0

9.0
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8.5
6.5
0.0

0.0
0.0
0.5
6.0
6.0

8.5
9.0

9.5
2.0
1.0
5.0
5.0

2.0
9.0
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5.0
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6.0
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9.5
9.0

6.5
6.0
5.0
3.0
2.0

/S 5.0 3.0 15.5 10.5 16.0 11. 0 13.0 8.0 15.0 10.5 19.5 16.0

LOCATION. Lat 41 52'05", loni

DRAINAGE AREA. 1,587 sq mi.

PERIOD OF RECORD. Water temp

DELAWARE RIVER BASIN

01427207 DELAWARE RIVER AT LORDVILLE, N.Y.

EXTREMES. 1969-70:

Water temper at ui

ss: October 1967 to September 1970.

Maximum, 25.5°C June 10; minimum, freezing point ny days during De

Drded water temperatur at undetermined times. No

COOPERATION. Water temperature

REVISIONS. Revised figures for water tempera given herewith: July 29, minimum 18.0°C.

irder graph furnished by the Board of Water Supply, City of New York.

for water year 1969 superceding those previously published are

MAX UN
11.5
4.5 13.5
6.5 14.5
A.5 14.0
5.5 13.0

6.0 13.5
5.0 14.5
8.5 5.0
6.5
A.5

5.5 13.5

5.0 13.5
4.0 13.0
4.0 12.0
3.5 11.5
5.5 13.5

5.5 13.0
3.0 9.5
9.5 7.0
8.5 6.0
9.5 f>.0

9.5 B.O
9.5 8.5
9.0 8.0
8.5 6.0
9.0 6.5
B.5 6.5

14.0 11.5

9.5 8.5
10.5 9.5
11.0 9.5
9.5 6.0

6.0 4.5
6.0 4.5
6.5 6.0
6.5 5.5
fl.O 6.5

8.5 8.0
8.0 fl.O
8.5 6.5
6.5 6.5
6.5 4.5

4.5 3.5
5.5 3.5
5.5 4.0
8.5 5.0
8.0 5.0

5.0 1.5
1.5 0.5
?.0 0.5
3.5 2.0
3.0 0.5

3.0 1.0
2.0 0.5
2.0 1.5
1.5 1.0
1.5 0.5

i.o n.o
2.0 n.o
2.0 o.o
1.5 o.n
1.5 o.o

3.0 0.0
1.5 o.n
1.0 0.0
I.O 0.0
1.5 0.0

1.5
3.0
1.5
3.5
3.0

i.O

0.

2.0

0.5

3.0
3.0
3.0 0.5
3.0 O.n
2.0 0.0
3.0 0.5

2.0 0.5

MAX HIM MAX
1 2.0 1.0 20.5
2 1.5 0.5 15.0
3 2.0 0.0 13.5
4 3.0 1.5 13.0
5 3.5 1.0 14.0

6 3.5 1.0 13.5
7 5.0 2.0 9.5
8 A.O 2.0 10.0
9 5.5 4.0 13.5
10 4.5 3.0 16.5

11 4.0 1.5 19.0
12 5.5 2.0 19.5
13 6.5 3.5 20.0
14 A.O 4.5 19.0
15 fl.O 5.0 16.5

16 7.0 5.0 14.0
17 8.0 6.0 13.5
IB 8.0 5.0 14.0
19 6.0 4.0 15.5
20 6.0 4.5 18.0

21 5.0 4.5 18.5
22 6.5 5.0 19.5
23 A.O 5.0 19.0
24 5.5 5.0 17.0

26 9.0 6.0 15.5
27 10.0 7.0 15.5
28 10.5 8.5 16.5
29 11.5 9.0 18.5
30 13.5 10.0 23.0
31 21.5

HIM
1.5
3.5
1.5
0.5
1.0

B.O
6.0
B.O
9.5
3.0

6.5
7.0
8.0
6.5
4.0

3.0
3.0
1.5
3.0
4.5

5.0
6.5
A. 5
5.5

4.0
4.0
3.0
5.0
6.5
7.0

MAX MIN
4.0 70. 0
4.5 71.5
4.5 72.0
3.0 ?0.5
1.5 70.5

1.0 19.5
1.5 18.0
3.5 19.5
5.0 71.5
5.5 71.5

4.5 72.0
3.5 71.5
1.5 18.5
9.5 15.0
5.5 14.0

5.0 13.0
6.0 14.0
A.O 13.5

8.0 14.5
6.5 11.0

1.5 9.5
1.5 10.0
4.5 11.0
5.0 13.0

5.0 10.0
0.5 10.0
3.0 9.0
3.0 10.0
1.5 10.0

MAX
4.0
3.5
3.5
7.0
9.0

8.5
5.5
5.0
5.5
5.0

3.5
6.0
6.0
4.5
3.5

5.5
8.0

8.0
9.0

0.0
9.0
9.0
0.5

9.0
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9.0
2.0
2.0
3.0

WIN
0.5
1 .0
1.0
1.0
6.5

5.0
3.0
3.0
4.5
3.0

1.5
3.0
3.5
0.5
0.5

2.0
4.5

5.0
7.0

8.5
6.5
6.0
6.5

6.0
8 .0
8.0
8.5
0.5
0.0

MAX
9.5

2.n
1.5
1.5
7.0

6.5
6.0
5.0
5.5
6.0

8.0
8.0
8.0
6.5
5.5

5.5
6.5
6.5
5.5
5.5

7.0
6.0
5.5
9.0

8.0
8.5
1.0
0.0
8.5
7.0

MIN MAX MIN
8.0 16.5 15.0
8.0 17.0 14.5
9.0 16.0 15.5
6.5 18.5 15.5
5.0 19.5 lfl.0

4.5 19.0 17.0
4.0 18.5 16.0
2.0 18.0 1A.5
7.0 17.0 1A.5
5.0 18.5 16.5

5.0 19.5 17.0
5.5 18.5 16.0
6.0 18.5 16.5
5.0 18.5 16.0
3.0 16.0 15.5

3.5 17.0 15.0
5.0 18.5 15.5

4.5 16.5 15.5
4.5 18.0 15.0

4.0 19.0 16.5
3.5 21.0 18. 0
4.5 23.0 70.0
5.5 23.5 21.0
6.5 24.0 21.5

5.5 23.5 22. n
6.0 22.0 17.0
8.5 17.0 15.0
8.5 15.0 13.0
5.5 13.0 11.5
5.5

DELAWARE RIVER BASIN

01427405 DELAWARE RIVER NEAR CALLICOON, N.Y.

LOCATION.--La t *1°46'14«, long 75°05'03", Sullivan County, tenperature recorder at gaging station from Hollister Creek, 1.3 miles north«est of Callicoon, and 1.4 miles upstream from CaUicoon DRAINAGE AREA. 1,706 sq mi.

PERIOD OF RECORD.-Water temperatures: October 1967 to September 1970.

EXT REMES . 1969-70 :

COOPERATION.-Water temperature recorder graph furnished by the Board of Water Supply, City of Ne

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

DAY OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY

MAX MIN MiX MIN MSX M I Kl MAX HIM MAX MINI

16.5
15.0
17.0
IB.5
17.0

.fl.O
5.5
R.O
R.5
R.O

. R.O
. 9.0
9.5
R.5
6.5

14.5
15.5
16.5
15.5

6.0
6.5
6.5

0.5
2.0
1 .5
2.0
1.0

3.5
5.5
1.5

1
2
3

5

6
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8
9
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11
12
13
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15

16
17

19
20

71
22
73
2ft
25

26
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31

3.5
3.0
3,0
4.0
4.5

4.5
7.0
R.5
R.O
6.5

5.5
6.0
7.0
6.0

9.5
10.0
10.0
fl.O
7.0

6.0
R.5
fl.O
7.0
9.5

9.5
10.5
11.5
12.0
13.5

1.5 16.5 13.0 26.5
1.5 17.0 14.5 26.5
1.0 14.5 11.5 26.5
3.0 13.5 11.0 21.5
3.0 15.5 11.5 23.0

3.5 13.5 9.5 21.0
4.5 11.5 R.O 23.5
6.0 13.0 8.5 26.0
6.5 16.5 10.5 2R.O
5.0 20.0 13.5 2R.5

4.0 22.0 16.0 ?R.O
4.0 22. 0 17.0 25.5
4.5 23.5 1R.5 26.5

R.O 15.0 13.5 1R.5
9.0 14.0 13.5 19.0
7.0 15.0 12.0 22.0
6.0 16.5 13.0 2?.0
6.0 IB. 5 14.5 19.0

6.0 19.5 15.0 14. 5
6.0 20.5 16.5 14.5
6.5 19.0 17.0 19.0
6.5 lfl.0 16.0 20.5
7.0 16.0 14.5 21.0

R.O 15.5 14.0 18.5
9.0 15.0 13.5 14.5
10.0 1R.O 13.0 16.0
10.5 20.0 14.5 17.0
11.0 21.5 15.5 15.0
23.5 16.0

19.0 1R.O

'0.0 18.5
19.5 ?0.5

1R.5 23.0
16.5 M.O
17.0 20.5

21.0 Pl.t)
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72.0 19.0
73.0 ?1.0
19.5 ?2.0

17.0 18.0

17.0 23.0
16.5 22.0
14.5 22.0

11.5 21.5
11.0 24.0
11.5 23.5
14.5 ?5.5
16.0 ?3.5

14.5 23.5
11.5 24.5
10.0 24.0
11.5 25.5
12.0 26.5
24.5

1.0

4.5
7.0

R.5
6.0
5.5
6.0
R.O

6.0
5.0
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4.5

fl.O
R.O
8.5

R.O
9.0
9.0
0.0
9.5

R.O
R.5
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23.5

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DELAWARE RIVER BASIN

01427705 DELAWARE RIVER AT SKINNERS FALLS, N.Y.

LOCATION. Lat 41°40'12", long 75°03'28", Sullivan County, temperature recorder at Skinners Falls interstate bridge

DRAINAGE AREA. 1,902 sq mi.

PERIOD OF RECORD. Water temperatures: October 1967 to September 1970.

EXTREMES. 1969-70:

Water temperatures: Minimum, freezing point on many days during December to March.

Period of record:

Water temperatures: Maximum (1967-69), 28.0°C July 10, 1968; minimum, freezing point on many days during winter periods.

REMARKS. No records available June 3-9, July 29 to Sept. 30.

COOPERATION. Water temperature recorder graph furnished by the Board of Water Supply, City of New York.

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

DAY OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH

MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN MAX MIN

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DAY

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27
28

5.5 4.0
5.0 4.0
5.5 4.5
6.5 5.0
6.0 4.5

5.5 4.0

7.0 5.C
6.0 4.5

6.0 5.0
8.0 6.C
8.5 6.5
8.5 6.5
6.5 5.0

5.0 4.0
4.0 3.0
4.0 2.0

4.5 3.0

5.0 4.5
4.5 1.5
1.5 9.0
9.5 8.5
9.5 8.5

0.5 9.0
0.5 10. C
0.0 9.5
9.5 8.C
9.5 8.0
9.0 8.C

APRIL

MAX MIf>

3.5 2.C

6.0 5.

5.5 5.!
6.0 5.

8.0 7.
8.0 B.C

8.5 8.C

8.5 7.

8.0 7.

11.0 10.

9.5 9.0 3.5 3.0 0.0 10.5 9.5 3.0 1.5 0.0 11.0 10.5 1.5 0.5 0.0 11.5 11.0 0.5 0.0 0.0 11.0 9.0 0.5 0.0 0.0

9.0 7.0 1.0 0.5 0.0

8.0 7.0 1.5 1.0 0.0 9.5 9.0 1.0 0.0 0.0

9.5 9.0 2.0 0.0 0.0 9.5 9.5 3.0 1.5 0.0 9.5 9.0 3.0 2.0 0.0 9.0 9.0 2.0 1.0 0.0 9.0 6.5 1.0 0.5 0.0

7.0 6.0 0.5 0.0 0.0 6.5 6.0 0.5 0.0 0.0 7.0 6.5 0.0 0.0 0.0

9.5 7.0 0.0 0.0 0.0

7.0 5.0 1.0 0.0 0.0 5.0 4.0 0.5 0.0 0.0 5.0 4.0 0.5 0.0 0.0 6.0 5.0 0.0 0.0 0.0 5.5 4.0 0.0 0.0 0.0

5.0 4.5 0.0 0.0 0.0
4.5 3.5 0.0 0.0 0.0
4.5 4.0 0.0 0.0 0.0
4.5 4.0 0.5 0.0 0.0
4.0 3.0 0.0 0.0 0.0
0.0 0.0 0.0

MAY JUNE JULY

MAX MIN MAX MIN MAX

15.0 14.5 18.0

20.0 7.0 5.5 2.0 19.5
20.5 9.5 5.0 2.0 19.5

21.5 0.5 4.0 9.0 20.0
20.5 9.0 2.0 8.5 17.0

19.0 7.0 8.5 8.0 16.5

6.5 5.5 0.5 8.0 ?1.0

D 7.0 6.0 9.0 5.0 24.0

5.0 4.5 6.5 3.5 24.5

0.0 0.0 0.0 3.0 1.5 0.0 0.0 0.0 3.0 1.5 0.0 0.0 0.0 3.0 2.0 0.0 1.0 0.0 2.0 1.0 0.0 1.0 0.5 1.0 0.5

0.0 1.0 0.5 0.5 0.5

0.0 1.0 0.5 1.0 0.0 0.0 1.0 0.5 1.5 0.0

0.0 0.5 0.0 1.5 0.0 0.0 1.0 0.0 1.0 0.0 0.0 1.5 1.0 0.5 0.0 0.0 2.0 1.0 0.5 0.0 0.0 1.5 0.0 1.0 0.0

0.0 1.0 0.0 1.0 0.0 0.0 1.5 0.0 1.0 0.0 0.0 1.0 0.0 1.0 1.0

0.0 2.0 0.0 3.0 2.0

0.0 1.5 0.0 3.0 1.5 0.0 2.0 0.5 2.0 1.5 0.0 1.5 0.5 3.0 2.0 0.0 1.5 0.0 4.5 3.0 0.0 2.0 0.5 5.0 4.0

0.0 3.5 0.0 5.0 4.5 0.0 3.0 2.0 4.5 2.0 0.0 3.0 1.0 4.0 3.5
0.0 4.0 3.5
0.0 3.5 3.5
0.0 3.5 3.0

AUGUST SEPTEMBER

MIN MAX MIN MAX MIN

5.5

8.0
7.0

7.0
5.0

5.0

9.5

0.5

1.0
1.0

l 5

3.5

DELAWARE RIVER BASIN

01428500 DELAWARE RIVER ABOVE LACKAWAXEN RIVER NEAR BARRYVILLE, N.Y.

LOCATION. Lat 41°30'30", long 74°59'15", Sullivan County, temperature recorder at gaging station 1.6 mile upstream from Lackawaxen River and 4.6 miles northwest of Barryviile.

DRAINAGE AREA. 2,023 sq ml.

PERIOD OF RECORD. Water temperatures: October 1967 to September 1970.

EXTREMES. 1969-70:

Water temperatures

Water temp era t

REMARKS. No reco I

COOPERATION. Wate

Maximum, 27. 0°C July 30.

res: Maximum, 29. 5°C July 17, 1968.

s available for Nov. 3 to Mar. 25.

temperature recorder graph furnished by the Board of Water Supply, City of Ne

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

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314 DELAWARE RIVER BASIN

01432160 DELAWARE RIVER AT BARRYVILLE, N. Y.

LOCATION. Lat 41°28'31", long 74°54'46", Sullivan County, temperature recorder at Shohola-Barryville Bridge at Barryville just upstream from Halfway Brook, 1,000 ft upstream from Shohola Brook.

DRAINAGE AREA. 2,692 sq mi.

EXTREMES. 1969-70:

Water temperatures: Maximum, 28.0°C July 30; minimum, freezing point on many days during December to March.

Period of record:
Water temperatures: Maximum, 29.0°C July 18, 1968; minimum, freezing point on many days during winter periods REMARKS. Recorder stopped Nov. 1-3; range in temperature, 8.0 C to 10.5 C,

COOPERATION. Water temperature recorder graph furnished by the Board of Water Supply, City of New York.

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

OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY MARCH

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DELAWARE RIVER BASIN J13

01434000 DELAWARE RIVER AT PORT JERVIS, N.Y.

LOCATION (revised). Lat 41°22'14", long 74°41'52", Pike County, Pa., at gaging station at bridge on U.S. Highway 6 at Port Jervis, 1.2 miles upstream from Neversink River and 6.5 miles downstream from Mongaup River.

DRAINAGE AREA. 3,076 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1957 to September 1959, July 1964 to June 1965, August 1966 to September 1970.
Water temperatures: February 1957 to September 1960.

EXTREMES. March to Sept

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DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, N.Y. Continued

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30... 1030
NOV.
13... 1520
DEC.
09... 1045
30... 1120
JAN.
19... 1355
FEB.
25... 1120
MAR.
03... 1500
25... 1040
APR.
23... 1420
29... 1145
MAY
28... 1100
JUNE
25... 1100
JULY
22... 1130
AUG.
19... 1120
SEPT.
17... 1103

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(MG/LI MHDS)

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76

56
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64

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72

73

SUSPENDED-SEDIMENT DISCHARGE, MARCH

MEAN
DISCHARGE

(CFS)

3090
3330
4070
4010
407D

4100
2130
28BO
2960
3750

2B80
2350
3710
2560
1910

2130
2630
2150
2680
2830

36BO
3350
42BO
4950
5330

5150
13200
14300
12000
9320
9590

MARCH

MEAN
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TRATION DISCHARGE DISCHARGE

(MG/L) (TONS/DA V > ircci

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17600
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17500

16300
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APRIL

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(UNITS)

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2150
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567

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240
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EPTEMBER

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6950

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4430
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4220
4100
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28BO

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248

206
130
92
35
97

107
113
97
77
49
31

DELAWARE RIVER BASIN

01434000 DELAWARE RIVEH AT PORT JERVIS, N.Y. Continued

SUSFENDED-SEBIMENT DISCHARGE, MARCH TO SEPTEMBER 1970

JUNE JULY AUGUST

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J370
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J370
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2680

2630 244"
* ±30
'370

2420
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2490
2700
2850

70200

MEAN

(CFS)

5360
2780
2300
2650
2490

2060
2000
2130
2490
2680

2630
2400
2460
2580
2650

4220
3770
3440
3210
3120

2370
3230
3920
3500
2510

2210
1980
2460
2800
2330

MEAN
CONCEN-

TRATION

(MG/L)

3
3
2
1
1

1
1
1
1
1

4
6
ft
7
3

7
9
n

7
f-

ft
7
6
6
5

4
4
4
4
2

-

SEPTEMBER

MEAN
CONCEN-

(MG/L)

14
10
2
2
1

1
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2

1
1
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3
2
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8
2
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3
3

MEAN
SEDIMENT MEAN CONCEN-
DISCHARGE TISCHARGE TRATION

(TONS/DAY) (CFS) (HG/L)

23 3?10 2
23 3590 2
16 2850 2
7 2330 2
4900 61

t 2240 170
« 2580 46
6 2560 17
6 2370 8
4 2130 18

20 2560 13
38 2560 8
30 2440 4
24 2800 6
14 3070 7

35 3830 6
41 4430 6
58 3500 5
64 2700 4
2680 4

43 3260 4
50 3V»0 6
40 3150 4
35 2980 4
32 2960 4

26 2680 3
24 2730 2
27 3040 2
29 2910 2
15 1590 2
1570 2

778 89640

SEDIMENT

(TONS/DAY)

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1
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19

SEDIMENT
DISCHARGE

(TONS/D«Y)

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19
15
13
815

1040
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118
51
104

90
55
26
45
58

62
72
47
29
29

35
56
34
32
32

22
15
16
16
9
8

3300

MEAN
MEAN CONCEN- SEDIMENT
DISCHARGE TRATION DISCHARGE

(CFS) (MG/L) (TONS/DAY)

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2650
2210
1500
1830

2330
3230
3070
2580
2880

2850
2780
2880
2980
3090

2630
2730
2930
2530
2800

3180
2680
3070
3380
2060

2020
2800
3530
2960
2910
4190

85130

10

1 8

576

31B DELAWARE RIVER BASIN

01438000 SEVERS INK RIVER AT PORT JERVIS, N. Y.

LOCATION. Lat 41°21'40", long 74°41'07", Orange County, at bridge on U.S. Highway 6 (Main Street) in Port Jervis 0.7 mile upstream from mouth.

DRAINAGE AREA. 333 sq ,ui.

PERIOD OF RECORD. Chemical analyses: April 1969 to September 1970.

COOPERATION. Samples furnished by New York State Department of Environmental Conservation.

DATE

APR . ,
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MAY
27...
JUNE
25...
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AUG.

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MAY
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JUNE
25...
JULY
22...
AUG.
19...
SEPT.
17...

APR. .
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MAV
?7..
JUNE
25...
JIILV
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OCT.
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NOV.
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JAN.,
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JUNE
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JULY
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(S04)

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RIDE

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9.0

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8.5

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IRON

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180

80

100

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190

70

80

160

220

90

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SOLVEFI

FLUfl-
RIDE

(F)

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MAN- CAL- NF-
GANESE CIIIM SIIJM SnniUM
(MM ICA] (Mfil (NAI

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0 7.2 1.? 2.6

0 8.9 1.5 5.0
30 6.5 1.1 3.*

50 10 1.5 4.7

30 9.9 1.7 7.5

10 8.0 1.5 4.1

30 7.7 1.5 4.3

50 9.0 1.7 5.3

20 8.0 1.5 4.7

50 7.9 1.6 6.3

30 8.5 1.6 6.5

0 11 1.6 6.6

0 10 1.5 4.9

40 12 1.8 6.6

0 11 2.2 8.4

ORGANIC
NITRO-
GEN NITRITE NITRATF AMMONIA
(N) (Nn2) (NOB) IMH4)

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. 03 .01 1.? .10

. 44 .03 1.5 .47
. 52 .03 1.1 .18

. 22 .00 1.4 .?R

. 45 .04 2.6 .35
. 35 .05 3.4 .67

. 19 .03 1.6 .07

. 10 .03 1.8 .35

. 18 .07 2.6 .64

. 20 .04 2.0 .49

. 12 .03 1.4 .37

. 12 .03 1.0 .32

. 19 .06 1.8 .29

. 25 .10 2.4 .61

. 00 .29 .6 .08

. 07 .14 1.6 .26

. 07 .26 4.5 .13

170

PO-

MlIM RONATE
(K> (HC03)

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. 5 16

. 9 21
1.1 14

. 7 22

1.3 26

. 7 15

. 6 17

. 8 21

. 6 16

. 8 16

. 9 21

1.0 24

1.0 27

1.3 32

1.2 24

DIS-
SOLVFO

PHOS- (RESI-
PHORUS DUE AT
(P04) 180 C)

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. 28 44

. 21

. 73 59
. 27 64

. 46 56

1.1 75

. 20 46

. 78 54

. 54 56

. 48 54

. 24 51

. 30 60

1.3 63

. 52 65

1.2 53

1.4 75

BONATF
(C03)

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SOLVFD

(SUM PF
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DELAWARE RIVER BASIN

01438000 NEVERSINK RIVER AT POST JERVIS, N.Y. Continued

DATE

APR., 1969

?5... 1015
OCT.
01... 1040
30... 1015
NOV.
25... 1020
DEC.
30... 1040
JAN., 1970
28... 1040
FEB.
25... 1050
MAR.
25... 1010
APR.
29... 1105
MAY
28... 1020
JUNE
25... 1028
JULY
22... 1100
AUG.
19... 1050
SEPT.
17... 1030

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NniM-
CAR-
BONATE

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14

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17

SPFCT-
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cnwn-

MHOSI (IIMITSI

64 6.7

63 6-. 9

64 7.6

93 7.0
69 6."

90 6.0

110 6.4
110 7.2

97 6.8

86 7.0

106 7.1

85 7.0

98 7.0

76 7.1

103 6.9

104 7.2

100 7.2

117 7.2

123 7.0

COLOR

(PLAT-

IINITS)

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METHY-
LFN'F
HLNF
ftfTIVF

(MGXL)

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DELAWARE RIVER BASIN

01438500 DELAWARE RIVER AT MONTAGUE, N. J. (MILFORD, PA.)

LOCATION

gagi

DRAINAGE

ng station at Montague.

AREA. 3,480 sq mi (at gaging station).

PERIOD OF RECORD. Chemical analyses- Febri Water

REMARKS.

Trer

temperatures: October 1956 to Septi

iton, N.J.

CHEMICAL ANALYSES,

01 S-
SOI VEO
DIS- SILICA

CHAKbE (5102)

OCT.
21... 2B10 1.7
24... 3U10
NOV.
17... 3660 3. A
2fl... 3J40
DEC.
15... B170 3.0
29... 4400 3.1
JAN.
16... 3000 3.0
21... 2900
FEB.
26... 5000 3.*
MAR.
23... 4b40 3.8
MAY
18... 6860 3.5
JUNf
23... 2540 3.8
JULY
?0... 2560 2.5
AUG.
17... 2580 1.5
SEP.
01... 5600 1.6

DIS-
SOLVED
PO-

(K> (HC03) (CC

OCT.
21... 1.1 22
24... -- 24
NOV.
17... 1.0 16
2B... -- Ib
DEC.
IS... .9 11
29... .B 15
JAN.
16... .9 16
21... -- 15
FEB.
26... .8 15
MAX.

23... 1.0 17
MAY
18... ,w 17
JUNt
23... 1.0 15
JULY
20... 1.2 18
A'JG.
17... 1.2 20
SEP.
01... .b 16

jary 1956 to September 1970.
smber 1957.

WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

us- nis-
OIS- UIS- SOLVER SOLVE')
OIS- SOLVED SOLVED HAG- 3IS- SOTIUM
SOLVED MAN- CAL- ME- SOlVtU PLUS
IRON C.AMESE CIUH SIUM 530IUM POTAS-
(Ftl (HN) (CA) (Mf.) (MA) SIUM

130 20 9.2 1.9 E.9
4HO 90 9.11 1.7 4.6

f-0 20 7.0 1.6 2.4
120 30 7.H 1.4 3.2

6.6 l.J 2.P
1000 100 7.2 1.4 3.1

60 40 7.b l.E 3.0
8.b 1.6 2.3

70 50 8.0 1.2 3.0

90 40 8.3 1.6 3.6

150 50 7.4 1.4 2.6

HO 10 7.* 1.6 1.9

SO 5!) 7.4 1.6 2.7

70 50 7.". l.B 2.7

100 10 7.3 1.9 2.2

D1S-
UIS- UIS- SOLVED

0 It) 10 4.4 .i 1.3 .01
(1 20 12 4.5 1.1 .04

0 13 11 3.1 .? 1.6 .00
0 12 13 3.B -- 1.1 .00

(J 9 12 3.5 .3 1.0 .01
0 12 12 4.5 .0 1.0 .01

0 13 12 4.5 .? 1.4 .00
0 IE 13 5.0 " .00 .03

0 12 13 4.8 .? 1.6 .01

0 14 12 7.0 .? 2.0 .00

n 14 11 3.B .3 1.8 .00

(] 12 11 4.6 .0 2.8 .06

0 15 9.7 4.2 .0 2.2 .11

n 16 11 4.1 .0 i.B .03

0 13 12 4.0 .2 2.2 .06

DELAWARE RIVER BASIN

01438500 DELAWARE RIVER AT MONTAGUE, N. J. (MILFORD, PA.)--Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCT.
21...
24...
NOV.
17...
28.. .
DEC.
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JAN.
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FEB.
26...
MAR.
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MAY
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JUNt
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JULY
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AUG.
17...
SEP.
01...

015- DIS-
SOLVED SOLVED
SOLIDS SOLIDS

1RES1- (SUM OF

180 C) TUENTS)

48 44
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37 40
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JS 37
JB 41

57 42

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4H 4b

53 50

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40 41

HAKO-

(CA.M6)

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NON-
CAR-
BONATE

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5PF-
CIFIC
CON-
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(MICRO-

83 7.2
9J 7.3

71 T.i.
6<y 6.1

66 7.0
73 6.b

7b 6.9
kl 7.<e

7b 6.7

Bb 6.6

69 6.6

77 6.1

125 7.0

126 7.1

76 6.8

rtlO-
COLDR CHFM-
IPLAT- ICAL

COBALT DEMAND

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1
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i 1.6

J
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3 .8

01440090 DELAWARE RIVER NEAR EAST STHOUDSBURG, PA.

LOCATION. Lat 41°02'40", long 75°01'42", Monroe County,
Island, 0.1 mile upstream from mouth of Vancampens Br

DRAINAGE AREA. 3,830 sq ml, approximately.

October 1966 to September 1970.
September 1970.

EXTREMES. Period of record:
Specific conductance: Maximum, 150 micromhos Mar. 21, 1969; minimum recorded, 44 mi xygen: Maximum, 17.4 mg/1 Jan. 1, 1969; minimum, 6.0 mg/1 Sept. 22, 1 "
Water temper
periods.

i, 29.0°C July 17-18, 1968; minim freezing point

s Dec. 9

any days during

, 1969.

winter

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 197D

OCTOBEH

WIN

NOVEMHER

MIN MEAN

JANUARY

MIN

31

MONTH

DELAWARE RIVER BASIN

01440090 DELAWARE RIVER NEAR EAST STROUDSBURG, PA. Continued

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MAX

ECIFIC CO

MAX

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70
69

JUNE

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NDUCTANC

MIN

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68
68

MEAN

E (HICROMHOS/CM AT

MEAN DATE

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JULY

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SEPTEMBE*

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OCTOBER

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4MS PEW LITRE . WATEH YEA« OCTOBER

NOVEMHER DtCEMIE

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1969 TO S^

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PTEM3ER 1970

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MEAN

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DELAWARE RIVER BASIN

01440090 DELAWARE RIVER NEAR EAST STROUDSBURG, PA. Continued

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

E MAX MIN MEAN DATE MAX MIN MEAN DATE MAX MIN

13.2 13.2 MAY 13 1970 10.6 10.4
13.1 14 10.4 10.2
15 10.5 10.3

MEAN

10.3

8.2
8.6
9.1
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B.6
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9.B
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7.3
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B.I
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9.7 8.9 9.3
B.9 8.2 8.7
9.0 8.0 8.4
9.3 8.3 8.7
B.7 B.I B.4

9.3 B.2 8.8
B.7 7.2 8.2
7.2 6.9 7.1
8.3 7.2 7.7
8.4 7.6 7.9

8.5 7.5 7.9
B.5 7.7 8.1
8.8 7.9 8.3
8.4 7.9 B.2
H.4 7.7 B.O

8.9 B.I B.5
8.9 8.0 8.7
B.B 7.9 B.5
1U.9 B.I 9.5
10.4 9.8 10.1

10.0 B.O 9.4
B.7 7.8 8.2
8.8 8.0 8.4
8.9 B.O B.4
B.5 T.I

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8.9
8. 7
8,3
10.4
10.2

9.0
9.0
B.7
8.7
H.3

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7.9

8.4
10.fr
10. B

11.0
11.0
10. H
10. 7
10.7

9.4
10.2
10.3
10.3
9.2
9. 3

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7.5
7.5 7.9
7.1 7. 7
7.0 8.9
«. 7 9.9

8.6 9.3
7.4 8.4
8.2 B.5
H.O b.4
7.7 B.O

7.3 7.6
7.5 7.6
7.9 B.I
7.6 9.1
9.3 10.0

9.7 10.5
10.1 10.6
9.9 10.3
in. 2 10.5
9,0 10.0

8.5 8.9
9.0 9.8
0.1 9.7
8.9 9.B
H.4 8.8
R.3 B.B

10.3 8.7 9.4
8.7 7.7 B.I
M.1 8.0 8.2
8.6 7.8 «.2
8.9 7.1 H.O

7.5 6.B 7.1
7.5 6.9 7.3
7.6 7.2 f.4
7.H r.S 7.6
H.O 7.6 I.R

8.5 7.7 8.1
H.5 7.9 8.1
H.4 8.1 8. i
8.6 8.3

B.3 B.O
8.2 7.5 7.9
7.8 7.3 7.6
7.7 7.1

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9.R 9.3
lli.O 9.3 9.fi

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

6.5
6,b
H.O
B.5
H.O

B.O
7.0
B.O
B.U
7.0

6.5
B.G
8.5
9.0
B.O

6.5
5.0
4.0
3.0
4.0

4.5
4.5

12.0
10.0
9.0

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8.5
9.0
9.0
8.5

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H.O
8.0
8.0
8.5

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I.U
6.5
1.0
7.0
6.5

6.U
7.0
tt.U
B. 5
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5.5
4.5
3.5

2.5
3.5

4.5
3.5
1.0
9.5

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B.5
B.5
0.5

9.0
9.5
10.5
11.5
11.0

10.0
9.0
8.5
B.^
9.0

9.0
9.0
9.0
8.5
8.0

h.O
5. 0
4.5
6.0
6.0

5.5
4.0
3.5
4.0
3.5

3.5
3.5
3.b
3.b
3.5

H.S 8.5
9.0 9.0
9.5 10.0
10.5 11.0
10.0 10.5

9.0 9.5
8.5 8.5
B.O 8.0
8.0 B.O
B.5 8.5

9.0 9.0
9.0 9,0
B.5 9.0
B.O B.5
6.0 7. a

5.0 S.b
4.5 4.5
4.0 4.5
4.5 5.5
5.5 6.0

4.0 4.5
3.5 3.5
3.0 3.0
3.5 3.5
3.0 3.5

3.b 3.5
3.0 3.5
3.5 3.5
3.n 3.5
3.0 3.0

3.0 3.0 3.0
2.0 1.5 l.b
2.0 1.5 l.b

1.5 n.s i.o
l.o n.5 0.5

0.5 0.5 0.5 1,0 0.5
0.5 0.5 0.5 0.5 0.5 0.5
0.5 0.5 0.5 0.5 0.0 0.0
1.0 0.5 0.5 0.5 0.0 0.0
2.0 1.0 1.5 0.5 0.0 0.0

4.0 2.0 3.5 0.5 0.5 0.5
4.0 3,0 3.0 0.5 0.5 0.5
3. H 1.0 3.0 0.5 0.0 0.5
3.0 ? . 0 2,5 0.5 0,0 0.0
2.0 1.5 2.0 0.5 0,0 0.0

1.5 1.0 1.0 0.5 0.0 0.0
1.0 0.5 0.5 0.5 0.0 0.0
0.5 0.5 0,5 0.5 0.0 0.5
1.0 0.5 0.5 0.5 0.0 0.0
1.0 0.5 0.5 Ll. 5 0.0 O.n

0.5 0.5 0.5 0.0 0.0 0.0
0.5 n.5 - o.S 0.0 0.0
- - - 0.5 0.0 0.5
- - - 0.5 0.5 0.5
0,5 0.5 0.5

(1.5 0.5 0.5
0.* 0.5 0.5

0.5 n.s o. 5
0.5 0.5 0.5
0,5 0.5 0.5
0.5 0.5 0.5

DELAWARE RIVER BASIN

01440090 DELAWARE RIVER NEAR EAST STROUDSBURG, PA. Continued

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

DATE

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4
MAY 13
14

MA*

2J.O
24.0
2».5
2o.O

23.5

21.5
20.5
21.5
54. 0

25. 1)

26.5
26.0
25.5
25.5
23. b

22.0
21.5
. . .

. . .

23.0
24.0

23.5
21.5
21.5
22.0
23.0

26.5

MAX

0.5
0.5
0.5
20.5
21.0

JUNE

HIM

20.5
23.0
24.0
23.0
21. b

20.0
19.0
20.0
21.5
24.0

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23.0
23.0

21.5
20.0
20.0
20.5
21.5

MIN

0.5
0.5
0.0
20.5
19.5

MtAN

22.0
23. 5
24.0
2J.5
22. u

2u.b
20. 0
21.0
22. b
24.5

25.5
2b.b

25. (1
24.5
2J.O

21.5

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. . .

. . .
. . .
. . .
. . .

23.5

22.5
21.0
2u.b
21.5
22.5

MEAN DATE MAX MIN MEAN DATE

0.5 22 21.0 0.0 28
0.5 23 21.0 0.5 21.0 29
24 21.0 9.5 20.0 30
25 19.5 8.0 18.5 31
20.5 26 18.0 6.5 17.0

JULY AUGUST

MAX MIN MEAN MAX *IY MEAN

2
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2
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2

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2
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2
2

2
?
2

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2

f
2
2
2
2

2
2
2
2
2

. 5 22. n 2
. 0 23.5 2
. 5 23.0 2
. 0 23.0 2
. 5 23.0 2

. 0 ?3.5 2

,b ?3.b 2
. 0 24.0 2
. 5 24.5 2
. 0 25.0 2

. 0 25.0 2
. 0 25.0 2
. 0 25.0 2
. 5 24.0 2
.11 ?3.0 2

. 5 23.0 2
. 0 ?3.0 2
. 5 23.5 2
. 0 24.0 2
. 5 25.0 2

. 0 ?5.0 2
. 0 24.5 2
. 5 24.0 2
. 5 24.0 2

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. 5 24.5
. 5 24. b 2b.O
. 0 24.0 24.5
. 0 24.0 2*. 5
. 5 24.5 2b.O

. 0 24.5 24.5
. 0 24.0 24.5

. 0 24. j 25.0
.11 2S.O 2b,5
. b 2S.5 25.5

. 0 26.0 26.5
. 0 26.5 26.5
. 5 25.5 26.0
. 5 24.0 24.5
. 5 24.0 24.5

. 5 24.0 24.0
. 0 21.5 24.0
. 0 23.5 23.5
. 5 22.0 23.0
. 5 21.5 22. b

. 0 22.0 ?3.0
. 0 =3.0 23.5
. 5 24.0 24.0
. 0 24.0 24.5
. 5 24.0 24.0
. 0 23.5 23.5

26. b 22.0 27.0 21.5 24.5

MAX

18.5
18.5
19.5
21.0

M«X

23. S
?2.n
21.0
23.0
?5.0

25. n
25.0
23.0
21. 5
21 .5

22.0
??.o
21.5
?1 .0
1^.5

19.5
?O.S
?0.5
20. S
20 . 0

21.0
?3.o
23.5
?4.5
?5.n

P5.5
25.0
23.0
?0.0
la.o

25.5

MIN

16.5
16.5
18.0
18.5

SEPTE

«I\(

21.0
20.0
20.0
?0.5
21 .5

21.0
21.0
?1.5
21.0
21.0

?0.5
20.5
20.5
19.5
19.0

18.5
19.0
20.0
20.0
19.5

?0.0
21.0
23.0
23.5
24.0

?5.0
?3.0
20.5
le.o
16.0

16.0

MEAN

7.5
8.0
9.0
9.5

MBFR

MEAN

22.5
20.5
?U.S
21.5
??.S

?2.5
22.5

?S.O ai.s ai.o
21.0
?1.0
21.0
?0.5
19.0

19.0
20.0
?0.0
20.0
?0.0

20.5
22.0
23.0
2*.0
?4.5

25.0
24.5
21.5
19.0
1 1.0

21.5

DELAWARE RIVER BASIN

01442750 DELAWARE RIVER AT DUNNFIELD, N. J. (DELAWARE WATER GAP, PA.)

DRAINAGE AREA. 4,150 sq ml, approximately.

PERIOD OF RECORD. Chemical analyses: October 1964 to September 1970 Water temperatures: October 1966 to September 1969.
Sediment records: July 1964 to September 1970.

EXTREMES . 1969- 70 :

Sedlm

Period
Sedim

Sedin

REMARKS. -
Gap,

of record:

August 1964, Oct. 19-21,

August 1964.

1968.

ally, 52,800 tons Apr. 3, 1970; mini

Pa. (station 01440200).

nis- ois-

DIS-
CHAKOE

JAN.
21... 3JOO
JUNE
23... 2bt>0
SEP.
01... 5100
89... 3480

DIS-
SOLVED

TAS- alC
S1UM SON

JAN.
21...
JUNE
23...
SEP.
01... .8
29... 1.0

UIS-
SOLVtO
SOLIUS

(KES1-

180 C)

JAN.
21...
JUNE
23...
SEP.
11... <«b
2<9... *->

DATE

JAN.
21...
JUNE
23...
StP.
01...
29...

SILICA IRON

ISI02) (FE>

1.3 20
1.6 *0

OIS- DIS-
SOLVED SOLVED

GANESE CIUM

(MN) (CA)

13 7.5
30 8.6

01

(partial r

mum dally,

OIS-
SOLVtO
MAG-

SIUM

(M<5)

1.6

ecords).

ons Aug. 14.

0 ton on many days during July

DIS-
SOLVED
DIS- SODIUM

SODIUM POTAS-

(NA) SIUM

2.S

1.9 2.5
1.5 2.b

DIS-
S- 11 IS- SOLVED

AW- CAK- LINITY SOLVED CMLO- FLUO- SOLVED PHOS-

17 0

17 0

17 0
20 0

DIS-
SOLVED

SOLIDS (SLIM OF HARD-
TUEMS) (CA.MG)

29

27

42 26
42 28

TIME ATUkE
(DE5 C)

. 0

1200 19.6

0915 21.0
lnl5 17.6

14 13

14 12

1-. 13
16 11

SPE-
NON- CIFIC
CAR- CON-
80NATE DUCT-

NESS (MICRO-

15 69

13 74

13 101
11 78

SPE-
CIFIC
CON-
OUCT-

(MICRO-
MHOS) (UNITS)

6.5

80 7.2

74 7.0
78 7.0

4.7

b.2

4.7
5.1

IJMITSI

7.0

6.9

6.9
7.1

LiIS-

OXYGEN <*r,/L>

14.2

9.0

8.4
9.2

. 60 .01

1.6 .Ob

. 2 1.0 .06
. 3 .50 .00

HIO-
COLOR CMEM-

(PLAT- ICAL

COBALT DEMAND

JMirS) (MG/L)

5

2 .B

2 .4
1 1.6

IXME-
DIATE
COLI-
FORM

(COL.
PER

100 ML)

37

120
54

DELAWARE RIVER BASIN

01442750 DELAWARE RIVER AT DIWNFIELD, N. J. (DELAWARE WATER GAP, PA.) Continued

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

1
2
3
4
5

6
7
R
9
10

11
12
13
14
IS

16
17

20

21
22
23
24
25

26
27
28
29
30
31

9
0

1
2
3

S

6
7
8
9
0
1

20.0

19.0

19.0

18.0

16.0

15.0

15.0

14.0

14.0

15.0

14.0

14.0

14.0

MEAN
DISCHARGE

3000
3150
3450
3800
3000

2440
3060
2850
2640
2870

3000
2670
2720
2860
3020

2760
2750
2830
2870
2890

2960
3180
3090
3030
3070

2910
2840
3120
2870
2960
3100

12.0

12.0

10.0
10.0

9.0

9.0

9.0

9.0

SUSPE

OCTOBER

MEAN
CONCEN-
TRATION

7
9
15
18
6

5
8
5
5
8

9
4
4
4
S>

4
2
1
2

S
2
1
1
3

2
2
6
2
3
S

7.0

6.0

5.0

4.0

SEDIMENT
OISCHAHGE

57
77
140
185
49

33
66
J»
36
62

73
29
29
31
41

30
30
15
7.7
16

40
17
8.3
8.2
25

16
15
51
15
24
42

. 0
. 0

4.0 .0
0.0 5.0 .0

6.0 .0

7.0 .0
. 0
6.0
. 0

4.5 8.0

12.0

15.0

14.0
15.0

15.0

16.0

17.0

17.0

NOVEMBER

MEAN
ME«N CONCEN- SEDIMENT

<CFS) (MG/L

2860
2600
J100
2500
2110

4380
6310 1
6130
11200 1
11600

9600
7600
6540
5610
5010

4620
4350
3920
3700
4810

8030 1
7180
5670
5190
5290

5000
4620
3980
3960
3570

(TONS/DAY)

31
14
8.4
6.8
5.7

221
116
575
157

52
41
71
45
27

25
12
11
10
117

304
97
61
42
29

27
25
11
11
9.6

20.0
22.0

25.0

21.0

20.0 22.0 24.0
21.0

21.0 24.0 24JO

20.0 26.0
22.0
22.0 22.0
24.0 23.0

24.0 26.0 25.0
22.0
22.0 25.0

22.0 24.0 23.0

23.0 24.0

DECEMB

MEAN MEAN CD*ICE DISCHARGE THATI

<CFS) (MG/L

3330
357
326
322
323

442

408(
284
364
392

747 7
1980 5
1590 1
1160
984

895
764
729
617
561

536
47J
499
474
473

4200
4000
4500
5000
4700
5*00

t-

)N

22.0

22.0

22.0
22,0

22.0

20.0

20.0

21.0

?0.0

21.0

20.0
20.0

SEDIMENT
DISCHARGE

(TOMS/DAY)

9.0
48
26
17
35

95
66
38
49
64

1570
2990
601
157
159

145
124
138
117
121

116
89
94
77
77

57
43
61
81
63
87

TOTAL 91760

DELAWARE RIVER BASIN

01442750 DELAWARE RIVER AT DUNNFIELD, N. J. (DELAWARE WATER GAP, PA.) Contio

SUSPENDED-SEDIMENT OlSCHtHGEi KATES YE«R OCTOBER 1969 TO SEPTEMBER 1970

JANUARY FEBRUARY

v

1
2
3
it
5

6
7
B
9
0

1
d
3
It

D

b
7
B
4
0

1
tf
3
k

3

b
7
4
3
J

TAL

Y

0

1
2
3
4
5

6
7
&
9
0

MEAN

(CFS)

5000
4500
4400
4300
4000

4200
4SOO
3800
3300
3600

4000
3700
3S>00
3400
3400

3300
3SOO
3»00
3400
3200

3300
3000
3100
3200
3100

3300
3200
3400
3700
3900
4000

114000

MEAN
DISCHARGE

(CFS)

I 1100
15100
50800
40900
31500

24000
19700
1BSOO
22500
30BOO

29BOO
22000
17600
16700
17900

17600
1B700
20500
23900
19700

19900
16BOO
15000
15100
17800

16000
15400
14100
12600
11000

MEAN
CONCEN- SEDIMENT

(MG/LI (TONS/DAY)

68
49
48
46
43

57
73
51
36
49

65
50
47
ST
37

Jb
47
51
46
35

36
3?
33
35
33

36
35
46
60
6t
76

1456

APRIL

MEAN
CONCEN- StUlMENT
TRATION DIbCHAWGE
(MG/L (TUNS/DAY)

H 240
134 6520
" 06 b2BOO
75 8280
45 3830

55 3560
30 IbOO
50 2500
30 1820
60 4990

36 2900
20 1190
Ib 760
23 1040
Ib 773

Ib 713
15 7b7
19 1050
30 1940
26 1380

23 1240
14 635
2? 891
1 7 b93

16 rw

17 826
Ib 624
14 533
14 47f>
Ib 446

MEAN
MEflM CONCEN- SEDIMENT

4500
SOOO
6000 1
15000 I

J 97
1 108
238
J 729
17000 20 918

14000 16 60S
12000 1
10000 1
9000 1
11000 li

14000 1 laooo 2
14000 1
12000
9000

8000
8200
9000
8MOO
8UOO

7200
7000
rooo
7000
7000

6400
SHOO
5500

- _ _.

"

267400

M«Y

MEAN

421
378
292

4?S

68"
1070
680
292
146

86
111
170
166
130

9?
95
95
95
95

69
63
59
- -
- -

8460

MECN CONCEN- SEDIMENT

9480 13 333
H040 3
7160 4
8640 2

a 651
> 812

i, 507
8920 17 409

7720 12 250
7120
6720
6320

9 173
7 127
7 119
4990 6 81

4820 6 78
52dO
4b70
4640
4260

3450
32BO
6120 1
8120 I

6 84
7 66
7 88
7 Bl

B 75
8 M
6 264
5 329
7800 6 126

8800 11 261
7S20

716(1 1
6240

H 162
1 213
8 135
60HO 6 98

6520 13 229
7080 1
7040 1
6480 1
46HO I

5 287
3 24?
2 210
0 126

MEHN

5000
4800
5200
5600
5900

6200
5800
SOOO
4210
4180

4140
3360
4010
4570
3800

3000
3300
3400
3bOO
3600

4830
4620
5390
6b70
6820

7040
2bOO
8500
SOOO
2700
1700

194240

MEAN

3330
3600
3540
3450
2830

3030
3230
2930
3030
2450

2030
2730
2530
1910
1640

2250
2230
2600
3690
3030

2300
2750
2680
2600
22bO

2600
2150
2380
2550
2650

ME«N
CONCEN- SEDIMENT

3 41
3 39
4 56
5 76
6 96

7 117
6 94
5 68
5 57
5 56

6 67
B 73
8 87
9 III
4 41

2 16
12 107
13 119
15 142
40 389

30 391
36 449
60 873
34 603
28 516

5 95
40 1350
18 899
6 243
3 103
13 411

7785

JJN6

ME4N
CONCEN- SEDIMENT

8 72
11 107
1 96
1 93
59

1 82
2 227
63
41
<»0

38
37
27
15
IB

36
36
42
1 100
25

?S
37
22
14
12

21
17
19
14
14
3900 9 9b

TOTAL 625000

DELAWARE RIVER BASIN

01442750 DELAWARE RIVER AT DUNNFIELD, N.J. (DELAWARE WATER GAP, PA.) Contin

SUSPENDED-SEDIMENT DISCHARGE. l/AIER YEAR OCTOBER 1969 TO SMTEMHtR 1970

JULY AUGUST

AY

2
3
<»

5

6
7
8
g
10

11
12
13
1ft
IS

16
17
1 6
19
20

21
22
23
2ft
25

26
27
28
29
30
31

OTAL

OTAL

MEAN
DISCHARGE

(CFS)

3200
3180
3200
2550
3870

3100
22SO
2
2
2

2
g
2
2
2

3
3
ft
3
2

3
3
3
2
3

2
2
2
3
2
1

00
SO
00

30
80
00
30
30

00
70
30
30
50

30
20
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SO
30

00
BO
BO
80
80
70

909PO

MEAN
CONCEN-
TRATION

(MG/U

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2
3
3
28

IS
b
ft
b
*

5
8
7
50
IB

5
ft
3
3
*

ft
5
ft
6
8

7
6
b
ft
2
1

SEDIMENT
DlbCHAMbf
(TONS/OAY)

17
17
26
21
293

126
30
21
33
2b

33
62
bl
3SS
Ift2

ft3
ft2
3ft
25
28

3ft
06
36
ft3
68

51
ft5
ftO
3ft
1ft
ft. 8

iBso.e

SUSPEf»UED-StDlMENT OISCHOKGE FOR YEoN

MEAN MEAN
MEAN CONCEN- SEDIMENT MEAN CONCEN- SEDIMEN

(CFSI (MG/L

21BO
2680
2300
2100
17SO

23BO
2850
3150
2680
2650

2900
2650
2730

285(1
2800

2550
2ftSO
2900
2»BO
2330

28X0
2630
2580
3250
2930

1H90
23RO
3000
2800
2600
2550

18 5100 9 12ft 22 3750 ft ftl 12 2030 2 1
11 2200
1ft 2850

2 1930
1

2
1

1
2
1

1910
. 5 1830
. 2 2010
. 2 2500

. 8 2730
. 1 2ftbO
. 0 2»30
. S 2ft50
. 6 2S30

3080
3930
. « 2930
. 7 3570
. 0 3000

. 2 2730
. 1 2680
3280
3570
3030

. 1 2900
.ft 2730
. 1 2930
. 6 3ft80

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80B50 328. B 86120 ft07

2179350

(TOMS) US39b

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (METHODS OF ANALYSES: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED; N, IN NATIVE WATER; P, PIPET; S, SIEVE; V, VISUAL-ACCUMULATION TUBE; W, IN DISTILLED WATERI

DATE

DEC 12 1969 1415 7.0
APR 3 1970 1330 3.0

WATER
TEM-

PERA- CONCEN- SEDIMENT
TURE DISCHARGE TRATION DISCHARGE

TIME (°C) (CFS) (MG/L)

PARTICLE SIZE

PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED

(TONS/DAY) .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00

58
13 20 28 38 50

METHOD ANALY-
SIS

DELAWARE RIVER BASIN

01446550 DELAWARE RIVER NEAR MARTINS CREEK, PA. (ROXBURG, N. J.)

LOCATION. Lat 40°47'20", long 75°06'59", Northampton County, at Pennsylvania Railroad crossing, 900 ft upstr from Oughoughton Creek and 4.7 miles east of Martins Creek.

DRAINAGE AREA. 4,546 sq mi, approximately.

PERIOD OF RECOHD. Chemical analyses: July 1969 to September 1970.

OCT.

NOV.

JAN.

FEB.

MAR.

APR.

MAY

JUNE

JULY

AUG.
25...
SEP.

OCT.

NOV.

JAN.

FEB.
18...
MAR.
18...
APR.

MAY
21...
JUNE

JULY

AJQ.
25...
SEP.
30...

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS-
DIS- DIS- DIS- SOLVED SOLVED
SOLVED DIS- SOLVED SOLVED MAG- SODIUM

TIME CHARGE (AL) (FEI (MN) (CA) (MG> SIMM (HC03)

1030 3880 0 50 80 1(1 2.4 4.1 21

TOTAL DIS- OIS- TOTAL
DIS- KJEL- SOLVED SOLVED NOM-
DIS- SOLVED DAHL AMMONIA OIS_ TOTAL SOLIDS FILT-
SOLVED CHLO- NITPO- NITRO- SOLVED PHOS- (RESI- RAHLE HARD-

ISO*) (CD (N) (N) (N03) (PI 180 C) (CA.MG)

. 20 4.0 .09

. 24 1.1 .01

1.0 1.8 .19

15 7.6 .00 .00 1.0 .06 68 11 35

. 40 -- .80 .05

ALKA-

(C03) CAC03

0 17

NON-
CAR- TOTAL
SOMATE ACIDITY

NESS CAC03

"

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18 6.?

DELAWARE RIVER BASIN

01446550 DELAWARE RIVER NEAR MARTINS CREEK, PA. (RQXBURG, N. J.) Continued

CHEMICAL ANALYSESi WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE

OCT.

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APR.

MAY

JUNE

JULY
2?...
AUG.
25...
SEP.

OCT.

NOV.

JAN.

FEB.

MAR.

APR.

MAY

JUNE

JULY
22...
AUG.
2S...
SEP.

COLOR

(PLAT- TUR-
INUM- BIO- CHLORO-

UNITS) (JTU) (UG/L)

2.0 l.o

4.0 2.0

2 4.0 l.o

ODD ODE DOT

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TtMPER-

DATE (DEG C)

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2... 21.0
N V.
5... 5.0
J N.
6... 8.0
F B.
B... 1.5
M R.
B... B.O
A R.
21... 13.0
MAY
21... 17.5
JUNE
25... 32.0
JULY
22... 30.0
AUG.

SEP.
30... 25.0

TOTAL
ORGANIC

CARBON

(MG/L)

3.0

5.0

s.o

01-
ELDRIN

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AIR
TEMPER-

(DEG C)

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11.0

15.0

9.0

11.0

7.0

20.0

29.0

29.0

20.0

METHY-
LENE
BLUE TOTAL OIS- r>IS-
ACTIVE OIL CHRO- SOLVEn SOLVED
CYANIDE SUB- AND MIUM COPPER LEaO

(MG/L) (MG/L) (MG/L) (UG/L) (UG/L) (UG/L)

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. 04 6.4

. 00 .01 4.4 0 10 n

DIS- SUS- DIS-
HEPTA- SOLVED PENDED SOLVED
ENORIN CHLOR LINOANE BLPHB ALPHA BETA

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. 00 .00 .00 <,7 <.6 2.5

FIELD DETERMINATIONS

SPE- IMMF-
CIFIC U1ATE FECAL
CON- COM- COLI-
DUCT- DIS- FORM FORM

MHOS) (UNITS) (Mfa/L) 100 ML) 100 ML)

126 7.4 9.2 415

105 7.8 12.7 320

140 7.3 11.8 2380

105 7.6 13.3 27

122 7.7 12. B

67 8.0 11.4 142

86 7.4 9.2 2BO

118 7.2 9.2 1000

106 6.8 8.0 320 80

104 7.1 8.5 9500 36

ALORIN

(UG/L)

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SUS-
PENDED
BETA

1.9

DELAWARE RIVER BASIN

01446700 DELAWARE RIVER AT EASTON, PA. (PHILLIPSBURG, N. J.)

Bushkill Creek in

DRAINAGE AREA. About 4,717 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1947 to September 1951, October 1957 to September 1967, Novell to September 1970.
Water temperatures: October 1947 to September 1949, October 1957 to September 1958, October 1963 to Septe her 1964, November 1967 to September 1969.

EXTREMES. 1969-70:

pH: Maximum, 9.8 May 16; minimum, 5.7 May 24.
Dissolved oxygen: Maximum, 14. 0 m|/l Feb. 26; minimum, 7.2 mg/1 Apr. 5.

Period of record (1967-70):
Specific conductance: Maximum, 381 micromhos Dec. 21, 1969; minimum, 40 micromhos Apr. 6, 1970.
pH: Maximum, 9.8 May 16, 1970; minimum, 5.7 May 24, 1970.
Dissolved oxygen: Maximum, 15.8 m|/l Mar. 8, 1968; minimum daily, 5.7 mg/1 July 19, 20, 24, 1968.

periods.

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

OCTOBER NOVEMBER DErE^HER

HIM MEAN MAX HIM MEAN W«X Mfg MFIN MIX

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301

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36?

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DELAWARE RIVER BASIN

01446700 DELAWARE RIVER AT EASTON, PA. (PHILLIPSBURG, N. J.) Continued SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C) , WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FEBRUARY M«BCH «P?1L

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SEPTEMBER

MIN ME4M

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105 10«

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109 111
100 107

100 103
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83 97
88 90
68 Rl

6 90
10 117
9 111
9 104
7 95

8 90
8 107
13 139
11 131
10 113

9 10?
10 104
11 120
1? 133
12 125
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190

381

DELAWARE RIVER BASIN

01446700 DELAWARE RIVER AT EASTON, PA. (PHILLIPSBURG, N. J.)~Co

OCTOBER NOVEMBER

»Y MAX MIN MEAN MAX HIM MEAN MAX

1 8. 3 7.1 7.6 B.3 7.)
2 7.5 7.0 7.Z
3 7. 2 6.7 7.0
* 7.* 6.7 7.0
5 ft.O 6.9 7.4

6 B.Z 7.7 7.6
7 7.9 7.? 7.5
R 8.0 7.1 7.5
9 8. 3 7.1 7.6
0 8.3 7.? 7.7

1 8.1 7.2 7.6
2 8.4 7.2 7.7
3 8.3 7.2 7.7

"5 8.2 7.1 7.6

6 8.0 7.1 7.5
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« 8.3 7.1 7.6
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JANUARY

MIN MEAN

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7.5 7.6

DAY MAX

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7 7.2
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10 7.5

11 7.6
12 7.3
13 7.1
14 7.1
l«i 7.2

16 7.3
17 7.4
1R 7.4
19 7.3
20 7.3

21 .0
2? .8
23 .1
24 .1
25 .1

26 7.2
27 7.3
2B 7.3
29
30
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FEBRUARY

MIN

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MARCH «PRIU HAY

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7.7 .4 7.? .3 7.2 6.8 7.0 6.R 6.2 6.5
. 3 7.2 .2 7.1 6.6 6.8 6.7 6.3 6.6
- - - .2 7.1 .1 7.4 6.7 7.0 6.H 6.6 6.7
. 2 7.1 .2 7.8 7.2 6.8 6.6 6.7

. 3 7.1 . - 6.R 6.6 6.7
. 3 7.1 . --- 6.9 6.7 6.8
. 4 7.1 . --- 6.9 6.7 6.8
. 4 7.2 . 7.1 6.7 6.9
. 6 7.2 . - - 7.3 6.9 7.1

7.4 .6 7.2 . --- 7.1 6.7 6.9
7.2 .4 7.2 . --- 6.9 6.6 6.7
7.1 .3 7.1 . - 6.B 6.1 6.5
7.1 .5 7.0 . 6.9 6.* 6.1 5.9 6.0
7.2 .6 7.2 . 6.9 <-,1 6.9 6.4 6.1 6.3

7.3 .7 7.3 . 7.0 6.9 6.9 9.K 6.3 7.2
. 3 .7 7.3 . 7.1 6.9 6.9 8.9 6.7 7.1
. 3 .3 7.1 . 7.1 6.8 6.9 7.0 6.6 6.7
. 2 .0 7.1 . 7.0 6.8 6.8 6.6 6.3 6.5
. 2 .4 7.2 . 6.8 6.9 6.8 6. ft 6.1 6.4

. 0 .7 7.2 . 6.1! 6.« 6.8 6.4 6.1 6.2
. 1 .3 7.0 . 7.0 6.8 6.9 6.4 6.1 6.2
. 0 .3 7.1 . 7.0 6.8 6.9 6.7 5.6 6.0
. 0 .4 7.1 . 6.9 6.9 6.9 6.0 5.7 5.8
. 0 .4 7.1 . 7.1 6.8 6.9 6.fl 6.0 6.4

7.1 .3 7.1 . 7.7 6.R 6.9 6.7 6.2 6.5
7.2 .2 7.0 . 7.0 6.8 6.9 6.5 6.2 6.3
7.2 .0 6.9 . 7.0 6. ft 6.9 6.6 6.0 6.<>
- - - .9 6.7 .8 7.0 6.7 6.8 6.7 6.3 6.4
. 0 6.7 .8 6.8 6.7 6.B 7.0 6.J 6.6
. 1 6.7 .0 «. 7.2 6.4 6.7

DELAWARE RIVER BASIN

01446700 DELAWARE RIVER AT EASTON, PA. (PHILLIPSBURG, N.J.) Contin

PH (UNITS) . WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

JUNE JULY AUSUST SEPTEMBER

DAY MAX WIN MEAN MAX MIN MEAN MAX MJY MEAN MAX MJN MEAN

1 7.7
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3 9.0
4 7.7
5 7.9

6 7.S
7 7.7
R 8.1
9 8.5
10 7.8

11 9.0
12 9.0
13 8.9
14 8.9
15 8.9

1ft 8.7
17 7.8
18 8.2
19 8.2
20 9.0

21 7.6
22 7.8
23 8.2
24 8.6
25 8.9

26 8.4
27 8.3
2R B.7
29 8.9
30 9.0

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8.5
9.8

B.O
B.8
8.9
B.I
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7.5
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R.I
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B.n
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8.4

B.4
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8,4
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7.9
B.I
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7.3 B.5
7.5 8.3
7.6 B.O
7.6 8.4
7.7 8.5

7.9 8.5
8.0 8. A
7.R 8.5
7.8 7.6
7.8 R.2

7.8 8.6
8.1 8.6
B.2 8.R
8.1 B.5
8.0 8.6

7.9 8.R
7.8 8.5
7.*
8.1
7.8 8.6

8.0 8.6
8.0 8.9
7.6 8.9
7.7 B.fl
7.7 8.9

7.8 8.9
8.0 8.0
7.9 8.3
7.9 8.C,
7.8 8.1

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DISSOLVED OXYGEN (DO). IN MILLIGRAMS PER LITRE . WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCTOBER

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MAX MIN

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9.8 9.2
10.0 9.3
10.1 9.4
10.4 9.5

10.5 9.5
10.3 9.5
10.5 9.7
10. B 9.8
11.0 9.8

10.9 10.0
1 .2 10.0
1 .2 10.2
1 .0 10.1
1 .3 10.1

1 .0 10.3
1 .2 10.3

11.3 10.5
11.4 10.7

11.4 10,8
11.3 10.8
11.3 10.7
11.2 10.6
11.3 10.6

11.2 10.6
11.1 10.7
11.1 10.7
11.1 10.6
11.1 10.5
11.1 10.5

MEAN

9.8
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MIN

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10.5

MEAN

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10.6 10.8
10.6 11.0
10.9 11.
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MAX

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10.9

MIN MEAN

0.3 10.5
0.7 10.9
10.8
10.6
0.6 10.9

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n.5

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10.7
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JANUARY

MIN ME»N

12.3
12.2

DELAWARE RIVER BASIN

01446700 DELAWARE RIVER AT EASTON, PA. CPHILLIPSBURG, N. J.) Continued

DISSOLVED OXYGEN (00), IN MILLIGRAMS PER LITRE < WATER YEAH OCTOBER 1969 TO SEPTEMBER 1970

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FEBRUARY

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13.1
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13.1

12.9
13.0
12. B
12. B
12. B

12.8
1 ?. 9
12.9
12.9
12.8

12. fl
12.6
12.9
12.5
12.7
12.5

MARCH

MIN

12.9
12.9
12.8
13.2
13.2

13.2
13.2
13.2
13.1
12.9

12.7
1 ? B
12.9
12.8
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12.6
12.6
12.5

12.6
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12.7
12.6
12.6

12.6
12.5
12.0
12,0
12.1
11.2

MEAN

13.0
13.0
13.0
13.3
13.3

13.3
13.3
13.3
13.2
13.1

12.9
13.0
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MAX

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MAX MIN

9.? 8.9

9.4 8,7 n.l 9.4
1.0 9.9
0,0 9,4

9.* B.9
'.4 B.9
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9.9 8.5
?.fl 8.4

l.B 8.4
?.B 8.4
S.? 8.5

j.r 8.8
3.? 8.8

. n 8.7
. 3 9.0
. 4 9.0
.? 8.6
. 7 8.7

. 1 9,1
.? 8.9
. 1 B.B

.n 8.7
. 0 8.9

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. 9 1.4
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MESM

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9.1
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9.B

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B.B
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MAX

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JUNF

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MEAN

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9.4

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9.9

10.1
10.3

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9.0

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9.?
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9.1
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8.9

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MAX

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9.0

s!ft
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8.5
8. ft

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JULY

MIN MEAN

8.4 8.9
8.4 8.6

8.1 8.3
8.0 8.4

8.0 R.2
8.0 8.4
7.9 8.4
7.9 fl.l
7.R 7.9

7.9 8.J
8.0 8.4
8.0 8.4
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8.0 8.3

8.1 8.4
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AtlGlKT SEPTEMBER

MAX «IY MEAN MAX MIN MEAN

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8.1 7.5 7."
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7.9 7.5 7.7

8.] 7.6 7.9
8.* 7.9 fl.n 7.4 7.7
8.9 7.9 8.4 7.9 7,4 7.6
9.7 B.6 9.1 7.fl 7.5 7.7
9.8 B.8 9.3 7.B 7.3 7.5

9.9 >.! 9.3 fl.7 7.5 B.O
9.7 B.8 9.2 9.4 8.2 8.9
9.3 B.9 9.1 8.8 8."
9.? B.? 9.1 8.7 8.9
8.5 B.O 8.2 9.n 8.6 8.B

8.6 7.9 8.? 8.9 8.5 8.7
8.4 7.7 8,0 9.4 8.7 9.0
B.O 7.* 7.8 9.7 8.B 9.3
B.I 7.6 7.9 9.6 8.9 9.3
8.1 7.6 7.9 9.6 8.9

8.3 7.6 8.0
8.5 7.7 8.1
8.4 7.7 8.1 ---
8.3 7.7 8.1 9.9 9.4
B.? 7.6 7.9 9.9 9.2 9.5
9.0 7.7 8.?

DELAWARE RIVER BASIN

01446700 DELAWARE RIVER AT EASTON, PA. (PHILLIPSBURG, N. J.) Continu

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

OCTOBER

DAY

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MAX

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MEAN

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MAX

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NOVEMBER

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MEAN

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DECEMBER JANUARY

MAX MIN MEAN MAX MIN MEAN

5.0 4.5 5.0 6.5 6.0
4.5 4.0 4.S 8.0 6.0 6.5
5.0 4.5 4.5 8.5 6.5 7.5
4.5 1.5 4.0 8.5 6.0 «-
3.5 3.0 3.5

3.5 1.0 3.5
3.5 1.5 2.5
3.5 ?.0 3.0
4.5 1.5 4.0
5.0 4.0 4.5 --- "- ---

5.5 5.0

6.0 6.0
6.5 5.5 6.0
6.0 5.5 5.5

5.5 5.5 5.5
5.5 5.0 5.0
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8.0 7.0 7.5 ---

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8.5 8.0 ...

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8,5 fl.O 8.5 4.5 3.5
s,5 6.5 7.5 3.5 3.0 3.5

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DELAWARE RIVER BASIN

01446700 DELAWARE RIVER AT EASTON, PA. (PHILLIPSBURG, N.J.) Continu

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

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338 DELAWARE RIVER BASIN

01449360 POH3POCO CREEK AT KRESGEVILLE, PA.

LOCATION. Lat 40°53'51", long 75°30'10", Monroe County, temperature recorder at gaging station on right bank, 20 ft downstream from bridge on U.S. Route 209 at Kresgeville, 0.2 mile downstream from Middle Creek, and 13 miles northeast of Lehighton.

DRAINAGE AREA. 49. 9 sq mi.

PERIOD OF RECORD. Water temperatures: October 1968 to September 1970.

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DELAWARE RIVER BASIN

01449360 POHOPOCO CREEK AT KRESGEVILLE, PA. Continued

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J4 ° DELAWARE RIVER BASIN

01449800 POHOPOCO CREEK BELOW BELTZVILLE DAM NEAR PARRYVILLE, PA.

LOCATION. Lat 40°50'44", long 75°38'46", Carbon County, temperature recorder at gaging static 0.1

on right bank,

Run, and 2.3 miles northeast of Parryville.

DRAINAGE AREA. 96.4 sq mi.

PERIOD OF RECORD. Water temperatures: October 1968 to September 1969.

EXTREM ES. 1969-70:

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OCTOBER

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7.0 14.5
7.5 14.5
6.0 12.5

6,0 12.0
4.0 12.0
7.0 14.0
6.0 12.0
4.5 11.0

4.5 12.5
5.5 14.0
7.0 14.5
6.5 14.5
6.0 13.0

2.5 9.0
2.0 9.0
1.0 7.0
1.5 7.0
4.5 9.0

4.0 11.5
1.0 8.0
7.5 4.5
7.0 2.5
6.5 4.0

8.5 3.5
8.0 6.5
7.0 4.5
7.5 3.5
7.5 5.0
8.0 3.5

7.5 2.5

FEBRUARY

MAX MIN

0.5 0.5
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0.5 0.5

1.5 O.S
2.5 0.5

3.5 3.0
4.0 3.5

3.5 2.5
3.0 l.S
2.5 l.S
1.5 O.S
1.5 O.S

3.5 l.S
4.0 1.0
5.0 2.0
5.0 3.5
3.0 0.5

1.5 O.S
5.0 1.0
5.5 ?.S
5.0 l.S
5.0 2.0

1.5 O.S
1.5 O.S
4.5 l.S

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MEAN

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MAX

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6.S
3.5
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NOVEMBER

MIN

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l.S
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l.S

MARCH

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4.0
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0.5

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2.0
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O.S
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3.0
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4.0

MEAN

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B.S

7.0
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B.O
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7.S
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4.0
3.5
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2.5

6.5

MEAN

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4.0
4.0
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4.0
3.5
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4.5

MAX

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1.0 l.n
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7.5
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B.S
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R

MEAN

3.0
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1.5
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MEAN

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15.5

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JANUARY

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DELAWARE RIVER BASIN

01449800 POHOPOCO CREEK BELOW BELTZVILLE DAM

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"* DELAWARE RIVER BASIN

01453000 LEHIGH RIVER AT BETHLEHEM, PA.

LOCATION. Lat 40°36'55", long 75°22'45", Northampton County, at gaging station on left bank, 120 ft upstream from New Street Bridge at Bethlehem and 1,800 ft upstream from Monocacy Creek.

DRAINAGE AREA. 1,279 sq mi, includes that of Monocacy Creek.

PERIOD OF RECORD. Chemical analyses: November 1961 to September 1970.

CHEMICAL ANALYSESi WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OIS- 015- DIS-
D1S- SOLVED SOLVED SOLVED DIS-
DIS- SOLVED MAG- DIS- SODIUM PO- DIS- SOLVED
SOLVED C«L- NE- SOLVED PLUS TAS- 61CAR- CAR- SOLVED CMLO-
DIS- SILICA CIUM SIUM SODIUM POTAS- SIU* BDNATE BDNATE SULfATE RIDE
CHARGF (SI02) (CA) (MO) (NA) SIUM (K) (HC03) (COS) ISO".) (CD

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6.2 16 5.1 7.5

5.5 15 4.8 7.9
S.B 13 *.5 7.5

5.3 14 (,.2 6.0
S.O 16 5.0 7.6

4.4 10 3.9 5.9
4.3 12 *.0 4.2

5.6 17 6.5 6.5

4.7 17 7.0 8.4

5.5 25 9.3 14

6.4 27 10 19

DIS- DIS-
DIS- SOLVED SOLVED
SOLVED 01S_ ORTHO SOLIDS
FLUO- SOLVtD HHOS- IRESI- HARO-

(F> (N03) IP04) 190 C) (CA.MG)

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. 0 5.7 93 47

. 7 4.5 96 59
. 0 6.3 93 69

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231

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29 0 35 11

24 0 30 13
19 0 32 11

20 0 32 9.2
26 0 35 13

13 0 25 11
21 0 25 7.3

24 0 34 8.0

32 0 34 10

37 0 *5 U

62 0 53 18

72 0 57 20

COLOR

(PLAT-

ATUKE COBALT

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6.6 1.0 0

7.0 1.0 0
6.3 5.0 0

7.6 4.0 0
7.7 4.0 0

7.1 4.0 0
7.0 0

7.0 0
7.4 4.0 0

7.5 Z4.5 i

7.4 22.0 1

7.6 21.0 7

DELAWARE RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA.

LOCATION. Lat 40°41'12", long 75°12'32", Northampton County, water-quality recorder at Third Street Bridge in Easton on U.S. Highway 611.

DRAINAGE AREA. 1,364 sq mi.

PERIOD OF RECORD: Chemical analyses: October 1961 to September 1970.
Water temperatures: October 1961 to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum, 415 micromhos Sept. 18; minimum, 93 micromhos Apr. 8.

Period of record:
Specific conductance (1961-70): Maximum
Dissolved oxygen (1966-70): Maximum, 14

, 581 micromhos Aug. 19, 1963; minimum, 82 micromhos Mar . 0 mg/1 Dec. 26, 1968; minimum, 0.0 mg/1 Aug. 4, 1966.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°

DAY

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2

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7
B
9
10

11
12
13
1*
15

16
17
1 B
19

21

24
25

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27
28
29
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31

«ONTH

DAY

1
2
3
4
5

6
7
B
9
10

11
12
13
14
15

16
17
IB
19
20

21
22
23

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26
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28
29
30
31

MAX

378
391

313
300

328
370
369
372
387

399
401
305
343
352

375
367
372
365

359

371
379

378
370
378
390
390
392

401

MAX

293
287
?88
197
188

188
185
185
179
218

?19
195
177
182
182

210
233
241
240
238

252
255
2*2
241
249

239
259
259

. . .

OCTOBER

MIN

365
363

?83
291

302
329
353
352
363

381
285
285
308
345

349
350
359
343

332

355
360

358
345
351
373
373
376

283

FEBRUARY

MIN

277
270
195
174
180

175
175
170
169
175

185
175
173
170
174

178
208
224
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MEAN

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NOVEMBER

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. 15, 1964.

TO SEPTEMBER 1970

DECEMBER

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DELAWARE RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA. Continued

DAY

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MONTH

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER

JUNE JULY

MAX MIN MEAN MAX MIN MEAN

172 158 163
172 160 164
329 320 180 163 172
327 314 320 189 159 173
332 309 323 180 160 173

329 303 313 188 165 175

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MAX

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OCTOPER

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MEAN MAX

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NOVEMBER

MIN MEAN

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YEAR OCTOBER 1969 TO SEPTEMB

AUGJST

MAX "IN MEAN

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MAX

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7.3 10.
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SEPTEMBER

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MEAN

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DELAWARE RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA. Continued

DISSOLVED OXYGEN (00), IN MILLIGRAMS PER LITRE . WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FEBRUARY

DAY MAX MIN MEAN MAX

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DELAWARE RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA. Continued

DAY MAX

1 20.0
2 20.0
3 20.5
4 20.0
S 19.5

6 20.0
7 20.0
8 20.5
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13 20.0
14 20.5
15 19.5

16 18.5
IT 16.5
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19 16.0
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21 18.0
22 16.5
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24 13.0
25 12.0

26 13.0
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2B 13.0
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MONTH 20.5

DAY MAX

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25 .5

26 5.0
27 S.O
28 S.S
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30
31

MONTH 7.0

OCTOBER

MIN MEAN

IB. 5 19.5
19.5 19.5
20.0 20.0
19.5 19.5
IB. 5 19.0

1B.O 19.0
IB. 5 19.0
19.5 20.0
19.0 19.5
IB. 5 19.5

18.5 19.0
1B.O 18. S
IB. 5 19.0
19.5 20.0
1B.S 19.0

16.5 17.5
15. 16.0
15. 15.5
IS. 15.5
15. 16.0

16. 17.5
15. 16.0
13. 13.5
11. 12.0
11. 12.0

11. 12.0
12. 13.0
12. 12.5
11. 12.0
11. 12.0
11.5 1Z.5

11.0 16.5

FEBRUARY

MIN MEAN

4.5 5.0
5.0 5.5
1.5 4.0
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3.0 3.0
3.0 3.5
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4.0 4.5
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5.5 6.0

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3-5 4.5
4.5 5.0

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1.5 4.5

MAX

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B.O
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16.0

MAX

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6.5
7.0
7.0
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B.O

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B.5
B.O

8.5
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6.5
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B.O
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B.O
B.O
6.5
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B. 5

9.5
9.5
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B.O
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9.5

MOVEMBER

MIN

13.0
14.0
14.5
15.0
13.0

11.5
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11.0
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B.O

6.5
6.5
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6.5
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S.O
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4.5

MARCH

MIN

4.5
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8.5
B.O
7.0
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MEAN MA

13.5 5.
14.0 5.
15.5 5.
15.5 5.
14.0 4.

12.0 4.
11.0 4.
10.0 4.
10.5 5.
11.0 6.

11.5 6.
11.0 6.
10.5
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7.0
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9.0
8.5

6.0 3.
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5.0 2.
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6.0 1.

6.5 0.
6.0 1.
6.0 2.
5.5 3.
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9.0

MEAN Mi)

5.0 6.5
6.0 6.!
6.5 6.'
7.0 6.5
7.0 T.

7.0 T.f
7.0' 7.
8.0 B.«
T.S 9.
7.0 9.

7.5 8.!
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6.0 9.
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6.0 12.
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7.0 13.
7.0 12.

7.5 10.
7.0 11.
6.5 12.
6.5 12.
7.5 13.

9.0 15.
8.5 17.
B.O 18.
6.0 19.
4.0 19.
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DECEMBER

X MIY MEAN

5 5. 5.0
0 4. 5.0
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5 ?.0 2.5
5 3.5 3.5
5 1.5 3.5

APRIL

HIM MEAN

S.5 6.0
4.0 5.0
4.0 4.5
6.0 6.5
6.0 6.5

6.0 6.5
6.5 6.5
T.O T.S
B.5 B.5
8.5 9.0

B.O
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) 4.0 10.5

MAX

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M*X

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JANUARY

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2.0
1.5
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MAY

MIN

1B.O
19.0
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17.0
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15.0
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18.5
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18.5
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19.5
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14.0

MEAN

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1.5
2.0
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19.5

DELAWARE RIVER BASIN

01454720 LEHIGH RIVER AT EASTON, PA. Continued

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

DAY

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2
3
4
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MAX

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26.0
35.5
23.0

33.0
31.5
33.5
35.0
26.0

36.5
36.5
26.5
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25.0

22.0
33.0
34.5
34.5
34.0

23.5
21.0
33.5

35.5

25.0
33.5
34.0
34.0
35.0
. . .

JUNE

MIN

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33.0
31.5

30.5
19.5
20.5
23.0
24.5

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35.5
25.0
24.5
22.0

31.5
21.5
33.0
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30.0
31.0

34.0

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MEAN MAX

27.0
26.5
36.5
34. 37.0
23. 37.0

31. 37.0
20. 28.5
22. 28.5
24. 27.0
25. 26.5

25. 35.5
26. 26.0
35. 36.5
25. 26.0
23. 25.5

21. 37.0
22. 37.0
33. 38.0
23. 26.0
33. 37.0

21. 36.5
30. 35.0
32. 34.5
33. 25.0
24. 26.0

24. 28.0
23. 29.0
22. 30.0
23. 30.5
24. 39.0
37.0

JULY

MIN

34.5
36.0
25.0
25.5
26,0

35.5
35.5
36.0
35.5
35.5

24.5
24.5
34.5
25.0
74.5

24.5
25.0
76.0
26.0
26.0

34.5
33.5
33.5
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25.5
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ME A

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>4 MAX

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78.0
37.0
75.5
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77.0
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AUGUST

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MEAN

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3H.O
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25.0
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MAX

35.5
74.5
74.0
75. S
76.5

26.0
35.0
34.5
34.5
74.0

74.0
34.0
33.5
?3.S
73. S

75.0
25.5
75. n
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34. n

74.5
76.5
37.0
76. S
38.0

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SEPTEM

MIM

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32.0
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73.5
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MEAM

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J*° DELAWARE RIVER BASIN

01457500 DELAWARE RIVER AT RIEGELSVILLE, N.J. (RIEGELSVILLE, PA.)

LOCATION. Lat 40°35'36", long 75°11'17", Warren County, at gaging station on left bank at suspension bridge,

DRAINAGE AREA, 6,328 sq mi (includes that of Musconetcong River).

PERIOD OF RECORD. Chemical analyses: July 1969 to September 1970.

REMARKS. Discharge records include flow ol Musconetcong River. Water-quality records at

COOPERATION. Operated in cooperation with Environmental Protection Agency.

CHEMICAL ANALYSESi WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

UIS- D1S-

ALUM- SOLVED MAN- CAL- NE- PLUS dTCAH-

ncT.

NOV.

J4N.

APR.

JUNt

. JULY

<Jb... 1<MO S370 36 50 SO 7.0 5.0 18 *a Sf P.

TOTAL r>IS- OIS- TOT'L
HIS- KJEL- SOLVED SOLVEij NON-
SOLVED ORGANIC UAHL AMMONIA Dlb_ TOT4L SOLIDS FILT-
CHLO- NITRO- NlTKU- NITRO- SOLVfD PHOS- (HtSl- ^HBLe H6HO-
Rllit GEN bEN GEN NITHATt PHORUS DUE IT HESinuE MESS
(CD (N) (N) (N) (N03) (P) 180 C) (CA.MG)

nci .

JAN.

FtM.

A PH.

MAY

Jl'Ni

JULY

Al'b.
<;b... 9.0 .66 .«a .16 2.9 .11 lob V W Stf.

: periods of base flow

C«K- UNITY SOLVED

0 34 21

MON-
CflR- TOT4L COLOR

ao^ATf nciniTY (PLAT-
HARD- AS INJM-

* i? =>

DELAWARE RIVER BASIN

01457500 DELAWARE RIVER AT RIEGELSVILLE, N. J. (RIEGELSVILLE, PA.) Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCT.

a?...
MOV.

JAN,

FER.
IB...

AH».

MAY

JUNt
25...
JULY

AUG.
25...
StP.

OCT.

NOV.

JAN.

FEB.

APM.

"ay

JUNE

JULY

«Ub.
25...
SEP.

METHY-
LENE
TOTAL BLUE TOTAL CHS- UIS- DIS-

8ID- CHLOHO- CAKBON CYANIDf SUB- AND MIUM COPPER LEAD ZINC
ITr PHYLL A 1C) (CN) STANCE GHEASE (Ch) (Cll) (PH) (ZN)

5-0 2.0 6.0 .00 .03 7.2 0 10 0 90

1>IS- SUS- OIS-

DDI) ODt ODT ELPN1N ENDRIN CMLOB LINOANE ALPHA ALPHA BETA

. 00 .00 .00 .00 .00 .00 .00 <1.2 1>S 2.8

FIELD DETERMINATIONS

SPE- IMMF-
C1FIC D1ATE FtCAi.
TON- COL I- COLI-
4IH DUCT- niS- fOH1 FOPM

»ruHE ATURt (MICRO- OXYGEN r>t« PEH
HATE (UE6 C) lOEb C) *HOS) (UNITS) IMG/L) 100 ML) 100 ML)

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22... I*. 5 14. 0 188 7.9 9.0 2560
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^5... 6.0 14.5 1*6 7.5 12.2 ?90
JAN.

(16... 2.0 6.0 198 7.5 14.8 1S80 FtH.
18... 2.0 12. 0 156 7.6 13.2 187

!«!.. 4.0 8.5 195 8.1 U.B
APW.
21... 7.5 14.5 95 7.5 11.1 640

21... 19.5 24.0 121 7.3 9.0 480 JUNE
25... 24.5 31.0 180 ?.l 8.0 200
JULY

AUG.
25... 24.0 33.0 172 6.4 8.1 2ft
SEP.
30... IB. 5 16.5 170 7.2 H.3 8400 31

ALDRIN

IU5/U)

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JOU DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N. 3. (MORRISVILLE, PA.) (International Hydrological Decade River station)

LOCATION. Lat 40°13'18", long 74°46'42", Mercer County, at gaging station at Calhoun Street bridge in Trenton. Water-quality recorder located at raw-water intake of the Trenton Water Department, about 100 ft upstream from bridge.

DRAINAGE AREA. 6,780 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1944 to September 1970.
Water temperatures: October 1944 to September 1970.
Sediment records: September 1949 to September 1970.

EXT REMES. 1968- 70 :

Specific conductance: Maximum, 235 micromhos July 26; minimum, 91 micromhos Apr. 11.
Dissolved oxygen: Maximum, 15.2 mg/1 Jan. 14-15; minimum, 4.7 mg/1 Sept. 24-25.

Sediment concentrations: Maximum daily, 493'mg/l Apr.' 3; minimum daily, less than 0.0 mg/1 Jan. 18. Sediment discharge: Maximum daily, 120,000 tons Apr. 3; minimum daily, 9 tons Jan. 18.

Period of record:

Dissolved solids (1944-47, 1950-51, 1953-56, 1958-59): Maximum, 156 mg/1 Oct. 1-9, 1953; minimum, 44 mg/1 Mar. 21-31, 1945.
Hardness (1944-47, 1949-59): Maximum, 103 mg/1 Oct. 1-9, 1953; minimum, 25 mg/1 Apr. 1-10, 1950, Feb. 21-28, 1954.

Specific conductance: Maximum, 400 micromhos Jan. 24, 1959; minimum, 50 micromhos Mar. 19, 1945. Dissolved oxygen (1962-68): Maximum, 16.6 mg/1 Mar. 14, 1969; minimum, 4.5 mg/1 July 19, 1969.
Water temperatures: Maximum, 34.0°C June 18, 1957; minimum, freezing point on many days during winter periods. Sediment concentrations: Maximum daily, 1,720 mg/1 Nov. 26, 1950; minimum daily, 0 mg/1 Oct. 21, 1952. Sediment discharge: Maximum daily, 1,087,000 tons Aug. 20, 1955; minimum daily, 0 ton Oct. 21, 1952.

REMARKS. Further information on this station is given in U.S. Geological Survey Hater-Supply Paper 1779-X.

COOPERATION. Operated in cooperation with Environmental Protection Agency.

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2K...
NOV.
£4...
Dt.C.
!<-...
J/iN.
19...
Fth.
16...
M/lk .

lh...
UPK.
13...

2b...
MM

^^...
JULY
2«...
ailG.
<!4...
St-P.
2V...

DIS-
CHARGE

ICFS)

4530

10400

16900

6800

16700

7060

31200

loaoo

6870

4660

5520

4600

OIS- DIS-
IMS- SOLVED OIS- SOLVED

SILICA INUM IKON GANESE

(SI02) (AL) (FF.I (MN)

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OIS-
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DIS-
SOLVED
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SODIUM POTAS-

(*JA) SIUM

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SOLVEF)
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(K) (HC03)

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30

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1.4 48

SI

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35

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45

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52

CAR*
80S4TE

(C03)
(Mg/L)

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PARTICLE-SHE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBEi C, CHEMICALLY DISPERSEDi N, IN NATIVE WATERt P, PIPET V, VISUAL-ACCUMULATION TUBEt W, IN DISTILLED WATER)

WATER PARTICLE SIZE
TEM- METHOD

PERA- CONCEN- SEDIMENT PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED OF
TURE DISCHARGE TRATION DISCHARGE ANALY-SIS

SCBW
SCBW
SCBW
SCBW
SCBW

FEE 3 197D
FEB ID.....
APR 2.....
MAY 27.....

1200
1700
1200 07. D
1200 19.0

18500

386DO
12400

158

36D
198

7910

6630

30 42 56 71 83 94 98 99 100

_ . __ -_

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N. J. (MORRISVILLE, PA.) Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

01. T.
?H. . .
MOV.
24...
OEC.
If-...

19...
Ftr>.
16...

16...
APR.
13...
"«Y
i-b...
HINt
22...
IULY
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(ml...
24...
St-P.

OCT.

MUV.
24...
DtC.

If,..,
JAN.

FtH.
16...

16...

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"oY

JUNt
22. ..
JULY

AUb.
24...

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OCT.
2H...
NOV.

DEC.

JAN.
19...
FEB.

16...
APK.

25...
JUNt
22...
JULY
2b. . .
AUG.
24...

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ALKA-
LINITY

CAC03

42

25

22

3V

22

33

16

29

37

21

39

43

TOTAL
NON-
FILT-

KAHLE

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32

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TOTAL OIS- DIS- ois- KJEL- SOLVED
Dli- SOLVtU SOLVED ORbANlC DAHL AMMONIA DIS_
SOLVtD LHLO- fLUO- NITHO- NITRO- NITRO- SOLVtl)

(504) (CD IF) (N) (*) (N) (M03I

?6 10 « .70 4.1

22 9.2 -- -- .50 -- ?.H

?? 10 .0 -- .40 b.l

2S 12 .0 -- .26 -- 4.9

19 9.0 -- .34 -- 3. B

25 10 -- -- .30 - 4.3

17 5.2 .1 .40 t.b

19 6.3 -- -- .37 -- b.3

26 9.3 .b .44 5.0

?b H.2 -- .35 4.6

25 9.0 .2 .40 .45 .05 4.5

SPF-
NON- CIF1C
CAR- TOTAL CON- COLOR

HARD- BONATE ACIDITY DUCT- (PLAT- TUW-

69 27 178 7.8 1 5.0

48 24 139 7.1 15 18

b4 J2 " 127 6.9 f 15

49 27 133 6.1 7 3.0

bO 17 16P 7.6 1 7.0

36 20 98 6.9 3 15

50 22 133 6.7 7 14

65 28 167 7.4 b 10

70 J3 17" 7.9 7 8.0

SB 20 3.7 171 7.3 3 15

72 JO " 192 6.8 f 3.0

MFTHY-
LENt
HLUE
ACTIVE OIL 01-

SUB- AND ALDKIN UOD DDE DOT ELPRIN STANCE OHEAbE

. 04

. 04

.on

. 02 -- .00 .00 .00 .00 .00

. 01 6.2 .00 .00 .00 .0) .00

. 02 13 .00 .00 .00 .00 .00

. 02 .00 .00 .00 .01 .00

l>Ib- DIS- DIS-
SOLVED SOLVED SOLVED
OHTHO SOI IBS SOLIDS

OHOS- PHOS- (HFSI- (SUM OF

(B04I (P04I 180 C) TUENTS)

. 64 .36

. 53 .15

. 42 .59 92 78

. 65 .84 110 10?

. 35 .35

. 42 .42

. 32 .13 7? 55

. 39 .30

. 72 .56

. 57 .28

. 52 .44 119

b

110-
CHEM- TOTAL
ICAL ORGANIC
DXYGEN C1LORO- CARBOM PHENOLS

2.6 3 4.0

3 3.0

2 6.0

1.0 1 2.0

. 8 2 3.0

1.2 3 6.0

1.1 1 5.0

1.8 9 4.0

l.B 5 5.0

2.2 11 8.0

1.2 1 6.0 2

. 6 4 14

HEPTA-
ENDR1N CHLOR LlNDANE 2.4-D

. 00 .00 .00

. 00 .00 .00 .0?

. 00 .00 .00 .00

. 00 .00 .00 .00

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N. J. (HORHISVILLE, PA.) Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

l.IS-
I3IS- PIS- SUS- SUS- UIS- SOLVED DIb- DIS- DIS-

SOLVED SOLVtl) PtNPtU PFMDEl) SOLVEU CHWO- SOLVEn SOLVED SOLVED

OCT.
28...
NOV.
24...
DEC.

JAM.
19...
FEW.

MAR.

IUME

JULY
28...
AUG.
24...
StP.
29...

DATt

OCT.

NOV.

24... otc.
Ib...
JAN.

FtH.
16...

16...
APrt.
13...

JUNt"

22...
JlO

AUG.
24...
StP.

MEAN
DIS
CHARGE

DATE (CFS)

OCT., 1968

SEPT., 1969

SEPT., 1970

LEAD

(PB)
DATE (UG/L)

OCT., 1968
18........ 2

SEPT., 1969
30........ 3
SEPT., 1970
29........ 2

00 .00 <1.2 3.2 3.4 4.2

FIELD DETERMINATIONS

SPI--
PFR- CIFIC
TFNT COM-

OF A[H OUCT-

TIMt OtPlH DEPTH ATUHF ATUHfc (M1CRO- (FT) (DtS C) (DE6 Cl MHOS)

1330 In. 8 180

1400 6.0 -- 160

1330 -- 2.S 9.0 126

1S4U .0 -2.4 16b

1430 5..1 2.1 Ib7

1500 -- 7.B 17.3 100

1430 18.7 15.4 14(1

114b ?8.6 32.7 180

1000 -- -- 23.6 20.1 170

1000 4 Sri If.b 11.0 200

SPECTROGRAPHIC ANALYSES, WATER YEARS OCTOBER 196

BE-
ALUM- BAR- RYLL- BIS- BO- CAD-INUM IUM IUM MUTH RON MIUM

(AD (BA) (BE) (BI) IB) (CD) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L)

60 25 <.9 <3 35 <22

40 36 <.6 <3 57 <26

2* 42 .3 <2 45 <25

MAN- MO- RU-
LITH- GAN- LYBDE- NIC- BID-
IUM ESE NUM KEL IUM SILVER

(LI > (MN) (MO) (NI) (RB) (AG)
(UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L)

2 40 .7 6 2 <.2

3 50 .8 6 5 <.3

1 0 0

FtCAL
TOL1-

f JMITS) (MO/L) 1011 ML I

7.8 12.2

7.1 12.8

l.U

7.0 13.0

7.2 13.8

8.2 14.3

7.8 11. h

7.8 B.2

7.4 8.0

8.B f.t bo

7.4 /.6 3100

8.0 6.2 75

8 TO SEPTEMBER 1970

CHRO- CO- COP-
MIUM SALT PER

(CR) (CO) (CU)
(UG/L) (UG/L) (UG/L)

<4 <3 7

<3 <2 5

<2 23

TI-
STRON- TAN-
TIUM TIN IUM

(SR) (SN) (TI)
(UG/L) (UG/L) (UG/L)

70 <5 <2

85 <3 3

0

DIAIE
COLI-

100 ML)

250

90

3920

IB7b

1?000

20

438

975

17bO

1400

1SOOO

GER-
MAN-
IUM

(GE)
(UG/L)

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<3

<3

VAN-
AD-
IUM

(V)
(UG/L)

<2

1

JC

10

IRON

(FE)
(UG/L)

25

38

90

ZINC

(ZNI
(UG/L)

. 0

<100

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N. J. (MORRISVILLE, PA.)~Continued

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

DAY

1
2
3
*

5

6
7
ft
9
10

11
1?
13
1*
15

16
17
IB
19
20

Zl
22
23
24
2S

Z6
Z7
2B
29
30
31

ONTM

OCTOBER

MAX MIN MEAN

181 178 179
1B1 176 178
180 173 177
18* 77
181 175

180
187
186

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76
80
. .

IB* 1B1

189 1B3

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190
203
201

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BB
91
95
19B 19*

195 18*
1BB
189
190

86
8ft
BS
185 179

18* 1B1
183
183 1

IBS 1 IB* 1

76
77
B2
BO

1BO
178

. . .
. . .

18*
1B2
182

IBS

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199
198
196

189
187
1BB
187
182

183
179
179
18*
182

MAX

1B1
1BB
IB7

Z01
216
IB6
153
131

119
115
121
125
13?

1*7
1*7
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163

168

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135
139

1*3
1**
1**
1*5
150

NOVEMBER

MIN MFAN

180 1BO
IBZ
IBS

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1B9
153
1**
120

115
109
116
122
IZS

132
1*1
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158

157

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12B
13*

139
1*1
1*1
1*1
1*6

IBS

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206
171
1*6
IZ6

116

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119
12*
129

13B
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132
137

1*2
1*2
1*3
1*3
1*B
162 170

203 " ... 216

FEBRUARY

DAY

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28
Z9
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MAX M IN

177 173
18* 1
152 1
162 1

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5Z

MEAN

175
170
1*3
158

MAX

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MAX

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DECEMBER JANUARY

MIN MEAN MAX MIN MEAN

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151 IS* 150 1*4 1*5
158 160 1*5 1*1 1*3
159
163

167
166
157
157
17?

136
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IS*

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15?
15?
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1*5

102

APRIL

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161 1* S 1*3 1**
16* 151 1*7 1*9

167 150 1*9 1*9
16B 15
166 15
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156 17
111 16

9 150 155
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16* 16"
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115 180 168 175

119 180 176 179
119 17
123 17
128 17
133 17

137 17
1*0 IB
1*5 IB
160 IB
160 17

152 17
155 17
15ft 17
1*4 17
17
17

171 17*
171 175
172 176
I7«. 175

17* 177
180 IBS
17B 181
180 IB?
176 17B

173 175
16B 171
16B 169
171 171
169 173
172 175

1*8 186 1*1 167

MEAN MAX

121
126
13
1*2

XIV

MIN MEAN

117 118
120 123
127 129
13? 13B
1*3 136

118 115
125 I
127 1
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18
26
135 133

1*5 132
1*9 1
131 1
133 1

23
1*
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1*2 127

152 1*3
165 152

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11? 135
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9*
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98 153
103 155

125
126 130
128 131
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1*4
163 ISO
11? 155 151 153

111 IB 1; 153 161
10B 161 153 157
10* 191 159 169
99 200 1*7 16S
95 Ift7 130 135

10ft 131
101 120
97 12B
101 13?
108 13P

102 151

9R 15(1
101 151
107 153
111 1*5

128 1?9
119 123
122 125
12* 129
128 130

13? 16?
130 163
133 1*1
13* 163
1*0 1*3
1*3 101 125

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N. J. (BORRISVILLE, PA.) Continued

DAY

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235

JUNE

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109 in111

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MAX

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JULY

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DISSOLVED OXYGEN (DO), IN MILLIGRAMS PER LITER.« WATER YEAP OCTnBES 1969 TO SEPTEMBER 1970

DAY

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MAX

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11.7
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11.5
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14.3
13.8

OCTOBE

MIN

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R

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MAX

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DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N. J. (MORRISVILLE, PA.) Continued

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

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DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N. J. (MORRISVILLE, PA.) Contin

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DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N.J. (MORRISVILLE, PA.) Continued

PH IUNITS) . WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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

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DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N.J. (HORHISVILLE, PA.) Continued TEMPERATURE (°C) OF WATERt WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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FEBRUARY

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JUNE

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MEAN

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MEaN

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MAX

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M«Y

MIN

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MEAN

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ME«N

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23.5

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N.J. (MORRISVILLE, PA.) Continued

SUSPFNDEn-SEDIMEMT UISCH«»r,F. WATES YEAR OCTOBER 1969 TO SF»TEMRER 1970

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31

TOTAL

0«Y

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9
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11
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13
14
15

16

17
Ib
19
20

21
22
2J
24
25

26
27
28
29
30
31

TOTAL

MFAN
DISCHARGE

4730
4420
5050
6770
6480

4710
4280
4810
4800
4440

4680
5090
5090
4600
4640

4820

4710
4490
4560
4560

4710
4790
4940
4900
4600

4790
4530
4530
4560
4600
4530

149210

MFiN

irFS)

10400

9370
8180
8080
7830

7070
7840
7470
7010
6000

6400
7000
6400
6300
5900

6200
5900
6400
6800
6400

5700
6000
6400
5800
5400

5600
5800
5700
6300
6600
7900

210150

OCTOHER

MEAN
CONCFN-
TRATION

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12
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25
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9

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18
12
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16
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1
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2

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JANUARY

MEAN
CONCEN-

(MR/L)

12
10

4

3
6

7
8
7
6
6

6
5
3
2
2

1
1
0
1
2

1
1
2
1
1

3
9
4
1
4
9

SEUIMENT
DISCHARGE

89
143
150
457
297

76
69
117
78
10H

H8
247
165
6?
113

208
114
97
9H
49

64
116
67
26
25

13
12
1?
12
12
24

3208

SEUIMENT

(TONS/DAY)

337
251
88
65
127

134
169
141
114
97

104
9S
5?
34
32

17
16
9.0
18
35

15
16
35
16
15

45
141
62
17
71
19?

256?. 0

MEAN

(CFS)

4640
4560
4710
5510
4750

4860
8500
10700
11300
16800

16000
13400
11300
9980
«750

8640

779(1
7300
6920
7S8n

12400
14200
1?2I'0
10400
9490

9320
8840
8230
7470
7320

?74160

"f» N

(rFM

72«0

9450

2?500
30900
30500

27000
23700
19800
16700
19100

29500
31600
29400
23400
19200

16700
14500
14500
14800
14700

13300
11700
11800
11BOO
11800

1 1600
10900

9870

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508000

NOVEMBER

MEAN
CONCEM-

<MG/L>

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130
55
91
320

83
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59
18
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27
26
11
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12
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FEBRUARY

MEAN
CONCEN-

(MS/L)

9
75
200
205
107

76
49
2B
19
110

95
25
42
18
8

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SEOIMENT

(TONS/DAY)

25
25
3B
1 19
38

197
2910
1590
2870
14000

34BO
5550
1800
485
52"

163
94

79
112
213

904
997
36?
168
102

50
167
267
161
40

37516

SED1MEMT

(TONS/DJY)

177
1910
12200
17100
8810

5540
3140
1500
857
5670

757(1
2130
3330
1140
415

271
235
235
200
238

215
158
191
159
159

188
88
80

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73906

6870
6510
6580
6080
5880

5630

6280

6750
7140
7890

2300
9500
2000
4200
9400

6900
5200
3100
1700
1300

0200
1500
0600
2700
9920

9380
8170
9490
9600
8850
9830

371450

MEAN

(TFS)

9620
8680
8260
9160
9500

9950
10000
9840
8950
8030

7730
7720
7540
8390
8590

7060
6460
6910
6670
7560

8610
9970
11900
12800
13000

13100
16100
26200
27300
24500
21300

351400

DECEMBER

MEAN

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247
174
90
60
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18
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24
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MARCH

MEAN
COMCEN-

(M5/L)

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13
120
80
32
15

SED1ME.T

56
70
36
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15200
13900
7780
3920
1570

821
369
283
221
183

165
497
687
274
134

152
154
743
1110
406
186

49313

SEDIMENT
DISCHARGE

(TONS/SAY

5?
23
45
25
154

349
135
213
145
43

167
250
224
249
162

57
52
75
90
61

196
215
418
484
386

212
565
8490
5900
21?0
863

22410

DELAWARE RIVER BASIN

01463500 DELAWARE RIVER AT TRENTON, N.J. (MORRISVILLE, PA.) Continued

SUSPFN/DEB-SEDIMFWT DISCHARGE.

APRIL

YEAR OCTflBER 1969 TO SF»TEMBER 197(1

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MFAN
DISCHARGE

21100
42300
91700
83700
60500

47000
40200
36200
35500
40300

44600
17900
31200
27500
30200

27800
26800
?6900
28900
30500

29600
26600
23900
22800
25200

26200
24500
21800
20000
17700

MEAN
CONCEN-
TRATION

50
359
493
9<t
104

62
50
35
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33

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18
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16
IS

SEDIMENT
DISCHARGE

2850
48800
120000
21200
17000

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5430
3420
2490
2940

2050
3580
1850
1560
1880

1280
941
131"
2340
272n

2160
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901
923
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1270
1320
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5800
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4800
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9220
9490
9170
9060

8650
7900

890(1
11700
14300

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12900

117(10
114(10
10200

10000
12300
11100
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9440
7760

MEAN

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522
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296
219
242

131
149
333
396
269

70
107
312
474
1080

1290
627
2b3
246
468

432
930
689
562
484
314

MEAN

6960
6290
6330
6910
7430

6870
6640
6590
6020
5790

54<tO
4710
4860
4900
4350

3950
4350
4450
5090
6960

7900
6870
6190
5590
5130

4710
4850
4920
4780
4830
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MEAN
CONCEN-

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SEDIMENT

263
204
239
429
563

352
233
196
130
141

147
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118
172
82

32
106
96
110
301

469
427
301
166
152

102
131
159
168
117

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MEAN
DISCHARGE

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5150
5260
5540
5040

5540
5450
4140
4170
4370

4960
4980
5160
4820
4520

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5730
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7650
6620
5930
5330

5440
4980
4620
4560
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MFAN
CONCEN-
TRATION

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SEDIMENT

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213
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354

174
368
156
101
130

201
148
153
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73

128
248
297
381
169

31 1
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391
288
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206
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187
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224

MF»N

(CFS)

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6840
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4560

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5490

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3790

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MEAN
CONCEN- SEOTMENT

(MG/L) (TONS/DAY)

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23 145
19 251

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11 113
11 104
12 133
15 1R3
16 176

MEAN

(CFS)

3950
5800
5450
3960
3590

3880
3590
1020
3030
1360

3860
4150
3890
3470
3540

1590
3940
5190
4630
4790

4430
4380
3920
4620
5020

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ME»N
CDNCEN-

(MG/L)

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12
13
18
13
13

13
12
9
13
15

13
13
23
18
15
"

SEDIMENT
DISCHARGE

(TONS/DAY)

107
313
221
107
87

126
97
82
49
91

229
336
273
159
105

116
138
252
163
168

155
142
95
162
203

165
144
2B6
187
165
- -

TOTAL 163930

DELAWARE RIVER BASIN 36

01464500 CROSSWICKS CREEK AT EXTONVILLE, N. J.

LOCATI ON. Lat 40°08'15", long 74°36'02", Mercer County, at gaging station at bridge on Extonville Road at Exton-vllle.

DRAINAGE AREA. 83.6 sq ml.

PERIOD OF RECORD. Chemical analyses: October 1965 to September 1970 (partial records).
Water temperatures: October 1966 to June 1970 (discontinued).
Sediment records: February 1965 to June 1970 (discontinued).

EXTREMES. 1969-70:

Sediment concentrations: Maximum dally, 215 mg/1 Apr. 3; minimum dally, 1 mg/1 Feb. 26. Sediment discharge: Maximum daily, 784 tons Apr. 3; minimum dally, 0.29 ton Feb. 26.

Period of record:

Sediment dischai

f, 1 mg/1 Feb. 26, 1970.

CHl-KIL.U AN

>T.
!. . .

DATE

JAN.
14...
MAR.
31...
JUNE
25...
AUG.
28...
SEPT.
28...

16 0 It

IB 0 15

if: 0 3J

DIS- DIS-
SOLVED SOLVED
SOLIDS SOLIDS

(RESI- (SUM OF HARD
DUE AT CONSTI- NESS

180 C) TUENTS) ICA.MG)
IMG/L) (MG/L) (MG/L)

108 98 49

38

33

103 81 41

58

FIELD

TEMPER-
TIME ATURE

OATfc (DEG C)

20

23

"

NON-
CAR-
BONATE
HARD-
NESS

(MG/L)

35

33

20

26

28

7.5

a.n

li

SPECI-
FIC
COND-
UCTANCE

(MICRO-
MHOS)

149

130

117

130

181

.(,

- -

PH

(UNITS)

7.3

6.8

6.7

6.5

6.7

6.2 .75

9.3 .70

!<> .73

BIO-

COLOR CHEM-

(PLAT- ICAL
INUM- OXYGEN
COBALT DEMAND

UNITS) (MG/L)

2

7

40 3.8

50 2.0

7 4.4

DETERMINATIONS

SPI-CI-
FIC
tOND-
UCTANC:
IMICKCI-
MHOSI

PH

(UNITS)

nlS-

SULVtl)
MXYGtN

(MG/LI

CDL I-
FOf M

(COL-
ONI tS
Pck
100 MLI

AUG.
2H...
SEPT.
2B...

i.O

21. 3

23.U

lrt.2

160

130

118

130

190

5.6

5.6

6.0

DELAWARE RIVER BASIN

01464500 CROSSWICKS CHEEK AT EXTONVILLE, N. J. Continued

1 (C

13. C

11. 0

8.0

12.0

15.0

9.0

11.0

7.C

6.0

5.0

4.0

9.0

3.0

1.0

3.0

L.O 5.0 5.0 8.
1.0 9.

1.0 1.0 9.

2.0

0.0 4.0 7.0

1.0 5.0

1.0 2.0 6.0 ").

1.0 4.0
5.0 5.0 12.

1*.
4.0 7.0
2.0 I*.

0
0

0

0

0

0

0

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15.0

16.0

16.0

23.0

19.0

18.0

25.0

20.0

24.0

20.0

23.0

22.0

II " ~

-

_

-

SUSPENDED-SEDIMENT DISCHARGE, OCTOBER 1969 TO JUNE 1970

MEAN
DISCHARGE

(CFS)

54
52
116
124
76

69
69
74
101
83

71
69
67
67
64

62
60
59
57
59

114
124
85
71
67

67
64
62
60
60
59

MEAN
CONCEN-
TRATION

(MG/L)

11
11
34
24
19

20
20
24
23
20

20
20
18
17
18

18
15
13
11
12

35
23
9
8
8

7
11
11
10
10
12

SEDIMENT
DISCHARGE

(TONS/DAY)

1.6
1.5
11
8.0
3.9

3.7
3.7
4.8
6.3
4.5

3.8
3.7
3.3
3.1
3.1

3.0
2.4
2.1
1.7
1.9

11
7.7
2.1
1.5
1.4

1.3
1.9
1.8
1.6
1.6
1.9

MEAN
DISCHARGE

(CFS)

59
60
80
85
76

174
183
129
201
248

154
127
127
114
121

106
93
90
88
157

168
121
103
98
93

88
85
83
80
80

MEAN
CONCEN-
TRATION

(MG/L)

13
15
15
14
13

44
33
23
47
68

23
14
12
13
13

10
8
7
6
43

32
12
8
8
9

8
7
8
8
9

SEDIMENT
DISCHARGE

(TONS/DAY)

2.1
2.4
3.2
3.2
2.7

21
16
8.0
29
53

9.6
4.8
4.1
4.0
4.2

2.9
2.0
1.7
1.4
18

15
3.9
2.2
2.1
2.3

1.9
1.6
1.8
1.7
1.9

MEAN
MEAN CONCEN- SEDIMENT
DISCHARGE TRATION DISCHARGE

BO
80
76
76
71

69
69
265
473
270

663
7SO
402
250
22b

174
143
127
121
116

106
228
481
323
171

412
992
651
323
19U
548

10
10
9
9
8

7
6
182
27
27

118
24
13
9
7

6
6
6
5
5

5
58
57
9
4

76
35
14
10
7
58

2.2
2.2

l.t) i.a
1.5

1.3 1.1
138
34
20

177
49
14
6.1
4.3

2.8
2.3
2.1
1.6
1.6

1.4
49
71
7.8
1.8

119
94
25
8.7
3.7
74

DELAWARE RIVER BASIN

01464500 CROSSWICKS CREEK AT EXTONVILLE, N.J. Continued

SUSPENDED-SEDIMENT DISCHARGE! OCTOBER 1969 TO JUNE 1970

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

TOTAL

DAY

1
2
3
4
5

6
7
8
9
10

11
12
13
1*
15

16
17
18
19
20

21
22
23
24
25

26
27
28
29
30
31

TOTAL

TOTAL

MEAN
DISCHARGE

715
394
180
119
93

85
83
78
64
106

67
69
71
67
55

55
57
238
305
98

74
88
111
98
93

111
143
119
140
171
134

4281

MEAN
DISCHARGE

(CFS)

457
643
1310
694
418

255
192
162
148
143

132
124
119
137
581

839
489
313
210
317

564
387
265
230
255

198
162
151
143
132

10170

MEAN
CONCEN-
TRATION

15
9
10
6
5

5
5
5
9
12

8
7
6
5
5

5
5
27
24
10

5
3
3
4
*

6
11

a
11
10
7

APRIL

MEAN
CONCEN-
TRATION

(MG/L)

15
184
215
36
23

22
20
21
22
17

13
10
10
23
88

20
19
16
14
83

30
22
19
16
17

18
19
20
20
19
~

-

SEDIMENT
DISCHARGE

29
9.6
4.9
1.9
1.3

1.1
1.1
1.1
1.6
3.4

1.4
1.3
1.2
. 90
. 74

. 74
. 77
17
20
2.6

1.0
. 71
. 90
1.1
1.0

1.8
4.2
2.6
4.2
4.6
2.5

126.26

SEDIMENT
DISCHARGE

(TONS/DAY)

19
386
784
67
26

15
10
9.2
8.8
6.6

4.6
3.3
3.2
13
119

46
25
14
7.9
80

46
23
14
9.9
12

9.6
8.3
8.2
7.7
6.8
~

1793.1

SUSPENDED-SEDIMENT DISCHARGE FOR PERIOD

MEAN
DISCHARGE

116
140
401
546
364

204
192
186
168
317

536
413
235
157
157

258
235
207
219
177

143
132
127
119
119

108
103
103

~

6182

MEAN

(CFS)

121
119
114
116
116

114
103
103
114
106

95
93
111
101
93

83
98
151
127
145

120
105
110
115
120

130
150
115
105
100
95

3488

(TONS)

MEAN
CONCEN-
TRATION

5
8
98
46
11

8
7
6
5
56

46
15
8
5
6

17
9
9
11
6

4
3
3
3
2

1
3
4

"

MAY

MEAN
CONCEN-

(MG/L)

17
16
14
13
12

12
11
11
12
14

15
18
22
24
25

27
29
22
22
63

31
20
21
52
32

27
67
35
23
27
30

-

SEDIMENT
DISCHARGE

1.6
3.0
114
68
11

4.4
3.6
3.0
2.3
60

67
17
5.1
2.1
2.5

12
5.7
5.0
6.5
2.9

1.5
1.1
1.0
. 96
. 64

. 29
. 83
1.1

~

404.12

SEDIMENT

(TONS/DAY)

5.6
5.1
4.3
4.1
3.8

3.7
3.1
3.1
3.7
4.0

3.8
4.5
6.6
6.5
6.3

6.1
7.7
9.0
7.5
25

10
5.7
6.2
16
10

9.5
27
11
6.5
7.3
7.7

240.4

MEAN DISCHARGE
(CFS)

98
98
101
101
137

14J
121
114
103
101

95
98
157
14«

121

100
9B

I0t>
180
177

321
277
273
238
183

143
248
195
263
551
515

5612

MEAN
DISCHARGE

92
90
78
90
114

124
127
143
114
98

88
80
235
165
95

8b
88
8b
88
76

114
412
277
137
111

101
129
14i>
111
93
- -

378b

MEAN
CONCEN-
TRATION

(MG/L)

5
4
3
3
9

5
3
2
2
3

3
3
3
3
3

3
^

6
18
7

47
14
18
8
7

8
23
10
93
74
23

"

JUNE

MEAN
CONCEN-
TRATION

24
14
16
20
44

48
48
64
39
24

21
21
76
48
31

30
28
25
21
20

49
108
52
32
22

22
31
25
23
22
- -

-

SEDIMENT
DISCHARGE

(TONS/DAY)

1.3
1.1
. 82
. 82
3.3

1.9
. 98
. 62
. 56
. 82

. 77
. 79
1.3
1.2
. 98

. 87
1.1
1.7
8.7
3.3

41
10
13
5.1
3.5

3.1
15
5.3
96
102
32

358.93

SEDIMENT
DISCHARGE

6.0
3.4
3.4
4.9
14

16
16
25
12
6.4

5.0
4.5
48
21
8.0

6.9
6.7
5.7
5.0
4.1

28
113
39
12
6.6

6.0
11
9.8
6.9
5.5
~

459.8
48208
4641.31

364 DELAWARE RIVER BASIN

01464500 CROSSWICKS CREEK AT EXTONVILLE, N. J. Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, OCTOBER 1969 TO JUNE 19TO (METHODS OF ANALYSIS: 8. BOTTOM WITHDRAWAL TUBEI c, CHEMICALLY DISPERSED! N, IN NATIVE KATERI P. PIPETI s. SIEVEI
V. VISUAL ACCUMULATION TUBEI W. IN DISTILLED WATER)

WATER PARTICLE SIZE
TEM- SUSPENDED METHOD

PERA- CONCEN- SEDIMENT PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED OF
TURE DISCHARGE TRATION DISCHARGE ANALY-

DATE TIME (C) (CFS) (MG/L) (TONS/DAY) .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00 SIS

DEC 11. 1969 1310 10 660 57 102 ~ ~ H4 90 94 100 ~ SPAN
DEC 26...... 2215 1 792 46 9a 39 54 57 54 54 b4 59 70 96 100 ~ SCBK
FEB 4« 1970 0915 01 560 44 67 <& 99 100 SPAN
FEB 11...... 0910 05 538 60 87 76 80 84 96 100 SPAN

01464600 DELAWARE RIVER AT BRISTOL, PA.-BURLINGTON, N. J. BRIDGE

LOCATION. Lat 40°04'55", long 74°51'58", Bucks County, at center of river, 1,300 ft upstream from bridge on a line from the Pennsylvania bank^through channel station -79.2 to Lehigh range light on New Jersey bank. Wate

DRAINAGE AREA. 7,160 sij mi.

PERIOD OF RECORD. Chemical analyses: August 1949 tc
Water temperatures: March 1953 to September 1970.

EXTREMES. 1969-70:

pH: Maximum, 8.2 Apr. 21; minimum, 6.1 Oct. 22.
Dissolved oxygen: Maximum, 13.6 mg/1 Feb. 5 6; minimum, 0.4 mg/1 Aug. 24.
Water temperatures: Maximum, 28.5 C Aug. 16-18; minimum) freezing point Jan. 22-24, Feb. 5.

eriod of record:

Dissolved oxygen (1962-70): Maximum, 14.'s mg/1 Jan. 27, Feb. 6* 1964', Mar. 10,' 1966; minimum, 0.0 mg/1 on several days in 1963, 1965, 1967.
pH (1968-70): Maximum, 8.2 Apr. 21, 1970; minimum, 6.1 Oct. 22, 1969.

Water-Supply Paper 1809-0.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

JULY
02.
AUG.
04.
SEP.
03.

LJIS-
DIS- SOLVED
DIS- SOLVED MAG- DIS-

01S- SILICA C1UM SIUM SODIUM

CHAR6F (S10?) (CA) (KG) (NA)

. . 5150 5.9 18 6.0 10

. . 5560 4.J 15 5.2 7.0

. . 5450 3.1 18 6.6 8.6.

DIS- DIS-
DIS- bOLVED SOLVED
SOLVED UIS ORTHO SOLIUS

FLUO- SOLYtD PHOS- (RtSl- HA

(F) (N03I (P04) ISO Cl (CA

JULY

02... .4 13 .59 133 AUG.
04... .4 9.9 .53 IIP

03... .2 8.B .50 130

DIS-
SOLVED
PO-

SIUM 80NAIE BO

«) (HCC13) (Cl

2.1 39

2.9 30

2.3 45

SPF-
NUN- CIFIC
CAR- CON-
RO- BOMATE DUfT-

MfO NESS UlrRO-

70 38 206

59 35 187

72 35 210

DIS-
OLKA- BIS- SOLVED

liTE AS SULFATE RIDE
)1) CAC03 (S04) (CL)

0 3? 33 12

0 25 30 11

0 37 33 13

810-
CULOR CHEM-

(PLAT- ICAL
PH INJM- OXYGEM
COBALT DEMAND

7.5 3 3.0

7.3 4 2.1

7.6 3 2.3

FIELD DETERMINATIONS

DATE

JULY
02...
AUG.
04...
SEP.
03...

ATURE

(OE6 C)

26.0

28.0

^7.0

SPE-
CIFIC
CUN-
DUCT-

(MICRO-
MHOS)

202

177

204

DIS-

OXVbEM

(MCj/L)

4.7

4.3

4.1

DELAWARE RIVER BASIN

01464600 DELAWARE RIVER AT BRISTOL, PA.-BURLINGTON, N.J. BRIDGE Continued

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

OCTOPER

D»Y

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B
9
in

11
12
13
14
15

16
17
IB
19
20

21
22
23
24
25

26
27
28
29
30
31

MAX

297
307
279
2BO
294

2B5
2B7
272
270
294

284
296
289
278
298

2S7
282
286
280
285

277
283
287
284
283

282
272
274
277
276
286

MIN

271
269
270
270
269

2*4
261
262
255
258

262
266
269
270
266

273
?70
272
269
271

264
265
?64
267
263

262
259
254
262
252
241

MEAN

279
278
275
274
275

272
270
268
264
269

268
271
273
274
272

276
274
276
276
276

272
274
272
272
271

269
267
266
267
265
265

MAX

303
274
265
264
244

247
257
250
253
239

201
177
169
193
166

178
184
201
195
201

211
199
212
206
182

193
208
199

24]
209
. . .

NOVEMBER

MIN

259
258
257
235
232

227
227
232
212
192

173
155
152
153
152

153
164
169
175
182

184
175
171
167
160

161
168
171
175
177

. . .

MEAN

267
264
261
248
238

238
23B
237
237
213

185
164
156
159
157

160
169
175
180
188

192
192
191
177
168

170
173
178
184
183
. . .

MIX

206
246
216
216
229

219
217
223
224
233

226
203
200
157
175

171
170
173
180
182

174
192
185
184
196

206
216
219
214
206
213

DECEMBER

HIM

179
181
187
190
195

198
?03
?09
?09
?D3

195
183
150
134
135

140
150
154
15S
161

167
171
176
177
1B1

194
203
204
204
200
197

MEAN

185
190
192
199
202

204
209
214
216
213

208
190
171
141

14]

147
156
159
162
166

170
17B
179

18]
187

199
207
210
208
203
203

MAX

201
194
197
200
195

193
201
206
209
205

20B
220
216
21R
216

2U
214
216
215
215

215
222
215
215
214

217
220
214
211
215
207

JANUARY

WIN

188
183
183
185
185

186
188
192
193
195

199
202
204
205
207

208
207
208
205
205

199
203
204
204
208

208
207
204
204
199
197

*EAN

196
186
186
191
190

189
194
197
198
200

203
209
208
209
210

210
211
211
209
210

206
209
210
208
210

212
212
209
206
206
201

202
203
202
186
173

160
150
149
. . .

. . .
. . .
. . .

162
172
176
184
1B7

188
179
181
180
193

194
1B2
191
. . .
. .
. . .

193
191
187
170
157

142
141
140
. . .

. . .
. . .
. . .

153
160
166
172
175

72
69
70
70
75

176
175
176

. . .
. . .
. . .

197
197
195
174
165

151
144
. . .

. . .
. . .
. . .

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165
170
176
180

178
173
175
175
180

182
178
181

. . .
. . .
. . .

183
218
221
221
229

256
248
241
261
289

232
293
236
258
297

282
266
254
258
271

271
269
260
246
260

233
228
238
209
165
207

174
175
207
212
213

221
221
220
221
218

212
215
217
225
231

231
236
234
232
238

243
241
241
233
227

217
206
191
149
145
146

178
196
212
216
220

231
231
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DELAWARE RIVER BASIN

01464600 DELAWARE RIVER AT BRISTOL, PA.-BURLINGTON, N. J. BRIDGE Continued

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

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DELAWARE RIVER BASIN

01464600 DELAWARE RIVER AT BRISTOL, PA.-BURLINGTON, N. J. BRIDGE Continued

DISSOLVED OXYGEN (DO). IN MILLIGRAMS PER LITRE . H4TER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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DELAWARE RIVER BASIN

01464600 DELAWARE RIVER AT BRISTOL, PA.-BURLINGTON, N. J. BRIDGE Continued

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DELAWARE RIVER BASIN

01464600 DELAWARE RIVER AT BRISTOL, PA.-BURLINGTON, N. J. BRIDGE Continued

PH (UNITS) . WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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DELAWARE RIVER BASIN

01464600 DELAWARE RIVER AT BRISTOL, PA.-BURLINGTON, N. J. BRIDGE Contln

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DELAWARE RIVER BASIN

01465500 NESHAMINY CREEK NEAR LANGHORNE, PA.

WION. La.t 40 10'26", long 74°57'Z 6", Bucks

NAGE AREA. 210 sq mi.

OD OF RECORD. November 1946 to Ai.

burg, Pa

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DELAWARE RIVER BASIN

LOCATION. Lat 39 53'05", long 74 30'20", Burlington County, water-quality recorder at gaging station at bridge on Butterworth Road in Lebanon State Forest.

DRAINAGE AREA. 2.31 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1962 to September 1967 (partial records), October 1968 to Septem-ber 1970.
Water temperatures: October 1960 to September 1970.
Sediment records: October 1968 to September 1970 (partial records).

EXTREMES. 1969-70:

Specific conducta Maximum, 102 micromhos July 21; minimum, 21 micromhos Sept. 27.

Period of record:
Specific conductance (1968-70): Maxim
Sept. 27, 1970.

Drded, 182 micromhos June 16, 1969; minin

REMARKS. Missing wate

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DELAWARE RIVER BASIN

01466500 McDONALDS BRANCH IN LEBANON STATE FOREST, N. J. Continued

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(RESI- (SUM OF HARD- BONATE COND- (PLATI- ICAL
DUE AT CONSTI- NESS HARD- UCTANCE PH NUM OXYGEN

180 C) TUENTS) (CA.MG) NESS (MICRO- COBALT DEMAND

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22 24 5 5 72

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22 17 3 3 58

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11 14 4 4 57

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FIELD DETERMINATIONS

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RADIOCHEMICAL ANALYSES

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CI1LI-
FORM

dlS- (COL-
SOLVEO ONIE5
OXYGEN PER

(MG/LI 100 ML)

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5.2

10.0 ?1

10.8

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S.O 80

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2.0 152

1.4 100

2.2 88

OIS- SUS-
SOLVED PENDED
GROSS GROSS
BETA BETA

/Y90 /Y90
(PC/L) (PC/L)

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1.9 .60

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DELAWARE RIVER BASIN

01466500 McDONALDS BRANCH IN LEBANON STATE FOREST, N. J. Conti nued

DIS-
CHARGE

DOTE (CFS)

OCT. .1968
25... 1.2
SEPT.. 1969
?9... 2.2
JUNE. 1970
?5... 2.1

LEAD

(PB)

OCT. .1968
?5... .9
SEPT. « 1969
29... 16.
JUNE. 1970
25 2

INUM IUM

(AL) (BA)
(UG/L) (UG/L)

100. 11.

1400. 95.

110. 8.

MAN-
LITH- GAN-
1UM ESE

(LI) (MN)

11.

85.

BE-

IUM

(BE)
(UG/L)

< .1

< .6

< .1

MO-
LYBDE-
NUM

(MO)

< .1

< .6

SPECTRDGRAPHIC ANALYSES

MUTH RON MIUM

(BI) (B) (CO)
(UG/L) (UG/L) (UG/L)

< .3 9. < 3.

< 3. 240. <27.

< .? 11. < 3.

RU-
NIC- 8ID-
KEL IUM SILVER

(Ml) (RB) (AG>

21. . < .3

MIUM BALT PER

(CR) (CO) (CU)

GER-

IUM IRON

(GE) (FE)
(UG/L) (UG/L) (UG/L) (UG/L) (UG/L)

< .4 .4 2

4. 2. 110

. 7 .2 3

Tl-
STRON- TAN-
TIUM TIN IUM

(SR) (SN) (TI)

6. < .5

35. < 3. 6.

SUSPENBED-SEBIHENT BISCHARGE MEASUREMENTS! WATER YEAR OCTOBER 1969 TO SEPTEM

OCT 8, 1969 1025
OCT 21...... 09*5
OCT 23...... 1415
NOV 3...... 1015

MOV 26...... 1130

DEC 11...... 09 5
DEC 12...... 15 0

DEC 31...... 10 0

JAN 18. 1970 10 0
FEB 16...... 07 5
FEB 24...... 13 0
MAR 5...... 07 5
MAR 10...... 16 5

MAR 19...... 07 5
MAR 21...... 08 0

2.2
2.2
1.9
2.0
1.8

5.3
4.2
2.8
6.7
6.9

3.3
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3.2
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2.6
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CONCEN-

1
3
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3
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8

1
4

SUSPENDED
SEDIMENT

. 01 MAR 2
. 02 MAR 3
. 01 APR

0* APR 1

. 04 APR 2
. 03 MAY 1
. 01 MAY 2
. 02 JUN
0.0 JUN 2

0.0 JUN 2
0 . 0 JUL
. 01 JUL
0.0 JUL 3
. 05 AUG

. 0745
. 0745
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. . . . . . 161$
. . . . . . 1630 2

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. 1400
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. 01 AUG 4...... 0745
. 03 AUG 11...... 0745

< .5 IK

< 3. 3100.

< .3 220.

VAN-
AD-
IUM ZINC

(V) (ZN>

3 .2 7.

6. <100

ER 1970

SUSPENDED
CONCEN- SEDIMENT

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. 7 4 .04
. 5 4 .07
. 0 4 .04
15 .85

. 7 6 .11
. 7 B .08
. 7 1 .01
. 8 10 .08
. 2 2 .02

. 4 2 .01
. 4 1 .01
. 4 2 .01
. 0 5 .05
. 3 7 .04

. 8 3 .01
. 7 2 .01

DELAWARE RIVER BASIN

01466500 McDONAIDS BRANCH IN LEBANON STATE FOREST, N. J. Contl nued SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YE4R OCTOBER 1969 TO SEPTEMBER 1970 OCTOBER NOVEMBER DECEMBER

DELAWARE RIVER BASIN

01466500 McDONALDS BRANCH IN LEBANON STATE FOREST, N. J. Continued

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

JUNE

M1N

JULY

M[N

SEPTEMBER

MIN MEAN

MAX

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14, 0
14.5
14. n

14.0
14.5
14.5
15.0
14.5

13.0
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12.5
12.5
13.0

13.5
12.5
11.5
10.0
9.5

10.0
10.5
10.0
9.5
9.0
9.5

OCTOBER

MIN M

__ «
2.5
2.5
2.0

2.5
3.5
4.0
4.0
2.5

2.0
2.0
1.0
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12.0
11.0
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3.5
8.0

8.0
9.0
8.5
8.0
7.5
7.5

FAN MAX

10.0
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8.0

WATER, WA

NOVEMBER

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B.5
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11. n
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8.5
9.0

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6.0
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MEAN

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6.5
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F

DECEMBER JANUARY

(AX MIN MEAN MAX M[N

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. 0 5.5 6.0 1.0 0.0
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. 0 4.0 4.5 2.0 1.0
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. 5 4.0 4.5 1.0 0.0
. 0 4.0 4.5 1.0 0.0
. 5 4.0 5.0 0.5 0.0

. 0 7.0 7.5 0.5 0.0
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0.5

DELAWARE RIVER BASIN

01466500 McDONALDS BRANCH IN LEBANON STATE FOREST, N. J. Continued

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

MAX

1.5
3.0
3.0
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0.5

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0.5
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1.0

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0.5

FEBRUARY MARCH

MIN MEAN MAX MIN

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O.S 1.0
1.0 1.5
1.5 2.0

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0.5 1.0
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1.0 l.S
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JUNE JULY AUGUST SEPTEMBER

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4.5 13.5 14.0
4.0 12.5 13.0
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6.0 14.0 15.0
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4.5 13.5 14. n
4.0 13.5 13. S
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6.0 14.0 15.0
6.5 14.5 15.5

6.5 14.5 15.5
6.0 14.5 15.0
4.5 13.0 14.0
3.0 12.0 13.0
2.5 11.5 12. 0
4.5 15.0

DELAWARE RIVER BASIN

01467016 RANCOCAS CREEK AT WILLINGBORO, N. J.

ijiA^ni lull.
1.3 m

DRAINAGE

PERIOD OF

lies downstream

AREA. 255 sq mi

long 11 03'lB", Burlington County, wa from Centerton bridge in Willingboro.

, approximately.

RECORD. Chemical analyses: August 1969 to

REMARKS. -Missing water-qu

SILICA
ISI02I

AUG.
28...
SEPT.
25... 6.7

SULFATE
(S04)

AUG.
23... 21
SEPT.
25... 20

ality recorder data

CHEMICAL

MAN-
IRON GANESE
(FE) I "INI

4400 40

CHLO- FLUO-
RIDE RIOE
(CD (F)

10

11 .1

SPECI-
FIC
COND-
UCTANCE PH
(MICRO-

September

due to malfunction

ANALYSES,

CAL-
CIUM

5.5

6.4

NITRATE

(N03I

3.9

2.6

COLOR
(PLATI
INUM-

AUGUST TO

MAG-
NE-
SIUM

2.2

1.3

PHOS-
PHATE

1.7

. 34

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TEMPER-
C08ALT ATURE

ter-qua:

1970.

Kenne<

of sensor or sampling mechanism.

SEPTEMBER 1969

SOUIUM

7.2

DIS-
SOLVED
SOLIDS
(RESI-
DUE AT

65

DIS
SOLV

SODIUM
PLUS
PO- PO-

SIUM SIUM BUNATE

13 15

2.4 8

DIS-
SOLVED NON-
SOLIDS CAR-
1 SUM DF HARD- BDNATE
CONSTI- NESS HARU-

23 10

62 24 17

BIO- COLI-
CHEM- FORM

ICAL (COL-
ED OXYGEN ONIES

BONATE

(MG/LI

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ALKA-
LINITY
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12

7

OXYGEN DEMAND PER

AUG.
28
SEP
25

OCT.
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NOV.
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DEC.
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J4N.
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FEB.
27...
M4R.
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APR.
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MAY
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JUNE
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JUL/
30...
AUG.
28...
SEPT.
28...

103 6.

i.
. . . 104 6.

DIS-
SOLVED
SILIC4 IRON

ISI02) (FEI

3100

1400

5.3 1000

5.6 350

6.5 1100

6. a 1600

5 120

3 70

DIS-
SOLVED
MAN-
GANESE
(MN)

110

60

70

90

60

83

23

19

CAL-
CIUM

(CAI

8.4

7.0

7.8

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11

10

6.8

6.8

7.9

7.9

10

14

3.

5.

MAG-
NE-
SIUM

(KG)

1.9

1.9

2.0

2.2

2.9

2.6

1.8

1.8

2.2

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2. 3

2.B

2

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SODIUM
PLUS

po- Pn-
TAS- TAS-
SOOIUM SIUM SIUM
INA) (NAtKI (K)

11

7.8

5.3 2.2

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5.9 2.3

12

DELAWARE RIVER BASIN

01467016 RANCOCAS CREEK AT WILLINGBORO, N. J. Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

4LK4-
BICAR- C4R- UNITY C HL 0- FLUO-

3.7

2.5

7.8

FIELD DETERMINATIONS

SPECI-
FIC
COND-
EMPER- UCT4NC6 Cl

110

150

j i o . /

OIS-
H SOLVED
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IS) (»G/LI

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i.7 12.6

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i.a 4.4

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- f 1 .

cnLi-
F3KM
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ONIf S
PER

100 «L)

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16000

3200

109

2200

3000

1250

15000

1380

2700

1050

22500

DELAWARE RIVER BASIN

01467016 RANCOCAS CHEEK AT WILLINGBORO, N. J. Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°CI, AUGUST TO SEPTEMBER 1969

JUNE JULY AUGUST SEPTEMBER

MIN MEAN MAX MIN MEAN MAX MIN MEAN MAX MIN MEAN

156 103 117
155 95 118
132 loo 113
107 94 100
104 79 92

110
113
146

151
151
148
138
147

157
158
164
165
145
153

101
110

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

DECEMBER JANUARY

MAX MIN MEAN MAX MIN

III

. . .

87
91

96
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107
114
122
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114

108
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122
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192
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195
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196
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181
176
202

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141
134
127
130

Y MAX

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201
161
181
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219
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185
137
130

134
123
159
161
157

123

OCTOBER

MIN

96
106
112
109
95

109
87
110
101
105

108
102
109
94
63

73

MEAN

124
131
124
121
123

129
114
127
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117

120
117
119
115
88

94

NOVEMBER

MAX MIN

181 103
206 96
166 98

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. . _ _..

MEAN

128
132

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145 95 110
127 95 110

124 84 102
185 90 114
163 92 116
146 97 119
152 93 1?1
187 109 129

SPECIFIC

FEBRUARY

MIN

DELAWARE RIVER BASIN

01467016 RANCOCAS CREEK AT WILLINGBOHO, N. J. Continued

CONDUCTANCE (MICRDMHDS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

MARCH

MIN

APRIL

MIN

100
99

MAY

MIN

145
151
149
149
143

155
157
163
140

135
130
137
119
133

133
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136
137
134

108
111
113
113
107

131
133
136
124
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135

116
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119

PH (UNITS)t WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FEBRUARY MARCH APRIL MAY

MAX MIN MEAN MAX MIN MEAN MAX MIN MEAN MAX MIN MEAN

6.4 5.9 6.1
6.6 6.0 6.1

6.1 6.6
5.6 6.1
5.7 6.0
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6.3 6.4
6.0 6.4
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5.8 6.1
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6.4 6.1
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DELAWARE RIVER BASIN

01467016 RANCOCAS CREEK AT WILLINGBORO, N. J. Continued

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

FEBRUARY MARCH APRIL MAY

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TEMPERATURE (°C) OF WATER, AUGUST TO SEPTEMBER 1969

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DELAWARE RIVER BASIN

01467016 RANCOCAS CREEK AT WILLINGBORO, N. J. Continued

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

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DELAWARE RIVER BASIN

01467030 DELAWARE RIVER AT TORRESDALE INTAKE, AT PHILADELPHIA, PA.

LOCATION. Lat 40°01'57", long 74°59'46", Philadelphia County, water-quality recorder (40°02'05", located in inactive intake building at Torresdale Filter Plant.

DRAINAGE AREA. 7,781 sq mi.

PERIOD OF RECORD. Chemical analyses: August 1949 to September 1970.
Water temperatures: October 1955 to September 1957, November 1960 to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum, 609 micromhos Jan. 18; minimum, 71 micromhos July 24.
pH: Maximum, 8.1 Dec. 30; minimum, 5.2 Nov. 12.
Dissolved oxygen: Maximum daily, 14.2 mg/1 Jan. 30; minimum, 0.3 mg/1 June 19.
Water temperatures: Maximum daily, 28. 5 C Aug. 16, 18-22; minimum daily, freezing point on many days during January.

Period of record:
Specific conductance (1960-70): Maximum, 609 micromhos Jan. 18, 1970; minimum, 71 micromhos July 24, 1970.
pH (1968-70): Maximum, 8.1 Dec. 30, 1969; minimum, 4.9 Apr. 5, 1969.
Dissolved oxygen (1961-69): Maximum, 14.5 mg/1 Feb. 4, 5, 1964; minimum, 0.0 mg/1 on many days during 1962
and 1965.
Water temperatures: Maximum, 29. 0°C on many days in 1956, 1963, 1966, and 1968; minimum, freezing point on many days during winter periods.

REMARKS. Records of discharge are given for Delaware River at Trenton, N. J. (station 01463500). Further informa

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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

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262
264
274
271

?60
?65
?86
261
?72

278
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?5B
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?85
?67
878
260
863

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866
878

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DELAWARE RIVER BASIN

01467030 DELAWARE RIVER AT TORRESDALE INTAKE, AT PHILADELPHIA, PA. Continued

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

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DELAWARE RIVER BASIN

01467030 DELAWARE RIVER AT TORRESDALE INTAKE, AT PHILADELPHIA, PA. ContiB

F>H (UNITS) , WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCTOBER NOVEMBER DECEMBER JANUARY

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OCTOBER NOVEMBER DECEMBER JANUARY

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DELAWARE RIVER BASIN

01467030 DELAWARE RIVER AT TORRESDALE INTAKE, AT PHILADELPHIA, PA. Continued

DISSOLVED OXYGEN (DO). IN MILLIGRAMS PER LITRE , WATER YE4R OCTOBER 1969 TO SEPTEMBER 1970

FEBRUARY MARCH

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DELAWARE RIVER BASIN

01467030 DELAWARE RIVER AT TORRESDALE INTAKE, AT PHILADELPHIA, PA. Contin

TEMPERATURE ("O OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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DELAWARE RIVER BASIN

01467030 DELAWARE RIVER AT TORRESDALE INTAKE, AT PHILADELPHIA, PA. Contir,

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

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390 DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE, AT PHILADELPHIA, PA.

LOCATION. Lat 39°57'11", long 75°08'05", Philadelphia County, at center of river on a line, 200 ft upstream from

river. Water-quality recorder (39°57'10", 75°08'18") located at river end of pier 11 North, about 100 ft downstream from bridge.

DRAINAGE AREA. 7,993 sq mi.

PERIOD OF RECORD. Chemical analyses: August 1949 to September 1970.
Water temperatures: November 1960 to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum, 416 micromhos Oct. 14; minimum, 127 micromhos Apr. 5.
pH: Maximum, 7.3 Nov. 26, Dec. 12-13; minimum, 5.6 Feb. 27.
Dissolved oxygen: Maximum, 13.1 mg/1 Feb. 8; minimum, 0.0 mg/1 on several days in August.
Water temperatures: Maximum, 29.0 C on several days during July and August; minimum, 1.0°C on several days in January.

Period of record:
Specific conductance (1963-70): Maximum, 1,450 micromhos Nov. 20, 1964; minimum, 90 micromhos on several days in 1965, 1967.
pH (1968-70): Maximum, 7.3 Dec. 11, 1967, Nov. 22, Dec. 18, 1968; minimum, 5.6 Feb. 27, 1970.
Dissolved oxygen (1960-70): Maximum, 14.1 mg/1 Dec. 14, 1962; minimum, 0.0 mg/1 on many days.
Water temperatures: Maximum, 31. 0°C July 13-15, 1966, Aug. 8-11, 1968; minimum, freezing point on many days

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, N. J. (station 01463500). Further informati
upply Paper 1809-0.

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5560 3.0 lit 4.9 10

5450 .6 16 6.6 12

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n in U. S. Geological Survey

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DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE, AT PHILADELPHIA, PA. Continued

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

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DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE, AT PHILADELPHIA, PA. Continued

SPECIFIC CONDUCTANCE [MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1959 TO SEPTEMBER 1970

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DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE, AT PHILADELPHIA, PA.

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DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE, AT PHILADELPHIA, PA. Continued

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6.3 8.0
6.0 7.9

DAY

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MAX

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12.5
12.9
13.1
13.0
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12.1
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11.0
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11.0
11.1
10.8

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FEBRUARY

MIN

6.6
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12.0
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6.4
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MEAN

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MAX

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APRIL

MIN MEAN

9.6 10.1
9. 10.6
11. 11.7

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11. 11.7
11. 11.5
10. 10.4
9.8 10.2
10.0 10.3

0.7 10.2
9.2 9.7
8.9 9.3
".9 9.3
8.7 9.0

8.2 8.5
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R.2 8.7
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MEAN

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DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE, AT PHILADELPHIA, PA. Continued

DISSOLVED OXYGEN (DO). IN MILLIGRA

MAX

2.6
2.5
2.2
1.4
1.1

0.5
0.8
0.8
1.1
0.3

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0.2
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0.1
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JU

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MILLIGR

MAX

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1.8
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3.0
2.6

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3.8
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JULY «U(5J<;T SEPTE

MIN MEAN MAX MINI MEAN MAX «IM

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0.1 0.7 0.4 0.
0.1 0.3 0.6 n.
0.1 0.4 0.9 0.
0.2 0.7 0.3 n.

0.4 1.1 0.2 n.
0.6 1.4 0.2 n.
0.8 1.7 0.1 n.
1.2 2.0 0.5 n.
1.1 1.6 0.9 n.

0.6 1.3 1.3 0.
0.8 1.9 1.1 n.
1.3 2.2 0.
1.1 2.0 0.
0.5 1.4 0.

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. 2 1.2 0.0
. 2 1.3 0.0
. 3 1.3 0.1
. 2 l.P 0.1

. 1 1.5 0.1

. 1 l.P 0,1
. 1 1.8 0.1
. 2 1.4 0.1
1.2 0.1

1. 0.1
. 6 0.
. 4 0.
. 2 0.
. 2 0.

. 2 0.
. 2 0.
. 3 0.
. 1 0.
. 2 0.

. 3 1.
. 4 0.
. 3 0.
. 5 0.
o. 1 0.5 o.

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n.o o
0.0 0
1.1 f.l 0

. 3 0.
. 2 0.
. 2 0.
. 2 0.

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MBEB

MEAN

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O.B
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TEMPERATURE (°C> OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY

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3

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IS

16
17
IB
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2B
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MAX

22.0
23.0
23.0
22.0
22.0

22.0
21.5
21.5
21.5
21.5

21.5
21.5
21.5
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21.0

20.5
21.0
20.0
19.5
19.5

19.5
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OCTOBER

MIN MEAN

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22.0 22.0
22.0 22.0
21.5 22.0
21.5 21.5

21.0 21.5
21.0 21.5
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7.0
6.5

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5.5
15.5 15.5

MAX

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16.0
16.0
16.5
16.5

16.5
15.0
14.5
14.5
14.0

14.0
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13.5
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13.0

11.5
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NOVEMPER

MIN MEAN

15.5 15.5
15.0 15.5
15.5 15.5
15. S 16.0
16.0 16.0

16.0
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14.0 14.5
13.5 14,0
13.5 14,0

13.5 13.5
13.0 13.5
12.0 13.0
12.0 13.0
11.5 12.0

11.0
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DECEMBER JANUARY

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9.0 S.5 9.0 "-
8.5 S.O 8.0 3.0 2.0
8.5 .0 S.5 2.0 1.0 1.5
8.5 .0 8.0 3.1 1.5 2.0
R.O .0 7.5 3.0 2.0 2.0

R.n .0 7.5 3.0 2.0 2.5
R.O .5 7.0 3.0 1.5 2.0
8.0 .0 7.0 3.0 1.5 2.0
7.0 ft. 5 7.0 3.0 .5 2.0
8.0 *.0 7.0 2.0 .0 1.5

B.O ft. 5 7.0 2.0 .0 1.5
7.0 ft. 5 7.0 1.5 .0 1.5
7.0 *.5 6.5 2.0 .5 1.5
7.0 ft. 5 7.0 2.0 .0 1.5
7.0 IS.O 6.5 2.0 .0 1.5

6.5 S,5 6.0 2.0 1.0 1.5
6.0 5,0 S.5 2.0 1.5 2.0
6.0 5.0 5.5 3.0 1.5 2.0
5.5 S.5 2.0 1.0 1.5
2.0 1.0 1.5

2.n i.o i.o

5.0 4,5 - 1." 1.0 1.0
4.0 3.0 2.0 1.0 1.5
1.5 1.0 1.5
2.0 1.0 1.5

2.0 1.5 2.0
2.0 2.0 2.0
3.0 2.0 2.0
3.0 1.5 3.5 2.0 2.5
3.0 ?.0 2.0 3.5 2.0 3.0
3.0 1.5 3.5 1.5 3.0

DELAWARE RIVER BASIN

01467200 DELAWARE RIVER AT BENJAMIN FRANKLIN BRIDGE, AT PHILADELPHIA, PA. Continu

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

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Max

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MEAN

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Max MIN MEaN

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5.5 4.5 5.0
6.0 4.5 5.0
5.5 5.0
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6.5 5.5 6.0
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8.0 b.O 7.0

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8.5 8.0 8.0
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8.5 8.0 8.0
9.0 8.0 8.5
8.5 8.0 8.0

9.0 3.5 6.0

JULY

Max M]N MEflN

86.0 25.5 25.5
26.0 26.0 26.0
86.0 26.0 26.0
26.5 8 ,0 86.0
26.0 2 .0 26.0

26.0 8 .0 26.0
26.5 2 .0 26.5
26.5 2 .5 26.5
27.0 26.5 26.5
27.0 86.5 87.0

27.0 26.5 27.0
27.0 26.5 27.0
27.0 27.0 27,0
27.0 27.0 27.0
27.0 27.0 27.0

27.0 27.0
27.0 27.0
27.0 27.0 87.0
28.0 27.0 27.5
28.0 28.0 28.0

28.0 28.0 28.0
88.0 87.0 28.0
28.0 27.0 27.5
28.0 27.0 28.0
28.0 28.0 28.0

28.0 28.0 28.0
2S.5 28.0 28.5
29.0 88.5 29.0
29.0 29.0 89.0
?9.0 29.0 29.0
29.0 29.0 29.0 ;

29.0 25.5 27.5 ;

M6X MIM MEaN M6X

8.0 7.0 7.5 16.0 1
7.0 6.5 16.5 1
6.0 5.5 17.0 1
5.5 4.5 5.0 17.0 1
5.0 4.5 4.5 18.0 1

6.0 5.0 5.5 18.0 1
6.5 6.0 6.0 17.0 1
8.0 6,5 7.0 18.0 1
8.5 7.0 18.0 1
8.5 8.0 8.5 18.5 1

9.0 «.5 8.5 !9.5 1
9.0 8.5 9.0 20.0 1
9,5 8.5 9.0 20.5 2
9.0 8.5 9.0 21.0 2
9.0 8.5 8.5 20.5 2

9.5 0.5 9.0 20.5 8
9.5 9.0 9.0 20.5 8
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1.5 10.5 11.0 21.0 2

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1.5 11.0 11.5 21.5 8
1.5 10.5 11.0 21. s 2
1.0 10,5 11,0 ?l.«i 2
1.0 10.5 11.0 81,5 2

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2.0 1! .5 11.5 ?l.fl 8
3.5 12.0 81.5 8
3.5 13.5 21.5 2
5.0 14.0 21.5 2
21.5 2

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Max MIM MEON Max

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'9,0 29.0 29.0 28.0 8
'9,0 29.0 29.0 87.0 2
'9.0 29.0 29.0 27.0 2
?9.0 29.0 29.0 87.0 8

=9,0 28.5 88.5 8/.0 2
'8.5 2«.5 28.5 26.5 8
'8.5 28.5 28.5 26.5 2
'9.0 21.5 28.5 26.5 2
8.5 28.5 - 26.5 2

'8.5 28.0 26.5 2
>8.5 2».0 28.5 26.0 2
8.5 28.0 28.0 26.0 2
8,5 2«.0 88.5 86.0 8
>9,0 28.5 88.5 86.0 2

9.0 29.0 29.0 26.5 2
>9.0 88.5 29.0 26.5 2
>9.0 28.5 29.0 26.5 2
9.0 28.5 28.5 26.5 2
9.0 88.5 29.0 26.0 2

9.0 29.0 29.0 26.0 8
9,0 28.5 8B.5 26.0 2
8.5 8».o 28.0 26.5 2
«.0 2R.O 88.0 86.0 2
8.0 28.0 88.0 27.0 2

8.0 87.0 88.0 28.0 2
8.0 27.0 28.0 27.0 2
8.0 28.0 28.0 26.5 2
8.0 2».0 28.0 26.0 2
8.0 28.0 88.0 25.0 24
8.0 28.0 28.0

9.0 27.0 28.5 28. 0 24

IN MFaM

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. 0 20.0
. 0 20.0
. 5 20.5

. 0 21.0
. 0 21.0
. 0 21.5
. 0 21.5
. 0 21.0

. 0 21.0
. 0 21.0
. 0 21.0
. 0 21.5
. 0 21.5
. 0 21.5

'.5 20.0

sfFMSSD

- IN MFAM

1.0 28.0
7.0 87.0
5.5 27.0
'.0 27.0
7.0 27.0

5.5 86.5
5.5 26.5
5.5 26.5
b.o 26. 0
b.O 26.5

5.5 26.5
5.0 26.0
5.0 26.0
5.0 26.0
5.0 26.0

5.0 26.0
5.0 86.5
>.5 26.5
5.0 86.0
5.5 25.5

5.5 26.0
5.5 25.5
5.5 26.0
. 0 26.0
. 0 26.5

'.0 27.0
. 5 87.0
. 0 86.5
. 0 25.5
. 5 85.0

. 5 26.5

DELAWARE RIVER BASIN

01470500 SCHUYLKILL RIVER AT BERNE, PA.

LOCATION. Lat 40°31'20", long 75°59'55", Berks County, at highway bridge 50 ft downstream fr

DRAINAGE AREA. 355 sq

nt records

EXTREMES. 1969-70:

Water temperatures: Ma
Sediment concentrations

September.
Sediment discharge: ME

Maximum daily, 990 micromhos Oct. 30; minimum dally, 16

daily, 10,230 tons Apr. 2; minimum daily, 0.33 ton Sept. 21, 24, 25

Period of record;
Dissolved solids (1947-53, 1956-59): Maximum, 755 mg'l Sept. 11-20, 1948; minimum, 164 mg 1 May 5-10, 1948. Hardness (1947-53, 1956-59): Maximum, 501 mg/I Sept. 11-20, 1948; minimum, 93 mg'1 Mar. 21-31, 1950. Specific conductance: Maximum dally, 1,410 micromhos Oct. 28, 1961, Oct. 25, 26, 28, 1964; minimum daily, 128 iricromhos Feb. 18, 1969.
pH (1963-70): Maximum daily, 7.2 Sept. 7, 1968; minimum daily, 3.6 July 25, 31, 1966.
Water temperatures: Maximum, 33.0°C July 3, 1966; minimum, freezing point on many days during winter periods

1952 and 1968.
Sediment discharge
and 1968.

REMARKS. Unpublished
nffice, Harrisburg

DIS-

ncT.
01... Ibb
NO V
01... 13J
DEC.
01... 327
JAN.
01... 583

01... blO
APP..
01... U»0
MAY
01... 690
JUNE
01... 251
JULY
01... 143
AUG.
01 ... 1300
SEP.
01.. . 183

DIS-
SOLVED
FLUU-

(Fl
DATE (MG/L)

OCT.
01... .1
NOV.
01... .6
DtC.
01... .1
JAN.
01...

01... .1
APS.
01... .2
MAY
01... .?
JUNE
01... .0
JULY
01... .?
AUfa.
01... .1
SEP.
01...

Maximum daily, 90,180 t<>ns Nov.

Pa

CHEMICAL ANALYSES, WATER YEAR

DIS- DIS-
nlS- SOLVED SOLVED
SOLVED ALJM- CAL-
SILICA INUM CUM

(SI02) UL) (Col

9.3 -- 100

8.6 46

9.b 52

ft?

9.2 37

7.0 -- 21

7,4 -- ft3

8.4 b5U 65

8.4 700 71

7.1 100 22

7b

nis- DIS-
iOLVLD bOLVtn
DIS,. ORTHO SOLIDS
SOLVED PHOS- (RtSI-

9.0 -- 7b?

1ft 70b

9.6 -- ft3?

Id

9. ft -- 325

8. ft 225

6.6 .00 359

7.8 .00

22 .nit 5ftH

-J.? .13 IBft

8.5 .00

DIS-
SOLVED
MAS-

SUM

60

53

30

- -

22

12

27

30

12

30

HARO-

496

458

253

233

1B3

10?

219

28b

35

105

313

12, 1947:; minimum daily, 0 ton on m;my days di

?s during

iring 1952

OCTOBER 1969 TO SEPTEMBER 1970

015-

SODIUM

(NA)

16

17

11

- -

10

13

9.2

13

13

7.0

NON-
CAH-
BUNATE

ft 95

ft56

253

233

1M3

102

219

286

35

105

313

UIS- DIS-

SD01JM PD-

SI-JM (K) (HC03I

?.6 '

3.1 2

!.-»

16

1.7

1.4

1.6 n

?.o o

?.5

2.2

ftS -- 0

SPE-
CIFIC
TOTAL CON-
ACIDITY DUrT-

H» (MICRO-

972 ft. 8

969 b>.5

560 ft. 2

. 2 559 ft. 3

ft68 ft. 2

318 ft.e,

520 ft.S

. ft 722 ft.O

. 3 H19 3.9

290 5.4

».4

TIS-

(SOftl

ftB5

ft25

252

231

178

97

21B

273

319

93

366

ATJSE
(DES C)

20.0

11.0

3.0

28.0

3.0

9.0

16.0

23.0

23.0

2«.fJ

25.0

DIS-
SOLVED

(CD

11

15

9.6

13

12

20

8,5

12

13

B.8

!o

COLOR

(»LAT-
INUM-
COBALT

JNITS)

1

1

0

3

3

0

0

3

1

6

398

DAY

1
?
3
4

fr
7
8
9

in

11
12
13
14
15

1ft
17
1R
19
2n

2!
2?
23

25

29

31

AVG

DELAWARE RIVER BASIN

01470500 SCHUMJULL RIVER AT BERNE, PA. Continued

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

OCT

86?

780

702

766
750

816
827

910
940

920
915
825
945

960
970
910

95*

98?

958

NOV

908

939

850

720
640

685
650

540

610
678
638
506

391
33?
340

52n

433

DEC

560

592
620
562

566

674
744

?20

348

4?7
413
412

477
544
542

466

PH

JAN res

559

621 321
553 251
698 275

686 295

723 368
414

?58

402

366
394
429

412
434
558

. . . . . .

(UNITS). WATER YEAR

468

489
497
481

470

497
629

479

516

53?
492
470

488
49?
490
383

3?B

3?5

293

OCTOBER

31B

169
?22
?64

301

?7B
410

316
319

351

375
436
4B5

386
352
361
396

442

490

1969 TO

520

490
433
369

384

411
4?0
431

467
463

485

579
559
48?

499
475
S?6
S26

715
605
582
600

SEPTEMBER

723

686
681
605

6?6
596
720
728
BOO

770
701

900

810
72?
575

55n
620
690
700

680
690
690
700
790

717

1970

JUL

800
675
680
520
580

550
580
6?0
643
660

420
510

500

5?0

530
500
5?0

500
390
370
390

4?0
580
600
580
490
467

53?

AUG

290
3BO
400
360
350

3BO
430
440
450
620

680
600
520

540

560

7BO
790
680

620
600
670
BOO
820

755
680
620
600
610
680

577

SEP

850
890
830
780
730

T10
700
780
900
920

860
BOO
720

850

900
870
820
800
700

690
700
700
700
700

710
680
680
670
710

768

(ONCE-DAILY MEASUREMENT)

DAY

1
2
1
4
5

A
7
8
9
10

11
1?
13
14
15

16
17
IS
19
20

2)
2?
23
24
25

?6
27
2*
29
30
31

AVG

OCT

4.9

5.0

5.5
4.R
4.8
5.1
5.1

5.1

4.7

5.2

4.8

4.7
5.1

4.9

NOV

5.5

4.4

4.2
4.2
4.?
5.2
5.0

4.6

4.2

4.5

4.5

DEC

4.0

4.3

4.3
4.9
4.2
4.1
4.4

5.6

4.7

4.2

4.7

4.8
4.5

4.5

JAN rca

4.?

4.6 4.B

3.8 4.5
4.0 4.6
3.8 4.3
4.2
4.5

4.1

3.8

4.2

. . . . . .

4.4

MA»

4.1

4.0

4.1
4.1
4.2
3.9
3.9

4.2

3.9

4.6

5.1

4.5
4.8

4.3

APR

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. . .

MAY

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. . .
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. . .

5.0

5.1

4.9

5.1

4.9

. . .

JUN

5.S

5.4
5.5
5.0
5.3
3.8

3.8
3.8

5.4

3.B

4.4

4.5

JJL

4.?

5.2
5.3
4.0
3.9
4.2

4.B
4.5
4.4

4.2

5.2

5.4

5.3
5.0

4.6

AUG

5.3

5.0

5.3
4.5
4.9
5.2
5.2

5.3
5.4
5.3

5.0

5.2

5.1

S.5

5.4
5.6

5.2

SFP

5.4
5.6

5.5

5.4
5.4
5.4
4.8
4.9

5.0
4.8
5.0
5.0
4.8

5.0
4.8

5.4

5.5

5.2

4.0
5.1

4.?

5.1

DELAWARE RIVER BASIN

01470500 SCHUYLKILL RIVER AT BERffE, PA. Continued

oar

i?

3
4
5

6
7
ft
9
10

11
12
13
14
15

16
17

IR
19
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21
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26
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31

AVG

1
S
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5

(,
7
B
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10

11
12
13
14
Ib

It.
17
18
19
20

21
22
23
24
25

86
27
28
29
30
31

OCT

20.0
18.0
19.0

18.0

20.0
18. 0
19.0
19.0
20.0

20.0
20.0

20.0
17.0

15.0
13.0
15.0

16.0

20.0
15.0
8.0
11.0
10.0

11.0
10.0
10.0
9.0
9.0
11.0

15.5

MF4N
DISCH4R5E.

169
224
525
331
?48

224
?07
222
206
lit

IBS
18b
190
180
169

164
167
158
151
167

200
176
147
147
147

142
Ib6
147
138
123
128

NOV DEC

11.0 3.0
13.0 4.0
12.0 3.0

11.0 2.0

10.0 2.0
10.0 1.0
10.0 2.0
10.0 4.0
11.0 3.0

11.0 4.0
10.0 5.0

9.0 3.0
7.0 <t.O

7.0 4.0
8.0 3.0
8.0 2.0

7.0 2.0

6.0 2.0
<t.O ?,0
5.0 2.0
6.0 2.0
5.0 2.0

6.0 1.0
6.0 2.0
6.0 2.0
5.0 3.0
5.0 1.0
1.0

8.5 ?.5

(ONCE-DAILY

J»N FF.B

2,0
2.0
0.0 3,0

2.0 4.0

3.0 <t.O
2.0 4.0
3.0
4.0
4.0

4.0
3.0

2.0
3.0

3.0
4.0
4.0

4.0

3.0
4.0
<t.O
4.0
4.0

3.0
1.0
3.0
» ---

3.5

OCTOBER

MESN
CONCFN- SEDIMENT It IV

3
10
18 ?
S
?

2
2
2
2
2

2
2
3
3
3

3
3
?
2
f

2
?
1
!
1

1
I
4
4
4
3

. 4 147

s.o 2n*
^ 3*7
. 8 ??7
. 3 193

. 2 340
. 1 3?7
.? 387
. 1 4P5
. 1 433

. 0 375
. 0 34n
. 5 3?7
. 5 3<1R
. 4 410

. 3 340
. 4 3"!
. 85 ?»R
. 8? 3r.R
. 90 1390

. 1 997
. 95 77*
. 40 67?
. 411 Sir
. 40 5?6

. 3s 47"
. 4? 433
. 6 396
. 5 396
. 3 389

MEASUREMENT)

M4R »PR MAY JUM JUL »UG SE°

3.0 4,0 !«,0 23.0 23.0 ?4.0 25.0 4.0 4.0 8.0 25.0 25.0 23.0 25.0 3.0 4.0 6.0 27.0 26.0 22.0 22,0

4,0 9,0 6.0 21.0 25.0 22.0 25.0

4,0 fl.O 4.0 20,0 28.0 23.0 24.0 4.0 4.0 4,0 21.0 27.0 22.0 24.0 4.0 11.0 5.0 21.0 27.0 23.0 23.0
4.0 11.0 23,0 24,0 24.0 21.0
4.0 9.0 21.0 26.0 22.0 24.0 24.0

4.0 9.0 21.0 27.0 22,0 24,0 23.0
3.0 11.0 ?1.0 26. 0 23,0 26.0 24,0

3.0 9.0 20.0 22.0 23.0 28,0 23.0 4.0 11.0 19.0 20.0 22.0 29.0 25.0

3.0 12.0 16.0 19.0 24,0 27.0 23.0 4.0 13.0 15.0 21.0 25.0 27.0 25.0 4.0 13.0 16.0 21.0 23.0 26.0 22.0

3.0 10.0 19.0 20.0 23.0 25.0 24,0

4.0 11.0 20.0 19. n 22.0 25.0 23.0
4.0 13.0 23.0 20.0 22.0 27.0 23.0 4.0 12.0 23.0 24.0 23.0 22.0 27.0 6.0 11.0 ?0.0 26.0 23.0 24.0 27.0 6.0 13.0 17.0 24.0 24.0 25.0 28.0

7.0 15.0 18.0 23. n 27.0 24.0 27.0
5.0 16.0 19.0 21.0 28.0 27.0 22.0 7.0 15.0 20.0 24.0 27.0 28.0 20.0 2.0 19.0 19.0 24.0 27.0 27.0 17.0 4.0 18.0 18.0 25.0 27.0 27.0 15.0

4.0 11.0 !».5 22.5 24.5 25.0 23.5

MOVFMRER DECEMRE"

MEAN MEAN

3 !.? 75 3 3.0
4 ?,2 44 4 3.7
10 9.4 23 4 3.5
7 4.3 1J 5 it.?
6 3.1 00 7 5.7

9 K.I 01 7 S.7 ft 5.3 16 7 6.0 ft 6.2 44 9 11
7 9.2 49 7 8.5 6 7,0 48 5 6.0

6 6.1 2 80 55 455
? 1,8 2 30 18 104
1 ,88 1 40 10 42
1 ,81 1 80 8 ?8
1 1.1 1 60 6 17

? l.R H9 4 9. ft
1 ."1 62 3 6.J 1 .78 65 3 5.4 4 3.3 ?S 3 5.1

2(1 78 Rt, 3 4.7

6 16 35 3 4.3 4 8.4 42 7 12
4 7.3 71 8 14
5 8.? 33 5 7.2 6 B.S 50 4 4.9

4 5.? 30 9 10
3 3.5 40 10 12
? 2.1 60 5 6.? 1 1.1 40 4 4.8 ? ?.l 70 4 5.1
00 6 9.7

DELAWARE RIVER BASIN

01470500 SCHUYLKILL RIVER AT BERNE, PA. Contll

SUSPFNDED-SEOIMENT OISCHakC-E. MflTFR YF6H OCTOBER 1 9h9 TO

NUARY FEBRUARY

SEDIMENT
DISCHARGE

(TUNS/DAY!

MEAN
niSCHSPSE
(CFS)

7.0
7.9
7.3

6.9
6.5
6.3

3050
2250
1770

176

2?2

592
565
59*

b23
568
533
531

7.1
7.7
7.?
5.7

8.3
3.0
7.0

CONCEM- SFHUENT
TR4TION DISrHs^GF

(MG/L! <TOMS/DAY

375
588
36S

5.'
1.9
3.6

3.4
3.3
3.?
3.3

DELAWARE RIVER BASIN

01470500 SCHUYLKILL RIVER AT BERNE, PA. Continued

SUSPENDED-SEDIMENT DISCHARGE, HATFR YEAR OCTOBER 1969 TO SE°TEMRER 197D

JULY AUGUST SEPTEMBER

MEAN CONCEN- SEDIMENT MFi^J CONCE'J- SEDIME T
DISCHARGE TRATION DISCHARGE DISCHARGE TRATION DISMA fiF

ICES) (MG/L) (TONS/DAY) ICES) IHG/LI ITO^'S/ AY)

208 .56 1440 2
340
?6S
373
315

257

245 227
253
619 1

1100 1
oBl
491
409
3B1

568
474
397
370
46S

12*0 2
(.78
54<+
490
454

431
376
344
350
447
1*10 2

3.7 1160
1.4 887
4.'l 776
1.7 690

. 69 5QO
. 66 ill
. 61 45B
4.1 4SH
2S 411

45 370
7.4 351
2.7 3?7
2.2 310
1.0 296

1.5 3?0
1.3 273
1.1 245
1.0 ?33
7.5 542

8? ?36
5.5 ??B
2.9 <*34
1.3 334
1.2 251

1.? ??7
1.0 S15
. 93 Ell
. 95 193
1.2 ?15
14? 2?7

,f+
. 4
. 1

. «

. 6
. 4
. 2
.?
. 1

1.0
. 95
. SB
. 14
. SO

. 86
. 7*
. 66
. 63
. 65

. 64
1.2
1.2
. 90
. 6H

. 61
. 5B
. 57
. 52
,5H
. 61

"FAN

ICES)

1R8
161
1SE
172
156

156
161
147
156
172

?39
172
172
1S2
142

138
133
142
172
133

123
128
128
123
123

133
314
314
177
166

SEDI"ENT
OISCHORCiF

ITONS/OAY)

. 37
. 36
. 77

. 35
. 35
. 33
. 33

TOTAL 15641

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE; C, CHEMICALLY DISPERSED, N, IN NATIVE WATER, P, PIPET! S, SIEVE; V, VISUAL ACCUMULATION TUBE; W, IN DISTILLED WATER)

WATER PARTICLE SIZE
TEM- METHOD

PERA- CONCEN- SEDIMENT PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED OF
TURE DISCHARGE TRATION DISCHARGE ANALY-

DATE TIME C°C) (CFS) (MG/L) (TONS/DAY) .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00 SIS

APR 4, 1970 1700 13,800 511 19,000 35 51 65 72 92 97 99 100

DELAWARE RIVER BASIN

01470960 TULPEHOCKEN CREEK AT BLUE HARSH DAHSITE NEAR READING, PA.

LOCATION. Lat 40°22'00", long 76°01'16", Berks County, temperature recor 1 mile upstream from Rebers Bridge and Plum Creek, 1 mile east of Blvi and 5.5 miles northwest of Reading.

DRAINAGE AREA. 175 sq mi.

PERIOD OF RECORD. Water temperatures: October 1968 to September 1970.

at gaging station on right bank,
rsh, 3 miles north of Sinking Spring,

EXTREMES. 1969-70:

Water temperatures: Maximum,

OCTOBER

DAY MAX MIN MEAN

1 18.
2 17.
3 20.
4 21.
5 19.

6 18.
7 16.
8 19.
9 IB.
10 17.

11 17.
12 20.
13 20.
14 20.

14.0 16.0
16. 17.0
17. 19.0
17. 19.0
15. 17.0

13. 15.5
14. 15.5
16.0 17.5
14.0 16.0
13.0 15.0

13.0 15.0
IS. 5 17.0
16.0 18.5
16.0 19.0
15 17.0 13.0 15.0

16 13.5 11.5 12.5
17 13.
1ft 13.
19 14.

> 11.0 12.5
i 9.5 11.5
10.0 11.5
20 17.0 11.5 14.0

21 16.0 14.0 15.0
22 14.
23 10.
24 9.

) 11.0 13.0
> 7.5 9.0
> 5.5 7.5
25 9.5 6.5 7.5

26 11.5 6.5 8.5
27 10.
28 10.'
29 10.'
30 10.

> 9.0 9.5
> 7.5 9.0
5 6.5 8.0

) 5.5 7.5

27. 5°C Sept. 25; minimum, 1.5°C on many days d

MAX

12.5
13.5
15.5
15.5
12.5

9.5
10.0
11.0
11.0
13.0

12.0
10.0
10.0
9.0
8.0

6.5
7.0
7.5
10.5
9.0

5.5
4.5
6.0
7.5
6.5

7.0
6.5
6.5
5.5
5.0

NOVEMBER

MIN

9.S
12.0
13.5
12.5
9.5

9.0
9.0
9.0
9.S
11.0

10.0
9.0
7.5
8.0
5.0

3.5
3.0
4.5
7.0
5.5

3.0
2.5
3.0
S.O
3.5

4.0
3.5
3.5
3.0
3.0

uring Dece mber to February.

DECEMBER

MEAN

11.0
13.0
14.5
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DELAWARE RIVER BASIN

O1470960 TULPEHOCKEN CREEK AT BLUE MARSH DAMSITE NEAR READING, PA. Contiu

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

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DELAWARE RIVER BASIN

01472157 FRENCH CREEK NEAR PHOENIXVILLE, PA.

LOCATION. Lat 40°09'05", long 75°36'OS", Chester County, at two-span county bridge on French Creek Road, 70 ft up.

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3E AREA. 59.1 sq ml.

nent records: October 1968 to September 1969 (miscellaneous).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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DELAWARE RIVER BASIN

01473120 SKIPPACK CREEK NEAR COLLEGEVILLE, PA.

LOCATION. Lat 40"
span highw

DRAINAGE AREA. 53

PERIOD OF RFrnRn _

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CHEMICAL ANALYSES,

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1969 TO SEPTEMBER

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* ob DEIAWARE RIVER BASIN

01473800 SCHUYLKILL RIVER AT MANAYUNK PHILADELPHIA, PA.

LOCATION. Lat 40°01'41", long 75°13'44", Philadelphia County, at Green Lane Avenue Bridge, 5 Biles upstream from the gaging station at Fairmount Dam.

DRAINAGE AREA. 1,893 sq mi (at Fairmount Dam).

PERIOD OF RECORD: Sediment records: November 1947 to September 1970.

EXTREMES. 1969-70:

Sediment concentrations: Maximum daily, 1,580 mg/1 Apr. 2; minimum daily, 4 mg/1 May 21.
Sediment discharge: Maximum daily, 116,500 tons Apr. 2; minimum daily, 3.8 tons Sept. 25.

Period of record :
Sediment concentrations: Maximum daily, 4,91O mg/1 Dec. 30, 1948; minimum daily, 1 mg/1 on many days. Sediment discharge: Maximum daily, 650,000 tons (estimated) Aug. 19, 1955; minimum daily, less than 0.05 ton Sept. 2, 1966.

REMARKS. Re

discharge are given for the Schuylkill River at Philadelphia, Pa. (station 01474500). These records do not include water diverted by the city of Philadelphia for municipal water supply.

SUSPENDED-SEDIMENT DISCHA

OCTOBER

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DISCHARGE TRATION DISCHARGE

(CfS) <MG/L> (TONS/DAY)

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1160

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662
621
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567
506

4*7
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430
45?

671
635
558
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443

27 410
28 364
29 388
30 370
31 351

TOTAL 1840*

15 23

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MEAN

(CFS)

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638

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869

9RB
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89B
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(M6/L)

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(TONS/D«r)

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27
147
162
60
55

46
39
55
65
BO
375

DELAWARE RIVER BASIN

01473800 SCHUYLKILL RIVER AT MANAYUNK PHILADELPHIA, PA. Continued SUSPENDED-SEDIMENT DISCHARGE, rfATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

MEAN
MEAN CONCEN- SEDIMENT

1
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B
9
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11
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13
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IS

16
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IP
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2U

21
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25

26
27
2P
29
30
31

TOTAL

4500 20 243
3180 19 163
2580 12 84
2150 11 64
1810 10 49

1760 9 43
1830 8 40
1640
1150

9 35
9 25
949 9 23

1170 10 32
1410
1360
1240
1120

1020
1020
1300
1390
1250

1050
755
783
842
864

34
33
27
24

17
17
21
26
24

17
10
13
14
14

921 8 20
1010 1

987 l;
1160 1
2150 1

?7
3?
41
75

MEAN

2190
4420
17700
15300
9030

6400
5170
4
3

B50
S60
6570

13500
10
7
S«

00
90
30
4500

130
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i

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90
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650

3030
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26
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23

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20
10
PO

80
30
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MEAN
CONCEN-

11
70
324
560
275

50
64
1B8
115
204

225
30
21
13
12

7
7
17
16
17

26
16
8
7
6

6
7
7
_ v

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DISCHARGE

65
1290
16TOO
23100

f,TOO

B64
893
2210
1200
4550

8200
818
408
194
146

78
70
156
152
16B

213
117
61
57
47

47
46
44

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2500 12 81

46851 1368 156280

APRIL

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16
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IB
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23
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28
29
30
31

"FAN
MEAN CONCEN SEDIMENT

5250 25 354
24200 1580
35000 996
23000 330

117000
98700
20500
13100 175 6190

9580 100
7580 60
62BO 40
S370 30
4820 20

4220 20
3770 14
3450 14
4050 31
B980 196

6470 53
4340 21
3660 15
3300 16
4280 38

5630 32
4220 16
3660 12
4280 20
6540 62

4520 19
3770 16
3550 14
3300 12
3050 10

2590
1230
678
435
260

228
143
130
422
4740

926
246
148
143
439

486
182
119
231
1090

?32
163
134
107
82

MESN
DISCHARGE

(C

28
26
?7
38

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no
30
3100

2700
24
22
21

60
BO
90
206.0

1920
IB
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16
16

30
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10
10

1530
17
22
20

90
80
60
1650

1410
12
12
13

50
20
50
1400

1500
14
13
12
11

00
00
00
00
1050

MAY

MEAN
CONCEN-
TRATION

(MG/L)

9
Q
P

10
10

9
7
8
9
7

6
7
7
8
8

9
9
7
6
5

4
6
11
11
11

12
12
9
a
7
8

68594

SEDIMENT DISCHARGE
(TONS/DAY)

68
63
58
103
84

66
46
49
53
39

31
35
3?
35
35

37
43
43
33
22

15
20
36
40
42

49
45
3?

21
23

MEAN
DISCHARGE

21So
2010
1990
1950
2130

2220
2150
2030
1970
1B80

1730
1790
2140
2490
2190

1930
1750
1720
2030
2540

3790
3470
6720
5160
4250

3B50
5490
5390
5460
5810
5590

95810

MEAN
DISCHARGE

890
838
838
1570
2280

?100
1610
1370
1080
900

1010
1220
1290
807
745

807
900
970
2100
2420

2190
6150
2420
1490
1180

1060
1040
1290
11BO
935

MEAN
CONCEN-
TRATION

6
14
10
a
12

14
10
7
6
5

5
10
11
12
6

6
8
8
11
15

25
24
132
88
32

43
3
9
0
8
6

"

JUNE

MEAN
CONCEN-
TRATION

8
8
8
17
21

16
25
18
13
10

14
16
17
IB
9

16
19
20
S3
54

34
285
220
70
40

32
24
21
21
20

SEDIMENT
DISCHARGE

35
76
54
42
69

84
5B
38
32
25

23
48
64
81
47

31
38
37
60
103

?56
225
2490
1230
367

447
637
566
592
753
272

B882

SEDIMENT
DISCHARGE

19
18
18
72
129

91
109
67
3B
24

38
S3
59
39
16

35
46
52
301
353

201
4730
1440
282
127

93
67
73
67
SO

TOTAL 223220

DELAWARE RIVER BASIN

01473800 SCHUYLKILL RIVER AT MANAYUNK PHILADELPHIA, PA. Continued

SUSPENDED-SEDIMENT DISCHARGE. WATER YEAR OCTOBER 1969 TO SE=TEM«tR 1970

JULY AUGUST SEPTEf-'BFR

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22
23
24
25

26
27
28
29
30
31

MEAN
DISCHARGE

776
776
935
1010
1010

900
714
590
536
1370

4100
3720
2150
1530
1220

1150
1290
1150
900
776

1790
29*50
16SO
1370
1220

1150
935
776
1040
1370
1410

MEAN
CONCEN-
TRATION

19
20
22
25

21
16
Ib
27
36

82
140
98
41
38

32
47
31
27
20

50
47
58
40
27

26
26
24
21
60
58

ME4I1

SEDIMENT E(N COMC

40 720
SO 300
60 800
68 600

51 340
31 170
24 030
39 97=,
141 1030

90S 892
1410 801
569 702
169 648
125 6nl

99 522
164 574
96 592
66 449
42 456

242 577
374 599
258 2920
148 2310
89 1110

SI 704
66 552
SO 497
59 '»36
222 400
221 3B3

N- SEDIMENT

) (TONS/DAY)

3 660
9 793
9 242
6 175
5 151

6 94
1 4J6
8 50
8 47
0 56

3 55
2 48
8 34
6 28
5 24

5 21
7 26
6 26
3 16
4 17

4 22
1 17
5 434
4 462
1 183

3 63
H 42
8 24
8 21
R 19
8 19

MEAN
^F«N CONCEN- SEOI«ENT

409 18 20
409 16 18
338 15 14
321 18 16
304 19 16

280 17 13
260 20 14
241 21 14
280 18 14
300 20 16

509 23 32
455 21 26
401 16 17
260 13 9.1
260 11 7.7

241 12 7.8
222 14 8.4
222 12 7.2
401 11 12
455 13 16

320 14 12
222 12 7.?
187 11 5.6
171 10 4.6
156 9 3.8

241 10 6.5
260 16 11
482 24 31
683 30 55
347 !=. 14

TOTAL OISCHAR&E FOR YEAH (CFS-DAYS)
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOH YEAR (TONS)

WATER
TEM-

PERA- CONCEN- SEDIMENT
TURE DISCHARGE TRATION DISCHARGE

TIME (°C> (CFS) (MG/L)

PARTICLE SIZE

PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED

(TONS/DAYI .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00

52 68 82 95 "38 99 100
35 48 65 79 88 93 97 99 48 62 75 89 95 98 99 100

100

SCBW
SCPW
SCBW

DELAWARE RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA.

DRAINAGE AREA. 1,893 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1945 to September 1970.
Water temperatures: October 1945 to September 1970.

Period of reccrd:
Dissolved solids (1945-56, 1958-59): Maximum, 362 mg 1 Oct. 21-30, 1953; mmii
Jan. 1-10, 1949.
Hardness (1946-59): Maximuir., 231 mg 1 Oct 4-9, 1951; ninlmun-, 73 <r.g, 1 Jan. 1-1U, 1949. Specific conductance (1964-69): Maximum daily, 972 micromhos June 25, 1965; minimum daily. 140 mere Feb. 27, 1962.
pH (1968-69): Maximum, 1J 1 Aug. 12, 1969; minimum, 6.3 June 7, 8, 1969.
Dissolved oxygen (1966-70): Maximum, 14.9 mg'1 July 1, 1966; minimum, 0.5 mg '1 July 21, 22, 1969. Water temperatures. Maximum, 32.0°C July 19, 1969; minimum, freezing point on many days during winte periods

US- Jlb-
SOLVEU SOLVED
SOJlUM Pn-

le.,. 3400

01... 2190
1 y » 1610

01... 52SO

21... 57Mj

21... 1570
31... iOSO
JUNt
<^... 13 0

JULY
01... 7tm
2<i... 2700
»0&.
01 ... 38bO
25... 910
StH.
01... 409
30... 410

39]4 22

35 13 -- 11

8.7 -- 27 9.5 13 -- 2.4

9.5 -- -- -- 39 15 19 -- 3.9

9.S -- -- -- 43 16 21 4.0

43 19 -- 21

33 13 16
»5. 80 IBO 33 13

45 21 -- 23

"ETHV-
LENE
10TM. BLUE TOTAL DI5- OIS- OIS-
OHG4N1C HCTIVE CHRO- SOLVED SOUVF3 SOUVEO
CARBON CVSMDt bUB- WIUM COPPER UE9D ZINC
(Cl <CNI SUNCE ICH) ICUI (PBI (Ml
DME (Mt,/LI (M(s/L) (1&/LI IUG/LI IUG/L) (US/L) (Ub/L)

OCT.
?5... 7.0 .12
NOV .
25... 7.0 .10
JAN.
"6... 0.0 .05
FEB.
18... 3.0 -- -05

IB... b.O .02

21... 6.0 -- .01
MAY
21... 4.U -- .01
JUNE

2b... t).0 -- .01 -
JULY
22... 7.0 .03
fl'Jo,
2b... B.O .00 .04 000 290 SEP.
30... 8.0 .07

65 78

6: b»

44 58

87 79

9(1 87

99 100

73 64
99 73

89 114

DELAWARE RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA. Continued

CHEMICAL ANALYSES, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCT.
01...
22...
NOV.
01...
25...
DEC.
OB...
JAN.
04...
06...
FEB.
02...
18...
MAR.
01...
IB...
«PR.
01...
21...
MAY
21...
31...
JUNE
25...
30...
JULY
01...
22...
JUG.
01...
25...
SEP.
01...
30...

DIS-
SOLVED
CHLO-

(CL)

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44
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34

26

38

22
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33
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SOLVED
FLUO-

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OCT.
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NOV.
25...
JAN.
06...
FEB.
18...
MAR.

APR.
21...
MAY
21...
JUNE
25...
JULY
22...
AUG.
25...
SEP.
30...

OIS
SOLVED

(N03)

22
13

20
a

16

15
13

18
14

17
11

9.2
12

10
14

IS

15
14

12
6.9

13
12

TOTAL
KJEL-

NITRO-
GEN

(N)

. 97

. 99

1.3

. 78

- -

. 69

. 80

2.6

1.3

ALDRIN ODD

JULY
22.
AUG.
25.

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JULY

AUG.
25...

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DIS-
SOLVED
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PHOS-

IP04)

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1.3

1.2

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1.2

DIS-
SOLVED

NITRO-
GEN

(N)

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DDE

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DIS-
SOLVED
SOLIDS

(RESI-

1BO C)

445

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321

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216
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262

2B8

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250

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PH05-

PHORUS (P)

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. 73

MARO-

(CA.MG)

224

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260

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167

130

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155
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141
m

107
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159

174

186

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136
136

199
~

DIS-
SOLVED

7.1

10.3

14.2

9.B

11.3

10. B

8.0

7.0

6.1

Dl

NON-
CAR-
BONATE

NESS

14S

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165
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109

65

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102
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98
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71
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B8

100

113
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76
55

126

CHLORO-

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. 0

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. 0

SPE-

CIFIC
CON-
DUCT-

(MICRO-
MHOS)

617
612

656
480

437

352
457

455
320

370
416

286
?99

194
350

318
441

476
422

352
375

480
575

FEC«L
COLI-
FOrtM

(COL.

- -

- -

- -

- -

-

530

ATJRE

(UNITS) (DEG C)

6.5 22.0
7.7 17.5

7.7 13.0
7.5 8.0

7.1 7.0

7.7 3.0
7.4 3.5

7.8 6.0
7.7 4.S

8.1 6.0
8.0 7.0

7.7
7.4 10.5

7.6 24.0
7.8 23.0

6.8 27.5
7.7 24.0

8.2 25.0
6.B 28.5

B.2 2B.O
7.8 28.0

8.2 27.0
7.3 22.0

IMME- DIATE

COLI-
FOR«
ICOL.

1880

3200

4700

1320

7100

1880

6300

280D

30000

COLOR

(PLAT-
INUM-
COBALT

UNITS)

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L) (UG/L) (U6/L) (UG/I > (LIG/L) (UG/L)

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SILVEX

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DIS-
SOLVED
GROSS

AS

<3.1

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SUS-
PENDED
GROSS

AS

2.7

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DIS-
SOLVED
GROSS

AS SR90

6.1

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SUS-
PtNOED
GROSS

AS SR90

3.5

DELAWARE RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELHHA, PA. Continued

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

OCTOBER NOVEMBER DECEMBER JANUARY

MAX MIN MEAN MAX MIN MEAN MAX MIN MEAN MAX MIN

536 530
556 537 548
553 528 544
527 489 510
490 436 46?

456
457
386
268
269

254
266
271
301
321

280
258
260
278
344

311
311
335
364
366

355
362
360
370
353

363
382
374

. . .

436
405
206
208
239

242
253
263
270
284

228
235
253
260
272

292
298
308
336
341

336
354
355
350
342

341

364 35'4

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449
441
249
237
250

246
258
269
284
304

250
246
255
266
305

301
304
314
347
353

345
359
358
359
349

350
376
365
. . .
. . .

365
374
369
370
383

409
413
404
381
370

374
366
39?
403
396

363
359
359
358
371

379
358
326
29?
309

319
318
?90
290
297
303

351
361
364
361
361

384
406
383
367
365

363
360
361
393
364

354
349
355
355
367

359
321
279
275
291

311
291
276
264
269
277

358
367
367
366
373

395
410
390
375
368

370
362
375
399
378

359
353
358
357
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373
337
303
282
299

316
309
283
277
284
?B9

298
289
189
201
218

237
249
259

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321

?93
313
339
346
319

305
320
329
326
. . .
. . .

?79
15ft
147
174
201

218
?38
251
. . .
. . .

. . .
. . .
. . .
. . .

. . .
. . .
. . .

317

?87
291
313
316
272

278
30ft
314
323
. . .

289
233
170
192
209

225
24?
. . .
. . .

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305
325
335
296

293
312
322
. . .
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298
288

28?
284
291
283
283

28?
286
304
331
356

385
407
449
430
426

4?R
434
449
464
465

460
440
4?8
4?0
4?7
408

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?89
263

277
279
282
278
276

278
282
291
310
335

360
391
409
418
413

417
424
432
444
456

453
417
409
404
401
395

. . .

. . .
. . .

273

280
281
287
280
280

280
284
296
317
344

371
400
426

423 ftia

423
428
439
455
. . .

426
416
411
419
403

DELAWARE RIVER BASIN

0147450T SCHUYLKILL RIVER AT PHILADELPHIA, PA. Continued

SPECIFIC CONDUCTANCE (MI CROMHOS /CM AT 25°U , IJATER YEAR OCTOBER : 96» TO ^EPTEMBCF

JilNF JULY AUGUST

677
472
517
613

619
527
414
363

353
610
470

6!5
550
636
166
146

458
497
509
518

380 356 ---
607 367 39?

41
40
41
42
66

45
45
42
39
42

66
63
64
43
46
39

405
404
404
416
428

433
422
353
353
380

4?6
396
432
4!7
38?
368

08
06
09
20
37

39
38
89
79
09

36
?2
38
29
?5
83

. . .

ITS) . WATER YEAR OCTOBER

637 416
436 616

451 436
470 468
517 468
536 5!3
544 536

553 56?
548 530
534 181
411 1S5
404 192

429 402
453 4!2
466 463
461 423
477 617
502 459

553 14?

!969 TO SFPTE"BE°

427
427

465
659
495
528
562

568
540
655
401
399

612
427
655
463
465
482

460

1970

4B2
420
391
353

3o4
197
430
462
454

643
633
437
637
436

197
183
155
142

144
165
198
633
639

633
625
430
41 6
616

453
395
381
365

35!
386
409
43?
667

635
630
»33
427
427

545 53?
559 544
594 567
605 594

60? 559
608 593
596 562
571 556
560 54!

591 551
575 561
601 573
669 603

648 64]

538
55S
579
599

597
601
580
565
553

570
569
583
623
666

465
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DELAWARE RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA. Contl

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DELAWARE RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA. Continued

DISSOLVED OXYGEN (00), IN MILLIGRAMS PER LITRE , HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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DELAWARE RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA. Continued

DISSOLVED OXYGEN (DO)t IN MILLIGRAMS »ER LITRE , WATER YE»R OCTOBER 1969 TO SEPTEMBER 1970

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DELAWARE RIVER BASIN

01474500 SCHUYLKILL RIVER AT PHILADELPHIA, PA. Continued

TEMPERATURE <°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1971

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25.5 23.5
26.5 24.5
26.0 25.5
26.0 25.5

25.0 23.5
23.5 22.0
23.5 22.0

. . . . . .

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. _.
. . . . -.

26.0 24.5

24.5 24.5
25.5 24.0
26.0 25.0
27.0 25.0
27.0 25.5

55.5 23.5
24.0 20.5
21.5 20.0
24.0 21.5
25.5 23,0

25.0 24.5
25.5 24.5
25.0 24.0
26.0 24.0
26.0 24.5

. . .

MEAN

4.5
b. 0
3.5
1.5
1.5

2.5
4.0
4.5
5.0
5.0

4.5
4.0
4.0
3.5

3.0
3.5
4.0
5.5
5.0

4.5
4.5
b.ll
6.0
6.5

5.5
5.0
5.5

. . .
. . .

4.5

MEAN

23.5
24.5
25.5
25.5
25.5

24,5
22.5
. . .
. . .
. . .

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. . .
. . .
. . .

24.5
25.0
25.5
26.0
26.5

?4.5
?2.5
21.0
22.5
24.0

25.0
25.5
24.5
25.0
25.0

. . .

MAX

6.5
6.5
6.5
6.5
8.0

R.O
8.5
9.0
9.0
9.0

9.0
8.5
9.0
8.5
7.0

7.0
8.0
8.0
7.0
8.5

B.5
8.0
8.0
7.0
9,0

10.5
11.0
10.5
10.0
7.0
6.5

11.0

"AX

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2R.5
28.5
28.5
27.0

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. . .

25.5
26.0

27.0
27.0
29.0
?9. ^
29.0

28.5
28.5
26.0
26.0
28.0

29.0
29.5
30.5
31.0
30.0
28.5

MARCH

MIN

5.0
5.5
6.5
6.0
6.5

7.0
7.0
R.O

B.O
8.9

8.0
B.O
8.0
7.0
6.5

6.0
6.0
7.0
7.0
8.0

7.0
7.0
6.0
6.0
6.5

B.5
10.0
9.5
8.0
6.0
6.0

5.0

JJLY

MIN

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?6.5
26.5
26.5
26.5

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J5.0
24.5

25.5
26.0
26.5
28.0
26.0

P.R.O
26.5
?5.0
25.0
25.5

27. t,
?7.0
?9.0
30.0
28.5
28.0

MEAN

5.5
6.0
6.5
6.5
7.0

7,5
fl.O
R.5
8.5
B.O

8.5
B.O
B.5
R.O
7,0

6.5
6.5
7.0

. . .

R.O
7.0
7.0
6.5
8,0

9.5
10.5
10.0
9.0
6,5
6.0

7.5

MEAN

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. . .

27.5
57.5

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. . .

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. . .

25.5

?6.5
26.5
27.5
2R.S
2B.5

2 R.O
27.5
26.0
25.5
27.0

2R.O
2R.5
30."
30.0
29.5
2R.5

MAX

7.0
8.0
7.0
R.O
8.5

9.0
10.0
11.0

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. . .

13.0

1.0
2.0
3.5
3.5
3.5

5.0
6.5
R.5
B.O

. . .

. . .

MAX

30.0
30.0
29.0
?9.0
2R.O

?R.O
2R.5
28.5
?9.0
2R.O

?o.o
?9.0
29.0
29.0
29.5

30.5
30.5
30.0
29.5
59.0

29.5
29.0
?R . 0

?7.fl
27.0

27.0
?R S 0
?9.0
2T.O

2-J, 0
29.0

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MIM

6,0
6.0
6.0
6.0
7.0

a. 5
R.5
9.5

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10.5
10.5
11.5
13.0
12.0

13.0
15.0
16.0
1R.O

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OUflJST

M.VJ

?8.0

?R, 5
2R.O

2R r 0

27.0

26.5
26,5
26, 5
27.0
27.0

26,5
?7.0

27.0? Q.o
27.0

5R.5
29. 0
2R.5
2H.5
2fl.O

2R.O
26.5
25.5
?5.5
?5.5

25.5
?5.5
?6.5
27.0
27.0

2R.O

MEAN

6.5
7.0
6.0
7.0
8.0

R.5
9.0

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. . .

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11.0
12.5
13.0
13.0

14,0
15.5
17.0

. . .

MEAN

29.0
29.5
2R.5
2B.5
27.5

27.0
27.0
27,0
27.5
27.5

27.0
28.0
58.5
2B.5
29.0

29.5
29.5
59.5
29.0
2B.5

?8.5
28.0
26.5
56.0
26.0

26.0
26.5
27.5
2R* 5
28. 0
2R.5

MAX

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19.5
IB. 5

1R.O
17.0
17.0
19.0
21.0

?2.0
24.0
25,5
25.5
24.0

22.0
21.0
20.0
20.0
21.5

23.5
54.5
25,5
25,5
24.5

23.0
23.5
23,5
23.5
23.5
23.5

25.5

MAX

27.0
26.0
'5.5
26.5
27.0

26.5
26.''
25.5
24.5
?6.0

26.0
26.5
25.5
25.5
26.0

26.5
27.0
26.0
25.5
P5.5

55.5
36.5
27.0
5R.5
2B.5

2R.5

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?5.5
25.0
53.5

MAY

MJK,

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1B.O
17.0

16.5
16.0
16.0
16.5
19.0

21.0
22.0
24. r
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23.0

21.0
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19,0
19.0
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21.5
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53.0
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22.0

16.0

SEPTEM

MIN

26.0
25.0
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55.0
2'. .0

24.0
25.0
56.0
27.0
27.0

28.0

25.0
23.5
22.0

ME A*J

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1B.O

17,5
16.5
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IB.n
20."

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22.0
23.0
24.5
55.0

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22.5
22.5
22.5
22.5
25.5

21.5

E»

MEAN

26.5
25.5
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26.0
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25.0

55.0
25.5
26.5
27.5
28.0

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24.0
23.0

. . .

2R.5 22.0

DELAWARE RIVER BASIN

01474703 DELAWARE RIVER AT FORT MIFFLIN, AT PHILADELPHIA, PA.

DRAINAGE AREA. About 10,000 sq ml

PERIOD OF RECORD. ChemiCil analys July to September 1970.

SPECIFIC CONDUCTANCE [MICROMHQS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

JUNE JULY flllSUST

M4X WIN MEAN MAX MIN MEAN MAX M1M MEAN MAX

380
364

381
397
365
379
365

389
400
399
411
395

399
399
370
375

350
345

342
328
327
321
322

330
331
332
331
334

331
330
329
318

352

351
344
338
341
335

345
354
350
359
352

348
350
343

335

347

345
34S
39?
405
415

440
42?
425
425
440

450
470
450
465
460

46"
455
455
455
480

475
4H5
46,5
485
490

313
320
312

319
319
329
3BO
380

3B8
387
397
375
385

390
390
400
405
410

410
405
395
405
4lO

405
415
420
425
430

330
327

330
331
35«
392
395

40?
405
411
40?
400

__

411
41 «
4?5
42B

429
423
423
4?9
433

435
443
431
445
451

418 DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA.

LOCATION. Lat 39°50'12", long 75°22'00", Delaware County, water-quality recorder located at auxiliary tidal-gaging

DRAINAGE AREA. 10,300 sq mi.

PERIOD OF RECORD. Chemical analyses: December 1961 to September 1970.
Water temperature*: December 1961 to September 1969.

EXTREHES. 1969-70:

Specific conductance: Maximum, 1,170 micromhos Nov. 3; minimum, 159 micromhos Hay 1.
pH: Maximum, 8.6 Feb. 15; minimum, 5.5 Dec. 10, 11.
Dissolved oxygen: Maximum, 10.4 mj/1 Feb. 16; minimum, 0.2 mg/1 on several days during October and August. Water temperature*: Maximum, 29.5 C July 29; minimum, freezing point on several days during January.

Period of record:

Specific conductance (1962-70): Maximum, 5,900 micromhos Oct. 7, 1985; minimum, 124 micromhos Apr. 1, 2, 1963 pH (1968-70): Maximum, 8.6 Feb. 15, 1970; minimum, 5.5 Dec. 10, 11, 1969.
Dissolved oxygen: Maximum, 11.5 mg/1 Jan. 28, 29, 1964; minimum, 0 mg/1 on many days.
Water temperatures: Maximum, 30.0 C July 13, 14, 1968, Apr, 3, 4, 1967, Aug. 4, 18, 1968; minimum, freezing

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°CI, WAT

DAY

1
2
3
*

S

6
7

9

11
1?
13
1*
15

1*
17
18
19
20

21
22
23
2*
25

26
27
28
29
30
31

MONTH

DA*

1
2
3
*

5

6
7
fl
9
10

11
12
13
1*
15

16
17
18
19
20

21
2?
23
2*
25

26yi

28
29
30
31

MAX
441

5*7
*77
Sll
625

S83
*23

*67

*33
*3S
537
467
459

499
555
583
635
755

660
1060
730
557
561

771
8*3
637
651
693
677

1060

MAX

403
415
407
389
371

339
317
309
317
297

289
289
289
275
267

285
2R3
283
287
389

285
289
289
291
289

287
291
291

«

. . .

OCTOBER

MIN
391
401
411
*03
*29

*03
399

*I1

»07
411
415
*23
415

*27
*73
537
577
480

*75
490
»87
*9I
495

521
571
553
567
583
603

391

FEBRUARY

MIN

391
393
385
371
3*1

319
309
299
297
289

283
281
273
261
261

269
271
275
277
281

279
281
283
283
283

?7»
283
287

_ -.
__ -

. . .

NOVEMBER

MEAN
*17
449
***

438
509

469
413

431

421
424

*67
**7
44]

456
51*
559
610
607

561
637
563
518
533

554
713
589
605
624
63*

512

MEAN

396
404
395
379
358

329
31*
305
300
29*

285
286
280
266
264

275
277
2BO
283
284

282
28*
286
28*
287

283
288
289

- _
- _.

. . .

MAX
719
729
1170
995
930

780
925
1010
84S
11*0

785
675
565
5*0
495

445
485
445
455
425

385
390
370
415
381

375
367
361
357
355
. . .

1170

MAX

293
309
305
305
329

323
331
333
339
339

339
339
343
337
. . .

341
357
347
337
325

321
321
357
353
3*9

351
3*9
3*3
337
327
315

MIN
631
617
673
620
575

56S
560
560
525
530

1.95
320
435
425
405

390
385
405
390
370

355
350
345
3*0
375

369
361
355
353
3*7
. . .

320

MARCH

MIN

287
2S9
301
303
303

317
321
327
327
333

331
333
337

335 """

335
335
337
3?7
317

317
319
323
3*7
3*3

3*3
3*1
337
327
315
311

MEAN
667
663
813
818
758

672
712
72*
668
690

628
548
*95
480
444

415
414
423
420
392

372
368
358
370
378

372
363
358
354
350
- T-

516

MEAN

290
300
304
304
317

321
327
331
332
335

335
336
339
. . .
. . .

3»7
3*3
333
321

318
321
3*1
351
3*6

3*7
3*7
3*0
332
319
313

MAX

357
3*7
3*5
3*3
351

339
343
367
359
353

355
355
3*7
331
311

303
295
795
299
293

289
289
283
289
285

283
?85
289
305
297
293

367

MAX

313
311
295
2*3
2*9

237
223
223
225
225

223
227
239
?33
229

229
229
229
225
229

227
225
225
227
229

231
2*9
269
289
275

MIS

1*1
133
135
. 139
337

133
133
3*3
1*7
. 1*5

131
331
333
109
297

293
7R9
?89
787
287

785
2B1
769
777
?fll

775
277
281
783
287
287

269

MIS

109
297
265
751
735

717
717
219
219
721

219
2?1
225
727
?27

727
725
725
721
721

725
773
723
773
775

727
731
755
755
?*9

MEAN
3*8
340
340
341
3*2

337
337
355
354
349

343
341
340
318
305

298
293
292
295
290

787
286
779
285
283

280
281
285
293
292
291

313

MEAN

311
307
281
256
240

226
221
221
223
224

222
22*
231
230
228

228
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227
22*
225

225
72*
72*
225
226

229
2*7
263
269
2*0

293
293
293
291
315

331
337

387
389
395

179
261
265

263
265
263
25-i
285

255
25->
280
32R
310

317
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309

MIN
291
289
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287

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337
353

371
381
385
389
391
387

HIM

159
169
163
161
261

259
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2*5
250
255
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309
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29?
291
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290
300

317 311 313
313 309 311
311 303 308
311 303 307
319 309 31*

3)9 311 315
321 315 31B
327 319 323
331 321 325
333 323 327

331
33*
33S
3*6
356

359 351 355
361 351 35S
36S 357 3A2
367 361 3A*
371 367 370

379
385
3B9
397
39*
39?

20*
173
16B
226
263

261
262
261
2*6

251
259
290

31* 300 307
310 29R 303
133 298 311
3*1 307 317
323 313 316

323 313 317
321 315 317
331 301 30R
337 321 329
329 307 318

315
317
31"
310
309
307

DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA. Continued

SPECIFIC CONDUCTANCE IMICROMHOS/CM AT 25°Clt WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAY MAX

1 319
? 313

* 317
5 313

6 309
7 311
B 3?3

9 317 in 3ai
11 333
1? 3?7
13 3?5

15 3*5

16 335
17 339
1A 339
19 337
an 339

ai 3*9 a? 3*3

23 339
?* 3*3

as 357

36 363
37 361

29 373
30 369
31

ONTH 373

YEAR 1170

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as

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28
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B 7
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lONTH 6.9

JUNF

MIN

303
309

299
301

305
307
307
315
315

317
319
313

309

331
333
333
333
333

335
315
333
335
3*1

357
355

3*9
363

399

159

OCTOBER

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6.*
6.*
6.5
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6.5

6.*
6.*
6.*
6.3
6.*
6.*

6.3

MEAN

311
311
311
307
307

307
309
315
316
317

3?5
32*
sao

330

333
336
316
335
336

3*1
3*0
337
3*0
351

360
358

36?
366
. . .

330

375

6.5
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6.5

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6.6
6.6
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6.7
6.7

6.6
6.6
6.6
6.6
6.6
6.5

6.5

MAX

367
369
375
373
365

381
375
377
387
393

387
379
*01
391
395

397
399
397
*03
*11

*17
1.03
*09
*13
399

395
*30
*06
*06
388
388

*30

6.7
6.8
6.7
6.5
6.6

6.6
6.6
6.6
6.6
6.7

6.7
6.6
6.6
6.6
6.7

6.7
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. . .
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. . .

. . .
. . .
. . .

7.3
7.0

7.5
6.9
7.1
7.?
6.5

JULY

MIN

365
365
365
367
361

359
369
371
375
385

379
375
371
385
387

391
389
389
397
395

397
393
399
393
389

387
395
39a
37*
37*
378

359

NOVEMBER

6.5
6.3
6.3
6.*
6.5

6.*
6.*
6.5
6.5
. . .

6.6
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DELAWARE RIVER BASIN

01477050 DELAV'ARE RIVER AT CHESTER, PA.

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DELAWARE RIVFR BASIN

01477050 DELAWARE RIVER AT CHESTER, PA.

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DELAWARE RIVER BASIN

01477050 DELAWARE RIVEH AT CHESTER, PA. Continued

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

JULr «UGJ5T

1 2.1 0.6
? 2.7 1.0

3 2.s 1.6
4 1.7 O.R
5 1.5 0.5

6 0.9 0.6
7 1.0 O.S
S 1.4 0.5
9 1.4 0.8
in 1.1 0.7

11 1.3 0.6
1? 1.8 0.7
13 1.9 0.9
14 2.1 0.9
15 1.7 1.0

16 1.3 0.8
17 1.4 O.S
IB 2.0 0.4
19 2.0 O.ft
2n 1.9 0.4

2! 2.0 0.4
2? 1.5 0.4
23 l.S 0.4
24 2.0 0.4
25 2.0 0.5

26 l.S 0.4
27 2.S 0.3
2« 3.4 0.9
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. 3 3.5 2.

.8 2.9 i.
. 0 1.6 0.
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. 1 2.0 0.
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. 9 l.S 0.
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1.1 0.6 0.
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TEMPERATURE (°C> OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCTOBER NOVEMBER DECEMBER

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JANUARY

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DELAWARE RIVER BASIN

01477050 DELAWARE RIVER AT CHESTER, PA. Continued

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

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MARCH

MEAN MAX MIN MEAN MAX

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4.0 6.5 S.O 6.0 11.5
4.5 7.0 5.0 6.0 9.n
3.5 6.5 5.5 6.0 S.O
3.5 7.0 6.0 6.5 «.Cl

3.5 6.5 6.0 6.0 fl.o
4.0 7.0 6.0 6.0 a.s
4.0 7.0 6.0 6.5 9.5
4.5 7.0 6.0 6.5 0.0
b.5 7.0 6.0 6.5 0.0

5.0 8.5 6.5 7.0 0.0
4.5 8.5 6.5 7.0 0.5
4.5 8.0 6.5 7.0 1.0
3.5 7.0 6.0 --- 1.0
3.5 l.n

4.0 7.0 6.0 1.5
4.5 B.O 6.0 6.5 2.0
5.0 8.0 6.5 7.0 2.0
5.5 8.5 6.5 7.0 1.5
4.5 8.5 7.0 7.5 1.5

4.0 R.O 7.0 7.5 2.0
4.5 8.5 7.0 B.O 1.5
5.0 8.5 7.0 B.O 4.0
5.0 8.5 7.0 8.0 4.5
5.5 9.5 8.0 B.S 4.5

4.5 10.0 8.5 0.0 S.O
5.0 10.0 9.0 9.5 5.0
5.5 10.5 9.0 9.5 5.5
10.0 7.0 9.0 6.0
9.5 7.0 8.5 6.5
9.5 8.5 9.0

4.5 10.5 4.5 7.5 16.5

JULY

MEAN MAX MIN MEAN MAX

23.0 26.0 ?5.0 25.5 29.0
23. S 26.5 ?5.5 26.0 29.0
24.0 26.0 25.5 26.0 ?9.0
24.0 26.5 26.0 26.0 ?9.0
23.5 26.0 26.0 26.0 21.5

23.5 26.0 25.5 26.0 ?R.5
23.5 26.5 25.5 26.0 2R.5
23.0 27.0 26.0 2 .5 2«.5
24.0 27.0 26.0 2 .5 2R.5
24.0 27.0 26. S 2 .5 2S.5

24.5 26. S ?6.5 2 .5 2R.O
25.0 27.0 26.5 2 .5 2R.O
24.5 27.0 2 .5 2 .5 2R.5
24.5 27.0 2 .5 2 .5 7R.5
24.5 27.0 2 .5 2 .5 29.0

24.5 27.0 2 .5 26.5 29.0
24.5 27.0 2 .0 26. S 29.0
25.0 27.0 2 .5 26.5 ?9.0
25.0 2R.O 2 .5 27.0 29.0
25.0 2B.O 2 .5 27.5 29.0

24.5 28.0 ? .5 27.0 29.0
24.5 27.0 2 .5 27.0 ?8.5
25.0 27.0 26.5 27.0 2R.5
25.0 28.0 27.0 27.0 28.0
25.5 28.5 27.0 27.5 2S.O

25.5 28.5 28.0 2«.0 ?B.O
25.5 29.0 28.0 28.0 28.0
25.0 29.0 28.5 2B.5 28.5
25.0 29.5 28.5 2B.5 28.0
25.0 29.0 28.5 2B.5 ?7.0
29.0 28.5 2S.5 20.0

24.5 29.5 25. 0 27.0 29.0

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MIM MEAN MAX MIN MfSM

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. 5 7.0 18.0 17.0 17.0
. 0 7.0 19.0 16.5 1 7.5

. 5 7.0 lfl.0 17.0 17.5
. 0 7.5 18.0 16.5 17.0
. 0 8.5 18.5 16.5 17.5
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MIM MEAN MAX MIN MEAN

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2R.S 28.5 27.0 26.0 26.5
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2B.O 28.0 26.0 25.5 26.0
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20.0 2R.5 26.0 25.5 25.5
2«.0 28.5 26.0 25.5 26.0

2».0 2B.O 26.0 25.0 25.5
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2B.5 26.0 25.0 25.5
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?7.0

26.5 28.0 27.0 23.5 26.0

DELAWARE RIVER BASIN

01477120 RACCOON CREEK NEAR SWEDESBORO, N. J.

DRAINAGE AREA. 29.2 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1965 to September 1970. Water temperatures: May 1966 to September 1970.
Sediment records: June 1966 to September 1969.

EXT REMES . 196 9- 70 :

winter periods.
Sediment concentrations (1966-69): Maxin
Dec. 18-21, 1968.

Dec.

t discharge (1966-69):
19-20, 1968.

CHEMICAL

MEAN

Maximum daily, 486 tons July 29, 1969; mini

ANALYSES. WATER YEAH OCTOBER 1969 TO SEPTE

OIS-
DIS- OIS- SOLVED
DIS- SOLVED SOLVED MAG-
SOLVED MAN- CAL- NE-

mum daily, le:

MBER 1970

SODIUM
PLUS
PO-
TAS-

CHARGE (SI02) (FE) (MN) (CA) (MG) (NA) (NA.K)

DATE
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DATF

OCT..
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18... bO
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27... 16 10
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28... 18

BICAR-
BONATE

(HC03)
DATE (MG/L)
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14... 19
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18... 28
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2!... 43
SEPT.
28... 47
DIS-

SOLIDS

(HESI-

IrtO C)
DATE (MG/L)
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14... 125
JUNt
18...
AUG.
27... 128
SEPT.
28...

DATE
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SEPT.
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MFAN ALUM- BAR-
DIS- INUM IUM

CHARGE (AL) (BA)
(CFS) (UG/L) (UG/L
1 9f>R
16 35 60
1970
16 23 67

MAN-

LITH- GAig-
LEAD IUM FSE

(PS) (LI) (MN)
(UG/L) (UG/L) IUG/L

196R
< 3 3 100
1970
1 3 20

. 9 -- -- 20 4.6

18 4.0

540 40 21 4.5

20 3.2

OIS-
ALKA- SOLVEt
CAR- LINITV CHLO- FLUO-
BONATE AS SULFATE RIDE RlUt
(C03) CAC03 (S04) (CD (Fl (MG/L) (MG/L) (MG/LI (MG/L) (MG/LI

0 16 33 13 .1

0 23 24 13

0 35 22 13 .4

0 39 21 13
DIS-
SOLVED NON- SPECI-
SOLIDS CAR- FIC

(SUM OF HARD- BONATE COND-

TUENTS) (CA.MG) NESS (MICRO-
(MG/L) (MG/L) (MG/L) MHOS) (UNITS)

106 69 54 174 7.3

62 39 167 6.9

108 71 36 171 7.6

63 25 185 7.1

F'ELD DETERMINATIONS

SPECI-
FIC
COND- CIS-

TIME ATURE (MICRO- OXYGEN
(DEC C) MHOS) (UNITS) (MG/L)

. 0 170 6.1 12.6

20.0 175 7.0 7.6

1830 23.9 178 7.4 7.4

1000 16.9 182 7.2 8.8

SPECTROGRAPHIC ANALYSES

BE-
RYLL- BIS- BO- CAD- CHRO-
IUM MUTH RON MIUM MIUM

(BE) (BI) (B) (CD) (CR)
) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L)

< 1 < 3 35 <25 < 4

: .1 < 2 31 <21 < 2

MO- RU-
LYBDE- NIC- RIO- STRON-
NUM KEL IUM SILVER TIUM

(MO) (NI) (RR) (AG) (SR)
1 (UG/L) (UG/L) IUG/L) (UG/L) (UG/L)

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< .5 2 5 .2 95

3.5

6.4

4.6

11

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(N03) (

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COLOR C

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SIUM

(K)

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RTHO
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HATE

P04)

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(PLAT- ICAL
INUM- OXYGEN
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UNITS) (

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100 ML)

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20200

10000

CO- COP-
HALT PER

(CO) (CU)
(UG/L) (UG/L)

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(SN) (TI)

MG/L)

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(UG/L)

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IRON

(FE)
(UG/L)

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(ZN)
(UG/L)

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DELAWARE RIVER BASIN

01477120 RACCOON CREEK NEAR SHEDESBORO, N. J. Continued

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

OCTOBER NOVEMBER DECEMBER JANUARY FEBRUARY

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C.O 17.0
1.5 18.5
2.0 20.0
2.0 20.0
3.0 20.5

2.0 20.5
1.0 18.5
8.5 16.5

426 DELAWARE RIVER BASIN

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 downstr of a band one
Penn sylvan!
Newark, and

d bridge
a State

, 0.9 mile downstream from small
corner, 2.1 miles downstream fro

tributary, 1.7 miles s
m Pennsylvania-Delaware

outheas
State

t of Dela
line, 2.2

mare-Mary
miles no

12.8 miles upstream from mouth.

DRAINAGE AREA. 66.7 sq

PERIOD OF RECORD. Sedi

REMARKS. Specif ic cond
Parkville,

DATE

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Md.

MEAN
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CHARGE

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mi.

ment records: October 1964 to September 1970 (partial

uctance, pH, and temperature of

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DELAWARE RIVER BASIN

01478500 WHITE CLAY CREEK ABOVE NEWARK, DEL. Continued

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

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CHARGE

(MG/L) (T/DAY)

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PARTICLE-SIZE DISTRIBUTION

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OF SUSPENDED SEDIMENT, WATER YEAR

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SUS-
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CHARGE

(CFS) (MG/L) (T/DAY)

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OCTOBER 1969 TO SEPTEMBER 1970

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DELAWARE RIVER BASIN

RED CLAY CREEK AT WOODDALE, DEL.

LOCATION. Lat 39°45'52", long 75°38'08", Newcastle County,
12 ft upstream from bridge on State Highway 48, 0.3 mile
and 4.9 miles upstream from mouth.

DRAINAGE AREA.--47. 0 sq mi.

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; mini days during winter pe

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DELAWARE RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA.

her 1970.
Water tempei October 19S4 to September 1970.

EXTREMES. 1969-70:

ily, 20,000 (estimated) tons Feb. 8, 1965; minimu

REMARKS. Records

lly, 0 ton Oct. 7, 8, 1967.

strict office, Parkville, Md.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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DELAWARE RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA. Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°CI, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (ONCE-DAILY MEASUREMENT)

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fl 236 253 716 214 199 200
o 240 ?50 218 --- 213 207 196

21 230 212 74P 261 211 211 184 211 22 252 742 22P 2->5 215 208 192 211

75 '70 P34 252 214 224 172 212

2' 750 227 744 211 210 187 221

2? 248 749 332 253 193 220

31 '5* 23? 277 228 220

(ONCE-DAILY MEASUREMENT)

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DELAWARE RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA. Continued

SUSPFNnFO-SElOIMENT DISCHARGEt WATER YFAK OCT1BER 1969 TO SEPTFMBER 1970

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MFAN

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FEBRUARY

MEAN
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SEDIMENT
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MEAN
MEAN CONCEN- SEDIMENT

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DELAWARE RIVER BASIN

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

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534
1293

13",

AUGUST

MFftM

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TOML SUSCtNDFD-SFDI MENT D1SCH

DELAWARE RIVER BASIN

01481000 BRANDYWINE CREEK AT CHADDS FORD, PA. Continued

PARTICLE-SIZE DISTRIBUTION OF SU!

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AP».
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20... 1240 8.3
JUNF

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SUS. SUS

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THIN THA
n\TE .016 MM .031

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405C 1140
1360 215

1120 399

661 172

SUS. SU

DIAM. niA

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MM .062 »f .125

SU*-

MENT
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789

724
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». DIAM.

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MM .250 M

SUS. SUS. SLS.
SED. SSn. SEO.

OIAM. DIAM. ni»H.
FINEe .» FINER t FINER

30 44
27 39 53

27 42
27 37 53

63 79 93
44 58 77

50 71 83

SUS. SUS.
SED. SFD.
SIFVE S1FVE
DIA". OIA".

THAN THAN
M .500 MM l.DO «">

100

94
10D

100

!OC

01481500 BRANDYWINE CREEK AT WILMINGTON, DEL.

LOCATION. Lat 39°46'09", long 75°34'25", New Castle County, at gaging station c 0.2 mile downstream from Henry Clay Bridge in Wilmington and 4.2 miles upsti

DRAINAGE AREA. 314 s

PERIOD OF RECORD. Ch

Sediment records:

EXTHEMES. 1969-70:

Dec. 6, Feb. 26
Sediment discharg

Period of record:

REMARKS. Published a
samples available

DIS-
CHARGE

OCT.
27... 153
JAN.
0?... 437
FEB.
02... 493
MAR.
02... 385
APR.
01... 762
MAY
01... 640
JUNE
03... 346
22... 1353
30... 270
SEP.
01... 175

q mi.

November 1956 tc

, Mar. 9-11.

e: Maximum daily,

in district offic

CHEMICAL ANAL

DIS- DIS-
SOLVED SOLVED
SILICA IRON

(SI02) (FE)

12

11

13

14

13

8.4

13
9.2
11 70

10

October 1947 tu S

> September 1961.

9,720 tons Apr.

:e, Parkvil le, Md

YSES, HATER YEAR (

DIS- DIS-
SOLVED SOLVED
MAN- C»L-
GANESE CIUC

(MNI (CAI

20

19

17

17

16

17

19
12
80 70

20

eptembe r 1950, No\

2; minimum daily,

JCTQBER 196S TO SE

DIS-
SOLVED
MAG- DIS-
NE- SOLVED
SIUM SODIUM

(M.GI (NAI

8.4 12

6.7 13

6. D 9. 1

6.0 1.1

5.7 11

ft.O 7.6

6.5 8.6
4.0 5.9
7.5 7. D

7.5 10

embm ia51 to Septf-noer 1952, October

laily, b ng/1 Oct. 30, 31, Nov. 17, 18,

1.80 tons Dec. 6.

, daily, less than 0.50 ton on many days.

PTEMBE= 1970

DIS-

SOLVFF1 nis-
PO- DIS- SILVE^
TAS- 1IC4R- S1LVFD CHLO-
SUIF BONATF SULCSTF P ! IF

(K) (HCH31 (S04I (Til

4.3 66 25 19

3.1 38 24 28

2.5 41 '4 16

2.2 4? '3 14

2.5 36 25 19

2.0 47 25 13

2.3 57 22 13
'.7 34 10 9.1
2.5 60 '2 16

3.5 7C 2? 15

DELAWARE RIVER BASIN

01481500 BRANDYWINE CREEK AT WILMINGTOIT, DEL. Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCT.
27...
JAN.
02...
FEB.
02...
MAR.
02...
4PR.
01...
M4Y
01...
JUNE
03...
22...
30...
SEP.
01...

DIS-

SOLVED OIS_

(Fl (Nt13l

. 3 11

. 2 10

. 3 8.2

. 3 9.0

. 2 7.2

. 0 9.3

. 2 10
. 0 3.6
. 3 10

. 1 B.6

DIS-
SOLVED
SOLIDS
(RESI-

180 Cl

177

147

1*1

12B

140

123

130
133
129

152

(CA.MGI

S5

75

67

67

64

67

74
47
91

81

NON-
C4R-

NESS

31

44

34

33

34

29

28
19
32

24

SPECI-
FIC

(MICRO-

243

212

198

192

207

1B6

207
146
215

226

DIS-
SOLVED
COLOR O'TMO

(PL4T- PMOS- PHOS-

3.0 5

7.4 5

7.9 6

7.9 6

7.7 6

7.6 6

7.0 4
7.5 45
7.7 3 .50 .43

7.8 3

SUSPENDED-SEDIMENT DISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 19TO

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5

6
7
fl
9
0
I

MEAN

148
15*
229
182
154

148
148
178
189
161

151
151
151
151
14B

1*5
142
139
139
139

2*9
1B9
151
1*2
142

1*8
1*8
142
119
142
142

MEAN

CQNCEN- S

1?
I*
20
18
17

16
13
12
10
9

8
0
7
6
10

13
13
12
12
11

22
17
12
11
10

11
9
7
6
5
5

EDIMENT

5.2
$.8
12
a. a
7.1

6.4
5.2
5.8
5.1
3.9

3.3
3.3
2.9
2.*
4.0

5.1
5.0
*.5
*. 5
4.1

15
8.7
4.9
*. 2
3.8

*. *
3.6
2.7
2.3
1.9
1.9

MEAN

(CFSl

1*5
15*
201
175
158

209
201
178
233
2*5

193
175
189
182
185

78
65
58
75
27

283
201
1*2
175
168

161
15*
IS*
151
151

MEAN
CONCEN-

(MS/ll

6
9
10
8
7

20
15
13
19
1~7

11
a
7
7
6

6
5
5
9
30

25
23
16
12
9

10
11
10
10
9

SEDIMENT

TONS /DAY)

2.3
3. 7
5.4
3.8
3.0

11
8.1
6.2
12
11

5.7
3.8
3.6
3.*
3.0

2.9
2.2
2.1
4.3
35

19
12
7.9
5.7
*. 1

4.3
*. 6
*.2
4.1
3.7

MEAN
DISCHARGE

15*
1*8
1*8
1*8
139

13*
151
469
408
506

2090
5*6
325
27*
265

2*1
205
189
205
193

168
706
67*
360
2*9

586
408
330
297
3*5
1110

MEAN
CONCEN- SEDIMEN
TRATION DISCHAR

8
7
7
6
6

5
6
18 2
7
75 10

1050 593
125 18
35 3
28 2
26 1

20 1
15
12
15
12

10
100 19
75 13
18 1
10

10 1
10 1
8
10
9 8
110 330

DELAWARE RIVER BASIN

01481500 BHANDYWINE CHEEK AT WILMINGTON, DEL. Continued

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

HEAN

1
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10

11
12
13
14
15

16
17

18
1"
70

21
22
23
24
25

26
27
28
29
30
31

TOTAL

739 35 70
469 1
396 1
315 1

i 70
2 13
9.4
270 10 7.3

310
213
'49
241
253

292
261
253
237
2?1

217
229
340 1
345 1
270

245
2?9
279
217
213

233
257
?45 1
434 2
719 1

7.5
6.1
5.4
5.2
4.8

5.5
*. 9
4.8
3.8
3.6

3.5
4. 9
ID
9.3
6.6

5.3
4. 9
4.9
4.1
4.0

1 5.7
6.2
} 6.6
> 29
34

MEAN

(CFSI

434
910
372D
169D
739

634
586
562
530
154D

1520
802
650
546
554

554
522
570
634
578

462
462
483
498
462

420
408
420

- -

MEAN
CONCEN-

<MG/L>

13
90
700
87
36

23
15
13
12
11D

185
55
30
25
30

35
45
40
40
30

20
15
10
8
7

5
6
7

SEDIMENT

(TONS /DAY)

15
221
7030
397
72

39
24
20
17
457

759
119
53
37
45

52
63
62
68
47

25
19
13
11
8.7

5.7
6.6
7.9

522 14 ?0

9753 330.3 21890 - 9693.9

390
390
396
402
506

469
420
408
378
366

36D
366
476
448
390

355
340
360
476
498

722
602
1090
650
522

490
690
530
838
96D
883

16171

APRIL M»Y

MEAN
MEAN CONCEN- SEnlMENT

1
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6
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a
q
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31

775 20 42
35->0 102
3250 4'
1260 '
950 «

0 9720
0 3950
5 323
0 103

892 35 84
838 3
739 2
706 2

0 68
8 56
4 46
674 20 36

626 18 30
618 1
594
1250 1

6 27
4 22
0 405
3040 500 4100

1430 90 347
960 (
883 <
Ml 2
1340 =

5 168
0 95
5 55
0 326

1140 60 185
3 T 4 3
820 ,
1130 8

0 71
6 58
0 244
1390 115 432

901 60 146
793 <
748 «
714 2
674 !

5 96
0 81
R 54
3 42
-

MEAN
DISCHARGE

(CFS)

642
634
634
674
618

586
554
538
530
514

483
483
562
498
602

49D
642
722
514
476

427
402
414
420
427

434
940
469
408
378
372

MEAN CONCEN-
TRATION

(MG/L>

17
16
18
24
20

17
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15
16
15

15
15
18
16
27

18
40
55
25
23

18
17
22
28
24

26
170
70
35
30
25

SEDIMENT
DISCHARGE

(TONS/DAY)

29
27
31
44
33

27
25
22
23
21

20
20
27
2?
44

24
69
107
35
30

21
18
25
32
28

30
431
89
39
31
25

DISCHARGE

360
350
340
506
462

1110
498
390
360
310

310
355
514
306
297

325
396
366
748
384

706
1440
522
384
325

320
335
301
274
27D

MEAN

7
9
8
11
7

6
6
6
5
5

5
7
9
8
8

9
8
12
17
20

17
30
119
37
12

8
45
32
70
45
30

-

JUNE

MEAN

TRATION

23
19
15
100
30

640
230
80
50
45

43
80
320
110
75

60
50
70
190
70

250
950
175
72
60

63
55
40
38
35

7.
Q^

8,
12
9.

7.
6.
6.
5.
*.

4.
6.
12
9.
8.

8.
7.
12
22
27

33
49
350
65
17

11
84
46
158
117
72

1198.

4
5
6

6

6
8
6
1
9

9
9

7
4

6
3

9

DISCHARGE

22
18
14
137
37

1920
309
84
49
38

36
77
444
91
60

53
53
69
384
73

477
3690
247
75
53

54
50
33
2*
26

TOTAL 34350

DELAWARE RIVER BASIN

01481500 BRANTJYWINE CREEK AT WILMINGTON, DEL. Continued

SUSPENDED-SEDIMENT DISCHARGE, WATER YE4R OCTOBER I ti6=> TO SEPTEMBER 1970

ULY AUGUST

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24

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77
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71

MEAN

?65
310
115
'18
?70

241
233
225
729
434

314
711

r 45
225
?37

129
306
241
2'5
'17

462
315
'41
340
306

253

22<)
713
237

CONCEM- SFDIMENT
TBSTIT4 DISCHAPRE

21 ?0
36 30
?5 ?1
23 11
20 15

20 13
20 13
11 11
?0 1?
75 88

fa 62
33 26
27 11

24 15
f 14

500 1120
250 207
"'O 46
40 24
28 16

90 112
75 64
40 26
70 64
"0 41

43 29
30 19
27 16
JO 19

(CFSI

2390
506
325
283
253

229
233
221
225
217

209
193
201
193
185

189
297
209
185
193

197
175
1260
784
315

237
225
205
189

CDNCEN- SEDIMENT
TR4TICW DISCHARGE

(MG/LI (TONS/OAYI

600 3870
70 96
30 26
20 15
2? 15

26 16
24 15
24 14
24 15
2' 13

29 16
2f 12
IS 9. 8
1" 9.4
20 10

22 11
40 32

2n i*
22 11
17 8.9

19 10
16 7.6
440 1500
210 593
50 43

45 29
23 1*
22 12
18 9.2

82
61
68
71
61

5*
45
51
54
82

65
48
45
42
42

39
39
34
54
48

42
39
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31
28

2R

47a°
6!
49

23
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18
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16
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20
25

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17
12
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9
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12
11

9
8
a
7
6

7
9
11
7
6

11
8.7
8.?
8.3
7.4

6.7
5.9
7.3
8.3
12

8.0
6.8
6.7
4.6
3.5

3.4
3.8
3.6
5.0
4.4

3.5
3.0
2.8
2.5
2.1

2.4
3.5
5.6
3.0
2.4

YEAR (TONSI

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

TIMf

1330

1130
0000

1130

sir,
SET.
FSLL
1 1 A M .
FINER
THAN

62

64

DIS-
CHARGE

(CFSI

3580

5^30
3100

14«0

SUS.
SEO.
FALL
P I AM.
7 FINFR
THAN
. 03! «M

78

72

SUS-
PENDED
SEDI-
MENT

(MG/LI

611

1530
234

1080

SUS.
SED.
SIEVE
DIAM.
* F INER
THAN
. 062 MM

91

91

sus-
PENOEn
SE01-
MENT
DIS-
CHARGE

(T/DAY1

5"00

24400
1°60

-.320

SLJS.
SED.
SIEVE
DIAM.
; FINER
THAN
. 125 MM

97

97

SUS.
SEO.
FALL
OIAM.
7, FINER
THAN
. 002 M"

20

- -

15

-

SUS.
SEO.
SIEVE
DIAM.
% FINES
THAN
. 250 MM

98

99

SUS.
SFD.
FALL
01AM.
1 FINER
THAN
. 004 MM

32

32
50

64

SUS.
SED.
SIEVE
DIAM.
% FINER
THAN
. 500 MM

99

99

SUS.
SEO.
FALL
DIAM.
S FINER
THAN
. 008 MM

47

46
64

1,

SUS.
SED.
SIEVE
niAM.
1 FINER
THAN
1. 00 MM

100

100

DELAWARE RIVER BASIN

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

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:

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.
ilved oxygen (1962-69): Maximum, 13.3 mg/1 Mar. 2, 1967; minimum, 0.0 mg/1 on many days during sumrae
Wate

REMARKS. Sampl

periods.

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

OCTOBER NOVEMBER DECEMBER JANUARY

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27
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MAX

5380
468C
4180
4280
5980

6220
5340
5180
5200

5500
6020

64»C

6120
6240
656C
6120

6220
6480
4980
5260

6460

MIN

1660
1940
2040
1660
1960

1400
1660
1560
1640

1780
2060

2180

2200
2160
2220
2180

1800
2240
1880
2320
. . .

298C

MEAN

3390
3210
2970
2850
372C

3540
3490
334C
3560

369C
3980

4140

4420
4320
4090
4040
422 C

4030
4190
3520

_

MAX

7100
8820
7440
6800
654C

6740
7160

7540

7?60
7820

5380

4620
46CC
5620
3900

354U
37CC
2980
2720
3260

2980
2940
2960

HIN

3520
3500
374C
3060
268C

2820
2720

2900

2140
1740

1160

eec
880
1C8C
1320
880

760
70C
580
520
52C

500
520
56C

MEAN

524C
565 C
5380
4940
468C

4140
468C
4790

5050

459C
4160
3640

3250

242C
2620
2730
3290
2280

198C
1910
167C
1480
154C

1430
1420
1580

3380
3300
2560
3180

4840
5900
6900
6940

2560
980
164C
760

440
420
98C
680
500

114C
1400
1700

1460

200
340
480
560

640
660
1100
920

160
140
140
140

120
120
120
120
120

120
120
120

120

1220
1730
1380
1740

2390
2960
3610
3290

1090
443
507
314

208
208
363
253
198

343
438
38S

531

1560
2060
182C
2540

2200
3840
346C
2740

3060
3040

1840

2280
2700
3800
3220
3440

2500
3360
5440

5380

120
120
120
140

140
200
180
140
200

420
380

340

360
100
560
5CO
540

300
460
960

940

638
704
689
867

821
1400
1430
927

1630
166C

1100

1420
1*70
1690
1780
1910

1170
1510
2580
2410
3130

31 6880 3220 4<57C

MONTH 688C 1400 3830

120
120
160
120

323
833
1240
1260

117C

DELAWARE RIVER BASIN

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

SPECIFIC CONDUCTANCE 1MICROMHOS/CM AT 25°C)t HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

AY

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16
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19
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21
22
23

25

26

28

31

TH

FEBRUARY

MAX MIN

56C 180
700 140
500 140
560 140
680 180

480 140
200 140
180 14C
160 140
180 140

420 420
760 140
700 140

380 140
680 140

560 100
420 42C

520 16C
980 ISO
720 160

JUNE

MAX MIN

1740 180
1980 200

1680 200

1880 180

2100 200
1900 260
1680 280

1800 240
1880 240
2400 260

2440 360
2380 360
2420 36C
2640 360
2820 340

3140 320
3900 200
2800 260

3240 260

2880 380

2880 340

3900 180

EAN MAX

1020
1020
1580
1440
212C

1880
27B 2460
242 2180
14C 1940
369 1300

235 1160
154 1280
144 1120
141 114C
840

700
800
148C
223 2320
2C9 3080

198 3240
265 2760

235 2520
- - - 1820

1920
493 1700
324 960
680
540
500

- - - 3240

EAN MAX

905 2200
840 2140

765 2200

828 1980

961 3040

960 2300

965 2960
963 2760
090 364C

08C 3480
140 4100
140 478C

20C 6380

290 6280
110 4780
100 4480

400 4860

560 4880

420 5180

090 6380

MARCH

HIN

200
200
260
2BO
280

280
320
300
140
140

14C
16C
160
200
140

14C
140
16C
200
240

200
20C

160
160

200
100
140
140
14C
240

100

JULY

MIN

200
200

200

600

200

200

200
460
680
7CC

58C
640

860

820
840
900

900

980

1160

100

MEAN

414
497
654
766
875

863
1060
1030
778
54!

475
532
573
571
44C

33C
391
598
1100
1400

1450
1320

1060
801

885

406
264
274
308

739

MEAN

731
885

869

1270

1670

1110

173C
1770
1970

1820
1800

2930

2850
2590
259C

2800

2840

195C

MAX

360
500
180
140
120

160
160
180
160
200

180

200

220
560
240
280
340

260
240

400
260

240
300
300
300

1240

t

MAX

46CC
4060

4520

4560

4560

6060
6420
7000

7320
7600

8680

7800
8300
8320

5680

5340
5560

8920

APRI L

MIN MEAN

200 272
200 269
120 147
100 114
100 105

100 123
140 143
140 144
140 146
140 145

140

160 ---

180 204
160 217
100 196
180 216
180 232

180 221
180 214

220 248
100 225

100 221
220 246
240 255
240

100

UGUST

MIN MEAN

740 242C
560 2060

760 2150

060 2830

060 2950
140

420 3900
340 34 0
420 34 0

560 38 0
460 42 0

360 5290

500 5310
780 5580
240 5800

680 337C

700 342 C
680 3410

560 367C

MAX

400
440
480
54 C
560

560
700
84C
B20

800
870
87C
1010
127C

1350
1710
2360
1660

2620

4520
1840

2940
2420
1640
2COC
2020
2640

4520

MAX

5940

628C

5760

6680
5660

722C
7320

7400
7780
3000

8160
7460
7140
7040

6840

6380
6880

8300

MAY

MIN

300
300
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320
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500
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540
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170
550
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570
590
620

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920
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170

SEPT EM

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1800

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2540

2440
2380

2560
2660
29 BO

3560
3340
3300
3360

3380

3340
3000

1740

MEAN

337
348
371

581
613
606

616
613
666
696
B27

824
918
901

133C
974

1050
1080

ER

MEAN

3E20

4180

3950

4590
424C

4380
4410

488C
4970
525C

5260
E31C
5160
5180

4970

4910
47CO

4640

DELAWARE RIVER BASIN

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

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OCTOBER NOVEMBER DECEMBER

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4 6.4 5.6 4.3 4.8
1 6.6 7.4 4.6
1 6.6 7.9 5.5
3 7.1 S.I 7.1
8 7.2 6.t 4.7

1 6.6 5.4 4,4

5 4.8 B.3 6.0
5 8.3 7.1
8.1 5.7

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8.4 5.8
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FEBRUARY MARCH

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JANUARY

MIN MEAN

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DELAWARE RIVER BASIN

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

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

JUNE

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2 6.3 6.C 6.

5 6.2 6.0 6.

7 6.2 6.1 6.
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11 6.2 6.1 6.
12 6.3 6.1 6.
13 6.3 6. 1 6.

15 6.3 6.1 6.

16 6.3 5.9 6.
17 6. 2 6, 0 6.
18 6.6 6.C 6.

20 6.6 6.6 6.

21 6.6 6.0 6.
22 6.6 6. 3 6 .

25 6.6 6,2 6.

26 6.4 6. 1 6.
27 6.4 6.1 6.
28 6.6 6.2 6.

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SEPTEMBER

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

OCTOBER NOVEMBER DECEMBER JANUARY

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5.2 5.6

5.4 5.7
5.3 6.4
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2.1 S.e 11.0

1.2 a.i 10.0
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0.3 8.1 9.0
C.3 7.9

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13.5 S.7
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DELAWARE RIVER BASIN

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

DISSOLVED OXYGEN (DO). IN MILLIGRAMS PER LITRE, WATER YEAR OCTOBER 1969 TO SEPTEMBER

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FEBRUARY

MIN MEAN

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5.5 6.0
5.6 6.2
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9.0 9.3
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fi.7 9. 1
B.3 9.2
8. 8 9.3

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8.5 9.3
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JUNE

MAX

9. 8
9.4
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K4RO

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JULY

MEAN

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8.6
B.4
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APRIL

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AUGUST

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MAY

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SEPTEMBER

MEAN

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DELAWARE RIVER BASIN

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

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3.5 6. 5.0 5.5 1.5 0.0 0.5

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2.5 5.5 4.5 5.C 1.0 0.0 0.5
2.C 5.5 4.5 5.0 0.5 0.0 0.0
2.0 6.0 5.0 5.5 C.C 0.0 0.0
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2.0 6.5 6.0 6.0 0.0 0.0 0.0
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1.5 6.0 5.5 5.5 0.5 0.0 O.C
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7.5 10.0 S.C 9.5 4.0 3.5 4.0 C.O 0.0 0.0
7.5 9.5 8.5 9.0 4.3 3.5 3.5 C.O 0.0 0.0
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9 14.0 13.5 9.0 B.O 8.5 1.5 0.5 .0
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FEBRUARY

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APRIL

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3.5 7.0 6,0 6.5
3.0 3.5
3.5 4.0

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3.0 1.0
3.0 2.0
3.0 3.0

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19. G

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20.5
21. C
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21. C
21.0

DELAWARE RIVER BASIN

01482100 DELAWARE RIVER AT DELAWARE MEMORIAL BRIDGE, NEAR WILMINCTON, DEL. Contin

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

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23.0
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24. 5

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JUNE

MIN

21.0
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23. C
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MAX

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24. C

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26. C
26.0

25.5
25.5
25. 5
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26.0

26.5

27.0
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27. C
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JULIT

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24.0

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24. C
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25.0

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26.5

MEAN

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24.0

24. C
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24. C
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MEAN

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27. C

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27. C
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WIN

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ER

MEAN

26.0
25.5
25. 5
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25. C

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24.5

25. 0

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DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DEL.

from Reedy Island near Port Penn.

PERIOD OF RECORD. Che October 1963 to September 1970.
70.

i, 17,200 omhos Sept. 30;

EXTREMES. 1969-70:

Specific conductance: 1
pH: Maximum recorded, '
Dissolved oxygen: Maximum recorded, 12.5 mg/1 Feb. 14;
Water temperatures: Maximum, 28.5°C Aug. 2.

rded, 3.1 mg/1 May 29, Aug. 25

Period of re
Specific c
Augu st 1

>rd:

REMARKS. No data

ince: Maximum, 35,400 micromhos Nov. 7, 1963; minimum, 100 micromho
3 April 1970.

lilable October to January for pH, dissolved oxygen, and water tempe

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

DAY

2

5

6
7

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3

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6

8
9
0

2
3

5

7
8
9

1

MONTH

DAY

1

3

5

6
7
a

10

12
13

15

17
13
19
20

23
24
25

26
27
28
29
30
31

MAX

33JO

4200
6 100

5400
5600

4400

4000

3700

5500

5100

4300
3500
4000

4100
2300
4300
3200

4COO
4000
4800

5100

6100

MAX

33CC

3100

0400

8000
«200
7COO

61CC

1500
2500

670C

8600
1500
07CO
9100

6CCC
5900
6600

8600
1700
7700

OCTOBER

7300

6700
P400

8100
7900

7700

8100

8200

8500

9200

8300
8000
7600

8000
7100
7500
7700

8100
8300
8800

9400

6700

FEBRUARY

M IN

6200

5700

2300

1800
1500
1400

1400

500
400

1000

1600
3500
3300
2400

1500
1500
1700

2300
2800
260C

MEAN

9580

11000

11500
11300

10400

10500

10900

11100

11700

10500
10100
10400

10200
8960
10100
10100

10400
10400
10900

11700

10500

MUM

955C

8220

4490

364C
3370
Z98C

338C

103C
925

380C

475C
6920
6300
4700

285C
328C
3550

417C
6330
4580

MAX

16000

14100

12500
15700

15100

15500

14BOC

1230C

9900

9500
12500
10300

2300
0300
0000
1500

1000
1000
2000

16100

MAX

9400

10400

10700

11000
12600
9360

7640

8400
908C

10800

13600
13700
16000
15800

15200
14800
12800
11900

11300
11800
9880
808C
8840
7280

NOVEMBER

fin

10100
9900

9600

S100
9500

10COC

9500

8500

8200

6800

6800
8CCC
64CC

5500
4900
4700
4900

4600
4500
5500

4500

M/SRCK

MIN

2400

2700

3600

3700
4400
452C

3680

3200
3560

3800

5COC
6440
7920
852C

B080
7800
6880
5920

5960
4240
3800
3000
2800
2240

MEAN

12700
12400
11900
12000

10900
12300

12300

12700

11000

10200

8050

8C3C

7660
7010
662C
6990

6790
7C5C
8070

984C

MEAN

4930

5620

637C

68CC
7550
655C

5150

4520
562C

7C8C

9820
10600
12400
11900

10800
11600
973C
8210

816C
6S7C
550C
4740
4740
4130

MAX

135CC
14800
13500
14600

16000
15500

15400

13800

95CO

8600

7500

10400
9700
820C

10700
9500

11100 io<;oc

6900
10900
12900

1320C

16000

PAX

8080

2400

480

400
320
280

320

900
280C

4100

6000
4600
4520
3920

3720
336C
2440
3200
2040

152C
1280
1760
S6C
1440

CECEME

MIN

4300

7100
6900

84CO
"COO

8500

67CC

3700

3400

3000

2900
2800
2400

3000
2200
3600
4000

3700
4000
560C

6200

2200

APR

MIN

1600

440

280

280
240
200

240

100
100

1150

1600
1120
1040
B8C

840
520
560
560
44C

480
400
440
40C
400

ER

MEAN

8850

10000
11500

12100
11600

11300

10900

6010

5290

6C4C
535C
4370

554C
4S2C
6020
6310

4930
6390
9520

9760

7920

L

MEAN

3650

114C

400

328
292
252

248

380
950

2180

3640
260C
2230
2110

1340
134C
995
1160
7R8

653
617
663
556
712

PAX

11800

13200
14 100

11500
1430C

10600

11500

11600

10000

UfCC

13800
14600
14100

13400
16500
15300
1530C

15COO
14400
14100

13500

16500

PAX

120C

172C

2720

1640
2360
3760

4400

4500
6240

H32C

8440
9C40
10500
10200

10800
10700
928C
9160
96CC

9720
8440
669C
7360
7560
7400

JANUARY

MIN

5100

4900
4900

4200
5500

5200

4800

6200

4300

4300

59CC
6600
6600

5800
87CO
8000
8600

8800

a 200
8000

6900

42CO

MAY

MIN

36C

44 C

520

480
480
520

64C

700
1160

22CC

2760
2800
288C
3C80

3400
3C4C
3160
3360

3480
3280
2760
2920
2920
2920

MEAN

8010
8240
8530
879C

731C
9010

7040

7030

8860

6930

8170

9060
10000
1000Q

9650
12200
11200
1 1900

11400
11400
10800

9970

S210

MEAN

64?

965

712
825
121C

1620

212C
318C

5020

5360
4910
543C
5610

5480
4860

5510

5800
4840
428C
4680
471C
4380

2240 7340

DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DEL. Continued

:iFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TD SEPTEMBER 1970

JUNE JULY AUGUST

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9080

7800

P6?0
10080

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956J
7240

9C4C
3160

7240

6760

7C80
6600
7360

6=160

2800
268C
2320

2600

2920
2960
3000

3000

3280

4360

3320

3240
3080

2760
2480
2400
2520
2560

3080
3040
2680

2960

4iec
428C
4040

4430

4780
508C

4940

5500

5550

4920
4880

3900
3710

4290

469C
4300
4370

4620

12200 2800 5900
122
118

00 456C 737C
00 4760 7450

9760 5560 7540
10500 5280

_

.

11200 5120 711C

11500 5040 7370
11800 5320 8010

9880 4960 742C

10300 4080 6570

9880 436C 7010

13600 852 C

63

88 80 7640
1200C 5B4C 820C

13100 5680 8550
9860 6040 7590

I02ec

MA X

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6.9
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7.2
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2240

FEBRUARY

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4750

MEAN

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13560 2800

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MARCH

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C 6.7 .8

9 6.7 .8
1 6.7 .8
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3 6.8 . C
7.2 6.8 7.0

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3 6. 8 7. 1
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5 7. C 7.2
7 7.C 7.3
6 7.0 7.2

5 7.0 7.2
5 6.9 7.1
<: 6.9 7.2
3 6.9 7.1
2 6. 8 7.0

2 6.9 7.0
3 6.8 7.0
2 6.8 7.0
1 6.6 7.0
2 6.8 7.C
1 6.8 6.9

- - - 5800

5700

6300

6BOO

15000 6560 6600

15400 7120 10100 15400
15000 7360 10100 16500
14800 7200 10300 16300

14400 8080 10900 16500

15300 8960 11600 16200

15700 9080 11700 5500
15600 8600 11500 5700

16000 8720 11500 7200
14700 9600

APRIL

MAX MIN MEAN MAX

7.2 6.8 .9 6.4
7.2 6.8 .0 6.4
7.1 6.8 .0 6.6
7.0 6.8 .9 6. 8
6.9 6.7 .8 7.0

6.8 6.7 .7 7.C
6.8 6.6 .7 7.0
6.7 6. 6 .6 7.1
6.7 6.5 .6 7.1
6.8 6.5 .6 7.1

6.7 6.5 6.6 7.0
6.8 6.5 7.1

7. [
7.1
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7. 7.0 7.0
7. 6.9 .1 7.0
7. 6.9 .0 7.1
7. 6.9 .0 7.5
7. 6.9 .0 7.5

7. 6.3 .7 7.4
6. 6.2 .3 7.4
6. 6.2 .3 7.4
6. 6.2 .2 7.3
6. 6.2 .3 7.3

0. 6.2 .3 7.3
6. 6.2 .3 7.1
6. 6.1 .3 7.2
6. 6.2 .3 7.2
6. 6.2 .3 7.3
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10520
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7.0

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Ill

12100

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MEAN

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DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DEL. Continued

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MAX

7.3
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JUNE

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JLLY AUGLST

MEAN MAX MIN MEAN MAX MIN MEAN

SEPTEMBER

MAX MIN CEAN

7.0 7.4 6.8 7.1 7.3 7.1 7.2
7.0 7.1 6.7
7.C 7.C 6.7
7.G 7.0 6.6
7.C 6.9 6.5

7.1 6.8 6.5

7.2 7.G 6.7
7.2 7.0 6.8
7.2 7.0 6.8

7.2 6.9 6.7
7.3 7.C 6.7
7.4 7.0 6.6
7.4 7.1 6.7
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b.9 7.3 7.0
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7.3 7. C 6.8 6.9 7.5 7.2 7.4
7.C 6.7
7.0 6.7
7.3 7.0 6.7
7.3 7.0 6.9

7.2

7.3 6.8 6.8

6.S 7.5 7.2 7.4
>.9 7.4 7.1 7.3
Ei. 5 7.4 7.2 7.3
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7. 7
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7.3 6.8 6.8 - 7.7 7.3 7.5
7.3 7.0 6.7 6.8 7.6 7.3 7.5
7.4 7.1 6.7 6.9 7.7 7.3 7.5
7.4 7.3 6.8
7.4 7.4 7.1

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7.2 7.7 7.3 7.5

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OXYGEN (DO), IN MILLIGRAMS PER LITRE, WATER YEAR OCTOBER 1969 TO

FEBRUARY MARCH

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12.0 10.7 I
11.9 1C. 8 1

1.5 10. 1 8.0 9.1
1.3 10. 1 8.5 9.4
1.4 1C.L 7.3 9.0
1.3 9.2 8.3 8.7
11.8 1C. 5 11. 1 8.7 8.2 8.5

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11.7 10. I 1
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O.C 6.9 5.9 6.4
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SEPTEMBER

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MEAN

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DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DEL. Continued

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

JUNE JULY

DAY MAX tlN MEAN MAX MIN MEAN

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1.5 4.8 6.5 5.7
i>.7 5.4 6.5 5.5
4 5.9 4.4 5.3 6.6 5.4

6 6.5 4.0 5.6 6.3 5.3
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5.1 6.1 6.7 5.4
9 6.7 5.4 6.1 6.9 6. I

1 6.5 5.4 6.1 6.7 6.1
2 6.5
3 7.8
4 7.4

5.2 6.1 6.7 5.9
5.4 6.6 6.7 5.E
b.O 6.8 6.9 5.9
5 7.3 6.1 6.8 7.0 6.1

6 7.1 5.9 6.6 6.8 6.0
7 6.5 5.7 6.8 5.6
8 6.6 5.5 - 7.0 5.8

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1 6.5 4,8 5.8 - -
2 6.4 4.5 5.t -
3 6.3 4.3 5.2 5.1 4.6

7 6.3 ..9 5.7 5.2 4.1 .7
8 6.7 5,5 6.2 5.2 4.2 .8
9 6.6 5.5 6.0 5.0 4.C .6
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1 4.? 4.1 .4

AUGLST SEPTEMBER

MAX PIN MEAN MAX MIN PEAN

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t.O . 5.1 6.9 3.
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TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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DAY PAX MIN MEAN MAX MIN MEAN

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18 3.0

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MONTH

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APRIL MAY

MAX MIN MEAN PAX PIN PEAN

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6.0 6.0 7.C
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8.5 8.C 6.0
9.0 7.0 8.0

6.0 7.0 7.5
8.5 7.0 7.5
6.5 7.0 7.5
8.5 6.0 6.0
9.0 8.0 8.5

6.5 6.0 B.O
9.5 8.0 -

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C.5 9.5 0.0
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0.5 0.0 0.5
1.0 0.0 C.5
2.0 0.5 1.0

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3.0 1.5 2.0
3.5 1.5 2.5
5.0 2.0 3.5
4.0 3.0 3.5

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DELAWARE RIVER BASIN

01482800 DELAWARE RIVER AT REEDY ISLAND JETTY, DEL. Cent inued

JUNE

MAX MIN

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MIN

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25.5 25.5 24.5

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ST. JONES RIVER BASIN

01483700 ST. JONES RIVER AT DOVER, DEL.

JNAGE AREA. 31.9 sq mi.

tlOD OF RECORD. Chemical analyses: February 1965 to September 1970.

DIS- DIS-
OIS- SOLVED SOLVED 1IS-
OIS- SOLVED M4G- DIS- Pn- DIS- SOLVF

OIS- SILICA CIUM SIUM SODIUM SIUM BTN4TE SUIFATE RIDE

CH4RGE (SI02I (CM (MGI (Nil <KI (HC03I !SD4| (CLI

oct.

07... 9.0 24 22 3.6 19 ">. 5 3 3 25 79
NOV.
06... 14 7.5 16 1.6 26 9 24 30 37
DEC.

04... 15 14 20 4.4 23 t . } 15 26 47
JAN.
05... 51 11 9.2 2. 3 6.4 '.0 13 19 12
FEB.
02... 37 17 12 2.9 10 2.3 10 23 71
MAR.
04... 29 16 12 2. a 12 6.4 12 23 22
4PR.
02... 120 14 10 2.2 9.0 2.0 9 22 15
MA Y
05... 44 8.6 11 2.4 B. 7 2.5 18 18 12
JUNE
05... 17 11 16 3.5 18 3.2 29 23 26
25... 41 15 11 2.0 3.9 2.7 14 19 12
AUG.
06... 2.9 10 2.8 A20 27 27 18
SEP.
02 2.5 -- 14 3.5 A27 22 38 30

DIS- DIS-
SOLVED SOLVED NON- SPECI-
DIS_ SOLIDS SOLIDS CAR- FIC COLOR
SOLVED (BESI- ISUM OF H«RD- BONIUE CONQ- (PL«T-

(N03I 130 C1 TUENTSI <C«iMG1 NESS (MICRO- COBALT

OCT.

07... 24 200 167 70 43 251 7.4 17 NOV.
06... 22 196 150 55 36 277 7.3 16 DEC.
04... 23 230 167 68 56 275 7.2 '4 J&N.
05... 7.9 102 76 33 22 110 7.1 36 FEB.
02... 11 129 105 42 34 155 7.2 22 H4R.

6PR.
02... 3.8 121 38 34 27 140 6.9 20 "IV
05... 9.6 106 32 3R 23 132 7.2 45 JUNE
05... 14 159 129 55 31 217 7.3 70 25... 11 130 39 36 24 135 6.6 55 4UG.
06... 6.8 37 15 173 7.0 12
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02... 9.0 50 32 234 7.2 10

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A SODIUM PLUS POTASSIUM AS SODIUM (N4)

450 WICOMICO RIVER BASIK

01486500 BEAVERDAM CREEK NEAR SALISBURY, MD.

LOCATION. Lat 38°21'05", long 75°34'11", Wlcomlco County, at gaging stat aglin Branch, 0.8 mile upstream fi

DRAINAGE AREA. 19.5 sq mi.

PERIOD OF RECORD. Chemical analyses: Octob(

'Uth, and 2 mile uth£ st of Salisbury.

1965 to September 1970.

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DIS- DIS-
DIS- SOLVED SOLVED
SOLVED MAG- DIS- PO-

CIUM SIUM SODIUM SIUM BONATE

4.0 1.5 8.5 2.2 21

3.8 1.5 7.8 2.1 21

4.6 2.0 7.0 3.3 11

3.8 1.6 5.9 2.2 10

4.2 1.2 7.4 1.5 13

4.2 1.3 6.3 1.5 14

3.6 1.3 8.0 1.1 24

4.4 1.4 6.8 2.2 20

4.8 1.4 8.3 2.2 25

DIS-
DIS- SOLVED

BONATE SULFATE RIDE

3.9 11

1.5 9.5

10 10

4.3 9.4

5.7 8.4

5.9 7.4

1.2 8.0

0 4.2 7.5

0 2.5 8.5

DIS- DIS-
OIS- SOLVED SOLVED NON- SPECI-

FLUO- SOLVED (RESI- (SUM OF HARO- BONATE CONO- (PLAT-

OCT.
20...
NOV.
17...
DEC.
16...
JAN.
28...
MAR.
16...
APR.
26...
JUNE
15...
JULY
28...
SEP.
16...

(FI (N03I 190 Cl TUENTSI (CA,«GI NESS (MICRO- COBALT

. 1 4.1 64

. 1 4.T 66

. 2 6.2 91

. 1 6.9 T4

. 2 6.3 85

. 2 4.5 6T

. 0 3.5 61

. 1 3.4 67

. 1 3.6 t>9

59

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62

53

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18

0 78 7.4

0 76 T.3

I 91 T.2

B 76 T.2

5 81 T.2

5 74 7.1

0 77 7.6

I 124 7.2

0 134 7.2

B

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ID

12

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3D

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NANTIOOKE RIVER BASIN

01487000 NANTIOOKE RIVER NEAR BRIDGEVILLE, DEL.

LOCATION (revised). Lat 38°43'45", long 75°33'41", Sussex County, at gaging sta Gum Branch, 2.5 miles southeast of Bridgevl lie, and 50.5 miles upstream from

DRAINAGE AREA. 75.4 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1961 to September 1970.

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01 S-
DIS- SOLVED
DIS- SOLVED MAG-

DIS- SILICA CIUM SIUM
CHARGE (SI02I (CAI (MGI

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57 18 4.2 1.8

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86 20 5.4 2.0

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63 18 5.0 2.0

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OIS- DIS-
SOLVED SOLVED
OIS_ SOLIDS SOLIDS

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SOLVED TIS- DIS-
DIS- PO- OIS- SOLVED SOLVED

SODIUM SIU" RONATE SIILFATE "IDE "IDE
(NAI (Kl (HC03I (S04> (CLI (F)

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7.6 2.6 13 5.8 11 .1

6.4 2.0 11 3.2 7.R .1

6.4 1.5 10 7.6 7.3 .2

7.1 1.9 16 9.2 8.6 .0

3.0 2.9 17 5.6 8.7 .0

15 3.3 15 9.2 19 .0

DIS-
NOM- SPECI- SOLVED
CAR- FIC COLOR ORTHO
SOLVED (RESI- (SUM OF HARD- BOHATE COND- (PLAT- PHDS-

(N03I 180 Cl TUENTS) (CA.M

CCT.
06... 12 80 70
NOV.
03... 9.6 81 67
DEC.
04... 12 68 61

04... 12 83 66
JULY
D9... 9.6 78 72
AUG.
04... 11 73 TO
S5P.
25... 16 94 96

f,t NESS (MICRO- CORALT (P04I

19 9 90 7.3 0

18 8 86 7.2 1

17 8 77 7.1 0

19 11 87 7.2 6

9 3 7.0

21 7 9Q 7.1 10

23 11 129 6.5 2 .39

NANTICOKE RIVER BASIN

01488110 NANTICOKE RIVER AT SHARPTOWN, MD.

IE AREA. 406 sq mi,

OF RECORD. ChemiC!

OIS-

ALUM-
INUM

I AL)

OCT.
22... 100

DtS-

SULFATE
I S04I

OCT.
2?... 22

DATE

SEP. ,

1R, ,

ncr.
22. .
NOV.
28..
OEC.
17..
JAN.,
12..
FFR.
09..
MAR.
16..
APR.
17..
MAY
28..
JUNE
24..
JULY
31..
AUG.
21..
SEP.
28..

TOTAL
NCN-
f ILT-
RARLE

BFSIDUE

3ATE (MG/LI

, approximately.

il analyses: September 1969 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS-
DIS- SOLVED SOLVED DIS- DIS- DIS-
SOLVED MAN- CAD- SOLVED SOLVED SOLVED 8IC4R- CAR-
IRON GANESE MIUM CO°PER LEAD ZINC RONATE BONATE

(FE) («N) (GDI (CU) (PB) (ZNI (HC03) (C03)

300 230 0 12 0 35 22 0

DIS-
OIS- HIS- SOLVEO NON-

RIDE "IDE DUE AT NESS HARD- INU^- Rin- (THRES-

203 .2 131 BO 62 50 13 0

SPECI- FECAL
FIC COL I-
DIS- COND- FORM

! (DEC Cl (»<G/LI (UNITSI MHOS 1 100 ML 1

1Q6Q
1820 23.0 7.1 6.2 75 170

1400 17.0 B.5 6.5 680 120

1400 7. 1; 8.3 7.2 150 66

1610 3.5 10.1 7.6 120 68
l<>70
1400 .0 12.1 6.3 70 9

1415 4.5 12.0 7.7 80 IflO

1720 7.0 10.6 7.D 90 24

0820 11.5 8.7 6.7 75 310

05?0 2?.0 6.7 5.° 75 71

1400 26.0 7.1 6.3 100 70

. 1115 25.0 6.5 7.3 ^5 560

1515 27.5 5.S 6.5 190 130

1040 21.0 4.6 6.6 420 100

DIS- SUS- DPS- SUS-
8IO ~ SOLVED PEN1FD SOLVCP PFNOEO
CHFM- TOTAL GROSS GROSS GOOSS rROSS

WYGEN PHOPUS CYANIDE PHENOLS AS as AS 5S

DEMAND <P| (CM U-NAT. ll-NAT. CS-137 CS-137

TOTAL
CHRO-
MIUM

(CR)
(UG/L)

7

METHY-
LENE
BLUE
ACTIVE
SUB-

(MG/L)

Q.OQ

CHOPTANK RIVER BASIN

CHOPTANK RIVER NEAR GREENSBORO, MD.

Branch, 2.0 miles northeast of Greensboro, and 60 miles upstream from mouth.

DRAINAGE AREA. 113 sq ml.

OIS- OIS-
OIS- OIS- SOLVED SOLVED

0 T.
2.
1.
N V.
d.
0 C.
7.
J N.
i.
f ti.
9.
M i*.
6.
A R.
7.
H 1
8.
J NE
4.
J Llf
L.
A G.
L.
S P.
a.

DIS- SILICA IRON IRON GANESE GANESE CIUH SIUM

CHARGE (SI02) (FE) (FE) |HN) IHN) (CAI (HGI

29 340 210
28 15 12 3.

32 14 800 10 11 3.

. . 98 20 800 40 9.2 2.

125 20 600 80 8.6 2.

150 17 530 -- 80 7.6 2.

90 16 690 50 8.2 2.

660 7.9 440 0 5.8 1.

65 16 2300 310 9.4 2.

213 13 1600 130 6.7 1.

80 13 1700 100 12 3.

32 7.8 940 70 11 2.

13 12 860 30 12 3.

DIS-
DIS- DIS- SOLVED

8ICAR- CAR- SOLVED CHLO- FLUO- SOLVED (SUM OF

SOOIUM SIUH

(Nil (K)

_

4 7.2 2.8

1 7.4 2.2

9 5.9 2.2

6 5.8 1.7

5 5.3 1.5

4 6.5 1.5

7 2.7 1.8

7 5.6 1.8

8 3.5 2.2

1 6.1 2.6

8 6.4 2.2

2 6.5 2.6

NON-
CAR-
HARO- BONATE

(HC03) IC03I (S04» (CD (F) (N03) TUENTS) (CA,MG) NESS

0 T.
i... 29 0 18 13 .1
3... 29 0 17 16 .1 3.5 91
N V.
8... 23 0 19 13 .1 2.9 84
0 C.
7... 10 0 24 10 .1 3.2 82
J N.
i... 10 0 22 8.5 .1 5.0 79
F B.
9... 9 0 21 8.3 .1 4.1 72
M ft.
6... 12 0 20 9.6 .2 3.0 73
A ft.
7... 2 0 17 5.8 .2 2.1 46

N r
8... 19 0 17 9.7 .1 4.2 76
J Nfc
4... 7 0 15 7.6 .2 4.1 57
J Lr
1... 31 0 14 12 .2 3.9 82
A G.
i... 24 0 16 12 .2 2.8 73
S P.
A... 32 0 14 1J .2 3.9 83

44 20
44 20

41 22

35 27

32 24

30 23

31 21

22 20

35 19

24 19

43 18

39 20

43 17

CHOPTANK RIVER BASIN

01491000 CHOPTANK RIVER NEAR GREENSBORO, HD. Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

015- F1C (PLAT- COLI-

CONO- INUM- FORM

T1WE ATURE OXYGEN (MICRO- UNITS) PER
DATE <OEG Cl (MG/LI IUNITSI MHOS 1 100 MLI

OCT.
22... I61C 15.0 8.3
23...
NOV.
28... 1125 5.5 11.3
DEC.
17... 1433 1.0 !2.2
JAN.

12... 1520 .0 ii.g
FE6.
09... 1215 3.5 12.5

16... 1555 5.0 12.1
APR.
17... 0945 11.5 8.8
MAY
28... 064C 16.5 7.1
JUNE
24... 1200 20.0 7.2
JULY
31... 1000 25.0 6.7
AUG.
21... 1340 23.5 7.4
SEP.
28... 1153 18.0 6.8

01S- DIS-
SOLVED SOLVED 01S- 01 S-

(ALI (CO) (GUI (PBI

OCT.
2 ... 100 0 7 B
2. ...
NO .
2 ...
OE .
1 ...
JAN.
12...
FEB.
09...
MAR.

APR.
17...
HAY
28...
JUNE
24...
JULY
31...
AUG.
21... ~
SEP.
28...

METHY-
B10- LENE
CHEM- BLUE TOTAL
1CAL ACTIVE PHOS-

OEMANO STANCE <PI <CNI

6.4 1*0 7 49

7.6 139

7.0 150 10 38

7.3 140 25 58

6.5 120 10 4

7.1 100 12 27

7.0 HO 1 7

5.9 70 50 200

6.3 110 70 73

5.8 85 50 440

6.4 120 1 220

6.7 110 5 430

7.3 120 10 68

TOTAL
NON-

DIS- FILT-

(ZNI ITY HOLD

67 * 2 »

- ~ ~"

______

- ~*

DIS- SUS- DIS- SUS-
SOLVEO PENDED SOLVED PENDED
GROSS GROSS GROSS GROSS
ALPHA ALPHA BETA BETA

U-NAT. U-NAT. CS-13T CS-137

DIS-

SOLVED
CHRO-

(CR)
(UG/L)

SUSQUEHANNA RIVER BASIN

01502770 SUSQUEHANNA RIVER NEAR GREAT BEND, PA.

LOCATION. Lat 41°57'48", long 75°44'33", Susquehanna County, Rt. 11 Bridge north of Hallstead, Pa., 0.5 mile of Great Bend, 6.2 miles upstream from gage at Conklin, N.Y.

DRAINAGE AREA. 2,086 sq mi.

PERIOD OF HI

REMARKS. R<icords of discharge are given for Susquehanna River at Conklin, N.Y. (station 01503000).

CHEMICAL ANALYSES! HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS-
DIS- DIS- SOLVED DIS-

(1IS- SOLVED SOLVEO MAG- UIS- DIS- SOLVED

DIS- IRON GANESF CIUM SIUM SODIUM BONftTE SULFATE

CHftHGE (FE) (MN> (Ct) (MG> (NA> (HC03) ISO*)

OCT.
Z£...
NOV.
25...
DEC.
23...
FEB.
2ft...
MAR.
25...
APH.
15...
SEP.
22...

DATE

OCT.
22...
NOV.

DEC.

FEB.

MAR.
2S>. ..
APK.
15...
SEP.
22...

".20 60 20 <>ft 3.5

2700 70 140 22 3.0 6.0

820 2SO 1000 18 2.8 6.2

DIS- DIS- SPf-
SOLVEU SOLVED NON- CIFIC
DIS_ OHTHU SOLIDS CAR- CON-
SOLVED PHOS- (HESI- MARO- BOMATE DUC1-

(NU3) (P04) 180 C) (CA.MGI NESS (MICHO-

. 03 100 75 9 170

2.8 .26 104 68 26] »2

. 10 79 b7 17 138

FECAL DIATE
TOTAL COLI- COLI- TUTaL
PHOS- DIS- FORM FORM ORGANIC

OCT.
22... 11. ft 170 2.0
NOV.
25... 12.6 3000
DEC.
23... 7.8 1680
FEB.

MAR.
25... 13.6 117 2-0
APR.

MAY
13... 9. ft 2ft
JUNE
22... B.ft 100 290
JULY
27... 9.2 180 210
AUG.
19... 9.0 100 160
SEP.
22... .04 7. ft . 5.0

80 16

51 14

ftB 15

PH TEMPEK-
ATURE

IITSI (OEG C)

7.7 10.0

6.1 ft.O

6. ft 1.0

7. ft ft. 5

7.5

METHY-
LENE
BLUE
ACTIVE
SUB-

. 00

. 01

. 01

RIDE

(CD

10

9.9

6.0

COLOR

(PLAT-
INUM-
CD8ALT

UNITS)

3

7

12

SUSQUEHANNA RIVER BASIN

01507500 GENEGAOTSLET CHEEK AT SMITHVILLE FLATS, N. Y.

LOCATION. Lat 42 23'34",
at Smithvllle Flats ai

DRAINAGE AREA. 82.3 sq m

PERIOD OF RECORD

REMARKS.

DATE
OCT.
23...
NOV.
21...
DEC.
18...
JAN.
26...
FEB.
20...
MAR.
23...
APR.
24...
MAY
19...
JUNE
22...
JULY
22...
AUG.
26...
SEPT.
23...

OCT.
23...
NOV.
21...
DEC.
18...
JAN.
26...
FEB.
20...
MAR.
23...
APR.
24...
MAY
19...
JUNE
22...
JULY
22...
AUG.
26...
SEPT.
23...

RATE
OCT
23...
NOV.

DEC.
18...
JAN.
26...
FEB.
20...
MAR.
23...
APR.
24...
MAY
19...
JUNE
22...
JULY
22...
AUG.
26...
SEPT.
23...

Specto

TIMF

1330

1455

1200

1325

1330

1120

1130

1100

1230

1000

1230

1400

IS04)
'

10

16

13

13

12

12

11

11

10

9.0

10

12

TIME

1330

1200

1325

1330

1120

1130

1100

1230

1000

1230

1400

. Chemic:

graphic ai

DIS-
CHARGE

(CFS)

14

137

134

59

132

125

426

197

14

67

4.0

26

CHLP-

(CL)

4.3

2.9

2.8

3.3

3.2

4.8

2.8

4.2

3.5

3.5

4.5

4.5

HARD-
NESS
(CA.MG)
(MG/L)

32

20

24

21

24

18

18.

31

22

36

30

long 75 48 '15", Chi
nd 0.2 mile downstrf

i.

al analys

nalyses ii

CHEMICAL

SILICA

(SIO?>

3.3

4.0

3.6

3.9

3.9

3.4

2.4

2.6

2.9

4.0

2.7

2.6

DIS-
SOLVE n
FLUO-

(F)
(MG/L)

. 0

1.5

. 0

. 1

. 1

. 0

. 0

. 1

. 1

. 1

. 1

. 1

NON-
CAR-
BONATF
HARD-
NFSS
I MG/LI

7

12

12

11

14

11

8

10

11

12

12

sam from Pond Brook.

ss: July 1966 to September 1970 <di

i "Samples

ANALYSES,

IRON
1 FF 1

60

70

20

130

30

40

20

40

30

110

220

20

ORGANIC
NITRn-

(N |
IMG/LI

. 12

. 33

. 09

. 12

. 12

. 03

. 22

. 19

. 00

. 13

. 08

. 22

SPECI-
FIC
COND-
UCTANCE

MHOS)

85

5B

58

63

68

45

50

77

57

89

83

collected

WATER YEAR

TOTAL S
MAN-
GANESE

(MM)

20

0

0

0

0

0

0

0

0

30

10

20

(N02)
(MG/L)

. 00

. 01

. 03

. 00

. 02

. 02

. 02

. 00

. 03

. 02

PH

7.3

7.0

6.9

6.9

6.9

7.1

6.7

7.0

7.3

7.0

7.2

7.1

at misce

OCTOBER

DIS-
OLVFD
CAL-
CIUM

(CM

10

7.9

7.3

7.4

6.4

7.4

5.3

6.2

10

7.3

11

9.0

L

. 3

1.5

2.4

1.8

1.6

. 6

. 6

. 4

1.0

. 2

COLOR

INIIM-
CPRALT

5

15

19

9

6

8

14

24

5

26

e

3

illaneou

scontinued).

s sites in

1969 TO SEPTEMBER

DIS-
SOLVED

NF-
SIUM

IMG)

1.6

1.2

1.1

1.4

1.2

1.3

1.1

. 8

1.4

1.0

2.1

1.8

(MG/L)

. 02

. 07

. 03

. 10

. 00

. 08

. 06

. 84

. 11

. 06

. 06

CHFM-

OXYGEN
nFMANO

3.0

10

1.0

2.0

2.0

27

13

11

3.0

9.0

2.0

3.0

SPPIUM
(MA)
(MG/L)

3.1

2.2

1.8

2.1

2.0

1.4

1.6

3.0

1.3

3.3

3.0

TOTAL

I pn.4)
(MG/L)

. 02

. 08

. 01

. 01

. 01

. 05

. 04

. 05

. 04

. 04

MFTHY-
LFNF
BLUE

SUR-
STANCF

. 03

. 02

. 02

. 02

. 01

. 02

. 02

. 02

. 01

. 02

. 00

02

New York

1970

PO-

SIUM

(Kl
(MG/L I

. 6

. 6

. 4

. 4

. 4

. 3

. 4

. 7

. 6

. 6

. 6

DIS-

jOLVFD
SOLIDS

(RESI-

1«0 C I

52

36

37

40

45

34

34

42

48

48

01 S-

MERCURY

(HG)

_

2.0

1.0

. "

BICAP- CAR-
RDNAT 11 RDMATF

(HC01I (C03I
(MG/LI IMG/LI

30 0

14 0

12 0

16 0

12 0

13 0

8 0

13 0

26 0

13 0

30 0

22 0

DIS-
SOLVE n
snLlos LPSS
(SUM OF ON

TUFNTS) TIPM

4B b

44 8

38 9

42 4

37 11

40 B

29 4

35 12

37 0

50 4

45 8

COLI-
FORM

DIS- (COL-
SOLVED ONIES
OXYGEN PER

_ -

_

_ -

10.0

8.2

ID. 1

9.2 340

10.2

8.3

41. KA-

i. IMITY

CAC01

(MG/L I

25

11

10

13

10

11

7

11

21

11

25

18

ATURE

8.0

2.5

. 0

. 0

. 0

1.5

6.5

12.0

14.0

15.0

20.0

20.0

FECAL
COLI-
FORM
ICOL.
PER

_

_

_

_

._

70

DRAINAGE AR

SUSQUEHANNA RIVER BASIN

01509000 TIOUGHNICXiA RIVER AT CORTLAND, N.Y.

gaging static

oir in Oswego Riv

PERIOD OF RECORD.--Chemical analyses: Octot Water temperatures: October 1956 to Septe

EXTREMES. 1969-70:

REMARKS. N

COOPERATION. Wat

rds available Nov. 1-30.

perature records furnished by the

CHEMICA1

DIS-
CHARGE

. ANALYSE

SILICA

I SI02)

DIS-
SOLVED
CAL-
CIUM

ICA)

01 S-
SOLVED
MAG-
NE-
SIUM
1 MGI

SODIUM

(Nil

Tu SEPTE

pn-
T4S-

S IHM
(K)
(Mr,/L I

BICAR-
BONATE

IHC03)
IMG/L)

DATE

APR.
03...

SULFATE

ISO*)

CHLO-
RIDE

ICL)

FLUO-
RIOE

IF)

NITRO-
GEN

IN)

NITRITE

IN02)

NITRATE

IN03)

AMMONI

[NH4 I

HARD-
NESS

(CA.MG)
IMG/L)

NON-
CAR-
BONATE
HARD-
NESS

(MG/L)

SPECI-
FIC
COND-
UCTANCE

[MICRO-
MHOS I

COLOR

(PLAT-
INUM-
COBALT
UNITS)

R.5
10.0
10,0
11.0

0.5
1.0
0.5

0.5
1.0
1.0
1.5

3.5
0.5
0.0

0.0
0.0
1.5

1.5
0.5
1.0
0.5
0.0

SUSQUEHANNA RIVER BASIN

01513107 SU5QUEHANNA RIVER AT C.F.J. MEMORIAL BRIDGE, AT JOHNSON CITY, N.Y.

LOCATION. Lat 42°06'13", long 75°58'10", Broome County, at C.F.J. Memorial Bridge in Johnson City, downstream from Chenango River.

DRAINAGE AREA. 3,891 sq ml, at mouth of Chenango River.

PERIOD OF RECORD. Chemical analyses: August 1969 to October 1970.

for water year 1970 in "Analyses of samples collected at miscellaneo

CHEMICAL ANALYSES, AUGUST AND SEPTEMBER 1969

AUG 18
SEP 15

BATE

AUG 18

BIS-

1400
1400

BIS-
SOLVED
SOLIBS

(RESI- HARD-
DUE AT NESS

180 C) (CA,MG)
(MG/L) (MG/L)
"

DATE

DEPTH

1
2

SPECI-
FIC
COND-

UCTANCE

(MICRO-
MHOS 1

258

SULFATE

17

PH

(UNITS)

8.2
8.8

BIS-
SOLVEB
ALUM-
INUM

(AL)
(UG/L)

CHLO-
RIDE

(CD

16

TEMPER-
ATURE

(BEG C)

20
24

ARSENIC

(AS)
(UG/L)

ORGANIC
NITRO-
GEN

IN)
__ '

. 32

COLOR

INUM-
COBALT
UNITS

15

TOTAL
CHRO-
MIUM

(CR)
(UG/L)

TOTAL
KJEL-
DAHL
NITRO-
GEN

IN)
(M5/L)

. 17

BID-

ITV

(JTU)

3

COPPER

(CU)
(UG/L)

NITRATE

(N03)
(MG/L)

. 4

SOLVED
OXYGEN

(MG/L)

6.8

BIS-
SOLVEB
IRON

(FE)
(UG/L)

AMMONIA

(NH4)
(M6/L)

. 10

CHEM-

OXYGEN
DEMANB

(MG/L)

11

LEAB

(PB)
(UG/L)

TOTAL
PHOS-
NITRITE PHORUS

(N02) (P04)
(MG/L)

. 06

BIO-
CHEM-

OXYGEN
BEMAND

(MG/L)

2.2

DIS-
SOLVES
MAN-
GANESE

(MN)
(UG/LI

(MG/L)

. 21

COLI-
FORM

ONIES
PER

(100 ML)

42000

ZINC

(ZN)
(UG/L)

ORTHO
PHOS-
PHATE

(P04)
(MG/L/

. 06

METH-
YLENE
BLUE

SUB-
STANCE

(MG/L)

. 03

RABIOCHEMICAL ANALYSIS

DISSOLVEB SOLIDS SUSPENBEB SEDIMENT

TOTAL
BISSOLVEB SUSPENBEB
NIUM RABIUM GROSS B GROSS a SOLIBS GROSS B GROSS a SEBIMENTS

G/L) (PCI/L) (PCI/L) (UG/L) (MG/L) (PCI/L) (PCI/L) (MG/L)

3.6 <.l 170 .6 <.l a

SUSQUEHANNA RIVER BASIN

01513107 SUSQUEHANNA RIVER AT C.F.J. MEMORIAL BRIDGE AT JOHNSON CITY, N.Y. Continued

TOTAL DIS-
KJEL- SOL-
ALKA- OAHL AMMONIA TOTAL VED-
LINITY CHLO- NITRO- NITRO- PHOS- PHOS-

DATE

NOV.
03...
DEC.
01...
JAN.
05...
FEB.
02...
MAR.
02...
APR.
06...
MAY
04...
JUNE
01...
JULY
06...
AUG.
01...
31...

DATE

NOV.
03...
DEC.

JAN.
05...
FEB.

MAR.
02...
APR.
06...
MAY

JUNE
01...
JULY

AUG.
0!...
31...

DATE

TIME CAC03

1500 70

TOTAL
NON- SPECI-
FILT- FIC
RABLE CONO-

(MICRO-
IMG/L) MHOS)

320

235

175

275
55 300

NESS

JULY

AUG.

31... B9

DIS-
SOLVED

ALPHA

TIME U-NAT.

(UG/L)

(S04) (CD IN) (N) IN) (N) (PI (P)

17 17 .16 .010 .08 .60 .24 .10

IMME- METHY-
BIO- FECAL OIATE LENE
CHEM- COL I- COLI- BLUE
DIS- ICAL FORM FORM ACTIVE

ATURE OXYGEN DEMAND PHYLL A PER PER STANCE

(UNITS) (OEG C) (MG/L) IMG/L) (UG/L) 100 ML I 100 ML I IMG/L)

B.I 10.0 10.0

7.1 .0 12.0

B.2 20.5 7.B

8.6 26.0 B.B 310 1000
7.B 17.0 2.B 1.0 .04

TOTAL COLOR DIS- DIS-

AS INUM- PHENOLS CYANIDE AND ARSENIC MERCURY

4 13 4 .02 13 10

RADIOCHEMICAL ANALYSIS

OIS- DIS- DIS- SUS- SUS-
SOLVED SOLVED SOLVED TOTAL PENDEO PENDFD

ALPHA BETA BETA RABLE PENDED PENOEO ALPHA BETA

U-NAT. /Y90 CS-137 U-NAT. CS-I37
IPC/L) (PC/L) IPC/L) (MG/L) IPC/L) (PC/L) (PC/L) (PC/L)

DIS-
SOLVED

SOLIDS (RESI-
DUE AT

180 C)
(MG/L)

136

TOTAL
NON-

RABLF

(MG/L I

AUG.
31.,.

SUSQUEHANNA RIVER BASIN

01513110 SUSQUEHANNA RIVER AT JOHNSON CITY, N.Y.

LOCATION. Lat

C.F.J. Menu
station at

42°06'37", long 75°58'30

Drial Bridge, 3.5 miles dc
Vestal.

3 wnstream from Chenango River, and 4.8 miles upstream from former gaging

DRAINAGE AREA. 3,891 sq mi, downstream from mouth of Chenango River.

PERIOD OF RECORD. Water temperatures: October 1955 to September 1970. Prior to October 1967, "1513500, "at Vestal."

EXTRFMFS. 1969-70:

Water temperatures: Maximum, 25.5°C July 28, 31, Aug. IS; minimum, freezing point on sever December and February to April.

al days during

Water ten

MARKS. Du

V OCT

1 14.5
? 15.5
3 16.0
4 15.5
5 14.0

6 14.5
7 14.5
8 14.5
9 14.5
0 14.0

1 14.0
2 15.0
3 16.0
4] 7.0
5 14.5

6 13.0
7 11.5
8 9.5
9 9.5
0 10.0

1 12.0
2 11.0
3 6.5
4 5.0
5 6.0

6 7.0
7 8.0
8 7.0
>9 6.0
W 5.5
SI 5.5

ys during

NOV

7
8
9
9
8

6
6
6
7
7

7
7
6
6
6

3

4
6
5

2
1
1
3
2

3
3
3

3

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5
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5
5

5
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0

0
5
5
0
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0
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0

winter periods.

(ONCE-DAILY

DEC JAN FEB

2.0 0.5 0.5
1.5 0.5 0.5
1.5 0.5 0.5
0.5 0.5 0.5
0.0 0.5 0.5

0.0 0.5 0.5
0.0 .0 0.5
0.5 .0 0.5
0.5 .0 0.5
0.5 .0 0.5

1.5 .0 0.5
1.5 .0 0.5
1.0 .0 0.5
1.0 .0 0.0
0.5 0.5 0.5

0.5 0.5 0.5

0.5 0.5 0.5
0.5 .0 0.5
0.5 .0 0.5

1.0 .0 0.5
0.5 .0 0.5
0.5 .0 0.5
1.0 .0 0.5
1.0 .0 0.5

0.5 .0 0.5
0.5 .0 0.5
0.5 .0 0.5
. 0
0.5 .0
0.5 0.5

MEASUREMENT AT 0800

MAR APR MAY

0.5 0.5
0.5 1.5
0.5 0.0
0.5 1.0
0.5 1.5

0.5 1.5
0.5 2.0
0.5 3.0
0.5 4.5
0.5 4.5

1.0 3.5
1.0 3.0
1.0 4.0
0.5 5.P
0.5 5.t>

1.0 6.5

2.0 8.5
3.0 6.5
3.5 7.0

2.0 6.5
3.5 7.0
4.0 8.0
4.5 8.0
5.0 8.0

4.0 9.0
1.0 10.5
0.5 12.0
0.0 14.0
0.0 15.5
0.5

8.0
7.0
5.0
3.0
3.0

3.5
9.5
0.0
1.5
4.0

6.5
8.0
8.5
8.5
7.0

4.5

3.0
3.5
5.0

5.5
8.0
9.5
7.0
7.0

6.0
5.0
4.0
4.5
6.0
7.0

ric and Ga

JUN

20.5
?1.0
23.0
20.0
20.0

19.0
18.5
20.0
22.0
23.0

24.0
24.0
20.5
20.5
21 .5

19.0
19.5
21 .0
21.5
20.0

19.0
16.5
18.5
20.5
21.5

21 .0
19.0
16.0
19.0
19.5

1970

JUL

20.5
23.0
23.0
23.5
21.5

20.0
21.0
22.0
23.5
22.0

23.5
22.0
22.0
23.5
21.0

21.0

22.0
21.0
23.0

20.0
19.0
20.0
21.0
23.0

23.5
24.5
25.5
25.0
24.5
25.5

AUG SEP

24
24
24
21
21

21
22
22
22
24

5
0
0
5
0

0
0
0
0
0

23.5
24
24
24
25

25
25
23
23
23

23
21
21
20
20

21
22
23
23
22
19

0
0
5
0

5

5
0
5

0
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5
0
5

0
0
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8.5
7.0
8.5
9.0
9.5

9.5
9.0
9.5
0.5
0.0

9.5
9.0
8.5
9.0
7.0

6.5
7.0
9.0
7.0
7.0

8.0
9.0
1.0
1.5
3.0

3.0
2.0
6.5
4.5
3.0
5

SUSQUEHANNA RIVER BASIN

01518700 T10GA RIVER AT TIOGA JUNCTION, PA.

of u!s. Highway 15 and State Highway'328, 3.5 miles downstream from Crooked Creek.

DRAINAGE AREA. 446 sq mi.

PERIOD OF RECORD. Chemical analyses: July to September 1969 (miscellaneous), October 1969 to September 1970.

REMARKS. Records of discharge are given for Tloga River at Tioga, Pa. (station 01518000), and Crooked Creek a1 Tioga, Pa (station 01518500).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS-
OIS- nlS- SOLVED DIS-
D1S- SOLVED SOLVED MAG- DIS- OIS- SOLVED
SOLVFO M4N- CAL- NE- SOLVED PICAS- SOLVED CHLD-

[)IS- IWON GANESE CUM SUM SODIUM HONATt SULFATE RIDE
CHARGE (FE) (MM) (C4) (MG) (NO) (HC03) (SO*) (CD (Ub/L) (Uli/LJ (*u/L) (MLi/L) (MG/L* (MG/L) (MG/L) (MG/l)

<-3 90 3200 42 IS I 173 IS

431

3300

/95

6^ 0 600 21 5.0 7.0 25 <.<. IS

1660

5<t 70 3700 38 13 e. 9 I 152 13

DIb- ')1S- SPF-
SOLVFU SOLVED NON- C1FIC

I)IS_ OHTHO SOLUS CAR- CON- COLD»
SOLVED HHUS- ("tSI- HARD- BONATE DUCT- IPLAT-
NITWATE ^HATE DUE AT 'jfSs MA^O- ANCE PH TEMPEW- INUM-
(NU3) li»0ftl 180 C) (CA.Mt) NESS (Micea- ATUWE COBALT
UATt (MO/LI (MG/L) (Mb/L) (M6/L) (MG/L) MHOS) (UNITS) (QE& C) UNITS)

OCT.

23... .01 27(1 167 16S 393 <t,6 b.C 1
NOV.
26... -- -- -- 201 6.3 3.0
DEC.
2J... « -- -- 215 5.3 2.5
FEB.
24... -- -- -- 170 5.9 3.0

25... 3.3 .19 127 73 53)&i 7.» 6.0 ?0 APK.
16... -- -- -- -- 60 5.2 6.0
SEP.
22... -- .00 2bO 149 147 392 4.6 -- 3

FECAL
TOTAL COL1-

PHQS- D1S- FOR"
PHDRUS SOLVED (COL.
(P) OXYGtN 3ES

NOV.
2b...

UE(.

25...
APrf.
Ib...

JUNE
23...
JOLY
2B...
AUG.
20...
SE = .
22...

12.1

12.B

7.H

13.2

12.6

9.B

8.6

9.f.

7.2

7.0

462 SUSQUEHANNA RIVER BASIN

01520000 COWANESQUE RIVER NEAR LAWRENCEVILLE, PA.

LOCATION. Lat 41°59'04", long 77°09'06", Tioga County, at gaging station 0.8 mile 1,8 miles southwest of Lawrenceville, and 2.5 miles upstream from mouth.

DRAINAGE AREA. 298 sq mi.

PERIOD OF RECORD. Chemical analyses: July 1968 to September 1970.

OCT.
23.
MOV.
2b.
DEC.
23.
FES.
25.
MA«.
2b.
4P-I.
15.

13.
JUNE
23.
SEP.
22.

OIS- DIS-
DI5- DIS- SOLVED SOLVED

SILICA IRON 6ANESE CIUM

(SI02I (FEI (MN) (CA)

OCT.
23... .6 190 63
NOV.
26... 1.8 BO « 22 DEC.
23... 2.H 1UO 100 24 FEB.
25... 3.3 120 50 23

MAR.
26... 3.0 40 100 21 APR.
15... 3.1 70 60 13

MAY
13... 1.0 80 40 32 JUNE
23... .9 120 50 52 SFP.
22... 120 230 29

UIS- UIS-
DIS- SOLVED SOLVED
SOLVED QIS_ ORTHO SOLIDS
FLUU- SOLVED PHOS- (RESI- HA

. 3 -- .05 406

. 2 2.5 144

.. . 2 4.9 170

. 1 4.1 136

. 1 3.7 .96 105

. 2 2.3 S3

.. . 2 4.0 .00 358

. 01 266

TOTAL
PHOS- OIS-
PHORUS SOLVED

OC1.
23... 13.8
NOV.
26... 12.8
DEC.
23... 10.0

25... 13.6
MAW .

26... 12.8
APR.
15... 9.0
MAY

13... 9.4
JUNE
23... 9.0
JULY
2B... 7.9
AUfa.
20... 7.0
SEP.
22... .02 11. »

DIS- DIS-
SOLVED SOLVED
MAG- OIS- PD-

SIUM SODIUM SIUM

(MG) (NA) <K)

12 73 5.7

4.5 15 1.0

5.3 21 3.0

4.0 11 a.H

5.1 9.0 2.0

2.8 3.8 1.3

6.0 19 2.8

7.5 55 3.7

7.2 55

SPE-
NON- CIFIC
CAR- CON-
RD- 80NATE DUCT-

DIS-
OIS- SOLVED

30NATE SULFATE RIDE

(HC03) (S04) (CD

152 63 140

61 33 22

58 38 32

45 30 17

46 23 14

24 20 7.0

71 38 33

108 69 86

46 54 «4

COLOR <PL»T-
»H TEMPER- INUM- OIS-

207 8? 739

74 24 184

82 35 ?9B

74 37 205

74 36 183

44 25 121

161 67 611

103 55 499

IMME-
FECAL DIATE

(COL. (COL. CARBON

23 9.0

496 5.0

2900 7.U

1000 4.0

2200 7.0

14

Ib h.O

600 9300 6.0

40 70

70 90

_

7.5 3.5 10 68

7.2 4.0 4 286

6.3 2.0 12 292

6.0 1.0 4 24

7.6 4.0 30 865

6.7 10. 5 3 950

«.9 21.5 5 154

8.6 17.5 8 166

9.1 ~ 7 137

METHY-
LENE

SUB-

. 00

..

- -

. 01

..

. .

.

. _

. 01

LOCATION. Lat 42°23'18",
from mouth and Kanona

DRAINAGE AREA. 66.8 sq m

PERIOD OF RECORD. Chemic

PATE
OCT.
23...
NOV.
19...
DEC.
23...
JAN.
26...
FEB.
20...
MAR.
24...
APR.
22...
MAY
20...
JUNE
23...
JULY

AUG.
07...
24...
SEPT.
21...

DATE
OCT.
23...
NOV.
19...
DEC.
23...
JAN.
26...
FEB.
20...
MAR.
24...
APR.
22...
MAY
20...
JUNE

JULY
23...
AUG.
07...
24...
SEPT.
21...

OCT.
23...
NOV.
19...
DEC.
23...
JAN.
26...
FEB.
20...
MAR.
24...
APR.
22...
MAY
2D...
JUNE
23...
JULY
23...
AUG.
07...
24...
SEPT.
21...

TIME

1118

1045

1110

1100

1100

1040

1130

1030

1030

1100
1100

1000

1118

1045

1110

1100

1100

1040

1130

1030

1100

1100
1100

1000

SULFATF

IS04)

30

60

41

39

34

32

26

30

38

32

36
31

33

long 77°

i.

al analys

SUSQUEHANNA RIVER BASIN

01528000 FIVEHILE CREEK NEAR KANDNA, N.Y.

es: March 1966 to

CHEMICAL ANALYSES, WATER

TOTAL

DIS-
CHARGE

(CFS)

1.8

22

49

33

58

78

121

27

9.0

3.3
4.2

9.2

HARD-
NESS

(CA.MG)
(MG/L)

167

143

95

99

82

81

67

105

137

138
143

166

CHLO-
RIDE

(CD

13

17

12

12

12

12

7.1

10

17

15

20
12

19

SILICA

(SI02)
L)

1.4

4.8

5.1

4.5

3.2

3.1

2.5

2.8

1.8
1.7

2.3

NON-
CAR-
BDNATE
HARO-

(MG/L)

34

72

45

40

38

40

30

32

36

32
32

5B

DIS-
SOLVFO
FLUO-

RIOF
IF)

.1

. 3

. 0

. 1

. 1

. 0

.1

.1

.1

.1

. 2
. 0

. 1

MAN-
IRON KANFSF

(FEI (MM)
HIG/L! (UK/LI

20 0

80 0

180 0

120 0

100 20

70 0

80 0

70 0

60 30
50 10

70 0

SPECI-
FIC
COND-

UCTANCE PH (MICRO-
MHOS) (UNITS)

352 8.1

330 7.9

243 7.8

250 7.6

222 7.6

215 7.9

156 7.9

248 8.3

317 7.9

331 8.0
310 8.2

350 7.7

ORGANIC
NITRO-

C.EN NITRITF
(N) (N02)

. 33 .01

. 26 .05

. 26 .03

. 15 .04

. 22 .02

. 08 .04

. 20 .15

. 66 .02

. 14 .02

. 00 .04

September 1970.

YEAR OCTOBER 1969
nis-
01 S- SDLVFD
SClLVFn MAG-
CAL- NE-
CIUM SHIM

(CM (MG)

51 9.6

44 8.0

29 6.5

24 5.5

24 5.1

20 4.2

32 6.1

45 7.9

43 7.5
44 8.0

53 8.3

COLOR CHEM-

INUM- OXYGEN

UNITS) (MG/L)

15 7.0

15 13

19 6.0

14 14

13 6.0

14 42

12 8.0

19 8.0

14 10

9 10

21 7.0
13 9.0

6 9.0

NITRATF AMMONIA
(N03) (NH4)

1.6 .05

8.2 .08

8.1 .00

5.6 .28

6.3 .00

5.0 .06

3.8 .15

1.0 .22

2.0 .12

. 6 .11

1.4 .15

TO SEPTEMBER 1970

pri-

sonniM
(MA)
1 , L)

7.4

8.5

6.2

5.3

5.8

4.2

6.3

10

8.6

11
6.8

11

METHY-
LENE
BLUE

SUB-

(MG/L)

. 03

. 04

. 03

. 02

. 02

. 03

. 03

. 03

. 04

. 03

. 01
. 02

. 03

TOTAL
PHOS-
PHPRUS

(P04I

. 19

. 12

. 16

. 19

. 13

. 21

. 19

. 20

. 17

. 13

TAS-
SIIIM

(MG/L)

1.9

1.9

1.2

1.0

1.1

1.0

1.0

1.3

1.6

1.5

1.4
1.4

1.5

DIS-

MERCURY

(UG/L)

12

. 3
. 8

1.0

DIS-
SOLVE n
SOLIDS

(RFSI-
OUF AT
1PO C)

206

193

146

140

121

119

185

171

198

234

RICAP-
R ON A T F

(Hr;rB)

162

86

72

55

50

46

89

139

124

130
136

132

DIS-
SOLVED

(MG/L)

10.8

10.8

11.0

12.4

13.8

8.0

OIS-
SOLVFO
SOLIDS

(SUM OF
CONSTI-
TUENTS 1

196

195

137

140

120

112

192

174

1B6

195

C A& -
ROM ATF

(CH3)
(MG/L 1

0

0

0

0

0

0

1

0

0

0
0

0

FECAL
COLI-

(COL.

100 ML)

- -

130

- -

"

LOSS
OM
I KM I -
TIOM

10

29

20

15

15

9

9

26

8

64

463

AL KA-
LI MI TV
AS

r Aroi
(MH /L)

133

71

50

59

45

41

38

75

114

102

107
112

108

TEMPER-

ATURE (n FG c)
3.5

9.0

. 0

. 0

1.0

10.0

16.0

18.0

19.0

19.0

16.5

SUSQUEHANNA RIVER BASIN

01530900 CHEMUNG RIVER AT WELLSBURG, N.Y.

LOCATION. Lat 42°01'02", long 76°43

DRAINAGE AREA, 2,530 sq ml, at ga

PERIOD OF RECORD. Chemical analys

REMARKS. Spectrographi c analy ses

August 1969 to September 1969.

DIS-
CHARGE

(CFS)

CHEMICAL ANALYSES, AUGUST AND SEPTEMBER 1969

SULFATE

(S04)
(MG/L)

NITRITE

(N02I
(MG/L)

ORTHO
PHOS-
PHATE

(PCK)
(MG/L)

SOLVED
SOLIDS

(RESI-
DUE AT
180 Cl

AUG :&

HARD-
NESS

(CA,MGI

SPECI-
FIC
COND-
UCTANCE

(MICRO-

-

PH

7.5

TEMPER-
ATURE

20

COLOR

(PLATI-
INUM-

CQBALT

8

TUR-
BID-
ITY

COLI-
FORM

(COL-
ONIES
PER

(100 ML]

9600

METHY-
LENE
BLUE
ACTIVE
SUB-
STANCE

(MG/L)

RADIOCHEMICAL ANALYSIS

DISSOLVED SOLIDS

TOTAL
DISSOLVED
SOLIDS

(MG/L)

SUSPENDED SEDIMENT

SUSPENDED
SEDIMENTS

(MG/L)

290

SUSQUEHANNA RIVER BASIN

01530900 CHEMUNG RIVER AT WELLSBURG, N.Y. Continued

OCT.

NOV.

DEC.

JAN.

FEB.

MAR.

APR.

MAY

JUNE

JULY

AUG.

31...

DATE

OCT.

NOV.

DEC.

JAN.

FEB.

MAR.
02...
APR.

MAY

JUNE

JULY
06...
AUG.
01...
31...

DATE

TIME

1000

TOTAL
NON-
FILT-
RABLE
RESIDUE

(MG/L)

"

3

JULY

AUG.

31...

TIME

TOTAL RIS-
KJFL- SOL-
ALKA- RAHL AMMRNIA TOTAL VFR-
LINITY CHLfl- NITRO- NITRO- PHns- PHOS-
AS SULFATE RIDE GEN NITRITE GEN NIWATE PHORUS PHORUS

CAC03 (50*1 ICDX (N) (N) IN] (N) IP) (PI

100 114 41 .14 .000 .07 1.0 .630 .49

IWMF- MFTHY-
SPECI- BIO- FECAL DIATE LFNF
FIC CHEM- COLI- COLI- BLUE
CONO- CIS- ICAL FORM FORM ACTIVF

UCTANCE PH TEMPER- SOLVER OXYGEN CHLORO- (COL. (COL. SUB-

290 7.8 1.5 <).R

360 B.I 20.0 7.B 290 7ftO

400 8.4 26.0 5.7 2000 27000
500 8.1 16.0 3.8 1.0 .06

TOTAL COLOR DIS- OIS-

NESS AS INUM- PHENOLS CYANIDE AND ARSENIC MERCURY
(CA.MG) CAC03 COBALT (CN| GREASE (AS) (HG)

154 3 3 0 .02 163 0

DIS- DIS- OIS- HIS- SUS- SUS-
SOLVEO SOLVED SOLVED SOLVER TOTAL PFNtlER PENOED
GROSS SRDSS GROSS GROSS FILT- SUS- SUS- GROSS GRRSS

U-NAT. U-NAT. /Y90 CS-137 U-NAT. CS-137

RIS-
SOLVED

SOL ins
IRESI-
RHE AT

1HO C)

27P

TOTAL
NON-
FILT-

466 SUSQUEHANNA RIVER BASIN

01534090 SUSQUEHANNA RIVER AT FALLS, PA.

LOCATION. Lat 41°27'42", long 75°51'15", Wyoming County, at bridge on State Highway 92 at Falls, Pa. DRAINAGE AREA. 9,440 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1945 to September 1953, July to September 1969 (miscellaneous) October 1969 to September 1970.
Water temperatures: October 1945 to September 1953.

REMARKS. Records of discharge are based on records for Susquehanna River at Wilkes-Barre, Pa. (station 01536500). CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS-
SOLVED
I ROM

<FE)

DIS-
SOLVED
CAL-
CIUM

DIS-
SOLVED
MAG-
NE-
SIUM

(MG)

DIS-
SOLVED
SOOIUM

(NA)

DIS-
8ICAR- SOLVED
80NATE SULFATE

(HCO3) <S04)

DIS-
SOLVED
CHLO-
RIDE

(CD

OCT
22
NOV
25

DEC22
FEB
24
MAR
25
APR
15
SEP

>. 1690

>. 6020

,. 12500

,. 20200

.. 15600

,. 4S400

,. 4550

SO 110 22 4.0 g.O 48 21

90 220 38

DIS- DIS-
SOLVED SOLVED
DIS- OHTMO SOLIDS

SPE-
NON- CIFIC
CAR- CON-

160 C) (Cfl.MG)

COLOR

(PLAT-
PH TEMPER- INUM-
A1UHE C03ALT

(UNITS) (OtG C) UNITS)

DEC.
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FEB.
24...
MAR.
25... 3.7 .43 125 72 APR.

SEP.
21... » ,52 183 124

185 6.1 1.0

160 2.0

32 188 7.5 4.5

120 6.2 9.5

37 334 8.2

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10

12

FECAL

PHOS- [lIS- FORM

IMME-
DIATE

FORM ORGANIC

METHY-
LENE

ACTIVE
SU8-

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NOV.
25..
DEC.
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FEH.

MAY
13..
JUNE
22..
JULY
27..
AUG.
19..
SEP.

11.5

12.0

9.4

10.4

13.2

8.0

10.2

7.8

6.0

6.2

12.0

460

570

100

380

850

430

SUSQUEHANNA RIVER BASIN 4I

01534500 LACKAWANNA RIVER AT ARCHBALD, PA.

LOCATION. Lat 41°30'15", long 75°32'35", Lackawanna County, at gaging station on right bank in Archbald, 0.5 mile upstream from White Oak Run and Gilmartin Street Bridge.

DRAINAGE AREA. 108 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1963 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCT.
14..
NOV.
20..
JAN.
07..
FEB.

12.. MAK.
24..

07..
JUNE
23..
SEP.
16..

DIS-
CHHR6F

55

301

115

495

126

201

b6

. 49

NI

OCT.
14...
NOV.
20...
JAN.
or...
FEB.
12...
MAH.
24...
MAY
07...
JUNE
23...
SEP.
16...

OIS- DIS-
DI5- OIS- SOLVED SOLVED

SOLVEO ALUM- CAL- ME- SOLVEO T«S- BlCaR-
SILICA INuM CIUM SUM SODIUM SIUH BONnTE

(S102I («L) (CA) (M&(tig«(IK) (HC03)

9,0 1800 bl 47 6.2 3.8 1

4.4 -- 13 7.5 3.4 1.4 4

4.6 20 16 3.7 1.7 2

4.9 16 9.2 3.6 1.5 2

7.3 IbOO 23 14 *. 5 2.0

5.3 18 14 3.2 1.3 3

8.0 1100 30 22 5.2 ?.6 0

7.b 1250 30 26 5.7 2.7 1

OIS- D1S- bPf-
SOLVtU SOLVED NON- C1F1C
niS OH1HU SOLIDS CAM- TOTAL CON-

N03) (P04) 180 C) (CA.M&) NESS H« I11CRO-

518 321 320 -- 691

2.2 -- 129 64 60 -- 179

5.7 197 116 115 -- 281

2.6 139 78 77 -- 177

4.7 211 115 115 .3 302

2.3 180 1(13 100 281

5.0 .05 282 166 166 -- 405

4.1 .03 326 182 181 443

DIS-
SOLVED
SULFftTE
(5041

297

58

107

72

109

91

168

194

4.6

6.4

6.4

7.2

4.8

6.0

4.6

5.0

D1S- DIS-
SOLVED SOLVEO

CHLD- FLUO- RIDE SIDE
(CD IF!

6.9 4.3

6.4 1.4

5.3 1.2

5.2 1.0

9.6 4.2

4.4 1.1

5.9 6.2

7.3 5.2

COL03

(PLAT-

TUWE COPULT

14.5 2

4.5 3

3.0 1

3.5 0

1.0 1

9.0 0

4

21.0 1

SUSQUEHANNA RIVER BASIN

01536000 LACKAWANNA RIVER AT OLD FORGE, PA.

LOCATION. Lat 41°21'30", long 75°44'40", Lackawanna County, at highway bridge 600 ft upstream from gaging statio 150 ft upstream from Delaware, Lackawanna, and Western Railroad bridge in Old Forge, and 0.5 mile upstream fr
St. Johns Creek.

DRAINAGE AREA. 332 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1947 to September 1951, October 1958 to September 1961 October 19 to September 1969.
Sediment r

REMARKS. Re

0 T.
6...
N V.
9...
J M.
ft...
F B.
7...

ft...
M< Y
3...
J ME
3...
S P.
6...

DA

OCT
16
NOV
19
JAM
1ft
FEH
17
MAK
2ft
MAY
13
JUN
23
Sf P
16

ecords: October 1966 to September 1967 (miscellane

CHEMICAL ANALYSES, WATER YEAR OCTOBER

OIS-
DIS- PIS- SOLVED
OIS- SOLVED SOLVED MAS- OIS-

Olb- SILICA 1NUM CIUM SUM SODIU
CHAKOE <SIO?) UL> ICA) <MG) <NA)

79 8.3 35 30 19

ZB3 6.6 IB 12 8.

197 5.0 600 20 8.7 13

Sft2 6.3 21 10 13

33ft 7.1 -- ?2 10 22

3ft3 ft. » 17 7.S 6.

98 7. ft 20 10 1ft

69 5.9 20 13 30

OIS- DIS-
SOLVED SOLVED NON-
OIS OHTHU SOLIDS CAR-

<NOJ) (POft) IHO C) (CAiMS) NESS

',.. 3.3 ft?? 211 211
t
... U 185 95 93
t
13 179 86 86

,

9.3 -- 216 9ft 93

6.8 ?3ft 96 93

7.6 150 7ft 71
t
16 2ft5 66 63

'... 9.b 5. ft 22B H1» 98

1969 TO SEPTEMBER 19TO

UIS-
SOUVEB DIS- DIS-

M SIU« HONATE SULFATE RIDE SIBE

<K> (HC"3I (bDft) (CD (F)

1.6 0 223 19 1.9

5 ^.5 ? 83 13 1.7

?.3 -- 86 17 1.8

?.l 1 83 20 .S

2.3 » HO 39 1.6

8 I./ 3 65 10 .6

12 » 86 20 3,5

<«.6 7 91 23 1.*

SPE-
CIFIC
TOTAL CON- CDLO"

H» ("IICRO- ATURE COBALT

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?73 ft. 8 10. 0 2

311 ft. 3 .0

29ft 6. ft ft.O 0

3ft8 5. ft 1.5 7

2?9 6. ft 19.0 0

310 5.8 5

3ft? 6.6 ?2.0 1

SUSQUEHANNA RIVER BASIN

01537700 SUSQUEHANNA RIVER NEAR HUNLOCK CREEK, PA.

LOCATION. L

REMARKS. Record

>ck Creek, Pa.

SA.~10.140 sq mi.

scords of discharge are given for Si

September 1969 (m

jsquehanna River a

CHEMICAL ANALYSESi WATER YEAR OCTOBER

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OIS- SOLVED

OIS- IRON GANESE

CHAKGE (FE) (MM)

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NOV.
2b... 9930
DEC.
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FEB.
24... 21300
MA*.
2b... 16400 2000 290
APK.

SEP.
i\... 4570 1400 700

D1S- DIS-

SOLVED SOLVE.D nis_ OHTHU SOLIUS
SOLVE.U PMUS- (RESI-

(NO-i) (P04) 1BO C)

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22... -- .05 409
NOV.
25...
DEC.
22...
FEB.

MAH.
25... 3.5 .33 134
APR.
15...
SEP.
21... .OB 248

TOTAL
PHOS-
PHORUS

(P)

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MAY
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JUNE
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JULY
27...
AUG.
19...

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DIS- SOLVED
SOLVED MAG-

CILJM SIUM

(CA) (MG)

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45 13

NDN-
C1P.-
HARD- BONATE

(CA.1GI NESS

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166 101

FECAL

I>IS- FOP.X

SOLVtD (COL.
OXYfatN PE*

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10.0

10.6

12.4

8.4 610

9.0 840

7.3 1100

4.8 1800

4.8 1000

dge to State Hospital Retreat, 1.6 miles southw

t Wilkes-Barre, Pa. (station 01536500).

1969 TO SEPTEMBER 1970

OIS-
DIS- OIS- SOLVED

SODIUM BONATE SULFATE RIDE

(NA) (HC03! (S04) (CD

68 230 25

10 45 42 16

16 79 102 23

SPE-
CIFIC
CON- COLOR

DUCT- (PLAT-

(MICRO- 6TUHE COBALT

191 5.9 3.0

?05 6.2 2.0

208 7.2 4.0 25

135 6.4 8.0

421 6.9 27

INIt- MtlHT-
DlATE LLNE

FORM ORQANIC ACTIVE (COL. CARHOP SUR-

PER (Cl STANCE

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4600 5.0 .01

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9800

B200

/u SUSQUEHANNA RIVER BASIN

01540SOO SUSQUEHANNA RIVER AT DANVILLE, PA,

LOCATION. Lat 40°57'30", long 76°37'10", Montour County, at gaging station at Mill Street Bridge on State High-way 54 at Danville, 0.8 mile upstream from Maboning Creek.
DRAINAGE AREA. 11,220 sq mi, approximately.
PERIOD OF RECORD. Chemical analyses: October 1945 to June 1953, October 1956 to September 1970,
Water temperatures: October 1945 to June 1953, October 1956 to September 1970.
Sediment records: October 1961 to September 1962, October 1963 to September 1964, October 1965 to September 1966 (miscellaneous).
EXTREMES. 1969-70:

pecific conductance: Maximum daily, 641 micromhos Oct. 1; minimum daily, 106 micromhos Apr. 3.
Wat<

ber to February.

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CHEMICAL ANALYSES

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1220

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46b
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850
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, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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CIUM

(CA)

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1H

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lb
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32
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SOLVED SOLVED
MAG- DIS- SOOIUM
NE- SOLVED "LUS
SIUM SODIUM POTA5-

(MG) (NA) SIUM

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4.4 -- »-
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3.B
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6.2 7.6

3.6 -- 5.1
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6.5 -- 4.1
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8.8
8.1

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SOLVED
BO-
TAS- BICAR-
SIUM BOMATE

<K) (HC03)

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1.6 47

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DIS-
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(SD4)

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SUSQUEHANNA RIVER BASIN 4

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA. Continued

Period of record:
Dissolved solids (1945-47, 1958-60): Maximum, 346 mg/1 July 31, Aug. 1-16, 1959; minimum, 68 mg/1 May 21-31, 1946.

Hardness (1945-47, 1949-53, 1956-60): Maximum, 232 mg/1 Nov. 1-10, 1952; minimum, 35 mg/1 Mar. 31 to Apr. 7, 1960.

Specific conductance (1968-70): Maximum daily, 1,030 micromhos Sept. 26, 29, 30, 1964; minimum daily, 81 micromhos Apr. 7, 1960.

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AUG.
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SEP.
01...
13...
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MS-
SOLVEO
CHLO-
RIDE

(CD

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22
22
21

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ANALYSES

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YEAR OCTOBER 1969 TO SEPTEMBER 1970

HARD-
NESS

(CA.MG)

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233
214
204

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75
48
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S3
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102
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41
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102
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135
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144
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103
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206
189
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186
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191
191
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187
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IbO

NON-
CAR-
BONATE
HARD-
NESS

257
159
172
184
178
179

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192
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SUSQUEHANNA RIVER BASIN

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA. Continued

SPECIFIC CONDUCTANCE (MICROMHDS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (ONCE-DAILY MEASUREMENT)

BAY

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OCT

641

580
538

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532
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481

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507
495

NOV

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202
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155
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168

174

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185

DEC

189

205
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219
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200

227

243
242

TEMPERATURE

JAN FEB MAR

223 208

229 218
235 212

225 142 214
237 148 209
156 217
258 161 223

236 145 219

259 161 235

261 189 240

284 205 210

283 211 2U(

281 217 126

272 123
275 128

(°C) OF WATER, WATER YEAR

APR

112
109

124
132
131
122

138

149

133

155
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OCTOBER 1969

MAY

19?
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218
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235

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181

184

228

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214

TO

JUN

251
258

266
277
291

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357
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JUL

367
342

368
390
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321

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306

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286

233

296
317

AUG

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282

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299

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383

460

428
420

SEP

438

490
421

388
395
402

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373

341

321

SEPTEMBER 1970

(ONCE-DAILY MEASUREMENT)

DAY

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2.0 3.0 6.0

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SUSQUEHANNA RIVER BASIN

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, PA.

LOCA

DRAINAGE AREA. 685 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1960 to September 1970.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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(S04)

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18...
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23...
MAR.
25...
MAY
15...
JUNE
II...
AUG.

458

259

1070

1470

290

19P

132

5.6

4.6

480

1100

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3.S

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809

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IB.5

4 '* SUSQUEHANNA RIVER BASIN

01545500 WEST BRANCH SUSQUEHANNA RIVER AT RENOTO, PA.

LOCATION. Lat 41°19'28", long 77°45'03", Clinton County, at gaging station on left bank at upstrearc Eighth Street Bridge at Renovo, 1 mile upstream from Paddy Run.

DRAINAGE AREA. 2,975 sq ml.

PERIOD OF RECORD. Chemical analyses: January 1967 to September 1970
Water temperatures: October 1968 to September 1970.
Sediment records: January 1966 to September 1968, October 1969 to September 1970 (miscellaneous).

EXTREMES. 1969-70:

Specific conductance: Maximum, 768 micromhos Oct. 1; minimum daily, 133 micromhos Apr. 3.
pH: Maximum, 6.5 Sept. 10; minimum, 2.5 Aug. 29, 30.
Water temper
February.

Period of record:
Specific conductance (1968-70): Maximum, 973 micromhos Oct. 3, 1968; minimum, 183 micromhos Apr. 3, 1970. pH (1968-70): Maximum, 5.5 Apr. 25, 26, 1969; minimum, freezing point on several days during winter periods. winter periods.

recording instrumentation for specific conductance, pH, and water temperature installed October 1968.

CHEMICAL ANALYSESt WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE

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NOV.
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FEB.
04...
JUNE
10...
JULY
30...

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IHON

(FE)

2000

2100

2200

600

DIS-
SOLVED

6ANESE

(MN)

4000

1600

1100

2»00

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DIS-
SOLVED

CIUH

(CA)

52

20

18

36

32

DIS-
SOLVED
MAG-

SI IH

(MG>

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DIS-
SOLVED
IMS- PO-

SOQ1U»I SIUM
(Nil (K)

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4.5 2.4

3.8 1.6

5.0 1.8

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SULF4TE

(S04)

253

92

70

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151

DIS-
SOLVED

CHLO- SIDE
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11

4.8

5.9

OCT.
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NOV.
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FEB.
04...
JUNE
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JULY
30...

DIS-
SOLVED OIS_
FLUO- SOLVED

(F) (N03)

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. 3 1.0

DIS-
SOLVED
SOLIDS

(RESI-

180 0

392

152

137

233

266

HARD-

(CA.MS)

212

88

70

148

134

NON-
C»R- TOTAL
HONATE ACIDITY

NESS H«

212 .9

88. .4

70 .2

148 .7

134 ,b

SPE-
CIFIC
CON-
DUCT-

HICRO-

625

282

233

412

443

flTURE

3.6 17.5

4.0 4.0

4.2 3.0

3.8

3.8 26.0

COLDS

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COBALT

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SUSQUEHANNA RIVER BASIN

01545500 WEST BRANCH SUSQUEHANNA RIVER AT RENOVO, PA. Continued

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

OCTOBER

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MAX

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620
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655
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668

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6B4
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704
696

683
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691
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635
640

MIN

751
636
599

660

637
577
568
58?
612

627
642
649

647

666
608
644
642

508
645
660
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629
617

MEAN

761
701
660

680

664
630
600
611
629

644
651
658
652
675

674
647
681
682

598
675
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633

MAX

642
633
600
572
477

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402
375
365

371
367
361
343
329

330
329
333
332
304

259
264
240
239
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257
263
268
287
293
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NOVEMBER DECEMBER

MIN

625
573
544
554
439

423
403
378
353
353

365
361
342
322
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244
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229
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236

251
252
264
267
287
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MEAN

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362
358

369
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257
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390
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297
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331
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355

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217
224

239
251
265
275
282

292
292
307
304
33?

356
349
332
341
338
347

MIN

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293
300
305
302

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3?2
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315

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213

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MEAN

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328
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274
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344
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326
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341

MAX

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361
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36?
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339
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3??
309

JANUARY

MIN

341
348
36?
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FEBRUARY

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378
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318
315

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218
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MEAN

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MAX

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159
197
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184

179
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202
181
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193

183
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MEAN

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211
142
181
204

217
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237
212
169

174
186
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177
187

184
173
198
222
250

269
282
295
291
217

189
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207
213
230
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MAX

237
262
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296
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31B
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331
340

344
350
359
36?
346

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214
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264

HAY

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342
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194
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MEAN

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199
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SUSOJUEHANNA RIVER BASIN

01545500 WEST BRANCH SUSQUEHANNA RIVER AT RENOVO, PA. Continued

SPECIFIC CONDUCTANCE (MICROMHDS/CM AT 25°C), HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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7
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9
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299
313
325
346

359
401
396
375
377

375
380
394
389
416

441
480
470
455
436

420
434
475
516
504

490
481
535
543
533
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543

3.4
3.4
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3.5

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3.6
3.5

272 277
280 290
300 307
315 320
319 332

335 347
357 381
372 384
355 365
368 373

365 370
373 377
373 383
378 383
384 396

420 433
44? 459
404 443
397 427
406 425

408 414
417 424
427 450
489 507
486 495

465 478
465 472
482 bl4
531 538
488 505
. . .

272 409

OCTORER

3.? 3.3
3.3 3.3
3,3 3.4
3.4 3.5
3.4 3.5

3.3 3.4

3.3

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. -. ...

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3.3
3.2

504
505
510
480
494

497
527
527
51?
504

551
512
453
439
467

481
439
443
459
456

450
46?
478
480
48?

492
49?
521
547
582
575

582

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3.8

3.9
4.0
4.1
4.2
4.1

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4.0

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4.0
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4.0
4.3

4.2
4.1
4.1
4.1
4.1

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495 498
491 498
466 488
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458 486

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SUSQUEHANNA RIVER BASIN

01545500 WEST BRANCH SUSQUEHANNA RIVER AT RENOVO, PA. Continued

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SUSQUEHANNA RIVER BASIN

01545500 WEST BRANCH SUSQUEHANNA RIVER AT RENOVO, PA. Continued

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

MAX

20.0
16.5
18.5
19.5
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16.5
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OCTOBER

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SUSQUEHANNA RIVER BASIN

01545500

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SEPTEUBE"

MAX

24.0
21.5
20.0
22.0
23.5

23.0
23.0
23.0
24.0
24.5

24.0
22.0
22.0
21.0
23.5

25.0
25.0
24.0
23.0
23.5

24.0
25.5
26.5
28.5
28.5

26.5
25.0
19.5
15.5
14.5
. . .

MIN

21.0
19.0
IS. 5
19.5
21.0

21.0
20.5
20.0
21.0
22.0

21.0
19.5
19.0
19.5
19.0

23.5
22.0
22.0
21.0
20.0

21.5
22.0
24.5
25.0
26.0

25.0
19.5
16.0
13.5
13.0
. . .

MEAN

22.5
20.5
19.0
20.5
22.0

22.0
21.5
21.0
22.0
23.5

22.5
21. n
20.5
20.0
21.0

24.0
23.5
23.5
21.5
21.5

22.5
24.0
25.5
26.5
2T.O

25.5
22.5
17.5
I*. 5
13.5
. . .

SUSQUEHANNA RIVER BASIN

01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA.

LOCATION. Lat 41°23'22", long 77°41'28", Clinton County, at gaging station on left bank, 0.3

DRAINAGE AREA. 46. 2 sq mi.

PERIOD OF RECORD. Chemical analyses: May 1965 to September 1970.
Sediment records: October 1968 to September 1970 (miscellaneous).

CHEMICAL ANALYSESr WATER YEAR OCTOBER 1«69 TO SEPTEMBER

OCT.
02...
30...
NOV.
20...
DtC.

Ftri.
IB...
MAW.
Ob.
IB...
APK.
29...
MAY
19...
AUti.
12...
SEP.
17...

DA

OIS-
CHAKGE

11
7.5

43

53

91

55
43

156

11

9.7

s

uis- nis-
uis- nis- SULVLH SOLVED
SOLVEL' bULVtO M4N- CAL-
SILICA IKON GAiJESf CIUM
ISIU2) (FE) (MN) (C4I

4.6 HO 20 3.9
4.B 40 0 5.0

4.B 60 0 4.1

3.9 20 0 3.4

3.3 0 5 3.6

3. 1 0 10 4.0
3.7 0 10 3.9

3.6 10 0 3.0

4.4 20 31 4.0

4.1 30 0 5.11

4.4 60 0 5.0

ns- uls-
OIS- SOLVEn SOLVEP

OLVLD uis_ CWTHO SOLI is

KILIL VITrfftTt MHAIE UE »T Nf
(F) (NOj) (0[4I 80 C.) (C.A

SOLVED SOLVED
MAG- JIS- Pd-

S1UM SUUIUX SHIM

(«G) (NA) IK'

1.0 1.1] .1
1.1 1.9 .»

. 9 1.1 .9

. B .7 .B

. 8 .6 .4

. 8 .7 .S
. B .B .5

. 8 1.1 .3

. B 1.0 .3

l.b 1.2 .9

1.4 1.1 .9

5Pf.
NON- CIFIC

Sb HAWL1- i'^CF
,Mfa) NESS (MKKO-

HOMATE
(MC03)

14
12

11

7

7

R
7

6

7

1?

14

Pri IF^

015-
TIS- SOLVED

SULFATE ^IOE
(504) (CD

b.4 2.5
b.l 3.2

/.B 1.3

7.4 1.9

9.5 2.1

7.8 2.1
7.B 3.2

12 1.1

12 1.1

6.3 1.6

7.1 1.9

COLD?
(PLAT-
= fR- INLIM-
JtvE CORA<_T

6.7

6.4

b. 7

6.3

b.9

1H.S

13.5

SUSQUEHANNA RIVER BASIN

01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA. Continued

TOTAL
KJEL- FECAL
DAHL AMMONIA TOTAL COLI-
NITRO- NITRO- PHOS- HIS- FORM

GEN GEN PHORUS SOLVED (COL.
(N) (N) (P) OXYGEN PER

. 00 .00 9.4 430 11.6

1... 13.0

13.8

10.0

t , .
1... 12.8

. . . . 02 10.2

10.4 5
Y
9.0 25

.

9.1
T.
10.1 50

DIS-

SOLVED
GROSS
ALPHA
AS
U-NAT

OCT.
30... .5

"

COLI-

(COL-
ONIES
PER

45

142

80

4

20
35

19

70

45

86

SUS-
PENDED
GROSS
ALPHA
AS
U-NAT

. 5

ORGANIC
CARBON

(C)

4.0
. 0

2.0

1.0

3.0

1.0
1.0

2.0

3.0

DIS-

SOLVED
GROSS
BETA
AS
SR90-Y90

1.4

CHRO-

(CS> (CU)

0
20 0

__ __

20 0

__

30 0

__

__

SUS-

PENDED
GROSS
BETA
AS
SR90Y90

(PC/L)

. 5

(PB) (NI) (ZN)

0
0 0 10

__ _ - __

0 20 0

005

- - - -

482 SUSQUEHANNA RIVER BASIN

O15458OO WEST BRANCH SUSQUEHANNA RIVER AT LOCK HAVEN, PA.

LOCATION. Lat 41°08'20", long 77°26'30", Clinton County, at center of Lockport Bridge, Lock Haven, and 30.1 miles downstream from gaging station at Renovo, Pa.

DRAINAGE AREA. 3,337 sq ml.

PERIOD OF RECORD. Chemical analyses: October 1945 to September 1951, October 1958 to September 197O.
Water temperatures: October 1945 to September 1951, October 1958 to September 197O.

EXTREMES. 1969-70:

Specific conductance: Maximum dally, 660 micromhos Oct. 20; minimum dally, 140 micromhos Apr. 17.
pH: Maximum, 6.6 Nov. 9; minimum, 3.6 Oct. 1.
Water temperatures: Maximum, 28.0°C June 14; minimum, 1.0°C on many days during January and February.

Period of record:
Dissolved solids (1945-47): Maximum, 262 mg/1 Sept. 2*1-30, 1946; minimum, 51 mg/1 Mar. 1-10, 1946.
Hardness (1945-47, 1949-51, 1958-59): Maximum, 206 mg/1 Sept. 11-2O, 1951; minimum, 28 mg/1 Apr. 1-10, 195O. Specific conductance: Maximum daily, 1,010 micromhos Dec. 29, 1962; minimum daily, 73 micromhos Apr. 6, 1947. pH (1963-70): Maximum daily, 6.6 Nov. 9, 1969; minimum daily, 3.4 on several days during fall periods. Water temperatures: Maximum, 31.0'C June 29, 1959, July 19, 1964, July 19, 1968; minimum, freezing point on many days during winter periods.

REMARKS. Records of discharge are based on records for West Branch Susquehanna River at Renovo (station O1545500). CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCT.
01...
MOV.
01...
DEC.
01...
JAM.
01...
FEB.

03... MAR.
01...
APR.
01...
MAY
01...
JUME
01...
JULY
01...
AUG.
01...
SEP.
01...

OCT.
01...
NOV.
01...
DEC.
01...
JAM.
01...
FEB.
03...
MAR.
01...
APR.
01...
MAY
01...
JUNE
01...
JULY
01...
AUG.
01...
SEP.

015-

DIS- SILICA 1NUM

CHARGE (SI02) (At)

460 7.4 1400

608 6. it

3150 6.7

3140 6.2 1

31300

5450 6.5 1000

13200 6.2

3130 5.3

5530 5.5 1200

1720 5.9 1700

12000 6.1

1450 7.7 2000

015-
DIS- SOLVED

(F) (N03) (P04)

. 3 .60

. 3 1.2

. 2 2.0

. 1 .80

9.0

. 1 1.6

. 1 2.4

. 1 .50 .00

. 2 .40 .00

OIS-

CIUM

(CA)

55

49

IB

21

IB

20

16

14

16

38

34

45

DIS-
SOLVED

1BO C)

410

- -

134

163

154

lie

124

126

DIS-
SOLVED

SUM

(MS)

22

IB

6.4

B.8

6.0

7.5

6.9

7.0

IS

15

21

MESS

(CA.MG)

22B

197

72

B9

70

81

69

63

69

DIS-
SOLVED

SODIUM POT/SS-
(NA) SUM

9.0

9.3

4.0

4.4

15

5.0

3.0

2.2

2.5

7.1

4.5

B.6

NON-
CAR- TOTAL

HARD- AS
MESS H.

228 1.0

197

72

B9 .1

70

Bl .1

*9

63

69

DIS-
SOLVED
PO-

SIUM

(K>

?.i

3.0

1.5

) .4

- -

1.5

1.5

1.4

1.3

l.B

1.9

2.2

SPE-
CIFIC
CON-

AMCE

(MICRO-

640

523

209

?7?

236

25?

?23

193

194

BONATE

IHC03)

0

- -

- -

- -

0

- -

0

n

0

- -

0

"

PH

(UNITS)

3.5

3.7

4.B

4.3

4.5

4.2

4.0

4.?

4.5

DIS-

SULFATE

(S04)

260

213

70

101

70

94

69

67

72

178

171

220

TEMPER-
ATURE

(DE6 C)

18.0

B.O

3.0

2.0

1.0

2.0

4.0

16,0

1B.O

DIS-
SOLVED

3IDE

(CD

9.3

10

5.8

7.0

15

B.3

5.4

4.0

3.7

7.5

5.3

7.9

COLOR

(PLAT-
INUM-
COBALT

JNITS)

2

0

0

It

0

6

0

0

0

0

0

SUSQUEHAHUA RIVER BASIN

01545800 WEST BRANCH SUSQUEHANNA RIVER AT LOCK HAVEN, PA. Continued

CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (ONCE-DAILY MEASUREMENT)

DAY

1

4
5

6
7
S

in

11
12
13
14
15

17
18

20

31
32
33

35

27
38
39
30
31

640
530

557
612

569
588
535

566

535
561
584
582
631

633

660

596
578
577

601

578
558
536
511
536

523
469

390
3R4

438
318
268

265

252
3S8
252
187
227

240

314

214
190
1RS

183

196

302
309
. . .

309
?30

242
343

247
251
370

?58

230
199
181
179
182

193

233

252
326
345

384

270

383
283
275

272
357

283
303

305
399
397

303

304
331

336
319

301

305

306
305
314

301

282

301
312
299

178
186

212
338
329

278

255
253

285
297

314

306

278
313
382

393

277

mm _
...

253
257

264
268

296
259
243

353

341
243

281

?67

396
384
279

357

217
208
186

359

?33
187

171
191

202
?05
220

171

144

140

185

207
215
215

194

157
167
173
179

1BO

93
90

?17
?43

. . .

?5J
?5S

?61

'68

?38

77
78
90

»10

81
58

81
83

>16

194
313

337
339

247
261
390

311

38?

344

331
: 18
46

13
31

467

333

477
475

419
413

396
382
383

363

390

386

393
311
301

3?5

334
351

350
402

352

434
335

384
406

419
433
445

410

518

489

456
438
483

559

585
513

603
585

472

51?
510

365
361

409
432
445

375

408

409

388

514
470

501

514
537

474

432

4.1 4.4 4.3

3.7 4.4 4.3

3.7 3.8 4.3

. 1 4.2 4.2 4.1 4.1 4.3 3.8 4.9

. 1 4.1 4.0 4.1 4.2 3.8 4.4

3.9

3.8

4.3 4.3

SUSQUEHANNA RIVER BASIN

01545800 WEST BRANCH SUSQUEHANNA RIVER AT LOCK HAVEN, PA. Continued

TEMPERATURE

8.0
7.0
. 0
. 0
. 0

.0
.0
. 0
. 0
. 0

. 0
. 0
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. 0
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.0
- n .

.0 3.0
. 0 4.0
,0 3.0
.0 3.0

. 0 2.0
. 0 2.0
.0 2.0
. 0 2.0
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. 0 3.0
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.0 2.0

.0 2.0

.0 2.0

. 0
. 0
. 0 1.0
.0 ?.0

. 0 1.0
.0 1.0
.0 1.0
.0 1.0
. 0 1.0

.0 2.0
.0 1.0
. 0 1.0
. 0 1.0
.0 1.0

.0 1.0
. 0 1.0
. 0 2.0
. 0 1.0
. 0 1.0

.0 1.0
. 0 1.0
. 0 2.0
. 0 2.0

. 0 1.0

.0 1.0

. 0 -

?.0 4.0 16.0
?.0 5.0 16.0
.0 7.0 16.0
. 0 6.0 16.0

. 0 7.0 ---
.0 7.0 13.0
. 0 7.0 n.O
. 0 7.0 13.0
. 0 7.0 13.0

. 0 7.0
. 0 6.0 17.0
. 0 7.0 1B.O
.0 B.O 19.0
. 0 B.O lfl.0

.0 9.0 1R.O
. 0 10.0 17.0
.0 10.0 14.0
.0 11.0 14.0
.0 R.O 18.0

.0 10.0 14.0
. 0 10.0 21.0
.0 10.0 21.0
. 0 10.0

. 0 1?,0 1R.O

. 0 12.0 16.0

16.0 17.0
. . . IB.n

18.0
19.0
21.0
22.0
21.0

20.0
19.0
19.0
21.0
23.0

24.0
25.0
26.0
28.0
23.0

20.0
21.0
23.0
21.0
22.0

?2.0
21.0
22.0
23.0

23.0
21.0
22.0

21.0

24.0
24.0
24.0
27.0
25.0

23.0
24.0
25.0
25.0
23.0

23.0
23.0
23.0
23.0
26.0

24.0
23.0
23.0
?3.0
24.0

21.0
22.0
21.0
22.0

26.0

26.0

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. . . . . .
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. . .

. . .
. . . . . .
... ...

23.0
23.0

21.0
22.0
23.0
24.0

24.0
23.0
21.0

16.0

SUSQUEHANNA RIVER BASIN

01546500 SPRING CREEK NEAR AXEMANN, PA.

LOCAT ION. Lat 40°53'25", long 77°47'40", Centre County, at gaging station on right bank at

Branch

DRAINAGE A

PERIOD OF
Sediment

REMARKS. --
Harris

REA. 87.2 sq mi.

RECORD. Chemical analyses: January to June 1970. records: March 1964 to May 1968.

burg, Pa.

CHEMICAL ANALYSES, JANUARY TO JUNE 19TO

DIS- DIS-
DIS- DIS- SOLVES SOLVEO
DIS- OIS- SOLVED SOLVED MAG- DIS- SODIUM

DIS- SILICA IRON 5ANESE CIUM <>IIM SODIUM POTAS-

CHAHGE (S102I (FEI (MMI (CAI (M&) (Na) S1UM

JAN.
06... 122 11 270 40 60 18 B.B
27... Ill -- 62 18 -- 18
FEB.
<f4... 276 30 30
MAR.
26... 206 30 30 61 16 6.9
APR,
29... 203 10 30
MAY
27... 99 50 40 50 1H 3.0
JUNE

DIS- DIS-
DIS- OIS- SOLVEO SOLVED

DtS- SDLVEt) SOLVED D1S_ DUTHO SOLIDS

(HC03I (504) (CLI (Fl (N03I (P04I 180 C) (CA.MG)

JAN.
06... 21b 21 16 .0 13 1.7 ?66 224
27... 208 27 4? 12 2.0 229
FEB.

MAR.
26... 213 ft 17 14 .76 21R
APR.

MAY
27... 190 23 12 11 .99 199
JUNE

SPE- TOTAL OIS-
CIFIC KJEL- SOLVEO

(MICRO- ATURE C08AL1 (Ml (HI OXYSE^I (CUI

JAN.
06... 469 7.7 2.5 3 -- R.5
27... 541 8.3 4.0 1 2.8
FEU.
24.'.. 470 6.5 i. 11.6

2b... 447 7.7 8.0 2 -- -- 10.1
APR.
29... -- -- 14.0 -- -- -- 8.3 0 MAY

JUNE
19... 17.0 .62 .22 8.5

485

upstream side of high-

DIS-
SOLVED
PO-

SIJM

IK)

2.5

NOM-
CAS-

NESS

48
58

44

OIS-

(ZNI

0

0

SUSQUEHANNA RIVER BASIN

01547400 BALD EAGLE CREEK NEAR IIILESBURG, PA.

LOCATION. Lat 40"58'31", long 75 11*48 Nittany Creek, 500 ft downstream fr

DRAINAGE AREA. 296 sq mi.

PERIOD OF RECORD. Chemical analyses:

EXTREMES
Wate
ru

Period

wi

Rese
Marc

JAN.
06.

FEB.
25.
MAR.
26.
iPR.
29.

27.
JUNE
19.

JAN
06
28
FEB
25
MAR
26
iPR
29
MAY
27.
JUNE
19.

. 1969-70:

r temperatures: Maxim
ary.

of record:

nter periods.

rvoir. Records of wat
h 1958) for Bald Eagle

urn, 29. 0°

om Antis Run, and 3.5 miles downstream from Milesburg, Pa.

January to June 1970.

C July 27;

er temperature (Nov
Creek below Spring

minimum, freezic

ember 1956 to Mai
Creek at Milesbu

CHEMICAL ANALYSES, JANUARY TO

DIS-
SOLVFD
DIb- SILICa

222 5.b
213

97b

.. 1080

.. 1360

310

320

DIS- DIS-
SOLVED SOLVED
CHLO- FLUO-
RIOE RIDE

(CD (F)

.. 10 .0
Ib .0

10

8.6

t.9

9.1

DATE

JAN.
06.. .
28...
FEB.
25...
MAR.
26...
APR.
29...
MAY
27...
JUNE

DIS-
bOLVED
IRON

210
200

50

50

ftO

30

DIS
SOLVED
NITRATE

(N03)

8.1
9.4

6.5

!>.0

4.3

7.2

TOTAL
KJEL-
DAHL
NITRO-
GEN

(N)
(MG/L)

- -

- -

.0.9

DIS-
SOLVED
MAN-
GANESE

20
20

20

20

30

20

20

DIS-
SOLVED
ORTHO
PHOS-

(POft)

. 46
. 7ft

. 2ft

. 1ft

,J9

. 21

AMMONIA
NITRO-
GEN

(N)
(MG/L)

. 09

DIS-
SOLVED
CAL-
CIUM

31
36

25

21

25

3ft

DIS-
SOLVED
SOLIOS

(RESI-

DIS-
SOLVED
MAG-
NE-
SIUM

(MG)

11
11

7.5

6. ft

8.5

12

HARO-

180 C) (CA.MG)

171
19ft

- -

- .

- -

- -

DIS-
SOLVEB
OXYGEN

10.9
11.1

12.4

11.9

9.1

10.2

123
135

9ft

79

98

135

FECAL
COLI-
FORM

(COL.
PER

300

260

200

g point on

ch 1958) a
rg, Pa. (s

JUNE 1970

DIS-
SOLVED
SODIU1

(NA)

5. ft
8.2

- -

"

NON-
CAR-
BONATE

NESS (

29
3ft

26

IS

28

3ft

COLI-
FORM

(COL-
ONIES
PER

1800
2700

3900

- -

several days during Jam.

nd sediment records (Dece
tation 01547200) given ic

DIS- DIS-
SOLVES SOLVED
SODIUM PO-
PLUS TAS- BICAD-
POT4S- SIUM BOMATE

SIUM (K) (HC03)

1.6 lift
1.7 12ft

7.1 « 83

12 78

3.7 95

3. ft " 123

SPE-
CIFIC
CON-
DUCT-

MICRO- ATURE

MHOS) (UNITS) (OEG C)

2B5 7.9 5.5
328 8.0 5.5

2ft6 7. ft ft.O

223 7.6 6.0

218 7.6 1ft. 0

260 7.8 15.0

18 0

COPPER ZINC

(CU) (ZN)
(UG/L) (UG/L)

__

_ - __

10 10

0 10

am from

ary and Feb-

mber 1955 to
Water-supply

DIS-
SOLVED
SULFATE

(504)

23
26

21

25

22

21

COLOR

(PL»f-
INUH-
COBALT

JNITS)

1
1

1

2

12

6

SUSQUEHANNA RIVER BASIN

O15474OO BALD EAGLE CREEK NEAR HILESBURG, PA. Continued

MAX

18.0
1<3.0
21.0
18,5

17.0

19.5
20.5

19.5

20.5
18.0

16.0
15.5
15.0

15.5

14.0
12.0

14.0

13.5
13.0
13.0
14.0

22.0

MAX

OCTOBER

MIN

15.5
16.0
16.0
13.0

13.5

11.5
11.5

15.0

16.0
11.0

10.5
11.5
10.0

11.0

10.5
8.0

8.5

7.0

7.0

6.5

APRIL

MIN

NOVEMBER

MAX

15.0
13.5
13.5
11.5

11.5

11.0
12.0

12.0

10.5
8.0

8,0
10.5

7.0

5.0
5.5

6.5

6.5

15.0

MAX

12.0
11.0
9.5
9.0

8.5

9.0
9.5

10.5

8.0
4.0

5.5

4.5

1.5
3.0

3.5

5.0

1.5

MAY

MIN

DECEMBER

MAX

6.0
6.5
5.5
6.0

5.0

B.5
7.0

5.0

3.5
4.5

4.0

4.5

4.0
3.5

1.5

t:l
4.0

B.5

JUNE

MAX

MIN

1.5

1.5
2.0

2.0

5.0
2.0

3.5

1.0
2.0

2.0

1.5

0.5
0.0

0.0

1.5

0.0

MIN

JANUARY FEBRUARY

MAX

4.0
3.5
4.0
4.0

4.0

?!o
4.0

4.0

4.5
4.5

5.5

2.0

3.5
3.5

4.0

5.0

2.0

5.5

JULY

MAX

MIM

1.0
1.5
ft. 5
1.5

1.0

0.0
0.5

1.0

n, o
0.0

1.5

0.0

0.0
0.0

1.0

1.0

0.0

MIM

MAX

1.5
1.5
0.5
2. ft

4.0

4.5
3.5

3.0

1.0
3.0

6.0

3.5

5.0
3.0

2.0

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6.0

AUGUST

MAX

MIN

0.0
0.5
0.0
0.0

1.5

3.5
2.0

0.5

0.0
0.0

1.5

1.5

1.0
0.0

1.0

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0.0

MIN

MARCH

MAX MIM

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5.5 4.0
5.0 3.5
4.0 2."

5.0 2.0

5.5 1.5
5.5 1.5

6.0 1.0

4.5 1.5
4.5 1.0

4.5 1,5
6.5 1.5
6.0 4.5

7.0 3.5

4.0 3.0
5.0 2.0

7.0 3.5

5.5 0.5

8.0 4.0

8.0 O.ft

SEPTEMBER

MAX MTM

6.5
6.0

6. ft
6.5

10.0
8.0

8.5
10.0
10.5
9.5
13.0

13. n

15.0

10.0

13.5

14.0
11.5
13.0

7.0
7.0

18.0

2.0
4.0

4.0
3.5

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5.5

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6.5

8.0

9.5

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8.5

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14.0

20.0
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20.0
18.5

15.5

18.5

23.0

23.0

21.5
18.5
18.0

18.5
IB. 5

23.5

11.0
11.0

11.0
B.O

13.5
14.5

15.0
15.5
16. ft
16.0
14.5

14.0

11.5

16.5

15.0

17.0
16.5
15.5

14.0
11.0

B.O

24.0
21.5

21.5
20.5

24.0
25.0

25.0
23.5
23.5
22.0
20.5

19. n

23.0

21.5

19.0

23.5
24,0
24.0

24.0
21.5

25.0

8.5
6.5

6.0
4.0

7. ft
B.5

8.5
9.5
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6.0

5.5

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28.0
26.0

?8.0

9.5
7.0

6.0

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9.5
<3.S

n.5

0.5

9.5

1.0

7.0

7.0
8.5
0.5

'ft. 5
'1.0

»0.5

3.5

24.5
25.0

24.5
25.5

24.5
26.0

?6.0
25.5
86. 5
27.0
?6.5

26. ft

26. ft

23.0

25.5

24.5
24.0
25. ft

25.5
25.5

23. ft

27.0

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IB. 5
18,5

18.0
20.0

20.0
20.5

19.0
19.0
19.0
19.0
19.5

19.5

18.5

18.5

19.5

19.5
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18. S

IB. 5
19.5

IB. 5

1B.O

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23.0

21.5
22.0

24.5
24.0

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20.5
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24.0

24.5

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25.5

23.5
17.0

1B.O

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5.5
6.5
8.5

6.5
6.0

8.5
9.5

7.0
b.5
s.n
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7.0

9.5

8.5

5,0

6.5

9.5
0,0
0,0

6.5
3.5

3."

2.0

488 SUSQUEHANKA RIVER BASIN

01547450 BALD EAGLE CREEK AT HOWARD, PA.

LOCATION. Lat 41°01'04", long 77°39'54", Centre County, at bridge on State Highway 26, 1.3 miles downstr Greens Run at Howard, Pa.

DRAINAGE AREA. 321 sq ml.

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

CHEMICAL ANALYSES, JANUARY TO JUNE 1079

DIS- Olb-
SOLVFI) SOLVED
Olb- blLKA IKON

CHAKGE (SI02) (FE)

JAN.
06... 251 4.7 620
28... 23b
FtB.
2b... 1060 " SO
MfiH .
26... 118U 80
SPK.
29... 1490 40
MAY
27... 340
JUNE

OIS- DIS-

SOLVED SOLVED 01S_

(CD (F) (ND3)

JAN.
06... 10 .U 6.0
26... 16 8.5
FEB.
25... 9.7 6.7
MAR.
26... 8.5 6.2

29... 6.7 -- 3.6
MAY
27... 6.8
JUNE
19...

TOTAL
KJEL-
DAHL

NITRO-
GEN
(N)
DATE (MG/L)

JAN.
06...
28...
FEB.
25...
MAR.
26...
APR.
29...
MAY
27... .06
JUNE

DIS-
SOLVED
MA"J-
G4NESE

- -
- -

20

20

40

DIS-

DHTHO

(P04)

. 50
. 74

. 22

. 16

. 46

25

AMMONIA
NITRO-
GEN

(N)
(MG/L)

. 03

ois- nis- DIS-
OIS- SOLVED SOLVED SOLVED
SOLVEu MAG- DIS- SOOIU* PO-CAL- NE- SOLVED PLUS T«S-
CIUM SIUM SOOIJ* POtaS- SIUM

<CA) (MGI (NO) SIUM (M

34 10 5.6 -- 1.7 30 11 17

25 6.8 -- 9.?

25 7.1 « 11

2S 8,0 6.0

DIS- SPE-

SOLIOS CAR- CON-

IBO C) (CA.MGI NtSS (MICRO-

169 126 32 289 7.9 120 21 31? 8.1

91 26 240 7.8

92 26 234 7.6

96 27 224 7.4

280

FECAL COLI-
COLI- FORM

DIS- FORM (COL-
SOLVED (COL. ONIES COPPER OXYGEN PER PER (CU) 1MG/L) 100 ML) 100 ML) (UG/L)

10.9 100
11.- 10 560

12.9 52 450

13.0

8.8 10

10.1

DIS-
BIC«»- SOLVED
BONUTE SJLFATE

(HC03) (504)

115 25
121 27

79 27

BO 31

R4 26

COLOR

(PLAT-

ATJKE COBALT

<OEG C) UNITS)

4.5 1
S.b 1

4.0 1

7.0 2

14.5 6

15.5

19.0

ZINC

(ZN)
(UG/L)

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0

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SUSQUEHANNA RIVER BASIN 4i

01547500 BALD EAGLE CREEK AT BLANCHARD, PA.

LOCATION. Lat 41°03'06", long 77°36'17", Centre County, at gaging station on left bank, 0.4 mile downstream from Foster Joseph Sayers Reservoir, 0.7 mile upstream from Marsh Creek, and 0.9 mile south of Blanchard.

DRAINAGE AREA. 339 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1959 to September 1970.
Water temperatures: October 1956 to September 1957, August 1967 to September 1970.
Sediment records: December 1955 to March 1958 (miscellaneous).

EXTREMES. 1969-70:
Water te

Period of
Water te
Feb. 1

record :
mperaturesi: Maximuin, 33.0 °C June 2 0. 1957; mini mum .
8, 23, 1968.

Sayers Reservoir.

DATE

OCT.
06...
DEC.
03...
JAN.
07...
27...
FEB.
2S...
MAfc.
26...
APR.
29...
30...
MAY
27...
JUNt
IB...
19...
JULY
27...
SEPT.
14...

OCT.
06...
DEC.
03...
JAN.
07...
27...
FEB.
25...
MAR.
26...
AP«.
29...
30...
MAY
27...
JUNE

la...
IV...
JULY
27...
SEPT.
14...

DIS-
CHARGE

175

215

368
246

67B

930

1040
1130

483

452
425

165

130

DIS-
SOLVED

RIDE

(CD

14

10

1.1
15

10

9.7

6.9
6.6

9.2

20

13

13

DATE

JAN.
07...
27...
FEB.
25...
MAR.
26...
APR.
29...
MAY
27...
JUNE
19.. .

Prior to

CHEMICA

DIS-

SILICA

(SI 021

4.1

5.0

4.4
5.J

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DIS-
SOLVED
FLUO-

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TOTAL
KJEL-
DAHL
NITRO-
GEN

IN)
(MG/L)

. 36

. 40

Octobe

DIS-

IHON

(FE)

230
230

70

90

10

20

"

DIS_

(N03I

10

6.9

6.6
7.6

7.5

5.1

4.1
4.0

B.5

4.0
6.5

4.7

7.4

AN
r

r 1967, p

DIS-
SOLVED

GANESE
(MN)

40
40

20

30

70

60

"

DIS-
SOLVED
OHTHO

(P04)

- -

. 44
. 60

. 21

. 15

. 64
- -

.<J1

. 02

. 21

. 52

IMONIA
IITRO-
GEN

(N)
(MG/L)

. 04

. 16

ublished

DIS-
SOLVED

CUM

(CA)

50

36

36
36

26

25

26
27

36

30

36

42

DIS-
SOLVED
SOLIDS

(RESI-

180 C)

250

166

176
192

»_

- -

. .

147

...

156

206

225

DIS-

SOLVED
OXYGEN

(MG/L)

11.1
10.5

13.4

11.9

9.4

9.0

6.4

as North

DIS-
SOLVED
MAG-

SIUM

(10)

15

13

10
11

7.b

7.4

9.0
6.H

13

12

16

17

(CA.MG)

187

144

131
135

96

93

102
96

144

125

162

175

FECAL
COLI-
FORM

(COL. PER
100 ML)

160

160

65

freezing po int Jan. 13, 14, 1957, Jar

Branch Bald Eagle Creek at Blanchard.

Fanuary.

i. 26,

nis- OIS-

DIS-

SODTlIM
(NA)

7.2

6.4

^.8
7.3

- -

- -

- -

4.1

4.0

6.2

6.7

NON-
CAR-

NESS I

37

33

3S
34

28

25

2B
29

40

39

40

28

CDLI-
FDRM

(COL-
ONIES
PER

100 ML)

14DD
2100

16DD

SOOTU1 PO-

POTAS- SIUM BONATE

SIUM (K) (HC03)

2.2 163

2.0 135

1.6 118
l.B 124

9.? -- «3

11 -- B3

4.1. 91
1.3 «I

?.9 -- 126

2.3 104

1.9 146

2.1 179

SPF-
C1FIC
CON-

MICRO- ATURE

367 6.6 17.5

323 6.2 3.5

?98 B.O 3.0
315 8.0

241 7.6 3.5

?39 7.8 8.0

?2? 7.5 17.5
??5 f.5 10.0

291 7.6 16.0

?49 8.2
21.5

331 6.3 16.0

378 6.2 21.0

COPPER ZINC

(CU) (ZN)
(UG/L) (UG/L)

__ -_

10 10

DIS-

SJLFATE

(S04)

31

25

27
27

28

30

23
23

25

26

28

30

COLOR

(PLAT-
INUM-
COBALT

1

3

2
1

2

2

It
0

6

"

3

2

SUSQUEHANNA RIVER BASIN

01547500 BALD EAGLE CREEK AT BLANCHARD, PA. Continued

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

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5

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10

11
12

14
15

16
17

19
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21

23
24
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29
30
31

JTH

OCTOBER NOVEMBER

MAX MIN MAX HIM

1B.O 15.5 11.0 10.5

18.0 15.5 11.5 11.0

15.0 13. 5 6.5 4.5

11.5 9.5 5.0 4.5

":£ il:l 1:1 1:1

20.5 6.0 13.5 4.5

DECEMBER JANUARY FEBRUARY MARCH

MAX MIN Mix MIN MAX MIN MAX MIM

4.0 3.0 a.O ,. 2.0 2.0 5.5 5.0

3.5 2.0 1.5 1.0 3.5 2.0 6.5 5.5

3.0 2.0 1.5 1.0 5.0 3.5 5.5 4.5

5.5 1.0 4.5 1.0 5.0 1.5 6.0 3.5

7.0
6.5
5.5
5.5
6.0

6,5
6.5

e.o
9.0

9.S

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15.0
15.0
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11.5

13.5

13.5
13.0

15.5
16.0
IB. 5

19.5

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IB. 5
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2B.n
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29. n

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20.5

14.5

SUSQUEHANNA RIVER BASIN 4

01547950 BEECH CREEK AT MONUMENT, PA.

LOCATION. Lat 41°06'42", long 77°42'09", Centre County, water-quality recorder at gaging station on right bank, 800 ft downstream from bridge at Monument, 850 ft downstream from Monument Run, 0.6 mile upstream from Twin Run, and 8.7 miles upstream from mouth.

DRAINAGE AREA. 152 sq mi.

PERIOD OF RECORD. Chemical analyses: December 1968 to September 1970.
Water temperatures: December 1968 to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum, 423 micromhos Oct. 18; minimum, 108 micromhos Apr. 3. pH: Maximum, 7.3 Dec. 17; minimum ^ 3.3 Nov. 2, 3.

Period of record:

14, 1969.
pH (1968-70): Maximum, 7.3 Dec. 17, 1969;

g uayt a .

. 8, 6 , n mum, m cr mh s Mar. 30, p . 1 ,

minimum, 2.9 June 29, 30, 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

D1S-
DIS- SOLVED DIS-

DIS- SILICA JNUM IRON

OCT
09 .. 48 7.5 1400 20
NOV
35 .. 313 S.6 1*00 390
FEB
0". .. 860 5.2 1000 1300
JUNE
10... 6.1 1400 230
JULY
39... 142 b.7 IbOO 300

DIS-
DIS- SOLVED
SOLVED DIS_ SOLIDS
FLUO- SOLVtD (RESI- HA

<F) (N03) 180 C) (CA

OCT.
09... .1 .40 235
NOV.
35... .0 .00 88
FEB.
04... .1 .60 83
JUNE
10... .1 .30 13<t
JULY
29... .4 .70 186

TOTAL
CH«0-

<C><>

DATE (UG/L)

FEB.

DIS- DIS-
DIS- DIS- SOLVED SOLVED DIS-
SOLVED SOLVED MAS- DIS- PO- DIS- SOLVED

i.100 26 Ib ?.<t 1.0 ISO 3.5

11,00 9.5 i.b 1.0 .6 Si, 2.6

1000 8.0 4.0 3.0 1.2 *5 3.1

2000 13 B.O 1.3 1.3 77 2.3

3800 23 10 2.2 3.0 109 3.1

SPE-
NON- ClfIC
CAR- TOTAL CON- COLOR

RD- BONATE ACIOITY DJCT- (PLAT-

,MSI NESS H» (MICRO- «TURE COBALT

127 137 .« 368 3.8 13.0 3

1,3 42 ,4 147 4.3 5.0 Z

37 37 137 4.J l.S 5

t>6 66 .b 317 4.3 1

99 99 ,t> ?S4 4.1 -- 2

OIS- OIS- DIS- DIS-
SOLVED SOLVED SOLVEO SOLVED

(CU) <P8) [Nil (ZN>
(U5/L) (US/L) (UG/L) (US/L)

SUSQUEHANNA RIVER BASIN

01547950 BEECH CREEK AT MONUMENT, PA. Continued

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

NOVEMBER DECEMBER

400
401
409
417
374

380
386
3R6
392
3B6

386
386
389
404
392

399
409
423
416
401

398
. . .
. . .

- - -

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. . .
. . .
. . .

390
395

393
317
340
369
365

359
370
361
375
378

379
379
380
387
388

389
393
407
400
398

325
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SUSQUEHANNA RIVER BASIN

01547950 BEECH CREEK AT MONUMENT, PA. Continued

SPECIFIC CONDUCTANCE IMICROMHOS/CM AT 25°CI, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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SUSQUEHANNA RIVER BASIN

01547950 BEECH CREEK AT MONUMENT, PA. Continued

PH (UNITS) . WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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4.2 3.7 4.0 4.2 4.0 4.2
4.2 3.9 4.0 4.2 3.8 4.1
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MAX MtN MEAN

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SUSQUEHANNA RIVER BASIN

01547950 BEECH CREEK AT MONUMENT, PA. Continued

TEMPERATURE (°C> OF WATER, WATER YEAR OCTOBER 1969 HO SEPTEMBER 1970

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OCTOBER

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MAX

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3.0

4.0
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3.5
3.5
2.0

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l.S
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l.S

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FEBRUARY

MIN MEAN

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1.0 2.5
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MAX

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MARCH

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3.0 3.5

2.0 3.5
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1.0 2.5
0.5 2.0

1.0 3.0
O.S 1.5
0.0 2.0
1.0 2.5
0.0 1.0

0.0 0.5
0.0 1.5
2.0 2.5
2.0 3.5
3.0 3.0

3.0 3.5
2.0 3.0
2.0 3.5
3.5 4.0
3.5 5.0

4.5 S.S
4.0 5.0
4.0 5.0
3.0 4.5
l.S 3.5
4.5 5.5

MAX

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6.0
ft.O

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8.0

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A. 5
A.O

ft. 5
7.0
8.5
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MEAN

5.5
6.5
8.5
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8.0
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8.0
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MAX

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18.0
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12. n
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16. S
18.5

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16.0
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14. n
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15. S
16. S

MAY

MIN

10.5
11.0
9.5
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a. 5
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7.0
10. S
12.0

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11.5
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ME AM

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14.0

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14.5
13.0

11.5
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12.0
13.0
15.0

14.5
15.5
15.5
14.5
13.5

14. n
11.5
11.0
12.0
12.5
13.5

SUSQUEHANNA RIVER BASIN

01547950 BEECH CREEK AT MONUMENT, PA. Continued

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

DAY

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30
31

MONTH

MAX

18.0
18.0
17.0
15.0
15.5

18.0
18.0
19.5
21.0
80,5

21.5
19.5
21.5
21.0
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16.0
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16.5
18.0
20.0
21.5
21.5

19.5
18.0
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21.5

JUNE

MIN

13.0
14.0
14.5
13.5
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13.5
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12.0
14. S
15.0

15.5
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14.0
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15.5
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11.5

MEAN

15.0
16.0
15.5
14.0
14.0

15.0
14.0
15.5
17.5
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IB. 5
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18.0
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15.0
17.0
18.0
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13.5
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16.0
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16.5

MAX

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26. n
24.0
22.0
19.5

23.5

23. n
23.0
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21. n

21.0
24.5
24.0
23.0
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21.0
21.5
23.5
24.0
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20.0
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25.0
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JULY

MIN

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IB. 5
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SEPTEMBER

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MIN

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MEAM

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SUSQUEHANNA RIVER BASIN

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA.

LOCATION. Lat 40°58'05", long 76°52'25", Union County, at gaging station on downstream side of left abutK

DRAINAGE AREA. 6,847 sq mi.

Sediment records: October

^Wisburg, 0.2 mile downstream from Buffalo Creek and 7.4 miles upstream from mouth.

1963 to September 1966 (miscellaneous).

Harrisburg, Pa.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TD SEPTEMBER 1970

DIS-

OIS- SILICA

CHARGE (SI02)

OCT.
23... 1440
NOV.
12... 8460 4.B
26... 9300
DEC.
17... UOOO 4.6
24... 6S30
JAN.
27... B700 6.2
FEB.
25... 117bO
MAR.
10... 12600 4.7
26... 13800
APR.
16... 33300
22... 16BOO 4.6
MAY
14... 6600
JUNE
09... 6200 4.4
23... 4170
JULY
16... 4600 4.7
26... 2900
AUG.
20... 1830
25... 3560 3.6
SEP.
23... 2260

OIS-
DIS- SOLVED

(S04) (CD

OCT.
23... 135 19
NOV.
12... 48 6.6

DEC.
17... 35 5.3
24...
JAN.
27... 76 11
FEB.
25...
MAR.
10... 57 7.5
26... 54 7.9
APR.
16...
22... 38 b.O
MAY
14...
JUNE
09... 58 7.2
23...
JULY
16... 67 6.8
28...
AUG.
20...
25... 108 11
SEP.
23... 128 10

DIS- I) S-
UIS- DIS- SOLVED SO VED
OIS- SOLVED SOLVED MAG- DIS- f - ALKA-

IHON GANESE CUM SIUM SODIUM S UM BONATE BD^ATE AS

(FE1 (MN) (CA) (MG) (MM { > (HC03I IC03] CAC03

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13 3.8 ?.B 1.3 IS -- 12

23 8.? k,T 1.4 B 0 7

16 6.9 3.1 1.2 B -- 7
140 750 17 6.4 6.0 7 6

12 4.9 ?.U . 8605

IB 6.5 4.3 ?.? 14 0 11

25 7.9 4.5 1.8 ?9 0 24

28 9.0 B.7 7.. I 19 0 [6

0 500 30 11 12 11 0 9
OIS- DIS- D1S-
OIS- SOLVED SOLVED SOLVED MON-
SOLVED DIS_ ORTHO TOTOL SOLIOS SOLIDS CAR-

(F) (N03) (P04I IP04) |P) 180 Cl TUENTSI ICA.15) NESS

. 13 .07 -- ?28 164 142

. 1 1.2 « -- -- 100 94 60 47

. 1 2.3 -- ~ -- 91 48 36

. 1 3.7 -- -- 148 -- 91 85

. 0 3.6 -- I3i 69 6?
3.0 .45 .35 -- 112 -- 69 64

. 0 2.2 ~ 91 -- 50 45

. 0 3.2 -- 121 -- 72 60

. 4 3.3 ~ .11 -- 160 95 71

. 2 2.2 .03 -- ?OB 107 92

. 01 .01 ?D7 1?1 11?

SUSqUEHANNA RIVER BASIN

01553500 WEST BRANCH SUSqUEHANNA RIVER AT LEWISBURG, PA. Continued

CHEMICAL ANALYSES, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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DATE 1
OCT.
23...
NOV.
12...
26...
DEC.
17...
24...
JAN.

27... FEB.
25...

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APK.
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MAY
14...
JUNE
09...
23...
JULY
16...
26...

AUG.
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SEP.

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:IFIC:ON-
>UCT-

IMME- METHY-
FECAL BIATE LENE
COLOR COLI- COLI- TOTAL BLUE

(PLAT- TUP,- DIS- FORM FORM ORGANIC ACTIVE

*HOS> (UNITS) (DEG C) U

371 6.9 10.0

175 6.7 10.0
159 6.B 5.0

135 7.6 2.5
181 5.6 2.0

204 6.8 .0

180 5.9 2.5

164 6.9 5.0
166 6.3 B.O

100 6.2 10.0
137 7.3 11.0

210 6.8 19.5

256 7.0
223 6.8 19.0

239 7.4 20.0
203 7.8 29.0

260 6.9 ?5.5
314 7.3 ?4.5

2 5 11.7 88 2.0 .01

13.2 -- 63

12.0 0

12.2 -- 16000

3 5 12.4 280 1.0 .01

B.O 4

7.6 6000

7.9 10 80

7.8 14 370

7.2 100 1360

SUSqUEHANNA RIVER BASIN

01555000 PENNS CREEK AT PENNS CREEK, PA.

LOCATI ON. Lat 40°52'00", long 77°02'55", Snyder County, at gaging station on left bank, 200 ft downstream fron

DRAINAGE ARRA. 301 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1967 to September 1970.
Sediment records: October 1966 to September 1969 (miscellaneous).

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

NOV.
13...
DEC.
IB...
JAN.
27...
MAR.
11...
APR.
22...
JUNE
11...
JULY
16...
AUG.
26...

NOV.
13...
DEC.
18...
JAN.
27...
MAR.
11...
APR.
22...
JUNE
11...
JULY
16...
AUG.
26...

DIS-
CHARGE

240

4B8

246

560

796

20B

220

1^5

DIS-
SOLVED
FLUO-
RIDE

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DIS-

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3.6

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2.7

OIS_
SOLVED
NITRATE

(N03)

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3.8

2.9

5.5

2.3

4.3

3.3

l.B

DIS-
SOLVED

CIUM

ICA)

30

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34

IB

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29

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01S-

ORTHO
PHOS-
PHATE

(P04)

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DIS-
SOLVED
MAO-

SIUM

(M3)

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4.0

4.0

3.5

3.8

4.4

5.0

OIS-

SOLIDS

(RESI-
DUE AT

180 C)

111

114

102

129

77

100

126

125

DIS-

SOOIUM

(MA)

2.6

1.8

2.7

2.0

1.0

1.9

2.5

2.2

OIS-

SOLIDS

(SUM OF
CONSTI-

TUENTS)

111

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DIS-
SOLVED
PO-

SIUM

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1.2

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HARO-
NESS

(CA.M3)

91

87

B4

102

60

76

91

86

BON4TE

(HC03)

88

77

83

99

53

77

90

94

NON-
CAR-
BONATE
HARD-
NESS

19

24

16

21

17

13

17

9

BONATE

(C03)

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SPE-
CIFIC
CON-
DUCT-
ANCE

(MICRO-

193

1B4

184

214

129

217

194

196

ALKA- DIS-

AS SULFATE

CAC03 (S04)

72 17

63 17

68 14

81 15

43 U

63 11

74 13

77 14

PH TEMPER-
ATURE

7.7 7.0

7.1 3.0

6.5 1.0

8.1 4.0

7.3 10.0

7.2

B.I 19.0

8.2 22.0

DIS-
SOLVES
CHLO-
SIDE

(CD
L>

5.B

3.4

2.7

4.9

2.7

3.2

3.B

4.5

COLOR

(PLAT-
I MUM-
COBALT

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B

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SUSQUEHANNA RIVER BASIN

01559000 JUNIATA RIVER AT HUNTINGDON, PA.

LOCATION. Lat 40°29'05", long 78°01'09", Huntingdon County, at gaging station on right bank. 170 ft (revised) downstream from Smithfield ridge at Huntingdon and 0.8 mile upstream from Standing Stone Creek.

DRAINAGE AREA. 816 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1947 to September 1951, February 1956 to October 1956 October 18 *" September 1970.

Sediment

OCT.
21...
NOV.
I"....
JAN.
06...
FEB.
IB...
APR.
06...
MAY
21...
JULY
07...
AUG.
IB...

OCT.
21...
NOV.
I"....
JAN.
06...
FEB.
IB...
APR.
06...
MAY
21...
JULY
07...
AUG.
IB...

records:

DIS-
CHARGE

136

51

136

1220

39BO

1290

103

52

DIS-
SOLVED
FLUO-
HIOE

(F)

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October

CHEMI

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SILICA

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OIS_
SOLVED

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4.2

6.3

6.3

7.4

4.7

8.0

4.5

1966 to

CAL ANAL

DIS-
SOLVED

ICA)

44

36

35

35

25

24

38

33

DIS-
SOLVED
UHTMO
PHOS-

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- -

- -

- -

. 34

. 36

September

DIS-
SOLVED
MAS-

(MSI

14

10

8.8

9.0

6.B

7.0

13

12

DIS-
soLvtn
SOLIDS

(HESI-

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232

224

197

140

151

214

224

1968 (mi

R YEAR 0

DIS-

1NA)

40

20

18

13

3.4

9.0

13

20

DIS-
SOLVED
SOLIDS

(SUM OF

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- -

DIS-
SOLVED
PO-

CK)

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3.2

2.6

2.1

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3.0

HARD-

168

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124

125

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101

132

s).

ALKA- OIS-

(HT03I (CU3I CAC03 (SD4)

171 14(1 48

)2S -- 103 47

101 0 83 41

100 0 82 39

62 0 51 27

It, (1 6? 26

135 3 116 34

134 0 110 41

bPE-
NOM- CIFIC
CAR- COM-
BDNATE UUCT-

28 519 8.3

34 378 7.9 b.O

41 363 6.9 .0

43 31J 7.1 .5

38 ?16 7.0 b.O

27 ?53 8.0 20. b

0 347 8.4 18.0

22 367 8.2 21.0

OIS-
SOLVED

i?IDE
(CD

49

25

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17

8.2

12

18

22

COLOR

(PLAT-

CDBALT
JMITSI

40

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5

IS

SUSQUEHANNA RIVER BASIN

01563000 RAYSTOWN RANCH JUNIATA RIVER NEAR HUNTINGDON, PA.

lATION. Lat 40°25'35", long 73 01'47", Huntingdon County, at gaging station 5 ft downstream from left abutmei of highway bridge at Hawn Bridge, 6 miles south of Huntingdon, and 9 miles upstream from mouth.

,INAGE AREA. 957 sq mi.

HOD OF RECORD. Chemical analyses: October 1946 to September 1950, February to October 1956, October 1962 tc September 1970.
'ater temperatures: October 1946 to September 1950.

DIS-

01S- SILICA

CHAHbE (SI02)

OCT.
21... 19 1.2
NOV.
14... 140U 3.8
JAN.
05... 1470 6.2
FEU.
17... 1400 6.2
APK.
07... 4380 6.0
MAY

21... 1570 6.1
JULY
06... 983 4.b
AUG.
18... IS 3.b
SEP.
30... 786 1.5

DIS-

SOLVtD DIS_

(F) (N03)

OCT.
21... .1 .90
"JOY.
14... .] 2.4
JAN.
OS... .1 5. ft
Fth.
17... .0 5.0
APS.
07... .1 b.4
MAY

21... .0 3.6
JULY
06... 4.0

IS... .3 3.6

SEP.
30... .0 3.3

UIS-
bOLVEO

CIUM

(CO)

31

31

19

22

IS

18

24

29

30

DIS-
SOLVED
OKTHO

(P04)

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DIS-
SOLVED
MAb-

SIUM

1Mb)

10

6.5

5.2

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3.S

6.5

6.0

13

DIS-
SOLVED
SOLIDS

1HO CI

163

14

131

9*

1U9

134

161

182

DIS-

SOOIUM

(NA|

5.0

4.3

7.5

7.6

2.S

5.0

3.3

4.5

5.6

DIS-
SOLVED
SOLIDS

TUENTSI

149

146

- -

- .

- -

DIS-
SOLVED
PO-

SIUM
CO

1.9

3.5

2.3

1.7

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1.5

1.9

2.6

2.2

H6«0-

(CA.MG)

119

113

69

78

SB

60

«7

106

129

BONATE
IHC03I

76

64

35

40

29

42

60

83

92

NOM-
CAW-

NESS

55

41

45

34

25

3B

3B

53

BONATE

(C03)

- -

- -

0

0

0

0

0

0

0

SPE-
CIFIC
CON-

iMirso-

?73

?63

196

212

155

175

203

244

282

ALKA-

as
CAC03

64

69

29

33

24

34

49

68

75

(UNITS)

7.5

7.1

7.6

7.S

6.9

7.9

6.1

8.1

OIS-

SULFATE

IS04)

SI

39

30

35

30

23

28

36

53

ATURE

(DE5 CI

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DIS-
SOLVED

RIOE

ICL)

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12

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16

5.B

6.3

6.6

8.8

COLOR
IPLAT-
I MUM-
COBALT

JNITS)

5

5

1

0

0

3

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4

1

SUSQUEHANNA RIVER BASIN auj-

01567000 JtlNIATA RIVER AT NEWPORT, PA.

LOCATION. Lat 40°28'42", long 77°07'46", Perry County, at gaging station on bridge on State Highway 34 at Newport, 1,000 ft upstream from Little Buffalo Creek.

DRAINAGE AREA. 3,354 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1944 to June 1953, October 1956 to September 1970.
water temperatures: October 1944 to September 1950, June 1958 to September 1970.
Sediment records: January 1951 to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum daily, 558 micromhos Oct. 27; minimum daily, 143 micromhos Apr. j.
Water temperatures: Maximum, 27.0°C Aug. 17; minimum, freezing point on many days during December to February. Sediment concentrations: Maximum daily, 636 mg/1 Apr. 3j minimum daily, 1 mg/1 Oct. 31, Nov. 1-2.
Sediment discharge: Maximum daily, 108,000 tons Apr. 3; minimum daily, 0.88 ton Nov. 1.

Period of record:
Dissolved solids (1944-47, 1949-51, 1957-58): Maximum recorded, 287 mg/1 Oct. 8, 1968; minimum, 78 mg/1
Mar. 1-10, 1945, May 21-31, 1946.
Hardness (1944-47, 1949-53, 1957-58): Maximum, 170 mg/1 Nov. 1-10, 1952; minimum, 46 mg/1 Mar. 21-31, 1950, Apr. 1-10, 1958.
Specific conductance (1944-50, 1958-70): Maximum daily, 566 micromhos Aug. 22, 1964; minimum daily, 59 micro-mhos Aug. 19, 1950.

Sedi
Sedi

REMARKS.

Lment dis

risburg,

NOV.
04...
DEC.
01...
HAH.
02...
APR.
01. ..
HAY
01...
JUNE
01...
JULY
04...
AUG.
02...
SEP.
03...

MDV
04
DEC
01
HAK
o<e
APR
01
MAY
01
JUN
01
JUL
04
AUG
02
SEP
03

charge: Maximum daily, 128,000 ton

mg/1 Mar. 2, 1954; minimum daily, 0 mg/1 on many days
is Mar. 2, 1954; minimum daily, no flow on many days.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS-
DIS- SOLVED
OIS- SOLVED MAG-

SOLVtD CAL- NF- nis- SILICA CIUM SIUM
CHARGE (blOd) (CA) (MG)

938 3.7 39 11

J080 3.6 30 7.9

5240 6.8 24 6.0

11200 6.7 19 5.5

9630 7.7 21 6.2

2930 5.3 ?5 7.4

2760 5.5 27 7.7

2730 36 33 9.8

3220 9.H 29 6.7

OIS- 01S-
SOLVED SOLVED
OIS_ URTHO SOLIDS
SOLVED PHOS- (SESI- HA
NITRATE HHATE DUE AT ME

(N03) (P04) ISO C) (CA

1.6 239

1.7 169

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7.0 134
, '

5.6 .02 116

3. a .02 1<;9
E
4.6 .04 151
y
. . . 4.8 .05 155

7.4 .00 231

"... 7.7 .45 175

DIS-
SOLVED DIS- D1S-
BIS- PO- 3IS- SOLVED SOLVE
SOLVED TAS- 81CAH- SOLVED CHLO- FLUO-

(NA) (K) (HC03) (S04) (CD (F)

22 3.4 \ii 58 23

14 2.1 81 47 15

6.0 1.7 61 27 10 .

4.9 1.4 47 23 8.3 .

4.9 1.7 58 24 7.9

7.3 1.8 74 31 10 .

8.7 2.5 84 31 11 .

12 2.7 111 36 13

7.5 3.3 81 34 8.3

SPE-
NON- CIF1C
C»R- CON- COLOR

RO- BONATE DUCT- (PL»T-
SS HARD- ANCE PH TEHPER- 1NU4-

tMG) NFSS (MICRO- HTURE COBALT

347 7.7 12.0 7

108 41 292 7.4 3.0 3

85 35 ?08 7.7 4.0 0

70 34 170 7.6 5.1) 1

/8 31 182 7.7 17.0 2

93 33 218 7.9 20.0 5

99 30 235 7.8 26.0 2

123 32 301 R.3 26.0 4

100 34 ?44 8.0 19.0 25

D

)

4

2

3

3

2

2

2

0

0

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBEi C, CHEMICALLY DISPERSED! N, IN NATIVE WATER; P, PIPETj S, SIEVE) V, VISUAL-ACCUMULATION TUBE; W, IN DISTILLED WATER)

W6T ER PARTICLE SIZE

PE RA- CONCEN- SEDIMENT PERCENT FINER I MAN THE SIZE (IN MILLIMETERS) INDICATED OF
TURE DISCHARGE TRATION DISCHARGE ANALY-

DATE TIME I »C) (CFS) (M6/LI (TONS/DAY) .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00 SIS

3990 36 51 64 75 86 95 99 100 SCBW

SUSQUEHANNA RIVER BASIN

01567000 JUNIATA RIVER AT NEWPORT, PA. Continued

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31
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25

36
37
38
29
30
31

MONTH

438

445
435

432

470
425

439
43B
421
401
435

458
462
461
4SO
450

435
438
458

470

490
558
480

465

453

OCT

1S.O 1 ia.o i
19.0 1
18.0 1
17.0 1

16.0

15.0 1

16.0 1
17.0
18.0
20.0
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13.0
14.0
14.0
11.0

14.0

9.0
6.0
8.0

8.0
7.0
9.0

5 0

500 282

412 292

402 300

337 297
325 320

320 252
3?2 218
328 209
330 205
340 202

330 208
322 210
318 215
307 220
309 218

280 230
280 228
270 260

280

278
258
283
274

334

3.0 3.0
. 0 1.0
J.O 3.0

).0 0.0

».0 0.0

. 0 2.0

. 0 4.0
'.0 5.0
. 0 3.0
. 0 2.0
. 0 2.0

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. 0 2.0
. 0 1.0

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152

170
174

173
176
188
198
204

220
218
228
230
238

232
242
250

194

184

(ONCE-^DAILY

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2.0

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13.5 7.0

200

177

161
163

168
168
170
178
178

180
190
206
200
208

197
IBS
180
178
181

178
165
157
146

169

178

170

145

159

172
179-

72
62
69
75
56

144
14R
152
154
160

168
173
175
178
174

171
167
170
171

164

182
184
189

193

198

212
218

219
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227
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247

248
230
?11
212

198
203
201
200
199

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21?
2? 8
220

211

210

MEASUREMENT)

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4.0

4.0

4.0

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4.0

4.0
5.0
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2.0

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9.5

1T.O
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22.0
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19.0
16.0
17.0
18.0

17.0

218
232
229

228

240

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225

22?
237
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241
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252
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198
183
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202
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222

JUN

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21.0
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20.0
19.0
21.0

21.5

212 290 291
2?0 298 270
238 262 249

233 285 259

236 286 278

270 333 295
268 300 298
166 298 321

196 298 329
202 318 321
210 320 322
215 322 328
230 312 330

232 348 340
236 338 346
220 328 338
238 348 338

248 34
255 26
250 27
265 26
285 27

272 26
272 28
270 21
302 21

300 27

245 3

JUL »U

23.0 26.
25.0 26.
26.0 25.
26.0 25.
25.0 22.

22.0 23.

22.0 24.

22.0 23.
22.0 24.
22.0 24.
22.0 25.
22.0 26.

24.0 26.
22.0 27.
24.0 23.
22.0 25.
24.0 25.

22.0 25.
22.0 22.
22.0 24.
22.0 23.
24.0 22.

26.0 22.
25.0 23.
26.0 23.
26.0 25.
26.0 24.

5 333
0 346
0 357
5 368
3 352

2 360
2 342
5 342
6 328
B 332
2

0 319

3 SE"

23.0
22.0
19.0
22.0
23.0

22.0
20.0

22.0
23.0

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23.0
22.0

25.0
24.0
24.0
21.0
20.0

20.0
22.0
24.0
25.0
25.0

25.0
23.0
19.0
16.0
15.0

23.5 24.0 22,0

SUSQUEHANNA RIVER BASIN

01567000 JUNIATA RIVER AT NEWPORT, PA. Continued

SUSPENDED-SEDIMENT DISCHARGE. HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

TOHER NOVEMBER

MEAN
MEAN CONCEN-

(TFS) (MG/L)

483 5
h70 6
10?0 7
1100 7
1?00 7

1290 13
1070 11
92?
1080
POO

860
770
684
712
. 600

SEDIMENT

MEAN
EtN CONCEN-

(TONS/PAY) (CFSI (MG/L)

6.5 3?6 1
11
19
21

483
628 3
91.6 17
23 1960 2?

45 ?080 23
3? 1
22 !
17

610 19
630 10
730 6
11 1630 6

9.3 1630 15
8.3 1
7.4 1
7.7 1

630 18
500 12
310 9
6.5 1190 5

6?8 in 1200 45
509
437
404
509

459
415
815
470

6.9 1
5.9 1
5.5 1

2?0 1
550 1
020
5.5 1980 1

5.0 2090 1
4.5 2
11 2
5.1 1

400 1
090 1
920 1
522 5.6 148H

535
483
393
34?
548
342

?1072

JANUARY

MEAN
MEflN CC1NCEN-

(CFS) (MG/L)

3800 ?4
5?no 35
4800 4?
4000 30
3300 ?3

2800 19
2400 18
1500 14
1700 14
1400 12

1500 11
1700 10
1900 12
1900 10
1700 9

1500 9
1400 B
1600 9
1900 9
2100 10

1900 9
1700 B
1600 6
1600 6
1500 5

1700 7
1900 9
2300 11
2700 19
5200 27
11000 75

81200

5.f> 1920 1
3.9 1
3.2 1
3.7 1
3.0 1
. 9?

332. ?2 44

SEDIMENT M

(TONS/DSYI (

246 9
491 10
544 Ifl
324 26

4RO
350
?9f)
240
- -

473

FEBRUARY

MFAN
FAN CONCEN-

200 6n
000 65
000 120
200 135
205 17300 95

144 12100 65
1 17 9
57 7
64 6
45 6

3no 44
390 27
400 20
930 ??

45 886n 43
46 7
2 5
1 4

740 25
800 12
000 10
1 3000 B

6 3100 8
0 ?
9 ?
6 3

90(1 8
flOO 6

20(1 12
7 150(1 9

6 36nO 8
7 3
6 5
6 9

500 9
030 15
020 60
0 10600 57

3 99ln ?9
4 8
6 6
13
37
2230

110 18
790 1?

. -

_» __
"

5739 224280

SEDIMENT MEAN

. SB 1190
1.3 1030
5.1 1000
4? 986
116 890

129 906
83 860
44 860
28 815
26 1050

66 4670
79 8450
49 93?0
3? 7750
16 6120

146 5030
36 4070
50 3910
25 3430
86 2840

85 2300
117 2100
90 2200
62 1800
36 1900

6? 1500
32 1500
IB 1900
14 ?200
13 2300
2900

1589.28 87777

SEDIMENT MEAN

1490 5880
1760 5240
5830 5070
9550 5080

4<,40 7150

2120 11700
lion 12000
539 10500
346 9440
412 8SOO

1030 7200
522 6560
188 6170
108 5930
65 5440

67 4950
63 4460
45 4200
104 4160
85 4510

78 6390
B5 9110
204 0700
1500 0600
1630 0300

776 0800
394 3300
220 5800
4300
12800
11600

34751 259840

MEAN
CONCEN-

3
4
5
4

4
5
4

(»
10

114
?3S
1BO
106
33

36
?B
24
?0
17

14
9
9
8
9

7
7
B
10
11
14

"

MARCH

MEAN
CONCEN-

8
8
8
6
17

53
44

2B
29
19

16
14
13
11
10

9
8
8
9
8

22
33
30
22
21

?3
45
73
47
28
22

SEDIMENT

13
8.3
11
13
9.6

9.8
12
9.3
8.8
2B

1540
5870
4530
2?20
545

489
308
253
IBS
130

B7
51
53
39
46

28
26
41
59
68

no

16802.8

SEDIMENT

127
113
110
82
328

1670
1430
794
739
436

311
?4B
217
176
147

120
96
91
101
97

380
81?
867
630
584

671
1620
3130
1810
96B
689

19594

SUSQUEHANNA RIVER BASIN

01567000 JUNIATA RIVER AT NEWPORT, PA. Continued

SUSPENDED-SEDIMFNT DISCHARGE. HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

APHIL MAY JUNE

MEAN
DISCHARGE
(CFS)

10900
27ftOO
62800
51200
27900

20000
16800
Ift600
12«00
12000

12400
11700
10500
9690
14300

22300
19200
15000
12300
11000

10900
9910
9010
9350
11500

13400
12300
10700
9720
9910

MEAN
CONCFN-
TRATION

17
299
636
285
128

87
40
39
30
28

31
32
28
23
ft7

96
51
ft3
35
26

2ft
22
2ft
24
33

51
38
29
31
32

SEDIMENT
DISCHARGE

500
28500
108000
39400
9640

4700
1810
1540
1040
907

1040
1010
79ft
602
1950

5670
2640
17ftO
1160
772

706
589
584
606
1020

1850
1260
838
814
856

TOTAL 50U90

JULY

MF.N

926(1
7991)
737(1
6880
6220

5650
5170
4820
418(1
4350

3R?0
3680
3490
3250
3250

3250
4990
6970
6910
6220

5650
ft990
4470
4150
36SO

3760
3730
ft700
4330
3700

306(1

MEAN
CONCFN- SEPIMENT

32 HOO
30 647
2B 557
26 483
22 369

20 305
17 237
12 156
9 102
10 117

1! 113
12 119
15 141
16 140
16 140

17 149
31 418
60 1130
58 1080
39 6S5

2ft 366
32 431
27 326
2ft 269
20 197

22 223
24 242
36 ft57
39 456
38 380
25 207

(CFS)

2830
2610
2180
2160
2360

2910
3840
4500
3960
3090

2810
?880
2560
2660
2460

2ft80
2610
ft2ftO
7430
6370

7210
6130
7060
6280
48SO

3960
4330
5320
5500
4330
- -

MEAN

(MS/L)

18
13

11
12
12

17
36
37
52
22

19
21
17
35
15

14
17
52
108
77

92
70
75
67
48

37
40
85
6ft
55
- -

SEDIMENT

(TONS/DOY)

138
92
65
70
76

13ft
373
450
556
184

144

163 lie
251
100

94
120
82ft
2170
1320

1790
1160
1430
1140
629

396
ft68
1220
950
643
- -

MEAN
MEAN CONCEN- SEDIMENT
DISCHARGE TRAT10N DISCHARGE

OSY (CFS) (MG/L) (TONS/DAY)

1 3*30 40 370
2 3090 30 250
3 2680 2? 159
ft 2360 17 108
5 2110 16 VI

6 1910 17 88
7 1660 12 5ft
8 17*0 12 56
9 1980 ft". 30ft
10 8020 5ft7 12700

11 7ROO 13ft 2850
13 6ft60 8ft Ift70
13 4500 52 63?
1ft 3380 34 310
15 2910 28 220

16 3350 24 217
17 3B20 28 289
18 35ftO 29 277
19 2760 24 179
20 2320 18 in

21 2250 1ft 85
22 2250 12 73
23 1980 9 48
2ft 1810 8 39
25 1760 8 38

26 1520 6 25
27 1640 6 27
28 1740 6 28
29 1600 6 26
30 1540 6 25
31 2200 26 15ft

TOTAL 90110 -- <>1305

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

"EON
DISCHARGE

(CFS>

2960
2580
1930
1720
1700

1660
IftftO
1350
1200
1390

1150
1310
1 160
1040
1090

1010
892
812
812
860

2880
2930
22^0
2710
3060

3040
2440
lH9n
1580
1270

MEAN
CONCEN- SEDT«ENT
TRATION DISCHA»GF

(MG/L) (TONS/DAY)

29 232
22 153
1ft 73
8 37
6 28

27
23
22
13
30

22
25
19
17
18

16
1ft
20
10 22
10 23

5ft 538
ft7 372
32 194
39 285
36 297

35 2B7
21 138
1ft 71
10 ft3
8 ?7

MEAN

(CFS)

3ft30
4670
2910
2130
1810

1620
12ftO
1180
1110
1200

1160
1160
1110
1060
92ft

95
8ft
92
95
84

860
1010
92ft
1010
97ft

892
97ft
1290
1180
IftftO

MEAN

COMCE*J- SEDIMENT

(«G/L) (TONS/DAY)

62 969
14S 1850
86 676
ftft 253
2ft 117

17 74
16 5ft
12 38
10 30
7 23

19
16
9.0
8.6
7.5

7.8
9.1
12
13
11

12
16
17
19
18

17
18
11 38
10 32
10 39

SUSQUEHANNA RIVER BASIN

01567500 BIXLER RUN NEAR LOYSVILLE, PA.

LOCAT ION. ~Lat 40°22'15", long 77°24'09", Perry County, at gaging station on right bank, 400 ft upstream from bridge on State Highway 850 at Bixler, 2.3 miles upstream from mouth, and 3.6 miles west of Loysville.

DRAINAGE AREA. 15.0 Sq mi.

PERIOD OF RECORD. --Chemical analyses: Febru
Water temperatures: November 1956 to Febr
Sediment records: February 1954 to Septem

iry 1954 to Septembe
lary 1965.
»r 1970.

EXTREME S. 1969-70:

Sediment concentrations: Maximum daily, 399 mg/1 July 10; minimum daily, 2 mg/1 several days during October to December.
Sediment discharge: Maximum daily, 500 tons July 10; minimum daily, 0.01 ton Oct. 18-20.

zing point on many days during winte

Period of record:

Water temperatures (1956-65): Maximum, 29.0°C July 27, 1957; minimum
periods.
Sediment concentrations: Maximum daily, 986 mg/1 June 10, 1954; minimum daily, 0 mg/1 Oct. 29, 30, 1956. Sediment discharge: Maximum daily, 740 tons Feb. 13, 1966; minimum daily, no flow on Oct. 29, 30, 1956. REMARKS. Unpublished records of specific conductance, pH, and temperature of partial-record
available in district office, Harrisburg, Pa.

ediir nt samples

SUSPENDED-SEDIMENT DISCHARGE,

OCTOBER

HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

1
2
3
4
5

6
7
8
9
10

11
12
13
1ft
15

16
IT
18
19
20

21
22
23
2ft
25

26
?7
28
29
30
31

MEAN

2.
3,
6.
2.
2.

2.
2.
2.
2.
2.

2.
2,
2.
2.
2.

2.
2.
2.
2.
2.

3.
2,
2.

2,
3.

3-*.

3.
3,
3.
3.

MEAN
CONCEN- SEOIMENT

3 .0
12 .1
ft8 .9
a .0
7 .0

6 .0
5 .0
5 .0
5 .0
5 .0

ft .0
ft .0
3 .0
3 .0
ft .0

ft .0
3 1
2 .0
2 .0
3 .0

e .0 ft « n

5 .n
5 .n
9 .0

7 .n
6 .n
5 .0
S .0
ft .0
ft .0

MEAN
«F»N CONCEN- SEDIMENT

3. ft ft .Oft
8.6 10 .23
5.9 8 .13
10 12 .3?
*.3 7 .08

3.7 5 .OS
3.7 3 .03

13 38 ?.)
11 13 .36
ft. 6 8 .1ft

5.3 7 .10
ft. 7 5 .06
ft.l 3 .03
ft. 5 5 .06
4.7 6 .08

3.9 4 ,0ft
3.5 3 .03
3.5 2 .03
18 71 8.B
19 25 1.3

9.5 H .36
7.2 10 .19
6.3 7 .13
5.6 6 .09
ft. 9 5 .07

ft. 7 5 .06
ft. 3 ft .OS
ft.l 3 .03
3.9 3 .03
3.9 3 .03

. .

MEAN

(CFS)

3.9
3.5
3.7
3. ft
3.3

3.2
3. ft
ft. 7
5.6
32

73
36
18
15
13

11
9.5
8.6
8.6
8.3

7.5
8.1
8.1
7.2
6.9

6.2

7.1)
9.0
9.S
10
19

ME»N COMCEN- SEDIMENT
(MS/L) (TONS/DAY)

2 .03
2 .03
2 .02
2 .02
2 .02

2 .02
3 .03
8 .10
1ft .21
205 69

131 ft6
1ft .98
10 .ft9
8 .32
6 .?!

6 .19
5 .13
ft .09
ft .09
ft .09

3 .06
ft .09
ft .09
3 .05
3 .06

3 .05
ft .OS
5 .12
5 .13
5 .1ft
12 .62

SUSQUEHANNA RIVER BASIN

01567500 BIXLER RUN NEAR LOYSVILLE, PA. Continued

SUSPENDED-SEDIMENT DISCHARGE. HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

JANUARY FEBRUARY MARCH

BAY

1
2
3
4
5

6
7

e
v
10

11i?
13
14
IS

16
17
18
19
20

21
22
23
24
25

26
27
28
29
30
31

TOTAL

DAY

1
2
3
4
5

6
7
8
9
10

11
12
13
1*
15

16
17
18
19
20

21
22
23
?4
25

26
27
28
39
3d
31

TOTAL

MEAN

DISCHARGE (crs>
23
18
15
13
11

10
9.6
9.0
9.?
9.8

10
9. It
8.9
8.3
7.8

6.4
6.4
7.0
7.6
7.4

6.8
6.?
5.8
5.6
5.4

5.4
6.0
6.8
10
20
18

302.8

MF»N
DISCHARGE

(CFS)

45
476
186
110
fll

67
59
47
43
37

33
30
28
57
95

60
49
41
36
50

37
32
58
72
62

52
45
39
39
32
"

2098

MEAN
CONCEN-
TRATION

(MG/U

10
9
9
e
8

8
7
7
6
6

6
5
5
5
5

4
4
4
5
5

4
4
4
3
3

3
4
4
7
14
11

"

APRIL

MEAN
CONCEN-
TRATION

(MS/L)

11
286
65
34
IB

1?
9
7
7
6

6
5
4
57
62

32
19
13

f, in
7
6
21
30
18

14
12
9
7
5

SEDIMENT
DISCHARGE

(TONS/flAY)

. 62
. 44
. 36
. 2fl
,?4

. 22
,1«
. 17
. 15
. 16

. 16
. 13
. 12
. 11
. 11

. 07
07
. OR
. 10
. 10

. 07
. 07
. 06
. OS
. 04

. 04
. 06
. 07
. 19
. 76
. 53

5.81

SEDIMENT
DISCHARGE

(TONS/DAY)

1.3
376
33
10
3.9

2.2
1.4
. 49
. 81
. 60

. 53
. 41
. 30
14
16

5.?
2.5
1.4
. 5fl
1.4

. 70
. 52
3.3
5.8
3.0

2.0
1.5
. 95
. 74
. 43
- -

491.36

MEAN

(CFS)

??
171
164
72
46

36
31
?7
24
49

51
35
28
23
22

20
18
IB
20
IB

15
30
52
4R
44

31
28
25

_ .
. _

~

1168

MEAN
DISCHARGE

(CFS)

28
29
3?
25
?4

?3
21
20
19
IB

16
16
15
15
15

16
55
?5
21
IB

16
15
14
14
15

15
13
12
11
1 0
9.9

595.9

MEAN
CDNCEN-

(MG/L)

12
309
63
22
18

15
14
13
12
39

10
16
13
13
13

12
12
12
12
12

10
15
19
18
17

14
14
13

- _

~

"

MAY

MEAN
CONCEN-
TRATION

(M6/L)

5
5
6
5
4

3
3
3
4
4

3
4
3
3
3

4
48
18

«

6

4
4
4
4
4

3
3
3
3
3
3

SEDIMENT

(TONS/DAY)

. 71
227
2B
4.3
2.2

1.5
1.
. 5
. 8
7 ,

2.
1.
. 8
. 1
. 7

. 5
. 8
. a
. 5
. 8

. 1
1.
2.
2.1
2.0

1.2
1.1

,8B
«
- _
"

295.03

SEDIMENT
DISCHARGE

(TONS/DAY)

. 38
. 39
. 52
. 34
. 26

. 19
. 17
. 16
. 21
. 19

. 13
. 17
. 12
. 12
. 12

. 7
7.
1 .
. 5
. 9

. 7
. 6
. 5
. 5
. 6

. 2

. 1. o
, 9
. H
. OB

14. nS

MEAN

24
24
24
36
42

3fl
36
35
32
29

26
26
26
23
20

18
18
19
20
36

44
41
54
48
47

61
64
51
49
44
45

1100

DISCHARGE

(CFS)

9.5
9.?
9.5
15
13

17
11
9.?
11
8.3

7."
B.I
7.B
6.9
7.5

8.9
8.1
18
9.?
7.5

26
21
11
9.5
8.6

10
21
11
8.9
8.3
"

337.8

MEAN
CONCEN-

13
12
10
15
17

16
15
15
14
14

13
13
12
12
11

10
10
10
12
15

18
17
24
IB
14

22
18
16
IS
13
13

"

JUNF

MEAN

CONCEN-
TRATION

(MG/L)

4
4
21
11

12
9
7
9
7

7
8
7
6
10

R

8
139
24
14

89
45
19
12
9

13
26
14
9
9
"

SEDIMENT

. B4
. 78
. 65
1.5
1.9

I.ft
1.5
1.4
1.2
1.1

. 91
. 91
. 1<t
. 75
. 59

. 49
. 49
. 51
. 65
1.5

2.)
1.9
4.?
2.1

l.R

3.6
3.1
2.?
2.0
1.5
1.6

46.4]

SEDIMENT
DISCHARGE

(TONS/DAY)

. 10
. 10
. 10
. 85
. 19

. 55
. 27
. 17
. 27
. 16

. 15
. 17
. 15
. 11
. 20

. 19
. 17
11
. 60
.?8

10
2.6
. 56
. 31
.?!

. 35
1.5
. 42
.?2
. 20
"

32.35

SUSQUEHANNA RIVER BASIN

01567500 BIXLER RUN NEAR LOYSVILLE, PA. Continued

susPFNnrn-SEDlMFNT DISCHARRF, WATFR YEAR OCTOBER H69 TO SEPTEMHER 1970

ME«N DTSCHABGE
(CFS)

7.5
B.I
6.6

8.6
B.3
B.6

7.?
6.9
6.9

CONCEN- SEDIMENT
TRUTION DISCHARGF

(MG/L) (TONS/BAY)

5.5
1.3
. 78

'IF AN

(C.FS)

9.?
R.2
7.*
10
7.6

6.R

6.0
5.R
S.R
i.B

S.R
5.".
6.3
5.6
5.?

5.?
4.9
4.7
5.?
6.9

5.?
4.9
13
6.3
5.4

4.9
4.7
4.5
4.5
5.4
6.9

ME«N
CONCEN-

(MG/L)

19
17
1?
IS
13

12
1?
9
R
6

6
5
9
6
6

5
*

4
4
11

6
5
42
16
Q

7
7
"5
5
11
17

SEDT^EMT

(TONS/DAY)

. 47
. 38
.?5
. 49
.?7

. 72
. 19
. 13
. 13
. 09

. 09
. 07
. 15
. 09
. 08

. 07
. 07
. 05
. 06

.?o

. OB
. 07
1.5
. 27
. 13

. 09
. 09
. 06
. 06
. 16
. 15

>*E«N
WEAN COMCFN- SEDIMENT

4.7 .OB
4.S
4.7
4.7
4.3

4.1
4.1
4.1
4.7
4.7

4.5
4.1
4.1
4.1
4.1

3.9
3.9
6.1 ?
4.9
4.1

3.9
3.7
3.7
3.7
3.5

3.5
11 1
5.? 1
4.1
4.1

. 06
. 06
. 06
. 05

. 05
. 03
. 03
. 05
. 05

. 04
. 03
. 03
. 01
. 0?

. 0?
. 0?
. 56
. 1?
. OR

. OS
. 04
. 04
. 04
. 03

. 03
1.?
,P4
. 10
. 07
- -

TOTAL DISCHARGE FOR YEAR (CFS-DAYS)
TOTAL SUSPENDED-SEDIMENT OISCHAKGE FOR YEAR (TOMS)

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBEl C, CHEMICALLY DISPERSED] N, IN NATIVE WATERl P, PIPETl S, SlEVEi V, VISUAL-ACCUMULATION TUBEl W, IN DISTILLED WATER)

DATE

DEC 10 1969

JUN 18.....
JUL 9.....

WATER
TEM-

PERA-
TURE I
TIME l°CI

2230 3.0

0930
2115 18.0

JISCHARGE

ICFS)

199

21
30

CONCEN-
TRATION

IMG/L)

943

242
366

SEDIMENT
DISCHARGE

ITONS/DAY)

377
14
30

PARTICLE SIZE

PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED

. 002

42
61
52

. 004

54
79
65

. 008

67
90
78

. 016

80
96
89

. 031 .062

89 95
98 100
95 99

. 125 .250 .500 1.00 2.00

99 100

100

METHOD
OF
ANALY-
SIS

SCPW

SCBW
SCBW
SCBW

SUSQUEHANNA RIVER BASIN

01570100 CONODOGUINBT CREEK TRIBUTARY NO. 1 NEAR EJTOLA, PA.

LOCATION. Lat 40°17'27", long 76°59'38", Cumberland County, at gaging station on right bank, 720 ft upstream fr ridge on Stat

RAINAGE AREA. 0

>ERIOD OF RECORD.
Sediment record

. 77 sq ml.

Chemical analyses:
s: June 1969 to Septe

October 1969 to
raber 1970.

September 1970 (miscellaneous).

XTREMES. 1969-70:

and Decembe

DISCHARGE

Y (CFS)

. 06
. 18
. 10
. 09
. OH

. 08
. 07
. 09
. 07
. 07

. 07
. 07
. 08
. 08
. 08

. 09
. 08
. 07
. 07
0 .OB

1 .16
2 .09
3 .07
4 .07
5 .07

6 .07
7 .07
8 .07
Si .07
II .07
1 .07

Ti\L 2.54

MFAN

Y (CFS)

1 1.5
2. 1.1
3 .81
4 .66
5 .53

6 .47
7 .47
H .47
9 .47
0 .42

1 .37
2 .37
3 .37
4 .34
5 .33

6 .32
1 .32
8 .39
9 .36
'0 .33

>1 .30
>2 .2«
'3 .26
?4 .25
'5 .25

'6 .27
?7 .29
'« .31
'9 .98
JO 1.6
Jl 1.1

r.

OCTOBER

MFAN
rtlNCFN- SFDIMENT
TRATTON DISCHARGE
(M6/LI (TONS/DAY)

3 0
29 .02
H 0
6 0
6 0

6 0
6 0
6 0
6 0
6 0

5- 0
5 0
5 0
5 0
5 0

5 0
5 0
5 0
5 0
8 0

10 .01
5 0
5 0
4 0

4 n

4 0
4 0
4 0
4 0
3 0
3 0

. 03

JANUARY

MEAN
CONCFN- SEOIMFNT

(MR/I.) (TONS/HAY)
?n .0
10 .0
8 .0
5 .0
5 .0

5 .0
4 .0
4 .0
4 .0
4 0

4 0
4 f)
3 o
3 0
3 0

3 0
3 0
5 .01
5 0
5 0

5 0
4 0
4 0
4 0

4 n

4 0
5 0
6 .01
30 .15
20 .10
10 .03

MFAN

. 07
. 13
. 21
. 31
. 1?

. 1?
. 14
1.0
. 51
. 33

,?7
. 25
. 21
. 2?
. 19

. 16
. 16
. 14
. 5?
. 61

. 15
29
. 25
. ?3
.JO

. 19
. 16
. 16
. 15
. 14
"

7.79

NOVFMBFR DECEMBFP

MFAN MEAN
CONCEM- SFni«ENT "FAN CO>4CEN- SEFlIMENT

0 .141
0 .13 1
I .05 .13 1
1 .03 .11 I
0 .11 1

30 .11 1
10 0 .134
69 .IB .53 25
10 .01 .42 9
5 0 4.6 150

3 0 4.6 ?5
3 0 1.2 8
?. 0 .81 4
7 0 .66 2
4 0 .59 2

2 0 .53 ?.
2 0 .47
20 .42 1
29 .09 .42 1 6 .01 .42 1

4
30

0 .37 1
. 47 R
? 0 .17 6
2 0 .33 4
2 0 ,33 4

1 n .89 20
1 0 .59 5
10 .17 3
1 0 .13 2

1 (i .42 7
2.3 15

,S7 23.3(1

0
0
0
0
"

0
0
. 04

. 0]
4.?

. 11
. 01
. 01
0
0

0

_-

0
0
0

0
. 01
. 01
0
0

. 05
. 01
0
0
. 01
,?0

4.89

FEBRUARY MARCH

ICFS)
1.4
7.9
11
3.7

MEAN MEAN
CONCEM- SFD1MENT *E»N COMCFN- SEDIMENT

?0 .OH .90 7 .0
140 4.6 .96
94 3.? .95
20 .?0 1.1 2

. o
. 0
. !
?.2 10 .06 1.7 15 .0

1.7
1.5
1.4
1.3
1 1

6.4
3.2
? 3
1.6
1.5

1.?
1.1
1.2
? . ?
1.5

1.1
1.9
?. 5
2.3
2.0

1 .3
1.1
. 98
-_
_-

- -

10 .05 1.2 10 .0 10 .04 1.1 1
a .03 .93
8 .03 .«2
130 4.0 .73

30 .5? .68
12 .10 .77
s .06 .94
8 .03 .94
8 .03 .78

5 .m .64
5 .01 ,60
7 .02 .66
20 .12 1,1 1 ll) .04 1.9 ?

« .02 1.7
30 .15 1.9 1
20 .14 2.2
15 .09 1.5
10 .05 1.2

9 .03 1.3 1
9 .03 1.?
8 .0^ ,9i
l.fl
1.0
1.6 1

. 0
. 0
. 0
. 0

. 0
. 0
o
. 0
. 0

. o
. 0
. 0
. 0

.1

. 0
. 0
. 0
. 0
0

. o
0
. 0
o
. 0
. 0

SUSQUEHANNA RIVER BASIN

01570100 CONODOGUINET CREEK TRIBUTARY NO. 1 NEAR ENOLA, PA. Continued

SUSPFMOEn-SEPIMENT DISCHARGF. WATER YF4R OCTORFR 1969 TO SE°TEMRER 1970

MFJN

(CFSI

2.5
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6.4
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MFAN
rONCFN-

(Mr,/LI

SB
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StDlMENT

(TUNS/n»Y|

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MFiN CONCFN- SFIUMENT
DISfHAHGE THATION QlbCHdHGF
(CFSI (MB/I.) (TONS/n*YI

SCH NRGF

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MAY

MFAN
CONrFN-

(MS/LI

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AUGUST

MEAN
CONCFN-

(MB/LI

SEDIMENT

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SEDIMENT

(TOMS/DAYI

OISCHNRSF

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1.1
1.1
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. 45
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. 19
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. 1,8
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. 20

. 97
. 73
. B

. 1. n
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12.42

OIS E HN RSE

JUME

MEAN
CONCEN-

7
6
47
20
8

7
7
6
5
3

3
3
3
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2
2
107
5
4

59
15
9
6
5

64
91
10
4
4
"

- -

5FPTEM8FR

MEAN

TR^TION

SEDIMENT
DISCHARGE

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. 61
. 06
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2.30

SEnlMENT

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. 16 .03
. 03

TUT1L OISCHAhGF. fOR YE1H (CFS-l)»rS)
TOT4L BIJSPFNDEO-SEniMFNT DISCHAHSF FOR YEAR (TONS!

330.40
71.36

allj SUSQUEHANNA RIVER BASIN

01570300 CONODOGUINET CREEK TRIBUTARY NO. 3 AT ENOLA, PA.

LOCATION. Lat 40°18'05", long 76°56'57", Cumberland County, at gaging station on right bank at upstream side of culvert on Valley Road, 1 mile northwest of Enola and 2.3 miles upstream from mouth.

DRAINAGE AREA. 0.38 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1969 to September 1970 (miscellaneous).
Sediment records: April 1969 to September 1970.

EXTREMES. 1969-70:

Sediment discharge: Maximum daily, 44 tons Apr. 2; minimum daily, 0 ton on many days.

REMARKS. Chemical analysis in "Analyses of samples collected at miscellaneous sites in Pennsylvania."

SUSPFlMflED-SFniMFNT OISCHARGF, HATER YFAR OCTOBER 1969 TO SEPTEMBER 1970

OCTOBER NOVEMBER DECEMBER

MEAN MEAN MEAN
MfAN CONCF.N- SFDIMFNT "F«N CONCEN- SEDIMENT "EAN CONCFN- SEDIMENT

DISCHARGE TRATION DISCHjUGF niSCHARGE TRATION DISCHARGF DISCHARGE T»ATION DISCHARGF
DAY (CFS) (MG/L) (TONS/HAY) (CFS) (MG/L) (TOMS/DAY) (CFS) (MG/L) (TO*IS/DAY)

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. 39
. 38
. 06

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. OR
1.3

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4.9

3.2

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. '01
0
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. 30

6.98

SUSQUEHANNA RIVER BASIN

01570300 CONODOGUINET CREEK TRIBUTARY NO. 3 AT ENOLA, PA. Continued

MF,N

irFsi

. 62
. 43
. 36
. 10
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. 25
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. 27
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. 21
. 68
. 92
. 54

SUSPFNnEn-SEDTMFNT D

JANUARY

MFAN

(-ONCFN- SFOIMFNT

(Mn/L) (TONS/DAY)

14 .02
9 .01
B .01
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5 (1

5 0
4 0
3 0
1 0
2 0

1 0
1 0
2 0
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2 n

1 0
1 0
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3 0
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11 .H5
V .ni

ISCHARr.F, HAT!

wfflN

tCFSI

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A9
B. 0

4.1

l.B
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. 7?
,RB
1.6
. RB

. 63
1.4
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1.2
. 99

. 63
. 56
. 57
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- -

iR YEAR OCl

FEBRUARY

MEAN
CONCEM-

(MR/LI

IS
137
6B
30
IB

12
B
B
B
95

70
15
10
B
B

6
10
10
43
8

5
40
35
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7
5
5

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rOREH 1969 TO S

SEOIMEMT

nONS/D«Y>

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E'TEM«ER 1Q70

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1.0
1.5

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. 97
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MAKCH

MEAN

:ONCEN-

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MFAN

(-ONCFN- StUIWENT
TKATION DISCHARGE

ME.N

MEAN
COMCFM- SEOIMENT

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2.3
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. 63

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SUSQUEHANNA RIVER BASIN

01570300 CONODOGUINET CREEK TRIBUTARY NO. 3 AT ENOLA, PA. Continued

SUSPFNrtEO 5F|lTMFNT 0!5CHft^C»Fi WATFR YFAR (1CTORFR 1969 TO SFPTEM°EW 1970

JULY AIJOUST SFPTFMBFR

MF-AN MEAN MEAN
MFAN CONCFN- SkUlMF.NT MFAN CONCFN- SfHIMENT "FUN CONCFM- SEniMF.NT

1SCHAMGE TRATTON OTSCHAWGF PT^THARGF TRATION D1SCHARGF DISCHAP^F TRftTTOM DISCHARTtF (rFsi (wr./L) (TONS/HAY) irrsi IMO/D (TOMS/U«Y) ICFSI IMG/D (TONS/DAY)
. 07 5 0 .15 4(1 .02 .11 R 0
6.0 1JO 6.1 .04 6 (I .01 6 0
. 33 IB .0? .05 4 n .02 15 0

. 24 15 .01 .05 4 (1 .01 13 0

. 0?
. 0?
. 02
. 01
. 02

. 01
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. 01

SUSQUEHANKA RIVER BASIN

01570300 COHDOGUINET CREEK TRIBURARY NO. 3 AT ENOLA, PA. Continued

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
(METHODS OF ANALYSIS!- B, BOTTOM WITHDRAWAL TUBEl C, CHEMICALLY DISPERSED) N, IN NATIVE WATER) P, PIPET) S, Vi VISUAL-ACCUMULATION TUBE) W, IN DISTILLED WATER)

WATER PARTICLE SIZE
TEM- SUSPENDED

PERA- CONCEN- SEDIMENT PERCENT FINER THAN THE SIZE (,IN MILLIMETERS) INDICATED
TURE DISCHARGE TRATION DISCHARGE

DATE TIME (°C) (CFS) (MG/L) (TONS/DAY) .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00

APR 2 1970 1320 48 698 46 59 74 85 90 95 96 99 100

°" SUSQUEHANNA RIVER BASIN

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA.

LOCATION. Lat 40°15'10", long 76°52'27", Dauphin County, at Walnut Street Bridge in Harrisburg, 3,700 (t upstream from gaging station.
DRAINAGE AREA. 24,100 sq mi, approximately.
PERIOD OF RECORD. Chemical analyses: October 1944 to September 1946 (composites of daily samples collected from east channel station 1180), October 1944 to September 1949 (cross-section samples collected one to three times monthly), November 1950 to January 1953, March to July 1956, October 1956 to September 1970 (cross-section samples collected monthly).
Water temperatures: October 1944 to September 1969.
Sediment records: October 1963 to September 1967 (daily), October 1967 to September 1968 (partial records). April to September 1970 (daily).

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CROSS
SECTION
LOC-

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80
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20
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80
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20

DIS-
CHARGE

(CFS)

_

15800

22900

32000

143000

- -

119000

- -

30700

17200

"

_

_

9650

6650

DIS-

SOLVED

CIUM

(CA)
(MG/L)

57
43
41
43
62

24
22
17
15
22
33

27
22
17
16
20
3*

26
26
20
21
22
42
16
14
13
1*
16
24

22
19
16
12
19
30

29
26
16
16
24
61

37
27
22
21
21
53

27
23
23
29
63

50
39
29
32
30
50

60
47
36
36
34
66

DIS-

SOLVED
MAG-

SIUM

(MG)
(MG/L)

2
1
1
1
1

1

1

1

1

2
1
1

2
1
1
1
1
1

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5
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6

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. 3
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. 6

DIS-

SOLVED
SODIUM

POTAS-
SIUM

(MG/L)

16
12
16
25
11

5.5
7.8
4.8
3.0
5.1
8.9

1.6
6.2
6.2
4.1
9.4
12

6.0
5.5
4.1
4.4
5.5
10
2.3
5.1
5.1
1.6
5.8
2.8

2.8
2.7
2.8
3.0
. 5
. 5

. 9
1.4
2.3
8.7
11
. 7

7.1
2.8

5.8

19

14
16
9.4
20
4.6

8.7
6.0
11
13
23
38

19

14
15
16
9.7

BONATE

(HC03)
(MG/L)

42
47
50
80
133
190

27
40
24
14
43
94

21
35
22
18
48
96

22
37
9
26
57
118
17
22
18
9
32
54

29
35
20
5
37
69

23
37
15
15
60
159

24
26

61
60
179

35
56
41
37
102
183

30
32
36
98
100
175

18
34
24
66
40
198

BIS-

SULFATE

(S04)
(MG/L)

235
194
126
94
59
26

66
41
37
39
35
25

73
44
41
40
32
24

83
54
61
49
25
22
35
26
27
36
28
22

46
28
35
43
26
22

89

46
27
25

128
70
36
20

23

62
64
63
33
24

196
127
89
41
33
22

226
164
131
94
116
28

DIS-

SOLVED

RIDE

(CD
(MG/L)

20
20
16
19
24
26

9.6
11
7.5
6.0
8.9
13

8.6
8.9
7.8
6.9
10
17

9.9
11
8.0
7.5
8.6
13
6.5
8.3
7.1
5.2
6.6
8.5

6.8
6.3
5.1
3.1
4.9
7.0

6.6
6.4
4.2
3.7
6.7
14

10
8.5
6.5
7.0
20°

10
12
11
7.3
14
17

15
12
9.1
9.9
24
52

18
16
10
11
10
23

SUSQUEHANNA RIVER BASIN

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA. Continued

EXTREMES. 1969-70 :

Sediment discharge: Maximum daily, 349,

Sediment concentrations: Maximum daily, August and September 1964.
Sediment discharge: Maximum daily, 480, August and September 1964.

HARD-
NITRATE NESS

(N03) (CAiMG)
DATE (MG/L) (MG/L)

DC .
2
2
2
2
2
2
NO
2
2
2
2
2
2
DE
2
2
2
2
2
2
MA
0
0
0
0
0
0
3
3
3
3
3
3
AP
2
2
2
2
2
2
MA
2
2
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JU
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JU
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AU
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2
2
SE

I
2
2
2

3.3 283
3.4 237
1.2 169
. 9 156
2.1 153
7.0 200

6.2 97
41 98
3.7 61
2.6 56
3.7 76
8.2 109

6.0 107
5.2 78
3.7 61
2.8 60
5.2 71
11 110

"... 5.6 110
5.2 94
4.0 77
4.2 77
6.5 78
15 132
6.3 60
5.6 50
5.2 46
3.3 52
5.7 57
7.0 79

4.3 79
3.1 63
2.4 56
2.0 49
3.4 65
7.0 94

3.9 122
3.3 91
1.9 59
1.7 48
4.0 66
13 185
E
3.7 154
2.3 103
3.6 76
4.3 72
4.7 71
12 167
Y
2.7 156
100
. 7 86
. 9 87
1.5 101
11 198

1.9 232
2.1 164
1.6 114
3.8 112
3.8 104
8.5 165

. 4 249
. 2 179
. . . . 4 140
. 7 136
8.4 135
8.7 210

000 tons

540 mg/1

000 tons

NON-
CAR-
BONATE
HARD-
NESS

(MG/L)

249
198
128
91
44
45

75
45
42
45
41
32

90
49
43
45
31
31

92
63
69
56
31
32
46
32
31
44
31
34

55
35
40
45
35
38

103
61
46
36
17
55

135
81
38
22
22
20

118
54
48
56
11
48

208
138
84
31
22
2

120
82
102
48

Ap?.' 4; 'minimum da

Apr. 23, 1964; mi

Mar. 12, 1964; min

SPECI-
FIC
COND-
UCTANCE PH

MHOS) (UNITS)

630 7.5
539 7.8
413 7.9
398 8.2
398 8.5
438 8.4

247 7.6
207 7.8
161 7.5
146 7.2
192 7.2
261 8.0

250 7.2
204 7.5
172 7.6
157 7.4
203 7.9
286 8.1

280 7.5
234 7.2
197 7.3
193 7.6
189 7.8
299 8.4
151 7.3
141 6.9
131 7.3
136 7.0
147 7.5
178 7.3

184 7.1
156 7.3
137 7.2
131 7.4
149 7.1
198 7.4

276 7.2
209 7.2
152 7.3
142 6.4
184 6.6
357 7.1

381 6.9
259 6.8
194 7.3
182 7.4
180 7.4
362 7.9

366 9.2
258 8.2
225 8.7
224 8.0
245 9.1
380 8.2

468 6.8
334 7.4
264 7.3
266 7.9
257 7.9
334 8.3

374 8.0
346 8.2
357 8.3
437 8.3

ily, 88 tons

nimum daily,

imum daily,

TEMP-

(DEG C)

7.0
8.0
8.0
7.0
7.0
7.0

5.0
4.0
4.0
4.0
5.0
4.0

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5.0

14.0
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16.0

20.0
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20.0
20.0
20.0
20.5

3.0

24.5
23.5
- -

-

22.0
22.0
22.0

21.0
21.0

27.5

27.5
27.5

27.5

Aug. 18

0 mg/1

no flow

COLOR

(PLAT-
INUM-

UNITS)

3
3
3
3
4
3

2
3
I
3
1
3

0
3
2
3
3
3

1
1
0
2
3
1
2
2
2
4
3
1

1
1
I
0
0
3

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1
1
3
4

4
3
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4
3

3
3
3
3
3
3

2
3
3
6
3
3

2

2
8
2
2

any days during

any days during

SUSQUEHANNA RIVER BASIN

01570500 SUSQUESANNA RIVER AT HARHISBURG, PA. Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

flY

1
2
3
4
5

f,
7
8
9
10

11
12
13
14
15

1*
17
1 8
19
20

21
22
23
24

as

2*
27
2H
29
30
31

CROSS TOTAL
SECTION PHOS- DIS
LOC- PHORUS SOLVED

DATE (FT) (M6/L) (MG/L)

JULY
29... 600 -- 8.2
29... 2900 7.8
AUG.
27... 600 7.4
27... 2900 7.4
SEPT.
23... 600 .03 10.2
23... 2900 .02 10.0

SUSPENDED-SEDIMENT DISCHARGE

SPRIL

"FAN
MFAN CONCEN- SEDIMENT "FAN

(CFS) (MP/L) (TONS/nAV)

04000 so AOOO
27000 240 2300
81000 380 2 ROOO
23000 400 3 9000
49000 260 1 5000

91000 140 2200
58000 100 2700
33000 73 6200
20000 48 5600
31000 70 4HOO

64r>oo 160 oooo
63000 145 3800
37000 95 35100
17000 50 15800
?1000 4" 13100

12BOOO 80 27600

121000 60 I96on
116000 .in 94on
107000 25 7220
98400 23 6110

92500 1R 4SHO
83200 14 3140
73600 13 25RO
68700 12 2?30
72200 2? 4290

100000 BO <MSOO
119000 8ft 27600
103000 35 9730
84300 2" 455"
70200 1R 341n <

(CFS)

i4i nn
i59no
31900
»97PO
. 5500

18PO

38ino
3S?HO
32400

n40n

>88HO

'ftRno
>'>6{)0
45no
3300

>27l'fl
h400
h800
01(10
8HIIO

lino
4400
JftRlO
J2400
0000

8500

R500 t"7nn
l8f)flO
1100
ssoo

FECAL

FORM

(COL.

100 ML)

20
9

19
36

1
12

, APRIL

MAY

MFAN
CONCEN-

(MG/L)

15
20
30
40
25

20
1R
15
13
15

IS
15
14
12
10

13
25
35
60
100

5n.in
24
20
19

18
15
2R
5B
43
27

COLI-

(COL- ORGANIC
ONIES CARBON

100 ML) IMG/L)

210
71

110
167

6 10
15 5.0

1969 TO SEPTEMBER

SEQUENT

(TONS/n*Y)

2600
3020
4370
S37H
3070

2260
1850
1430
1140
1230

1170
1090
968
794
f.29

797

17Bfl i4Bn
B600
15900

717H
3hOO
23RO
1750

1541)

1391)
1150
3080

761(1
5000
2590

METHY-

LENE
BLUE
ACTIVE
SUB-

STANCE

(MG/L)

- -

~

. 01
. 01

1970

MfflN

(CFS)

29200
25900
21600
21800
20500

19400
20300
20300
19000
17600

15500
14500
13800
1?HOO
12400

11700
11400
12400
18200
22000

22400
20100
18000
16BOO
14500

11500
11600
15100
15700
11800

JUNF

MEON
COMCFN- SEDIMENT

(M5/L) (TON

7 1
2
1
0
2

10
g
11
9

B
10
ft
7
5

R
7
18
46 2
65 3

58 3
4B 3
40 1
30 1
15

10
12

5/DAV)

3
0
B
ft

1
4
9
6
2

3
9
9
4
6

5
1
0
60
60

10
00
40
60
B7

65
4 1
25 10?0
25 1060
IB 671

. .

TOT«I 3956100

SUSQUEHANNA RIVER BASIN

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA. Continued

SUSPENDED-SEDIMENT DISCHARGE, APRIL 1969 TO SEPTEMBER 1970

AUGUST SEPTEM8FO

MFAN
DISCHARGE

t (CFS)

12100
11900
11100
10900
10100

10300
9POO
9350
11700
26600

30200
24700
21300
17f.OO
11.700

14200
15100
16800
16400
15700

16400
17400
16H110
16600
18200

16200
14000

12100 loeoo
0 9BOO
1 10100

MEAN
CONCEN-

TRATION («r-./L)
12
IS
10
12
10

13
15
11
15
105

135
115
93
75
58

40
25
20
\5
12

\8
15
20
30
40

24
21
IS
17
12
IS

SEDIMENT "F«N

(TONS/HAY) irrs)

39
4H
30
35
27

36 1
39 1
27
47
7541

11000
767"
51RO
3560
2300

1530
1020
907
664
509

797
705

»f)7
1340
1970 1

1050 1
794
490
496
31fl
491

ino
900
KOO
000
ftOO

700
800
650
050
300

PBO
3?0
inn
710
2RO

o?o
900
430

1(10
320

320
460
HHO
160
100

300
SOO
600
460
040
400

MEAN
CONCEN-

(MG/L)

26
35
32
27
24

20
19
16
11
9

1?
11
14
13
10

12
B
ft
9
10

R
20
1H

20
25

20
20
12
15
17
13

SErtTMENT

(TONS/DAY)

849

14)0
1370
1020
S?9

632
554
417
269
202

?55
217
2
2
1

1
1

\
1

1
4
3
4
6

5
5
?

1
8
0

5
7
R

^

4

5
3
3
\
2

6
3
9
302
323
225

«E»N

(CFS)

6150
9400
8600
10300
12100

10600
9650
8600
9500
8900

7600
7040
6520
6150
S780

5320
5430
5540
6150
6280

6020

6]50
650
160
BBo

180
020
880
600
320
- -

MEAN
CONCEN-

(MG/L)

15
47
26
35
30

24
22
20
22
25

21
17
18
21
19

14
19
16
22
20

16
15
20
2fl
26

20
16
14
14
14
"

SEDIMENT

(TONS/DAY)

249
1190
604
973
9BO

687
573
464
S64
601

431
323
317
349
297

201
?79
239
365
339

260
249
359
617
553

388
346
298
?87
277

TOTAL 46H950

TOTAL DISCHARGE FOR PERIOD (CFS-DAYS)
TOTAL SUSPENDED-SEDIMENT DISCHARGE FOR PERIOD (TONS)

PARTICLE-SI7E DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (METHODS OF ANALYSIS! B, BOTTOM WITHDRAWAL TUBEl C, CHEMICALLY DISPERSED! N, IN NATIVE WATERl P, PIPETl S, SIEVEl V, VISUAL-ACCUMULATION TUBEl W, IN DISTILLED WATER)

WATER
TEM-

PERA- CONCEN- SEDIMENT
TURE DISCHARGE TRATION DISCHARGE

TIME (°C> (CFS) (MG/L) (TONS/DAY) .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00

PARTICLE

PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED

000 100

S1B SUSQUEHANNA RIVER BASIN

01576500 CONESTOGA CREEK AT LANCASTER, PA.

LOCATION.--La t 40°03'00", long 76 C 16'40", Lancaster County, at raw-water Intake In Lancaster, 500 ft upstream fro gaging station at Penn-Central Railroad Bridge and 0.8 mile east of Lancaster.

DRAINAGE AREA. 324 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1947 to September 1950, October 1958 to September 1970. Water temperatures: October 1947 to September 1950, October 1958 to September 1970.
Sediment records: October 1961 to September 1964 (miscellaneous).

EXTREMES. Period of record:
Dissolved solids (1947-49): Maximum, 276 mg/1 July 11-20, 1948; minimum, 156 mg/1 Apr. 11-20, 1948. Hardness (1947-50): Maximum, 193 mg/1 Sept. 1-10, 1948; minimum, 109 mg/1 May 21-31, 1950.
Specific conductance: Maximum dally, 592 microrabos May 8, 1969; minimum dally, 142 mlcromhos Jan. 6, 1949.

winter peri

OCT.
0 1 ...
NOV.
03...
DEC.
01...
JAN.
01...
FEB.
01...
IB...
MAN.
01...
APH.
06...

MAY

(i l ...
JUNE
14...
JULY
03...
AUG.
01...
StP.
01...

DATE

OCT.
01...
NOV.
03...
DEC.
01...

JAN.
01...
FE8.
01...
18...

MAK.
01...

06...
MAY
01...
JUNE

JULY
03...
AUG.
01...
SEP.
01...

lods.

C

DIS-
CHARGE

130

150

114

669

317
6A9

520

1190

614

341

__

- -

159

DIS-
SOLVED
FLUO-
RIUE

. 1

- -

. 1

. 1

. 2
«

. 2

. 3

. 0

. -

- -

,3

DIS-
SOLVED
SILICA

(SI02I

7.3

_«

7.7

10

11

B.I

- -

7.0

9.2

_ .

. -

8.S

OIS
SOLVED
NITNATE

(N03)

14

26

27

30

2*
42

31

35

34

36

31

32

34

DIS-
SOLVED
CAL-
CIUM

(CA)

65

63

59

60

47
53

56

50

52

60

62

63

64

DIS-
SOLVED
ORTHO
PHOS-
PHATE

(P04)

- -

- -

. -

- -

. 06

. .

. 06

. 53

«

- -

. B2

DIS-

SOLVED MAG-
NE-
SI UM

(M6)

15

16

14

14

12
12

18

13

17

16

16

17

16

DIS-
SOLVED
SOLIDS

(HESI-
DUE AT

180 C)

?S7

- -

2 *

283

273
- -

264

. .

257

272

. -

- -

2B6

DIS-
SOLVED
SOOIUM

(NA)

7.8

- -

B.3

13

14
- -

7.3

- -

7.2

8.7

»

- -

8.9

HARO-
MESS

(CAiMG)

224

223

205

207

167
1B2

214

179

200

216

221

227

226

DIS-
SOLVED

SOOIUM PLUS
POTAS-
SIUM

- -

14

- -

- -

»

24

- -

8.7

- _

- -

14

13

"

NON- CAR-
BONATE
HARD-
NESS

65

49

79

64
47

B3

69

75

72

58

62

64

DIS-

SOLVED PO-
TAS-
SIUM
(K)

3.3

«

3.5

3.5

3.7
«

2.7

- -

2.6

2.B

- -

- -

4.0

SPE-
CIFIC
CON-
DUCT-
AMCE

(MICRO-

458

436

4S4

416
428

416

382

392

457

466

446

451

3TCA«-
S9NATE

(HC03)

194

212

176

157

126
165

159

134

152

16B

197

197

197

PM

8.2

B.3

7.8

7.7
B.2

8.2

7.9

8.2

8.5

8.5

B.5

8.3

DIS-
SOLVED
SULFATE

(SOft)

38

32

35

38

32
36

34

36

32

35

35

34

34

TEMPER-
ATURE

(DES C)

16.0

12.0

2.0

2.0
5.0

4.0

. .

- -

21.0

21.0

22.0

22.9

DIS-
SOLVED
CHLO-
RIDE

(CD

16

IB

19

26

32
19

19

IB

17

17

19

20

19

COLOR

(PLAT-
INUM-

UNITS)

2

3

2

0

0
6

2

3

3

3

4

7

7

SUSQUEHANKA RIVER BASIN

01576500 CONESTOGA CREEK AT LANCASTER, PA. Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (ONCE-DAILY MEASUREMENT)

. . . . 406

458

12 457
05 ... ... 44fl

07 ... 415 446
07 414 428 .»

442 410 .-* ».
411

462 390 453

467 398

471 416

TEMPERATURE (°C) OF WATER, k
(ONCE-

OCT NOV DEC J»N

2.0

12.0

17.0 2.0

17.0 - 3. 1.0

11.0 3.
11.0 4.

1B.O 11.0
18.0 3.0

18.0
1R.O 6.0

7.0 1.0

15.0 7.0 1.0

311 417

241 326

309 382 39» - 471

413 463

469

425 472

361 472

374 352

420 3S7 «. 441 -.- 468

364 3?B 467

ATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DAILY MEASUREMENT)

. 0 6.0

. 0 B.O 9.0 14.0 .-- 81.0

21.0
81.0

. 0 82.0
. 0

in.O 82.0

15.0 5.0 3.0 5.0 6.0

10.0 8.0

9.0 2.0

22.

5.0 --- 8?.

475

475

472

475

468

442
472

46B
472
481
468

28.0

82.0

28.0

22.0

22.0

22.0

22.0

23.0

22.0

23.0
28.0
23.0

22.0

46*

454

4* 1

468
460

466

451

451

458
458
458
45?

. . .

S0SQUEHANNA RIVER BASIN

01576990 SUSQUEHANNA RIVER AT HOLTWOOD, PA.

- 26,740 sq mi.

ds of discharge are obtained from Safe Harbor Water Power Corporation for Susquehar.ua River at Saf

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS-

ois- nis- SOLVED ois-
DIS- SOLVED SOLVED MAC,- DIS- DIS- SOLVED
bOLVEU MAN- CAL- NE- SOLVED HIC«R- SOLVED CHLD-
DIS- IHON GANESE CILJM SILJM SUDIU* BONnTE SULFATE RIDE
CHARGE (FE) (MHI (CA) (MO) (NA) (HC03) (S04) (CD

... 4600 30 10 49

. . . 167000 75 240 15

... 7700 4bU 110 43

0 1 S- 0 1 S-
bOLVEU SOLVED
DIS URTHO SOLIUS

SOLVED PHOb- (HESI- HAHD-
NITHATE, PHATE JUt AT NESS
(NU3) (P04I 180 C) (CA.MG)

T.
. . . - .08 316 197

.

4.6 .29 84 54

!.. -- .07 2b8 16b

F
TOTAL C
PHOS- OIS- F
PHORUS SOLVED 1

(P) OXYOE.N

UCT.
2/... B.4
NOV.
24... 12.4
UEC.
Ib... - 13-6

27!.. 13.9

O/!.. 12'*
24... l0 ' 2
MAY
27... 8-4
JULY
30... 6.4
AUG.
17... 4-0
bEP.

18 69 160 20

3.9 .. 26 33 6.0

14 13 63 113 15

SPE-
NON- CIFIC
CAM- CON- COLOR

HONATt DUC1- (PLAT-
HARD- ANCE PH TEMPER- INUM-

NESS (MICRO- ATURE COdALT

140 497 7.2 14.0 4

32 138 7.1 5.0 5

114 432 6.7 -- 12

IMME- MfTHY-
CAL OIATE LENE
LI- COLI- TOTAL BLUE
RM FORM ORGANIC AC1IVE

OL. (COL. CARBON SUK-
ER PER (C) bTaNCE

3 2.0 .0

4300

6600

77b

3200
1SOO

660

U 80

BUSH RIVER BASIN

01581500 WNU1I RUN AT BEL AIR, MD.

Highway 22, 1.0 mile east of Bel Air, and 8.5 miles upstream from mouth.

IN AGE AREA. 8.52 sq mi.

HOD OF RECORD. Chemical analyses: July 1969 to September 1970.

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER

OIS-

ALUM- nis- INUM
CHARGE (ALI

OCT.
21... 2.6 100

SOLVED

(FEI

110

OIS-

MAN-

(MNI

470

DIS-

CAO-

(COI

0

DIS-
SOLVED

(CUI

6

DIS-
S1LVFO

(PBI

0

1970

01 S-
SDLVEO

(ZNI

160

BICAB- CAR-

(HC03I (C03)

41 o

DIS-
DIS
CIS- SOLV

SUIFATE RIDE
(S04I (CLI

OCT.
21... 17 11

TOTAL
NCN-
FILT-
RABLE
RESIDUE

OCT.
21... 47

DATE

DIS-

RIDF

(Fl

SOLVED

DUE
180

2

NON-
CAR- COLOR

AT NESS HARD- INUM

114 54

810-
CHEM- TOTAL
ICAL PHOS-
OXYGEN PHORUS
DEMAND

4.8

TIME

(PI

. 21

DIS-
CHARGE

(CFSI

CYANIDE

(CNI

. 00

TEMPER-
ATURE

(OEG Cl

PHFNOLS

6

DIS-
SOLVED
OXYGEN
(MG/LI

19

DIS-
SOLVED

AS
U-NAT.

<. 1

PH

(UNITS 1

BID- (THRES-

60

SUS-
PENDED

AS
U-NAT.

. 7

SPECI-
FIC
COND-
UCTANCE

(MICRO-
MHOS 1

Ul NUMBER

62 2

OIS- SUS-
SOLVFD PFNflEO

AS AS
CS-137 CS-U7

7.9 1.3

FFCAL
COLI-
FORM

(COL.
PER

loo MLI

TOTAL
CHRO-
MI UM

(CR)
(UG/L)

3

METHY-
LENE
BLUE

SUB-

(MG/L)

. 10

JULY, 1969
14...
AUG.
25...

SEP.
17...
OCT.
21...
NOV.
25...
DEC.
16...
JAN. , 1'
13...
FEB.
10...
MAR.
19...
APR.
15...
MAY
18...
JUNE
IP...
JULY
09...
27...
AUG.

SEP.
29...

0830

1239

1000

1750

0850

1439
970
1445

1356

1005

0930

1454

1437

1039
1530

0945

B RESULTS BASED

1.2

1.2

1.5

2.6

2.4

4.2

5.6

65

9.5

80

56

6.0
3.3

2.2

21.0

26.0

19.0

15.5

3.0

3.5

. 0

4.0

3.5

6.5

22.5

22.0
27.0

12.5

ON COLONY COUNT

7.6

14.4

10. 1

8.9

11.4

12.6

13.2

12.0

13.7

11.2

B.;

9.8
11.7

9.4

6.9

8.3

6. 6

6.4

7.5

7.4

7.6

8.0

7.K

7.?

7.0

S.2
8.5

7.3

180

170

190

150

ISO

250

250

120

220

110

120

140
170

170

630

115

360

89000

B5700

8B

360

2200

4»0

3100

18000

- -

380

3100

OUTSIDE THE ACCEPTABLE RANGE.

522
GUNPOWDER RIVER BASIN

01585100 WHITEHARSH RUN AT WHITE HARSH, MD.

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

DRAINAGE AREA. 7.61 sq ml.

PERIOD OF RECORD. Chemical analyses: July 1969 to September 1970.

CHEMICAL ANALYSESi JULY 1969 TO SEPTEMBER 1970

DI-S-
SDLVED

OIS- INUM

CHARGE (AL)

OCT.
21... 2.6 100

DIS-

IRDN

(FE)

1DD

DIS- DIS-
SOLVED SOLVED

(MN) (CO)

44D 0

OIS-
DCS- DCS- SOLVED

SULFATE RIDE

(S04) (CLI

XT.
21... IB 21

TOTAL
NDN-

RABLE
RESIDUE

OCT.
21... 248

DATE

DIS- DIS-

(6UI (PRI

3 11

DIS-

(ZN)

71

(HC03) (CDS)

S2 0

NON-
CAR- COLOR

RIDE DUE AT NESS HSRD- INUM- BID- (THRES-
(Fl

BIO-

ICAL
OXYGEN
DEMAND

5.1

TIME

1 180 Cl (CA,

. 3 124

PHOS-
PHORUS CYANIDE

(PI (CN)

. 20 .00

D.IS- TEMPER-
CHARGE ATURE

ICFS) (DEG Cl

MGI NESS CO!

64 21

DIS-

GROSS

PHENOLS AS

1 .3

DIS-
SOLVED PH
OXYGEN

(MG/LI (UNITS)

SALT ITY HOLD

40

SUS-

GROSS

AS

7.0

SPECI-
FIC
COND-
UCTANCE

(MICRO-
MHOS)

150 0

DIS- SUS-

GROSS GOOSS

AS IS

B.8 8.9

FECAL
COLI-
FORM

(COL.
PER

100 ML)

TOTAL

MIUM

ICR)
(UG/L)

9

METHY-
LENE
BLUE

SUB-

STANCE

(M5/L)

. 20

JULY, 1969
14...
AUG.
25...
SEP.
IT...
OCT.
21...
NOV.

DEC.
16...
JAN., 19
13...
FEB.
10...
MAR.
19...
APR.
15...
MAY
IB...
JUNE
IB...
JULY
09...
27...
AUG.

1030

133B

0845

1600

1338
TD
1607

1310

1111

0820

1408

1346

0933
1424

1.0 25.0

. 54 31.0

1.0 20. 0

2.6 IB. 5

3.8 3.0

2.0 .0

54 4.0

T.I 4.0

71 7.0

3.6 24.0

16 27. 0

10 22.5
l.B 34.5

9.2 6.7

9.0

5.9' 6.6

9.0 6.8

12.5 7.1

12.4 7.1

12.1 7.6

12.2 7.6

11.2 7.2

7.9 7.2

7.4 7.2

7. 3 6. 7
8.5

225

220

235

220

420

B40

240

430

160

240

19D

230
210

4900

B6T

410

B4300

600

440

1600

T8D

24DO

23DO

B31000

130

,.. 0850 3.0 12.0

RESULTS BASED DN COLONY COUNT

9.8 7.5 200 BOO

OUTSIDE THE ACCEPTABLE RANGE.

PATAPSCO RIVER BASIN 521

01587500 SOUTH BRANCH PATAPSCO RIVER AT HENRYTON, HD.

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 south-east of Sykesville.

DRAINAGE AREA. 64.4 sq mi.

PERIOD OF RECORD. Chemical analyses: November 1965 to September 1970.

DIS-
CHARGE

DEC.
IB... 29
FEB.
12... 1D6
MAR.
12... 51
»PR.
2<.... 122
JUNE
to... 42
JULY
17... 33

D1S-

SULFATE
I 5041

DEC.
18... 8.6
FEB.
I?... 13
MAR.
I?... 8.0
APR.
24... 9.4
JUNE
10... 5.8
JULY
17... 7.8

DIS-
SOLVED
SILICA
IS 1021

10

6.1

6.5

4.0

11

7.7

DIS-
SOLVED

RIDE

(CLI

7.5

8.5

7.5

7.2

6.8

7. B

IPON
IFEI

290

150

170

330

460

DIS-
SOLVED

RIDE

(Fl

. 1

. 1

. 1

. 1

. I

. 1

DIS-
DIS- SOLVED

GANESE CIUW SIUM

IMNI (C4I (MSI

70 8.4 2.8

40 8.5 2.9

*0 7.3 2.7

7.8 ?.8

100 8.1 2.7

60 10 2.9

DIS-
SOLVED
DIS_ SOLIDS

NITRATE CQNSTI- NESS
(N03I TUENTSI (CA.MGI

6.1 62 33

8.4 64 33

7.1 55 29

5.6 54 31

6.8 61 31

6.6 66 37

DIS-
SOLVED
DIS- PO-

S01IUM SIUM

(NA) (Kl

*.7 2.0

4.8 2.2

4.5 1.3

4.1 1.5

4.6 l.B

4.6 2.5

«40N- SPEC1-
CAR- FIC

HARD- UCTANCE

NESS (MICRO-

12 100

IB 108

12 94

13 86

9 98

11 119

BONATE

(HCP3I

25

18

21

2?

27

32

PH

(UNITSI

7.1

6.8

6.7

7.4

7.1

6. B

BON4TE

(CQ3I

0

0

0

0

0

0

COLOR

(PLAT-
INUM-
COBALT
UNITS 1

0

3

1

3

0

I

PATAPSCO RIVER BASIN

01589000 PATAPSCO RIVER AT HOLLOFIELD, MD.

LOCATION. Lat 39°18'36", long 76°47'39", Howard County, at gaging station on highway bridge at Hollofleld,

'1RAINAGE UREA. 285 sq mi.

PERIOD OF RECORD. Chemical an

DIS-
SOLVED
ALUM-
DIS- 1 NUM

CHARGE (411

OCT.
09,.. 40 100

DIS

ilyses: July 1969 to Septe

DIS- DIS-
DIS- SOLVED SOLVED
SOLVED MAN- C AD-

(FEI (MNI (CD)

170 290 1

nis-

DIS- SOLVED
DIS- SOLVED SOLVFO SOLIDS

(S04I (CD

OCT.
00... 0.1 11

TOTAL
NON-
FILT-
R4BLE
RESIDUE

OCT.
31... &

(Fl 1RO Cl (CA,M

. 2 92

810-
CHEM- TOTAL

nber 1970.

01 S- DIS- DIS-
SOLVED SOLVED SOLVED

(CUI (P8I (ZNI

14 2 71

NON-

BICAR- CAR-

(HC03I (C03I

53 D

C4R- COLOR

67 24 5

DIS- SUS-
SOLVED PFNDED

TXYGEN PHORUS CY4NIOE PHENOLS AS 45

DF1AND (PI (CN!

1.3 .11 .00

JULY, 1969
IS...
AUG.
27...
SE".
17...
OCT.
09...

NOV.
25...
DEC.
16...
J4N., 197
13...
FEB.
10...
M R.
fl...
& R.
5...
M Y
8...
JUNE

in...
JULY
27...
4UG.
20...
SEP.
29...

0945 26 24.0

1010 26 20.0

1325 35 23.0

1340 40 19. 0

1217 40 4.5

0925 78 2.0
0
1015 73 .0

0935 974 3.5

1219 95 3.0

1419 628 9.0

0950 174 14.0

0945 138 20. D

1155 53 26.0

0925 11R 22.0

1314 29 17.0

U-NAT. U-NAT.

6 <. 1 .3

SPECI-
FIC
DIS- COND-

5.0 6. 9 150

7.2 7.1 145

9.6 6.7 100

10.2 6.8 140

12.6 7.2 130

12.6 7.4 160

13.3 7.4 140

12.8 7.9 130

13.3 8.1 13D

11.4 7.4 110

8.9 6.7 130

7. 9 7. 4 1 40

9.1 7.0 130

8.3 7.2 130

10.4 7.6 130

TUI NUMBER)

6 0

OIS- SUS-
SOLVEO PFNOED

45 4S
CS-137 CS-137

4.9 1.1

FECAL
COLI-
FORM

(COL.
PER

1600

160

10D

440

12D

540

B1200

5200

390

B 13000

B130DO

24000

1000

2400

150

TOTAL
CHRO-

(CR)

0

METHY-
LENE
BLUE
ACTIVE
SUB-
STANCE

(MG/LI

. 1

B RESULTS BASED ON COLONY COUNT OUTSIDE THE ACCEPTABLE RANGE.

PATAPSOO RIVER BASIN

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 BouK

DRAINAGE AREA. 2.47 sq mi.

PERIOD OF RECORD. Chemical analyses: July 1969 to September 1970.

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

nis-
CHARGE

DATE (CFSI

DIS-
SOLVED

INUM

(AL)

OIS-

(FE>

DIS-
SOLVED

(MN>

DIS-
SOLVED

(CDI

DIS-

(CUI

DIS-

(P8I

OIS-

(ZNI (HCD3I

BONATE

(C03I

TOTAL

MIUM

(CR)

OIS-

SULFATE

(S04I

OIS-
SOLVFD

RIDE

(CLI

DIS-
SOLVED

RIDE

IF)

DIS-
SOLVED
SOLIDS

DUE AT NFSS

NON-
CAR- COLOR

HARD- INUM- 810-

METHY-
LENE
BLUE
ODOR ACTIVE

(THRES- SUB-
HOLD STANCE

NUMBER) (MG/L)

OCT.
09. ..
23...

TOTAL
NON-
FILT-

RES IOUE

16

BIO-
CHEM-

OXYGEN
DEMAND

6.3
4. 9

TOTSL

PHflRUS
(PI

. 08

CYANIDE PHENOLS

(CM

. 13 0
. 05

CIS- SUS-
SOLVFD PENOED
GROSS GROSS

AS AS
U-NAT. U-NAT.

3.2 .4

DIS-
SOLVED
SROSS

AS
CS-137

6.5

SUS-
PENDED
GROSS

AS
CS-137

<.<.

SPECI- FECAL
FIC COLI-
DIS- CONO- FORM

DATE

JULY,
15...
AUG.
27...
SFO.

ncT.
09...

NOV.
25...
DEC.
16...
JAN.,
13...

10...
MAR.
1»...
APR.
15...
MAY
18...
JUNE
IB...
JULY
27...
AUG.
20...
SEP.
29...

TIME

I960
1050

1100

1713

1308

1015
1970
1045

1020

1310

1321

1045

1030

1242

1010

1350

CHARGE ATURE

(CFSI IDfG Cl

1.5 23.5

1.3 20.0

1.0 19.5

1.1 10.0

1.5 3.5

1 .2 .0

17 5.5

14 3.5

7.5 10.0

2.1 14.0

7.2 21.5

1. 3 26. 0

1.3 22.0

1.0 17.0

OXYGEN

(MG/LI

5.9

8.7

6.5

9.1

11.4

12.8

11.5

12.3

10.4

8.2

7.8

T.I

8.3

8.2

(UNITSI

9.1

7.3

9.2

10.3

8.3

9.0

7.7

9.5

7.9

9.1

7. 7

9.1

B.O

10.4

IMICRO-
MHOSI

300

310

330

350

350

650

340

760

350

370

190

330

280

320

PER

100 ML)

R9900

3500

3600

B26

1900

120

Bl&OOO

880

B19000

1500

39000

4600

11000

150

B RESULTS BASED ON COLONY COUNT OUTSIDE THE ACCEPTABLE RANGE.

PATAPSCO RIVER BASIN

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 br Essex Road, 300 ft north of State Highway 26 (Liberty Road) in Villa Nova, 1.1 miles west of Baltim limits, and 11.5 miles upstream from mouth.

DRAINAGE AREA. 32.5 sq mi.

PERIOD OF RECORD. Chemical analyses: July 1969 to September 1970.

OIS-

ALUM-

CHARGE (AL)

OCT.
09... 11 100

DIS

OIS- DIS-

SOLVED MAN- CAD-

C=EI (MN) (CDI

70 210

OIS-
DIS- SOLVED
DIS- SOLVED SOLVED SOLIDS

SULFATF RIDE

(S0*l (CLI

OCT.
09... 9.9 16

TOTAL

0 OIS- DIS- DIS-
SOLVED SOLVED SOLVED

(CUI (PBI (ZNI

0 11 *0 51

NON-
CAP- COLOR

RIDE DUE AT NESS HARD- INUM- B

. 2 118

NDN- BIO-
FILT- CHFM- TOTAL
RABLF ICAL PHOS-

DEMAND (P) (CM

OCT.
09... 0

D4TE

JULYt 1969
1 ...

2 "...
SE .
1 ...

oc .
0 ...
NO .
2 ...
DE .
1 ...

JAN. , 19'D
13...
FEB.
10...
M R.

«...

A R.
5...
M Y
8...
JUNE
18...
JULY
27...
AUG.
20...
SEP.
29...

1.0 .06 .00

TIME CHARGE ATURE

0»15 ».2 21.5

08*5 7.6 18.0

1230 9.3 23.0

1*10 11 17.0

1115 13 5.0

08*6 22 2.0

0930 20 .0

D836 602 3.5

1132 27 3.0

1500 172 9.0

0856 36 12.5

0«*5 71 20.5

1133 12 2*.0

08*5 15 21.0

12*0 6.8 15.0

B RESULTS BASED ON COLONY COUNT

91 28 7

DIS- SUS-
SDLVED PENOED

0 .6 <.l

SPECI-
FIC
OIS- COND-

OXYGEN (MICRO-

7.8 6.5 370

9.6 7.5 220

11.2 7.4 220

11.5 7.4 180

12.* 7.9 210

12.1 7.4 620

13.* 7.3 460

12.1 7.4 200

13.8 6.2 350

9.9 7.* 210

b. 9 7.5 230

7.5 7.3 220

10.* 8.0 210

8. 0 7. 0 1 60

10.* 7.9 190

BICAR- CAR-

(HC03I (COS)

73 2

D- (THRES-
rY HOLD
rui NUMBER 1

2 D

DIS- SUS-
SDLVEO PENDED

3.9 <. *

FECM.
COL1-
FORM

(COL.
PER
100 MLI

1700

120

280

130

53

680

120

813000

520

11000

4200

17000

880

817000

6*0

TOTAL
CHRO-

(CR)
(UG/L)

D

METHY-
LENE
BLUE

SUB-
STANCE

(MG/LI

. 10

OUTSIDE THE ACCEPTABLE RANGE.

POTOMAC RIVER BASIN

01595200 STONY RIVER NEAR MOUNT STORM, W. VA.

LOCATION. Lat 39°16'10", long 79°15'45", Grant County, temperature recorder at gaging station on left bank, 100 ft downstream from bridge on U.S. Highway 50 and 1.0 mile west of Mount Storm.

DRAINAGE AREA. 48. 8 sq mi.

PERIOD OF RECORD. Water temperatures : December 1961 to September 1970.

EXTREMES. 1969-70:

Water temperatures: Maximum, 23.0°C July 2; minimum, 1.0°C on many days during January and February.

Period of record:

(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

NOVEMBER DECEMBER JANUARY FEBRUARY

MAX MIN MAX M1N MAX M1N MAX M1N

MARCH

MAX MIN

5.0 14.0

4.0 12.0

3.0 10.5 6.5 5.5 3.5 3.0 1.0 1.0

3.0 11.5 5.5 5.C 3.5 3.0 1.0 1.0

1.0 4.5 4.0

3.5 3.5 2.0 2.0

APRIL

MA X MIN

MAY JUNE

MAX MIN MAX MIN

JULY

MAX MIN

AUGUST

MAX MIN

SEPTEMBER

MAX MIN

5. 0

9.0
9.5
9.5

10.0

12.0

12.0

13.0

14.0

10.4

4.5

5.0
9.0
9.0

9. 0

1.0

3.0

3.0

9.4

5.0

6.0
7.5
7.0

7.0

6.0

8.5

6.5

8.0

7.0

4.0 18.0

3.5 19.0
5.0 19.0
5.0 19.0

6.0 17.5

4.0 19.0

7.0 21.0

5.C 21.0

5.0

5.1 18.9

7.0 21.5

5.5 21.0
7.0 20.0
7.0 19.0

6.0 21.0

8.0 21.0

8. 0 21.0

9.0 21.0

20.5

7.1 21.0

0.0 20.0 19.5 20.5

9.0 20.0 19.0 20.0
8.5 20.0 19.0 21.0
8.0 19.0 19.0 20. 5

9.5 21.0 19.0 20.0

8.5 20.5 19.0 20.0

8.5 19.0 19.0
8.5 19.0 18.5

0.0 19.5 18.0

0.0 20.0 19.5

9.2 20.2 19.0 20.2

18.5

18. 0
9.0

8.0
9.0
9.0

8.0

9.0
8.5

8.7

POTOMAC RIVER BASIN

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD.

LOCATION. Lat 39 2i
0.6 mile downs11
68.9 miles upst I

brid
uth.

it gaging station on left bank,

DRAINAGE AREA. 225 sq mi.

PERIOD OF RECORD. Water temperatur

EXTREMES. 1969-70:

August 1961 to September 1970.

3rd:

- Records

FEBRUARY

KAX MIN

MARCH

MAX MIN

8.0

7.C

6.5

5.0

2.C 9.0 8.0 1.0 0.0

6.5 11.0 LO.O 0.0 0.0

3.5 7.0 5.0 0.0 0.0

2.0 6.0 5.5 0.0 C.O

L.O 0.0 5.0 3.C 3.5 l.C

1.0 0.0 6.5 1.0 5.0 3.0

1.0 C.O L.5 0.5 3.0 2.0

1.0 0.0 4.0 3.C 4.0 2.0

0.0 0.0 4.5 3.5 3.5 2. C

16.5
19.0
19.5
17.0
13.0

11.5
11. 0
10.5

15.0

15.0
10.5
6.5

s.c

9.0

9.0

6.5
8.0

19.5

PAX

5.0
6.0

6.5
7.0

6.5
6.0
9.0
10.5
9.5

8.0
S.O
9.0
8.0
11.0

3.0

2.0
1.5

3.5
3.5
1.5
3.5

3.5

5.5
6.0
6.0

16.0

1.0
4.0
4.5
1.5
8.0

9.0
8.5
5.5

1C. 5
6.5
4.C

4.5

2.0
2.0

APRIL

MIN

3.5
4.0

5. 5
4.0

4.5
4.5
3.5
6.5
6.0

5.5
6.0

9.5

e.c
7.0

9.0
11. C

9.5

1C.O

12.0
13.0
13.0

1. 5

8.0
8.5
7.0
6.0
3.0

3.0
3.5
5.5

0.5
1.5
4.5

4 .5

2.0

MAX

18.0
17.0

10.0
14.0

13.0
11 .5
15.0
19.5
19.5

18.5
16.0

16.0

18.0
20.0

23.0
21.5

22.0

19.5

20.0
20.0

23.5

23.5

7.0
7. 0
5.C
3.0
C. 5

0.0
0.5
3 .0

0.0
O.C
1.0

2.0

1.0

MIN

13.5
14.0

8. 5
6.5

B.C
6.0

11.5
13.5

15.0
14. C

10. 5

11.0
13.5

15.5
16.0

16.0

16.0

13. C
14. 5

6.0

2.0
2.0
1.0
2.0
2.0

1.0
C.O
0.0

0.0
0.0
0.0

0.0

0.0

0.0

MAX

22.0
24.5

2C.5
20.5

1S.C
16.5

24.5
24.0

1B.O
18.5

23.5

21.0
21.0

15.0
23.0

24.5

24.5

23.0
22.0

24.5

C.C
1.0
C.C
0.0
l.C

0.0
0.0
0.0
C.O

C.C
0.0
0.0

C.O

C.C

JUNE

KIN

17.0
17. C

17.0
16.0

14. 5
12.0

16.5
16.0

15.0
15.5

17.0

1B.O
U.5

17. C
15.0

ie.o

2C.O

16. C
16.5

12.0

0.0
0.0
0.0
0.0
0.0

1.0
1.0
1.0

0.0
0.0
0.0

1 .5

4.0

MAX

28. 0
3C.O

26.0
24.0

26. C
26.5

24.0
21.0

26.5
2B.O

25.5

26.0
24.5

21.5
21 .0

26.5

27.0

28.0
26.5

30.0

0.0
0.0
0.0
0.0
0.0

0.0
1.0
1.0

0.0
0.0
0.0

0.5

1.5

2.0

JULY

PIN

20.0
23.0

21.0
20.0

19.0
13.0

19.5
16.5

20.5
21.0

19.0

20.0
21.0

19.5
19.5

21.0

21.0

21.0
21.5

18.0

3.5 1.5
1.5 l.C
1.5 1.0
1.0 C.5
0.5 0.5

1.0 0.5
3.0 1.0
4.5 2.C
4.5 1.5

0.5 0.5
4.0 0.5
4.0 2.0

4.5 0. 5

~: :~

AUGUST

KtX MIN

25.5 22.0
26.5 2.0

22.0
22.0

22.0
23.5

22.0
23.0

26.0
25.5

25.5

27.0
26.5

24.5
23.5

22.0

22.0

25.0
24.5

27.0

0.0
9.C

8.5

0.0
O.C

O.C
9.5

1.0

1.0
1.5

9.5
C.C

B.O

8.5

9.5
0.0

1.0

8.0

5.5
5.0
3.0
3.0
1.0

1.5
3.5
4.0

4.0
3.0
3.5

4.5

5.5

3.5
4.5

2.0
3.C
1.5
1.0
0.0

0. 5
O.C
2.0

3.C
2.0
3.C

2.0

3.0

0.5
3.5

SEPTEM6ER

MAX MIN

23.5 19. C
23.0 15.5

24.5
24.5

23.0
24.0

25.5
23.0

23.5
25.0

22.0

20.5
21.0

23.5
23. 5

24.5

23.0

15.0
14.0

25.5

20. 0
20.0

18.0
17.0

20.0
19.5

18.5

18.5
19.5

19.0
19.0
17. C
16.0

18.0
16.5
19. C

19.0

18.5
15.0
13.5
12.0
11.0

11. C

POTOMAC RIVER BASIN

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

529

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

DRAINAGE AREA. 226 sq ml.

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

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCT.
01...
NOV.
19...
DtC.
10...
JAN.
06. ..
FEB.
03...
MAR.

11...
APK.

MAY
OS...
JUNE
03...
JULY

AUG.
U...
SfcP.
16...

OCT.
01...

OCT.
01...

DIS-
CHARGE

275

222

615

2310

865

402

73

69

47

TOTHL

PHORUS

(PI

. 03

DIS-
SOLVED
ZINC

(ZNI

<>20

DATE

OCT.
01...
NOV.
19* ..
DEC.
10...
JAN.
06...
FEB.
03...
WAR.
11...
APR.
07...
MAY
05...
JUNE
03...
JULY
23...
AUG.
12...
SEP.
16...

DIS-

INUM IRON

(ALI (FE)

3900 2200

4200 6700

2500 3700

2300 2800

3800 1200

9200 2800

19000 5300

13000 4900

DIS-
SOLVED
SOLIDS

DUE AT BID-

425 2

(CN)

. 00 0

OIS-
TIME CHARGE

0820 70

091C 275

0805 222

0845 615

0845 2310

0820 865

Oflll 1710

0830 402

0840 73

1700 56

0910 68

0850 47

DIS-

GANESE
IMNI

1*00

1200

2600

1400

1400

2400

3100

3300

COLOR

INUM-

5

BIO-
CHEM-

DEMAND

. 9

TEMPER-
ATURE

13.0

6.5

1.0

. 5

4.0

2.5

5.0

10.5

21. 0

19.0

19.5

21.5

SULFATE
IS04I

102

126

97

70

93

107

266

311

287

299

(THRES-

2

METHY-
LENE
BLUE

. 00

DIS-
SOLVED
OXYGEN

9.6

10.8

1Z.4

13.6

11.5

12.2

12.2

9.7

8.2

8.9

8.9

B. 8

AS
CAC03

151

44

70

55

28

33

34

39

119

156

157

166

DIS-
SOLVED

MIUM

1 UG/LI

4

DIS-
SOLVED
GROSS

l.B

PH

3.1

3.4

3.4

3.5

3.9

3.7

3.8

3. 5

3.0

3.1

3.0

3.4

DIS-
SOLVED

NESS RIDE

ICA.MGI (CD

110 3.5

_

- » ..

TOTAL 01S-

MIUM COPPER

(CRI ICUI
(UG/LI IUG/LI

12 35

SUS- 01S-
PENOED SOLVED
GROSS GROSS

<.l 7.5

SPEC I- FECAL
F1C COLI-
COND- FORM
UCTANCE ICOL.

(MICRO- PER

780 0

340 6

400 4

290 4

220 31

250 9

230 7

340 0

760 0

B30 0

800 0

S10 0

DIS-
SOLVED

RIDE

IF)

. 3

_

DIS-

LEAD

(PBI
(UG/LI

6

SUS-
PENDED
GROSS

(PC/L,

. 9

POTOMAC RIVER BASIN

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

DRAINAGE AREA.

PERIOD OF RECO

September

EXTREMES
Wate

Period

REMARKS.

. 196
r temp

of re

Reco

Lie 53.3.

404 sq ml.

RD. Water
1970.

9-70:
eratures:

cord:

temperatures: D

Maximum, 30.0°C

0

ecember 1

July 2; m

(CONTINUOUS ETHYL

OCTOBER

DAY

1
2
3
4
5

6
7
8
9
10

11
12
13
14

16
17
18

20

21
22

24
25

27
28
29
30
31

IONTH

HAX

19.0
18.0
18.0
19.5
18.0

16.5
15.5
18.0

17.0
19.0

18.0

12.0
11.5
11.5

15.0

14.0
11.5

9.0

8.0
8.0
6.5

6.5

MIN

14.5

16.0
15.5

14.0

14.0

14.0
15.5

10.5
9.5
e.c

10.0

11.5
9.0

5.5

6.5
6.0
4.5

4.5

NOVEMBER

8.5 6.5

10.5 8.C
8.0 6.0

6.0 5.5

6.5 6.0

7.0 6.5
8.0 6.5

2.0 1.0
3.0 1.0
4.0 2.0

5.0 2.0

2.0 0.5
0.5 0.5

4.0 3.0

3.0 2. C
3.0 2.0
3.0 2.0

961 to December 1

Inlmum , freezing

ALCOHOL-ACTUATED

DECEMBER

1.0

0.0
0.0

0.0

0.0

2.0
2.0

1.0
0.0
0.0

0.0

0.0
0.0
C.O

C.C

0.0
0.0
0.0

0.0

C.O

0.0
0.0

0.0

C.O

0.0
2. C

C.C
0.0
0.0

0.0

0.0
0.0
0.0

0.0

C.O
C.O
0.0

0.0

962, July to

point on many

THERMOGRAPH)

JANUARY

C.O

0.0
0.0

0.0

0.0

0.0
0.0

0,0
0.0
0.0

0.0

C.C
0.0
O.C

0,0

0.0
1.0
1.5

1,0

0.0

0.0
0.0

0.0

C.O

0.0
0.0

0.0
0.0
0.0

0.0

0.0
0.0
0.0

0.0

0.0
0.0
1.0

C.O

Septet

days

nber 1963,

during Dec

Decembe

ember t

FEBWARY

1.5

0.0
0.0

1.0

2.0

2.0
1.0

0.0
0.0
2.0

1.5

.0.0
2.0
2.0

2.0

1.0
2.0

1.0

O.C
0.0

0.0

1.5

1.0
0.0

0.0
0.0
0.0

O.C

O.C
O.C
1.0

0.5

0.0
1.0

2.0

4.0
4.5

4.5

5.5

5.5
5.0

2.0
3.5
3.5

3.5

3.5
3.5
4.0

5.5

5.5
6.5
6.5

5.5

r 1963 to

o February.

MARCI-

0.5

4.0
4. C

3.5

4.0

3. 5
3.5

1.0
1.0
2.C
2.0
3.5

3.5
3.5
3.5

3.5

3.5
4.0
3.0

3.5

APRIL

MAX MIN

5.5 5.5

9.0 7.0
9.0 7.0

11.0 8.5
13.0 10.5

13.0 9.0

14.5 11. C

14.0 11.5

18.0 14.5
19.5 16. C

HAY

MAX

9.5

3.0
3.0

4.0

21.5
23.0

JUNE JtjLY AUGUST SEPTEMBER

MIN MAX MIN MAX MIN MAX HIS PAX MIN

8.5 26. C 20.5 24.5 19.0 26.0 20.0 22.0 8.5 8.5 25.5 21.5 26.5 20.0 25.0 21. C 24.0 18.5

6.0 24.5 19.0 28.0 22.0 26.5 21.5 16.$ 14.5 5.0 25.5 2C.5 25.5 23.5 26.5 22.0 15.0 13.5

POTOMAC RIVER BASIN

01599000 GEORGES CREEK AT FRANKLIN, HD,

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

DRAINAGE AREA. 72.4 sq mi.

PERIOD OF RECORD. Chemical analyses: Hay 1969 to September 1970.

CHEMICAL ANALYSES, MAY 1969 TO SEPTEMBER 1970

OIS-
DIS- DIS- NON- DIS- SOLVED

WAY , 1969
06... 29 281
JULY
22... 28 290 60 1900 209
AUG.
19... 6J 0 100 8500 123
SEP.
02... 9.1 1900 0 2700 410

OCT.
01... 7.2 0 55*

NOV.

DEC.
10... 21 3*00 1900 2500 299
JAN., 1970

FEB.
03... 380 1400 720 2900 141
MAR.
11... 162 400 450 1600 168
SPR.
07... 376 1*00 1100 2400 201
MAY

JUNE
03... 25 5200 580 3400 457
JULY
23... 15 10000 2000 6300 681
«UG.
12... 7.2 8600 2100 6000 770
SFP.
16... 5.5 6800 1400 5500 798

DIS- DIS-

IC03) (CD (F) (N03)

HAY , 1969

JULY

«UG.

SEP.

OCT.

01... 10 .*

DIS- DIS- DIS-
SOLVED SOLVED SOLVED

UUI (PB> (ZN) (CM)

MAY , 196J

JULY

AUG.

SEP.

OCT.

01... 45 7 370 .00

299 298 77 26 2

106 56*

20 _____ _

15

11

16 --

43

99

71

65

DIS-

SOLVED DIS-

. 02 862 50 158

METHY- DIS- SUS- DIS- SUS-
810- LENE SOLVED PENDED SOLVED PENOED
CHEM- BLUE GROSS GROSS GROSS G10SS

0 .8 .00 *.* .2 5.1 <.4

POTOMAC RIVER BASIN

01599000 GEORGES CREEK AT

CHEMICAL ANALYSES, JULY

TIME

196=
1100

1140

1024

1125

1050

1035
1970
1040

1100

1040

1037

1010

1030

1P40

1100

DIS-
CHARGE

28

63

9.1

9.1

18

21

48

380

162

376

90

25

15

7.2

TEMPER-

ATURE

22. 5

19.0

24.0

15.5

8.0

1.5

. 5

3. 0

3.0

5.0

11. 0

18.0

18.0

20.0

FRANKLIN, MD. Continued

1969 TO SEPTEMBER 1970

DIS-
SOLVED
OXYGEN

9.5

8.7

8.7

9. 1

10.2

12.4

13.7

12.2

12.4

12.0

9. 9

9.4

9.0

9.0

SPE I-
FI
CON -
PH UCTA CE

(MIC O-

6.0 500

5.6 385

4.4 860

4.2 1200

5.1 730

5.5 660

4.2 540

4.6 370

5.4 400

4.9 470

4. 6 730

4.1 890

3.6 1300

3.7 1400

FECAL
COLI-
FORM

(COL.
PER

3600

880

80

0

8790

82400

1100

1800

110

1400

98

120

660

B26

B RESULTS BASED ON COLONY COUNT OUTSIDE THE ACCEPTABLE RANGE.

D1600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD.

LOCATION. Lat 39°33'59", long 78°50'25", Mineral County, W. Va. , at gaging station on right bank

DRAINAGE AREA. 596 sq mi

DIS-
CHARGE

OCT.
01... 195
10... 244
33... 211
NOV.
28... 367
JAN.
06... 1300
FEB.
03... 4120
MAR.
02... 820

BICAR-
BONATE

(HC03I

OCT.
01... 15
10... 6
30... 7
NOV.
28... 11
JAN.
06... 0
FEB.
03... 0
MAR.
02... 10

01 S-

SILICA IRON

(SI02I (FEI

6.4 860
5.8 1000

5.4 2200

5.3 3800

5.3 2800

5.3 3900

DIS-

BONATE SULFATE

(C03I (S04)

0 194
0 178
0 154

0 113

0 73

0 63

0 123

OIS-

IRON
IFEI

40

DIS-

RIDE

(CLI

92
75
76

61

19

11

30

TOTAL

GANESE

(MNI

1200
920

900

550

520

900

DIS-

RIOE

(Fl

. 2
. 2
. 2

. 2

. 2

. 1

. 2

DIS- DIS-
SOLVED SOLVED

GANESE C1UM

(MNI (CM

2180
66
64

48

20

18

38

DIS-
SOLVED
DIS_ SOLIDS

NITRATE CONSTI-

(N03I TUENTSI

. 7 383
1.0 353

1.3 273

1.7 135

2.5 113

1.4 246

DIS-
SOLVED
MAG-

SIUM

(HGI

9.4
8.5

5.9

4.6

4.4

7.7

NESS

(CAiMGI

232
203
195

145

69

63

127

OIS-

SDDIUM

(NAI

41
38

31

10

6.6

28

NON-
CAR-

HARO-

NESS

220
199
199

136

69

68

119

i2.6.

DIS-
SOLVED
PO-

SIUM

(K>

3.D
2.7

1.9

1.3

1.2

2.5

SPECI-
FIC
COND-
UCTANCE

(HICRO-
MHOSI

- -

642
617

474

24?

200

408

POTOKAC RIVER BASIN

01600000 NORTH BRANCH POTOKAC RIVER AT PINTO, IID. Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

TOTAL
DIS- DIS- NON-
COLOR SOLVED SOLVED OIS- OIS- DIS- FKT-

PH INUM- INUM MIUH COPPER LEAD ZINC BID- (THRES- RESIDUE
COBALT (AD (CD) (CJI (PB) (ZN) ITY HOLD

0 T.
1. .
0... 6.4
0... 6.7
N V.

a... 6.5

J N.
6... 4.3
F B.
3... 4.5
M R.
02... 6.5

METHY-
810- LENE
CHEM- BLUE
ICAL ACTIVE

OXYGEN SUB-

OCT.
01... 1.6 .10

DATE

OCT.
01...
NOV.
8...
0 C.
°...
J N.
5. . .
F B.
2 ...
M R.
0...
A R.
7.. .
M ,Y
4.. .
JUNE
02...
JULY
28...
AUG.
12...
SFP.
15...

30 100 0
10
15

15

2

0

3 _

TOTAL

PHDRUS CYANIDE PHENOLS
(PI (CN(

. 04 .00 I

TtWE CHARGE ATURE
(CFS) (OEG C)

1800 195 20.0

1625 311 8.0

1627 347 7.0

1645 1130 2.0

1750 2990 6.0

1600 1460 4.5

1345 2480 7.0

1645 746 15.5

1530 175 28.0

1445 173 27.5

1415 148 25.5

1550 143 26.0

4

DIS-
SOLVED
GROSS

AS
U-NAT.

1.7

OIS-

OXYGEN

2

sus-
PENDE
GROSS

AS
U-NAT

<.

(MG/L) (UNITS)

7.8

9.6

10.2

12.8

12.0

11.4

11.5

8.6

5.8

6.2

6.8

7.2

6.2

7.4

7.0

4.8

5.5

6.0

5.4

6.2

6.6

6.6

6.7

7.0

100

.

DIS-
D SOLVED
GROSS

AS
CS-137

I 6.2

SPEC I-
FtC
COND-

(MICRO-

20 4

__

~

SUS-

PENDED
GROSS TOTAL

AS MIUM
CS-137 (CR)

. 4 8

FECAL
COLl-
FORM
<CDL.
PER

a

»

DIS-

SOLVED
SOLIDS

DUE AT

180 C)

490

MHOS) 100 ML)

770

540

540

330

220

270

290

440

930

a oo

760

860

370

390

640

13

21

1

2

B6

290

180

920

370

B RESULTS BASED ON COLONY COUNT OUTSIDE THE ACCEPTABLE RANGE.

SM POTOMAC RIVER BASIN

01603OOO 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 of Cumberland, 2.1 miles downstream from Wills Creek, and at mile 19.6.

DRAINAGE AREA. 875 sq mi.

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

EXTREMES. 1969-70:

Water temperatures: Maximum, 31.0°C Aug. 16; minimum, freezing point Jan. 8, 9, 21, 22.
- - - ncentrations: Maximum daily, 1,050 mg/1 Apr. 2; minimum daily, 5 mg/1 Oct. 7.

2 miles south

Sediment disch

Jeriod of record
Watei
po:
Sedil
Sedii

r temperati
Lnt on man]
nent coocei
oent disc hi

arge: Maxima

ures : Maximui

f days during
itrations: Ml

I, 33.0°C July
winter periods
iximum daily, 1
arge: Maximum daily, 61,000

13, 14, 1

^600 mg/1
tons Mar

CHEMICAL ANALYSES, WATER YEAR

OCT.
02..
02..
NOV.
07..
DEC.
03..
JAN.
01..
FEB.
01..
MAR,
02..
APR.
04..
MAY
01..
JUNE
01..
JULY
01..
AUG.
01..
SFP.
01 ..
02..

nts-
CHARGE

316
316

. 405

436

. 30?0

. 41 SO

, IUO

, 0380

. 1500

340

32S

106

178
201

1CT.
0'.,.
02...
NOV.
07...
DEC.
03...
JAN.
01...
FEU.
01...
MAR.
0?...
APO.
04.. ,
M4Y
0'.,.
JUNE
01...
JULT
01...
AUT,.
01...
SEP.
01...
0?...

SILICA

5.4

=.0

5.1

5.3

5.5

5.6

4,R

s.5

5.8

6.9

10

?. 3
5.4

CIS

(C03I (S04

0 154
0 166

06

0 *9

0 64

0 *2

0 87

0 4«,

0 104

0 233

0 16"

0 265

0 257
0 01

DIS-

IRON IRON

(FFI <FE>

140
1«00

650

920

6800

2200

S10

1500

S60

1300

20

300

1500
750

DIS-

GANESE

(MNI

630

250

4PO

420

470

500

100

210

1100

2400

1000
300

OIS-
SOLVED SOLVED

1 (CLI

75
82

40

36

13

I?

19

5. 4

!5

56

53

4<5

49
?1

966, July

Feb. 13,
. 6, 1967

16, 18,

1966; I

Aug. 19, 23

linimum daily
; minimum daily, 2.5

OCTOBER 1969 TO

DIS-

GANESE

(MNI

1200

470

S

DIS-

CIUM

(CAI

74

41

36

IS

19

27

16

34

77

80

8?
30

DIS-
OLVED
DIS_ SOLIDS

, 196!

, 3 m(
tons

24.

i; minimum,

;/l Aug. 13
Aug. 13, 1

freez

, 1969
969.

ing

SEPTEMBER 1970

DIS-
SOLVED

SIUM

(MGI

12

8.5

7.6

4.9

4.B

7.3

4.2

9.3

1°

18

17
7.6

DIS-
SOLVED
SOLIDS

. 2
.3

.2

. 2

.2

. 1

.2

.]

.2

. 3

. 3

. 5

.4
. 2

1.0

1. 3

2.7

3.4

3.3

1.4

2.7

.7

. 1

. 3

. 3

.9
I. 5

206

120

115

168

R8

186

44P

360

454

482
178

458

- -

- -

DIS-

DIS-
SOLVED
PO-

SODIUM SIUM

(NAI (Kl

44

18

18

S.

5.

14

3.

8.

32

28

45
12

3.3

2.2

1.8

3 1.7

8 1.2

1.6

2 1.1

4 1.4

2.6

2.8

2.8

4.3
1.8

NON- S

BCKATE

(HC03I

PECI-

44
38

22

21

2

2

11

10

15

34

42

1

42
16

CAR- FIC

/LI

212

122

65

67

98

5S

124

270

217

274

275
107

176

105

64

66

89

50

111

242

183

273

240
94

HOS 1

362

210

196

281

151

314

714

621

700

732
294

POTOHAC RIVER BASIN

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, 10). Continued

CHEMICAL ANALYSES, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

nsTE

OCT.
02...

NOV.

DEC.

JAN.

FES.

COLOR

f>H TNUf- (TH9ES-

(UNITSI UNITSI NUMBFR1

50 S

TOTAL MFTHY-
NON- BIO- LEKE
FILT- CHEM- BLUE

RESIDUE OXYGEN SUB-
PE«<ANO STANC5

01 S- 01 S-
SOLVFD SOLVED OIS-

INU" MIU" COPPER

(UG/LI (UG/LI (UG/LI

026

TOTAL

PHCRUS CYANIDE PHENOLS

(PI (CN)

01 S-

LEAO

(UG/LI

2

DIS-

SOLVED
GROSS

AS
U-NAT.

DIS-

ZINC

(UG/LI

60

SUS-
PENDED
GROSS

AS
U-NAT.

TOTAL

NIUM

(UG/LI

10

DIS-
SOLVED
GROSS

AS
CS-137

BID-

(JTUI

46

SUS-
PENDED
GROSS

AS
CS-137

SPECI- FECAL
FIC COLI-
DIS- COND- FORM
OIS- TEMPER- SOLVED PH UCTANCE (COL.
TIME CHARGE ATURE OXYGEN (MICRO- PER
DATE (CFSI (DEC Cl (MG/LI (UNITSI MHOSI 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
23... 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

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

DATE

APR.
02...

DATE

APR.
02...
24...

TIME

1830

SUS.
SED.

OIAM.
* FINER
THAN
. 016 MM

66
45

ATURE

5.5

SUS.
SED.

01 AM.
* FINER
THAN
. 031 MM

67
53

CHARGE

21000

SUS.
SED.

OIAM.
t FINER
THAN
. 062 MM

79
60

SUS-
PENDED

MENT

1170
532

SUS.
SEO.

OIAM.
X FINER
THAN
. 125 MM

SI
68

SUS-
PENDED
SEDI-
MENT

CHARGE

66300

SUS.
SEO.

OIAM.
* FINER
THAN
. 250 MM

96
76

SUS.
SED.
FALL
OIAM.

THAN

19

SUS.
SEO.

OIAM.
X FINER
THAN
. 500 MM

1DD
83

SUS.
SEO.
FALL
OIAM.

THAN

3*
24

SUS.
SED.

OIAM.
* FINER
THAN
l.DO "M

96

SUS.
SEO.
FALL
OIAM.

THAN

47
36

SUS.
SEO.

OIAM.
X FINER
THAN
2.00 MM

100

POTOMAC RIVER BASIN

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD. Continued

TEMPERATURE

CCT

2.0

2.0
1.0
1.0

9.0

9.0
2.0

2.0
3.5

5.5
4.5
5.5

9.0

5.0
2.0

3.0

3.5
1.0

NOV

4.5

e. s
4.5 :
1.0

1.0

1.0
3.5

2.0
1.0

6.5

9.0
1.0

5.5

9.0

9.0

8.0
8.0

3.5

DEC JAN

5.5 3.5

6
1
5

4

7
8

5
5

5
3
5

4

1

1

?
4

2

. 0 4.5
. 5 4.5
. 5 3.5

. 5 2.0

. 0 0.0
. 0 1.0

. 5 3.0
. 5 5.5

. 5 4.5
. 5 3.5
. 5 2. C

. 5 0. 0

. 0 2.0

. 0 4.5

. 0 4.5
. 0 10.0

. 0 5.5

SUSPENDED-SEDIMENT

MEAN

(CFSI

238
297
352

361

317
308
317
329
325

299
233
276
270
265

265
260
255
253
248

262
422
330
322
299

435
407
278
277
270
262

3CTOBEP

MEAN
CONCEN-

(MG/L)

IB
35
26
25
23

10
5
14
21
25

19
15
15
15
15

16
15
18
20
23

22
35
30
19
13

45
47
30
26
23
23

I=EB

6.0

__
_

3.5

4.5

5.5
8.0

4.5
2.0

4.5
6.5
5.5

8.0

4.5

3.5

__

DISCHARGE.

6.5

6.5
6.5
6.5

7.0

5.5
6.5

6.5

6. 5
5.5
6.5

6.5

8.0

5.5

12. C
5.5

a.o

WATER

8.5
6. 5
8.0

B.O

14.5
11.0

12.0
12.0

15.5
14.5
11.0

15.5

15.5

15.5

18. 0
21.0

YEAR OCTCI

18.5
16.5
. . .

15.5

21.0
22.0

24.5
24.0

15.5
18. 0
21.0

23.5

22.0

22.0

__

21.0

24.5

8EB 1969

26.5

26.5
23.5
25.5

20.0

24.5
25.5

26.5
26.5

26.5
26.5
24.5

21 .0

25.5

24.5

21.0
22.0

28.0

26.5
25.5
23.5

26.5

23.5
23.5

25. 5
26.5

26.5
26.5
27.0

25.5

28.0

28.0

29.0
30.0
28.5
30. C

29.0

28.0
29.0
25.5

29.0

26.5
28.0

28.0

28.0

26.5
29.0
28.0

28.0
28.0

26.5

26.5

28.0
29.5
29.0
28.0

26.5

26. 5
29. C
28.0

26.5

28.0
26.5

25. 5
26.5
26. 5
28.0

28. C
24.0
26.5

28. C
28.0

26.5

20.5
17.5
19. 0

TO SEPTEM8EK 1970

NOVEMBER

SEDIMENT

(TONS/DAY!

12
28
25
27
22

8.6
4.2
12
19
22

15
11
11
11
11

11
11
12
14
15

16
40
31
17
10

53
52
23
19
17
16

MEAN

262
499
693
700
617

534
494
436
554
886

692
610
574
564
543

499
459
441
492
724

767
655
603
603
695

639
595
557
530
504

MEAN
CDNC EN-

25
59
3
0
6

0
4
15
27
43

20
13
14
13
10

10
11
14
14
22

20
13
12
20
36

31
23
24
21
18

SEDIMENT

18
86
80
57
27

14
19
18
43
103

37
21
22
20
15

13
14
17
19
43

41
23
20
33
68

53
37
36
30
24

n

MEAN

435
471
450
445
411

384
396
402
456
620

2840
3240
2300
1890
1560

1240
1050
1250
1220
830

685
721
698
662
552

487
633
597
621
724
3020

DECEMBER

MEAN
CONCEN-

24
24
19
17
21

24
25
25
35
56

242
210
90
55
53

33
25
38
34
11

10
10
11
14
12

13

15
10
16
576

SEDIMENT

31
31
23
20
23

25
27
27
43
94

1940
1840
559
281
223

110
71
128

25

18
19
21
25
18

17
39
24
17
31
5330

11692

POTOMAC RIVER BASIN

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD. Continued

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

JANUARY FEBRUARY

MEAS

(CFS)*

3530
2370
1810
1460
1300

1570
1130
1370
686
556

613
714
704
625
571

570
561
680
881
828

S99
603
600
600
580

1700
3270
2520
3630
10000
5860

52291

MEAN
OISCHA^SE

4030
15803
15400
L0400
7700

4900
3930
3310
3140
3470

2870
2300
1970
2990
3820

3580
2830
2510
2940
2950

2960
3130
2930
8750
9810

6250
4600
2950
2420
1990

146630

MEAN
CONCEN-
TRATION

(MG/L)

380
90
50
39
26

39
30
40
20
13

10
11
15
17
18

20
19
25
31
24

21
18
12
17
21

630
330
BO
641
910
160

APRIL

MEAN
CONCEN-
TRATION

84
1050
550
290
250

110
65
58
49
63

41
33
30
46
67

45
27
32
32
30

33
34
50
280
215

100
73
43
37
39

SEDIMENT
DISCHARGE

(TONS/DAY)

3620
576
244
154
91

165
92
116
37
20

17
21
29
29
28

31
29
46
74
54

40
29
19
28
33

4090
2 10
44
10 00
24 00
2 30

50296

SEDIMENT

914
44800
22900
8140
5200

1460
690
518
415
590

318
205
160
371
691

435
206
217
254
239

264
287
396
6620
5690

1690
907
342
242
210

105371

MEAN
DISCHARGE

(CFS)

4400
4230
63DO
4890
3390

2720
1780
1570
1480
1470

1700
1190
1030
862
792

916
997
919
1310
1640

1250
1180
1530
1640
2200

2010
1820
1310

56526

1670
1340
1200
1070
979

912
862
760
697
620

580
554
554
605
615

610
1750
1480
1100
886

753
653
609
821
818

82
73
56
47
40
376

25880

MEAN
CONCEN-
TRATION

(MG/L)

75
54
45
38
32

31
32
30
29
31

48
35
33
28
22

33
43
29
57
71

35
26
42
47
56

40
33
26

-

MAY

MEAN

21
18
14
14
15

15
15
15
13
11

10
9
12
11
11

33
B3
27
17
15

13
11
12
70
72

60
58
55
39
25
23

SEDIMENT
DISCHARGE

(TONS/DAY)

891
617
765
502
293

228
154
127
116
123

220
112
92
65
47

82
116
72
202
314

118
83
174
208
333

217
162
92

6525

95
65
45
40
40

37
35
31
24
18

16
13
18
18
18

54
390
108
50
36

26
19
20
176
172

134
115
84
50
27
23

1997

MEAN

(CFS)

1130
1100
2060
3990
6350

5780
4650
3650
3090
2270

1900
1870
2340
2100
1480

1290
1150
1230
1210
1900

3770
3050
2610
2250
1990

2370
4290
3570
3840
3370
3550

85200

MEAN

(CFS)

350
324
317
330
550

1310
1330
869
680
584

492
4L6
35B
328
322

520
600
544
761
689

560
640
536
436
396

450
833
648
478
376

17027

MEAN
CONC EN-

24
25
90
162
185

116
61
37
32
29

28
33
41
33
24

25
25
31
33
85

150
56
42
48
38

51
130
58
49
37
54

~

JUNE

MEAN
CDNCEN-

25
30
34
35
31

259
53
24
18
22

26
18
14
28
38

62
49
29
40
23

15
20
18
13
15

50
80
31
21
22

SEDIMENT

73
74
651
1800
3170

1810
766
365
267
178

144
167
259
187
96

87
78
103
10B
524

1530
461
296
292
204

326
1520
559
508
337
518

17458

SEDIMENT
DISCHARGE

24
26
29
31
46

259
190
56
33
35

35
20
14
25
33

94
79
43
82
43

23
35
26
15
16

61
188
54
27
22

1664

POTOMAC RIVER BASIN

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD. Continued

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

I
2
3
4
5

6
7
B
9
10

11
12
13
14
15

16

ir
18
19
20

21
22
23
2*
25

26
27
28
29
30
31

TOTAL

JULY
MEAf
MEAN CONC

328
3*6
537
666
416

334
272
253
478
1310 1

842
544
416
340
390

322
340
346
262
243

257
229
284
311
322

294
257
262
284
294
364

N- SEDIMENT

3 0
7
0 1
4 1
i

7
6
3
8
8 4

\
6
4
3
0

j
I
a
6
4

a
9

5
9
8

5
9
7
6
3
3

5
1
2
6

4
9
6
9
3

3
3
8
0
^

o
9
8
8
6

2
2
7

tf
4

0
3
2
2
4
3

12053 1457

ICFSI

552
370
334
307
565

369
299
256
295
262

232
211
200
226
282

294
255
207
185
186

175
168
290
1340
562

347
262
219
191
165
181

9787

AUGUST
MEAN

(MG/Ll

39
13
15
24
41

17
8
9
18
20

20
15
13
16
32

39
35
28
25
20

19
20
38
77
16

11
10
6
12
15
12

(TONS/OAY) (CFS)

58 181
13 229
1
2
6

!

1
1

I

2

3
2
1
I
1

3
32
2

1

171
144
178

456
. 5 520
. 2 173
153
177

198
. 5 303
. 0 226
. 8 183
167

160
152
184
218
316

. 0 256
. 1 206
186
175
267

191
. I 776
. 5 297
.? 339
. 7 247
. ?

819.5 6929

SEPTEMBER
MEAN
CONC EN-

12
30
23
19
21

77
94
24
10
11

17
30
13
17
12

8
9
13
18
30

26
15
8
7
31

51
54
48
55
30

SEDIMENT

5.9
19
11
7.4
10

104
160
11
4.1
5.3

9.1
25
11
8.4
5.4

3.5
3.7
6.5
11
26

18
3.3
4.0
3.3
28

6
0
3
0
0

682.9

470620
199611.2

POTOMAC RIVER BASIN

01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, W. VA.

LOCAT ION. Lat 38°59'34", long 79"10'26", Grant County, at the Pot Edison power-plant, 1,000 ft upstr gaging station and 2.5 miles west of Petersburg.

DRAINAGE AREA. 642 sq mi.

PERIOD OF RECORD. Water temperatu
to September 1970.
Sediment records: October 1967 to September 1970 (partial

EXTREMES. 1969-70:

January 1947 to September 1953, November 1954 to June 1965, October 1965

>rds).

Period of record:

Water temperatures: Maximum, 29. 0°C June 27, July 23, 1952, Aug. 3, 1955; minimum, freezing point on many days during winter periods most years.

REMARKS. Sediment samples collected at gaging station, 1.2 miles downstr
River, 2.5 miles west of Petersburg, and at mile 7.6.

North Fork South Branch Potomac

12 17.0 10.0 4.5 0.0 2.0 6.0

30 8.5 3.5 1.0 3.5 4.0
31 <3.5 -- 1.5 3.5 4.5

0.0 20.0 22.0 26.5 23.0 20.0

7.0 21.5 22.0 26.0 23.0 18.5 22.0 26.5 23.5

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

DATE

OCT 21, 1969
DEC I......
JAN 14, 1970
FES 25......
APR 8......

riME

130
315
330
515
450

DISCHARGE
CCFSI

104
186
360
850
1350

CONCEN-
TRATION

IHG/L)

I
0
0
0
6

SUSPENDED
SEDIMENT
DISCHARGE

(TONS/DAY!

. 2
0
0
0
22

DATE

MAY 14 ...
JUL 7......
AUG 10......
SEP 21......

TINE

1500
1200
1410
1115

DISCHARGE

ICFS)

345
80
122
106

CONCEN-
TRATION

IHG/L)

4
5
6
2

SUSPENDED
SEDIMENT
DISCHARGE

I TONS/DAY)

3.7
1.1
2.0
. 57

POTOMAC HIVER BASIN

01610000 POTOMAC RIVER AT PAW PAW, W. VA.

LOCATION. Lat 39°32'13", long 78°27'28", Allegany County. Md. at bridee on Maryland State Hishwav 51 at Paw

DRAINAGE AREA. 3,109 sq mi.

PERIOD OF RECORD. Chemical analyses: June 1969 to

CHEMICAL ANALYSES,

JUNE,
?^.. .
JULY
24...

24.. ,
OCT.
'' I.. ,
NOV.
21...
JSN,,
M..

JUNF,
'" . ..
JULY

SEP.

OCT. N :"

JAN. ,
31., ,

nis-

01 S- SILICA
CHARGE ISI02I

I960
415 5.3

1500 7.1

134D 5,4

720 4.7

1320 4.3
'070

T3100 4."

DIS-
DIS- SOLVED

IS04I ICLI

96 43

4Q ?'

81 3?

133 63

33 34
1970
46 *.?

IRCN GA\ESE
IFfl IVNI

1 50 140

1000 300

- -

430 200

f?D 410

2400 100

DIS-

IFI IN03I

. 3 .7

. 2 1.0

. 2 .">

. 2 1.4

. 1 3.2

January 1970.

, JUNE 1969 TO JANUARY 1970

DIS- DIS-
OIS- SOLVED

CIUM S IUM
IC4I IMGI

57 n. 8

30 4. 6

46 7.6

63 0.4

40 '.S

17 4.0

DI S-
SOLVEn

scLins

TUENTSI IC4.MGI

2»0 170

161 94

?2S 150

210 13C

32 59

SOLVED
DIS- PO-

SHDIUM SIUM

(NAI IKI

29 2. 6

15 2.7

18 2.3

42 3.7

IS l.fl

3.8 1.4

NON- SPECI-
CAR- FIC
BCNATE COND-

NESS (MICRO-

96 481

88 398

97 375

51 155

BDNATE

(HC03I

85

59

71

65

40

10

IUNITSI

7.4

7.0

7.8

7.1

7.4

6.5

BONATE
IC03I

0

0

0

0

0

0

COLOR

(PLAT-
INUM-
COBALT
UNITS!

8

10

15

5

2

1

01611500 CACAPON RIVER NEAR GREAT CACAPON, W. VA.

LOCATION.-Lat 39°34'43", long 78°18'34", Morgan County, 3.0 miles southwest of Great Cacapon and at raile 6.5.

DRAINAGE AREA.--677 sq mi.

PERIOD OF RECORD. Sediment records: April 1968 to September 1970 (partial records).

REMARKS.-Records of daily discharge for water year 1970 are published in WSP 2103, Vol. 3.

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

SUSPENDED
SUSPENDED CONCEN- SEOIMENT

DATE 1

OCT 7, 1969
NOV 18.. ....
JAN 7, 1970
FEB 18... ...
APR 1......

I ME

230
615
500
205
015

DISCHARGE

(CFSI

96
118
540
477
2440

CONCEN-
TRATION

(MG/L»

0
2
0
0
50

SEDIMENT
DISCHARGE
ITONS/DAYI

0
. 64
0
0
329

DATE

MAY 12......
JUN 30......
AUG 4......
SEP 15......

DISCHARGE

TIME (CFS)

1705
1800
1640
1640

305
203
226
62

TRATION DISCHARGE

(MG/LI {TaNS/DAYI

4 3.3
6 3.3
4 2.4
6 1.0

01613000 POTOMAC RIVER AT HANCOCK, MD. 54]

LOCATION. Lat 39 r 41'49", long 78°10'39", Washington County, temperature recorder at gaging station on left bank, 0,2 mile upstream from Little Tonoloway Creek, 0.5 mile downstream from bridge on U.S. Highway 522 at Hancock,

DRAINAGE

PERIOD OF
Water t

EXT RBMES.

Period
Water

REMARKS. -
0.5 m

OCT.
02..

AREA. 4,073 sq mi.

RECORD. Chemical analyses: July 1969 to Sept

1969-70:

of record:

lie upstream from gaging station.

DIS- DIS- DIS-

»LUM- SOLVED MSN- CAO-
OIS- INUM [RON GANESE MIUM
CHSPGE (All (FEI (MNI (CD)

733 100 30 300 2

DIS-

DIS- DIS- SOLVED
OIS- SOLVED SOLVED SOLIDS

ember 1970.

OIS- DIS-
SOLVED SOLVED
COPPER LEAD

(GUI (PBI

10 8

N1N-

1970.

on many days during December and January.

DIS- TOTAL
SOLVED BIC«R- CAR- CHRO-
ZINC BONATE BONATE MIUM

1ZNI (HC03I 1C03I (CRI

38 69 0 16

METHY-
LENE
C4R- COLOR BLUE

OCT.
02... 108 54 .2 343

TOTAL
NCN- 810-
FILT- CHFM- TOTAL
RABLE ICAL PHOS-
RESIOUE OXYGEN "HORUS CYANIDE
DEMAND (PI 1CNI

OCT.
02... 7 1.0 .10 .00

DftTE 1CFS) (DEC Cl

JULY, 1969
21... 11*0 490 26.5
sue.
13... 1030 236D 27.0
SEP.
01... 1325 800 28.0
OCT.
02... 2000 733 18.0
NOV.
13... 1150 1020 5.5
DEC.
09... 1127 980 3. 1!
JAN. , 1970
05... 1130 5*80 1.0
FEB.
02... 1235 10200 5.5
MAR.
10... 1055 7070 5.0
APR.
0<>... 10*0 14300 5.0
MAY
04... 1125 4630 17.0
JUNE
02... 1107 1020 25.5
JULY
28... 1155 950 2B.O
AUG.
19... 0955 742 25.5
SEP.
15... 1215 497 25.0

185 128

DIS-
SOLVED
GROSS

PHENOLS «S

0 1.0

DIS-

1MG/LI (UNITS)

9.1 8.7

7.S 7.6

9. 1 8. 2

7.9 6.7

11.5 7.8

13.2 8.0

12.8 7.1

12.5 7.9

11.8 7.6

11.2 7.6

B.2 7.4

8.3 7.9

8.3 7.9

8. 4 8. 1

9.6 8.3

20 3 1 .10

SUS- DIS- SUS-
PENDED SOLVED PENOED
GROSS GROSS GROSS

SS AS AS

<.l 6.0 2.2

SPECI- FECAL
FIC COLI-
COND- FORM

(MICRO- PER
MHOS 1 100 MLI

315 1300

260 BBB

310 112

540 BIOOOO

320 B4700

300 4

180 19

150 10

160 3

150 56

210 12

3*0 16

310 41

380 18

340 11

B RESULTS BASED ON COLONY COUNT OUTSIDE THE ACCEPTABLE RANGE.

POTOMAC RIVER BASIN

01613000 POTOMAC RIVER AT HANCOCK, MD. Continued

Y

1
2
3
4
5

6
7
8
9
0

11
2
13
4
5

6
17
8
19
20

1
22
23

25

26
27
28
29
30
31

TH

Y

1
2
3

5

6
7
8

0

1
2
3

5

6

0

1
2
3

5

6
7
8
9
0
1

H

TEM

APRIt

MAX WIN

4.5 4.5

5.5 5.0

6.5
8.0
9.0

9.0

5.0

8.5

9.5
10.0
1.5
1.5
0.5

1.0
2.0
11.5
11.0
11.0

12.0

14.5
16.0

5.0

7.0

8. C

8.5

7.0

8.0
9.0

0.5
O.C

9.5
0.0
1.0
1.0
0.5

1.0

3.0

OCT08

MAX

21.0
20.0

22.0
20.5

20.0
19.0
21.0
21.0

21.0

1.0

7.0

6.0

ER

MIN

8.5
5.5

9.0

8.C
8.5
9.0

8.5

4. 0

11.5 9.0
11.0 9.5
11.0 9.0
11.0 8.5
10.5 7.0
9.5 7.0

(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

MAY JUNE JULY AUGUST

MAX MIN MAX MIN MAX MIN MAX MIN

8.5

6.5

15.0

19.0

21.5

20.0

18.5
18.5

13.0
20.0

21.0
23.0
24.0

22.0

21.0

20.0

22.0

17.0

15.5

12.0
13.0

16.5

18.5

18.0
18.0

16.0
18.0

19.0
20.0
21.0

20.5

19.5

18. 5

19.5

NOVEMBER

MAX MIN

10.5 9.0
12.0 10.5

12.0

10.5

9.0

10.0

4. 5

5.0
5.0
4.5
4.5
4.5

10.5

9.5

9.0

9.0

3. 5

4.5
4.0
4.0
4. C
4.0

25.0

24.0

21.0

23.5

21.5

20.0
23.0

24.0

23.5
23.0

24.5

21.5

21.5

DEC EM

MAX

4.5
4.0

3.0

2.0

3.0

0.0
0.0
0.0
0.0
0.0

21 .5

20.0

15.0

21.5

21.5
20.0

19. C
19.5

23.0

21.0
20.5

20. 5

20.5

FR

MIN

4.0
3.0

l.C

1.0

1.5

1.5

0.0
0.0

0.0
0.0

28.5

28.5

27.0

22.0

26.5

27. C
27.0

28.5

26.0
25.5

29.5

30.5

29.5

25.5

25.0

24.5

21.5

23.0

24.5

26.0
25.5

26.5

24.0
24.0

26.5

27.0

28.0

JANUARY

MAX MIN

0.0 0.0
2.0 0.0

1.0

1.0

0.0

0.0
0.0

0.5
1.0

0.5

0.5

0.0
0.0

0.0
0.0

0.0
0. 5

30.0

28.5

28.0

26.5

28.5

28.5
29.5

30.0
29.5

28.5

3G.O
28.0

27.0

29.0

30.0

FEE

MAX

3.0
3.5

2.0

1.0

2.0
2.0

3.5
3.0

III

28.5

26.0

25.5

25.0

24.5

25.5
25.0

26.0
26. 5

26.0

26.0
25.0

25.0

25.5

26.5

RUARY

MIN

2.0
3.0

1.0

l.C

2.0
2.0

2.G
2.0

~I

SEPTEHEER

MAX MIN

27.0

28.5

28.0
26.5

26.5

25.0
27.0

29.0
28.0

26.0

26.0
28.0

25.5

20.5

MAX

3.5
4.5
4.5

4.5

4.5

4.5

"

5.0
5.0

5.5
4.5
4.5

23.5

24.5
25.5

23.5
23.5

25.0

22.0

24.0

25.0
25.0

23.0

22.0
24.0

22.0

18.5

MARCH

WN

2.0
3.5
4.0

4.0

4.0

4.5

4.0

4.5
5.0

4.5
4.5
4.0

POTOMAC RIVER BASIN

01614170 CONOCOCHBAQUE CREEK NEAR GREENCASTLE, PA.

INAGE AREA. 249 sq mi.

IOD OF RECORD. Chemical an

ARKS. Records of discharge

alyses: July to September 1969 (miscellaneous), October 1969 t

are obtained from

CHEMICAL ANALYSES, WATER

OCT.
27...
NOV.
24...
DEC.
Ib...
FEH.
27...
APR.
O/...
24...
SEP.
24...

OCT.
27...
NOV.

DEC.

FEB.
27...
APR.
07...
24...
StP.
24...

DIS-
CHARGE

4B

111

431

luBB

110

DIS_
SOLVED

(N03)

- _

H.P

OCT.
27...
NOV.
24...
DEC.
15...
FEB.
27...
APR.
07...
24...
MAY
27...
JUNE
25...
JULY
30...
AUG.
17...
SEP.
24...

OIS-
OIS- SOLVED

IRON GANESE

(FE) (MM)

20 10

40 60

6U 0

OIS- D1S-
bOLVEO SOLVED
ORTHO SOLI05

PHOS- (KtSI-

1.2 245

. it 138

I.b 237

TOTAL
PHOS- BIS-

(P) OXYGEN

10.2

12.2

13.2

13.6

11.6
10.0

8.6

9.0

8.4

8.0

5.0 9.4

unpublished rating table developed for stati

YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS-

nis- SOLVED
SOLVED MAG- DIS- DIS-

CIUM SIUM SODIUM BON4TE SULFATE

(C» 1MO) (Ntl (HC03) (S04)

SB 12 -- 207 H6

36 S.6 -- 100 21

65 12 7.1 ?01 25

SPE-
NON- CIFIC
CAB- CON-
HSRO- BONA'it DUCT-

194 25 415 7.8 S.5

?lb 7.5 5.0

^30 7.4 3.0

IIJ 31 ?22 7.1 9.0
?46 7.3 12.0

212 47 416 7.S

IMME- METHY-
FECAL BIATE LENE
CDLI- COLI- TOTAL BLUE
FORM FORM ORGANIC ACTIVE

PER PER (C) STANCE

27 3.0 .04

540

570

207

250 3.0 .00
2000

1700

650 1100

8400

330 1100

1300 2300 4.0 .02

o Septembei

on.

DIS-
SOLVED
CHLO-
RIDE

(CD

15

8.0

12

COLOR

(PL4T-
INU*-
COB4LT

2

5

7

POTOMAC RIVER BASIN

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD.

LOCATION. Lat 39°42 f 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

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. 0°C Aug. 7; minimum, freezing point Dec. 5.
Sediment concentrations: Maximum daily, 569 mg/1 June 27; minimum daily, 1 mg/1 Oct. 11-15, Dec. 1, 2.

Period of record:

Sediment concentrations: Maximum daily, 940'mg/l Mar. 25, 1969; minimum daily, 1 mg/1 on many days in 1967, 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

DIS- DIS-
DIS- SOLVED SCLVED
OIS- TOTAL SOLVED MAG- DIS- PO-

DIS- SILICA IRON GANESE CIUM SI'JM SODIUM SIU* RONATF 81NATE

CHARGE ISI02I (FEI (MNI (CAI (MGI (NA| (Kl (HC03I (C03I

OCT.
30..
DEC.

MAR.
12...
MAY

454

440

812

512

153

7.0

5.5

5.0

4.4

3.1

8.3

7.4

6.6

7.4

5.0

3.0

1.9

1.8

1.4

1.9

2.7

203

114

146

116

148

210

DIS-
OIS- SOLVED
SOLVFH CHLH-

CIS-
SOLVtD

FLun-

DIS-
SDLVEO
DI5_ SOLIDS
SOLVED (SU« OF

NON- SPECI-
CAR- FIT.
BGNATE CHNO-

(ST4I (CLI (Fl (N03I TUENTSI (C4i*G> NESS (MICRO-

COLOR

(PLAT-
INUM-
COBALT

OCT.
30...
DEC.
IP...
J N.

9.1

9.5 ISO

243

156

129

148

208

4JO

276

342

274

333

417

7.7

R.I

POTOMAC RIVER BASIN

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, KD. Continued

OCT NOV

15.0 11.0

17.0 a. 5

13.0 a.o

14.0 a.o
13.'5 7.0

13.0 8.5

16.5 6.5
10.5 5.0

10.0 4.5
9.0 S.O
12.0 S.5
9.5 6.5
9.5 a.O

14.0 9.0
10.5 3.0
5.0 4.C

5.0 3.5
4.5 4.0
4.C

PARTICLE-SIZE

DIS-
TIME CHARGE
(CFSt

0915 10500

1.0

1.0

2.0

2.0
3.5

4.0

3.5

3.0
3.0

3.0

2.0
1.5
0.5
1.0

2.0
1.5
2.0

BER 1969 TO

(ONCE-DAILY MEASUREMENT AT 0900)

1.0

1.5

1.0

1.
1.

"

1.5

1.0

1.5
1.5

3.0
1.5
1.5

4.5

4.0

4.5

4.5

2.C

3.0
3.0

4.0

4.5
4.0
4.5

DISTRIBUTION OF SUSPENDED

SUS-
PENDED
SUS- SEDI-
PENOEO MENT
TEMP- SED1- DIS-
ERATURE MEN7 CHARGE

IDEG Ct (MG/LI (T/DAYI

5.0 364 10300

4.0

5.0

4.0

5.0
5.5

5.0

3.5

4.C

4.0
3.5
4.C

4.5

4.0

SEDIMENT,

SUS.
SFt).
FALL
DIAM.
t FINER
THAN
. 002 MM

52

4.0

5.5

6.C
10.5

10.0

9.0

10.0
11.0

10.5

10.0
13.0
12.0

15.5

WATER YEAR

SUS.
SED.
FALL
DIAM.
* FINFR *
THAN
. 004 MM .

70

16.0

13.5

14.5

12.0
14.0

la.o

18.5

19.0
16.0

15.0

18.5
18.5
19.0

15.5

JUN

6.5

8.5

e.o

s.o
9.0

2.0

e.o

9.0
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e.s
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0.0

a.o

16.0

OCTOBER 1969 TO

SUS. SUS.
SED. SEO.
FALL FALL
DIAM. DIAM.
FINER « FINER
THAN THAN
001 MM .016 MM

85 94

JUL

22. C

21.0

20.0
22.0

21. C
21.0

21.0
22.0

21.0
22.0

22.0

20.0
21. C
20.0
22.0

23.0

22.0

SEPTEMBER

SUS.
SED.
FALL

DIAM.
* FINER
THAN
. 031 MM

98

AUG

24.0

21.0

24.0

22.0

22.0
22.0

23.0
21.0

24.0
23.0

21.0

22.0
22.0
21.0
24.0
21.0

21.0

22.0

24.0

1970

SUS.

SEO.
SIEVE
OIAM.
* FINE"
THAN
,0f,2 MM

99

SEP

19.0
20.0
24.0

21.0

1S.O
19.0
19. C

ie.c
20.0

le.o
21.0

21.0
21.0
21.0
19.0

19.0
20. 0
20. C
20.0
22. C

21.0

18.0

SUS.
SED.
SIEVE
DIAM.
* FINER
THAN
. 125 MM

100

POTOHAC RIVER BASIN

01614500 CONOCOCHEAGUE CREEK AT FAIRVIEW, MD. Continued

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

OCTOBER NOVEMBER DECEMBER

MEAN
DISCHARGE
<CFSI

87
1D1
287
226
155

127
120
117
113
107

101
99
It
99
93

93
94
90
89
48

93
93
«9
87
ae

8R
89
69
IS
89
95

3360

DISCHARGE
ICFSI

720
630
560
520
480

490
490
402
400
450

490
450
440
430
420

400
400
450
470
430

359
360
450
410
390

390
420
440
870
1400
1230

16201

MEAN CONCEN-
TRATION

(MG/LI

5
17
53
6
3

4
3
2
2
2

1
1
1
1
I

2
2
2
2
2

2
2
2
4
7

2
2
2
2
3
6

-

JANUARY

MEAN

TRATIQN

92
38
11
13
26

17
11
12
9
9

9
5
9
?

<;

c
9

<;
IS
2C

13
12
17
20
14

10
16
22

100 37*
100

SEDIMENT MEAN

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41
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1-

115
442
472
413

278
1 219
3 201
1 280
6 319

7 252
1 221
6 202
7 189
5 215

C 21C
1 177
9 165
8 165
8 436

C 511
0 364
8 305
4 275
248

8 221
8 205
8 191
8 183
1 175

67.92 7741

01SCHAR5F DISCHARGE

17S C=)0
62 660
17 440
18 520
34 680

22 24C
15 150
13 C3C
9.7 °56
11 820

12 650
11 82C
11 38C
10 070
10 947

9.7 967
9.7 773
11 716
24 749
23 865

13 6S2
12 727
21 1710
22 147C
15 1490

11 114C
18 566
26 653
235
1420
332

2637.1 37563

MEAN

4
IS
80 9.
3f 4

. 93 16
. 9 15
16
15
25 28 14

11
J
7
15 1
13 I

7
4
7
5
11

13
5
4
6
52 6

36 5
13 1
7

£

9

5
2
2
2
2

. 3 13
. 1 14
. 8 150
215
250

. 8 2260
. 4 1640
. 8 1010
. 6 824
. 4 724

. 4 616
. 4 515
. 8 451
. 7 427
412

364
385
. 8 409
. 5 398
. 4 307

. 0 280
. 1 400
. 0 450
. 99 37C
. 95 400
640

MEAN

1
1
2
4
3

2
3
4
5
10

511
130
39
14
13

12
7
6
6
7

6
27
12
6
3

128
149
20
5
4
20

397.07 14568

FEBRUARY

PEAN

TRATICN OISCHARGE DISCHARGE

60, 177 772
17C 76
420 300
145 98

> 743
902

r 1040
55 ?49 168C

25 127 1510
25 7
20 5
If. 4

3 1320
S 1190
i 1070
110 660 964

79 565 876
44 21
30 11
20 5
16 4

S 829
2 938
3 881
I 781

14 33 708
12 2
103 19
154 31
310 72

5 651
5 672
I 707
<, 1060

232 433 910
155 30
205 94
72 28

4 790
b 750
b 640
70 280 400

23 86 1260
21 5
23 5

_

__

5 138C
3 1260
1260
1330
1400

MARCH

MEAN

TRATIQN

16
11
56
106
123

47
29
25
23
13

1C
6
13
10
a

6
4
8
15
27

50
53
41
32
25

24
57
30
22
18
40

11769 35674

. 46
. 42
. 89
1.6
1.2

. 75
1.2
1.6
2.9
6.8

3100
576
106
31
25

20
9.7
7.3
6.S
7.8

5.9
28
13
6.4
2.5

97
161
24
5.0
4.3
35

426S.62

DISCHARGE

,,

22
136
2 8
5 8

1 I
1 3
0
6
4

24
13
33
24
17

11
7.0
15
29
77

256
256
IS4
142
94

82
212
102
75
65
151

3403. C

POTOMAC RIVER BASIN

01614500 CONOCOCHEAGUE CHEEK AT FAIHVIEW, HD. Continued

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

I
2
3
4
5

ft
7
9

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1C

11
12
11
1 4
15

16
17
1 B
19
2J

21
2?
23
24
25

'ft
27
28
29
30
31

TCTAL

1
2
3
4
5

6
7
9
9
10

11

12
13
1 4
15

1ft
17
IB
11
20

21
22
23
24
25

26
27
29
2°
JO
31

T JTAL

TJT4L

«E«N

185C
5750
Q 420
433C
2890

2320
2110
1740
1530
137C

1220
1110
1020
2100
6770

4300
2830
22QO
1790
1960

1350
149U
1330
1500
16RO

1430
1210
1IP3
1120
1C30
- -

72510

MEAN

3BC
36c
426.
5»C
400

32

213
273
2000
6090

223C
1240
907
730
638

IU40
1240
757
ftl7
552

5(36
504
442
42°
401

365
3 3 6
315
311
831
4P5

26C98

APRIL

MEAN
COMC EN-

66
27C
2HC
14C
95

59
37
If
22
1»

12
11
12
143
212

1C
5 f
25
34
43

4C

3 [
3^
? 5
41

2f
21
18
16
20
- -

"

JULY

fFAN
CUNCEN-

5C
132
360
22C

5C * c

30
54 C
21&

9C
3C
37
34
2°

63
107
47
36
32

37
2F
20
120
1C5

41
51
60
1 1 c
409
100

- -

SLSPPNOFO-SrDIMENT DISC

SEDIMENT

330
463C
T l 20
[64C
663

37C
211
13?
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°*° POTOMAC RIVER BASIN

01619000 ANTIETAM CREEK NEAR WAYNESBORO, PA.

LOCATION. Lat 39°42'59", long 77°36'28", Washington County. Md.. at highway bride

from confluence of West and East Branches, 1.9 miles northeast of Leitersburg, Md., 2*5 mile Waynesboro, Pa., and at mile 36.6.

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

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132 5.0 11.8 7.7 240

141 3.0 13.1 7.7 240

322 5.5 11.2 7.9 250

184 12.0 10.2 7.9 290

88 16.5 7.7 7.6 340

93 10.5 9.4 9.0 340

83 18.5 9.9 9.0 330

56 17.0 9.9 R.I 360

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B RESULTS BASED ON COLONY COUNT OUTSIDE THE ACCEPTABLE RANGE.

POTOMAC RIVER BASIN

01619500 ANTIETAM CREEK NEAR SHARPSBURG, HD.

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 Jan. 12-18.

Period of record:
Water temperatures: Maximum, 28.0°C June 28, July 1-3, 1963, Aug. 21, 23, 24, 1968, June 28, 1969; minin

\RKS. Temperature records poor, probably becau
collected from Burnside Bridge.

CHEMICAL ANALYSES, WATER

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222 44

232 42

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261 61

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(MICRO-

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162

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218

232

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244

POTOMAC RIVER BASIN

01619500 ANTIETAM CREEK NEAR SHARPSBURG, HD. Continued

CHEMICAL ANALYSESr WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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COBALT HC1LO (ALI (GDI (CUI (PBI (ZNI (CRI ITY
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POTOHAC RIVER BASIN

01619500 ANTIETAM CREEK NEAR SHARPSBURG, HD. Continued

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

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WATER-QUALITY RECORDS

POTOMAC RIVER BASIN

01631000 SOUTH FORK SHENANDOAH RIVER AT FRONT ROYAL, VA.

LOCATION. Lat 38°54'50", long 78°12'40", Warren County, at gaging station on left bank, 0.7 mile downstream from bridge on State Highway 619, 1.0 mile west of Front Royal, and 3.5 miles upstream from confluence with North Fork.
DRAINAGE AREA (revised) . 1,642 sq mi.
PERIOD OF RECORD. Chemical analyses: October 1948 to September 1949, October 1952 to September 1956, February 1967 to September 1970.
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diment records
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POTOMAC RIVER BASIN 553

01631000 SOUTH FORK SHENANDOAH RIVER AT FRONT ROYAL, VA. Continued

EXTREMES. 1969- 70: Cont inued

Water temperatures: Maximum, 28. 0°C Aug. 2; minimum, freezing point Jan. 23, 24.
Period of record:
Dissolved solids (1955-56, 1968-69): Maximum, 244 mg/1 Oct. 1-10, 1968; minimum, 95 mg/1 Mar. 27-31, 1969. Hardness (1955-56, 1968-69): Maximum, 176 mg/1 Oct. 1-10, 1968j minimum, 62 mg/1 Mar. 27-31, 1969. Specific conductance: Maximum daily, 465 micromhos Oct. 16-18, 1968; minimum daily, 81 micrombos Aug. 3, 1969. Water temperatures: Maximum, 32.0°C July 5, 1955; minimum, freezing point on several days during winter periods.
REMARKS. Chemical-quality data represent equal-volume composites for the periods indicated prior to Nov. 1, 1969 and for every seventh day thereafter.

CHEMICAL ANALYSES, hATER YEAR CCT08ER 1969 TO SEPTEMBER 1970

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POTOIIAC RIVER BASIN

01631000 SOUTH FORK SHENANDOAH RIVER AT FRONT ROYAL, VA. Continued

SPECIFIC CONDUCTANCE (MICRDMHQS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (ONCE-DAILY MEASUREMENT)

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POTOMAC RIVER BASIN

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5&b POTOMAC RIVER BASIN

01638500 POTOMAC HIVEH AT POINT OF HOCKS, 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 Hocks, 0.3 mile downstream from Catoctin Creek (Virginia), 6 miles upstream from Monocacy Hiver, and
at mile 159.5.

DRAINAGE AHEA. 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. 0°C Aug. 2, 30; minimum, freezing point on several days during December and Sediment concentrations: Maximum daily, 2,350 mg/1 Apr. 3; minimum daily, 2 mg/1 Dec. 26-28.
Sediment discharge: Maximum daily, 523,000 tons Apr. 3; minimum daily, 18 tons Dec. 27, 28.

Period of record:

years.

September 1964, July to September 1966, November 1967' January and December 1968, and January 1969.

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TD SEPTEMBER 1970

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01... 1690 1.0 6D 30 51 12 21 2.6 141 D
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01... 2970 2.4 150 40 36 7.6 12 1.8 86 0
JAN.
01... I160D 6.3 410 100 32 5.9 9.3 2.0 77 0
FEB.
01... 28800 5.5 30DO 570 19 3.8 4.3 1.7 22 0
MAR.
01... 10900 5.0 26 5.9 5.8 1.5 50 0
APR.
01... 24000 5.1 23 5.3 5.6 1.4 53 0
MAY
01... 15700 6.1 28 5.5 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... 6900 3.2 B30 60 44 9.0 9.7 3.0 129 0
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01... 2270 3.0 240 60 53 10 14 2.8 132 0

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01... 40 14 .2 4.9 154 109 46 260 7.7
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01... 35 9.1 .1 4.7 122 90 41 215 7.3 APR.
01... 32 6.2 .1 3.4 110 90 36 194 7.3 MAY
01... 31 6.1 .1 4.0 120 93 36 211 7.8 JUNE
01... 61 17 .1 4.1 202 153 66 355 7.5
JULY
01... 33 10 .2 4.3 149 113 36 26* 7.4
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01... 43 16 .2 5,5 197 147 42 351 7.6
SEP.
01... 60 24 .2 2.5 234 173 65 404 8.1

POTOMAC RIVER BASIN

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD. Continued

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

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.

POTOMAC RIVER BASIN

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD. Continued

SUSPENIEI-SEDIHENT IISCHARGE, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OCTOBER NOVEMBER

MEAN
MEAN CONC N- SEDIMENT

Dls:HAfciE TRAT [IN DISCHARGE 01
4Y (CFSI (MG/ 1 (TONS/DAY!

I 27 0 178
2 23 0
3 29 0
4 27 0

88
95
81
5 29 0 108

b 32 0 118
7 29 0
3 29 0
9 28 0

97
137
146
10 26 0 158

1 26 0 93
2 24 0
3 22 0
4 22 0

86
141
119
5 20 0 67

6 20 0 60
7 19 0
8 16 0
9 17 0
0 17 0

1 17 0
i 17 0
3 17 0
4 lj 0
5 16 0

6 IS 0
7 15 0
8 It, 0
9 17 0
0 170
1 17 0 I

~>TiL 63450

64
60
57
42

33
28
23
22
22

22
26
27
28
28

MEAN

(CFS)

690
670
780
240
640

23D
300
030
810
640

590
560
790
680
390

290
150
040
990
270

190
720
030
310
300

990
730
590
360
200
81

2340 102200

JANUARY

MEAN
fit AM CONCEN- SEDIMENT 1EAN

1 5200 79 4170
2 3100 24(
3 0000 19-
4 1300 102

22800
15800
6000
5 JOOO 00 2590

b 2700 24 823
7 UOO 1
8 0000
9 6500

336
243
140
10 4»00 14 166

1 4400 a 95
2 4400
3 5500
4 5500

71
89
89
5 uJUO 5 81

6 3500 4 59
7 5500
3 5760
9 0080

> 74
47
» 66
0 c.000 8 130

1 4bOO 8 99
2 4500
3 4600 1
4 5000 1

99
186
. 189
5 5500 19 282

6 aOOO 12 194
7 7250
8 dJOO
9 15300 2
0 IS103 4

117
133

1000
3600
2800
7900
3800

1300
7200
4700
3200
7300

1300
1200
7700
4600
2600

1100
0400
0300
1900
2600

5000
5500
4200
5500
5000

4200
3100
1900
1220
2200

MEAN
CONCEN-

(MG/LI

14
12
13
12
2D

18
13
13
11
30

37
38
34
29
21

28
21
18
20
20

20
21
23
16
14

16
16
17
18
17

-

FEBRUARY

MEAN
CDNCEN-

462
1010
444
112
92

50
34
21
12
42

60
58
44
28
18

12
6
6
10
10

14
14
15
20
26

20
14
12

SEDIMENT

(TONS/DAY)

64
54
62
73
2D5

06
51
41
13
95

59
65
48
88
92

49
79
48
61
77

72
11
50
86
63

72
61
65
63
47

5620

SEDIMENT

37500
63500
26500
B440
7150

2910
1580
833
428
1950

3410
3370
2130
1100
612

360
168
167
321
340

567
586
575
837
1050

767
495
386

1 31300 276 24500

MEAN

2950
2840
2760
2570
2510

2450
2410
2590
2620
2950

6040
15000
22BOO
20200
15600

12700
10700
9080
7800
7090

6510
6200
5670
4970
4840

3610
3330
3390
4200
4930
6590

207900

MEAN

(CFS)

10900
9720
9100
9320
11900

18400
21100
18900
16300
14400

12900
11500
10BOO
10800
10900

10300
8960
8460
8340
8820

2800
1900
3100
1300
9500

7300
5800
6000
7100
8100
0100

MEAN
CONC EN-

14
14
14
15
14

9
7
7
6
6

49
109
108
64
48

34
22
15
13
13

13
12
11
8
3

2
2
2
3
3
39

"

MARCH

MEAN
CONCEN-

(MG/LI

9
9
8
4
10

42
64
56
36
23

18
11
10
10
8

6
5
4
4
5

11
7D
154
88
40

68
41
22
31
48
69

SEDIMENT

112
107
104
104
95

60
46
49
42
50

786
4600
6660
3590
2020

1170
636
368
274
249

229
201
168
107
39

19
18
18
34
40
718

22713

SEDIMENT

(TONS/DAYI

265
236
197
101
321

2090
3670
2860
1580
894

627
342
292
292
235

167
121
91
90
119

404
4310
9690
5070
2080

3100
1750
950
1430
2350
3740

TTTAL 325590 168032

POTOMAC RIVER BASIN

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD. Continued

DAY

1
2
3
4
5

6
7
a

9
10

11
12
13
14
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16
17
16
19
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21
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24
25

2(,
27
28

2")
33
31

TTTHL

1
2
3
4
5

6
7
a
9
10

11
12
U
14
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16
17

la
19
20

21
22
23
24
25

26
27
28
29
30
31

TOT4L

TOTAL

Mi AN

(CFS)

23000
34200
EI370J
73400
45,00

35300
27900
23*00
20500
13000

10500
154JO
13900
16200
30600

45500
34600
26800
21700
19300

l^dOO
HJOO
17530
18600
39900

5UOO
3 ->J 00
27300
22200
ld30J

"WOO

UFS)

4960
4260
3390
4JOO
3t>00

3300
.loO
3390
't*30
19LOO

37300
22600
15000

loaoo
3320

7790
b700
u360
5360
4U90

4720
4540
1400
4300
4720

4470
4330
4360
3J90
oiOO
13300

234740

APR IL

MEAN
CQNCEN-

(MK/L)

100
935
1160
560
290

200
120
74
46
46

40
34
25
146
182

262
142
75
40
31

23
30
31
39
185

315
127
65
73
46

JULY

ME4N

(MG/L)

41
43
3T
25
22

28
31
30
472
1140

675
135
119
84
56

54
56
44
2°
27

22
19
17
17
23

24
27
2"
28
52
54

SJsPENOEO-SEDIMENT OISCI

SEDIMENT

{ T ONS/OAYI

6210
102000
246000
112000
35700

19100
9040
4680
2550
2240

1780
1410
938
7160
16600

31900
13300
5430
2340
1620

1500
1560
1460
2050
24000

43300
12300
4880
43SO
2330

719758

SEDIMENT

549
495
315
270
214

287
348
275
8700
60500

68000
11300
4820
2450
1260

1140
1010
756
420
356

280
233
202
197
293

290
316
318
302
913
1170

167979

HARSE FOR YEAR

MEAN

16400
L4400
13500
13600
12400

1L300
10400
9&30
8940
3320

7710
7460
o950
6670
6230

5940
6280
6440
7570
7320

6420
5730
5140
4830
5040

5440
6160
5890
5300
4380
4230

247070

1EJN

(CFSI

7200
6660
5360
4640
4160

3510
3300
3020
2950
2340

2800
2640
2590
2590
2670

2540
2500
2640
2480
2500

3170
3660
3380
3200
3290

3460
37UO
3160
28ftO
2490
2340

104380

(T3NSI

MAY

MEAN
CONCEN-

{MG/LI

32
36
34
29
23

24
28
48
42
24

25
27
17
16
20

19
22
14
23
28

19
9
16
23
30

40
38
28
25
22
17

"

AUGUST

MEAN
CONCEN-

(MG / L 1

40
50
40
34
30

17
34
25
17
18

21
22
21
24
21

22
29
32
30
31

41
103
101
66
22

35
40
39
40
19
16

SEDIMENT

1420
1400
1240
1060
770

732
786
1250
1010
539

520
544
319
288
339

305
373
243
470
553

329
139
222
300
408

588
632
445
392
290
194

18100

SEDIMENT

(TONS/DAY!

778
899
579
426
337

161
303
204
135
138

159
157
147
168
151

151
196
228
201
209

334
966
922
570
195

327
408
333
309
128
101

10320

MEAN
DISCHARGE

3830
3570
3370
3300
4020

7920
10100
10700
7970
6340

6130
5140
4400
4160
3660

3540
4230
6240
6360
6770

6290
6550
6770
5720
4890

4820
6390
8820
7860
6220

176080

MEAN

2300
2220
2190
2050
1870

1750
1700
1670
1640
1740

1850
1750
1720
1810
1610

1540
1520
1540
1510
1480

1500
1530
1560
1490
1510

1480
1510
1560
2180
2320

52100

JUNE

MEAN
CONCEN-

TRATION

11
9
18
18
28

58
49
48
37
28

24
20
20
18
18

16
20
86
59
29

29
30
48
54
22

18
42
64
66
50

"

SEPTEMBER

MEAN
CONC EN-

16
13
13
9
4

5
14
20
18
10

40
44
48
61
57

70
66
52
50
49

71
58
54
53
33

28
41
30
32
40

SEDIMENT
DISCHARGE

114
87
164
160
345

1290
1340
1390
796
479

397
278
238
202
178

153
228
1470
997
530

493
531
877
834
298

234
725
1520
1400
840

18588

SEDIMENT
01 SCHARGE

99
78
77
50
20

24
64
90
BO
47

200
208
223
298
248

291
271
216
204
196

288
240
227
213
135

112
167
126
188
251

4931

3333430
1270933

POTOMAC RIVER BASIN

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD. Continued

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

sus- sus. sus.
PENDEO SEO. SCO.
SUS- SEOI- FALL FALL
PENDED MENT OIAM. DIAW.
TEMPER- OIS- SEOI- DIS-
TIME ATURE CHARGE WENT CHARGE

DATE (DEC C) ICFSI IMG/LI [T/DAYI

DEC.
13...
JAN.
03...
31...
APR.
26...
JULY
12...

1115

1440

1415

SUS.
SED.

DIAM.

THAN
. 008 MM

3.0

1.0

16.0

SUS.
SED.

DIAM.

THAN
. 016 MM

29400

49800

SUS.
SEO.

DIAM.

THAN
. 031 MM

189

288

SUS.
SED.

CIAM.

THAN
. 062 PM

15000

38700

SUS.
SED.

OIAM.

THAN
. 125 MM

50

*2

SUS.
SED.

DIAM.

THAN
. 250 MM

63

59

sus.
SEO.

DIAM.

THAN
DATE .500 MM

DEC.

13... 79 89 90 9} 97
JAN.
03... 79 90 94 99 10D
31... 70 85 92 96 99
APR.
26... 78 83 96 98 100 JULY
12... 74 88 95 99 100

01639000 MONOCACY RIVER AT BRIDGEPORT, MD.

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.

DATE

DIS-

CHARGE

(CFSI

DIS-
SOLVED
ALUM-
INUM

(ALI
(UG/L 1

DIS-
SOLVED
IRON

(FEI
(US/LI

DIS-
SOLVED
MAN-
GANESE

(MN)
(UG/L)

DIS-
SOLVED
CAD-
MIUM

(COI
(UG/LI

DIS-
SOLVED
COPPER

(CUI
(UG/L)

DIS-
SOLVED
LEAD

(PBI
(UG/LI

DIS-
SOLVED
ZINC

(ZNI
(UG/LI

BICAR-
BONATF

(HC01I
(MG/LI

CAR-
BONATE

(C03I
(MG/LI

TOTAL
CHRO-
MIUM

(CRI
(UG/L)

DIS-
OIS- DIS- SOLVED
DIS- SOLVED SOLVED SOLIDS

DATE

OCT.
21..

SOLVED CHLO-
SULFATE RIOE

(S04I (CLI

FLUC-
RIDE

(Fl

(RESI-
DUE AT
180 Cl
(MG/LI (MG/LI (MG/LI (MG/LI

. 45 18

TOTAL
NON-
FILT-
RABLE
RESIDUE

OCT.
21... 22

BIO-
CHEM-
ICAL
DXYGEN
DEMAND

1.7

2 193

TOTAL

HARD-
NESS

(CA, MGI
(MG/L 1

144

NON-
CAR- COLOR
80NATE (PL«
HARD- INUf
NFSS COB/l

kT- TUB
1- BIO
iLT ITY

DC
(THS
Hr
(MG/LI UNITS! (JTUI NUME

52

DIS-
SOLVED
GROSS

PHORUS CYANIOF PHENOLS AS
(PI

. 32

(CNI

. 01

U-NAT.

5 .1

20

sus-
PFNDED
GROSS

as
U-NAT.

<.l

u

DIS-
SOLVED
GROSS

AS
CS-137

8.7

METHY-
LENE
BLUE

)OR ACTIV
!ES- SUB-
)LD STANC

E

E

IERI (MG/LI

1 .

SUS-
PENDED
G»OSS

as
CS-137

1.5

1

POTOHAC RIVER BASIN

01639000 MONOCACY RIVER AT BRIDGEPORT, K>. Continued

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

DATE

JULY,
24...
AUG.
21...
SE".
Dl...
OCT.
21...
NOV.
18...
DEC.
0<3...
JAN.,
05...
FEB.
02...
MAR.
10...
APR.
06...
MAY
04...
JUNE
02...
JULY
29...
AUG.
19...
SFP.
15...

TIME

1969
1100

1257

1040

1210

OB25

OB16
1970
0839

091?

0805

0800

0850

0716

1030

125B

0945

DIS-
CHARGE

(CFS)

110

17

3.8

12

33

480

170

1160

160

302

2S4

26

39

15

6.8

TEMPER-
ATURE

(DEG C)

22. 0

23.0

24.0

14.5

3. 5

. 5

. 0

. 0

3.0

6.5

16.0

22.5

26.0

25.0

21.0

DIS-
SOLVED
OXYGEN
(MG/L)

6.7

7.2

7. 9

9. 2

11.0

12.6

13.4

13.4

11.8

11.2

B.2

6.3

7.0

9.8

7.5

PH

(UNITS)

7.5

7.3

7.2

6. 7

7.5

7.5

7.2

7.2

7.4

7.5

7.0

7.3

7.6

8.2

7.6

SPECI-
FIC
COND-
UCTANCE

(MICRO-
HMD S>

2 SO

275

310

350

290

320

260

190

200

170

180

210

200

220

250

FECAL
COL1-
FORM
ICflL.
PER

100 ML)

890

260

B40

230

30

5000

120

1500

24

96

85000

320

120

240

B4

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
f rom 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 days during period of missing record.
Sediment concentrations: Maximum daily, 2,000 mg/1 July 10; minimum daily, 1 mg/1 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 periods.
Sediment concentrations: Maximum daily, 2,000 mg/1 July 10, 1970; minimum daily, 1 mg/1 on many days. Sediment discharge: Maximum daily, 67,900 tons July 10, 1970; minimum daily, less than 0.50 ton on many days.

- No

OCT.
08.
JAN.
03.
FES.
03.
MAR.
03.
APR.

oa.
MAY
03.
JULY
02.
AUG.
02.
SEP.
02.

DIS-
CHARGE

220

. . 1*50

.. 9450

779

. . 11300

.. 2250

392

424

217

CHEMICAL

DIS-
SOLVED
SILICA

IS (02)

7.8

1.7

5.6

6.5

. 7

7.1

. 6

2.1

ANALYSES, WATER YEAR OCTOBER 1969 TO

DIS-
TOTAL SOLVED
IRON IRON

IFE) IFE)

60

650

110

120

DIS-

MAN- MAN-
GANESE GANESE

(MN) IMN)

420

80

40

40

SEPTEMBER

OIS-

CAL-
CIUM

ICA)

25

9.6

23

16

20

30

25

36

1970

DIS-
SOLVED

NE-
SIUM

IMG)

6.3

2.2

5.3

4.0

4.8

5.4

4.8

6.2

DIS-
SOLVED
SODIUM

INA)

7.0

2.1

5.6

5.1

4.5

5.2

4.9

7.6

DIS-
SOLVED
PO-
TAS-
SIUM

IK)

3.0

1.7

1.5

3.0

2.4

2.7

3.3

3.6

562

OCT.
08...
JAN.
03...
FEB.
03...
MAR.
03...
APR.
02...
MAY
03...
JULY
02...
AUG.
02...
SEP.
02...

DATE

OCT.
oa...
JAN.
03...
FEB.
03...
MAX.
03...
APR.
02...
MAY
03...
JULY
02...
AUG.
02...
SEP.
02...

DATE

OCT.
oa. ..

01643020

CHC03I

97

56

21

61

3*

59

85

79

114

PH

(UNITS)

- -

7.3

7.5

7.4

6.6

7.3

7.8

7.9

B.2

BIO-
CHEM-
ICAL

DEMAND

(MG/L)

1.7

POTOHAC RIVER BASIN

MOHOCACY RIVER AT REICH'S FORD BRIDGE, NEAR FREDERICK, MD. Continued

CHEMICAL ANALYSESi HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

OIS-

(C03)

0

0

0

0

0

0

0

0

0

INUM-

UNITS)

10

4

5

4

20

5

1

15

5

METHY-
LENE
BLUE
ACTIVE

STANCE
1 MG/L I

. 10

DATE

OCT.
OB...
16...
NOV.
20...
. DEC.
11...
JAN.
07...
FEB.
04...
MAR.
12...
APR.
20...
MAY
13...
19...
JUNE
04...
JULY
29...
AUG.
17...
SEP.
30...

OIS-

($04)

23

30

13

19

23

19

20

19

17

DIS-

INUM

(UG/L)

100

'

TOTAL
PHOS-

IP)
IPG/L)

. 30

TIME

0900
1014

1417

1424

1440

1500

1415

1420

1543
1413

1500

1420

1400

1155

DIS-

(CL)

12

13

4.2

9.5

7.0

6.8

11

7.6

13

DIS-

MIUM

IUG/L)

1

(CN)
(MG/L)

. 00

DIS-
CHARGE
(CFS)

220
155

6BO

10600

735

3410

768

1920

595
660

306

317

238

169

DIS-

IF)

. 2

,2

. 1

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. 1

. 2

. 2

. 2

OIS-

IUG/L)

19

(UG/L)

1

ATURE

(DEC C)

17.0

6.5

4.0

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5.5

10.5

22.5
1B.O

23.0

27.5

26.5

15.0

(N03I

11

5.9

10

9.0

5.0

3.5

2.5

9.2

OIS-

(PB)
(UG/LI

4

DIS-

SOLVED
GROSS
ALPHA

li-NAT.

(PC/L)

. 4

DIS-

OXYGEN

(MG/L)

6.6

10.2

12.1

13.0

13.0

11.2

9.8

8.0
8.2

6.7

8.7

8.3

8.0

SOLVED

TUF.NTS)

131

51

110

91

92

127

107

151

DIS-

(ZN)
IUG/L)

100

SUS-
PENDED
GROSS
ALPHA

U-NAT.

(PC/L)

1.1

(UNITS)

6.6

7.4

7.4

7.5

7.8

7.8

7.6

7.4
7.2

7.4

8.1

7.9

7.6

(CA.MG)

107

89

33

80

57

70

97

82

116

ITY

(JTU)

35

DIS-
SOLVED
GROSS
8ETA

CS-137

(PC/L)

7.1

SPECI-
FIC
CONO-

(MICRO-
MHOS)

260

200

170

220

160

200

190

210
220

240

240

270

270

NON-
CAR-

NESS

(MG/L)

27

43

16

30

29

21

28

18

22

TOTAL
NON-

FILT-

(MC/L)

54

SUS-

PENDED
GROSS
8ETA

CS-137

(PC/L)

3.8

FECAL
COL1-
FORM
ICOL.
PER

100 ML)

26000

56000

19000

4200

1600

6400

3900

815000

12000

34000

5400

2900

SPECI-
FIC
CONO-

(MICRO-

221

90

199

146

171

244

183

275

DIS-
SOLVED
SOLIDS

(RFSI-

1»0 C)
(1G/L)

157

_-

DOOR

HOLD
NUMBER)

0

TOTAL
CHRO-
MIUM

(C*l
(UC/L)

0

B RESULTS BASED ON COLONY COUNT OUTSIDE THE ACCEPTABLE RANGE.

POTOIUC RIVER BASIN

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

(ONCE-DAILY MEASUREMENT AT

1
2
3

5

6
7
8
9
10

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2

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1
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4
5 1

6
7
8
9
0
1

VG

1 3. 0

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7.0 10.0

6.0 10.0
9.0

7.0 9.0
8.0 10.0

e.o 10.0

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3.0 7.0

5.0 7.0

6.0
4.0 4.0
4.0
9.0
0.0 5.0

7.0 5.0
9.0 5.0
9.0
9.0 5.0
9.0 5.0

4.5 8.0

PARTICLE-SI

DATE

DEC.
11..
NOV.
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DEC.
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Osl.
10..
APR.
02..
15..
JUNE
22..
JULY
16..

2.0

5.0

3.0
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4.0

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3.0

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2.0

ZE DISTRIBUTION OF

DATE

DEC.
11..
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DEC.
11..
FEB.
03..
10..
APR.
02..
15..
JUNE

JULY
16.,

TIME

1640

1820

16*0

1830
1910

1800
1800

2115

1910

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4.0

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2.0

2.0
5.0
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7.0
5,0

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3.0

SUSPENDED

ATURE CHARGE

5.

6.

5.

1.
2.

6.
8.

20.

23.

SUS.
SED.

THAN
016 MM

82
82

92

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0 2700

0 97ZO

0 9450
0 10800

0 11300
0 15800

0 37*0

0 7*10

SUS.
SFO.

8.0

4.0
5.0

6.C
7.0

5.C
6.C

5.0

5.0

5.0

5.0

4.0
7.0
B.O

9.0

10.0

4.0

SEDIMENT

SUS-

MENT

787

385

787

259
621

1133
276

1330

815

SUS.
SED.

6.0

8.0
9.0

e.o

12.0
13.0

12.0

a.o

13.0

12.0
14.0
12.0
13.0
13.0

15.0

17.0
19.0
20.0

, MATER

SUS-
PENDED

1800)

15.0
17.0

15.0

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24.0

20.0

17.0

20.0

24.0
24.0

24.0
21.0

23.0

21.0
21.0
21.0

JUN

25.0

22.0

20.0
?0.0

25.0
26.0

25.0

20.0

23.0

25.0

20.0
20.0
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22.0
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JUL AUG

26.0 26.0

28.0 26.0
26.0 25.0

25. C 25.0
25.0 25.0

22.0

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27. C 27.0

SEP

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22. C
25.0
26.0
26. 0

26.0

20.0
18.0
17.0

YEAR OCTOBER 1969 TO SEPTEMBER 1970

SuS. SUS. SUS.
SEO. SED. SED.

CHARGE THAN

22200

2S10

2C700

661D
18100

3*500
11800

13*00

16300

SUS.
SED.

THAN THAN THAN
031 MM .062 MM .125 MM .

9*
91

97

98
9*

98

99
98

99

49

*1

40

SUS,
SED.

THAN

53

5*

53

52
*6

48
50

69

6*

SUS.
SED.

THAN THAN
250 MM .500 MM I.

99

100
100

99

100

100

100

THAN

72

69

72

68
62

65
69

87

80

SUS.
SEO.

FINER
THAN
00 MM

POTOMAC RIVER BASIN

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

PCTrRFR

- (FAN
VF4N C1NCEN-

191 51
1010 176
601 145
151 75

'60 41
??7 46
?! 9 50

>! » no
?no 55

1 56 20
177 11
172 16
161 16
1 60 17

151 1?
I 41 10
' 43 7
146 4
1 40 3

160 20
2'5 26
? 74 1 3
1 40 1

14' 4

146 4
1 45 5
145 5
143 4
145 e

14] 4

6151

JAMJSRY

YE4N
MT/IN CriNCE'l-

1160 11
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I5in H
lino 16
son !2

'5fl 10
700 10

500] 2
450 ?1
400 1'

1°0 1
113 l
'RO 1
160 1
140 1

370 8
i?0 1
140 1
600 1
5^0 1

45Q 21
400 11
160 3
140 1
^4Q 1

5 C 0 10
665 11
617 20
1110 112
1^40 671
?'=60 "0

SFCIMENT

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5 6
2 i
1

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8
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6
0

10
6.2
7. 4
7.3
7.3

5.0
4,0
2.8
1.6
1.4

8.6
It
8.5
i.2
1.5

1,6
'.0
2.0
1.5
?« 0
1, 5

' 1»! .4

SFDIMFMT

124
122
7 1
48
"">

20
1 ^

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7fl
13

9.2
8.2
1.2
7.8

7. 1

6.9
6. O
7.1
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12

?P
14
8.7
1. "*
8.1

15
'3
1 7
1360
7160
55i

NOVEMBER

"E4N

144 1.6
15? 1
237 2
447 5
590 5

3U 1
244 1
264 2
8X1 9
611 6

419 3
346 7
307 1
216 1
272

265
251
226
248
1630 23

1110 11
596 3
474 1
436
387

345
116

29]
276
266

4.1
20
71
97

15
7.2
17
203
109

44
22
12
7.7
3.7

2.1
1.4
. 61
6.0
1290

390
60
22
11
9.4

7.5
5.1
4.7
5.2
5.0

12610 2454.31

FE1PU4PY

ME4N
"E4N CONCEN- SEDIMENT

1P90 45 230
?<;40 115 913
1170 134 8250
4000 120 1300
2020 4 K 245

1550 23 96
1350 16 " 58
1260 14 48
1280 19 66
8000 42° 10500

7370 225 4480
3410 70 644
2170 26 152
1600 18 78
1210 15 52

1250 18 61
1140 16 49
1110 8 24
!620 35 153
2120 72 412

1210 24 78
911 11 34
950 74 62
900 21 51
900 21 51

850 19 44
791 1° 41
793 16 14

MEAN

(CFSI

250
240
230
220
200

190
180
409
1100
1010

aooo
3040
1420
1080
1020

941
746
600
550
500

400
671
1050
828
580

340
460
550
600
650
1870

29925

MEAN
DI SCHARGE
I CFSI

719
694
754
045
1680

1470
1140
1030
953
871

812
787
1300
1380
992

807
720
739
896
1860

4350
21BO
3100
2070
1570

1?60
1720
1360
1730
2980
2740

DECEMBER

MEAN
CONCEN-

(MG/L)

a
10

a
10

ll

11
12
20
135
315

1010
150
45
17
13

13
13
12
10
12

14
21
36
14
10

8
8

a
7
9
69

"

MARCH

MEAN
CONCEN-
TRATI ON
IMG/L 1

13
25
22
IB
70

64
28
IB
16
14

14
14
31
29
14

10
8
15
15
53

345
95
130
57
22

24
60

aa
90
155
66

SEDIMENT

(TONS/CAY)

5.4
6.5
5.0
5.9
5.9

5.6
5.8
22
401
1320

19600
1230
173
50
36

33
26
19
15
16

15
45
102
31
16

7.3
9.9
12
11
16
392

23638.3

SEC WENT
DISCHARGE
(TONS/DAY*

25
*7
*5
46
333

254
86
50
41
33

31
30
109
108
37

22
16
30
36
266

4190
559
1090
319
13

88
279
323
420
1250
488

POTOMAC RIVER BASIN

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

SUSPENinFD-SFDIMF.NT DISCHARGE, hATFR YEAR OCTOBER 1969 TO SEPTEMBER 1970

APRIL MAY Jl

1
2
3
4
15

6
7
a
c

10

11
12
1 3
14
15

1*
1 7
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19
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21
2'
2'
24
25

26
?7
2fl
2=
30
31

TCTAL

DAY

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5

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1

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11
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14
IS

16
17
1H
13
20

21
22
23
24
25

26
27
28
20
'0
31

TCT«L

1CT4L
TOTAL

MCJN

- >a*Q
7630
0360
'140
23 7 0

11 = 0
?000
17<,o
1440
1.270

noo
1910
044
31.0Q
14000

6140
'970
'T40

nzo
'0*0

73^0

16=>T

1 440
2'60
'930

!070
1600
V440
1 '10
]! -.0

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?o'44

ME»N

n^CHAPGP

(CFM

1<,0
154

505 lie
410

3'1
>R4

'50

71 6
12000

74?0
14'0
Q ">4

f.71

!-qa 0
iq*0

7on
510

=;<.?
5?«
'-56
456
44?

407
'65
T">3

31 1
360
l"0

41611

MEAN
CONCFN-

55
767
86J
q?
50

3?
30
'5
25
30

20
17

15
550
1060

160
°?
66
55
4<*

63
55
39
112
215

110
63
43
31
30

- -

JULY

"EAK
CHNCEN-

TRAT I)N
(MG/LI

77
07
175
4,1
135

35
74
57
241

2000

164
182

<;»
6R
65

716
215
66
4 7
32

23
20
15
20
23

2"

33 >5
35
"*4

'06

SEDIMENT
DISCHARGE

443
'1300
20100
76C
320

172
162
117
07
103

50
46
35
H14D

37700

2650
73B
411
2fl5
264

306
251
152
K6B
2310

5fl5
272
156
134
04
"

107649

SEDIMFNT
riSCHAKGE

(TnNS/DAYI

77
q«
27f
34 =
149

B5
57
40
OK2
67900

21400
698
244

13?
us

9ROO
1150
i 63
"0
5?

41

20
1 8
25
27

31
33
31
'0
33
749

\04BB 7

SUSPFNnEQ-SEOlMENT DISrHARGF FGP YEAR

MEAN

103D
040
1640
1760
1110

956
85D
704
763
711

656
628
596
616
605

580
757
1000
6»3
551

4S5
445
424
424
611

62B
49B
426
390
367
340

22282

MEAN

(CFS 1

?OB
506
36B
306
279

J6P
257

<|34
645
344

279
252
233
297
332

270
244
212
200
150

212
197
255
297
244

215
191
176
166
15B
1K5

5128

(TOKSI

MEAN
CONCEN-

18
17
55
60
24

20
23
21
23
25

26

27

16
14
15

14
32
45
21
27

24
14
14
21
80

54
33
20
15
17
26

"

AUGUST

MEAN
CC1NCEN-

(MG/LI

150
58
35
17
12

22
25
134
237
73

30
5;
20
97
10?

60
51
37
42
«2

42
32
110
00
65

48
44

45
45
45
55

-

SEDIMENT
DISCHARGE

50
44
244
285
72

52
53
45
47
48

46
46
26
23
25

22
65
122
30
40

31
17
16
27
138

92
44
23
16
17
24

1839

SEDIMENT
DISCHARGE

(TONS/DAY 1

377
79
35
14
9.0

16
17
163
537
68

23
17
13
115
90

44
34
21
23.
44

24
17
71
72
43

28
23
21
20
11
27

2121.0

MEAN
DISCHARGE

ICFS)

337
327
313
305
438

863
755
555
420
361

323
298
282
267
253

365
576
532
619
667

582
2690
1260
594
454

529
1850
962
525
423

18725

MEAN
Dl SCHARGE
1CFSI

199
219
185
164
155

144
134
127
125
127

132
125
110
117
115

114
110
110
115
114

122
128
120
114
109

106
116
158
173
163

4059

MEAN
CONCEN-
TRATION
IMG/LI

22
19
20
21
78

245
230
120
5*
38

30
31
36
40
44

77
107
139
122
121

209
1120
370
135
67

166
1240
450
190
135

"

SEPTEMBER

MEAN
CONCEN-
TRATION
IMG /LI

30
30
23
24
27

34
37
38
36
30

21
20
22
25
30

30
32
32
26
IS

25
33
30
19
14

11
16
50
40
30

"

SEDIMENT
DISCHARGE

(TDNS/DAYI

20
17
17
IT
162

572
469

iao
61
37

26
25
27
29

io

83
166
203
206
218

378
8720
1260
217
82

251
6600
11TO
269
154

21666

SEDIMENT
DISCHARGE

(TDNS/DAYI

16
18
11
11
11

13
13
13
12
10

7.5
6.8
T.I
T.9
9.3

9.2
9.5
9.5
8.1
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8.2
11
9.7
5.8
4.1

3.1
5.0
21
19
13

308.3

3T1033
314*84.41

366 POTOMAC RIVER BASIN

01643500 BENNETT CREEK AT PARK MILLS, HD.

LOCATION. Lat 39°17'40", long 77°24'30", Frederick County, at gaging station 75 ft 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.

DIS-
SOLVED DIS-

DIS- INUM IRON
CHARGE I'D IFEI

OCT.
OB... 16 100 110

DIS-
SOLVED

IMNI

240

DI

DIS-
SOLVED

<CDI

0

S-

D(S- DIS- SOLVED

SULFATE RIDE RIDE DUE

(S04I (CLI Ift
DATE (MG/LI (MG/LI <MG/

OCT.
OB... 5.0 5.6

TOTAL
NON- 610-
FILT- CHEM-
RABLE ICAL
RESIDUE OXYGEN
DEMAND

OCT.
08... 0 .9

TIME
DATE

JULY, 1969
IT... 1200
AUG.
28... 1150
SEP.
24... 1420
0 T.
8... 1335
6... 1313
N V.
0... 1253
0 C.
1... 1224
J N.> 19TO
7... 13*5
F B.
4... 1400
M R.
2... 1300
A R.
0... 1230
M Y
13... 1300
19... 1205
JUNE
04... 1245
JULY
29... 1253
AUG.
17... 1200
SEP.
30... 0954

E ESTIMATED.

180

. 1

TOTAL
PHOS-
PHORUS

IP)

. 040

DIS-
CHARGE

(CFSI

6.5

12

IT

IB
14

51

157

4B

115

50

152

53
51

34

23

22

12

DIS- DIS- DIS- TOTAL

ICUI IPB) UN) (HC03I (C03I (CR)

25 12 60 47 0

METHY-
NON- LENE
CAR- COLOR BLUE

1

0

AT NESS HARD- INUM- BIO- (THRES- SUB-
Cl ICA,

70

CYANIDE
ICNI

. 00

ATURE

(DEG Cl

24. 5

18.0

16.0

17.5

5.5

6.5

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5.0

9.5

19.0
15.0

20.0

24.0

23.0

12.0

MGI NESS COBALT ITY HOLD STANCE

45 6 3 1 0 .0

01 S- SUS- DIS- SUS-
SOLVED PENDED SOLVED PENOEO
GROSS GROSS GROSS GROSS

PHENOLS AS AS AS AS

' ' °' L /U

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SPEC I- FECAL
FIC COLI-
OIS- CONO- FORM

OXYGEN (MICRO- PER
IMG/LI (UNITS) MHOS) 100 ML)

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10.4 7.3 120 ZOO

B. B 6.5 115 290

9.4 6.7 100
33 D

11.4 7.5 160 E1DOOOO

11.4 7.3 140 23000

13.2 7.3 110 39D

13.3 7.8 120 270

12.4 6.0 100 150

10.2 7.6 90 820

9. 0 7. 3 90
9.5 7.0 100 840

B. 2 7. 1 1 00 1 000

10.0 7.9 100 520

B.3 7.4 110 680

9.6 7.4 10O 160

POTOMAC RIVER BASIN

01645000 SENECA CREEK AT DAWSONVILLE, HD.

». Lat 39°07'41",
te High
miles

E AREA.

way 28, 150

long 77°
ft downs

20'13", Montgomery County
tream from mouth of Great

at gaging
Seneca Cree

station
k. 0.5

60 ft downstream
mile east Of Dawso

from bridge
nville, and
upstream from mouth.

101 sq mi

3F RECORD. Chemical analys

OCT.
27..
NOV.
25..
DEC.
24..
JAN.
26..
FES.
25..
MAR.
25..
MAY

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JUNF
25..
JULY
24..
AUG.
24..

D T.
7...
N V.
5...
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4...
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6...
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JUNE
25...
JULY
24...

AUG.
24...

DIS-
CHARGE

29

. 35

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61

. 87

104

394

67

no

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015-

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CHEMICAL

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es: Nove

ANALYSES

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270

250

160

100

370

280

220

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DIS-
SOLVED
SOLIDS

TUENTSI

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65

80

f>4

65

68

72

69

62

60

DIS-
SOLVED

SIUM
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2.9

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38

46

32

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39

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37

36

34

SEPTEMBER 1970

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SPFCI-
FIC
COND-

(MICRO-
MHDSt

110

110

135

103

106

114

111

106

102

IOD

BDNATE

(HC03I

40

35

30

24

22

24

20

32

36

34

(UNITSI

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7.6

7.8

BONATE

(CD3I

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COLOR

(PLAT-
INUM-
cnnuLT
UNITSI

0

2

2

2

0

3

30

R

0

5

POTOMAC RIVER BASIN

01647685 WILLIAMSBURG RUN NEAR OLNEY, MD.

LOCATION. Lat 39°08'32", long 77°05'48", Montgomery County, o
on golf course of Norbeek Country Club, 0.2 mile downstrea
and 1.8 miles southwest of Olney.

DRAINAGE AREA. 2.25 sq mi.

right bank 200 ft downstream from vehic
from Cashell Road, 0.5 mile upstream fr

PERIOD OF RECORD. Sediment records: mber 1966 to September 1968 (daily), October 1968 to Septembe (partial records).

EXTREMES. Period of record:
Sediment concentrations (1966-68); Maximum daily, 2,320mg/l Aug. 4, 1967; minimum daily, not deter Sediment discharge (1966-68): Maximum daily, 331 tons Mar. 7, 1967; minimum daily 0 ton on many da 1968.

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

MEAN
DIS-
CHARGE

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5.5
1.8

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2.8
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19
4.5
12
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50
1 ... 13
A
13... 13

SUS-
PENDED
SEDI-
MENT

268
25

230
38

150
50
285
48
253

819
145

446

SUS-
PENDED
SEDI-

MENT DIS-
CHARGE

13
. 10

13
. 24

5.4
. 67
43
. 93
18

161
8.4

60

MAY.
14...
24...
25...
JUNE
16...
17...
21...
22...
JULY
09...
10...
20...
21...
SEP.
10...
11...

MEAN
DIS-
CHARGE

6.4
16
6.7

5.3
1.8
14
3.0

20
11
38
5.6

5.2
. 75

SUS-

PENDED
SEDI-
MENT

62
367
61

279
73
702
80

571
126
397
48

718
100

SUS-

PENDED
SEDI-
MENT
DIS-

CHARGE

3.7
69
4.3

26
. 71
121
1.3

73
15
115
1.9

43
. 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 Muncaster Mill Road (State Highway 115), 0.7 mile upstream from Manor Run, 1.5 miles northwest of 2 miles upstream from mouth.

DRAINAGE AREA. 9.73 sq mi.

- Sediment records: Novembe

IED-SEDIMENT DISCHARGE FOR

NCV.
19...
20...
DEC.
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22...
APR.
01...
02...
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*»Y
13

MEAN
DIS-

CHARGE

14
15

54
32
37

11
54
IT
173
64

28

SUS-
PENDED
SEDI-
MENT

183
60

524
151
305

16
633
40
1110
252

718

r 1966 to Se

SELECTS DAY

SUS-

PENDED
SEDI-
MENT
DIS-

CHARGE

25
3.5

271
25
55

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143
1.8
819
64

291

jptember 1970 (partial records).

S, WATER YEAR OCTOBER 1969 TO SEPTEMI

SUS-
PENDED

DATE

MAY
14...
24...
25...
JUNE
16...
17...
18...
21...
22...
JULY
09...
10...
SEP.
10...

MEAN
DIS-

CHARGE

(CFS)

41
52
47

14
15
18
38
25

72
84

16

SUS-

PENDED
SEDI-
MENT

(MG/L)

501
1070
251

173
122
252
724
88

927
579

220

SEDI-
MENT
DIS-
CHARGE

(T/DAY)

167
800
95

28
10
30
299
20

655
519

28

POTOMAC RIVER BASIN

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 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 (part ial-records).

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

SUS-
PENDED
SUS- SEOI-
MEAN PENOEO MENT
DIS- SEOI- DIS-
CHARGE KENT CHARGE

OCT.
02...
DEC.
10...
11...
APR.
01...
02...
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15...
MAY
24...
25...

3.4

14
1.6

1.7
6.3
28
3.8

12
1.7

1160

1510
108

469
2540
2230
219

1480
90

D 1

75

237
. 71

9.8
134
365
2.8

3«0
1.0

DATE

JUNE
16...
17...
21...
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JULY
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AUG.
14...
SEP.
10...

MEAN
DIS-

CHARGE

(CFS)

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9.7
1.1

18

11

8.4

SUS-
PENDED
SEDI-
MCNT

(MG/L)

721
35
1450
92

714

482

563

SUS-
PENDED
SEDI-
MENT
DIS-

CHARGE

(T/DAY)

205
. 14
218
. 54

180

143

174

01647740 NORTH BRANCH ROCK CREEK NEAR ROCKVILLE, MD.

t of Rockville

LOCATION. Lat 39°06'09", long 77°07'12", Montgomery County, at gaging s Bernard Frank Lake, 370 ft upstream from moutb, and 2.4 miles northe

DRAINAGE AREA. 12.5 sq mi.

PERIOD OF RECORD. Sediment reo September 1967 to September 1970.

EXTREMES. 1969-70:
Sediment concentra

Sediment discharge

ons: Maximum daily, 185 mg/1 Nov. 20; minimum daily, 10 mg/1 many days during year.
Maximum daily, 28 tons Apr. 16; minimum daily, 0.15 ton Nov. 13-14.

Period of record:

Sediment concentrations: Maximum daily, 450 mg/1 Nov. 2, 1967; minimum daily, 4 mg/1 Jan. 12-13, 1968. Sediment discharge: Maximum daily, 28 tons Apr. 16, 1970; minimum daily, 0.01 ton Sept. 11-16, 1968. egulated by dam above station; drain gage at times; variable backwater at tin

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

nCTOBFR NOVE»B C R DECEMBER

"EAN VftN
MEAN CHNCEN- S cr>IMENT MEAN CONC N

(CFS) (MG/LI (TONS/DAY) (CFSI (><G / 1

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5 .39

<; .43
3 .49
? .48
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6 .41
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2 18
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4 11
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1 9.5
0 12

MEAN
CONCEN-
TRATION

(MG/LI

19
17
16
15
15

14
36
43
68
63

115
88
94
79
79

68
62
55
51
52

4S
48
52
49
48

42
42
35
35
3*

SEDIMENT

[DISCHARGE
(TONS/DAY 1

. 28
. 27
. 25
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. 23

. 22
. 56
. 72
1.1
1.7

11
7.1
5.6
3.8
3.2

2.0
1.6
1.2
1.0
. 95

. 79
2.3
3.4
2.4
1.9

1.4
1.2
. 93
. 90
1.1

POTOHAC RIVER BASIN

01647740 NORTH BRANCH ROCK CREEK NEAR ROCKVILLE, MD. Continued

JANUARY

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MEAN ONCEN- SEDIMENT

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13
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FEBRUARY

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MARCH

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SEDIMENT

(TONS/DAY!

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. 36
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.42
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. 78
.87
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. 38
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MEAN
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(CFSI

"EAN
CONCEN-
TRATION
(MG/Ll

SEDIMENT
DISCHARGE
(TONS/DAYI

MEAN
DISCHARGE

(CFSI

«EAN CONCEN-
TRATION
(KG /LI

SEDIMENT
DISCHARGE

(TONS/DAY!

MEAN
DISCHARGE

(CFS)

MEAN
CONCEN-
TRATION

(MG/LI

SEDIMENT
DISCHARGE

(TDNS/OAYl

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.74
.73

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1.6
1.3
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1.2
1.6
1.4
1.1

. 63
. 71
. 71
. 71
3.3

6.4

2.0
1.5
1.2

POTOMAC RIVER BASIN

01647740 NORTH BRANCH ROCK CREEK NEAR ROCKVILLE, HD. Continued

JULY

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30
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TOTAL

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7.
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7.

7.
7.
5.
13
61

49
37
24
16
1'

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«,?
7,1
7.9
10

59
50
39
26
16

11

Q.o
8.2
7.9
1'
12

565.2

27
26
30
35
40

45
47
53
17
63

26
25
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22
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6<j
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27
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33
27
21

,63
. 55
. 64
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. 15

. 90
. 31
. 99
1.7
10

3.4
2.5
1.6
. 9
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,5
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. 4 '
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11
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63.36

MEAN
DISCHARGE

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AUGUST SEPTEMBER

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2,5

2.0
1.3
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26.88

MEAN

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182.8

MEAN
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85
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SEDIMENT

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17.30

4953.7
504.1 6

572 POTOMAC RIVER BASIN

01649500 NORTHEAST BRANCH ANACOSTIA RIVER AT RIVERDALE, HD.

LOCATION. Lat 38°57'37", long 76°55'34", Prince Georges County, at gaging station at downstream side of brid

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

DIS-
SOLVED
ALUM-
DIS- INUM

DIS-
SOLVED
IRON

DIS-
SOLVED
MAN-
GANESE

DIS-
SOLVED
CAD-
MIUM

DIS-
SOLVED
COPPER

DIS-
SOLVED
LEAD

DIS-
SOLVED
ZINC

BICAR-
BONATE

TOTAL
CAR- CHRO-
BONATE MIUM

CHARGF (4LI (FEI (MNI ICDI (CUI (PBI (ZNI (HC01I (C03I (CRI

OIS- METHY-
OIS- OIS- SOLVED NDN- LENE
OIS- SOLVED SOLVED SOLIDS CAR- COLOR BLUE

SOLVED CHLO- FLUO- (RESI- HARD- BONATE (PL4T- TUR- ODOR ACTIVE

(S04I (CLI (Fl 180 Cl (CA

OCT.
33... 66 44

TOTAL
NDN- BIO-
FILT- CHEM-
RABLE
RESIDUE

OCT.
39... 38

DATE

JULYi
16...
AUG.

S P.

D

N

D

J

F

M

A

M

5...
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B.
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0...
JUNE
16...
JULY
30...
AUG.
18...
SEP.
21...

ICAL
OXYGEN
DEMAND

2.4

TIME

1969
1230

1200

1100

1152

1038
1970
1125

1208

1702

1300

1248

1021

1425

1230

1210

TOTAL
PHOS-
PHORUS

(P)

. 090

DIS-

(CFS)

10

26

17

26

58

70

88

38

2600

36

46

28

13

17

227

CYANIDE
ICNI

. 00

(OEG C)

38.0

19.0

9.0

9.0

5.0

. 0

1.5

8.0

9.0

22.5

19.0

29.0

26.0

22.5

MGI NESS COBALT ITY HOLD STANCE

44

PHENOLS

3

DIS-

IMG/L)

B.6

10.1

11.2

10.7

11.2

13.0

13.3

11.6

10.4

8.0

8.5

9.4

9.7

11. 0

^ 40

OIS- SUS-
SOLVEO PENDEO

»S AS
U-NAT. U-NAT.

. 2 .6

SPECI-
FIC
COND-

IMICRO-

IUNITS) MHOS)

8.0 370

6.8 240

6.7 390

7.5 300

7.2 260

6.9 830

7.0 240

7.1 200

6.9 100

7.0 320

6.6 240

7.8 330

8.2 340

8.4 520

48 0 .1

OIS- SUS-
SDLVED PENDFO

AS AS
CS-137 CS-I37

B.6 1.1

FECAL
COL I-
FORM

PER

100 NL)

600

1200

1200

90

2900

530

360

420

8800

580

7200

10000

3100

400

POTOKAC RIVER BASIN 573

01650050 NORTHWEST BRANCH ANACOSTIA RIVER AT NORWOOD, MD.

DRAINAGE AREA. 2.45 sq mi.

PERIOD OF RECORD.-Sediment records: March 1967 to September 1970 (partial records).

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

DEC.
10...
11...
APR.
02...
03...
14...
15...
MAY
24...

MEAN
DIS-
CHARGE

28
3.5

22
4.2
68
15

28

SUS-
PENDED
SEDI-
MENT

328
55

632
26
855
57

437

SUS-
PENDED
SEDI-
MENT
DIS-
CHARGE

83
1.7

106
. 33
365
2.8

168

MAY
25...
JUNE
16...
17...
JULY
09...
10...
20...
21,,.

MEAN
DIS-
CHARGE

12

6.4
2.6

30
12
29
5.0

SUS-
PENDED
SEDI-
MENT

171

168
108

442
1DL
220
42

SUS-
PENDED
SEDI-
MENT
DIS-
CHARGE

15

16
1.2

17*
15
128
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 (daily), October 1968 to September 1970 (partial records).

EXTRSedimente concentrations'(1966-68): Maximum daily, 279 mg/1 June 19, 1968; minimum daily, not determined. Sediment discharge (1966-68): Maximum daily, 24 tons Aug. 25, 1967; minimum daily, 0 ton on many days during 1968.

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

SUS-
PENDED
SUS- SEOI-
MFAN PENOED MENT

OCT.
02...
03...
DEC.

to...
U...
22...
JAN.
26...
27...

APR.
02...
14...

DIS-
CHARGE

. 76
. 29

2.9
1.0
2.D

. 71
. 64

2.4
6.0

SEDI-
MENT

80
9

122
16
86

43
18

332
319

DIS-
CHARGE

. 33
. 01

3.4
. 06
1.0

. 18
. 03

5.6
8.7

APR.
15...
24...
JUNE
03...
04...
16...
17...
JULY
09...

to...
20...
21...

sus-

MEAN PENDED
DIS-

CHARGE

1.6
1.0

4.2
. 94
1.6
. 70

2.6
t.D
3.1
. 77

SEDI-
MENT

50
29

347
15
149
25

244
43
397
98

SUS-
PENDED
SEDI-
MENT
DIS-

CHARGE

. 22
. 09

41
. 04
3.8
. 07

6.0
. 29
22
. 35

01650450 BEL PRE CREEK AT LAYHILL, MD.

LOCATION. Lat 39°

Pre Road, 0.5
2.9 miles upst

DRAINAGE AREA. 1.

PERIOD OF RECORD. -

05'27"

mile w
ream f

69 sq

- Sedim

, long 77°03
est of Layhi
rom mouth.

mi.

ent records:

11", Mo

11, 1.2 : ntgonery County

miles upstream

November 1962 to Sept

SUSPENDED-SEDIMENT DISCHARGE FOR

DATE

NOV.
19...
20...
DEC.
10...
It...
APR.
01*. .
02...
14...
15...

MEAN
DIS-
CHARGE
ICFSI

8.5
2.1

27
7.3

2.4
21
66
13

SUS-
PENDED
SEDI-
MENT

(MG/LI

291
20

361
112

295
963
868
211

SELECTED DAYS,

SUS-
PENDED

MENT
DIS-
CHARGE
IT/DAYl

24
. 11

68
4.3

9.3
103
259
9.6

, at ga
from Ll

iging station
ites Run, 1.8

ember 1970 (partial

WATER

DATE

JULY

in**
20'.'.'.

21...
AUG.

1 . "
CCD* * *

SEP.

to...

YEAR OCTOBER

MEAN
DIS-
CHARGE

(CFS)

32
12

7.2

tl
, * 2

7

130 ft
miles s

upstream from bridge
southeast of Norbeck,

records).

1969 TO

SUS-

PENDED
SEDI-

MENT

(MG/L)

390
73
372
136

273
25

229

SEPTEMBER 1970

SUS-

PENDED

MENT
DIS-

CHARGE

(T/DAY)

104
6.8

5.0

36
. 08

3 3

574 POTOMAC RIVER BASIN

01650500 JOHTHWEST 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 Colesvllle, 3 miles upstream from Burnt Hills, 10 miles upstream from Sligo Branch, and 12.5 miles upstream from confluence with Northeast Branch.

DRAINAGE AREA. 21.1 sq ml.

PERIOD OF RECORD. Sediment records: October 1962 to September 1970.

EXTREMES. 1969-70:

Sediment concentrations: Maximum dally, 3,530 mg/1 May 17; mini nun dally, 2 mg/1 on many days during year. Sediment discharge: Maximum dally, 2,280 tons Apr. 14; minimum dally, 0.02 ton Sept. 22, 23, 26.

Period of record:

Sediment concentrations: Maximum dally, 4,340 mg/1 Aug. 25, 1965; minimum dally, no flow on several days during August and September 1966.
Sediment discharge: Maximum dally, 4,670 tons Mar. 5, 1965; minimum dally, no flow on several days during August and September 1966.

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

MEAN

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2 31 40-°
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77
3.1
. 39
5 5.9 10 .16

6 5,4 E
» 5.4
n 7.6
9 6.1
10 5.1

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12 5.1
1.3 5,8
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!5 5.4

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11 5,4
19 5.4
20 5,4

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. 1 '
. 07
. 07

21 10 50 1.4
22 5,1 1
23 :,' 1
24 5,1 1
'5 5.4

) .31
3 .14
3 .14
3 .12

26 5.3 8 .13
27 5,8
21 6,2
29 5.4
30 5.4
31 5.8

TOTAL 215.9

5 .09
a .10
i .07
* .07
b .09

B4. 80

5. E
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7. 2
6.2
5.8

6.2
6.2
15
12
1.0

6.P
8.4
6.4
P. 4
B. C

6.5
6.5
6.8
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34

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8.8
8. 4
1.0

8. C
7.6
7.6
7.2
7.2

309.9

JANUARY

MEAN
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DISCHARGE THATI

N- SFOIMENT
ON DISCHARGE

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3 20 2
4 15 3
5 16 4

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0 .1
0 .2
0 .7

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812 2
o 11 '

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5 .11
0 .59
'0 11 !5 .45

I 11 10 .30
2 11 1
3 10 1

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0 .27
0 .27
5 9,8 10 .26

16 10 '
17 21 2
18 85 4
19 39 3

0 .27

0 1.)
0 9.2
0 3.2
20 19 ?0 1.0

21 13 15 .53
22 32 1
23 12 1
24 11 1
25 5 1 '

26 53 14
27 39 8
21 30 5
29 43 5
30 2° 2

3 .42
0 .32
0 .30
0 1 0

3 34
1 B.4
4 4.6
4 6.8
5 2.0

MEAN
DISCHARGE

(CFSI
' 6
34
70
24
19

17
15
15
2?
155

41
25
20
17
19

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20
36
42
24

IB
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16
16

14
14
14

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MEAN

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13

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. 10

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FEBRUARY

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925
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SEOIME NT
DISCHARGE

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21

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3
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. 77

. 37
. 28
. 20
9
374

5.3
1.0
. 43
. 32
. 51

. 36
. 54
2.7
4. 2
1.2

. 73
. 49
. 37
. 30
. 26

. 57
. 57
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-

11 11 15 .73

TOTAL 665,8 11.37 784 683.48

MEAN

7.2
6.B
7.2
5.B
6.5

6.5
29
44
14
16B

103
21
15
16
14

12
11
10
10
9.2

B. B
117
26
16
13

24
20
16
16
77
174

1024.0

MEAN
DISCHARGE

(CFS)
14
13
IB
25
28

19
17
16
15
15

14
17
20
15
14

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26
25
37

29
35
31
21
19

20
21
17
49
29
23

673

MEAN
CONCEN-

4
4
3
4
B

10
273
156
40
70B

184
20
15
12
12

10
10
17
12
10

15
492
65
15
10

30
20
10
15
285
481

MARCH

MEAN
CONCEN-
7RA7ION
(KG/I)
B
6
20
39
30

10
7
6
5
5

4
20
20
6
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4
4
69
20
212

64
109
38
10
7

20
13
8
196
34
25

SEDIMENT

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. 07
. 06
. 06
. 14

. 18
80
30
1.5
1000

114
1.1
. 61
. 52
. 45

. 32
. 30
. 46
. 32
. 25

. 36
227
5.5
. 65
. 35

1.9
1.1
. 43
65
123
334

1925.36

SECIMENT
DISCHARGE
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2.4

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. 32
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. 20
. 20

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. 92
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. 14
. 14
6.2
1.4
32

5.9
15
3.5
. 57
. 36

1.1
. 74
. 37
38
2.8
1.9

121.61

POTOMAC RIVER BASIN

01650500 NORTHWEST BRANCH ANACOSTIA RIVER NEAR COLESVILLE, MD. Continued

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KFSI

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167
41

26"

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IB
IP

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17
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544
157

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31

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31

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APRU

MEAN
CCNC CN-

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1 38
60

SEDIMENT

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1320
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. 9*
. 68
.43
. 39
. 34

. 73
. 23
. IP
'280
157

2.9
1.6
. 70
. 52
3.7

1.0
. 4?
2.5
23
4.9

MAY

MEAN MEAN CCNCEN- SEDIMENT

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160
D 673
19 40 2.1

17 15 .69
5' 353
24 3
18 ?

3 618
3 1.9
5 1.2
15 ?0 .81

13 15 .53
13 1
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55 77
127 54

.46
3 .32
3 572
517

35 ?.3 24 20 1.3 27
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MEAN

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JUNE

MEAN
CCNC EN-

36
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777
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SEDIMENT
DISCHARGE

1.2
.39
757
14
. 69

271
. 65
. 35
. 24
. 14

. 12
. 12
. 12
. 11
. 12

724
382
13
. 57
. 30

849
636
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. 07
1 -- 12 5 .16

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}
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TAL

1559

MFAN

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3,, 9
3,6

7.7
7,0
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123
194

20
14
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136

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SUSPENOFC1-

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JULY

MEAN CCNC FN-
TRATiriN

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140C
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SEDIMFNT DISC

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AUGUST

DISCHARGE

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632

1.1
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852

251
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HA1C,E FHC YEAR

MEAN

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e.4 i

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MEAN

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6." 7 .13 4.3

6. ' i
P. 7 4C

e.* l"
7. 3 t
6.6 1

.05
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6,6 5 .09
5.7 5
5.5 4
56 642
19 254

.08
.06
393
15

8.2 20 .44
7.1 1C
6.4 9
7.6 15

. 19
. 14
. 31
8.4 10 .23

7.2 7 .14
5.P 5
4? 685
11 50

e.c 40

7. 2 3C
6.5 28
6.2 ?0
5.7 10
5.3 7
c.? 15

321.5

(TOMS 1

.08
144
1.5
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. 56
.49
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560.71

3.5
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SEPTEMBER

MEAN
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SEDIMENT

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.02
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.08

222.58

P055.8
17269.04

576 POTOMAC RIVER BASIN

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

rom confluence with Northeast Branch.

AGE AREA. 49.4 sq mi.

)D OF RECORD. Chemical analyses: July 1969 to September 1970.

CHEMICAL ANALYSES, JULY 1969 TO SEPTEMBER 1970

DIS- DIS- DIS-
SOLVED OrS- SOLVED SOLVED OIS- OtS- OIS- TOTAL
ALUM- SOLVED t"AN- CAD- SOLVED SOLVED SOLVED BICAO- CAR- CHRO-
0[S- INUM IRON GANESE MIUM COPPER LEAD ZINC BONATE BDNATE MIUM
CHARGE (ALI (FE) (MM) (CD) (CU) (PBI (ZNI (HC03) (C03I ICR)

OCT.
23... 8.6 0 200 310 0 15 17 a

DIS-

OIS-
SDLVEC
SULFATE
IS04I
DATE IMG/LI

OCT.
23... 24

DIS-
SOLVED
CHLO-
RIDE

(CL 1
I MG/LI

15

DIS- SOL
SOLVED SOL

FLUO- (RE
RIDE OUF

VEO
IDS
SI-
AT

(MG/LI (MG/LI

. 2 129

HARD
NESS

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NC
CJ
BOK

N-
R-
ATE
HARD-

(MG/LI

72

(MG/L)

TOTAL
40N- BIO-
FILT- CHEM-
RABLE ICAL r..^-

TOTAL
Dune _
RFSIOUE OXYGEN PHORUS

DEMAND (PI

OCT.
23... 0 2.

TIME
DATE

JULY.

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JLY to..
JG.
IS..
:P.
21..

1969
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125S
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1315

1107

0957
1970
1035

1248

1747

1344

1325

1118

1500

1315

1140

0 .02

DIS-
CHARGE

(CFS)

4.3

17
14

27

B.6

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8.6

CYANIOE PHENOLS

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DIS
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. 8

. 8

. 7

. 8

. 5

. 9

. 9

. 2

. 7

. 3

19

DIS-
SOLVE
GROSS

AS

COL

(PL
INU

OR
AT-
M-

0 65 0 5

METHY-
LENE
BLUE
TUR- ODOR ACTIVE

BIO- (THRES- SUB-

UNITSI (JTUI NUMBER) (MG/L)

0

U-NAT.

PH

7

(UNITS)

7.

7.
7.

6.

6.

7.

7.

7.

7.

7.

7.

7.

6.

7.

7.

8.

5

4
5

6

5

3

3

0

9

8

2

3

9

7

6

1

15

SUS-
PENDED
GROSS

AS
U-NAT.

<.l

SPECI-
FIC
COND-
UCTANCE

(MICRO-
MHOS)

255

220
220

145

220

170

190

2000

210

220

70

230

230

170

290

170

42. 1

OIS- SUS-
SOLVED PENDED
GROSS GROSS

AS AS
CS-137 CS-137

16 <. 4

FECAL
COLI-
FORM

(COL.
PER

100 ML)

1900

829
110

980

78

240

2600

290

1400

130

12000

390

814000

812000

1600

540

B RESULTS BASED ON COLONY COUNT OUTSIDE THE ACCEPTABLE RANGE.

POTOMAC RIVER BASIN

01661000 CHAPTICO CREEK AT CHAPTICO, MD.

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

DRAINAGE AREA. 10.7 sq mi.

PERIOD OF RECORD. Chemical analyses: December 1965 to September 1970.

Chaptico and

OCT.
29...
DEC.
11...
JAN.
26...
MAR.
05...
APR.
13...
MAY
19...
JULY
02...
AUG.
05...
SEP.

OCT.
29...
DEC.
11...
JAN.
26...
MAR.
05...
APR.
13...
MAY
19...
JULY
02...
AUG.
05...
SEP.
18...

DIS-
CHARGE

1.5

23

12

8.0

16

1.5

DIS-
SOLVED

(S04I

6.9

17

12

15

12

9.2

9.6

7.6

6.8

DIS-

SILIC4
1 S 1 02 1

12

5.2

6.5

*

10

9.6

5.8

DIS-

CHLO-

ICL 1

6.3

6.2

4.9

5.9

5.5

5.5

5.4

6.0

6.5

IRON
IFEI

850

920

530

1500

4900

1900

DIS-

FLUO-

IFI

. 2

. 2

. 1

. 1

. 1

. 1

. 2

. 2

. 1

GANESE

(MNI

60

250

120

1

110

540

110

SOLVED

IN03I

. 3

1.2

1.5

2.4

1.0

1.8

2.7

. 2

. 5

DIS-

CIUM
IC4I

9.6

7.2

6.4

*

7.8

8.1

9.4

DIS-
SOLVED

(SUM OF

TUENTSI

61

50

43

53

46

52

53

54

57

DIS-
SOLVED

SIUM

IMG)

2.7

2.0

1.9

2.3

2.1

2.5

HARO-

(CAfMGI

35

26

24

28

27

29

29

34

33

SODIUM

(NA)

3.4

2.7

2. 5

3.0

2.6

3.3

NON-

80NATE

NESS

7

18

13

18

12

11

10

4

DIS-
SOLVED

SIUM

(Kl

2.2

3.0

1.2

1.6

1.5

1.7

2.0

2.1

SPECI-
FIC
CONO-

IMicnn-

96

83

70

94

92

R2

82

92

97

BONATF iHCtni

35

10

13

22

23

30

7.3

6.5

7.0

6.7

7.2

7.3

6.<3

- -

7.4

BONATE
IC03I

IMG/L)

0

0

0

0

0

0

0

__

0

COLOR

(PLAT-
INUM-
COBALT

5

9

9

5

5

20

50

10

7

RAPPAHANNOCK RIVER BASIN

01664000 RAPPAHANNOCK RIVER AT REMINGTON, VA.

bridge on U.S. Highway 29 at Remington, 0.3 mile upstream from Tinpot Run, 0.4 mile downstream from Ruffans Run, 2.5 miles downstream from Hazel River, and at mile 35.2.

DRAINAGE AHEA(revised). 620 sq mi.

PERIOD OF RECORD. Chemical analyses: October 1951 to September 1956, October 1965 to September 1970. Water temperatures: May 1951 to September 1956, October 1958 to September 1959, October 1965 to September 1970. Sediment records: April 1951 to September 1970.

EXTREMES. 1969-70:

Specific conductance: Maximum daily, 94 micromhos Sept. 30; minimum daily, 48 micromhos July 11.
Water temperatures: Maximum, 30.5°C July 3.
Sediment concentrations: Maximum daily, 987 mg/1 July 9; minimum daily, 1 mg/1 Sept. 3, 26,
Sediment discharge: Maximum daily, 5,870 tons Dec: 11; minimum daily, less than 0.5 ton on several days during September.

Period of record :
Dissolved solids (1968-69): Maximum, 62 mg/1 June 11-20, Oct. 21-31; minimum, 44 mg/1 Apr. 11-21, Dec. 21-31, 1968.

Hardness (1968-69): Maximum, 30 mg/1 Aug. 21-31, 1968; minimum, 19 mg/1 Apr. 1-10, 1968.
Specific conductance (1965-67, 1968-7O): Maximum daily, 148 micromhos Feb. 9, 1969; minimum daily, 48 micro-mhos July 10, 1970.
Water temperatures: Maximum, 32.0°C July 3, 1966, and June 30, 1969; minimum, freezing point on many days during winter periods.
Sediment concentrations: Maximum daily, 1,730 mg/1 Mar. 12, 1963; minimum daily, 1 mg/1 on many days. Sediment discharge: Maximum daily, 32,300 tons Mar. 12, 1963; minimum daily, less than 0.05 ton on many days during July and September 1966, May 28, 1967.

CIS- HAG-
MEAN SOLVFD CAL- NE-
DIS- SILICA IRON CIUM SIUM

CHARGE (SI02) <FE) (CA) (KG)

OCT.
01-10 422 11 30 5.7 1.7 11-2D 106 10 40 4.9 ?.l 21-31 155 10 30 5.7 '.0 NOV.
10... 650 11 50 6.6 1.1

CIS-
SCLVED
SCLICS

(F 1 (N03) (PC4I 160 C) (C«

OCT.
01-10 .1 .8 .01 55
11-20 .2 .0 .00 53
21-31 .2 .0 .00 48
NOV.
10... .2 .6 .08

PO-
TAS- BICAR-
SODIUM SIUM BONATE
(NA) IK) (HC031

3.1 1.6 26
3.4 1.6 29
3.4 1.* 21

2.8 1.3 22

NDK- SPEC1-
CAR- FIC

CHLO-
SULFATE RIDE

(S04) (CD

7.4 2.2
4.0 3.3
4.6 5.0

7.0 4.5

CCLCH

(PLAT-

,MG) NESS (MICRC- COBALT

21 0 60
20 C 62
22 0 64

21 3 60

7.1 5
6.8 1C
7.1 5

6.8 1C

RAPPAHANNOCK RIVER BASIN

01664000 RAPPAHANKOCK RIVER AT REMINGTON, VA. Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (ONCE-DAILY MEASUREMENT)

I
2
3
4
5

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7
8
g
10

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12
13
14
15

16
17
18
19
20

21
22
23
24
25

26
27
28
29
30
31

(ONCE-DAILY MEASUREMENT)

4.0
7.0
5.0
5.0
6.0

8.0
B.O
8.0
6.0
8.0

10.0
5.0
6.5
5.0
4.5

4.0
5.0
3.0
4.0
5.0

7.0
5.0

7.0
9.0

8.5
9.0
10.0
7.0
5.5
a.o

a.o
10.0
9.0
10.0
10.0

8.5
B.O
11.0
13.0
12.0

13.0
12.5
10.0
8.5
11.0

12.0
13.0
14.0
12.0
14.0

16.0
16.5
15.0
14.0
14.0

16.0
15.0
17.0
18.0
22.0

MAY

23.0
23.0
18.0
15.0
12.0

15.0
15.5
17.0
20.0
22.0

23.0
23.0
24.0
23.5
20.0

19.0
16.0
19.0
21.0
20.0

23.0
24.5
24.0
24.0
22.0

23.0
23.0
21.0
22.0
21.5.
22.5

24.0
25.0
25.0
23.0
25.0

23.0
23.0
24.0
25.5
26.0

27.0
28.0
25.0
22.0
20.0

25.0
26.5
28. 0
27.0

28.5
27.0
25.0
26.0
27.0

. .

18.0
23.0
23.0
27.0

JUL

27.5
28.0
30.5
28. 0
28.0

26.5
2S.O
27.0
27.5
22.0

22.0
24.0
25.0
24.0
27.5

28. 0
27.0
28.0
28.0
28.5

30.0
24.0
22.0
21.0
24.5

26.0
26.0
29.0
28.0
30.0
27.0

»UG

28.0
29.0
27.0
28.0
25.0

26.0
27.0
26.5
22.0
23.0

25.0
27.5
28.0
27.5
29.0

28.0
28.0
26.0
25.0

27.0
24.5
24.0
24.0
25.0

25.0
26.0
27.0
24.0
28.0
28.0

SEP

24.0
26.0
25.0
24.0
28.0

24.5
20.0
27.5

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- -
- -

- _

- -

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- -

RAPPAHANNOCK RIVER BASIN

01664000 RAPPAHANNOCK RIVER AT REMINGTON, VA. Continued

SUSPENOEC-SECIMENT DISCHARGE, hATER YEAR OCTOBER 196S TO SEPTEMBER 1970

OCTOBER

MEAN

1
2
3

5

6
7

d
9
10

11

12
13

1*
15

16
17
10
19
20

21
22.
23
2*.
25

20
27
28
29
30
31

TOTAL

MbAN LLINLtN- 5tUIMtNI
DISCHARGE TRATION DISCHARGE

160 5 2.2
185
1120 13
719 2

3.D
417
49
»75 13 17

376
328
304
290
260

237
225
215
205
19*

186
184
177
170
168

165
157
150
145
145

153
160
165 !
162
154
153

7887

8.1
5.3
6.6
4.7
3.5

3.2
3.6
3.5
3.3
2.6

2.0
2.0
1.4
3.2
3.2

1.8
. 85
1.2
. 78
1.2

.83
.86
6.2
1.7
1.2
1.2

562.22

NOVEMBER
MEAN
PEAN ULHNl^cfl-
DISCHARGE TRATICN

156
208
1C10
731
666

481
390
361
668
65C

503
433
40?
360
351

324
287
269
269
574

60C
'52
397
369
337

315
302
287
276
269

12697

JANUARY

PEAf,
MEAN CONCEN- SEDIMENT

i
2
3
4
5

6
7
b
9
lu

11
12
13
1*
15

16
17

la
L9
20

21
22
23
24
25

26
27
28
2S
30
31

2270 129 791
1490 52
1200 53
994 25
826 15

809 18
775 11
644 19
394 7
470 9

540 23
510 11
465 9
480 7
490 8

510 5
544 9
1100 81
1790 42
1210 13

979 12
770 10
620 10
570 12
590 1C

766 18
983 26
914 24
976 71
1270 118
1013 52

209
172
6T
33

19
23
33
7.4
10

34
15
11
9.1
11

6.9
13
241
203
42

32
21
17
18
16

37
69
59
187
405
142

P EAN

(CFS)

e&5
1330
3760
1?90
1440

1230
1120
1010
1C80
4490

2760
1770
1410
1210
1110

1C80
1010
1C40
1270
1160

S92
934
896
822
791

704
661
692

5
5
72
38
IS

5
6
6
58
21

13
7
6
6
4

3
5
3
4
66

25
10
12
6
3

3
3
3
3
2
~

~

FEBRUARY

MEAN
CCNCEN-

(MG/L)

28
45
373
132
64

63
53
31
41
121

231
102
58
46
23

24
19
30
67
30

21
20
22
IB
13

13
14
14
- -

SEDIMENT
DISCHARGE

2.1
2.B
196
75
32

6.5
6.3
5.8
105
37

IB
B.2
6.5
5.8
3.8

2.6
3.9
2.2
2.9
105

41
12
13
6.0
2.7

2.6
2.4
2.3
2.2
1.5
"

713.1

SEDIMENT

(TONS/DAY)

65
162
3790
709
249

209
160
85
120
1470

1720
487
221
150
69

70
52
84
230
94

56
50
53
40
28

25
25
26

DISCHARGE

262
259
234
246
261

223
232
930
1550
710

3470
2710
142"
1140
977

812
695
619
577
540

480
605
835
631
512

621
1050
804
746
834
2930

27915

MEAN

624
607
609
657
840

743
652
624
597
577

550
530
606
557
505

481
458
550
778
939

1130
1020
1170
1000
898

830
80D
718
837
1250
1170

DECEMBER
PEAN

TRATION

8
52
15

627
152
66
38
24

15
15
11
11
9

6
26
11
10
5

21
25
19
14
21
666

PARCH

PEAK
CGNCEN-

16
11
13
16
43

15
12
10
9
6

8
9
10
7
7

8
3
41
12
45

48
26
37
22
13

11
13
8
35
76
35

DISCHARGE

1
6
3
3
2

3
3
223
2190
29

587C
1110
253
117
63

33
28
18
17
13

7
42
25
17
6

35
71
41
28
47
5270

15578

.4
. 3
.2
. 3
.8

. 6
. 1

.8

.9

.4

SECIMENT

27
18
21
28
98

30
21
17
15
9

12
13
16
11
S

10
3
61
25
114

146
72
117
59
32

25
28
16
79
257
111

3

5

7

RAPPAHANNOCK RIVER BASIN

01664000 RAPPAHANNOCK RIVER AT REMINGTON, VA. Continued

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

APRIL MAY

MEAN
DISCHARGE

1 1130
2 2000
3 3000
4 1700
5 1400

b 1210
7 1130
8 1000
9 920
10 851

11 765
1
1
1

i 726
3 699
* 1320
15 1630

16 1370
1
1
1

7 1120
8 1010
9 907
20 917

t
2
2
2

1 525
2 801
3 1010
* 2190
25 1570

26 1300
2
2
2
3

7 1190
8 1080
9 996
0 805

CONCEN-
TRAT ION

*0
1*8
622
190
117

37
36
22
31
26

20
12
12
223
111

57
22
31
13
22

22
15
88
161
**

31
35
19
19
1*

SEDIMENT
DISCHARGE

122
799
50*0
872
**2

121
110
59
77
60

*1
2*
23
813
503

211
67
85
**

5*

55
32
2*0
952
187

133
112
52
51
34
31

TJTAL 36812

OA

1

1
1
1
1
1

MEAN
01 SCHARGE
1 'CFS1

128

1*3
162
231

181
125
103
159
17*0

1050
618
325
232
198

16 193
IT
1

1C

179
1*1
116
20 102

21 236
22
23
24
25

2d
27

252
1*6
1200
708

403
287
28 233
29 271
30
31

551
549

JULY

MEAN
CONIC EN-
TRAT ION

(MG/L)

*

8
5
*8
15

10
*

5
987
736

617
69
43
16
8

6
6
5
*
*

52

45
8*
236
55

14
a
7
25
271
69

TUTAL 11076

11*15

SECIMENT

(TDNS/DAY)

1.4
2.5
1 .9
21
9.4

4.9
1.*
1.4
424
3460

1750
115
38
10
4.3

3.1
2.9
1.9
1.3
1.1

59
31
33
765
105

15
6.2
4.4
18
403
102

7397.1

MEAN

802 12 26
745 1
?38 6
1090 3

2 24
1 154
1 91
?*8 17 4*

812 10 22
715
474
637
578

526
496
474
458
416

417
613 15
729 4
498

8 15
7 13
9 15
9 14

7 9.9
5 6.7
6 7.7
7 8.7
5 5.6

7 7.9
5 257
1 81
9 12
423 12 14

376
3*0
322
331 1

9 9.1
6 5.5
6 5.2
9 17
**6 46 55

456 12 15
429 4
342 1
294 1
275 1
264

16866

AUGUST

4 51
6 15
0 7.9
0 7.4
6 4.3

1020.9

MEAK
MEAK CONCEN- SEDIMENT

423 24 27
277 1
216
187
194

151
143
132
557 27
230 2

174
14?
122
107
109

130
103
118
101
269 8

8.2
2.9
2.5
1.6

1.6
2.3
1.1
417
16

3.3
2.0
.99
.87
1.5

1.8
1.4
.96
1.4
58

312 47 40
234 12
157 1
220 1«

7.6
3.0
8.3
215 7 4.1

138 36 13

110 (1.8
95 5 1.3
84 8 1.8
74 4
66 3

5597

.80
. 53

63*. 65

(CFSI

259
249
244
482
463

337
414
326
269
239

221
208
232
261
203

204
258
271
234
201

172
18?
188
151
133

127
324
304
180
144

7480

61
56
51
49
48

47
43
40
37
36

61
60
56
46
38

34
31
29
40
36

38
43
35
31
28

29
29
31
37
39

1239

MEAN

(MG/L)

9
6
5
126
26

24
23
14
7
5

6
6
14
12
6

5
14
7
6
3

4
6
5
3
3

3
175
31
12
7

"

SEPTEMBER

MEAN

8
5
1
2
4

e

c

6
7
9

14
13
8
11
14

1
7
5
5
6

7
7
5
4
3

1
4
2
3
2

(TCKS/D4YI

6.3
4.0
3.3
164
33

22
26
12
5.1
3.2

3.6
3.4
8.8
8.5
3.3

2.8
9.8
5.1
3.8
1.6

1.9
2.9
2.5
1.2
1.1

1.0
153
25
5.8
2.7

526.7

SECIMENT

1.3
. 76
. 14
. 26
. 52

. 63
.58
. 65
. 70
.87

2.3
2.1
1.2
1.4
1.4

.83
. 59
. 39
.54
. 58

. 72
.81
.47
. 33
. 23

. 08
.31
. 17
.30
.21

21.37

TOTAL iUSPENOEC-SEDIMENT DISCHARGE FCR YEAR (TCKS)

582 RAPPAHANNOCK RIVER BASIN

01668000 RAPPAHANNOCK RIVER NEAR FREDERICKSBURG, VA.

LOCATION. Lat 38°19'20", long 77°31'05", Spotsylvania County, at gaging station on right bank, 1.6 miles upstrea from dam of Virginia Electric and Power Co., 2.2 miles downstream from Motts Run, 3.8 miles upstream from Fredericksburg, and at mile 4.4.
DRAINAGE AREA (revi sed) . 1,596 sq mi.
PERIOD OF RECORD. Chemical analyses: April 1929 to March 1930, October 1955 to September 1956, February 1967 to September 1970.
Water temperatures: October 1955 to September 1956, April 1968 to September 1970.
EXTREMES. 1969- 70:

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G.
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9...
PT.
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MEAN
DIS-

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422
372

1090
648
1110

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2230
390
1690

9100
1640
1350
1800
3000

3340
4080

1500

1350
1140
2600
1450

4410
1610
2090
3810

1580
13*0
880
736
712

712
528
450
307

298
2480
334
2280

920
295
289
510
244

138
386
150
126

Maximum daily, 188

DIS-
SOLVED
SILICA IRON

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9.6 60
9.1 70

10 100
9.6 250
9.6 50

8.3 270
1C 40
11 340
11 100

9.5 50
11 140
11 110
10 140
8.3 100

9.4 60
9.1 40

11 70

11 40
11 80
a. 5 40
9.6 150

8.3 10
10 0
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8.7 0

9.7 0
9.8 0
9.2 0
10 0
12 0

12 60
10 50
10 0
7. 8 0

6.9 10
6.4 20
10 100
8 .5 60

10 50
9.9 HO
7.5 100
7.4 30
S.6 20

6.2 20
5.3 10
5.9 60
6.1 60

CAL-
CIUM

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5.4
7.3

6.2
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8. 8
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7.0
6.8

MAG-
NE-
SIUM SODIUM

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2.6

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1.6 l.a
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7.5

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PO-
TAS-
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2.4
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3.6

BICAR-

Aug. 5.

CHLO
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30
32

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14
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25
21
20
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16

14
IB
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16
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2B
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3D
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24
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9.4
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B.2
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B.8
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7.B
9.8
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5.B
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6.4

HAPPAHANNOCK RIVER BASIN

01668000 RAPPAHANNOCK RIVER NEAR FHEDEHICKSBURG, VA. Continued

al days during July and August; minimum, freezing point Dec. 2-4,

EXTREMES. 1969-70: Cont inued
Water temperatures: Maximum, 28.5°C on
15.
Period of record:
Dissolved solids (1955-56, 1968-69): Maximum, 69 mg/1 June 11-20, 1969; minimum, 37 mg/1 Mar. 21-31, 1930. Hardness (1955-56, 1968-69): Maximum, 30 mg/1 Aug. 21-30, 1965 and 1969; minimum, 14 mg/1 June 21-30, 1929. Specific conductance: Maximum daily, 188 micromhos Jan. 1, 1970; minimum daily, 31 micromhos Jan. 19, 1969.

HKS. Chemical-quality data represent equal-

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11-2C
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FEB.
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M R.
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SEPT.
05...
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3.5 .00
2.7 .01
2.6 .00

3.6 .07
3.7 .01
4.5 .14
3.8 .01

3.7 .02
4.3 .08
4.2 .02
3.5 .00

3.2 .00
2.4 .00
2.7 .00
2.5 .01

4.8 .08
3.1 .01
2.0 ,C1
2.3 .01

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1.8 .00
2.0 .00
2.1 .00
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1.8 .02
2.3 .00
1.7 .00
,C .00

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5.2 .20
1.9 .00
2.7 .04

3.4 .03
l.C .00
. 8 .00
2.5 .00
. 2 .CO

. 0 .03
l.C .00
. 3 .00
. 1 .03

volume

CIS-

SCLVEC
SCLIDS

52
52
53

42
41
45

44
50
5C
55

63
52
66
59

56
7C
73
60

52
46
57
56

65
61
63
62

55
52
54
54

e?

6C
55
58
53

51
70
61
67

61
50
5C
74
56

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68

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composites

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28

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31

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periods i

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58
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a
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76

74
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71

68
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71

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aa
97

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(UNITS)

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prior to Nov.

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(PU*T-
IM.P-
COCAUT

UNITS)

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C

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20
2C
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1C
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2C

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25
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15
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2C
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35
0
C

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C
0
10
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10

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20
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5

C
35
15
30

25
5
5
3C
15

1C
20
15
1C

RAPPAHANNOCK RIVER BASIN

01668000 RAPPAHANNOCK RIVER NEAR FREDEHICKSBURG, VA. Continued SPECIFIC CONDUCTANCE (HICROMHOS/CM AT 25°C>, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (ONCE-DAILY MEASUREMENT)
NOV DEC JAN FEB MAR APR MAY JUN JUL A
56 188 76 71 83 60 69 68

RAPPAHANNOCK RIVER BASIN

01668000 RAPPAHONNOCK RIVER NEAR FREDERICKSBURG, VA . Continued

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

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Z.5 4.0 6.0

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0.0 21.5 23.5 26.5 2B.5 25.5

6.0 21.5 23.5 28.5 26.5 22.5 9.0 21.5 25.5 28.5 27.5 20.5 24.5 28.5 28.5

YORK RIVER BASIN

01673000 PAMTOKEir RIVER NEAR HANOVER, VA

from Mechunps Creek, 2.0 miles east of

LOCAT ION.--Lat 37 46'03", long 77 19'57", Hanover-King William County
on downstream side of bridge on State Highway 614, 0.3 mile upstt
Hanover, and 7.0 miles upstream from Hillpond Creek.
DRAINAGE AREA (revised). 1,081 sq mi.
PERIOD OF RECORD. Chemical analyses: October 1945 to September 1946, February 1967 to September 1970. Water temperatures: October 1949 to September 1946, April 1968 to September 1970.
EXTREMES. 1969-70:

Specific conductance: Maximum daily, 142 micromhos Sept. 27-30; minimum daily, 53 micromhos Mar. 30. Water temperatures: Maximum, 27.5°C July 28 to Aug. 2; minimum, 1.0°C on several days during January.

CHEMICAL ANALYSES! HATER YEAR OCTOBER 1969" TO SEPTEMBER 1970

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01-10
11-20
21-31
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28...
DEC.
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09...
16...
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27...
MAR.
06...
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27...
APR.
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28...
SEPT.
11...
18...
25...

MEAN
DIS-
CHARGE

357
252
208

398
493
267

275
3080
520
1200

5290
600
725
1310
1250

1930
2810
2030
910

875
623
7*8
1130

3170
1160
2670
1330

1130
1210

495
605

308
236
203
163

80
158
152
595
264

113
251
162
88

38
43
32

SILICA

(SI02)

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15
14

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14

14
9.9
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9.2

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7.5
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9.7
9.4
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DIS-
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470

320

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230
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CAL-
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CHLO-
SULFATE RIDE

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YORK RIVER BASIN ao

01673000 PAMUNKEY RIVER NEAR HANOVER, VA. Continued

Period of record:

Dissolved solids (1945-46, 1968-69): Maximum, 81 mg/1 June 11-20, 1969; minimum, 41 mg/1 Feb. 11-19, 1946. Hardness (1945-46, 1968-69): Maximum, 32 mg/1 July 21-27, Oct. 1-31, 1968, Aug. 11-20, 1969; minimum, 15 mg/1 Feb. 11-19, Mar. 21-31, and May 1-10, 1946.
Specific conductance (1968-70): Maximum daily, 142 micromhos Sept. 27-30, 1970; minimum daily, 53 micromhos Aug. 5, 1969, Mar. 30, 1970.

periods.
REMARKS. Chemical-q

OCT.
01-10

11-20
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FEB.
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APR.
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FLUG-

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CIS-
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SCLICS

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72
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74
74

83
84
88
90

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6.9

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7.1
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(PLAT-

COBALT

UN ITS(

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3C
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1C
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10...
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31...
AUG.
07...
14...
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3. 1
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7.0
6.9
7.0

YORK RIVER BASIN

01673000 PAMUNKEY RIVER NEAR HANOVER, VA. Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25°C), WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (ONCE-DAILY MEASUREMENT)

YORK RIVER BASIN

01673000 PAMUJTKEY RIVER NEAR HAHOVER, VA. Continued

TEMPERATURE

11.0 1.0 4.5 3.0 5.0 6.0 19.0 9.0 5.0 3.0 5.0 6.5 19.0 9.0 5.0 2.5 5.0 6.5

19.0 9.0 6.0 1.0 6.0 7.5 18.5 9.0 6.0 1.0 5.5 3.0 9.5 6.0 1.0 5.5 8.0
18.0 9.5 5.5 1.0 5.5 9.0

18.0 9.0 5.5 1.0 5.0 9.0 18.0 9.0 6.0 1.0 4.5 R.O 17.5 8.0 5.0 1.0 4.0 7.5 17.5 8.0 5.0 1.0 4.0 7.5

U.O 6.0 4.0 1.5 4.0 7.0

U.O 6.5 1.0 1.5 5.0 7.0

10.0 3.0 4.5 6.5

7.5 19.0
8.0 19.0

0.0 19.0
0.5 19.0
0.5 19.0
1.0 19.0

1.0 19.5
1.5 20.0
1.5 20.5

4.0 22.0

5.0 23.0

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590 ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS IN NEW HAMPSHIRE, RHODE ISLAND, MASSACHUSETTS, AND VERMONT

OCT

MAY

JUN

JUL

AUG
04...

DEC

MAR

JUN

SEP
08...

DEC

MAR

JUN

SEP
08...

DEC

MAR

JUN

SEP

DEC

MAR

JUN

SEP
08...

DEC

MAR

JUN

SEP
08...

DIS-
DIS- SOLVED
DIS- SOLVED SOLIDS

SOLVED MAN- CHLO- (RESI-

MERRIMACK RIVER BASIN

01075000 PEMIGEWASSET RIVER AT WOODSTOCK, N.H (LAT

0900 150 -- -- -- 12

NARRAGANSETT BAY

01109150 MOUNT HOPE BAY NEAR BRISTOL, R.I. (LAT 41

1215 -- 140 90 4000 15200 31200

01115050 PROVIDENCE RIVER OFF FIELDS POINT, NEAR PROVIDENCE,

1405 -- 170 100 3200 14400 31400

01116630 PROVIDENCE RIVER OFF CONIMICUT POINT, NEAR WARWICK, R

01117150 WEST PASSAGE NARRAGANSETT BAY NEAR JAMESTOWN, R.I.

0930 -- 360 90 3400 14400 34100

01117160 EAST PASSAGE NARRAGANSETT BAY NEAR JAMESTOWN, R.I.

TOTAL
KJEL-

COLOR DAHL- ORGANIC

HARD- (PLAT- NITRO- NITRO-
NESS INUM- GEN GEN

43 58 34 LONG 71 40 48)

2.0

39 45 LONG 71 13 45)

4330 12 .88 .33

R.I. (LAT 41 47 15 LONG 71 22 35)

4000 9 1.0 .16

. 1. (LAT 41 43 20 LONG 71 21 00)

(LAT 41 31 45 LONG 71 24 00)

4520 3 .96 .48

(LAT 41 30 45 LONG 71 21 00)

AMMONIA
NITRO-
GEN

(N)
(MG/L)

. 58

. 89

. 48

. 46

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS IN NEW HAMPSHIRE, RHODE ISLAND, MASSACHUSETTS, AND VERMONT

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

TOTAL TOTAL

BATE TIME

OCT
06
MAY
05
JUN
08
JUL
13
AUG
04
31

1530

1230

1530

1000

0900
2000

METHY-
LENE
BLUE CHEM-

NITRITE NITRATE PHORUS AS AND CYANIDE TURBID- SUB- OXYGEN

(N) (PI CAC03 GREASE (CN) PHENOLS I TY STANCE DEMAND (MG/L) IMG/L) (MG/L) (MG/LI (MG/L) (MG/L) (UG/L) (JTU) (MG/L) (MG/L)

MERRIMACK RIVER BASIN

01075000 PEMIGEWASSET RIVER AT WOOISTOCK, N.H. (LAT 43 58 34 LONG 71 40 48)

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. 3

. 2

. 5

. 1
. 80 .1

. 01

. 02

. 02 -- 210 .00

. 02

. 02
. 02 4.0 1.0 .02

NARRAGANSETT BAY

01109150 MOUNT HOPE BAY NEAR BRISTOL, R.I. (LAT 41

DEC
01
MAR
03
JUN
01
SEP
OB

DEC
01
MAR
03
JUN
01
SEP
08

DEC
01
MAR
03
JUN
01
SEP
08

DEC
01
MAR
03,
JUN
01,
SEP
08,

1215

1145

1100

1215

1405

1345

1215

01116630

1315

1315

1145

1320

0930

0930

0915

0930

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. 01 .1

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PROVIDENCE RIVER OFF

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. 03 .0

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. 01 .0

. 09

. 08

. 12

. 13 17 .0 .01

. 10

. 12

. 55

. 23 22 16 .02

CONIMICUT POINT, NEAR WARWICK, R,

. 10

. 13

. 16

. 20 19 2.0 .02

. 06

. 06

. 06

. 10 17 1.0 .01

01117160 EAST PASSAGE NARRA6ANSETT BAY NEAR JAMESTOWN, R.I.

DEC
01,
MAR
03,
JUN
01,
SEP
08,

A
B

1045

1015

1000

1015

HIGH LEVEL.
LOW LEVEL.

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. 0

. 0

. 01 .0

. 04

. 04

. 05

. 07 20 3.0

15

2.0

19 6.0

6.0

4.0
0 3.0

39 45 LONG 71 13 45)

2.0

4.0

1.0

0 1.0

3.0

4.0

3.0

0 2.0

,1. (LAT 41 43 20 LONG

1.0

4.0

1.0

0 1.0

2.0

2.0

1.0

0 1.0

(LAT 41 30 45 LONG 71

1.0

2.0

2.0

0 1.0

. 29 A1230

. 12 A294

. 08 B37

. 14 B30

. 05 A546
. 02 B.9

. 86 A31

. 72 A48

. 83 A26

. 84

. 88 A48

. 72 A50

. 66 A14

. 84 A.O

71 21 00)

. 84 A18

. 75 A19

. 79 A21

. 86

21 00)

. 92 A13

. 81 A10

. 87 A46

. 90 A.O

21 00)

. 94 A86

. 84 A51

. 90 A44

. 91

BIO-
CHEM-

OXYGEN
DEMAND

(MG/L)

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- -

- -

- -

. 7

- -

- -

1.7

- -

- -

1.0

- -

- -

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ANALYSES OF SAMPLES COLLECTED AT WATER-QAULITY PARTIAL-RECORD STATIONS IN NEW HAMPSHIRE, RHODE ISLAND, MASSACHUSETTS, AND VERMONT

:ME

DIS-

CHARGE

(CFS)

FIELD DETERMINATIONS

SPE-
CIFIC
CON-
DUCT-
ANCE PH

(MICRO-

MHOS) (UNITS)

DIS-
SOLVED TEMPER-

(MG/L) (DEG C)

COLI-
FORM

(COL-
ONIES

100 ML)

FECAL
COLI-
FORM

(COL-
ONIES

100 ML)

MERRIMACK RIVER BASIN

01075000 PEMIGEHASSET RIVER AT WOODSTOCK, N.H. (LAT 43 58 34 LONG 71 40 48)

OCT
06.

MAY
05.
JUN
08.
JUL
13,
AUG
04.
31.

DEC

MAR
03.
JUN
01.
SEP
08.

DEC
01.
MAR
03.
JUN
01.
SEP
08.

01116630 PP

DEC
01.
MAR
03.
JUN
01.
SEP
08.

01117150

DEC
01.
MAR
03.
JUN

1530 126 206 4.4 6.7

1230 40 40 5.1 11.0

1530 290 78 4.6 7.1

1000 195 82 6.0 6.4

0900 150 64 6.3 6.7
2000 144 45 6.6 8.7

NARRAGANSETT BAY

01109350 MOUNT HOPE BAY NEAR BRISTOL, R.I. (LAT

1100

1215

1405

1215

10VIDENCE RIVER

1315

1315

1145

1320

WEST PASSAGE

0930

0930

40300

42200 8.0 7.2

40700 7.8 7.5

29700

OFF CONIMICUT POINT, NEAR WARWICK,

40400 7.8 7.9

33500 7.7 13.3

37700

40900 7.7 6.5

NARRAGANSETT BAY NEAR JAMESTOWN, R.

42300 8.0 8.8

38100 8.0 13.2

12.0

7.0

18.5

17.4

17.5
16.0

41 39 45

2 2

17.4

20.0

8.5

18.0

23000 17

400 29

440 4

5300 16

16000 48
120 3

LONG 71 13 45)

58 2

20 1

6 3

200 12

31000 330

R.I. (LAT 41 43 20 LONG 71 21 00)

7.3 110 15

2.5 1125 8

18.1 40 2

19.4 4 3

I. (LAT 41 31 45 LONG 71 24 00)

7.2 1 1

1.0 1 1

16.0 6 1

01117160 EAST PASSAGE NARRAGANSETT BAY NEAR JAMESTOWN, R.I. (LAT 41 30 45 LONG 71 21 00)

DEC
01...
MAR
03...
JUN
01...
SEP
08...

1045

1015

1000

1015

42200

39400

44100

44100

8.0 4.7

8.0 10.4

- _

7.9 7.6

9.2

1.5

14.0

19.0

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL.RECORD STATIONS IN NEW HAMPSHIRE, RHODE ISLAND, MASSACHUSETTS, AND VERMONT

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

MINOR ELEMENTS AND PESTICIDES

ALUM- CHRO-
INUM ARSENIC COPPER MIUM LEAD MERCURY ZINC

(AL) (AS) (CU) (CR) (PB) (H6I (Zftl ALDRIN DDD
DATE (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/LI (Ufr/L) (UG/L) (UG/L)

MERRIMACK RIVER BASIN

01075000 PEMIGEWASiET RIVER AT WOODSTOCK, N.H. (LAT 43 58 34 LONG 71 40 48)

AUG
31... 0 0 10 2 35 <.l 90 .00 .00

NARRAGANSETT BAY

01109150 MOUNT HOPE BAY NEAh BRISTOL, R.I. (LAT 41 39 45 LONG 71 13 45)

SEP
08... 6 0 90 0 30 .0 80 .00 .00

01115050 PROVIDENCE RIVER Oft- FIELDS POINT, NEAR PROVIDENCE, R.I. (LAT 41 47 15 LONG 71 22 35)

01116630 PROVIDENCE RIVER OFF CONIMICUT POINT, NEAR WARWICK, R.I. (LAT 41 43 20 LONG 71 21 00)

SEP
08... 8 10 80 0 34 .1 80 .00 .00

0111715Q WEST PASSAGE NARRAGANSETT BAY NEAR JAMESTOWN, R.I. (LAT 41 31 45 LONG 71 24 00)

SEP
08... 8 0 70 0 16 .2 70 .00 .00

01117160 EAST PASSAGE NARRAGANSETT BAY NEAR JAMESTOWN, R.I. (LAT 41 30 45 LONG 71 21 00)

DI- HEP-

DDE DDT ELDRIN ENDRIN TACHLOR LINDANE 2,4-D 2.4.5-T SILVEX
DATE (UG/L) (UG/LI (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L)

MERRIMACK RIVER BASIN

Oll$75000 PEMIGEWASSET RIVER AT WOODSTOCK, N.H. (LAT 43 58 34 LONG 71 40 48)

AUG
31... .00 .01 .00 .00 .00 .00 .00 .00 .00

NARRAGANSETT BAY

01109150 MOUNT HOPE BAY NEAR BRISTOL, R.I. (LAT 41 39 45 LONG 71 13 45)

SEP
08...

SEP
08...

. 00 .00

. 00 .00

. 00 .00 .00 .00 .00 .00 .00

. 00 .00 .00 .00 .04 .00 .00

01116630 PROVIDENCE RIVER OFF CONIMICUT POINT, NEAR WARWICK, (LAT 41 43 20 LONG 71 21 00)

SEP
08... .00 .00 TRACE .00 .00 .00 .00 .00 .C

08... .00 .00 .00 .00 .00 .00 .00 .00 .00

01117160 EAST PASSAGE NARRAGANSETT BAY NEAR JAMESTOWN, R.I. (LAT 41 30 45 LONG 71 21 00)

594 ANALYSES OP SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS IN NEW HAMPSHIRE, RHODE ISLAND, MASSACHUSETTS, AND VERMONT

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

RADIOCHEMICAL

DIS-

SOLVED
GROSS

U NAT)

DIS-
SOLVED
GRL5S

U NAT)

DIS-

SOLVED
GROSS

Y-90J

DIS-

SOLVED
GROSS

CS-137)

TOTAL

(MG/L)

MERRIMACK RIVER

SUS-
PENDED
GROSS

U NAT)

BASIN

SUS-

PENDED
GROSS

U NAT)

SUS-

PENDED
GROSS

Y-90)

SUS-

PENDED
GROSS

CS-137)

SUS-

MENT

(MG/L)

1

400 430

08... <420 <140 330 360 33000 <.4 <.l <.4 <.4 <1

01116630 PROVIDENCE RIVER OFF CONIMICUT POINT, NEAR WARWICK, R.I. (LAT 41 43 20 LONG 71 21 00]

SEP
08... <400 <130 300 330 32000 <.4 <.l .4 .S 4

01117150 WEST PASSAGE NARRAGANSETTE BAY NEAR JAMESTOWN, R.I. (LAT 41 31 45 LONG 71 24 00)

8... <460 <150 370 380 35000 <.4 <.l <.4 .4

01117160 EAST PASSAGE NARRAGANSETT BAY NEAR JAMESTOWN, R.I. (LAT 41 30 45 LONG 71 21 00)

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

SUSPENDED SUSPENDED
CONCEN- SEDIMENT CONCEN- SEDIMENT
DISCHARGE TRATION DISCHARGE DISCHARGE TRATION DISCHARGE

TIME (CFS) (MG/L) (TONS/DAY) DATE TIME (CFSI (MG/L) (TONS/DAY)

MERRIMACK RIVER BASIN

01076500 PEMIGEWASSET RIVER AT PLYMOUTH, N.H. (LAT 43 45 33 LONG 71 41 10)

NOV

FEB
MAR

JUN

NOV
JAN
MAR
APR
MAY

NOV
FEB

21.

18.
23.

2.

12.
28.
3.
7.
4.

10.
20.

. 1100

. 1000
. 1100

. 1030

. 1610
. 1330
. 1200
. 1330
. 1400

. 1415
. 1650

01099500

4600

1150
680

01089000

52

01094000

1140
153
228
985
299

287
478

36 30
13 161

127 394
10 18
80 877

SOUCOOK RIVER NEAR

8

CONCORD,

26
4 2.1
6 .84

SOUHEGAN RIVER AT MERRIMACK,

5 15
6 2.
7 4.
38 101
7 5.

2 1.
5 6.

CONCORD RIVER BELOW MEADOW BROOK

5
3

7

5
5

MAY
JUN

AUG

N.H.

JUL
AUG
SEP

N.H.

JUN
JUL
AUG
SEP

APR
AUG

, AT LOWELL,

21..
22..

24..

(LAT

6..
6..
11..

(LAT

10..
13..
18..
29..

9..
25..

MASS.

. . .. 1200
. . . . 1100

. . .. 1020

43 14 22 LONG

. . .. 1540
. . . . 1130
... . 1400

42 51 27 LONG

... . 1130
. . . . 1245
... . 1330
. . . . 1100

. .. . 0915
. . . . 1245

(LAT 42 38 12

2560
304

834

71 27 44)

29
11
8

71 30

247
45
22
23

678
84

LONG

. 0

24)

71 11

. 86
. 30
. 17

7.3
1.5
. 77
. 50

NORTH RIVER BASIN

01105730 INDIAN HEAD RIVER AT HANOVER, MASS. (LAT 42 06 02 LONG 70 49 23)

1145 139 34 13

JONES RIVER BASIN

01105870 JONES RIVER AT KINGSTON, MASS. (LAT 41 59 27 LONG 70 44 03)

0930 86 8 1.9

EEL RIVER BASIN

01105876 EEL RIVER NEAR PLYMOUTH, MASS. (LAT 41 56 30 LONG 70 37 23)

1500 35 6 .57

APR

OCT
APR

ANALYSES OF SI

SUSP

DATE TIME

01

6...... 1130

29...
10...

01108000

. . . . 1345
, ... 1300

UIPLES COLLECTED AT WATER-QUALITY PARTIAL -RE CORD STATIONS IN NEW HAMPSHIRE, RHODE ISLAND 595
MASSACHUSETTS, AND VERMONT

ENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

SUSPENDED SUSPENDED
CONCEN- SEDIMENT CONCEN- SEDIMENT

WEWEANTIC RIVER BASIN

105895 WEWEANTIC RIVER AT SOUTH WAREHAM, MASS. (LAT 41 46 12 LONG 70 45 18)

335 10 9.0

TAUNTON RIVER BASIN

TAUNTON RIVER AT STATE F

100
1180

25
11

ARM, NEAR BRIDGEWATER, MASS.* 1 LAT 41 56

6.8
35

JUN
AUG

5...
28...

1000
1340

05 LONG 70 57 18)

248 17 11
88 9 2.1

PAWCATUCK RIVER BASIN

NOV

JAN 22...,... 1300

01117800 WOOD RIVER NEAR ARCADIA, R.I

98 9 2.4

83 25 5.6

. (LAT 41

MAR 18...

34 26 LONG 71

1340

43 16)

79 1 .21

CONNECTICUT RIVER BASIN

01135500 PASSUMPSIC RIVER AT PASSUMPSIC,

OCT
NOV

2...
17.. ,

. . . . 1515
.... 1235

234
857

01137500 AMMONOOSUC

NOV
MAR

OCT
NOV
DEC
MAR

OCT
NOV
JAN

16...
25...

23. .,
19., ,
19...

9. , ,
21...
21...

,... 1000
. . . . 1045

,... 1055
.... 1015
,... 0845

01

,... 1700
,... 1310
. . . . 1620

273
81

01144000 WHITE

250
1060
925

153500 WILLIAMS

30
458
80

2
10

RIVER AT

1
11

RIVER AT

4
7
344
8

RIVER AT

2
1
8

01167800 BEAVER BROOK

NOV
JAN
MAR

OCT
DEC
FEB

20...
23...
2...

23...

13...

. . . . 1415
.... 1450
. . . . 1300

01

. . . . 0915
. . . . 1215
. . . . 1300

110
4.3
5.4

176000 QUABOAG

96
201
1180

01181000 WEST BRANCH

OCT 3..,.... 1400 124

150
7
6

RIVER AT

6
17
13

WESTFIELD

3

01183500 WESTFIELD RIVER

OCT
MAY

OCT

2,.,
7...

7..,

. . . . 1515
. . . . 1225

. . . . 1730

144
970

16

3
10

3

1.3
23

VT.

MAY

BETHLEHEM JUNCTION,

. 74
2.4

WEST HARTFORD, V

2.7
20
859
14

BROCKWAYS MILLS

. 16
1.2
1.7

MAY

T. (

JUN
AUG
SEP

, VT

MAR
MAR
MAY

(LAT

19...

N.H.

18. ..

AT 43

4. . .
14...
22.. .

. (LAT

3...
31...
25...

AT WILMINGTON, VT. (LAT 42

45
. 08
. 09

WEST BRIMFIELE,

1.6
9.2
41

APR
JUN
AUG

MASS

MAY

RIVER AT HUNTINGTON

1.0

NEAR WESTFIELD,

1.2
26

HOUSATONIC RIVER

. 13

MASS

JUN

6...

18...

. (LAT

20...

, MASS

. (LAT

8...

44 21 56 LONG

(LAT 44 16 08

...

42 51 LONG 72

1500
1115
1200

43 12 31 LONG

0830
1530
1600

51 38 LONG 72

1300
1145

42 10 55 LONG

1700

72 02 23)

1610 17 74

LONG 71 37 52)

1350 17 62

25 07)

5440 53 778
681 5 9.2
100 3 .81
229 10 6.2

72 31 05)

186 3 1.5
262 6 4.2
166 7 3.1

51 04)

24 80 5.2
5.9 185 2.9
. 19 2 0

72 15 51)

565 24 37

. (LAT 42 14 14 LONG 72 53 46)

42 06 24 LONG

1730

72 41 58)

705 2910 5540

BASIN

MAY 1... 1300 109 8 2.4

FORMERLY PUBLISHED AS TAUNTON RIVER AT STATE FARM, MASS.

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS IN NEW YORK

CHEMICAL ANALYSES) WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

nis-
nis- SDLVEO
SOLVFD MAG- PH-
CAL- NE- TAS-
OIS- SILICA CILIM S1UM SnnlUM slUf
CHARGE ISIO?) (CA) (MG)

BICAP- CHLO-
RDNATE SULFATF RIDE

(HC03) IS04) (CD

Rinf
I F)
(CFS)

17

16

11

11

1.7

1.7

?0

18

16

17

01303000 MILL NECK CREEK AT HILL NFCK> N.Y. ILAT 40 53 15 LING 073 33 51)

6.8 13 1.1 ?R 16 21

fl.fl

9.5

8.5

12

9. 1

12

12

18

18

(Ml
(MG/L) IMG/L) (MG/L) (MG/L) IMR/L) (MG/L) IMG/LI IMG/L) (MG/L) (MG/L)

STREAMS ON LONG ISLAND

01302500 GLFN COVE CREEK AT GLEN CDVF) N.Y. (LAT 40 51 4B LONG 073 38 05)

40 5. 1.6 .7 11 .1

01304500 PFCDNIC RIVER AT RIVERHEAO, N.Y. (LAT 40 54 49 LONG 072 41 14)

21 J.6 7.? l.R 6.0 1.1 17 13 H.H .0

01305000 CARMANS RIVfcR AT YAPHAfJK, N.Y. (LAT 4C 49 49 LUNG 072 54 74)

25 R.O 7.1 2.3 5.4 .ft 18 10 10 .?

01305500 SWAN RIVFR AT CAST PATCHI1GUF> N.Y. (LAT 40 46 01 LflNT, 07? ri 9 39)

9.0 9.7 5.7 1.5 6.5 .R 16 8.0 K.I .0

01306000 PATCHDGIIF RIVER AT PATCHOGIIF, I".Y. (LAT 40 45 56 LONG 073 01 16)

16 9.4 6.1 1.8 8.? .9 19 10 10 .0

01306495 CnNNhTrUDT RIVFR DISTRIBUTARY NFAR IWDALFi N.Y. (LAT 40 45 00 LONG 073 OR 521

?6 10 3.° 1.7 4.7 .4 1R 6.3 6.0 .0

0)306499 CPNNETOIlnT RIVER NFAR NORTH GRFAT HlVFRt N.Y. (LAT 40 44 51 LONG 073 09 031

3.0 11 4.6 l.R 4.6 .5 16 6.3 6.4 .0

01307000 CHAMPLIN CREEK AT I^LIP* M.Y. (LiT 40 44 13 LONG 073 12 0 Fl)

4.R

5.R

7-fl 12 15 15 .0

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS IN NEW YORK

CHEMICAL ANALYSES. WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- nis-
SOLVFD SOLVED

TOTAL SOLIDS SOLID"; LOSS
PHOS- (RESI- I SUM nF ON HARD-

S1MONIA MITRATF PHDRUS DUE AT CONSTI- IGNI- NESS

INH4) (N03I (P04) 180 Cl TUENTS) TION (CA.MGI
(MG/L) (MG/

SPECI-
FIC
COND-
UCTANCE PH INDM-
IMICRO- CnpALT
(MG/L) (MG/LI (MG/LI (MG/L) IMG/LI (MG/L) MHOS) (UNIT1;) UNITS)

STREAMS ON LONG ISLAND

01302500 GLFN COVE CREEK AT GLEN COVE, N.Y. 1LAT 40 51 48 LONG 073 38 05

METHY-
LENE
BLIIF
ACTIVF
SUB-
STANCE
(MG/L)

.01

. 15

112

125

121

lift

28 190

1ILL MFCK CREEK AT MILL NFCK, N.Y. (LAT 40 53 15 LHNK 07} '< 3 511

OCT
20..
JUMP
11 ..

52

* 61 6.4

6 77 7.n

50 58 LONG 073 13 29 I

11 86 7.0

01304500 PFCONIC RIVER AT RIVERHEAD, N.Y. (LAT 40 54 49 LONG 072 41 141

1.9 .1? 54 51 4 26 12 85 6.5

OlBObOOO CARMANS RIVER AT YAPHANK, N.Y. (LAT 40 49 49 LONG 072 ^4 ?4)

3.6 .03 57 56 9 27 1? 91 6.5

01301^00 SWAM RIVFR AT FAST PATCHOGUE, N.Y. (LAT 40 46 01 LONB 072 59 39)

50 76 S.5

. 14 62 59 22

45 56 LONG 073 01 16)

7 91 6.7

01306495 CnNMFTPUOT RIVFR DISTRIBUTARY NFAR nAKDALE, N.Y. (LAT 40 4

. 1? 2.7 .01 46 45 7 16 7 60 6.6

01306499 CDNNFTOUriT RIVER MFAR NORTH GRFAT RIVFR, N.Y. (LAT 40 44 51 LONG 073 09 03)

.?0 3.R .05 44 47 4 19 6 62 6.6

01307000 CHAMPLIN CREEK AT ISLIP, N.Y. (LAT 40 44 13 LONG 073 12 081

10 80 11 28 15 126

145

598 ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD iSTATIONS IN NEW YORK

DIS-

DIS- SILICA

CHARGE (SI02)

DIS- SOLVED
SOLVED MAG- PO-
CAL- NE- TAS- BICAR-CIUM SIUM SODIUM SIUM BONATE

(CA) (MG) INA) IK) (HC03)

SULFATE

I 504)

DIS-
SOLVED
CHLH- FLUO-
RIDE RIDE

(CD (F)

STREAMS ON LONG ISLAND CONTINUED

OCT
20...
JUNE
11...

OCT
20...
JUNE
11...

ncT
20...
JUNF
10...

OCT
20...
JUNE
10...

ncT
24...
JUNE
03...
AUG.
24...

NOV
13...
JUNF
03...

OCT
23...
JUNE
03...

JUNE
03...
AUG.
24...

DEC
15...

PEC
15...
JUNE
03...

01307500

4.8 9.8

5.9 9.3

01308000

5.7 8.4

PENATAOUIT CREEK AT BAY SHORE, N.Y. (LAT 40 43 37

15 2.6 27 2.4 18

15 2.9 26 2.4 20

12 2.8 14 3.1 16

8.0 8.0 11 2.8 13 3.0 48

15 7.1 9.0 2.5 15 2.4 12

7.7 6.2

01309000

1.5 9.0

2.7 6.5

4.6 8.3

7.2 7.1

7.7 6.2

01309950

3.8 8.6

4.9 13

. 66 7.3

1.9 13

01310500

8.2 7.6

11 2.7 17 2.7 24

SANTAPOGUE CREEK AT LINDENHURST, N.Y. (LAT

11 3.3 20 3.2 22

14 3.6 26 3.8 18

MASSAPEQUA CRFEK AT MASSAPFQIIA, N.Y. ILAT

18 3.9 26 5.2 34

21 4.2 26 5.2 36

15 3.5 19 3.6 20

BELLMORE CREEK NEAR BELLMORE, N.Y. (LAT

23 3.0 28 5.8 37

24 3.1 30 5.7 38

31 3.8 38 6.9 58

27 3.6 35 6.5 31

EAST MEADOW BROOK AT FREFPORT, N.Y. ILAT

27 4.1 37 5.2 24

01311000 PINES BROOK AT MALVERNE, N.Y. (LAT 40

.42 3.3

01311500

. 82 1.5

. 59 4.7

12 3.3 5.0 2.2 31

8.4 1.9 12 1.3 20

22 3.8 42 2.9 54

19

18

26

LONG 073 14 41)

48 .0

45 .0

17 .0

24 16 .1

23 20 .0

19 24 .0

ORGANIC
NITRO-
GEN NITRITE

(Nl INH2I

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. 04

. 01

3.5

. 01

40 41 30 LONG 073 21 20)

31

32

46

40

30

40 40 43

48

46

54

47

40 39 56

48

24 .0

34 .1

) LONG 073 27 19)

28 .0

29 .0

22 .1

LONG 073 30 58)

31 .0

34 .1

43 .0

40 . 1

LONG 073 34 13)

49 .0

40 01 LONG 073 39 35)

18

14

21

8.0 .1

19 .0

62 .1

. 01

. 01

. 06

4.2

. 55 .22

. 28

1. 1

1

. 10

3.3

. 62

. 03 .16

. 69

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS IN NEW YORK

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

D1S- DIS-
SOLVED SOLVED
TOTAL SOLIDS SOLIDS LOSS

PHDS- (RESI- (SUM OF ON
fiMMONU NITRATE PHDRUS DUE AT CONSTI- IGNI-
(NH4) (N03) IP04) IBO C) TUENTS) TION

OCT
20...
JUNE
11...

DCT
20...
JUNF
11...

OCT
20...
JUNF
10...

01307500

. 06 13

. 14 14

0130BOOO

. 11 19

. 94 15

013085UL

. 12 13

. 09 15

METHY-
NDN- SPECI- LFNE
CAR- FIC COLOR BLUE

HARD- BDNATE COND- [PLAT- ACTIVE
NESS HARD- IICTANCE PH INUM- SUB-

[CA,MGI NESS (MICRO- COBALT STANCE

STREAMS ON LONG ISLAND CONTINUED

PENATAOUIT CREEK

. 06 157

. 34 157

SAMPAWAMS CREEK

. 01 119

. 13 101

. 02 85

. 09 105

AT BAY SHORE, N

146 26

143 22

AT BABYLON, N.

110 16

113 5

98 1

110 IB

01309000 SANTAPOGUE CREEK AT LINDFNHURST,

OCT
20...
JUNE
10...

ncT
24...
JUNE
03...
AUG.
24...

NOV
13...
JUNE
03...

7.4 12

. 10 19

01309500

4.3 38

1.2 37

2.0 17

01309950

3.B 39

. 16 3.9

. 01 122

. 04 155

MASSAPEOUA CREEK

. 00 173

. 12 190

. 10 138

132 5

AT MASSAPEOUA,

195 B

193 42

128 25

BELLMORE CREEK NEAR BELLMORE, N

. 00 191

. 09 201

208

180 21

. Y. [LAT 40

46

50

Y. [LAT 40 4

42

39

32

38

43 37 LONG 073 14 41)

33 240 6.1 4

33 260 6.9 4

2 15 LONG 073 18 52)

28 173 6.4 9

0 1BI 6.B 9

22 157 6.2 5

19 186 6.7 7

. 10

. 10

. 16

. 24

. 15

. 19

N.Y. (LAT 40 41 30 LONG 073 21 20)

41 23 206 6.3 6

N.Y. [LAT 40 41 20 LONG 073 27 19)

61

52

. Y. [LAT 40

70

19

01309990 BELLMDRE CREEK TRIBUTARY AT BELLMORE, N.Y. (LAT

OCT
23...
JUNF
03...

JUNE
03...
AUG.
24...

DEC
15...

DEC
15...
JUNE
03...

5.2 3=.

1.4 35

01310500

. 11 40

. 50 6.9

01311000

. 07 2.7

01311500

. 00 1.6

. 1ft 3.9

. 00 226

. 02 ?20

EAST MEADOW BROOK

. 09 245

. 26 67

PINES BRDOK AT

. 20 71

VALLEY STREAM AT

. 16 78

. 7? 201

252 13

227 10

AT FRFEPORT, N

231 56

69 10

M6LVFRNE, N.Y.

70

VALLEY STREAM,

70

190 23

93

82

. Y. [LAT 40

84

33

[LAT 40 40

44

N.Y. [LAT 40

29

70

33 290 6.8 3

40 316 6.8 5

36 232 6.5 6

40 43 LONG 073 30 58)

40 310 6.9 3

0 346 6.9 3

40 40 47 LONG 073 30 46)

46 380 7.2 4

57 3B2 7.1 3

39 56 LONG 073 34 13)

65 386 6,5 6

16 127 6.5 7

01 LONG 073 39 35)

18 110 6.B 4

39 49 LONG 073 42 IB)

12 120 6.4 4

26 359 6.9 9

. 24

. 41

. 36

. 25

. 29

. 24

. 29

. 27

. 23

. 09

. 08

. 09

. 09

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORDS STATIONS IN NEW JERSEY

CHEMICAL AIMLYSESt WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE

DIS-
CHARGE

(CFS)

SILICA

(SI02)
(MG/L)

DIS-
SOLVED
ALUM-
INUM

(ALI
(UG/L1

DIS-

SOLVED
IRON

(FE)
(UG/L)

DIS-
SOLVED
MAN-

GANESE

(MN)
(UG/L)

SODIUM
PLUS

CALCIUM

(CA)
(MG/L)

MAG-
NE-

SIUM

(MG)
(MG/L)

SODIUM

(NA! (

PO-
TAS-

SIUM

NA+K)
(MG/LI (MG/L)

HUDSON RIVER BASIN

01368000 WALLKILL RIVER NEAR UNIONVILLE, N.

JAN
21...
APR
04...
JUN
23.. .
SEP
01...
29...

120

2560

80

24
60

- -

4.2

- -

6.7
6.6

- -

- -

- -

- -
- -

- -

- -

- -

125
60

HACKENSACK

OCT
09...
JAN
15.. .
MAR
30. ..
JUN
23. ..
SEP
02...

01377000

88

37

21

98

52

HACKENSACK

7.7

7.9

- -

- -

4.1

01378500 HACKENSACK RIVER

OCT
08...
JAN
15. ..
MAR
30. ..
JUN
23. ..
SEP
02. ..

15

14

14

13

<.01

6.0

8.7

- -

- -

4.6

Y. (OWENS

- -

- -

150
130

, N.J.) (LAT 41 15

41

19

34

42
42

13

4.6

10

20
16

35 LONG 74

- -

7.4

- -

13
14

32 55)

7.4

- -

23

- -

- -

RIVER BASIN

RIVER AT RIVERVALE, N.J.

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- _

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- -

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- -

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- -

4900

AT NEW MILFORD,

- -

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- -

- -

- -

1400

- -

- -

- -

10

- -

- -

- -

400

(LAT 40 59

35

51

40

23

34

N.J. RESERVOIR (LAT

20

- -

- -

- -

100

38

46

38

45

34

55 LONG

6.0

9.0

8.0

3.5

7.0

40 56 52

6.0

8.3

8.0

8.1

7.8

73 59 27)

17

36

- -

- -

18

LONG 74 01

15

28

- -

- -

19

- -

- -

20

41

- -

34)

- -

- -

23

18

- -

PASSAIC RIVER BASIN

OCT
03. ..
JAN
20. ..
JUN
24. ..
AUG
28.. .

OCT
03...
JAN
20...
JUN
24...
AUG
28. . .

01379000

56

32

23

9.4

01379500

120

66

42

22

PASSAIC RIVER NEAR

12

- -

- -

20

_ -

- -

- -

- -

PASSAIC RIVER NEAR

12

- -

- -

16

_ -

_ -

MILLINGTON, N.J.

5600

- -

- -

20

CHATHAM.

15000

- _

__

60

01380500 ROCKAWAY RIVER ABOVE RESERVOIR AT

JAN
20...
JUN
23.. .
SEP
01. ..
29...

JAN
20.. .
JUN
23. ..
SEP
02...
30.. .

OCT
03...
JAN
20. ..
JUN
23. . .
AUG
28...

141

95

40
62

01381200

- -

- -

- -

- -

01381500

140

32

30

15

- -

- -

4.6
6.4

ROCKAWAY

- -

- _

13
15

WHIPPANY

14

- -

16

- -

- -

_ -

- -

RIVER AT

- -

_ -

- -
- -

RIVER AT

- -

- -

- _

- -

510
100

180

- -

- -

255

(LAT 40 40

15

18

12

20

, N.J. (LAT 40 43 31

80

- -

- -

220

BOONTON,

- _

15
40

PINE BROOK, N.J.

- -

- _

105
50

- -

_ -

200
120

MORRISTOWN, N.J.

8000

- -

- -

70

60

- -

53

19

26

10

23

N.J. (LAT

16

9.0

21
14

(LAT 40 51

23

10

23
31

(LAT 40 48

16

21

7.5

23

48 LONG

4.7

7.0

3.8

7.2

LONG 74

7.0

9.0

4.5

8.5

40 54 06

6.0

4.5

7.8
5.1

29 LONG

9.0

5.0

9.2
9.5

21 LONG

4.5

7.3

3.5

8.0

74 31 45)

9.0

- -

- -

14

23 23)

29

- -

- -

75

LONG 74 24

- -

_ -

7.1
6.2

74 20 53)

- -

__

24
44

74 27 22)

14

- -

- -

19

- -

17

22

- -

41

77

- -

40)

11

22

- -

- -

36

46

- -

- -

- -

18

31

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PART IAL-RECORDS STATIONS IN NEW JERSEY

PO-

DATE

SIUM

(K)
(MG/L)

BONATE

(HC03)
(MG/L)

. LYSES, WA

BONATE

(C03I
(MG/L)

ALKA-

AS SULFATE
CAC03

(MG/L)

(S04)
(MG/L)

CHLO-
RIDE

(CD
(MG/L)

FLUO-
RIDE

(F)
(MG/L)

ORTHO

NITRATE

(N03)
IMG/L)

PHATE

(PO4)
(MG/L)

HUDSON RIVER BASIN

01368000 WALLKILL RIVER NEAR UNIONVILLE, N.Y.

JAN
21...
APR
04.. .
JUN
23...
SEP
01
29...

OCT
09. ..
JAN
15...
MAR
30. ..
JUN
23. ..
SEP
02...

QCT
08...
JAN
15...
MAR
30...
JUN
23...
SEP
02.. .

- -

1.7

- -

1.9
3.4

2.0

2.9

- -

2.9

500 HACKEN

2.9

2.6

- -

- -

3.0

122

41

142

181
148

HACKENSAC

94

113

97

85

78

99

98

89

108

84

0

0

0

0

100

34

116

148
121

(OWENS

33

22

24

33

, N.J. 1 (LAT 41 15

23

15

22

28
31

HACKENSACK RIVER BASIN

0

0

0

0

0

0

0

0

0

0

77

93

80

70

64

81

80

73

89

69

29

35

37

28

29

28

37

37

34

28

33

71

36

42

39

RVOIR (LAT

33

55

43

40

41

__

. 0

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. 1
. 3

55 LONG

. 2

. 2

- -

40 56 52

. 3

. 2

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35 LONG 74

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4

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5
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2

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10

4

7

LO'IG

4

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8

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27)

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32 55)

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. 02

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. 11

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4)

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PASSAIC RIVER BASIN

OCT
03...
JAN
20. ..
JUN
24.. .
AUG
28...

OCT
03...
JAN
20...
JUN
24...
AUG
28...

01379000

3.2

- -

2.5

2.9

- -

- -

4.5

PASSAIC RIVER NEAR

47

54

68

66

PASSAIC

52

59

78

74

01380500 ROCKAWAY RIVER

JAN
20.. .
JUN
23. ..
SEP..
01...
29. ..

JAN
20. ..
JUN
23...
SEP
02...
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OCT
03...
JAN
20...
JUN
23. ..
AUG
28...

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1.3
1.9

01381200

- -

- -

3.5
6.0

01381500

2.8

- -

- -

1.8

39

55

65
41

ROCKAWAY

80

51

64
82

WHIPPANY

44

50

57

76

0

0

0

0

0

0

0

0

MILLINGTON

39

44

56

54

AR CHATHAM,

43

48

64

61

ABOVE RESERVOIR, AT

0

0

0
0

RIVER AT

0

0

0
0

RIVER AT

0

0

0

0

32

45

53
34

PINE BROOK

66

42

52
67

MQRRISTOWN

36

41

47

62

t N.J.

17

26

15

24

N.J. (

29

37

25

48

BOONTON

21

17

20
17

, N.J.

53

35

51
65

, N.J.

28

26

24

44

(LAT 40 40

16

26

15

23

42

67

80

110

, fJ.J. (LAT

24

17

17
12

(LAT 40 51

37

31

35
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(LAT 40 48

15

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16

21

48 LONG

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1 LONG 7

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. 3

74 31

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13

9

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45)

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23)

. 9

40 54 06 LONG 74

- -

. 2
. 3

29 LONG

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21 LONG

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- -

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. 1

1

3

3
2

74 20

30

6
42

74 27

9

12

6

8

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53)

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22)

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24

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7

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24

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40)

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. 91

. 59

. 51

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORDS STATIONS IN NEW JERSEY

CHEMICAL ANALYSES, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

SODIUM

DATE

JAN
20...
JUN
23...
SEP
20...
30...

OCT
08.. .
JAN
15...
JUN
23...
SEP
02. ..

OCT
09...
JAN
15...
JUN
24...
SEP
03...

DIS-

CHARGE

(CFS)

01381800

- -

- -

- -

"

58

53

34

23

01393500

12

9.5

11

10

SILICA

(SI02)
(MG/L)

HHIPPANY

- -

- -

21
20

12

14

- -

15

ELIZABETH

12

16

- -

17

DIS-
SOLVED
ALUM-
INUM

(AL)
(UG/L)

PASSAIC

RIVER NEAR

- -

- -

- -

~~

- -

- -

DIS-

SOLVED
IRON

IFE)
(UG/L)

RIVER

PINE

- -

- -

100
170

- -

- -

ELIZABETH

- -

- -

- -

- -

- -

- -

- -

40

RARITAN

JAN
15...
JUN
18...
AUG
27...
SEP
28...

9.7

34

26

83

01398500 NORTH

DEC
11. ..
JAN
15...
JUN
18...
AUG
28...

318

27

32

7.9

1.7

- -

5.9

"

- -

- -

__

- -

BRANCH RARITAN RIVER

12

16

- -

14

- _

- -

- -

- -

- -

- -

55

- -

NEAR

- -

- -

65

01400000 NORTH BRANCH RARITAN RIVER NEAR

JAN
20...

18...
AUG
28...
SEP
28...

142

114

57

70

01405500 SOUTH

JAN
14...
JUN
24...
AUG
28...

AUG
28...

84

124

36

223

- -

. .

8.9

9.0

- -

. .

__

- -

RIVER AT OLD BRIDGE,

8.8

- -

4.1

- -

- -

5

- -

. .

0

70

N.J.

- -

- -

105

DIS-

SOLVED
MAN-

GANESE

(MN)
(UG/L)

CALCIUM

(CA)
(MG/LI

MAG-
NE-

SIUM SODIUM

IMG) (NA)
(MG/L) (MG/L)

PLUS
PO-
TAS-

SIUM

(NA+K)
(MG/L)

BASIN CONTINUED

BROOK, N.J

- -

- -

180
120

- -

- -

. (LAT 40 50 42 LON(- 74 20

32

27

36
35

62

37

RIVER BASIN

- -

- -

- -

90

48

98

69

77

RIVER BASIN

- -

- -

450

- -

FAR HILLS,

- -

- -

- -

0

RARITAN,

- -

. .

20

20

RESERVOIR

- -

- -

150

20

18

15

14

N.J. ILAT

10

14

14

14

N.J. (LAT

19

22

20

21

(LAT 40 24

9.0

5.8

12

TOMS RIVER BASIN

5.3 90 700 25 3.4

OYSTER CREEK BASIN

JAN
22.. .
JUN
24...

31

33

- - - - - -

- -

- - .8

1.0

10

6.0

12 45
10 55

14 32

10

7.5 17

15 82

9.0

17 30

8.2 6.0

5.8

6.7 5.7

5.3

40 42 30 LONG 74

3.6 7.6

5.2 6.6

6.8

5.2 6.7

40 34 10 LONG 74

7.0

6.4

7.9 11

8.0 14

22 LONG 74 22 08

3.8 6.3

1.6

3.4 5.3

1.4 4.0

. 6

. 6

51)

43

26

-

"

-

58

-

-

46

-

-

7.

-

12

38 11)

-

-

4.

-

40 45)

14

12

-

-

)

-

8.

-

4.

2.

-

"

-

-

-

-

-

6

-

-

-

8

-

-

-

-

7

-

-

1

8

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL- RECORDS STATIONS IN NEW JERSEY 603

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DATE

PO- ALKA-

SIUM BONATE BONATE AS SULFATE RIDE

Ik) (HC03) (COS) CAC03 IS04) [CD
(MG/L) (MG/L) (MG/L) (MG/L) IMG/L) (MG/L)

FLUO-
RIDE NITRATE

(F) (N03)
(MG/L) (MG/L)

PASSAIC RIVER BASIN -CONTINUED

JAN
20...
JUN
23. ..
SEP
02...
30.. .

OCT
08...
JAN
15...
JUN
23...
SEP
02...

OCT
09...
JAN
15...
JUN
24...
SEP
03...

JAN
15. ..
JUN
18...
AUG
27. ..
SEP
28...

01398500

DEC
11...
JAN
15...
JUN
18...
AUG
28. ..

01400000

JAN
20.. .

JUNla...
AUS
28...
SEP
28...

95 0 78 55 51

76 0 62 41 25

4.4 107 0 88 77 42
6.5 111 0 91 88 46

3.2 135 0 111 44 40

3.1 142 0 116 48 63

134 0 110 47 52

6.2 154 0 126 57 65

ELIZABETH RIVER BASIN

1.9 105 0 86 63 33

2.7 175 2 147 94 159

159 0 130 79 62

2.6 171 0 140 93 60

RARITAN RIVER BASIN

01396800 SPRUCE RUN AT CLINTON, N.J. ILAT 40 38 21

1.4 69 0 57 19 10

60 0 49 20 9.3

1.5 55 0 45 19 9.8

48 0 39 27 8.9

NORTH BRANCH RARITAN RIVER NEAR FAR HILLS, N.J. (LAT

1.9 28 0 23 18 9.9

1.1 40 0 33 19 11

49 0 40 15 10

1.4 50 0 41 19 9.6

NORTH BRANCH RARITAN RIVER NEAR RARITAN, N.J. ILAT

53 0 43 26 21

75 0 62 23 13

2.2 77 0 63 30 14

2.3 92 0 75 26 15

01405500 SOUTH RIVER AT OLD BRIDGE, N.J. RESERVOIR (LAT 40

3 AN
14...
JUN
24...
AUG
28.. .

AUG
28...

JAN
22...
JUN
24. ..

12 0 0 0 36 20

0 0 0 28 7,8

2.5 0 0 0 36 11

TOMS RIVER BASIN

1.0 0 0 0 16 6.8

OYSTER CREEK BASIN

- - 1 0 1 4.6 5.3

0 0 0 3,8 5.0

10

22

. 4 24
. 3 24

. 3 19

. 2 16

32

. 4 28

. 2 5.6

. 0 7.3

12

. 3 10

LONG 74 54 58)

. 1 6.2

3.3

,2 2.2

2.8

40 42 30 LONG 74

. 0 3.7

. 8 4.6

5.1

. 2 3.1

40 34 10 LONG 74

8.0

5.8

. 2 3.5

. 1 3.6

24 22 LONG 74 22

. 0 9.3

4.9

. 3 4.7

. 2 2.7

. 0

. 1

ORTHO

PHATE

(P04)
(MG/L)

51)

1.8

1.8

4.2
4.4

4.2

3.4

7.4

13

)

. 60

. 19

. 37

1.6

. 19

. 09

. 09

. 00

38 11)

. 23

. 36

. 24

. 13

40 45)

. 24

. 42

. 44

. 75

08)

. 00

. 01

. 01

. 03

. 00

. 00

604 ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL- RECORDS STATIONS IN NEW

DIS- SILICA

CHARGE (SI02)
DATE (CFS) (M6/L)

JAN

21,
JUN

18,
AUG
27.
SEP
28.

JAN
21,
JUN
23,
SEP
01,
29,

JAN
22,
JUN
23,
SEP
01.
29.

JAN
22,
JUN
23,
AUG
27.
SEP
28.

JAN
15.
JUN
18,
SEP
03.
28.

JAN
14.
JUL
01,
AUG
28.
SEP
28.

JAN
1*.
JUN
8.
AUG
27.
SEP
28,

A

215

139

63 5.0

. . . 37 6.4

. . . 50

43

12 4.3
19 3.9

85

71

30 8.*
51 10

01457000 MUSCONETCONG

130

130

76 8.3

302 6.4

01464000 ASSUNPINK

83 11

91

35 12
35

21 12

18

17 13

18

19 8.0

21

5.1 7.3

6.5

DISSOLVED.

DIS- DIS-
SOLVED DIS- SOLVED
ALUM- SOLVED MAN-
INUM IRON GANESE CALCIUM

(AL) (FE) (MM) (CA)
(UG/L) (UG/L) (UG/L) (MG/L)

MAURICE RIVER BASIN

3.6

3.1

400 15 4.0

245 30 4.5

DELAWARE RIVER BASIN

A23

A8.0

10 13 A29
50 10 A27

RIVER AT PEQUEST, N.J. (LAT 40 49 4

A64

A49

0 20 A50
0 30 A54

RIVER NEAR BLOOMSBURY, N.J. (LAT 40

A29

A20

35 10 A31

80 10 A20

CREEK AT TRENTON, N.J. (LAT 40 13

A20

A20

245 125 A21
A20

ER AT HADDONFIELD, N.J. (LAT 39 54

A17

A8.0

25 55 A17

A17

AT ALLOHAY, N.J. RESERVOIR (LAT 39

A6.2

A7.8

310 5 A7.2

A7.5

MAG-
NE-

SIUM SODIUM

(MG) (HA)
(MG/L) (MG/L)

2.0

1.6

2.1 5.7

2.5 5.8

A4.5

A1.4

A8.0 3.0
A6.9 3.2

3 LONG 74 58 45 1

A27

A25

A27 10
A25 25

40 20 LONG 75 03

A13

410

A15 6.4

A7.4 10

27 LONG 74 44 58)

A?. 5 22

A6.8

A7.0 43
A7.2

11 LONG 75 01 19)

A4.5 25

A3.0

A4.4 15

A4.3

33 55 LONG 75 21

A3. 3 2.7

A4.6

A5.8 4.2

A6.2

JERSEY

SODIUM
PLUS
PO-
TAS-

SIUM

(NA+K)
(MG/L)

7.4

9.4

- -

- -

))

2.3

39

- -

- "

3.7

18

- -
- -

40)

8.3

24

- -

- -

17

- -

26

- -

34

- -

34

35)

- -

6.2

- -

7.1

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORDS STATIONS IN NEW JERSEY

CHEMICAL ANALY

PO-
TAS- BICAR-

(K) (HC03)
BATE (MG/L) (MG/L)

'AN
21.
JUN
18.
AUG
27.
SEP
28.

JAN"i.
JJN
23.
SEP
01.
29.

JAN
22.
JUN
23.
SEP
01.
29.

JAN
22 .
JUN
23.
AUG
27.
SEP
28.

JAN
15.
JUN
18.
SEP
03.
28.

JAN
14.
JUL
01.
AUG
28.
SEP

JAN
14.
JUN
18.
AUG
27.
SEP
28.

01411500 MAURICE

5

10

1.4 9

1.8 6

64

68

. 8 100
,<3 86

248

229

2.3 235
3.2 199

01457000 MUSCONETCONG

111

123

1.5 139

1.7 67

01464000 ASSUNPINK

3.9 52

45

5.6 58
39

6.5 12

28

6.3 35

40

01483000 ALLOWAY CREEK

3.1 4

19

4.3 55

31

ALKA-
CAR- LINITY

(COS) CAC03 (504)
(MG/L) (MG/L) (MG/L)

MAURICE RIVER BASIN

RIVER AT NORMA. N.J. (LAT

0 4 11

0 8 7.7

0 7 8.0

0 5 7.4

DELAWARE RIVER BASIN

NEAR FLATBROOKVILLE, N.J. i

0 52 20

0 56 19

0 82 25
0 71 21

RIVER AT PEQUEST, N.J. (LAT

0 203 47

0 188 46

0 193 45
0 163 88

RIVER NEAR BLOOMSBURY, N.J.

0 91 22

0 101 19

0 114 28

0 55 21

CHLO- FLUO-

ICL) IF) (H03)
(MG/L) (MG/L) (MG/L)

39 29 42 LONG 75 04 38)

8.3 -- 7.4

8.7 -- 7.4

8.1 .3 9.8

8.5 .3 12

5.4 -- .0

6.1 -- 1.7

7.0 .1 .4
7.3 .2 .1

40 iQ 43 LONG 74 58 45)

14 -- 8.5

17 -- 6.2

20 .1 9.6
26 .1 6.4

(LAT 40 40 20 LONG 75 03

18 -- 5.6

14 -- 3.6

14 .1 7.6

22 .1 3.2

ORTHO
PHOS-

(P04)
(MG/L)

. 04

. 33

. 36

. 37

9)

. 01

. 00

. 02
. 00

. 04

. 13

. 26
. 40

40)

. 19

. 30

. 37

. 46

CREEK AT TRENTON, N.J. (LAT 40 13 27 LONG 74 44 58)

0 43 45

0 37 39

0 48 72
0 32 35

0 10 33

0 23 28

0 29 30

0 33 28

AT ALLOWAY, N.J. RESERVOIR

0 3 23

0 16 17

0 45 10

0 25 11

28 .5 7.0

26 -- 2.1

32 .8 25
26 -- 37

34 .4 35

20 -- 32

20 .5 23

25 -- 44

(LAT 39 33 55 LONG 75 21

6.2 .3 4.1

12 -- 2.7

14 .3 2.0

15 -- 2.0

1.8

6.0

4.7
8.3

2.4

2.0

1.3

5.6

35)

. 00

. 01

. 08

. 05

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORDS STATIONS IN NEW JERSEY

CHEMICAL ANALYSESt WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

BIO-
COLOR CHEM-

(PLAT- ICAL
INUM- OXYGEN
COBALT DEMAND

DATE (MG/L) (MG/L) (MG/L) (MG/L) MHOS) (UNITS) UNITS) (MG/L)

HUDSON RIVER BASIN

DIS-
SOLVED
SOLIDS

(RESI-
DUE AT

180 C)
(MG/L)

DIS-
SOLVED
SOLIDS

(SUM OF
CONSTIT-
UENTS

HARD-
NESS

(CA.MG)

NON-
CAR-
BONATE
HARD-
NESS

SPE-
CIFIC
CON-
DUCT-
ANCE

(MICRO-

JAN
21. ..
APR
04...
JUN
23...
SEP
01...

- -

108

263

156

98 66

126

244 188

56 341 8.3 7 .6

33 175 7.1 25

10 350 7.8 4 1.6

39 449 7.5 8 2.8 50 404 7.8 8 1.4

08...
JAN

MAR
30. ..
JUN
23...
SEP
02...

196 184 120

128

147

198 184 117

39

55

58

48

339

380

388

345

7.7

8.2

7.6

7.6

7.5

HACKENSACK RIVER BASIN

01377000 HACKENSACK RIVER AT RIVERVALEi N.J. (LAT 40 59 55 LONG 73 59 27)

OCT
09... 188 179 112 35 331 7.9 0
JAN
15... 308 276 164 72 504 8.1 1 1.6 MAR
30... -- -- 133 54 370 8.1 5
JUN
23... -- -- 72 3 343 7.6 4 1.2
SEP
02... 202 180 114 50 312 7.8 2 4.2

01378500 HACKENSACK RIVER AT NEW MILFORD, N.J. RESERVOIR (LAT 40 56 52 LONG 74 01 34)

OCT
10 6.0

2 1.0

5

6 1.0

3 1.8

PASSAIC RIVER BASIN

01379000 PASSAIC RIVER NEAR MILLINGTON, N.J. (LAT 40 40 48 LONG 74 31 45)

OCT
03... 120 108 57 19 177 7.3 50 3.3 JAN
20... -- -- 74 30 209 7.8 20 .8 JUN
24... -- -- 46 0 190 7.4 30 1.0 AUG
28... 167 145 80 26 237 6.9 42 1.4

01379500 PASSAIC RIVER NEAR CHATHAM, N.J. ILAT 40 43 31 LONG 74 23 23)

OCT
03... 190 195 77 34 316 7.9 20 5.1 JAN
20... -- -- 102 54 409 7.8 10 2.4
JUN
24... -- -- 44 0 460 7.4 15 2.6
AUG
28... 341 332 93 32 599 7.0 10 3.6

01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J. (LAT 40 54 06 LONG 74 24 40)

JAN
20... -- -- 65 33 198 7.6 5 2.2
JUN
23... -- -- 41 0 193 7.4 3 1.2
SEP
01... 112 110 75 21 204 7.6 5 .2 29... 95 85 56 23 152 7.6 5

01381200 ROCKAWAY RIVER AT PINE BROOK, N.J. (LAT 40 51 29 LONG 74 20 53)

JAN
20... -- -- 95 29 370 7.8 8 3.6 JUN
23... -- -- 46 4 316 7.1 4 8.8 SEP
02... 236 197 96 43 372 7.4 35
30... 300 292 117 50 466 7.2 10 5.0

01381500 WHIPPANY RIVER AT MORRISTOWN, N.J. (LAT 40 48 21 LONG 74 Z7 22)

OCT
03... 147 134 59 23 217 7.2 5 6.3 JAN
20... -- -- 83 42 266 7.5 3 1.2 JUN
23... -- -- 33 0 214 7.5 4 1.6 AUG
28... 194 180 92 29 303 7.8 5 2.8

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORDS STATIONS IN NEW JERSEY

CHEMICAL ANALYSES* WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD DETERMINATIONS

SPE-
CIFIC
CON-
DUCT-
ANCE

COLI-
FORM

DIS- (COL-
SOLVED ONIES

ATURE (MICRO- OXYGEN PER
TIME (DEG C) MHOS) (UNITS) (MG/L) 100 ML)

TEMPER-

DATE

HUDSON RIVER BASIN

01368000 WALLKILL RIVER NEAR UNIONVILLE, N.Y. (OWENS, N.J.) (LAT 41 15 35 LONG 74 32 55)

JAN
1100

1150

1715

1515

. 0

4.2

20.8

22.0

"

- -

350

445

7.2 11.2

- -

6.8 8.0

8.2 8.2

688

- -

600

75

HACKENSACK RIVER BASIN

0137700U HACKENSACK RIVER AT RIVERVALE, N.J. (LAT 40 59 55 LONG 73 59 27)

OCT
09.. .
JAN
15...
MAR
30...
JUN
23...
SEP
02. ..

OCT
08...
JAN
15...
MAR
30.. .
JUN
23. ..
SEP
02...

17.6

. 0

3.5

20.7

18.5

,0

6.0

1000 21.6

350

440

374

475

350

395

385

390

75000

7.2 11.2 1190

8.2 14.4

7.6 7.4 2000

6.4 250

7.2 11.8 56

8.0 12.8

7.7 7.0

PASSAIC RIVER BASIN

01379000 PASSAIC RIVER NEAR MILLINGTON, N.J. (LAT 40 40 48 LONG 74 31 45]

OCT
03... -- 16.5 195 -- 6.2 14000
JAN
20... -- .5 -- 6.3 5.8
JUN
24... 1000 19.0 190 7.5 5.0 4000
AUG
28... 1230 22.0 220 7.4 11.0

01379500 PASSAIC RIVER NEAR CHATHAM, N.J. (LAT 40 43 31 LONG 74 23 23)

OCT
03.. .
JAN
20...
JUN
24...
AUG
28... 0945

21.2

22.8

470

465

7.1

6.4

7.4

7.5

6.4

8.2

3.8

4.0

16500

01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N,J. (LAT 40 54 06 LONG 74 24 40)

. 0 -- 7.5 14.2

JAN
20...
JUN
23...
SEP
01.. .
29...

1315 20.3 190

600

380

01381200 ROCKAWAY RIVER AT PINE BROOK, N.J. (LAT 40 51 29 LONG 74 20 53)

JAN
20...
JUN
23...
SEP
02...

1315

1200

1315

17.6

18.7

335

365 7.7

11.0

3.8

8.2

01381500 WHIPPANY RIVER AT MORRISTOWN, N.J. (LAT 40 48 21 LONG 74 27 22)

17.0 220

OCT
03...
JAN
20.. .
JUN
23...
AUG
28...

1400

110

. 0

21.2

22.5

6.9

220

275

4.8 240000

12.8

9.6 2500

8.4

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORDS SPATIONS IN NEW JERSEY

CHEMICAL ANALYSES. WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS-
SOLVED
SOLIDS

(RESI-

DIS-
SOLVED
SOLIDS

(SUM OF
DUE AT CONSTIT- NESS

180 C) UENTS (CA.MG)
(MG/L) (MG/L) (MG/L)

NON-
CAR-
BONATE
HARD-
NESS

(MG/L)

SPE-
CIFIC
CON-
DUCT-

ANCE (MICRO-
MHOS)

COLOR

(PLAT-
INUM-
COBALT

UNITS)

BIO-
CHEM-
ICAL
OXYGEN
DEMAND

(MG/L)

PASSAIC RIVER BASIN CONTINUED

01381800 WHIPPANY RIVER NEAR PINE BROOK, N.J. ILAT 40 50 42 LONG 74 20 51)

JAN
20...
JUN
23...
SEP
02.. .

121

101

331 315 140

43

38

52

466 7.5

335 7.3

493 7.7

17

13

20

01391500 SADDLE RIVER AT LODI, N.J. (LAT 40 53 25 LONG 74 04 51)

OCT
08.. .
JAN
15. ..
JUN
23...
SEP
02...

287

371 212

134

217

564

531

625

7.7

8.0

7.5

7.7

5.1

1.8

7.0

2.2

ELIZABETH RIVER BASIN

OCT

JAN
15... 623 561
JUN
24...
SEP
03... 424 391

306 161 995 8.4 1

209 79 622 8.1 2

262 122 645 8.1 2

RARITAN RIVER BASIN

SPRUCE RUN AT CLINTON, N.J. (LAT 40 38 21 LONG 74 54 58

15...
JUN
18.. .
AUG
27...
SEP
28.. ,

11398500

DEC
11.. .
JAN

JUN
18. ..
AUG
28. ..

01400000

JAN
20. ..
JUN
18. ..
AUG
28. ..
SEP
28. . .

130

,

94

107

- -

94

- -

NORTH BRANCH RARITAN

75

,

98

NORTH BRANCH

.

142

152

01405500 SOUTH RIVER

JAN
14.. .
JUN
24...
AUG
28...

118

,

80

80

- -

98

RARITAN

- -

- -

136

146

AT OLD

105

- -

67

84

69

65

57

RIVER NEAR

40

63

57

RIVER NEAR

77

82

83

86

BRIDGE, N.

38

21

34

27

20

20

18

FAR HILLS

17

23

16

RARITAN,

33

20

20

10

188 7.7 2 .8

178 7.8 1 1.4

172 7.6 5 1.0

161 6.9 0 2.6

, N.J. (LAT 40 42 30 LONG 74 38 11)

128 7.5 6

157 7.8 1 1.0

156 7.5 5 4.0

154 6.9 8 3.2

N.J. (LAT 40 34 10 LONG 74 40 45)

235 7.6 3 1.8

221 7.8 1 1.2

235 7.9 5 1.8

250 7.5 3 2.2

J. RESERVOIR (LAT 40 24 22 LONG 74 22 08)

38

21

34

204 4.0 0 1.8

131 4.1 7 1.0

142 4.4 3 1.9

TOMS RIVER BASIN

TOMS RIVER AT TOMS RIVER, N.J. (LAT 39 59 10 LONG 74 13 29)

OYSTER CREEK BASIN

01409095 OY5 T EK CREEK NEAR BROOKVILLE, N.J. (LAT 39 47 54 LONG 74 15 02)

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORDS STATIONS IN NEW JERSEY

CHEMICAL ANALYSES* WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD DETERMINATIONS

SPE-

CIFIC
CON-
DUCT-

TEMPER- ANCE PH

ATURE (MICRO-
TIME (DEG C) MHOS) (UNITS)

COLI-
FORM

DIS- (COL-
SOLVED ONIES
OXYGEN PER

DATE (MQ/L) 100 ML)

PASSAIC RIVER BAS IN CONTINUED

01381800 HHIPPANY RIVER NEAR PINE BROOK, N.J. ILAT 40 50 42 LONG 74 20 51)

JAN
20...
JUN

1*30

1220

2.0

21.3

7.2

7.2

75000

9200

01391500 SADDLE RIVER AT LODI, N.J. (LAT 40 53 25 LONG Tt 04 51)

OCT

JAN
15. .
JUN

475

515

510

ELIZABETH RIVER BASIN

01393500 ELI

OCT
09...
JAN
15...
JUN
24...
SEP

16.5 400 -- -- 20

. 0 850 7.1 12.0 688

1300 24.2 625 -- 7.4 1400

03... 0900 18.4 560 8.4 6.0 2630

RARITAN RIVER BASIN

01396800 SPRUCE RUN AT CLINTON, N.J. (LAT 40 38 21 LONG 74 54 58)

JAN
15...
JUN
18. ..
AU6
27...
SEP
28...

. 5 200 7.1 14.4

20.4 175 8.4 9.4 3400

1400 -- -- 8.1 10.0

1100 20.0 170 8.8 -- 300

01398500 NORTH BRANCH RARITAN RIVER NEAR FAR HILLS, N.J. (LAT 40 42 30 LONG 74 38 11)

DEC
11...
JAN
15...

4.0

. 0 180 7.2

20.1 150 8.6 9.0 2750

1430 24.0 160 -- 7.4

01400000 NORTH BRANCH RARITAN RIVER NEAR RARITAN, N.J. (LAT 40 32 10 LONG 74 40 451

JUN
18. ..
AUG
28...

JAN
20...
JUN
18...
AUG
28...
SEP
28...

1530

1600

. 0

23.0

27.0

18.5

210

220

260

7.4

8.4

8.5

8.7

13.8

10.7

12.4

4400

01405500 SOUTH RIVER AT OLD BRIDGE, N.J. RESERVOIR (LAT 40 24 22 LONG 74 22 081

. 0 205 5.4 6.8

JAN
14.. .
JUN
8.0

1715

250

26.9 132 4.6 8. 250

TOMS RIVER BASIN

01408500 TOMS RIVER AT TOMS RIVER, N.J. (LAT 39 59 10 LONG 74 13 291

28... 1500 22.4 80 3.8 6.6 1250

OYSTER CREEK BASIN

01409095 OYSTER CREEK NEAR BROOKVILLE, N.J. (LAT 39 47 54 LONG 74 15 02)

JAN
22.. .
JUN

3.0 4.4

610 ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL -BE CORDS STATIONS IN NEW JERSEY

DATE

DIS-
SOLVED
SOLIDS

(RESI-
DUE AT

180 C)
(MG/L)

DIS-
SOLVED
SOLIDS

(SUM OF
CONSTIT-
UENTS

(MG/L)

HARD-
NESS

(CA.MGI
(MG/L)

MAURICE

NON
CAR
BONA
HARD
NESS

-
-

TE
-

(MG/L)

RIVER

01411500 MAURICE RIVER AT NORMA, N

JAN
21..
JUN
18..
AUG
27..
SEP
28..

.

.

55

01440000 FLAT

JAN
21..
JUN
23..
SEP
01..
29..

.

.

138
123

- -

- -

52

BROOK NEAR

- -

129
113

17

14

21

. J.

13

6

17

FLATBROOKVILLE,

76

26

106
96

01445500 PEQUEST RIVER AT PEQUEST,

JAN
22..
JUN
23..
SEP

29..

.

. --

314

- -

336

271

226

238

24

0

24
26

N.J

68

38

75

01457000 MUSCONETCONG RIVER NEAR BLOOMSBURY

JAN
22..
JUN
23..
AUG
27..
SE"
28..

.

.

171

129

- -

183

125

126

91

139

82

01464000 ASSUNPINK CREEK AT TRENTON,

JAN
15..
JUN
18. .
SEP
03..
28..

01

JAN
14..
JUL
01..
AUG
28..
SEP
28..

JAN
14..
JUN
18..
AUG
27..
SEP
28..

183

.

258

188

.

170

81

84

171

- -

252

176

- -

147

"-

58

- -

82

81

78

82
80

61

33

61

60

29

39

42

35

0

25

27

N.

39

41

34
48

51

10

32

27

26

23

19

SPE-
CIFIC-
CON-

DUCT-
ANCE

(MICRO-
MHOS)

BASIN

(LAT 39

68

72

83

N.J. (LAT

161

174

238
207

. (LAT 40

469

477

517

PH

(UNITS)

29 42 LONG

6.

6.

6.

41 06

7.

7.

7.
7.

49 43

8.

8.

8.
7.

1

3

2

24

7

6

7
9

COLOR

(PLAT-
INUM-
COBALT

UNITS)

75 04

15

80

15

LONG 74

4

3

3
1

LONG 74 58

1

1

0
8

5

5

5
18

, N.J. (LAT 40 40 20 LONG

251

284

308

218

8.

7.

8.

8.

J. (LAT 40 13 27

304

291

400
293

J. (LAT 3

286

242

246

289

100

116

135

132

7.

6.

6.
6.

6.

6.

6.

6.

5.

6.

7.

1

8

2

0

5

3

3

3

BIO-

CHEM-
ICAL
OXYGE
DEMAN

N
D

(MG/L)

38)

1.

57 09)

1.

45)

1.

6

8

2

8

4

6

0
4

4

6

8
2

75 03 40)

1.

1.

2

6

8

0

LONG 74 44 58)

8

8

8
2

9

7

4

0

0

8

1

8

4

5

3
3

5

10

7

10

1

15

15

5

1.

5.

7.
5.

1 19)

6.

6.

3.

8

6

6
4

2

0

0

4.6

2.

2.

2.

2

2

0

2.6

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTI A L-RECORDS STATIONS IN NEW JERSEY

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD DETERMINATIONS

SPE-
CIFIC COLI-
CON- FORM

DUCT- DIS- (COL-
TEMPER- ANCE PH SOLVED ONIES

ATURE (MICRO- OXYGEN PER
DATE TIME (DEC C) MHOS) (UNITS) (MG/L) 100 ML)

MAURICE RIVER BASIN

01411500 MAURICE RIVER AT NORMA, N.J. (LAT 39 29 42 LONG 75 04 38)

JAN
21... -- 1.0 -- 6.7 12.4
JUN
18... -- 21.0 78 6.4 7.1 9300
AUG
27... 1500 21.7 80 6.0 8.2 375 SEP
28... 1300 17.0 84 5.6 8.4 1170

DELAWARE RIVER BASIN

JAN
21..
JUN

SEP
01..
29..

01445500

.

1030
1030

. 0 -- 7.4 12.8

17.6 230 8.0 9.0
13.6 205 8.0 10.6

33

152
140

JAN
22... -- .0 -- 7.9 11.7 3020
JUN
23... 1045 16.1 475 7.4 9.7 800 SEP
01... 0815 14.0 495 8.0 8.4 600 29... 0800 12.0 520 8.1 9.0 4670

01457000 MUSCONETCONG RIVER NE4R BLOOMSBURY, N.J. (LAT 40 40 20 LONG 75 03 40)

JAN
22... -- .0 -- -- 12.0 712
JUN
23... 0915 15.2 285 7.8 9.6 100 AUG
27... 1600 -- -- -- 10.8
SEP
28... 1000 17.0 205 7.7 -- 350

01464000 ASSUNPINK CREEK AT TRENTON, N.J. (LAT 40 13 27 LONG 74 44 58)

JAN
15... -- 4.5 310 6.2 11.6
JUN
18... -- 24.7 275 6.8 5.4 23600
SEP
03... 1600 25.0 425 7.2 2.4 166000
28... 1600 23.0 310 6.8 4.8 44000

01467150 COOPER RIVER AT HADDONFIELD, N.J. (LAT 39 54 11 LONG 75 01 19)

JAN
14... -- .0 305 6.5 11.4 500
JUL
01... 1400 25.0 -- 7.0 3.7 17500
AUG
28... 1030 24.4 270 7.0 5.7 5620 SEP

01483000 ALLOWAY CREEK AT ALLOWAY, N.J. RESERVOIR (LAT 39 33 55 LONG 75 21 35)

JAN
14... .0 100 4.2 15.2
JUN
18... -- 24.0 120 7.0 8.2 12400
AUG
27... 1645 28.0 122 8.4 8.8 346 SEP
28... 1130 23.1 130 6.8 6.6 12

ANALYSES OF SIMPLES COLLECTED AT WATER-QUALITY PARTIAL-RE CORDS STATIONS IN NEW JERSEY

CHEMICAL ANALYSES, WATER YEARS OCTOBER 1968 TO SEPTEMBER 1970

MEAN
DIS-
CHARGE

(CFS)

OCT 1968
28...
OCT 1969
03...
AUG 1970
28...

OCT 1968
24...
SEP 1970
01.. .

OCT 1968
24...
OCT 1969
03...
AUG 1970
28...

ALUM- BERYL- CHRO-
INUM BARIUM HUM BISMUTH BORON CADMIUM MIUM COBALT COPPER

(AL) (BAI (BE) (BI) (Bl (CD) (CR) (CO) (CU) (UG/L) (UG/L) (UG/LI (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L)

HACKENSACK RIVER BASIN

01377000 HACKENSACK RIVER AT RIVERVALE, N.J. (LAT 40 59 55 LONG 73 59 27)

1400 100 <.5 <3 92 '50 ^4 7 12

PA5SAIC RIVER BASIN

01379500 PASSAIC RIVER NEAR CHATHAM, N.J. (LAT 40 43 31 LONG 74 23 23)

5 330 23 <2 <8 200 <75 <12 <8 7

0 300 21 <.8 <4 160 <40 <4 <4 9

2 830 38 <.8 <5 190 <75 9 6 15

01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOOMTON, N.J. (LAT 40 54 06 LONG 74 24 401

GERMAN-
IUM

(GE)
(UG/L)

IRON

(FE)
(UG/L)

22 15 27 '25

01381500 WHIPFANY PIVER AT MORRISTOWN, N.J. ILAT 40 48 21 LONG 74 27 22)

ELIZABETH RIVER BASIN

01393500 ELIZABETH RIVER AT ELIZABETH, N.J. (LAT 40 40 03 LONG 74 13 09)

530

340

1100

130

150

120

310

OCT 1969
09...
SEP 1970
03...

100 140 <85 18

0 65 <1 ^6 360 <55 45 <6

5 110 <.9 <5 180 <S5 6 <9

RARITAN RIVER BASIN

01396800 SPRUCE RUN AT CLINTON, N.J. (LAT 40 38 21 LONG 74 54 58)

OCT 1968
25...
SEP 1969
29...
AUG 1970
28...

01398500 NORTH BRANCH RARITAN RIVER NEAR FAR HILLS, N.J. (LAT 40 42 30 LONG 74 38 11)

01400000 NORTH BRANCH RARITAN RIVER NEAR RARITAN, N.J. (LAT 40 34 10 LONG 74 40 45)

106

160

TOMS RIVER BASIN

01408500 TOMS RIVER NEAR TOMS RIVER, N.J. (LAT 39 59 10 LONG 74 13 29)

01440000 FLAT BROOK NEAR FLATBROOKVILLE, N.J. (LAT 41 06 24 LONG 74 57 09 I

01464000 ASSUNPINK CREEK AT TRENTON, N.J. (LAT 40 13 27 LONG 74 44 58)

ANALYSES OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL- RECORDS STATIONS IN NEW JERSEY

CHEMICAL ANALYSES, HATER YEARS OCTOBER 1968 TO SEPTEMBER 1970

LEAD

(PB)
(UG/L)

LITHIUM

(LI)

MANGAN-
ESE

(MM)

MOLYB-
DENUM

(MD)

NICKEL

(NI)

RUBID-
IUM

1RB)

SILVER

(AG)

STRON-
TIUM

(SR)

TIN

(SN)

TITAN-
IUM

(TI)

VANAD-
IUM

(Y)

ZINC

(ZN)

HACKENSACK RIVER BASIN

01377000 HACKENSACK RIVER AT RIVERVALE, N.J. (LAT 40 59 55 LONG 73 59 27)

SEP 1970
02... 12 3 480 <1 10 3 .2 120 <5 47 8 <200

PASSAIC RIVER BASIN

01379500 PASSAIC RIVER NEAR CHATHAM, N.J. (LAT 40 43 31 LONG 74 23 231

OCT 1968
28... <8 9 200 2 20 11 <.8 180 <15 12 7 <220
DCT 1969
03... 4 4 110 <.8 16 5 <.4 85 <4 20 6 <170
AUG 1970
28... 9 8 230 2 9 8 <.5 190 <8 37 12 <300

01380500 ROCKAWAY RIVER ABOVE RESERVOIR, AT BOONTON, N.J. (LAT 40 54 06 LONG 74 24 40)

OCT 1968
24... <3 1 40 <.5 7 2 <.3 45 <5 1 <2 <70
SEP 1970
01... 3 2 32 .9 21 <.2 70 <3 21 <110

01381500 WHIPPANY RIVER AT MORRISTOWN, N.J. (LAT 40 48 21 LONG 74 27 22)

OCT 1968
24... <5 3 50 -- <5 3 <.5 90 <9 <2 <3 <130
OCT 1969
03... 3 3 60 <.5 13 3 <.3 50 <3 23 <110
AUG 1970
28... 5 10 75 .8 32 <.3 92 <4 73 <160

ELIZABETH RIVER BASIN

01393500 ELIZABETH RIVER AT ELIZABETH, N. . (LAT 40 40 03 LONG 74 13 09)

OCT 1968
28... <9 14 75 3 12 3 <.9 1100 <18 <4 11 <260
OCT 1969
09... 21 9 170 2 25 4 <.6 590 <6 13 7 <240
SEP 1970
03... <4 4 80 3 9 <3 <.4 1000 <9 <4 5 <360

RARITAN RIVER BASIN

01396800 SPRUCE RUN AT CLINTON, N.J. (LAT 40 38 21 LONG 74 54 58)

SEP 1969
26... 4 .3 640 <1 1 .6 <.3 60 <4 <2 <1 <90

01398500 NORTH BRANCH RARITAN RIVER NEAR FAR HILLS, N.J. (LAT 40 42 30 LONG 74 38 11)

SEP 1969
25... 1 .7 95 .2 1 .2 <.2 35 <3 11 <75

01400000 NORTH BRANCH RARITAN RIVER NEAR RARITAN, N.J. (LAT 40 34 10 LONG 74 40 45)

OCT 1968
25... <4 3 37 <1 <6 2 <.4 150 <7 <3 <3 .
SEP 1969
29... 2 2 12 <.6 4 1 <.3 75 <3 4 <2 <100
AUG 1970
28... 2 5 34 .8 11 <.2 130 <4 22 <130

TOMS RIVER BASIN

01408500 TOMS RIVER NEAR TOMS RIVER, N.J. (LAT 39 59 10 LONG 74 13 29)

OCT 1968
18... 2 .5 50 <.2 3 2 <.l 17 <2 5 .8 <27

DELAWARE RIVER BASIN

01440000 FLAT BROOK NEAR FLATBROOKVI LLE , N.J. (LAT 41 06 24 LONG 74 57 09)

OCT 1968
24... 829 <.7 <4 2 <.4 440 <7 <2 <2 <95

01464000 ASSUNPINK CREEK AT TRENTON, N.J. (LAT 40 13 27 LONG 74 44 58)

OCT 1968
28... <4 2 40 <.7 20 3 .1 70 <7 10 2 <100
SEP 1970
03... <3 5 130 <1 30 7 .3 100 <5 <3 <3 <220

.Ti' TS OF SAMPLES COLLECTED AT WATER-QUALITY PART IAL-RECORDS STATIONS IN NEW JERSEY

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

MEAN SUSPENDED
MEAN CONCEN- SEDIMENT
DISCHARGE TRATION DISCHARGE

TIME (CFS) (MG/L) (TONS/DAY)

MEAN
MEAN CONCEN-
DISCHARGE TRATION

DATE TIME (CFS) (MG/L)

RARITAN RIVER BASIN

01400000 NORTH BRANCH RARITAN RIVER NEAR RARITAN, N.J. (LAT 40 34 10 LONG 74 40 45)

NOV 14, 1969
DEC 11......
FEB 3, 1970
APR 2......

ZOO B3 1.6
1315 A2820
1305 A2700
1200 A5770

Bl

APR 2, 1970

JUL 30......

1530

2025

A6680

A90

DEC 16......

FEB 2, 1970
FEB 3......
FEB 4......
FEB 5......
FEB 6. .....

EB 9......
EB 10......
EB 11......

FEB 12. .....
MAR 26.... ..
MAR 27......
MAR 28......
MAR 29.... ..

MAR 30......
MAR 31......
APR 1... ...
APR 2......
APR 3......

APR 4......
APR 13......
APR 14......

01467150 COOPER RIVER AT HADDOMFIELD, N.J. (LAT 39 54 11 LONG 75 01 19)

1.5

. 9
. 3

. 7
. 9
. 9
. 7
. 3

. 9

. 0
. 8
. 3

. 3
. 2
. 2

. 2

. 5
. 7
. 1
. 8

. 8
. 4
. 2

. 1
. 2

PR

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PR
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1AY
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AY

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<AY
<AY
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^AY
UY

15, 1970

20......
21......
22......
23......
24......

26... ...
27......
28......
29......

13......
14......
15......
16......
17......

18......
19......
20......
21......
22......

23......
24......
25......
26......
27......

28......
29......

B323
B39
B68

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS AND PARTICLE-SIZE DISTRIBUTION, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 (METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBE) C, CHEMICALLY DISPERSED) N, IN NATIVE WATER! P, PIPETl S, SIEVE! V, VISUAL-ACCUMULATION TUBEl W, IN DISTILLED WATER)

WATER
TEM-
PERA- CONCEN-
TURE DISCHARGE TRATION

TIME (°C>

NOV 14 1969 1405
FEB 3 1970 1105
APR 2..... 1115
APR 2..... 1430

9.0
2.0
5.0
6.0

PARTICLE SIZE

PERCENT FINER THAN THE SIZE (IN MILLIMETERS) INDICATED
;E TRATION DISCHARGE
(CFS) (MG/L)

RARITAN RIVER BASIN

NORTH BRANCH RARITAN RIVER NEAR FAR HILLS, N.J.

36 3 .29
6 54 70 89 9
7.2

250
532
616

SEDIMENT
DISCHARGE

(TONS/DAY) .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00

(LAT 40 42 30 LONG 74 38 11)

3 99 100

30 50

DELAWARE RIVER BASIN

01467150 COOPER RIVER AT HADDONFIELD, N.J. (LAT 39 54 11 LONG 75 01 19)

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN MAINE

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD DETERMINATIONS

STATION
NUMBER

01010500

01014000

01015800

01016500

01017000

01017900

01018000

01023000

01031500

01031600

01033000

01033500

01036500

01038000

01042500

01045000

01054300

01055000

01057000

01058500

01060000

01066500

STATION NAME*

ST. JOHN RIVER AT
DICKY, MAINE

ALLAGASH, MAINE

KENT, MAINE
ST. JOHN RIVER AT FORT
KENT, MAINE
AROOSTOOK RIVER NEAR
MASARDIS, MAINE
MACHIAS RIVER NEAR
ASHLAND, MAINE
AROOSTOOK RIVER AT
WASHBURN, MAINE
MARLEY BROOK NEAR
LUDLOW, MAINE
MEDUXNEKEAG RIVER
NEAR HOULTON, MAINE

DENNYSVILLE, MAINE

CHERRYFIELD, MAINE

WEST BRANCH UNION
RIVER AT AMHERST,
MAINE

PISCATA8UIS RIVER NEAR
DOVER-FOXCROFT, MAINE
MORRISON BROOK NEAR
SEBEC CORNERS, MAINE
SEBEC RIVER AT SEBEC,
MAINE
PLEASANT RIVER NEAR
MILQ, MAINE
KENDUSKEAG STREAM
NEAR KENDUSKEAG,
MAINE

NORTH WHITEFIELD,
MAINE

KENNEBEC RIVER AT THE
FORKS, MAINE
DEAD RIVER AT THE
FORKS, MAINE

ELLIS RIVER AT SOUTH
ANDOVER, MAINE
SWIFT RIVER NEAR
ROXBURY, MAINE

TURNER CENTER, MAINE
LITTLE ANDROSCOGGIN
RIVER NEAR SOUTH
PARIS, MAINE

RIVER NEAR AUBURN,
MAINE

ROYAL RIVER AT
YARMOUTH, MAINE

MAINE
LITTLE OSSIPEE RIVER
NEAR SOUTH LIMING-
TON, MAINE

L

47

47

46

46

46

46

46

44

45

45

45

45

44

45

45

44

44

44

43

ATI-
TUBE

06

15

31

37

46

08

06

50

10

14

16

16

53

20

20

35

38

17

41

44

27

21

42

36

42

17

25

31

17

12

58

48

25

59

37

32

08

22

DRAINAGE DATE OF
LONGI- AREA COLLEC-

TUDE (SO MI) TION

ST. JOHN RIVER BASIN

69 05 25 2700 8-12-70

68 35 35 5690 8-12-70

68 22 23 888 8-13-70

68 36 07 330 8-13-70

68 09 29 1652 8-11-70

68 03 42 1.47 8-11-70

67 52 00 175 8-11-70

DENNYS RIVER BASIN

NARRAGUAGUS RIVER BASIN

UNION RIVER BASIN

68 22 22 148 6-04-70

PENOBSCOT RIVER BASIN

69 18 55 297 8-03-70

69 03 06 4.37 8-03-70

69 06 44 327 8-03-70

69 00 13 324 8-03-70

68 53 04 178 8-03-70

SHEEPSCOT RIVER BASIN

KENNEBEC RIVER BASIN

69 57 48 1589 7-23-70

69 59 26 872 7-23-70

ANDROSCOGGIN RIVER BASIN

70 44 01 131 5-05-70

70 35 17 95.8 5-05-70

70 32 16 76.2 4-17-70

ROYAL RIVER BASIN

SACO RIVER BASIN

70 40 15 161 4-17-70

TIME

1415

1245

1030

0940

1540

1300

1350

1700

1230

1400

1330

1435

1545

1110

1230

1100

1020

1530

1300

DIS-
CHARGE

(CFS)

285

1300

209

47

350

. 05

52

257

123

. 38

324

171

38

4060

1020

992

715

1830

781

966

SPE-
CIFIC
CON-
DUCT-
ANCE

(MICRO-
MHOS 1

92

69

80

95

73

75

80

117

119

39

33

31

53

114

28

31

116

44

36

34

28

23

34

34

51

58

36

34

PH

(UNITS)

6.7

6.8

6.6

6.7

6.8

6.5

6.6

6.6

6.8

6.4

7.4

7.1

8.0

7.0

7.8

8.1

6.8

7.2

7.2

6.2

7.1

6.2

6.0

6.5

6.4

6.4

6.5

TEM-
PERA-
TURE

(°C)

19.0

21.5

22.0

20.5

20.0

19.0

28.5

16.5

23.5

18.0

20.5

19.0

25.5

24.0

26.0

28.0

27.0

14.5

20.0

22.0

5.5

4.5

2.0

2.0

11.5

6.0

5.0

5.5

DIS-
SOLVED
OXYGEN

(MG/L)

8.0

9.0

8.3

8.3

8.6

8.0

8.3

8.3

9.0

8.3

8.3

8.3

8.5

8.3

7.6

8.3

9.1

10.9

8.7

8.3

12.0

11.3

10.3

13.5

9 8

11.9

11.2

13.0

A STREAM-GAGING STATIONS.

616 ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN MASSACHUSETTS AND RHODE ISLAND

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS- DIS-
DIS- SOLVED DIS- SOLVED SOLVED
SOLVED MAN- SOLVED MAGNE- PDTAS- BICAR- CHLO- FLUO-
D!S- SILICA IRON GAMESE CALCIUM SIUM SODIUM SIUM BONATE SULFATE RIDE RIDE

CHARGE ISI02) (FE) (MN) ICA) (MGI (NA) (K) (HC03) (SO*) (CLI (F)
DATE TIME (CFS) (MG/L) (UG/L) (UG/L) (M6/L) IMG/LI (MG/L) (MG/LI IMG/L) (MG/L) (MG/L) (MG/L)
IPSWICH RIVER BASIN

01IOI400 MARTINS BROOK NEAR NORTH READING, MASS. (LAT 42 34 15 LONG 71 06 05)
JUL 7.. 1350 11 7.1 -- -- 10 1.2 17 1.2 20 10 37 0.0

01101450. IPSWICH RIVER AT NORTH READING, MASS. ILAT 41 33 50 LONG 71 05 25)
JUL 7.. 1450 30 9.5 -- -- 10 1.7 21 1.7 20 14 38 .1
CHARLES RIVER BASIN

01103090 ECHO LAKE TRIBUTARY NEAR HOPK1NTON, MASS. (LAT 42 11 55 LONG 71 31 07)
JUN 15.. 1900 -- 13 130 60 2.1 .3 2.8 .1 4 8.0 2.6 .1

CHARLES RIVER NEAR MILFORD, MASS. (LAT 42 10 56 LONG 71 30 23)A
OCT 31.. 1510 2.5 1.9 50 0 3.9 .9 5.4 .6 6 10
APR 6.. 0900 9.5 4.0 50 30 3.8 .Q 5.2 .5 4 11
SEP 14.. 1700 2.3 1.5 0 0 4.5 .8 4.9 .5 3

01103150 CHARLES RIVER TRIBUTARY AT BELLINGHAM, MASS. (LAT 42 05 12 LONG 71 29 251A
OCT 31.. 1135 .19 11 140 0 4.8 .9 5.1 .7 8 11 8.7 .2

CHARLES RIVER BELOW BOX POND, AT BELLINGHAM, MASS. (LAT 42 05 38 LONG 71 28 56)A
OCT 31.. 1230 5.1 6.7 350 110 13 2.7 38 6.3 24 24 52 .2
APR 6.. 1055 BO 4.9 50 40 8.3 1.4 15 1.7 10 16 25 .1
SEP 14.. 1600 2.3 .2 20 10 13 2.6 47 6.2 50 31 53 .1

01103205 BEAVER BROOK TRIBUTARY AT BELLINGHAM, MASS. (LAT 42 05 58 LONG 71 28 35)
JUN 15.. 1745 -- 10 480 530 19 4.1 25 6.5 45 25 42 .1

01103214 BEAVER BROOK NEAR HOLLISTON, MASS. (LAT 42 10 48 LONG 71 28 46)
OCT 30.. 1525 .24 13 330 20 6.2 1.5 8.1 1.3 11 11 16 .1

01103217 HOPPING BROOK NEAR WEST MEDWAY, MASS. (LAT 42 08 31 LONG 71 27 21)
OCT 31.. 1445 1.3 12 220 0 7.2 1.3 9.9 1.5 10 13 19 .2

01103220 MISCOE BROOK NEAR FRANKLIN, MASS. (LAT 42 02 27 LONG 71 25 3B)
OCT 8.. 1050 .35 10 300 40 6.6 .9 5.2 .4 7 20 7.4 .1

MINE BROOK NEAR FRANKLIN, MASS. ILAT 42 07 29 LONG 71 25 52)
OCT 31.. 0955 5.6 10 410 200 14 3.1 60 4.2 10 29 92 .2

01103250 CHICKEN BROOK AT HOLLISTON, MASS. (LAT 42 11 16 LONG 71 26 21)
OCT 30.. 1420 .55 13 140 0 15 3.3 11 1.9 32 IB 21 .1

01103260 CHARLES RIVER AT WEST MEDWAY, MASS. (LAT 42 08 12 LONG 71 25 08)
SEP 14.. 1430 8.3 3.4 10 0 16 3.2 48 4.6 17 25 67 .1

01103290 SAFE MEADOW BROOK NEAR WRENTHAM, MASS. (LAT 42 03 17 LONG 71 21 51)
OCT 8.. OB55 .12 8.2 140 10 7.1 1.1 5.4 .4 17 4.9 11 .1

01103303 CRESS BROOK NEAR NORFOLK, MASS. (LAT 42 07 30 LONG 71 21 40)
OCT 7.. 1620 .84 11 140 0 10 2.2 5.5 .5 17 17 11 .0

01103320 STOP RIVER TRIBUTARY AT NORFOLK, MASS. (LAT 42 07 48 LONG 71 19 12)
OCT 7.. 1515 .31 11 90 0 11 2.0 7.5 .8 18 15 14 .0

STOP RIVER NEAR MEDFIELD, MASS. ILAT 42 09 03 LONG 71 18 18)
OCT 7.. 1425 13 7.0 300 0 9.8 2.4 11 1.1 18 17 21 .1

01103380 POND BROOK AT HOLLISTON, MASS. (LAT 42 12 07 LONG 71 25 36)
JUN 12.. 1845 -- 6.5 1000 110 15 3.0 27 2.8 21 17 53 .0
A SEE ANALYSES OF MINOR ELEMENTS-

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN MASSACHUSETTS AND RHODE ISLAND 617

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
BIS- BIS- DIS-
SOLVED SOLVED SOLVED
TOTAL SOLIBS SOLIBS NOMCAR- SPECIFIC COLOR OXYGEN
PHOS- (RESI- (SUM OF HARD- BONATE CONDUCTANCE PH (PLAT- TEH- FIELD
NITRATE PHORUS BUE AT CONSTIT- NESS HARD- (MICROMHOS) (UNITS! INUM PERA- ANAL-
(N03) (P04) 180°C) UENTS (CA.MG) NESS COBALT TURE YSES
BATE (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/LI FIELB LAB FIELB LAB UNITS) (°C) (MG/LI
IPSWICH RIVER BASIN

01101400 MARTINS BROOK NEAR NORTH REABING, MASS. (LAT 42 34 15 LONG 71 06 05)
JUL 7.. 0.0 -- 105 93 32 16 -- 158 -- 6.* 72

01101450 IPSWICH RIVER AT NORTH READING, MASS. (LAT 42 34 20 LONG 71 05 25)
JUL 7.. .0 -- 138 106 32 16 -- 18S -- 6.9 400
CHARLES RIVER BASIN

01103090 ECHO LAKE TRIBUTARY NEAR HOPKINTON, MASS. (LAT 42 11 55 LONG 71 31 07)
JUN 15.. O.I 0.01 37 31 63 36 34 4.2 5.0 7 14.0 4.6
CHARLES RIVER NEAR MILFORD, MASS. (LAT 42 10 56 LONG 71 30 23)
OCT 31.. .3 .01 43 34 13 8 67 62 6.2 6.6 6 8.0 11.0
APR 6.. .5 .01 45 37 13 10 63 60 4.8 5.9 4 3.0
SEP 14.. .0 .0? -- 32 14 12 66 65 -- 6.4 2 18.0 8.4

01103150 CHARLES RIVER TRIBUTARY AT BELLINGHAM, MASS. (LAT 42 05 12 LONG 71 29 25)
OCT 31.. .0 .04 60 46 16 9 69 59 6.0 6.8 29 5.0 11.8

CHARLES RIVER BELOW BOX PONB, AT BELLINGHAM, MASS. (LAT 42 05 38 LONG 71 28 56)
OCT 31.. 30 9.8 206 185 44 24 366 305 6.8 6.8 36 4.0 9.5
APR 6.. 4.7 .73 80 82 27 19 145 139 6.0 6.3 10 7.0
SEP 14.. 11 11 199 43 2 377 352 7.1 15 18.0 5.7
01103205 BEAVER BROOK TRIBUTARY AT BELLINGHAM, MASS. (LAT 42 05 58 LONG 71 28 35)
JUN 15.. 11 .06 168 165 64 26 325 296 6.0 7.0 22 18.0 4.2

01103214 BEAVER BROOK NEAR HOLLISTON, MASS. (LAT 42 10 48 LONG 71 28 46)
OCT 30.. .1 .02 75 63 22 12 108 90 5.8 6.9 31 2.0 10.8
01103217 HOPPING BROOK NEAR WEST MEBWAY, MASS. (LAT 42 08 31 LONG 71 27 21)
OCT 31.. .5 .04 99 70 24 16 114 101 5.9 6.8 60 5.0 13.5

01103220 MISCOE BROOK NEAR FRANKLIN, MASS. 1LAT 42 02 27 LONG 71 25 38)
OCT 8.. .0 .05 70 54 20 14 -- 62 5.6 6.3 99 11.0 5.9

MINE BROOK NEAR FRANKLIN, MASS. (LAT 42 07 29 LONG 71 25 52)
OCT 31.. 36 8.6 267 253 48 40 490 439 6.4 6.2 52 4.0 1.7

01103250 CHICKEN BROOK AT HOLLISTON, MASS. (LAT 42 11 16 LONG 71 26 21)
OCT 30.. 6.8 .01 112 106 51 25 177 166 6.9 7.5 24 5.0 13.5

01103260 CHARLES RIVER AT WEST MEDWAY, MASS. (LAT 42 08 12 LONG 71 25 08)
SEP 14.. 18 6.7 -- 201 53 39 429 378 -- 7.0 25 16.0 5.7

01103290 SAFE MEADOW BROOK NEAR WRENTHAM, MASS. (LAT 42 03 17 LONG 71 21 51)
OCT 8.. .7 .07 56 47 22 8 -- 70 5.8 7.2 9 12.0 7.4

01103303 CRESS BROOK NEAR NORFOLK, MASS. (LAT 42 07 30 LONG 71 21 40)
OCT 7.. 2.4 .02 80 68 34 20 -- 98 6.1 7.2 63 13.0 8.4

01103320 STOP RIVER TRIBUTARY AT NORFOLK, MASS. (LAT 42 07 48 LONG 71 19 12)
OCT 7.. 7.2 .02 83 77 36 20 124 112 6.0 7.3 39 11.0 8.5
STOP RIVER NEAR MEDFIELD, MASS. (LAT 42 09 03 LONG 71 18 18)
OCT 7.. 2.4 .43 96 81 34 19 -- 130 6.3 7.2 61 14.0 10.6
01103380 POND BROOK AT HOLLISTON, MASS. (LAT 42 12 07 LONG 71 25 36)
JUN 12.. 5.6 .43 167 141 50 33 275 261 5.9 6.7 48 19.0 4.5

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN MASSACHUSETTS AND RHODE ISLAND

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS- DIS-
SOLVED
FLUO-
RIDE

SOLVED MAN- SOLVED MAGNE- POTAS- BICAR- CHLO-
DIS- SILICA IRON GANESE CALCIUM SIUM SODIUM SIUM BONATE SULFATE RIDE

CHARGE (SI02) (FE) (MN) (CA) (M6) (NA) (K) (HC03I (504) (CD (Fl
(CFS) (MG/L) (UG/L) (UG/L) (MG/L) (MG/L] (MG/L) (MG/LI IMG/L) (MG/L) (MG/D (MG/D

CHARLES RIVER BASIN CONTINUED

01103390 BOGASTOW BROOK NEAR MILLIS, MASS. (LAT 42 11 01 LONG 71 23 27)

2.8 9.0 170 0 14 3.4 15 2.7 31 16 30 0.1

110
10 12 27

01103*15 INDIAN BROOK NEAR SHERBORNi MASS. (LAT 42 15 3* LONG 71 21 25)

12 2500 90 22 3.6 12 3.* 58

01103440 FULLER BROOK AT WELLESLEY, MASS. (LAT 42 17 45 LONG 71 17 18)

1.4 14 670 10 23 4.7 24 5.6 65

APR 7.
MAY 8.
JUN 9.
JUL 8.
AUG 12.
SEP 22.

OCT 7.
JUN 11.

1470
250
404
103
39
49

2.9 120
.0 530
5.7 740
4.8 80
2.0 280
3.9 10

0
40
40
- -

70
0

8.2
11
10
11
11
13

1.3 12
2.2 15
1.7 14
2.3 15
2.6 16
2.7 17

1.1 10
3.9 21
1.4 18
I.I 26
1.6 30
2.0 26

13
16
17
18
11
18

I
II

01104000 MOTHER BROOK AT DEDHAM, MASS. (LAT 42 15 18 LONG 71 09 53)

1715 517 3.0 130 0 7.1 1.4 13 1.2 10 13

01104050 SAWMILL BROOK NEAR WEST ROXBURY, MASS. (LAT f2 17 27 LONG 71 10 28)

80
160

01104055 SAWMILL BROOK AT MOUTH, NEAR WEST ROXBURY, MASS. (LAT 42 16 48 LONG 71 11 07)

1530 -- 6.5 6500 370 25 5.0 36 8.8 110 13

01104400 HOBBS BROOK NEAR LINCOLN, MASS. (LAT 42 26 17 LONG 71 16 51)

1050 .19 15 650 60 20 3.0 24 1.7 10 52

01104450 STONY BROOK AT WALTHAM, MASS. (LAT 42 22 28 LONG 71 16 34)

1715 11 390 30 19 2.6 19 2.5 22 25

270
20

30

01104620 CHARLES RIVER AT WATERTOWN, MASS. (LAT 42 20 52 LONG 71 11 11)

i!5 -- 2.2 10 10 16 3.2 24 8.0 34 20

WEIR RIVER BASIN

01105630 CROOKED MEADOW RIVER NEAR HINGHAM CENTER, MASS. (LAT 42 12 53 LONG 70 53 06)

)25 1.4 6.7 250 50 9.1 3.1 20 1
20

01105635 ACCORD BROOK NEAR HINGHAM, MASS. (LAT 42 12 15 LONG 70 51 51)

. 37 10 -- -- 11 3.0 13 1.0 18

01105640 WEIR RIVER NEAR HINGHAM, MASS. (LAT 42 14 31 LONG 70 51 36)

1.9 5.4 100 60 11 3.4 18 1.8 22
12 3.5

BOUND BROOK BASIN

16 28

01105660 BOUND BROOK NEAR COHASSET, MASS. (LAT 42 12 44 LONG 70 49 18)

. 34 13 1920 1000 4.8 2.0 12 1.2 14

A SEE ANALYSES OF MINOR ELEMENTS.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN MASSACHUSETTS AND RHODE

D/

OCT

APR
SEP

JUN

OCT

DIS- DIS-
SOLVED SOLVED

PHOS- (RESI- (SUM OF HARD- BONATE CONDUCTANCE PH
NITRATE PHORUS DUE AT CONSTIT- NESS HARD- (MICROMHOS) (UNITS)
(N03) (P04) 180°C> UENTS (CA,MG) NESS 1

30..

7..
14..

15..

7. .

2.0

I .2
3.4

2.9

2.7

ISLAND

COLOR

(PLAT-
INUM
COBALT

CHARLES RIVER BAS IN--CONTI NUED

01103390 BOGASTOW BROOK NEAR MILLIS, MASS. (LAT 42 11 01 LONG 71 23 27)

0.03 120 107 49 24 195 185 6.8 7.5

CHARLES RIVER NEAR MEDFIELD, MASS. (LAT 42 12 36 LONG 71 21 09)

. 06 63 57 21 14 99 97 5.7 6.3
1.8 -- 104 40 18 192 191 -- 7.2

01103415 INDIAN BROOK NEAR SHERBORN, MASS. (LAT 42 15 34 LONG 71 21 25)

. 12 159 138 70 22 220 212 5.5 7.1

01103440 FULLER BROOK AT WELLESLEY, MASS. ((LAT 42 17 45 LONG 71 17 18)

. 16 199 175 77 24 -- 284 7.0 7.8

01103500 CHARLES RIVER AT CHARLES RIVER VILLAGE, MASS. (LAT 42 15 23 LONG 71 15

APR
MAY
JUN
JUL
AUG
SEP

APR

OCT
JUN

7..
8..

9. . e..
12..
22..

7..

7. .
11..

2.7
3.7
3.0
2.4
2.5
3.1

1.3

15
16

. 10 68 67 26 18 128 114 6.0 6.6
. 46 100 90 36 20 164 166 6.6 7.1
. 84 103 86 32 17 150 145 6.4 6.9
. 34 -- 92 37 16 170 163 -- 7.0
1.2 -- 91 34 10 183 180 -- 7.1
. 93 -- 103 44 22 200 190 -- 7.2

01104000 MOTHER BROOK AT DEDHAM, MASS. (LAT 42 15 18 LONG 71 09 53)

. 08 64 69 24 16 126 122 6.0 6.6

. 87 349 334 150 90 644 597 7.1 7.7
2.8 431 385 126 72 680 647 6.6 7.9

01104055 SAWMILL BROOK AT MOUTH, NEAR WEST ROXBURY, MASS. (LAT 42 16 48 LONG 71

JUN

OCT

JUN

APR
SEP

SEP

11..

7. .

10. .

7..
22..

22_..

. 1

1.8

2.1

2.4
3.5

4.3

. 61 217 208 83 0 440 389 6.6 6.7

01104400. HOBBS BROOK NEAR LINCOLN, MASS. (LAT 42 26 17 LONG 71 16 51)

. 06 191 168 62 54 -- 260 5.8 6.8

01104450. STONY BROOK AT WALTHAM, MASS. (LAT 42 22 28 LONG 71 16 34)

. 04 132 129 58 40 220 210 6.0 7.0

01104500. CHARLES RIVER AT WALTHAM, MASS. (LAT 42 22 20 LONG 71 14 03)

. 08 83 88 33 22 162 158 6.0 6.7
. 44 -- 123 53 27 270 244 7.0 7.2

01104620 CHARLES RIVER AT WATERTOWN, MASS. (LAT 42 20 52 LONG 71 11 11)

. 36 -- 143 53 25 305 277 7.5 7.1

WEIR RIVER BASIN

01105630 CROOKED MEADOW RIVER NEAR HINGHAM CENTER, MASS. I LAT 42 12 53 LONG 70

OCT
SEP

SEP

OCT
SEP

OCT
SEP

15..
11 ..

21..

15..
11 ..

15..
21..

. 1
1.4

1.5

. 2

. 0
1.9

110 105 36 20 -- 190 -- 6.9
95 34 18 180 170 -- 7.2

01105635 ACCORD BROOK NEAR HINGHAM, MASS. (LAT 42 12 15 LONG 70 51 51)

86 10 25 210 146 -- 6.8

01105640 WEIR RIVER NEAR HINGHAM, MASS. (LAT 42 14 31 LONG 70 51 36)

101 105 42 24 -- 191 -- 7.0
101 44 22 190 184 -- 7.3

BOUND BROOK BASIN

01105660 BOUND BROOK NEAR COHASSET, MASS. (LAT 42 12 44 LONG 70 49 18)

94 76 20 8 -- 109 -- 6.3
65 17 9 -- 93 -- 6.2

21

26
23

250

62

42)

24
42
100
23
17
15

19

39
70

11 07)

58

61

48

25
20

15

53 06)

38
37

30

23
20

200
80

TEM-
PERA-

TURE (°C)

6.0

18.0

14.0

13.0

7.0
14.0
19.0
23.0
24.0
20.0

8.0

11 .0
19.0

27.0

7.0

21.0

8.0
22.0

23.0

14.0
19.0

15.0

11.0
19.0

12.0

619

DIS-

SOLVED
OXYGEN
FIELD
ANAL-

YSES

16.6

8.0

4.8

10.0

10.3
7.8
6.4

9.4

5.6
5.0

. 3

10.5

5.5

9.3

9.8

"

"

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620 ANALYSES OF SIMPLES COLLECTED AT MISCELLANEOUS SITES IN MASSACHUSETTS AND RHODE ISLAND

DATE

OCT
SEP

OCT
SEP

OCT
SEP

OCT

OCT
SEP

OCT
SEP

OCT
SEP

OCT
SEP

15..

15..

15..
14..

15..

15..

15..
11..

15..
11..

15..
11..

TIME

1320
1445

1350
1420

1245
1340

1225

1510
1300

1430
1500

1150
1530

1050
1230

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS-
DIS- SOLVED DIS- SOLVES
SOLVED MAN- SOLVED MAGNE- POTAS- BICAR-

CHARGE 1SID2) (FE) (MN) (CA) (MG) (NA) (K) (HC03) (S04)
(CFS) (MG/L) (UG/L) (UG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L)

NORTH RIVER BASIN

01105680 CUSHING BROOK AT WEST HANOVER, MASS. (LAT 42 07 05 LONG 70 52 48)

1.0 11 320 100 5.9 1.6 17 2.2 8 12
. 09 19 -- -- 5.9 2.2 23 2.2 6 19

01105690 FRENCH STREAM NEAR ROCKLANI), MASS. (LAT 42 06 33 LONG 70 54 35)

2.7 4.6 140 80 13 3.1 28 3.0 34 20
. 92 9.2 -- 13 3.5 42 3.9 36 16

01105700 INDIAN HEAD BROOK NEAR HANSON, MASS. (LAT 42 05 13 LONG 70 51 26)

. 81 13 760 90 5.8 1.8 12 1.4 14 12
. 45 11 -- -- 5.5 2.0 15 1.0 10 11

01105730 INDIAN HEAD RIVER AT HANOVER, MASS. (LAT 42 06 02 LONG 70 49 23) *

10 5.2 180 110 9.2 2.9 24 2.8 22 22

01105770 HERRING BROOK AT PEMBROKE, MASS. (LAT 42 03 43 LONG 70 48 09)

1.5 7.0 100 90 4.1 1.8 10 1.3 13 9.6 1.1 6.7 -- -- 5.0 2.0 11 1.0 12 11

01105805 PUDDING BROOK AT NORTH PEMBROKE, MASS. (LAT 42 05 25 LONG 70 47 32)

6.6 2.2 36 30 4.0 1.4 12 .6 7 7.6
. 34 4.8 -- -- 4.2 1.6 12 .6 12 9.5

01105810 THIRD HERRING BROOK AT HANOVER, MASS. (LAT 42 07 01 LONG 70 48 35)

2.4 11 1040 230 7.0 2.7 26 1.5 4 17
. 34 12 -- -- 7.0 2.9 25 2.2 6 24

01105820 SECOND HERRING BROOK AT NORWELL, MASS. (LAT 42 09 36 LONG 70 47 201

. 66 4.4 310 20 6.0 2.5 19 .9 8 14
. 32 I.I -- -- 5.0 1.7 20 .6 4 11

CHLO-
RIDE

(CD
(MG/L)

34
46

43
61

23
28

38

16
19

22
21

50
47

35
38

DIS-
SOLVED
FLUO-
RIDE

(F)
(MG/L)

0.1
. 0

. 2
. 0

. 1
. 0

. 1

. 0
. 1

. 1
. 0

. 4
. 0

. 1
. 0

01105830 FIRST HERRING BROOK NEAR SCITUATE CENTER, MASS. (LAT 42 11 30 LONG 70 46 49)

OCT
SEP

OCT
SEP

SEP

OCT
SEP

OCT

OCT
SEP

OCT
SEP

15..
11 ..

16..
11..

11..

16..
14..

16..

16..
14..

16..
16..

1005
1300

1205
1415

011051

1330

0940
1205

1045

1115
I I 00

1300
1015

. 28 12 800 140 5.9 3.4 13 .6 8 28
. 05 12 -- -- 8.0 3.4 12 1.0 26 11

SOUTH RIVER BASIN

01105845 SOUTH RIVER AT MARSHFIELD, MASS. (LAT 42 05 32 LONG 70 43 50)

2.5 8.0 330 100 4.4 1.9 14 1.1 9 10
3.8 4.9 -- 4.0 1.9 14 .8 6 10

22
19

27
26

. 8
. 0

.1
. 0

348. FURNACE BROOK AT SCHOOL ST., NEAR MARSHFIELD, MASS. (LAT 42 07 06 LONG 70 44 34) ,

. 02 10 5.0 2.9 19 .9 0 12

JONES RIVER BASIN

01105860 JONES RIVER BROOK NEAR PLYMPTON, MASS. 1LAT 42 59 18 LONG 70 48 10)

1.4 11 540 0 4.5 1.2 6.5 .9 13 9.7
. 63 6.5 -- -- 3.1 1.3 6.0 .8 10 11

01 105870 JONES RIVER AT KINGSTON, MASS. (LAT 41 59 27 LONG 70 44 03) A

9.8 8.0 170 50 4.6 1.6 9.7 1.3 12 8.5

01105872 HALLS BROOK AT KINGSTON, MASS. [LAT 41 59 57 LONG 70 43 56)

2.0 8.9 190 10 4.8 2.4 22 1.7 11 7.0 1.5 7.9 -- -- 5.0 2.5 19 1.3 10 9.5

COASTAL RIVER BASINS

01105874 TOWN BROOK AT PLYMOUTH, MASS. (LAT 41 57 22 LONG 70 39 44)

13 8.9 140 0 2.2 1.2 8.6 .7 10 6.6 14 10 -- -- 3.7 1.6 9.4 I.I 12 9.0

40

9.8
10

17

43
37

13
16

. 0

. 2
. 0

. 1

. 2
. 0

. 1
. 0

A SEE ANALYSES OF MINOR ELEMENTS.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN MASSACHUSETTS AND RHODE ISLAND

OCT
SEP

OCT
SEP

OCT
SEP

OCT

15..
14. .

15..
14..

15..
14. .

15..

CHEMICAL

DIS-
SOLVED

PHOS- (RESI-
NITRATE PHORUS DUE AT

(N03) (P04) 180°C)

01105680 CUSHING

1.1 -- 105
1.4

01105690 FRENCH

6.3 -- 141
13

01105700 INDIAN

. 0 -- 84
1.8

01105730 INDIAN

2.0 -- 120

DIS-
SOLVED

(SUM OF
CONSTIT-

UENTS)

NONCAR-
HARD- BONATE
NESS HARD-

(CA.MG) NESS

SPECIFIC
CONDUCTANCE

(MICROMHOS)

NORTH RIVER BASIN

BROOK AT WEST HANOVER

89
123

21
24

STREAM NEAR ROCKLAND,

138
180

HEAD BROOK

76
80

HEAD RIVER

117

01105770 HERRING BROOK AT

OCT
SEP

OCT
SEP

15..
14. .

15..
11..

. 0 -- 57
1.2

01105805 PUDDING

. 0 -- 63
. 5

46
47

NEAR HANSON

22
22

AT HANOVER,

35

PEMBROKE,

, MASS.

14
18

MASS.

18
18

, MASS.

10
14

MASS.

17

MASS.

56 18 7
63 20 10

BROOK AT NORTH PEMBROKE, MASS

53
60

01105810 THIRD HERRING BROOK

OCT
SEP

OCT
SEP

OCT
SEP

15..
11 ..

15..
11 ..

15..
11..

1.1 141
4.4

01105820 SECOND H

. 0 -- 94
. 5

01105830 FIRST HERRING

. 0 -- 121
1.8

16
17

AT HANOVER

10
7

, MASS.

119 28 26
129 30 24

ERRING BROOK AT NORWELL, MASS

87
80

BROOK NEAR

90
81

25
20

18
16

SC1TUATE CENTER,

28
28

22
7

(LAT

205

COLOR

PH (PLAT-
(UNITS) INUM-
COBALT

TEM-
PERA-
TURE

DIS-
SOLVED
OXYGEN
FIELD
ANAL-
YSES

42 07 05 LONG 70 52 48)

152
197

(LAT 42 06 33

350

(LAT

140

254
340

6.2
5.8

LONG 70 54 35)

7.4
7.1

100
235

21
13

13.0
15.0

16.0
17.0

II

42 05 13 LONG 70 51 26)

120
135

(LAT 42 06 02

-

(LAT 42

110

(LAT

108

216

03 43

102
107

42 05

103
101

6.8
6.8

LONG 70 49 23)

6.7

LONG 70 48 09)

6.9
6.8

25 LONG 70 47 32)

6.4
6.9

90
17

38

11
7

35
16

12.0
14.0

13.0

16.0
15.0

15.0
19.0

II

-

"

(LAT 42 07 01 LONG 70 48 35)

225

. (LAT

170

MASS.

140

209
208

42 09

160
163

(LAT 42

132
129

5.5
6.0

36 LONG 70 47 20)

6.5
6.5

11 30 LONG 70 46

5.8
7.0

210

95
33

49)

340
45

13.0
19.0

13.0
19.0

11.0
17.0

"-

II

II

SOUTH RIVER BASIN

OCT
SEP

16..
11..

01105845 SOUTH

. 0 -- 79
. 0

RIVER AT MARSHFIELD,

71
65

19
18

MASS.

12
13

(LAT 42

130

05 32

128
121

LONG 70 43 50)

6.3
6.4

75
21 19.0 ..

01105848 FURNACE BROOK AT SCHOOL ST., NEAR MARSHFIELD, MASS. (LAT 42 07 06 LONG 70 44 34)

. 3 -- -- 90 20 20 200 181 4.4 15

JONES RIVER BASIN

01105860 JONES RIVER BROOK NEAR PLYMPTON, MASS. ILAT 42 59 18 LONG 70 48 10)

. 0 -- 53 50 16 6 71 -- 6.7 65
. 1 -- -- 44 13 5 67 64 6.8 37

01105870 JONES RIVER AT KINGSTON, MASS. (LAT 41 59 27 LONG 70 44 03)

. 0 -- 58 57 18 8 -- 93 6.6 23

01105872 HALLS BROOK AT KINGSTON, MASS. (LAT 41 59 57 LONG 70 43 56)

. 8 -- 101 96 22 13 -- 178 -- 6.4 32
1.3 -- -- 89 22 14 165 161 -- 6.8 20

COASTAL RIVER BASINS

01105874 TOWN BROOK AT PLYMOUTH, MASS. (LAT 41 57 22 LONG 70 39 44)

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN MASSACHUSETTS AND RHODE ISLAND

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS- DIS-
IIIS- SOLVED DIS- SOLVED SOLVED
SOLVED MAN- SOLVED MASNE POTAS- BICAR- CHLO- FLUO-
DIS- SILICA IRON GANESE CALCIUM SIUM SODIUM SIUM BONATE SULFATE RIDE RIDE

CHARGE (SI02) (FE) (MN) (CA) (MG) (NA) (K) (HC03) (S04) (CD (Fl
E (CFS) (MG/L) (MG/L) (UG/L) (MB/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/LI (MG/L) (MG/L)

COASTAL RIVER BASINS CONTINUED

OCT 17.. 1120 20 5.3

01105878 BEAVER DAM

OCT
SEP

OCT
SEP

OCT
SEP

OCT
SEP

OCT
SEP

OCT
SEP

17..
16. .

16..

16..

17..
16..

17. .

17. .
15. .

1300
1100

1500

0840

1020
1230

0850

0800
1500

4.2
12

6.4

4.4

01105888

8.5
11

01105890

35

70 40 2.2 1.2 8.7 0.7 10 5.4 13

BROOK AT WHITE HORSE BEACH, MASS. (LAT 41 55 43 LONG 70 33 201

5.4 90 0 2.0 1.4
6.2 -- 3.0 1.3

. 8

6.7

AGAWAM

4.5
5.4

AGAWAM

2.7

1.5 .9

60 20 8.9 22

RIVER NEAR ELLISVILLE, MASS.

90 0 1.1 .8
2.1 .8

RIVER AT EAST WAREHAM, MASS.

160 10 1.4 .8

01105892 WANKINCO RIVER AT WAREHAM, MASS.

13
18

3.3
4.0

390 70 2.9 1.4
3.2 2.0

11 .8 10 7.3
9.0 .6 10 5.0

5.5 .5 4 5.2

195 8.2 10 55

(LAT 41 50 44 LONG 70 37 12)

5.2 .3 7 4.5
5.0 .4 6 8.5

(LAT 41 45 40 LONG 70 40 40) A

5.3 .4 8 5.0

(LAT 41 45 58 LONG 70 43 20)

8.7 .8 8 7.5
13 I .0 6 11

17
14

9.

344
1160

7.
9.

7.
8.

15
22

.1
,0

.5
,5

,5
,0

01105895 WEWEANTIC RIVER AT SOUTH WAREHAM, MASS. (LAT 41 46 12 LONG 70 45 18)

OCT 16.. 0745 32 3.7 580 30 2.8 1.0 6.4 .8 6 8.1 10

TAUNTON RIVER BASIN

01108450 WADING RIVER TRIBUTARY AT WRENTHAM, MASS. (LAT 42 03 35 LONG 71 18 47)

JUN 15.. 1445 -- 8.2 60 220 35 6.1 34 19 16 90 64

TENMILE RIVER BASIN

01109395 TENMILE RIVER AT PAWTUCKET, R.I. (LAT 41 53 25 LONG 71 20 26)

SEP 30.. 1400 -- 9.2 330 530 15 3.2 68 4.3 33 60 72

01109403. TENMILE RIVER AT PAWTUCKET AVE., EAST PROVIDENCE, R.I. (LAT 41 49 51 LONG 71 21 06)

SEP 30.. 1600 14 3.9 30 60 15 3.1 60 3.6 42 49 65

BLACKSTONE RIVER BASIN

01111235 BLACKSTONE RIVER AT BLACKSTONE, MASS. (LAT 42 00 55 LONG 71 33 14)

SEP 30.. 0700 -- 6.8 530 190 17 2.6 39 5.0 2 37 60

01112900 BLACKSTONE RIVER AT MANVILLE, R.I. (LAT 41 58 16 LONG 71 28 14)

SEP 30.. 1015 -- 5.6 320 260 15 2.4 38 4.5 4 34 58

01113900 BLACKSTONE RIVER AT PAWTUCKET, R.I. (LAT 41 52 39 LONG 71 22 58)

SEP 30.. 1200 -- 7.0 200 200 15 2.5 28 3.9 3 32 42

MOSHASSUCK RIVER BASIN

01113950 MOSHASSUCK RIVER NEAR SAYLESVILLE, R.I. (LAT 41 53 09 LONG 71 24 30)

SEP 29.. 1600 3.1 II 410 500 24 4.5 44 4.5 82 44 56

01113980 MOSHASSUCK RIVER AT BRANCH AVE., PROVIDENCE, R.I. (LAT 41 50 46 LONG 71 24 44)

SEP 29.. 1745 2.2 12 260 640 30 6.6 35 4.8 88 47 48

A SEE ANALYSES OF MINOR ELEMENTS.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN MASSACHUSETTS AND RHODE ISLAND 623 CHEMICAL ANALYSESt WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
DIS- DIS- DIS-
SOLVED SOLVED SOLVED
TOTAL SOLIDS SOLIDS NONCAR- SPECIFIC COLOR OXYGEN

PHOS- (RESI- (SUM OF HARD- BONATE CONDUCTANCE PH (PLAT- TEM- FIELD
NITRATE PHORUS DUE AT CONSTIT- NESS HARD- (MICROMHOS) (UNITS) INUM PERA- ANAL-
(N03I (P04) 180°C) UENTS) (CA.MG) NESS COBALT TURE YSES
DATE (MG/LI (MG/L) IMG/L) (MG/L) (MG/L) IMG/L) FIELD LAB FIELD LAB UNITS) (°C) (MG/L)
COASTAL RIVER BASINS--CONTINUED

01105876 EEL RIVER NEAR PLYMOUTH, MASS. (LAT 41 56 30 LONG 70 37 23)
OCT 17.. 0.0 -- 40 42 10 2 -- 74 -- 6.7 5 14.0
01105878 BEAVER DAM BROOK AT WHITE HORSE BEACH, MASS. (LAT 41 55 43 LONG 70 33 20)
QCT 17.. .0 -- 46 50 11 3 -- 85 -- 6.9 15 14.0
SEP 16.. .3 -- -- 44 10 2 75 74 -- 6.8 -- 15.0

01105883 HERRING RIVER AT BOURNEDALE, MASS. (LAT 41 46 21 LONG 70 33 46)

01105886 RED BROOK NEAR BUZZARDS BAY, MASS. (LAT 41 45 48 LONG 70 37 59)
672 645 112 104 -- 1320

01105888 AGAWAM RIVER NEAR ELL1SVILLE, MASS. (LAT 41 50 44 LONG 70 37 12)

01105890 AGAWAM RIVER AT EAST WAREHAM, MASS. (LAT 41 45 40 LONG 70 40 40)

01105892 WANKINCO RIVER AT WAREHAM, MASS. (LAT 41 45 58 LONG 70 43 20]
OCT 17.. .0 -- 44 44 13 6 78 -- 6.7 12 15.0
SEP 15.. .3 -- -- 60 13 8 106 106 -- 6.5 3 18.0

01105895 WEWEANTIC RIVER AT SOUTH WAREHAM, MASS. (LAT 41 46 12 LONG 70 45 18)
OCT 16.. .0 -- 42 36 11 6 -- 59 -- 6.4 80 13.0
TAUNTON RIVER BASIN

01108450 WADING RIVER TRIBUTARY AT WRENTHAM, MASS. (LAT 42 03 35 LONG 71 18 47)
JUN 15.. 13 0.02 278 278 112 54 494 481 5.8 6.7 4 12.0
TENMILE RIVER BASIN

01109395 TENMILE RIVER AT PAWTUCKET, R.I. (LAT 41 53 25 LONG 71 20 26)
SEP 30.. .0 -- -- 239 50 29 -- 476 -- 6.3 20 19.0

01109403 TENMILE RIVER AT PAWTUCKET AVE., EAST PROVIDENCE, R.I. (LAT 41 49 51 LONG 71 21 06)
SEP 30.. 4.2 -- -- 226 50 16 426 -- 7.0 18 18.0
BLACKSTONE RIVER BASIN

01111235 BLACKSTONE RIVER AT BLACKSTONE, MASS. (LAT 42 00 55 LONG 71 33 14)
SEP 30.. 18 -- -- 183 53 51 -- 354 -- 6.3 5 14.0

01112900 BLACKSTONE RIVER AT MANVILLE, R.I. (LAT 41 58 16 LONG 71 28 14)
SEP 30.. 8.7 -- -- 171 48 44 -- 333 -- 5.8 6 17.0

01113900 BLACKSTONE RIVER AT PAWTUCKET, R.I. (LAT 41 52 39 LONG 71 22 58)
SEP 30.. 1.5 -- -- 145 48 45 -- 250 -- 5.7 5 18.0
MOSHASSUCK RIVER BASIN

01113950 MOSHASSUCK RIVER NEAR SAYLESVILLE, R.I. (LAT 41 53 09 LONG 71 24 30)
SEP 29.. .0 -- -- 231 78 12 -- 418 -- 6.6 45 18.0

01113980 MOSHASSUCK RIVER AT BRANCH AVE., PROVIDENCE, R.I. ILAT 41 50 46 LONG 71 24 44)
SEP 29.. .8 -- -- 229 102 30 -- 419 -- 7.0 10 16.0

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN MASSACHUSETTS AND RHODE ISLAND 625
CHEMICAL ANALYSESt WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970 ANALYSES OF MINOR ELEMENTS IN MICROGRAMS PER LITRE
DISSOLVED J* -
DATE ALUM- CAD- CHRO- STRON- CHRO-
INUM ARSENIC BORON MIUM COBALT COPPER MIUM LITHIUM LEAD MERCURY NICKEL TIUM ZINC MIUM
(AL) (AS) (B) (CD) (CO) (CU) (CR) (LI) (PB) (H5) (NI) (SR) UN) (CR6)
CHARLES RIVER BASIN

CHARLES RIVER NEAR MILFORD, MASS. (LAT 42 10 56 LONG 71 30 23)
OCT 31 , . 0 0 60 0 0 4 -- -- -- 10 0
01103150 CHARLES RIVER TRIBUTARY AT BELLINGHAM, MASS. (LAT 42 05 12 LONG 71 29 25)
OCT 31.. 200 0 40 0 02 -- -- -- 10 0
CHARLES RIVER BELOW BOX POND, AT BELLINGHAM, MASS. (LAT 42 05 38 LONG 71 28 56)
SEP 14.. 200 0 40 -- 0 02 0 12 <.5 8 --30 0

01103500 CHARLES RIVER AT CHARLES RIVER VILLAGE, MASS. (LAT 42 15 23 LONG 71 15 42)
SEP 22.. 200 0 10 -- 0 00 02 <. 5 3 --20 0
01104050 SAWMILL BROOK NEAR WEST ROXBURY, MASS. (LAT 42 17 27 LONG 71 10 28)
OCT 7.. 300 0 210 -- 0 03 -- 00
01104500 CHARLES RIVER AT WALTHAM, MASS. (LAT 42 22 20 LONG 71 14 03)
SEP 22.. 200 0 10 -- 0 05 0 14 1.0 4 --30 0

NORTH RIVER BASIN

01105730 INDIAN HEAD RIVER AT HANOVER, MASS. (LAT 42 06 02 LONG 70 49 23)
OCT 15.. 200 10 200 00 0 40 1 70 0 20

JONES RIVER BASIN

01105870 JONES RIVER AT KINGSTON, MASS. (LAT 41 59 27 LONG 70 44 03)
OCT 16.. 200 0 160 0 1 10 0 -- 4 30 10 20

COASTAL RIVER BASINS

01105890 AGAWAM RIVER AT EAST WAREHAM, MASS. (LAT 41 45 40 LONG 70 40 40)
OCT 17.. 200 0 130 0 1 10 -- 0 -- -- 0 0 30 20

01105895 WEWEANTIC RIVER AT SOUTH WAREHAM, MASS. (LAT 41 46 12 LONG 70 45 18)
OCT 16.. 400 0 130 0 1 10 -- 0 3 10 10 20

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN CONNECTICUT

(THE SECOND OF TWO SAMPLES COLLECTED ON THE SAME BATE IS A FIELD DETERMINATION)

DIS-
DIS- SOLVED MAG- PO-
SOLVED MAN- CAL- NE- TAS- BICAR- CHLO-
SILICA IRON 6ANESE CIUM SIUM SODIUM SIUM AMMONIA BONATE SULFATE RIDE

(SI02) (FE) (MN) (CA) (MG) (NAI (K) (NH4) (HC03) (504) (CD
DATE (MG/L) (LJG/L) (UG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L)

CONNECTICUT RIVER BASIN

01184259 UNNAMED BROOK NEAR WAREHOUSE POINT, CONN. (LAT 41 54 32 LONG 72 36 48.1)

NOV.
14... .6 250 220 25 4.1 15 4.3 -- 32 40 26
14...

01184261 UNNAMED BROOK NEAR WAREHOUSE POINT, CONN. (LAT 41 54 32 LONG 72 36 48.2)

MOV
14... .1 70 60 2.4 .6 3.3 .6 -- 4 15 1.1
14...

01184262 NAMERICK BROOK NEAR WAREHOUSE POINT, CONN. (LAT 41 54 13 LONG 72 36 47.2)

NOV
14... 1.0 70 80 55 10 71 14 -- 90 74 131
14...

HAMMONASSET RIVER BASIN

01195120 HAMMONASSET RESERVOIR NEAR NORTH MADISON, CONN. (LAT 41 21 27 LONG 72 36 46)

MAY
07... 2.2 70 20 3.8 .8 3.4 .5 -- 4 10 6.7
07...

HOADLEY CREEK BASIN

01195310 HDADLEY CREEK NEAR GUILFDRD, CONN. (LAT 41 16 01 LONG 72 43 39)

AUG
03... 1.8 510 90 7.0 1.7 5.0 .8 .21 16 13 7.4
03...

BRANFORD RIVER BASIN

AUG
03... 11 640 169 23 6.5 11 1.8 .11 74 25 17
03...

EAST HAVEN RIVER BASIN

01195400 FARM RIVER AT TOTOKET, CONN. (LAT 41 19 40 LONG 72 48 58)

AUG
03... 9.2 -- -- 28 6.9 7.7 2.6 .06 72 29 16
03...

QUINNIPIAC RIVER BASIN

01195500 QUINNIPIAC RIVER AT SOUTHINGTON, CONN. (LAT 41 36 03 LONG 72 53 04)

AUG
05... 9.8 -- -- 35 5.0 18 1.8 .09 96 36 25
05...

01196000 EIGHTMILE RIVER AT PLANTSVILLE, CONN. (LAT 41 35 20 LONG 72 53 55)

AUG
05... 7.8 -- -- 13 2.0 8.3 1.0 .26 38 9.5 14
05...

01196080 HUMISTDN BROOK NEAR MILLDALE, CONN. (LAT 41 34 10 LONG 72 55 47)

AUG
05... 5.0 100 20 4.7 1.4 5.9 .4 .04 8 6.7 10
05...

AUG
05... 8.1 420 80 21 3.2 11 1.1 .06 56 24 16
05...

01196150 MISERY BROOK AT MILLDALE, CONN. (LAT 41 34 11 LONG 72 52 26)

AUG
05... 12 900 60 32 6.3 5.5 .7 .10 88 33 9.5
05...

AUG
05... 9.7 360 150 26 3.9 12 1.3 .08 68 27 18
05...

01196260 HARBOR BROOK NEAR MERIDEN, CONN. (LAT 41 31 52 LONG 72 49 21)

AUG
03... 10 860 380 50 9.4 22 1.6 .10 118 56 41

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN CONNECTICUT

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- SPE-
SOLVEB NON- CIFIC
SOLIBS CAR- CON- COLOR ALKA-

FLUO- (RESI- HARB- BDNATE DUCT- (PLAT- LINITY
RIDE NITRITE NITRATE BUE AT NESS HARD- ANCE PH INUM- TEMPER- AS

(F) (N02) (N03) 180 C) (CA,MG) NESS (MICRO- COBALT ATURE CAC03
BATE (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) MHOS) (UNITS) UNITS) (BEG C) (MG/L)

CONNECTICUT RIVER BASIN

01184259 UNNAMEB BROOK NEAP. WAREHOUSE POINT, CONN. (LAT 41 54 32 LONG 72 36 48.1)

NOV

14... -- -- -- -- 270 6.5

01184261 UNNAMED BROOK NEAR WAREHOUSE POINT, CONN. (LAT 41 54 32 LONG T2 36 48.2)

NOV
14... -- -- .6 30 8 6 37 5.8 -- -- 3
14... -- -- -- -- -- 41 6.5

01184262 NAMERICK BROOK NEAR WAREHOUSE POINT, CONN. (LAT 41 54 13 LONG 72 36 47.2)

NOV
14... -- .12 33 434 178 104 777 6.6 -- -- 74
14... -- -- -- -- -- 740 6.5

HAMMflNASSET RIVER BASIN

01195120 HAHHONASSET RESERVOIR NEAR NORTH HABISON, CONN. (LAT 41 21 27 LONG 72 36 46)

MAY
07... .1 .00 .0 28 12 10 51 6.4 14
07... -- -- -- -- -- -- -- 14.0

HOABLEY CREEK BASIN

01195310 HOABLEY CREEK NEAR GUILFORB, CONN. (LAT 41 16 01 LONG 72 43 391

AUG
03...
03...

BRANFORB RIVER BASIN

01195340 BRANFORD RIVER NEAR BRANFORB, CONN. (LAT 41 17 35 LONG 72 47 45)

5
25.0

EAST HAVEN RIVER BASIN

01195400 FARM RIVER AT TOTOKET, CONN. (LAT 41 19 40 LONG 72 48 58)

AUG
03... .3 .01 10 151 98 40 258 7.6 2
03... -- -- -- -- -- 275 -- 22.5

QUINNIPIAC RIVER BASIN

01195500 QUINNIPIAC RIVER AT SOUTHINGTON, CONN. (LAT 41 36 03 LONG 72 53 04)

AUG
05... .1 .02 9.0 191 108 30 320 7.4 3
05... -- -- -- -- 333 -- -- 19.5

551

AUG
05... .1 .05 3.7 66 40 10 135 7.3 2
05... -- -- -- -- -- 141 -- -- 18.5

01196080 HUMISTON BROOK NEAR MILLDALE, CONN. ILAT 41 34 10 LONG 72 55 47)

AUG
05... .1 .04 .4 57 18 11 70 6.7 0
05... -- -- -- -- -- -- 76 -- -- 18.5

01196100 TENHILE RIVER AT HILLBALE, CONN. (LAT 41 31 56 LONG 72 53 25)

AUG
05... .0 .01 5.2 123 66 20 201 7.4 5
05... -- -- -- -- -- -- 219 -- -- 21.0

01196150 MISERY BROOK AT HILLBALE, CONN. (LAT 41 34 11 LONG 72 52 26)

20.5

01196220 QUINNIPIAC RIVER NEAR HERIBEN, CONN. (LAT 41 32 13 LONG 72 52 20)

20.0

01196260 HARBOR BROOK NEAR MERIDEN, CONN. (LAT 41 31 52 LONG 72 49 21)

3 ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN CONNECTICUT

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS-
DIS- SOLVED MAG- PO-
SHLVED MAN- CAL- NE- TAS- BICAP- CHLO-
SILICA IRON GANESE CIUM SIUM SODIUM SIUM AMMONIA BONATE SULFATE RIDE

ISI02) (FE) (MNI (CA) IHG) (MA) IK) INH4) IHC03) (S04) {CD
DATE U1G/L) IUG/L) (UG/L) (MG/L) IMG/L) (MG/L) (MG/L) IMG/L) IMG/L) (MG/L) IMG/L)

C1UINN1PIAC RIVER BASIN--CDNTINUED

01196520 WHARTON BROOK NEAR WALLINGFORD, CONN. (LAT 41 25 57 LONG 72 49 56)

AUG
03... 10 360 160 34 5.7 11 1.8 .04 96 35 15
03...

01196550 MUDDY RIVEP NEAR WALLINGFORD. CONN. ILAT 41 26 41 LONG 72 46 10)

AUG
03... 11 60 20 36 9.9 12 .7 .08 106 47 17
03...

01196580 MUDDY RIVER NEAR NORTH HAVEN, CONN. (LAT 41 22 07 LONG 72 50 31)

MAR
27... 7.0 210 30 21 5.4 12 1.2 -- 43 30 22
27...
AUG
03... 7.9 80 40 32 5.8 9.4 1.2 .07 76 36 18

MILL RIVER BASIN

01196620 MILL P.IVFR NEAR HAMDEN, CONN. {LAT 41 25 15 LONG 72 54 12)

AUG
05... 10 760 50 25 2.8 6.7 .9 .15 62
05...

01196626 HILL RIVER AT HAMDEN, CONN. {LAT 41 20 09 LONG 72 54 39)

AUG
05... 14 350 10 57 6.0 17 .5 .05 138
05...

WEST RIVER BASIN

01196645 WEST PIVER AT NEW HAVEN, CONN. (LAT 41 19 41 LONG 72 57 33)

AUG
05... 4.2 300 20 13 2.4 9.9 1.6 .10 32
05...

INDIAN RIVER BASIN

01196660 INDIAN RIVER NEAR MILFORD, CONN. ILAT 41 14 33 LONG 73 01 42)

AUG
05... 3.1 260 180 29 5.3 21 2.1 .10 66
05...

HEPAWAUG RIVER BASIN

01196670 WEPAHAUG RIVER NEAR ORANGE, CONN. ILAT 41 18 13 LONG 73 01 50)

AUG
05... 3.9 420 130 14 3.6 13 1.5 .10 26
05...

01196680 RACE BROOK AT ORANGE, CONN. {LAT 41 18 07 LONG 73 01 08)

AUG
05... 6.1 10 40 16 4.6 12 .6 .25 28
05...

01196700 WEPAWAUG RIVER AT MILFORD, CONN. ILAT 41 14 10 LONG 73 03 32)

AUG
05... 4.6 290 180 24 4.9 28 2.6 41
05...

HOUSATONIC RIVER BASIN

01201930 MARSHEPAUG RIVER NEAR MILTON, CONN. ILAT 41 47 22 LONG 73 15 34)

FEB
IS...A 4.2 -- -- 9.4 3.7 3.0 1.1 -- 31 13 6.0
18...

A DISCHARGE, 14 CFS.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN CONNECTICUT

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

BIS- SPE-
SDLVED NDN- CIFIC
SOLIDS CAR- CON- COLOR ALKA-

FLUO- (RESI- HARD- BONATE DUCT- (PLAT- LINITY
RIDE NITRITE NITRATE DUE AT NESS HAPD- ANCE PH INUM- TEMPER- AS

(F) (N02) (N03) 180 C) (CA,MG) NESS (MICRO- COBALT ATURE CAC03
BATE (MG/L) (MG/L) IMG/L) IMG/L) (MG/L) (MG/L) MHOS) (UNITS) UNITS) (BEG C) (MG/L)

QU1NNIPIAC RIVER BASIN--CONTINUED

01196520 WHARTON BROOK NEAR WALLINCFORB, CONN. (LAT 41 25 57 LONG 72 49 56)

AUG
03... .1 .01 7.1 162 108 30 278 7.6 5 -- 79
03... -- -- -- -- -- -- 300 -- -- 25.0

01196550 MUDBY RIVER NEAR WALLINGFORB, CONN. (LAT 41 26 41 LONG 72 46 10)

AUG
03... .1 .03 6.0 194 130 44 319 7.7 8 -- 87
03... -- -- -- -- -- -- 340 -- -- 26.0

01196580 MUDDY RIVER NEAR NORTH HAVEN, CONN. (LAT 41 22 07 LONG 72 50 31)

MAR
27... -- .33 5.7 130 74 40 224 7.2 13 -- 35 27... -- -- -- -- -- -- 243 7.6 -- 7.0
AUG
03... -- -- 11 148 104 42 261 7.4 2 -- 62
03... -- -- -- -- -- -- 290 -- -- 23.5

MILL RIVER BASIN

01196620 MILL RIVER NEAR HAMBEN, CONN. (LAT 41 25 15 LONG 72 54 12)

AUG
05... .1 .05 3.8 117 74 23 196 7.5 5 -- 51
05... -- -- -- -- -- -- 208 -- -- 18.5

01196626 MILL RIVER AT HAMDEN, CONN. (LAT 41 20 09 LONG 72 54 39)

AUG
05... .1 .01 4.6 272 167 54 43<» 8.0 5 -- 113
05... -- -- -- -- -- -- 420 -- -- 23.5

WEST RIVER BASIN

01196645 WEST RIVER AT NEW HAVEN, CONN. (LAT 41 19 41 LONG 72 57 33)

AUG
05... .1 .02 4.8 99 42 16 146 7.1 7 -- 26
05... -- -- -- -- -- -- 159 -- -- 20.0

INDIAN PIVER BASIN

01196660 INDIAN RIVER NEAR MILFORB, CONN. (LAT 41 14 33 LONG 73 01 421

AUG
05... .2 .06 5.4 174 94 40 321 7.4 4 -- 54
05... -- -- -- -- -- -- 345 -- -- 22.0

WEPAWAUG RIVER BASIN

01196670 WEPAWAUG RIVER NEAR ORANGE, CONN. (LAT 41 18 13 LONG 73 01 50)

AUG
05... .1 .04 2.9 113 50 28 192 7.0 5 -- 21
05... -- -- -- -- -- -- 208 -- -- 21.0

01196680 RACE BROOK AT ORANGE, CONN. (LAT 41 18 07 LONG 73 01 08)

AUG
05... .1 .02 3.6 99 59 36 199 7.3 0 -- 23
05... -- -- -- -- -- -- 213 -- -- 18.5

01196700 WEPAWAUG RIVER AT MILFORD, CONN. (LAT 41 14 10 LONG 73 03 32)

AUG
05... -- -- 4.2 168 80 46 329 7.1 4 -- 34
05... -- -- -- -- -- -- 360 -- -- 21.0

HOUSATONIC RIVER BASIN

01201930 MARSHEPAUG RIVER NEAR MILTON, CONN. (LAT 41 47 22 LONG 73 15 34)

60 38 99 6.8

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK

CHEMICAL ANALYSES, WATFR YF4R OCTDRFR 1969 TO SFPTFMRFR 1970

DIS-
DIS- SOLVED
SOLVED MAG- PO-
CAL- NE- TAS- BrCAR- CAR-
DIS- SILICA CIUM SIUM SODIUM SIUM BHNATE BONATE SULFATF
TIME CHARGE (SI02) (CA) IMG) (NA) IK) (HCH3) IC03) (504)

CHLO-
RIDE

(CLl

ors-
SOLVED
FLUO-
RIDE

IF)

BRONX RIVER BASIN

01302000 BRONX RIVER AT BRONXVILLE, N.Y. (LAT 40 56 10 LONG 073 50 10)

OB15 346 24 6.7 23 3.0

HUDSON RIVER BASIN

51

01312000 HUDSON RIVER NEAR NEWCOMB, N.Y. (LAT 43 5B 00 LONG 074 07 55)

1025 1010 6.3 5.9 1.2 2.? .? 9 0 12

01315000 INDIAN RIVER NEAR INDIAN LAKE, N.Y. (LAT 43 45 30 LONG 074 16 05)

1300 213 4.9 3.B .6 .6 .2 60 7.0

01315500 HUDSON RIVER AT NORTH CRFEK, N.Y. ILAT 43 42 00 LONG 073 59 DO)

1715 5320

1505 2«9 3.

. 2

. 2 12

11

8.0

0131B500 HUDSON RIVER AT HADLFY, N.Y. (LAT 43 19 10 LONG 073 50 40)

1420 435 3.« B.5 1.3 2.1 .2 20 0 8.0

01321000 SACANDAGA RIVER NEAR HOPE, N.Y. ILAT 43 21 10 LONG 074 16 15)

1010 4520

1255 70 1.5 .1 IB

9.5

7.5

01325000 SACANDAGA R. AT STEWARTS BRIDGE NR HADLFY, N.Y. (LAT 43 18 4D LONG 073 52

1405 4010 2.9 5.1 1.0 1.1 .2 10 0 8.0

01327500 GLENS FALLS FEEDER AT OUNHAM BASIN, N.Y. (LAT 43 18 15 LONG 073 32 49)

1320 1.5 2.7 93 5 36

1305 98

7.0 40 7.0 20

3.3 8.0 1.3 2.« .2 16 8.5

01328000 BOND CREEK AT DUNHAM BASIN, N.Y. (LAT 43 18 22 LONG 073 32 56)

1130 10 4.6 50 2.4 151 1 4B

1135 .96 7.4 33 3.3 94 22

01333500 LITTLE HOOSIC RIVER AT PETERSBURG, N.Y. (LAT 42 45 50 LONG 073 20 16)

1830 19BO 2.5 6.9 1.3 2.6 l.B 16 0 12

01334500 HOOSIC RIVER NEAR EAGLE 8RIOGE, N.Y. (LAT 42 56 19 LONG 073 22 39)

1645 6430 3.4 16 3.7 5.0 1.1 4B 0 15

01350950 SWITZ KILL NfcAR BERNE, N.Y. (LAT 42 36 41 LONG 074 09 24)

1225 .32 4.4 49 3.3 5.7 1.2 148 0 16

01351000 FDX CREEK AT WEST BERNE, N.Y, (LAT 42 37 42 LONG 074 11 OB)

1120 1.3 11 46 3.5 9.3 1.9 150 0 10

APR
03...

APR
16...

ANALYSES OF SAMPLES

ORGANIC
NITRO-
GEN NITRITE AHMONIA NITRATE

(N) (N02) (NH4) (N03)

01302000 BRONX RIVER

. 29 .20 .20 5.9

D131200D HUDSON RIVER

. 25 .02 .10 2.4

COLLECTED AT MISCELLANEOUS SITES IN NEW YORK

01 S- Dlb-
SOLVED SOLVEP
SOLIDS SOLIDS

(RESI- (SUM OF HARD-
DUE AT CONSTI- NESS

1BO C) TUENTS) (CA.MG)

BRONX RIVER BASIN

AT BRONXVILLE, N.Y. (LAT 40

188 172 B8

HUDSON RIVER BASIN

NEAR NEWCOMB, N.Y. (LAT 43

40 37 20

NnN- SPE I-
CAR- FI
BONATE CON -
HARD- UCTA CE PH TEHPER-

NESS (MIC D- ATURE

56 10 LONG 073 50 10)

46 314 7.2 3.5

58 00 LONG 074 07 55)

12 52 6.9 3.0

631

COLOR

(PLAT-
INUM-
COBALT

UNITS)

24

18

013150DO INDIAN RIVER NEAR INDIAN LAKE, N.Y. (LAT 43 45 30 LONG 074 16 05)

AUG
IB...

APR
21...
AUG.
19...

AUG
19...

APR
22...
AUG.
19...

AUG
19...

APR
14...
AUG.
21...

APR
14...
AUG.
21...

APR
02...

APR
03...

AUG
19...

. 01 .09 .1

01315500 HUDSON RIVER

20 21 12

AT NORTH CREEK, N.Y. (LAT 43

. 00 .02 .08 2.1 34 30 15

. 00 .12 1.4 -- 29 14

01318500 HUDSON RIVER AT HAOLFY, N.Y. (LAT 43 1

. 00 .10 .8

. 07 .02 .07 2.7

. 00 .08 .0

. 01 .16 2.2

. 39 .07 .20 4.9

. 01 .13 6.6

. 26 .04 .14 3.9

. 16 .17 .0

48 38 26

28 25 12

31 32 22

32 27 16

220 206 129

38 42 26

226 211 166

170 160 114

. 15 .10 .19 3.1 83 79 55

7 30 6.5 23.0

42 00 LONG 073 59 00)

8 38 6.8 2.D

" 10 LONG 073 50 401

10 63 7.0 22.0

9 32 6.6 3.0

7 50 6.9 24.0

8 44 6.7 23.0

44 35B 8.6 15.5

12 65 7.0 24.5

42 363 8.3 9.0

37 310 7.5 22.5

10 54 7.4

16 135 7.7 4.0

15 293 8.0 23.0

2

21

6

2

9

7

5

14

5

24

6

80

26

2

ANALYSIS OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK

CHEMICAL ANALYSES, WATfcR YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS-
DIS- SOLVED
SOLVE D MAG- PO-
CAL- NE- TA?- BICAR- CAR- CHLO-
DIS- SILICA C1UM SIUM SODIUM SIUM BDNATE BONATE SUIF0TE RIDF

TIMF CHARGE (SI02) {CAI {MGI (NA) (K) (HC03) (CD3) (S04) iCL)
(CFS) (MG/L) (MG/LI IMG/LI (MG/L((MG/L) (MG/L((MG/L) (MG/L

HUDSON RIVER BASIN CONTINUED

01356310 SHAKER CREEK TRIBUTARY NEAR LATHAM, N.Y. (LAT 42 45 01 LONG

1645 .14 9.4 92 IB 140 4.2 226 8 84

01357500 MDHAWK RIVER AT COHOESt N.Y. (LAT 42 47 07 LONG 073 42 ?9

1400 22800 4.D 26 4.3 5.3 1.3 94 0 2.3

01359125 VAN RENSSELAER CREEK AT MENANOS, N.Y. (L«T 42 41 03 LONG 073 4<- 3? I

0840 .44 11 88 18 20 1.5 252 0 70

D1359320 BOZEN KILL NEAR ALTAMONT, N.Y. ILAT 42 42 50 LONG 074 D2 47)

0850 .03 5.9 51 9.7 22 2.5 132 0 68

01359325 SLACK CREEK NEAR VOORHEESVILLE, N.Y. (LAT 42 40 35 LONG 073 57 10)

0955 .01 fl.O 66 11 6.3 1.4 240 0 15

01359507 HUNGER KILL NEAR GUILOERLAND, N.Y. (L4T 42 43 25 LONG 073 55 06)

1545 4.9 B.9 63 7.7 34 1.2 142 0 46

01359517 BLOCK HOUSE CRFEK NEAR GUILDERLAND, N.Y. (LAF 42 41 08 LONG 073 54 051

1355 1.1 10 69 11 3P 2.5 176 0 39

01359516 KAIKOUT KILL NEAR GUILDERLAND, N.Y. ILAT 42 41 20 LONG 073 54 OB)

1435 1.5 9.7 47 7.2 R.P 1.0 144 0 18

01359519 NDRMANSKILL CREEK NE4R WESTMER'S N.Y. (LAT 42 40 43 LONG 073 54 25)

mo 2130 5.9 23 5.5 17 1.8 40 0 35

0135952A VLY CREEK AT VDORHFESV!LLE, N.v. (LAT 42 38 56 LONfi 073 56 091

OB10 1.6 9.1 64 ').h 12 1.1 218 0 26

01359524 KRUM KILL AT KARLSFELO, N.Y. (LAT 42 38 56 LONG 073 50 51)

1040 1.0 9.3 61 12 62 5.7 158 0 60

01359539 NORMANS KILL TRIB AT BETHLEHEM CENTER, N.Y. (LAT 42 36 28 LONG 073 47 42 I

1545 .03 8.6 67 12 22 3.4 210 0 49

01359585 VLOMAN KILL AT NEW SCOTLAND, N.Y. (L«T 42 37 27 LONG 073 54 16)

1745 .26 8.4 68 10 12 1.7 168 1 63

01359586 PHILLIP1N KILL AT UNIONVILLE, N.Y. (LAT 42 36 49 LONG 073 52 35)

1135 .01 4.4 57 11 37 7.7 234 0 36

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK 633

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS-
SOLVED SOLVED NON- SPECI-
ORGANIC SOLIDS SOLIDS CAR- FIC COLOR

NITRO- (RESI- (SUM OF HARD- BONATE COND- (PLAT-
GEN NITRITE AMMONIA NITRATE DUE AT CONSTI- NESS HARD- UCTANCE PH TEMPER- INUM-

IN) (N02) (NH4) (N03) ISO C) THENTSI (CA,MGI NESS (MICRO- ATURE COBALT
DATE (MG/L) (M6/L) (MG/L) IMG/L) IMG/L) (MG/L) (MG/L) (MG/L) MHOS I (UNITS) (F1EG C) UNITS)

HUDSON RIVER BASIN CONTINUED

01356310 SHAKER CREEK TRIBUTARY NEAR LATHAM, N.Y. (LAT 4? 45 01 LONG 073 46 541

AUG
19... .04 .13 2.1 8*21 1320 R.3 5

01357500 MOHAWK RIVER AT COHOFS, N.V. ILAT 42 47 07 LONG 073 42 29)

APR
OB... .40 .08 .25 3.8 120 126 88 10 207 7.8 16

01359125 VAN RENSSELAER CREEK AT MENANDS, N.V. ILAT 42 41 03 LONG 073 44 32)

AUG
19... .17 .13 9.4 394 294 87 707 8.1

01359320 BDZEN KILL NEAR ALTAMONT, N.Y. (LAT 42 42 50 LONG 074 02 47)

AUG
19... .05 .06 .2 269 253 167 59 439 P.I 18.0 0

01359325 BLACK CREEK NEAR VOORHEESVILLE, N.Y. (L6T 42 40 35 LONG 073 57 10)

AUG
19... .01 .14 2.0 264 244 210 13 423 7.R 19.0 30

01359507 HUNGER KILL NEAR GUILDERLANn, N.V. (LAT 42 43 25 LONG 073 55 061

AUG
19... -- .04 .1R .4 329 302 188 72 559 B.I 0

01359517 BLOCK HOUSE CREEK NEAR GUILDERLAND, N.Y. (LAT 4? 41 08 LONG 073 54 05)

AUG
19... .02 .22 36 365 355 217 73 602 R.I 19.0 2

01359518 KAIKOUT KILL NEAR GUILDERLAND, N.Y. (LAT 42 41 20 LONG 073 54 08)

AUG
19... .02 .24 7.4 195 192 146 28 343 R.O 2

01359519 NORMANSKILL CREEK NEAR HESTMERE, N.V. tLAT 42 40 43 LONG 073 54 25)

APR
03... .36 .05 .17 3.6 157 147 80 47 262 7.6 4.0 14

0135952A VLY CREEK AT VOORHEESVILLE, N.Y. (LAT 42 38 56 LONG 073 56 09)

AUG
19... .01 .10 4.8 277 261 199 20 479 8.1 18.0 5

01359524 KRUM KILL AT KARLSFELD, N.Y. (LAT 42 38 56 LONG 073 50 51)

AUG
19... .02 4.3 12 464 400 202 72 760 7.3 10

01359539 NORMANS KILL TRIB AT BETHLEHEM CENTER, N.Y. (LAT 42 36 2R LONG 073 47 42)

AUG
19... .02 .14 .2 319 295 216 44 527 R.2 20.0 5

01359585 VLOMAN KILL AT NEW SCOTLAND, N.Y. (LAT 42 37 27 LONG 073 54 16)

AUG
19... .03 .06 22 286 289 160 23 461 R.3 23.0 3

01359588 PHILLIPIN KILL AT UNIONVILLE, N.Y. (LAT 42 36 49 LONG 073 52 35]

AUG
19... .04 1.2 332 187 0 573 7.7 5

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK

CHEMICAL ANALYSES. WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS-

DIS- SOLVED DIS-
SOLVED MAG- PD- SOLVED
CAL- NE- TAS- BICAR- CAR- CHLO- FLIIO-
DIS- SILICA CIUM SIUM SQQIUM SIUM 80NATE BDNATE SULFATE RIDE RIDE
TIME CHARGE (SI02) (CA) IMG) (NA) (K> (HC03I (C03) ISQ4] (CD IF)

HUDSON RIVER BASIN CONTINUEB

D1359590 PHILLIPIN KILL NEAR FEURA BUSH, N.Y. (LAT 42 35 24 LDNG 073 50 49)

AUG
19... 1200 .02 3.2 43 6.7 240 6.3 180 0 64 295 .3

01359592 VLOMAN KILL AT MALLQRYS CORNERS, N.Y. (LAT 42 33 54 LONG 073 49 48]

AUG
19... 1245 .IB 2.2 46 11 17 3.4 166 0 38 20 .2

AUG
19... 1345 .00 7.8 79 10 140 4.7 232 0 25 222

0135975D MOORDENER KILL AT CASTLETON-ON-HUDSON, N.Y. (LAT 42 32 0? LONG 073 44 15)

JULY
08... 1145 6.4 5.6 38 6.8 7.6 1.5 107 0 31 1?
AUG.
24... 103D 6.6 35 7.1 7.6 1.7 112 0 32 13

AUG
19... 1700 .08 4.6 61 5.6 25 3.6 151 1 48 47

01359902 CDEYMANS CREEK AT SELKIRK, N.Y. (LAT 42 31 38 LDNG 073 49 14)

APR
03... 1300 560 4.2 40 3.8 9.1 1.5 100 D 30 15

01359904 FEURI SPRUYT AT SOUTH BETHLEHEM, N.Y. (LAT 42 31 40 LDNG 073 50 50)

AUG
19... 1440 .05 7.5 150 31 27 9.6 132 0 356 2B

01359915 HANNACROIS CREEK AT DDRMANSVILLE, N.Y. (LAT 42 29 49 LONG 073 5R 46)

AUG
19... 1100 .02 4.6 23 3.2 4.1 1.1 74 0 1? 6.3

01359917 SILVER CREEK TRIBUTARY AT DDRMANSV ILL E, N.Y. (LAT 4? 29 01 LON(> 073 59 37)

AUG
19... 1145 .14 4.9 29 2.8 6.4 1.2 84 0 11 10

01359924 HANNACROIS CREEK NEAR NEW BALTIMORE, N.Y. (LAT 42 26 22 LONG 073 4fl 41)

APR
03... 1530 B43 4.0 24 2.6 5.1 1.0 50 0 24 7.6

01361266 TAGHKANIC CREEK TRIBUTARY AT TAGHKANIC, N.Y. (LAT 42 08 22 LDNG 073 40 14)

AUG
25... 0815 .10 5.8 26 2.9 4.6 .9 5B 0 29 A.9

01361250 TAGHKANIC CREEK AT CRARYVILLE, N.Y. ILAT 42 10 10 LONG 073 34 53)

AUG
25... 1025 .84 6.4 25 2.7 3.fl .7 47 0 7.3

01361276 TAGHKANIC CREEK TRIB NO 2 NR EAST TAGHKANIC, N.Y. (LOT 42 07 20 LDNG 073 40 5R)

AUG
25... 0905 .03 5.R 27 3.8 4.6 .4 66 0 ?6 7.0

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK 635

CHEMICAL ANALYSES, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS-
SOLVED SOLVED NON- SPEC I-
OR6ANIC SOLIDS SOLIDS CAR- FIC COLOR

NITRO- (RESI- I SUM OF HARD- BONATE COND- (PLAT-
GEN NITRITE AMMONIA NITRATE DUE AT CONSTI- NESS HARD- UCTANCE PH TEMPER- INUM-

(N) IN02) (NH4) (N03) 180 C) TUENTS) (CA.MG) NESS (MICRO- ATURE COBALT
(MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) I MG/L I MHDSI (UNITS) (DEG C) UNITSI

HUDSON RIVER BASIN CONTINUED

013'59590 PHILLIPIN KILL NEAR FEURA BUSH, N.Y. (LAT 42 35 24 LONG 073 50 49 1

19... .02 .75 4.2 824 751 134 0 1500 8.1

01359592 VLOMAN KILL AT MALLORYS CORNERS, N.Y. (LAT 42 33 54 LONG 073 49 48)

AUG
19... .35 .46 8.1 226 228 160 24 403 R.O

01359595 DOWERS KILL NEAR SELKIRK, N.Y. (LAT 42 34 04 LONG 073 48 53)

AUG
19... .00 .77 .1 594 604 238 48 1210 8.1

01359750 MOORDENER KILL AT CASTLETON-ON-HUDSON, N.Y. ILAT 42 32 02 LONG 073 44 is>

JULY
08.., .38 .07 .85 3.4 163 160 98 10 298 7.7 21.5 AUG.
24... .03 .14 .8 179 159 116 24 301 7.8 18.0

01359830 ONESOUETHAW CREEK NEAR CLARKSVILLE, N.Y. (LAT 42 33 49 LONG 073 55 44 1

AUG
19... .01 .08 .2 299 271 175 52 48R 8.3 28.0

01359902 COEYMANS CREEK AT SELKIRK, N.Y. (LAT 42 31 38 LONG 073 49 14)

APR
03... .61 .08 .22 3.8 174 157 116 34 278 8.0 ~

01359904 FEURI SPRUYT AT SOUTH BETHLEHEM, N.Y. (LAT 42 31 40 LONG 073 50 50)

AUG
19... .01 1.5 .3 762 676 502 394 1110 7.9

01359915 HANNACR01S CREEK AT DORMANSVILLE , N.Y. (LAT 42 29 49 LONG 07^ 58 46)

AUG
19... .02 .13 4.2 95 70 10 169 7.5 16.0

01359917 SILVER CREEK TRIBUTARY AT DORWANS VILL E, N.Y. (LAT 42 29 01 LONG 073 59 371

AUG
19... .00 .03 5.1 111 112 84 15 206 7.B 17.0

01359924 HANNACROIS CREEK NEAR NEW BALTIMORE, N.Y. ILAT 42 26 22 LONG 073 48 41)

APR
03... .18 .03 .08 1.5 108 94 70 30 164 8.0

01361266 TAGHKANIC CREEK TRIBUTARY AT TAGHKANIC, N.Y. (LAT 42 08 22 LONG 073 40 14)

AUG
25... .01 .12 .0 127 105 77 30 189 7.7 15.0

01361250 TAGHKANIC CREEK AT CRARYVILLE, N.Y. I LAT 42 10 10 LONG 073 34 53)

AUG
25... .03 .23 2.1 106 91 68 30 172 7.6 17.5

01361276 TAGHKANIC CREEK TRI8 NO 2 NR EAST TAGHKANIC, N.Y. (LAT 42 07 20 LONG 073 40 58)

AUG
25... .00 .02 5.4 116 112 83 29 193 8.0 13.5

ANALYSIS OF SAMPLE! COLLECTED AT MISCELLANEOUS SITES IN NEW YORK

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS-
DIS- SOLVED DIS-
SOLVED MAG- PO- SOLVED
CAL- NE- T«S- BIC/SR- CAR- CHLO- FUIO-
CILIM SILIM SODIUM SIUM BDN«TE BONATE SULFATE RIDE BIDE

(CA) (MGI (MA) <K) (HC03I (C03) (S04I (CL) (Fl

HUDSON RIVER BASIN CONTINUED

01361465 FOX CREEK NEAR PRESTON HOLLOW, N.Y. ILAT 42 27 46 LONG 074 10 53)

AUG
19... 1405 .00 4.4 37 4.2 5.7 .9 118 0 17 6.5 .1

01361550 TENMILE CREEK AT MEDUSA, N.Y. (LAT 42 26 10 LONG 074 07 5B)

AUG

19... 1540 1.6 3.6 18 1.8 5,0 .9 50 0 10 8.7 .1

01361570 TENMILE CREEK NEAR OAK HILL, N.Y. (LAT 42 24 25 LONG 074 08 081

APR
03... 1445 535 3.4 12 1.4 4.0 .9 24 0 14 8.3 .1

01365000 RONDOUT CREEK NEAR LOWES CORNERS, N.Y. ILAT 41 51 55 LONG 074 29 10)

APR
03... 1130 558 2.2 3.2 .9 .9 .4 4 0 10 1.5 .0

01366650 SANDBURG CREFK AT ELLENVILLF, N.Y. (LAT 41 42 54 LONG 074 23 ?1)

APR
03... 1530 970 3.2 6.0 1.2 2.9 .6 10 0 12 3.8 .1

01368000 WHLLKILL RIVER NEAR UNIONVILLE, N.Y.(OWENS, N.J.) (LAT 41 15 35 LONG 074 32 55)

JAN
21... 120 41 13 122 0 33 23
APR.
04... 1150 2560 4.2 19 4.6 7.4 1.7 41 0 22 15 .0
JUNE
23... 80 34 10 142 0 24 22
SEP.
01... 24 6.7 42 20 13 1.9 181 0 36 28 .1
29... 60 6.6 42 16 14 3.4 148 0 33 31 .3

01372065 CASPER CREEK NEAR WAPPINGERS FALLS. N.Y. {LAT 41 37 54 LONG 073 55 40)

APR
04... 1700 72 4.9 45 11 31 2.9 116 0 49 59 .1

01372945 CLOVE CREEK NEAR COLD SPRING, N.Y. (LAT 41 27 30 LONG 073 55 13)

JULY
14... 1050 1.3 5.8 11 2.7 6.4 .8 36 0 12 12 .1

0137409B ANNSVILLE CREEK AT GRAYMOOR, N.Y. (LAT 41 20 23 LONG 073 55 27)

JULY
14... 1145 .30 9.0 31 5.6 18 1.4 79 2 ?5 38 .5

01374494 HAVILAND HOLLOW BROOK NEAR PUTNAM L«KE, N.Y. (LAT 41 29 03 LONG 073 34 16)

JULY
14... 1400 5.2 7.0 13 3.7 3.5 1.3 49 0 12 B.O .1

01374540 HOLLY STREAM NEAR BREWSTER, N.Y. (LAT 41 22 17 LONG 073 38 16)

JULY
14... 1510 1.4 10 34 7.4 9.2 2.0 102 4 20 22 .1

DELAWARE RIVER BASIN

01434500 NEVERSINK RIVER AT CLARYVILLE, N.Y. (LAT 41 55 00 LONG 074 34 35)

APR
03... 1010 915 2.1 4.0 1.0 1.5 .4 4 0 10 3.5 .0

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS-
SOLVED SOLVED NDN- SPECI-
ORGANIC SOLIDS SOLIDS CAR- FIC
NITRO- I^ESI- I SUM OF HARD- BONATE COND-
GEN NITRITE AMMONIA NITRATE DUE AT CONSTI- NESS HARD- UCTANCE PH TEMPER-

IN) (N02I INH4) (N03) 180 C) TUENTS) (CA.MG) NESS (MICRO- ATURE
(MG/L) (MG/L) (MG/L) (MG/L) [MG/L) (MG/L) (MG/L) (MG/L) MHDSI (UNITS) (OEGC)

HUDSON RIVER BASIN CONTINUED

01361465 FOX CREEK NEAR PRESTON HOLLOW, N.Y. (LAT 42 27 'tis LONG 074 10 53)

. 00 .01 9.7 148 1*4 110 13 24R 7.R 21.0

01361550 TENMILE CREEK AT MEDUSA, N.Y. (LAT 42 26 10 LONG 074 07 5H)

. 01 .02 1.2 82 74 53 12 136 7.9 23.0

01361570 TENMILE CREEK NEAR OAK HILL, N.Y. (LAT 42 24 25 LONG 074 08 08)

COLOR
(PLAT-
INUM-
COBftLT
UNITS)

.03 1.6 68 58 36 16 98 7.4

01365000 PONDOUT CREEK NEAR LOWES CORNERS, N.Y. (LAT 41 51 55 LONG 074 29 10)

. 26 .02 .10 1.4 25 23 12 9 36 6.4 a

01366650 SANDBURG CREEK AT ELLENVILLE, N.Y. (LAT 41 42 54 LONG 074 23 21)

. 48 .05 .20 1.1 42 36 20 12 59 7.1 :

01368000 WALLKILL RIVER NEAR UNIONVILLE, N.Y.(OWENS, N.J.) (LAT 41 15 35 LONG 074 32 55)

156 5
APR.
04...
JUNE
23...
SEP.
01...
29...

. 34 .06 .18 4.0 108

4.6

5.7 263
4.0 247

98

244
223

66

126

33

341

175

350 7.8

171 50 404 7.B

01372065 CASPER CREEK NEAR WAPPINGERS FALLS, N.Y. (LAT 41 37 54 LONG 073 55 40)

. 53 .18 .22 8.0 292 269 157 62 494 7.3

01372945 CLOVE CREEK NEAR COLD SPRING, N.Y. (LAT 41 27 30 LONG 073 55 131

. 00 .04 .08 .li 64 70 38 9 118 8.0

0137409B ANNSVILLE CREEK AT GRAYMOOR, N.Y. (LAT 41 20 23 LONG 073 55 27)

. 05 .02 .10 2.7 176 172 100 32 304 R.3

01374494 HAVILAND HOLLOW BRDOK NEAR PUTNAM LAKE, N.Y. (LAT 41 29 03 LONG 073 34 161

. 02 .02 .14 1.0 69 74 48 8 11.8 8.0

01374540 HOLLY STREAM NEAR 8REWSTER, N.Y. (LAT 41 22 17 LONG 073 38 16)

. 00 .08 .05 1.6 165 160 116 26 280 B.5

DELAWARE RIVER BASIN

01434500 NEVERSINK RIVER AT CLARYVILLE, N.Y. ILAT 41 55 00 LONG 074 34 351

.00 .02 .19 .7 31 25 14 11 45 6.3

ANALYSES OF SAMPLES

CHEMICAL ANALYSES,

DATE

APR
03...

OIS-
TIME CHARGE
(CFS)

08?3 730

DIS-
SOLVED
CAL-
SILICA CIUM

(SI02) (CA)

3.2 6.6

01496500 CHARLOTTE CREEK AT

FE6
03...
APR.
03...

APR
04...

AUG
10...

JULY
2fl...

AUG
10...

APR
04...

JULY

AUG
10...

AUG
10...

JULY
29...

AUG
10...

APR
03...
06...
24...

1150 1290

1130 2130

01500500

1550 S840

1300 4.6

01500990

1700 1.7

1400 5.5

1330 7040

01502680

0945 B.9

1230 3.4

01502712

1145 .64

1315 2.B

1615 .76

01503000

1240 25000
1445 14900
1205 9180

2.3 6.3

3.3 6.0

COLLECTED AT MISCELLANEOUS

WATER YEAR OCTOBER 1969 TO

DIS-
SOLVED
MAG-
NE-
SIUM SODIUM

(MG) (NA)

SUSOUEHANNA RIVER

1.1 1.6

PO-
TAS-
SIUM

(K)

BASIN

1.0

WEST DAVENPORT, N.Y. (LAT

1.3 3.2

1.2 2.6

SUSOUEHANNA RIVER AT UNADILLA, N. Y

3.4 12

1.7 29

1.4 2.3

1.9 3.1

CENTER BROOK AT NEW BERLIN, N.Y.

2.1 26

2.2 15

3.1 16

BIG 6RDOK NEAR

2.0 9.0

2.7 8.0

1.9 3.7

1.7 3.0

1.5 2.4

BENNETTSVILLE, N.Y.

1.8 3.3

1.9 3.6

BELDEN 6ROOK AT HARPURSVILLE, N.Y.

3.8 12

4.2 8.1

3.3 14

2.0 8.4

1.5 2.8

. AT WINDSOR, N.Y. (

3.1 9.6

SUSOUEHANNA RIVER AT CDNKLIN, N.Y.

3.3 9.2
3.5 12
3.1 15

1.5 2.4
1.6 2.4
1.7 2.5

1.1

. 9

SITES IN NEW YORK

SEPTEMBER 1970

6ICAR- CAR-

(HC03) (C03) (SD4)

8 Oil

42 26 42 LONG 074 57 50)

10 0 10

6 0 11

DIS-
SOLVED
CHLH- FLUO-

(CL) IF)

2.4 .1

6.1 .2

3.7 .0

. (LAT 42 19 17 LONG 075 19 01)

1.0

. 9

(LAT 42

1.0

(LAT 42

. 8

1.2

(LAT 42

1.0

1.2

(LAT 42

1.6

. 8

LAT 42 0

1.7

25 0 13

92 0 10

36 39 LONG 075 19 46)

70 0 10

44 0 11

40 0 14

15 40 LONG 075 28 25)

26 0 9.0

20 0 12

10 50 LONG 075 37 26)

32 0 12

24 0 10

4 54 LONG 075 38 26)

44 0 13

3.7 .1

4.0 .1

7.0 .1

4.0 .1

3.6 .0

4.0 .1

7.0 .2

16 .1

2.5 .1

16 .1

(LAT 42 02 07 LONG 075 48 12)

1.0
. 9
. 8

17 0 15
27 0 14
38 0 14

4. 1 .1
3.5 .0
3.9 .0

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK 639

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS-
SOLVED SOLVED NON- SPECI-
(1RGANIC SOLIDS SOLIDS CAR- FIC COLOR
NITRD- (RESI- (SUM OF HARD- BONATE COND- (PLAT-
GEN NITRITE AMMONIA NITRATE DUE AT CONSTI- NESS HARD- UCTANCE PH TEMPER- INUM-

(N) (N02) (NH4) (N03) 180 C) TUENTS) (CA.MGI NESS (MICRO- ATURE COBALT
DATE (MG/L) (MG/L) IMG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) MHOS I (UNITS) (DER C) UNITS)

SUSQUEHANNA RIVER BASIN

01497BOO SCHENEVUS CREEK AT SCHENEVUS. N.Y. (LAT 42 32 47 LONG 074 49 54)

APR
03... .45 .06 .14 3.4 43 35 21 14 58 7.0 -- 14

01498500 CHARLOTTE CREEK AT WEST DAVENPORT, N.Y. (LAT 42 26 42 LONG 074 57 50)

FEB
03... ~ .09 4.4 50 40 21 13 73 6.7 .0 4
APR.
03... .40 .04 .13 3.2 42 35 20 15 57 6.8 14

01500500 SUSOUEHANNA RIVER AT UNADILLA, N. Y. (LAT 42 19 17 LONG 075 19 01 I

APR
7.1 3.0

01500980 BEAVER CREEK NEAR SOUTH EDMESTDN, N.Y. (LAT 42 43 36 LONG 075 18 10)

AUG
10... .02 .04 .1 93 96 80 5 178 7.8 27.0

01500990 CENTER 8RODK AT NEW BERLIN, N.Y. (LAT 42 38 39 LONG 075 19 4B)

JULY
28... .14 .01 .06 .8 94 87 73 16 169 7.9 24.0

01501510 GREAT 8ROOK AT HOL«ESVILLE, N.Y. (LAT 42 31 08 LONG 075 23 55)

AUG
10... .02 .06 .8 75 61 45 8 114 7.5 24.0

01502500 UNADILLA RIVER AT ROCKDALE, N. Y. (LAT 42 22 40 LONG 075 24 23)

APR
04... .44 .13 .20 4.4 74 67 46 13 112 7.4 2.0

01502680 BIG 8ROOK NEAR BENNETTSVILLE, N.Y. (LAT 42 15 40 LONG 075 28 25)

JULY
29... .01 .08 .4 56 44 30 8 83 7.3 21.5

01502710 WYLIE BROOK AT HARPURSVILLE, N.Y. (LAT 42 11 26 LONG 075 37 02)

AUG
10... .02 .10 1.8 62 48 28 12 87 6.7 22.5

01502712 BELOEN BROOK AT HARPURSVILLE, N.Y. (LAT 42 10 50 LONG 075 37 26)

AUG
10... .02 .00 .1 75 72 38 12 132 7.3 22.5

JULY
29... .12 .08 .08 .0 45 42 26 6 70 7.0 22.0

01502730 OCCANUM CREEK AT WINDSOR, N.Y. (LAT 42 04 54 LONG 075 38 26)

AUG
10... .01 .02 .1 82 82 48 12 157 7.3 25.0

01503000 SUSOUEHANNA RIVER AT CONKLIN, N.Y. ILAT 42 02 07 LONG 075 48 121

APR
03... .50 .10 .18 2.8 57 48 29 15 77 6.9
06... .08 .OB .08 3.6 59 55 36 14 92 7.3 2.5

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK

CHEMICAL ANALYSES. WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS-
DIS- SOLVER DIS-
SOLVED MAG- PO- SOLVED
CAL- NE- TAS- BICAR- CAR- CHLO- FLUO-
DIS- SILICA CIUM SIUM SODIUM SIUM BONATE BONATE SULFATE RIDE RIDE
HUE CHARGE (SI02) (CA) (MGI (NAI (K) (HC03) (C03) (S04) (CD (F)
(CFS) (MG/L) (MG/L) (MG/LI (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/LI (MG/L)

SUSOUEHANNA RIVER BASIN CONTINUED

01503300 "ARK CREEK NEAR BINGHAMTDN, N.Y. (LAT 42 05 38 LONfi 075 48 29)

1500 .56 1.1 24 4.7 18 2.4 48 0 20 46 .1

01503980 CHENANGO RIVER AT EATON, N.Y. (LAT 42 51 02 LONG 075 36 21]

1000 402 3.0 30 5.1 6.8 1.6 85 0 16 10 .0
1000 21 3.0 37 5.4 5.4 1.0 109 0 17 9.4 .0
1530 533 2.7 3.9 4.? 1.3 14 5.9 .0

1145 6.7 1.3 55 8.9 9.1 1.2 194 0 14 14 .0

01504780 SANGERFIELD RIVER NEAR EARLVILLF, N.Y. (LAT 42 43 05 LONG 075 32 26)

1345 21 3.0 55 5.7 3.0 .7 170 0 16 6.5 .0

01504900 HANDSOME BROOK AT SHERBURNE, N.Y. (LAT 42 41 26 LONG 075 30 15)

1510 11 2.9 26 2.2 2.7 .8 80 0 10 5.0 .1

01505000 CHENANGO RIVER AT SHERSURNE, N.Y. (LAT 42 40 43 LONG 075 30 39)

1300 3730 3.1 21 2.9 3.8 2.4 54 0 16 5.5 .0

01505020 COLD BRDOK NEAR NORTH NORWICH, N.Y. ILAT 42 35 39 LONG 075 31 4fl)

1100 2.4 1.7 39 5.4 2.4 .7 134 2 14 4.0 .1

01505500 CANASAWACTA CREEK NEAR SOUTH PLYMOUTH, N.Y. (LAT 42 33 49 LONG 075 33 091

Ib^O 2101 2.3 9.2 1.4 2.4 1.7 20 0 10 2.6 .0
1530 835 3.1 11 1.6 1.7 .P 22 0 13 3.0 .0

3.1 20 2.8 2.9 1.0 60 0 13

01505920 MILL BROOK NEAR OXFORD, N.Y. (LAT 42 25 44 LONG 075 37 26)

1.3 3.5 17 1.9 3.8 .9 54 0 10

01505950 BOWMAN CREEK NEAR TYNER, N.Y. (LAT 47 24 11 LONG 075 38 08)

3.0 21 2.1 2.4 .4 66 0 10

01506300 WHEELFR BROOK NEAR BRISREN, N.Y. (LAT 42 20 43 LONG 075 4? 38)

2.5 3.3 26 2.1 3.2 .6 72 0 13

01506350 TILLOTSON CREEK NEAR RRISBEN, N.Y. (LAT 42 21 16 LONG 075 42 50)

. 53 4.0 21 1.6 4.5 2.4 62 0 12

01506400 SPRING BRDOK NEAR BRISBEN, N.Y. (LAT 42 21 01 LONG 075 43 58)

.61 3.1 11 1.6 4.8 .9 30 0 10

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

01S- DIS-
SOLVED SOLVED NOW- SPECI-
ORGANIC SOLIDS SOLIDS CAR- FIC
NITRO- (RESI- I SUM OF HARD- BONATE COND-
GEN NITRITE AMMONIA NITRATE DUE 4T CONSTI- NESS HARD- UCT4NCE
IN) (N02) (NH4) (N03) 1BO C) TUENTS) (CA.MG) NESS IMICRC1-

PH

COLOR

(PLAT-
TEMPER- INUM-
4TURE CDBALT

(MG/L) (MG/LI (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) MHOS) (UNITS) (OFG C) UNITSI

SUSOUEHANNA RIVER BASIN CONTINUED

01503300 PARK CREEK NEAR B!NGHAI»TON, N.Y. (LAT 42 05 3B LONG 075 48 29)

AUG
11...

APR
03...
08...
09...
JULY
2fl.. .

. 02

01503980

. 47 .12
. OB .06
. 04 .36

. 0" .10

. OB .6

CHENANGO RP

. 16 6.8
. 06 6.5
. 33 6.3

. 07 2.7

151

rfER AT EATON,

129
141

216

141

N.Y.

122
139

201

BO 40

(LAT 42 51 02 LOI>

96 26
114 25

174 14

274

JR 075 36 21 1

218
256

378

6.9

7.6
7.9

8. 1

01504780 SANGERFIFLO RIVER NEAR FARLVILLF, N.Y. (LAT 42 43 05 LONG 075 32 26)

. 11 .17 3.4 1B5 178 160 21 325 8.0

01504900 HANDSOME BROOK AT SHFRBURNE, N.Y. (LAT 42 41 26 LONr, 075 30 15)

. 04 .07 1.2 101 90 74 8 170 7.5

01505000 CHENANGO RIVER AT SHER8URNE, N.Y. (LAT 42

. 16 .15 5.7 100 B7 64 20

3 LONG 075 30 39)

150 7.5

01505020 COLO BROOK NEAR NORTH NORWICH, N.Y. (LAT 42 35 39 LONG 075 31 4fl)

. 04 .02 2.2 123 138 120 6 254 8.3

71

. 05 .06 .6 83 80 62 12 148 7.7

01505920 MILL BROOK NEAR OXFORO, N.Y. (LAT 42 25 44 LONr, 075 37 26)

. 02 .02 1.4 73 71 50 6 133 7.3

01505950 BOWMAN CREEK NEAR TYNER, N.Y. (LAT 42 24 11 LONG 075 38 08)

. 02 .OB .2 69 74 61 7 136 7.9

01506300 WHEELER BROOK NEAR BRIS8EN, N.Y. (LAT 42 20 43 Lf)Nr, 075 42 3B)

. 02 .02 3.1 92 94 74 14 176 8.0

01506350 TILLOTSON CREEK NEAR BRISBEN, N.Y. (LAT 42 21 16 LONG 075 42 50)

. 02 .10 2.0 107 B4 59 8 156 7.3

01506400 SPRING BROOK NEAR BRIS8FN, N.Y. (LAT 42 21 01 LONG 075 43 58)

. OB .OS .2 62 51 34 10 101 8.0

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

01 S-
DIS- SOLVED DIS-
SOLVED MAG- PO- SOLVED
CAL- NE- TAS- BICAR- CAR- CHLO- FLIIO-
DIS- SILICA CIUM SIOM SODIUM SIUM BONATE BONATE SULFATF RIOF RIOF
TIME CHARGE (SID2) ICA) IMG) (NA) (K) (HCC13I (CD3) (S04) (CD (F)
(CFS) (MG/L) IMG/L) (MG/L) (MG/LI IMG/L) IMS/L) (MG/L) IMG/L) (MR/LI (MG/LI

SUSOUEHANNA RIVER BASIN CONTINUES

01507000 CHENANGO RIVER AT GRFFNE, N.Y. (LAT 42 19 28 LONG 075 46 18)

1115 75DD 3.0 17 2.4 2.7 1.4 39 0 14 5.3 .0

01507490 POND BROOK AT S«ITHVILLE FLATSr N.Y. ILAT 4? 23 48 LONG D75 48 31)

1530 .3? 2.2 10 1.7 3.3 1.0 34 0 9.5 3.5 .1

D150B200 LABRADOR CREEK AT TRUXTDN, N.Y. (LAT 42 42 43 LONG 076 01 51)

1230 1.7 1.0 30 3.2 5.n .8 97 0 13 7.5 .1

01508400 CHENINGO CREFK NFAR TRUXTON, N.Y. (LAT 42 40 43 LONG 076 02 471

1300 3.6 1.4 IB 2.5 2.5 .6 56 0 10 4.0 .1

0150B70D COLD BROOK AT LITTLE YORK, N.Y. (LAT 42 41 08 LDNG 076 10 111

1000 1.1 4.3 32 3.9 2.7 .6 110 0 11 4.0 .1

01508800 FACTORY BROOK AT HOMFR, N.Y. (L«T 42 38 39 LONG 076 11 14)

1055 5.1 3.4 51 8.2 3.0 .9 166 0 16 10 .1

1330 804 3.4 25 4.5 3.4 .9 73 0 15 7.5 .0

01509020 TROUT BROOK NEAR BLODGETT MILLS, N.Y. ILAT 42 35 09 LONG 076 07 47 I

1650 7.0 2.5 27 3.5 6.1 1.3 78 0 14 12 .1

01509200 GRIDLEY CREEK AT MESSENGERVILLF, N.Y. (LAT 42 29 19 LONG 076 04 26)

1550 2.6 3.1 30 4.4 5.? 1.0 104 0 12 9.0 .1

01509400 JENNINGS CREEK AT KILLAWOG, N.Y. (LAT 42 25 05 LONG 076 01 17)

1505 1.0 2.8 31 4.7 5.3 2.5 108 0 13 9.0 .2

01509900 PDND CREFK AT TAYLOR, N.Y. (LAT 42 34 01 LONG 075 53 33)

1400 1.1 3.2 13 1.6 2.8 1.0 32 0 11 5.5 .1

01510000 DTSELIC RIVER AT CINCINNATUS, N.Y. (LAT 42 32 30 LnNG 075 54 00)

1300 2440 3.1 8.9 1.4 I.ft .9 10 0 12 2.7 .0

01511500 TIOUGHNIOGA RIVER AT ITASKA, N.Y. (LAT 42 17 55 LONG 075 54 30)

1110 5490 3.3 19 2.8 3.1 .9 47 0 15 5.9 .0

01511600 HALFWAY BROOK NEAR ITASKA, N.Y. (LAT 42 17 04 LONG 075 53 23)

1015 .78 1.4 13 2.0 4.3 1.4 34 0 12 7.5 .2

01512550 PAGE BRDOK NEAR PORT CRANE, N.Y. (LAT 42 11 53 LONG 075 49 31)

1340 3.2 2.5 23 2.9 4.1 1.1 66 0 14 10 .1

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN X '" TU

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

D1S- DIS-
SOLVED SOLVED NON- SPECI-
ORGANIC SOLIDS SOLIDS CAR- FIC CGLOR

NITRO- (RESI- (SUM OF HARD- BONATE COND- (PLAT-
GEN NITRITE AMMONIA NITRATE DUE AT CONSTI- NESS HARD- UCTANCE PH TEMP- INIIM-

IN) (N02) INH4) (N03I 180 C) TUENTS) ICA.MG) MESS (MICRO- FRATURE COBALT
DATE (MG/L) (MG/L) (MG/L) (MG/L) IMG/L) (MG/L) (MG/L) IMG/L) MHOS) (UNITS) (DEB Cl UNITS)

SUSQUEHANNA RIVER BASIN CONTINUED

01507000 CHENANGO RIVER AT GREENE, N.Y. (LAT 42 19 28 LONG 075 46 18)

APR
04... .42 .11 .20 4.7 65 70 52 20 121 7.3 3.0 14

01507490 PONO BROOK AT SMITHVILLE FLATS, N.Y. (LAT 42 23 48 LONG 075 48 31)

AUG
10... .02 .04 .3 57 49 32 4 83 7.3 23.0 2

0150B200 LABRADOR CREEK AT TRUXTON, N.Y. (LAT 42 42 43 LONG 076 01 51)

AUG
10... .04 .04 .0 115 108 68 8 204 7.5 1

01508400 CHENINGO CREEK NEAR TRUXTON, N.Y. (LAT 42 40 43 LONG 076 0? 47)

AUG
1.0... .11 .04 .08 .B 72 68 55 9 125 7.2 -- 3

01508700 COLD BROOK AT LITTLE YORK, N.Y. (LAT 42 41 OB LONG 076 10 11)

AUG
10... .01 .09 .1 103 112 96 6 205 7.7 -- 1

01508800 FACTORY BRODK AT HOMER, N.Y. ILAT 42 38 39 LONG 076 11 14)

AUG
10... .07 .03 14 1S8 160 24 336 S.O 0

01508B03 W. BR. TIOUGHNIOGA RIVER AT HDMER, N.Y. ILAT 42 3fl 18 LONG 076 10 36)

APR
10... .16 .04 .17 9.3 115 105 81 21 195 7.7 4.5 6

01509020 TROUT BROOK NEAR BLODGETT MILLS, N.Y. ILAT 42 35 09 LONG 076 07 47)

AUG
10... .03 .03 4.6 124 109 62 18 207 7.4 1

01509200 GRIOLEY CREEK AT MESSENGERVILLE, N.Y. (LAT 42 29 19 LONG 076 04 26)

AUG
LO... .02 .00 1.4 106 117 93 8 219 8.2 0

01509400 JENNINGS CREEK AT KHLAHOG, N.Y. (LAT 42 25 05 LONG 076 01 17)

AUG
17... .02 .18 2.9 150 125 94 6 228 fl.O 26.0 4

AUG
10... .02 .04 3.0 55 57 39 13 103 7.2

01510000 OTSELIC RIVER AT CINCINNATUS, N.Y. (LAT 42 32 30 LONG 075 54 00)

APR
03... .31 .07 .15 4.4 49 40 28 20 69 7.0

C1511500 TIOUGHNIOGA RIVER AT ITSSKA, N.Y. ILAT 42 17 55 LONG 075 54 30]

APR
07... .00 .08 .11 5.5 75 79 59 20 137 7.6 4.0

01511600 HALFWAY BROOK NEAR ITASKA, N.Y. (LAT 42 17 04 LONG 075 53 23)

AUG
10... .00 .06 .1 72 58 40 1? 116 7.0 ?0.0

01512550 PAGE BROOK NEAR PORT CRANE, N.Y. (LAT 42 11 53 LONG 075 49 31)

AUG
10... .02 .05 .5 105 90 70 16 164 7.7 24.0

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

m s-
DIS- SOLVED DIS-
SOLVED MAG- PO- SOi.VFD
CAL- NE- TAS- BICAR- CAR- CHLD- FLIin-
DIS- SILICA CIUM SHIM SODIUM SIUM BONATE BONATE SULFATF RIDE RIDF

TIME CHARGE (SI02) (CA) IMG) INA) (K) IHC03> (C03) (S04) (CD IF)
(CFS) (MG/L) (MG/LI (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/LI (MG/L)

SUSQUEHANNA RIVER BASIN CONTINUED

01512650 OSBORNE CREEK AT PORT CRANE, N.Y. [LAT 42 10 06 LONG 075 4Q 47)

1230 1.0 2.0 11 2.5 7.2 1.5 36 0 14 11 .1

015127BO THOMAS CREEK AT CHENANGO BRIDGE, N.Y. (LAT 42 10 08 LONG 075 52 56)

1055 2.0 4.0 46 6.2 6.6 .6 148 0 10 15 .1

015I3IOO FULLER HOLLOW CREEK AT JOHNSON CITY, N.Y. (LAT 42 05 4fl LONG 075 57 56)

1400 .46 6.1 4B B.8 38 2.3 114 0 40 70 .6

01513400 PATTERSON CREEK AT ENDWFLL> N.Y. (LAT 42 06 4fl LONG 076 01 13)

1340 .06 11 75 6.3 41 4.4 168 0 47 80 .2

01513810 TRACY CREEK NEAR VESTAL, N.Y. (LAT 42 04 02 LONG 076 06 11)

1220 .47 2.2 17 2.7 7.R 2.0 60 0 16 9.5 .1

01513820 APALACHIN CREEK AT APALACHIN, N.Y. (LAT 42 03 44 LONG 076 08 57)

1115 2.1 3.6 13 3.3 6.2 1.6 40 0 16 10 .1

01513B30 LITTLE NANTICOKE CREEK NEAR OWEGO, N.Y. (LAT 42 05 32 LONG 076 13 02)

1530 .94 3.3 15 3.1 6.3 1.6 34 0 15 14 .1

01513910 WILSON CREEK NEAR NEWARK VALLEY, N.Y. (LAT 42 14 36 LONG 076 10 41)

1030 .74 1.5 11 2.5 4.1 1.7 30 0 11 6.8 .2

01513990 DOOLITTLE CREEK AT WELTDNVILLE, N.Y. (LAT 42 11 43 LONG 076 14 51)

0900 .68 2.3 9.0 2.2 2.5 1.0 26 0 12 3.5 .0

01514000 DWEGO CREEK NEAR OWEGD, N.Y. (LAT 42 07 40 LONG 076 16 17)

1720 4540 3.0 7.9 1.6 4.4 1.3 14 0 15 R.O .0
1045 3130 3.6 9.0 1.9 5.2 1.0 16 0 14 8.5 .1
1020 1680 3.4 11 1.9 3.5 1.0 24 0 15 5.4 .0

01514880 PIPE CREEK AT TIOGA CENTER, N.Y. (LAT 42 03 34 LONG 076 20 45)

1400 1.3 3.4 26 4.4 5.2 1.7 90 0 13 7.5 .1

01514900 WAPPASENING CREEK AT NICHOLS, N.Y. (LAT 42 01 17 LONG 076 21 45)

1215 2.9 2.9 11 3.0 6.2 1.6 34 0 14 12 .0

01514950 ELLIS CREEK NEAR BARTON, N.Y. ILAT 42 00 30 LONG 076 28 52)

1100 .59 2.2 18 3.4 4.3 1.3 53 0 14 5.0 .1

01515000 SUSQUEHANNA RIVER NEAR WAVERLY, N.Y. (LAT 41 59 05 LONG 076 30 05)

1550 51200 3.9 12 2.5 13 .8 26 0 14 21 .0

01531000 CHEMUNG RIVER AT CHEMUNG, N.Y. ILAT 42 00 08 LONG 076 38 06)"

1630 13300 3.7 13 2.9 3.6 2.2 26 0 33 7.3 .1

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK 645

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

01 S- DIS-
SOLVED SOLVED NON- SPECI-
ORGANIC SDLinS SOLIDS CAR- FIC COLOR

NITRO- (RESI- (SUM OF HARD- BDNATE CONO- (PLAT-
GEN NITRITE AMMONIA NITRATE DUE AT CONSTI- NESS HARD- UCTANCF PH TEMPER- INUM-

IN! (N02) (NH4) IN03) 1RO C) TUENTS) (CA.MG) NESS (MICRO- ATURE COBALT
(MG/L) (MG/L! (MG/LI (MG/L) (MG/L1 (MG/L) IMG/LI (MG/LI MHOS I (UNITS) (DEG C) UNITS)

SUSQUEHANNA RIVER BASIN CONTINUED

01512650 OSBDRNF CREEK AT PORT CRANE, N.Y. (LAT 42 10 06 LONG 075 49 47)

. 01 .03 .1 74 67 3R R 12R 7.3 17.5 0

D15127BO THOMAS CREEK AT CHENANGO BRIDGE, N.Y. (LAT 42 10 08 LONG 075 52 561

. 16 .02 .04 .2 134 162 140 19 310 7.R 1R.O 0

01513100 FULLER HOLLOW CREEK AT JOHNSON CITY, N.Y. (LAT 42 05 48 LONG 075 57 561

. 04 .02 .4 291 270 156 13 525 R.n 26.0

01513400 PATTERSON CREEK AT ENOWELL, N.Y. (LAT 42 06 4R LONn 076 01 13)

. 14 .95 4.5 466 353 213 76 605 7.9 27.5 2

01513810 TRACY CREEK NEAR VFSTAL, N.Y. (LAT 42 04 02 LONG 076 06 11)

. 01 .01 .0 R7 54 4 163 7.6 24.5 0

01513820 APALACHIN CREEK AT APALACHIN, N.Y. (LAT 42 03 44 LONG 076 OB 571

AUG
11... .02 .00 .1 75 74 46 13 137 7.3 22.5 0

01513830 LITTLE NANTICOKF CREEK NEAR OWEGO, N.Y. (LAT 42 05 32 LONG 076 13 021

JULY
27... .21 .12 .05 .3 84 76 50 22 139 7.1 0

01513910 WILSON CREEK NEAR NEWARK VALLEY, N.Y. [LAT 42 14 36 LONG 076 10 41)

JULY
2B... .41 .02 .06 2.2 61 56 38 13 109 7.2 11

01513990 OOOLITTLF CREEK AT WELTONVILLE, N.Y. (LAT 42 11 43 LONG 076 14 51)

JULY
2B... .04 .09 .05 .1 50 46 32 10 84 7.1 0

01514000 OWEGO CREEK NEAR OWEGO, N.Y. (LAT 42 07 40 LONG 076 16 17)

APR
02... .72 .09 .29 3.0 66 52 26 14 81 6.6 35
03... .48 .05 .12 5.3 62 57 30 1R 92 7.0 1.5 14 04... .48 .09 .19 3.1 59 57 36 16 94 7.2 2.0 14

JULY
.06 .5 104 106 83 9 196 8.0 27.0 0

WAPPASENING CREEK AT NICHOLS, N.Y. (LAT 42 01 17 LONG 076 21 45)

. 04 1.0 69 69 40 12 131 7.1 21.0 4

01514950 ELLIS CREEK NEAR BARTON, N.Y. (LAT 42 00 30 LONG 076 2B 52)

. 09 .05 .00 .5 73 75 59 16 133 R.O 23.0 1

01515000 SUSOUEHANNA RIVER NEAR WAVERLY, N.Y. (LAT 41 59 05 LONG 076 30 05)

. 22 .05 .09 4.2 85 85 40 IB 154 7.3 2.5 3

01531000 CHEMUNG RIVER AT CHEMUNG, N.Y. (LAT 42 00 08 LONG 076 38 06)

1.1 .20 .44 .4 93 fit 44 23 118 7.1 ' 30

ANALYSES OP SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK

SPECTROGRAPHIC ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970
DIS- DIS- DIS- DIS-
SOLVED DIS- SOLVED DIS- DIS- SOLVED SOLVED DIS-
ALUM- SOLVED BERYL- SOLVED SOLVED CAD- CHRO- SOLVED SOLVED GER- SOLVED INUM BARIUM LIUM BISMUTH BORON MIUM MIUM COBALT COPPER' MANIUM IRON (AL) (BO) (BEI (BI) IB) (CD) (CR) (CO) ICU) (GE) (FE) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L) (UG/L)

HUDSON RIVER BASIN

01319000 EAST BRANCH SACANDAGA RIVER AT GRIFFIN, N.Y. (LAT 43 2R 25 LONG 074 13 25)

0 0 12 <5 0 0 3 0 35

HUDSON RIVER ST GREEN ISLAND, N.Y. (LAT 42 43 46 LONG 073 41 48)

80 32 0 <2 17 <13 6 <2 3 <2 94

0135975D MOORDENER KILL AT CASTLETON-ON-HUDSON, N.Y. (LAT 42 32 02 LONG 073 44 15)

1145 7 72 0 <3 23 <35 <4 <4 1 <4 14

01372058 HUDSON RIVER BELOW POUOHKEFPS IE, N.Y. (LAT 41 39 03 LONG 073 56 42)

1500 76 28 0 <3 20 <25 4 <3 4 <3 110

01372500 WAPPINGER CREEK NEAR WAPPINGERS FALLS, N.Y. (LAT 41 39 05 LONG 073 52 20)

HOD 14 15 0 <4 18 <35 <5 <4 2 <4 42

1330 33 31 0 D 6 <4 0 0 2 0 13

DELAWARE RIVER BASIN

01434000 DELAWARE RtVER AT PORT JERVIS, N.Y. (LAT 41 22 20 LONG 074 41 50)

1420 83 28 0 0 B <6 0 0 4 0 110

01507500 GENEGANTSLET CREEK AT SMITHVILLE FLATS, N.Y. (LAT 42 23 34 LONG 075 48 15)

1425 50 18 0 0 10 <6 0 0 2 0 35

SUSQUEHANNA RIVER BASIN

01513107 SUSOUEHANNA R AT CFJ BRIDGE AT JOHNSON CITY, N.Y (LAT 42 06 13 LONG 075 5fl 10)

1600 40 21 0 <3 17 <17 <3 <2 5 <2 60

0152RODO FIVEMILE CREEK NEAR KANOMA, N.Y. (LAT 42 23 18 LONG 077 21 29)

0930 55 21 0 <3 17 <18 <3 <2 3 <2 70

OL530900 CHEMUNG RIVER AT WFLLSRURG, N.Y. (LAT 42 01 02 LONG 076 43 24)

1100 53 35 0 <3 24 <17 <3 2 8 <2 55

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK 647

SPECTROGRAPHIC ANALYSES, MATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS- DIS- DIS- DIS- OIS-
DIS- DIS- SOLVED SOLVED DIS- SOLVED DIS- SOLVED DIS- SOLVED SOLVED DIS-
SOLVED SOLVED MAN- HOLY- SOLVED RUBI- SOLVED STRON- SOLVED TI- VANA- SOLVED
LEAD LITHIUM GANESE BDENUM NICKEL DIUM SILVER TIUM TIN TANIUM DIUM ZINC

(PBI (LII (MNI (MDI (Nil (RB) (A6I (SRI (SNI (Til (VI (ZNI DATE (UG/LI (UG/LI (UG/LI IUG/LI (UG/LI (UG/LI (UG/LI (UG/LI (UG/LI (UG/LI (UG/LI (UG/LI

HUDSON RIVER BASIN

01319000 EAST BRANCH SACANDAGA RIVER AT GRIFFIN, N.Y. (LAT 43 2B 25 LONG D74 13 251

APR
22... 10 11000 D2 300 <.5 <26

01358000 HUDSON RIVER AT GREEN ISLAND, N.Y. (LAT 42 43 46 LONG 073 41 481

APR
23... 5 0 36 1 1 0 0 50 <2 1 <2.0 <BO

01359750 MODROENER KILL AT CASTLETON-ON-HUDSON, N.Y. (LAT 42 32 02 LONG 073 44 151

JULY
08... <2 3 70 0 <4 <2 0 120 <4 3 <2.0 <150

01372058 HUDSON RIVER BELDH POUGHKEEPSIE, N.Y. (LAT 41 39 03 LONG 073 56 421

APR
07... 3 1 47 2 2 1 0 110 <3 2 <3.0 <140

01372500 HAPPINGER CREEK NEAR HAPPINGERS FALLS, N.f. ILAT 41 39 05 LONG 073 52 201

APR
23... 6 0 25 0 <2 0 0 140 <4 <4 <4.0 210

0142D500 BEAVER KILL AT CDDKS FALLS, N.Y. (LAT 41 56 50 LONG 074 58 451

APR
24... 10 10 0000 13 00 <.4 <20

DELAWARE RIVER BASIN

01434000 DELAWARE RIVER AT PORT JERVIS, N.Y. (LAT 41 22 20 LONG 074 41 501

SUSOUEHANNA RIVER BASIN

01513107 SUSOUEHANNA R AT CFJ BRIDGE AT JOHNSON CITY, N.Y (LAT 42 06 13 LONG Orb 58 101

01528000 FIVEMILE CREEK NEAR KANONA, N.Y. (LAT 42 23 18 LONG 077 21 29)

01530900 CHEMUNG RIVER AT HELLSBURG, N.Y. (LAT 42 01 02 LONG 076 43 241

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW YORK

STATION
NUMBER

01319000

01359750

01372058
01372500

01420500
01434000

01507500

01513107

01528000

01530900

STATION NA'IE

HUDSON RIVER BASIN

EAST BRANCH SACANDAGA RIVER AT GRIFFIN, N.Y.

HOORLENER KILL AT CASTLETON-ON-HUDSON , N.Y.

HUDSON RIVER BELOW POURHKEEPSIE , N.Y. WAPPINGER CREEK NEAR WAPPINGERS FALLSt N.Y.

DELAWARE RIVER BASIN

BEAVER KILL AT COOKS FALLS, N.Y.
DELAWARE RIVER AT PORT JERVIS, N.Y.

SUSOUEHANNA RIVER BASIN

GENEGANTSLET CREEK AT SMITHVILLE FLATS, N.Y.

SUSOUEHANNA RIVER AT JOHNSON CITY, N.Y.

FIVEMILE CREEK AT KANONA, N.Y. A

CHEMUNG RIVER NEAR WELLSBURG, N.Y.

DATE

07-23-70
07-31-70
07-08-70
07-27-70
04-07-70

04-23-70
08-07-70

04-24-70
04-23-70

07-22-70
09-23-70
07-06-70
08-01-70
07-23-70
08-07-70
08-24-70
09-21-70
07-06-70
08-01-70

DIS-
SOLVED
MERCURY

(HG)
(UG/L)

0.1
. 1
2.0
. 8
. 1
. 1
. 2

. 1
<.l

2.0
1.0
. 1
. 7
12
. 3
. 8
1.0
. 2
. 1

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW JERSEY

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

IiIS-
DIS- SOLVED MAG- PO- ALKA-
SOLVED MAN- CAL- NE- TAS- BICAR- CAR- LINin
DIS- SILICA IRON GANESE CIUM SIUM SODIUM SIUM BONATE BONATE AS SULFATE

CHARGE (SI02) (FE) (MN) (CA) (MG) (NA) (K) (HC03) (C03) CAC03 (SO*)
(CFS) (MG/L) (UK/L) IUG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/LI (MG/L)

RARITAN RIVER BASIN

01399200 LAMINGTON RIVER NEAR IRONIA, N.J. (LAT 40 50 07 LONG 74 38 40)

4.3 9.0 500 83 23 12 57 2.3 154 0 126 44

01400593 ROCKY BROOK AT HIKHTSTOWM, N.J. (LAT 40 15 40 LONG 74 30 52)

3.6 3.7 2000 55 8.5 4.4 5.8 3.2 18 0 15 19

01400596 PEDDIE BROOK AT HIGHTSTDWN, N.J. (LAT 40 15 36 LONG 74 31 08)

1.2 5.6 900 90 10 6.9 8.0 3.7 33 0 27 15

01401520 BEDEN BROOK NEAR HOPEWELL, N.J. (LAT 40 23 02 LONG 74 44 28)

. 42 7.7 300 55 32 12 19 3.8 124 0 102 40

01405300 MATCHAPONIX BROOK AT SPOTSWOOD, N.J. (LAT 40 22 52 LONG 74 22 51)

9.3 200 280 17 3.7 29 5.0 00 0 50

01405400 MANALAPAN BROOK AT SPDTSWOOD, N.J. (LAT 40 23 22 LONG 74 23 27)

18 6.2 500 45 5.2 2.9 6.9 2.6 50 4 20

MANASCIUAN RIVER BASIN

01407830 MANASOUAN RIVER NEAR GEORGIA, N.J. (LAT 40 12 36 LONG 74 16 41)

3.5 23 5800 105 20 3.8 8.7 4.4 25 0 21 42

01407860 DEBOIS CREEK AT ADELPHIA, N.J. (LAT 40 13 02 LONG 74 15 50)

6.0 14 6800 90 17 6.5 29 7.0 72 0 59 24

01407890 MANASOUAN RIVER TRIBUTARY NO. 7 AT WEST FARMS, N.J. (LAT 40 12 08 LONG 74 12 09)

2.5 22 5400 55 22 1.2 3.0 2.2 40 0 33 23

01408015 MINGAMAHONE BROOK AT FARMINGDALE, N.J. (LAT 40 11 38 LONG 74 09 42)

3.6 19 4200 50 24 1.2 3.5 2.2 57 0 47 19

01408010 MINGAMAHDNE BROOK AT SOUANKUM, N.J. (LAT 40 09 56 LONG 74 09 01)

4.2 14 6050 20 20 1.5 4.8 2.3 47 0 39 19

01408030 MANASnUAN RIVER AT ALLENWOOD, N.J. (LAT 40 08 35 LONG 74 07 03)

01467082 PENNSAUKEN CREEK AT ROUTE 130, AT CIMMANINSDN, N.J. (LAT 39 59 06 LONG 75 00 55)

5.8 -- -- 23 7.0 16 4.5 51 0

01467190 COOPER RIVER AT CAMDEN, N.J. (LAT 39 55 35 LONG 75 05 03)

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW JERSEY

CHEMICAL ANALYSES, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS- SPE-
SOLVED SOLVED NON- CIFIC
ORTHO SOLIDS SOLIDS CAR- CON-

CHLO- FLUO- PHOS- (RESI- (SUM OF HARD- BONATE DUCT-
RIDE RIDE NITRATE PHATE DUE AT CONSTI- NESS HARD- ANCE PH

(CD IF) (N03) (P04) 180 C) TUENTS) (CA.Mr,) NESS (MICRO-
DATE (MG/L) (MG/L) (MG/L) (MG/L) (MC,/L> (MG/L) (MG/L) (MG/L) MHOS) (UMITS) UNITS! (M6/L)

RARITAN RIVER BASIN

01399200 LAMINGTON RIVER NEAR IRONIAt N.J. (LAT 40 50 07 LONG 74 38 40)

SEP
03... 39 .3 25 l.B 295 288 107 0 500 7.7 3

01400593 ROCKY BROOK AT HIGHTSTOWN, N.J. (LAT 40 15 40 LONG 74 30 52)

SEP
03... 13 .1 1.8 .10 74 68 39 24 124 7.2 3

01400596 PEDDIE BROOK AT HIGHTSTOWN, N.J. (LAT 40 15 36 LONG 74 31 08)

SEP
03... 22 .1 6.6 .15 105 94 54 27 170 7.5 3

01401520 BEDEN BROOK NEAR HOPEWELL, N.J. (LAT 40 23 02 LONG 74 44 28)

SEP
03... 25 .1 6.0 1.3 209 207 130 28 347 8.1 3

01405300 MATCHAPONIX BROOK AT SPOTSWOOD, N.J. (LAT 40 22 52 LONG 74 22 51)

SEP
29... 53 .1 10 .16 180 177 58 58 330 4.2 3 1.4

01405400 MANALAPAN BROOK AT SPOT HOOD, N.J. (LAT 40 23 22 LONG 74 23 27)

SEP
29... 12 .0 7.2 .17 63 66 25 21 105 5.9 2 1.6

MANASQUAN RIVER BASIN

01407830 MANASOUAN RIVER NEAR GEORGIA, N.J. ILAT 40 12 36 LONG T- 16 41)

SEP
02... 16 .4 11 .08 145 142 66 45 200 5.2 2

01407860 DEBOIS CREEK AT ADELPHIA, N.J. (LAT 40 13 02 LONG 74 15 5(1)

SEP
02... 33 .3 20 5.9 207 192 54 0 312 7.5 70

01407B90 MANASQUAN RIVER TRIBUTARY NO. 7 AT HEST FARMS, N.J. ILAT 40 12 08 LONG 74 12 09)

SEP
02... 7.0 .1 .2 .19 108 100 60 27 146 7.7 IB

01408015 MINGAMAHONE BROOK AT FARMINGDALE, N.J. (LAT 40 11 38 LONG 74 09 42)

SEP
02... 6.9 .1 .6 .18 106 105 65 19 153 8.0 3

01408020 MINGAMAHONE BROOK AT SQUANKUM, N.J. [LAT 40 09 56 LONG 74 09 Oil

SEP
02... 7.8 .1 .6 .19 97 93 56 18 137 7.8 40

01408030 MANASQUAN RIVER AT ALLENWOOD, N.J. (LAT 40 08 35 LONG 74 07 03)

SEP
03... 17 .1 7.4 .56 138 132 63 23 208 7.3 5

DELAWARE RIVER BASIN

01457082 PENNSAUKEN CREEK AT ROUTE 130, AT CINNAMINSON, N.J. (LAT 39 59 06 LONG 75 00 55)

OCT
16... 20 .2 7.2 2.2 181 131 87 45 274 7.6 3

01467190 COOPER RIVER AT CAMDEN, N.J. (LAT 39 55 35 LONG 75 05 03)

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN NEW JERSEY

CHEMICAL ANALYSESi WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

FIELD DETERMINATIONS

STATION NAME

01399200 LAMINGTON RIVER NEAR
IRONIA, N.J.
01400593 ROCKY BROOK AT MIGHTS
N.J.
01400596 PEDDIE BROOK AT HIGHT
N.J.
01401520 BEDEN BROOK NEAR

HOPEWELL, N.J.
01405300 MATCHAPONIX BROOK AT
SPOTSWOOD, N.J.
01405400 MANALAPAN BROOK AT
SPOTSWOOD, N.J.

SPE-
CIFIC COLI-
CON- FORM

TEM- DUCT- DIS- (COL-
PERA- ANCE PH SOLVED ONIES

TURE (MICRO- OXYGEN PER
LATITUDE LONGITUDE DATE TIME (°C1 MHOSI (UNITSI (MG/LI 100 ML)

RARITAN RIVER BASIN

40 50 07 74 38 4O 09-03-70 1200 17.5

40 15 36 74 31 08 09-03-70 1045 22.0

40 23 02 74 44 28 09-03-70 0825 17.5

- -

MANASQUAN RIVER BASIN

01407830 MANASQUAN RIVER NEAR 40 12 36 74 16 41 09-02-70 0910 13.5
GEORGIA, N.J.

N.J.

01407890 MANASQUAN RIVER TRIBUTARY 40 12 08 74 12 09 09-02-70 1245 14.0 NO. 7 AT WEST FARMS, N.J.
01408015 MINGAMAHONE BROOK AT 40 11 38 74 09 42 09-02-70 1430 15.5
FARMINGDALE, N.J.
01408020 MINGAMAHONE BROOK AT 40 09 56 74 09 01 09-02-70 1550 19.5
SQUANKUM, N.J.
01408030 MANASQUAN RIVER AT 40 08 35 74 07 03 09-03-70 1430 17.0
ALLENWOOD, N.J.

DELAWARE RIVER BASIN

01467082 PENNSAUKEN CREEK AT
ROUTE 130, AT CINNAMIN- 39 59 06 75 00 55 10-16-69 1000 15.9
SON, N.J. '

N.

DATE

.

MAR 13, 1970
MAR 18......
APR 2......
APR 2......
APR 2......

MAR 13, 1970
MAR 18. .....
APR 2......
APR 2......
APR 2......

J.

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCJOBER

TIME

1130
1630
1035
1245
1500

01400!

1150
1520
1020
1300
1445

(CFS)

01400850

2.
. 1.
62
56
80

i70 STONY

6.
1.
157
125
140

CONCEN-

(MG/L)

SUSPENDED
SEDIMENT

(TONS/DAY)

RARITAN RIVER

WOODSVILLE BROOK AT WOODSVILLE

0 4 .02
1 3 .01
511 86
3*7 52

DATE

BASIN

, N.J. (LAT 40

APR 3......
APR 15......

BROOK TRIBUTARY NO. 3 NEAR HOPEWELL, N.J. <LAT

9 4
7 2
88
48
47

. 07
. 01
37
16
18

01400900 STONY BROOK AT SLENMORE, N.J

APR 2, 1970
APR 2......
APR 2......

1050
1230
1520

1500
1200
1000

417
288
267

1690
933
721

APR 2, 1970
APR 3......
APR 15......

. (LAT 40 21 55

APR 2, 1970
APR 3......
APR 15.... ..

1969 TO SEPTEMBER

TIME

22 17

1100
0845

40 24

1700
1115
0830

LONG

1800
1020
0900

DISCHARGE

(CFS)

LONG 74 49

7.2
6.6

12 LONG 74

202
17
28

74 47 14)

1700
276
370

7.4

1970

CONCEN-
TRATION
(MG/L)

33)

1280
20
25
416
155

48 12)

185
6
17
345

564
35
33

SUSPENDED
SEDIMENT
DISCHARGE

(TONS/DAY)

346
. 39
. 45
37
9.6

101
. 28
1.3
34

2590
26
33

01400950 HART BROOK NEAR PENNINGTON, N.J. ILAT 40 19 17 LONG 74 45 381

JAN 3, 1970 1140 36 394 38

01400960 HONEY BRANCH NEAR MOUNT ROSE, N.J. (LAT 40 21 17 LONG 74 45 29)

FEB 3, 1970 1350 56 207 31

01400970 HONEY BRANCH NEAR ROSEDALE, N.J. (LAT 40 20 26 LONG 74 44 39)

FEB 3, 1970 1445 195 61 32

DELAWARE RIVER BASIN

01467081 SOUTH BRANCH PENNSAUKEN CREEK AT CHERRY HILL, N.J. ILAT 39 56 30 LONG 75 00 05)

172 244 112 APR 15, 1970 1230 298 131

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN PENNSYLVANIA

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS- DIS-
DIS- DIS- SOLVED SOLVED SOLVED
DIS- DIS- SOLVED SOLVED MAG- DIS- SODIUM PO- DIS-
SOLVED SOLVED MAN- CAL- NE- SOLVED PLUS TAS- BICAR- SOLVED

DIS- SILICA IRON GANESE CIUM SIUM SOTjIUH POTAS- SIUM BONATE SULFATE
CHARGE (SI02) (FE) [MN) (CA) (MG) (NA) SIUM (K) (HC03) IS04)
DATE (CFS) (MG/L) (UG/L) (U&/L) (MG/L) (MG/L) IMG/L) (MG/L) (MG/L) (MG/L) (MG/L)

DELAWARE RIVEP BASIN

01428800 WEST BRANCH LACKAWAXEN RIVER AT ALDENVILLE, PA. (LAT 41 38 38 LONG 75 21 36)

9.6 .9 -- -- -- 23 18

01441000 HCMICHAELS CREEK NEAR STROUDSBURG, PA. (LAT 40 58 45 LONG 75 12 05)

9.4 1.4 -- -- -- 21 23

01441500 POCONO CREEK NEAR STROUDSBURG, PA. (LAT 40 59 10 LONG 75 13 35)

6.4 1.6 -- -- -- 10 19

01446900 BUSH KILL CREEK NEAR EASTON, PA. (LAT 40 42 38 LONG 75 14 46)

50 14 -- -- -- 130 83

01448100 SANDY RUN NEAR WHITEHAVEN, PA. (LAT 41 00 31 LONfi 75 46 08)

55 7.4 -- -- -- 25 170

01449355 MIDDLE CREEK AT KRESGEVILLE, PA. (LAT 40 54 03 LONG 75 29 50)

1.8 .8 -- -- -- 12 4.1

01451110 hDCKENDAUmjA CREEK NEAR NORTHAMPTON, PA. (LAT 40 42 50 LONG 75 29 45)

20 4.3 -- -- -- 41 30

01451165 CATASAUOUA CREEK AT CATASAUOUA, PA. (LAT 40 38 52 LONG 75 28 07)

63 22 -- -- -- 175 77

01451380 LITTLE LEHIGH CREEK NEAR TREXLERTOWN, PA. (LAT 40 31 51 LONG 75 36 04)

25 11 -- -- -- 112 18

01452200 MONOCACY CREEK NEAR BATH, PA. (LAT 40 42 29 LONG 75 23 54)

1AY
13... 12 -- -- -- 75 18 -- -- -- 130 122

01465785 WALTQN RUN AT PHILADELPHIA, PA. (LAT 40 05 22 LONG 74 59 37)

29 7.0 -- 34 -- 45 45

01465790 BY3ERR V CREEK AT CHALFONT ROAD, PHILDELPHIA, PA. (LAT 40 23 45 LONG 74 58 57)

23 8.0 -- 27 -- 33 39

1465795 BYBERRY CREEK AT GRANT AVENUE, PHILADELPHIA, PA. (LAT 40 03 45 LONfi 74 59 47)

21 7.0 -- 24 -- 3 36

01467042 PENNYPACK CREEK AT PINE ROAD, PHILADELPHIA, PA. (LAT 40 05 23 LONG 75 04 10)

JUL
24... 19 14 -- -- 30 9.8 29 -- 5.4 82 43
SEP
10... 19 -- -- -- 32 12 -- 34 -- 80 45

01467045 PENNYPACK CREEK BELOW VERREE ROAD, PHILADELPHIA, PA. (LAT 40 05 04 LONG 75 03 34)

26 9.0 -- 30 -- 51 42

15 -- -- 29 10 24 -- 5.2 78 37

01467048 PENNYPACK CREEK AT LOWER RHAWS STREET BRIDGE, PHILADELPHIA, PA. (LAT 40 03 00 LONG 75 01 59)

JUL
29... 40 3.7 -- -- 13 2.9 5.0 -- 2.9 7 27
SEP
11... -- -- -- -- 32 -- -- 32 -- 84 43

01467049 WOODEN BRIDGE RUN AT PHILADELPHIA, PA. (LAT 40 03 19 LONG 75 01 22)

24 7.0 -- 28 -- 43 45

01467084 TACONY CREEK AT COUNTY LIME, PHILADELPHIA, PA. (LAT 40 02 47 LONG 75 04 41)

35 14 -- 46 -- 75 63

ANALYSES OF SAMPLES COLLECTED AT MI SCELLANEOUS SITES IN PENNSYLVANIA 655

CHEMICAL ANALYSESt WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS- SPE-
DIS- SOLVED SOLVED NON- CIFIC BIO-
SOLVED ORTHO SOLIDS CAR- CON- COLOR CHEM-

CHLO- FLUO- PHOS- (RESI- HARD- BONATE DUCT- [PLAT- ICAL
RIDE RIDE NITRATE PHATE DUE AT NESS HARD ANCE PH TEMPER- INUM- OXYGEN

(CD (F) (N03I (P04) 180 C) (CA.MG) NESS (MICRO- ATURE COBALT DEMAND
DATE (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) IMG/L) MHOS) (UNITS! (DEC C) UNITS) (MG/L)

DELAWARE RIVER BASIN

01428800 WEST BRANCH LACKAWAXEN RIVER AT ALDENVILLE, PA. (LAT 41 38 38 LONG 75 21 36)

2.9 -- -- -- 28 9 79 7.4 14.0

01441000 MCMICHAELS CREEK NEAR STROUDSBURG, PA. (LAT 40 58 45 LONG 75 12 05)

3.8 -- -- -- -- 30 13 83 7.9 20.0

01441500 POCONO CREEK NEAR STROUDSBURG, PA. (LAT 40 59 10 LONG 75 13 35)

8.3 -- -- -- -- 23 15 78 7.4 20.0

01446900 BUSH KILL CREEK NEAR EASTONi PA. (LAT 40 42 38 LONG 75 14 46)

182 75 369 8.3 17.0

01448100 SANDY RUN NEAR WHITEHAVEN, PA. ILAT 41 00 31 LONG 75 46 08)

168 147 367 7.7 18.0

01449355 MIDDLE CREEK AT KRESGEVILLE, PA. (LAT 40 54 03 LONG 75 29 50)

- - 8 0 31 7.6 13.0

01451110 HOCKENDAUQUA CREEK NEAR NORTHAMPTON, PA. (LAT 40 42 50 LONG 75 29 45)

5.0 -- -- -- -- 68 34 173 8.0

01451165 CATASAUQUA CREEK AT CATASAUQUA, PA. (LAT 40 38 52 LONG 75 28 07)

248 104 487 8.3 19.0

01451380 LITTLE LEHIGH CREEK NEAR TREXLERTOWN, PA. (LAT 40 31 51 LONG 75 36 04)

108 16 246 8.2 21.0

01452200 MONOCACY CREEK NEAR BATH, PA. (LAT 40 42 29 LONG 75 23 54)

261 155 548 7.6 19.0

01465785 WALTON RUN AT PHILDELPHIA, PA. (LAT 40 05 22 LONG 74 59 37)

12 .27 -- 102 65 394 7.5 -- 3

01465790 BYBERRY CREEK AT CHALFOMT ROAD, PHILDELPHIA, PA. (LAT 40 23 45 LONG 74 58 57)

15 .29 -- 91 64 348 7.5 -- 3

01465795 BYBERRY CREEK AT GRANT AVENUE, PHILADELPHIA, PA. (LAT 40 03 45 LONG 74 59 47)

6.5 .45 -- 82 56 315 7.4 5.0 3

01467042 PENNYPACK CREEK AT PINE ROAD, PHILADELPHIA, PA. (LAT 40 05 23 LONG 75 04 10)

. 4 22 9.7 256 116 49 382 8.1 21.0 4

- - 42 3.4 -- 130 64 372 7.9 20.0

01467045 PENNYPACK CREEK BELOW VERREE ROAD, PHILADELPHIA, PA. (LAT 40 05 04 LONG 75 03 34)

FEB
19... 46 -- 20 1.8 -- 102 60 360 7.5 -- 1
JUL
24... 32 .5 22 7.8 229 114 50 353 8.0 21.0 5

01467048 PENNYPACK CREEK AT LOWER RHAWN STREET BRIDGE, PHILADELPHIA, PA. (LAT 40 03 00 LONG 75 01 59)

JUL
29... 6.6 .4 22 .77 109 45 39 139 6.5 24.0 7
SEP
11... 43 -- 25 2.1 -- 126 57 417 7.9 22.0

01467049 WOODEN BRIDGE RUN AT PHILADELPHIA, PA. (LAT 40 03 19 LONG 75 01 22)

10 .18 -- 89 54 333 7.4 -- 3

01467084 TACONY CREEK AT COUNTY LINE, PHILADELPHIA, PA. (LAT 40 02 47 LONG 75 06 41)

32 .22 -- 145 84 522 7.7 -- 4

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN PENNSYLVANIA

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS- DIS-
DIS- DIS- SOLVED SOLVED SOLVED
DIS- DIS- SOLVED SOLVED MAG- DIS- SODIUM PO- DIS-
SOLVED SOLVED MAN- CAL- NE- SOLVED PLUS TAS- B-ICAR- SOLVED
DIS- SILICA IRON GANESE CIUM SIUM SODIUM POTAS- SIUM BONATE SULFATE

CHARGE (SI02) (FE) (MN) (CA) (MG) (NA) SIUM (K) (HC03) (504)
DATE (CFS) (MG/L) (UG/L) (UG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L)

DELAUARE RIVER BASIN CONTINUED

01467088 FRANKFORD CREEK AT TORRESDALE AVENUE, PHILADELPHIA, PA. (LAT 40 00 25 LONG 75 05 33)

FEB
19... 31 50 12 -- 55 -- 92 82

01467100 DELAWARE RIVER AT LEHIGH AVENUE, PHILADELPHIA, PA. (LAT 39 58 09 LONG 75 06 41)

JUL
02... 5150
AUG
04... 5560
SEP
03... 5450

01467300 DELAWARE RIVER AT WHARTON STREET, PHILADELPHIA, PA. (LAT 39 55 65 LONG 75 08 11)

JUL
02... 5150
AUG
04... 5560
SEP
03... 5450

01467400 DELAWARE RIVER AT LEAGUE ISLAND, PHILADELPHIA, PA. ILAT 39 52 56 LONG 75 10 43)

JUL
02... 5150
AUG
04... 5560
SEP
03... 5450

01470758 MOSELEM CREEK NEAR SHOEMAKERSVILLE, PA. (LAT 40 30 10 LONG 75 52 47)

MAY
14... 21 -- -- -- 29 20 -- -- -- 120 29

01471800 PINE CREEK NEAR MANATAWNY, PA. (LAT 40 24 43 LONG 75 44 02)

MAY
14... 13 -- -- -- 8.2 2.9 -- -- 25 24

01473980 WISSAHICKDN CREEK AT LIVEZEY LANE, PHILADELPHIA, PA. (LAT 40 02 59 LONG 75 12 52)

FEB
19... 97 -- -- 32 12 -- 42 -- 73 57

01474000 WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA. (LAT 40 00 54 LONG 75 12 24)

FEB
19... 106 -- -- -- 36 11 -- 50 -- 81 61

01475510 DARBY CREEK NEAR DARBY, PA. ILAT 39 55 44 LONG 75 16 22)

FEB
19... 94 -- -- -- 25 10 -- 26 -- 50 34
SEP
03... 22 33 -- -- 26 11 33 -- 6.9 85 41
29... 23 17 -- -- 24 8.1 35 -- 7.« 72 45

01475530 COBBS CREEK AT U.S. HIGHWAY 1, PHILADELPHIA, PA. (LAT 39 59 29 LONG 75 16 49)

FEB
19... 6.0 -- -- -- 27 10 -- 29 -- 56 43

01475550 COBBS CREEK AT DARBY, PA. (LAT 39 55 02 LONG 75 14 22)

FEB
19... 5.6 -- -- -- 37 11 52 81 58

JUL
02... 5150
AUG
04...
SEP
03... 5450

01476200 DELAWARE RIVER AT EDDYSTONE, PA. (LAT 39 50 57 LONG 75 19 43)

01477200 DELAWARE RIVER AT MARCUS HOOK, PA. (LAT 39 42 10 LONG 75 25 00)

JUL
02... 5150 2.2 -- -- 23 8.2 19 -- 3.5 28 52
AUG
04... 5560 1.2 -- -- 24 7.3 20 -- 3.8 43 58
SEP
03... 5450 .3 -- -- 24 8.5 34 -- 4.8 33 70

01480300 WEST BRANCH BRANDYWINE CREEK NEAR HONEY BROOK, PA. (LAT 40 04 22 LONG 75 51 40)

JUL
17... 95 17 -- -- 16 6.0 5.7 -- 2.4 55 11
AUG
26... 8.0 -- -- -- 16 6.5 -- 6.4 -- 56 12
SEP
23... 5.4 17 -- -- 16 6.2 4.3 3.1 67 10

ANALYSES OF SAMPLES COLLECTED

CHLO-

(CL)

BIS-
SOLVED
FLUO-
RIDE

(F)

CHEMICAL ANALYSES,

DIS-
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ORTHO
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NITRATE PHATE

(N03) (P04)

WATER

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SOLVED
SOLIDS

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180 C)

AT MISCELLANEOUS SITES IN PENNSYLVANIA

YEAR OCTOBER

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(CA.MG)

1969 TO

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BONATE

NESS

SEPTEMBER 1970

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TEMPER- 1NUM-
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657

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CHEM-
ICAL

DEMAND

(MG/L) (MG/L) IMG/L) (MG/L) (MG/L) (MG/L) (MG/L) MHOS) (UNITS) (DEC Cl UNITS) (MG/L)

DELAWARE RIVER BASIN--CONTINUED

01467088 FRANKFORD CREEK AT TORRESDALE AVENUE, PHILADELPHIA, PA. (LAT 40 00 25 LONG 75 05 33)

74 -- 36 11 -- 175 99 635 6.5 9.5 8

01467100 DELAWARE RIVER AT LEHIGH AVENUE, PHILADELPHIA, PA. (LAT 39 58 09 LONG 75 06 41)

17 -- -- -- -- -- -- 243 7.5 25.5 -- 2.8

13 -- -- -- -- -- -- 204 7.5 27.5 -- 2.2

17 -- -- -- -- -- -- 221 6.7 29.0 -- 2.7

01467300 DELAWARE RIVER AT WHARTON STREET, PHILADELPHIA, PA. (LAT 39 55 54 LONG 75 08 11)

19 -- -- -- 238 7.4 25.5 -- 2.8

28.0 -- 2.4

18 -- -- -- -- -- -- 245 6.8 28.0 -- 2.8

01467400 DELAWARE RIVER AT LEAGUE ISLAND, PHILADELPHIA, PA. (LAT 39 52 56 LONG 75 10 43)

22 -- -- -- -- -- -- 270 6.9 25.5 -- 2.7

18 -- -- -- -- -- -- 250 7.2 28.0 -- 2.3

22 -- -- -- -- -- 277 6.9 28.0 -- 3.6

01470758 MOSELEM CREEK NEAR SHOEMAKERSVILLE, PA. (LAT 40 30 10 LONG 75 52 47)

9.7 -- -- -- -- 155 57 334 8.3 15.0

01471800 PINE CREEK NEAR MANATAWNY, PA. ILAT 40 24 43 LONG 75 44 02)

4.7 -- 33 12 99 7.7 17.0 -- ..

01473980 WISSAHICKON CREEK AT LIVEZEY LANE, PHILADELPHIA, PA. (LAT 40 02 59 LONG 75 12 52)

57 -- 26 4.1 130 70 469 7.0 5.5 5

01474000 WISSAHICKON CREEK AT MOUTH, PHILADELPHIA, PA. ILAT 40 00 54 LONG 75 12 24)

64 -- 28 4.9 -- 135 69 521 7.5 5.5 3

01475510 DARBY CREEK NEAR DARBY, PA. (LAT 39 55 44 LONG 75 16 22)

44 -- 27 2.6 -- 104 63 349 7.5 7.0 2

. 0 15

01475530 COBBS CREEK AT U.S. HIGHWAY 1, PHILADELPHIA, PA. (LAT 39 59 29 LONG 75 16 49)

47 -- 16 .05 -- 109 63 369 7.7 -- 1

01475550 COBBS CREEK AT DARBY, PA. (LAT 39 55 02 LONG 75 14 22)

79 -- 14 .36 -- 138 71 545 7.6 -- 3

01476200 DELAWARE RIVER AT EDDYSTONE, PA. (LAT 39 50 57 LONG 75 19 43)

25 -- -- -- -- -- -- 302 7.3 25.0 -- 4.8

24 -- -- -- -- 304 6.5 28.0 -- 5.1

31 -- -- -- -- -- -- 335 6.5 2.9 -- 4.5

01477200 DELAWARE RIVER AT MARCUS HOOK, PA. (LAT 39 42 10 LONG 75 25 00)

26 .4 5.2 .53 200 91 68 311 7.2 25.5 3 5.3

27 .4 10 .60 192 90 55 321 7.1 28.0 6 4.9

50 .4 15 .42 250 95 68 412 7.6 29.0 5 4.2

01480300 WEST BRANCH BRANDYWINE CREEK NEAR HONEY BROOK, PA. (LAT 40 04 22 LONG 75 51 40)

9.5 .0 11 -- 120 64 20 162 7.6 23.0 5

9.2 -- 11 .22 -- 67 21 159 7.9 20.0 5

9.2 .0 8.2 -- 120 64 11 171 7.4 23.0 4

I ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN PENNSYLVANIA

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS- DIS-
DIS- DIS- SOLVED SOLVED SOLVED
DIS- "JIS- SOLVED SOLVED MAG- DIS- SODIUM PO- DIS-

SOLVED Sir VEI) MAN- CAL- NE- SOLVED PLUS TAS- BICAR- SOLVED
DIS- SILICA IRON GANESE CIUM SIUM SODIUM POTAS- SIUM BONATE ULFATE

CHARGE (SI02) (<- r-) (MN) (CA) (MG) (NAI SIUM (K) (HC03) (S04)
DATE (CFS) (MG/L) CJ-./L! (UG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L)

DELAWARE RIVER BASIN--CONT INUED

01480490 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA. (LAT 39 59 OS LONG 75 49 40)

JUL
16... 37 15 -- -- 14 5.2 S.t -- 2.6 45 14
AUG
26... 22 -- 14 5.6 -- 8.0 -- 42 19
SEP
23... 13 14 -- -- 16 6.0 5.7 -- 2.9 56 15

01480617 WEST BRANCH BRANDYWINE CREEK AT 10DENA, PA. (LAT 39 57 42 LONG 75 48 06)

JUL
16... 51 13 -- -- 21 6.B 14 -- 5.0 64 29
AUG
26... 41 12 -- -- 23 6.7 14 -- 6.3 55 32
SEP
22... 15 12 -- -- 2B 8. 3 18 -- 5.2 77 29

01480700 EAST BRANCH BRANDYWINE CREEK NEAR DOWNINGTOWN, PA. (LAT 40 02 05 LONG 75 42 32)

JUL
16... 37 17 -- -- 14 4.2 6.5 -- 1.9 40 13
AUG
26... 30 -- -- -- 13 4.5 -- 11 -- 39 17
SEP
23... 17 18 -- -- 15 4.5 6.5 -- 2.5 47 14

SUSQUEHANNA RIVER BASIN

01516300 TIOGA RIVER AT COVINGTON, PA. (LAT 41 44 40 LONG 77 04 47)

10 130

01530B50 BENTLEY CREEK AT RIDGEBURY, PA. (LAT 41 52 25 LONG 76 43 12)

17 2.S -- 46 16

01533100 SUGAR RUN CREEK AT SUGAR RUN, PA. (LAT 41 38 31 LONG 76 13 55)

01533840 TUNKHANNOCK CREEK AT KLENHOOD, PA. (LAT 41 38 54 LONfi 75 43 11)

13 1.7 -- -- -- -- 24

01533960 SOUTH BRANCH TUNKHANNOCK CREEK NEAR EAST BENTON, PA. (LAT 41 3* 33 LONG 75 40 00)

17 1.5 - - - 38 17

01534170 EAST BRANCH LACKAWANNA RIVER AT UNIONDALE, PA. (LAT 41 43 08 LONG 75 2B 48)

8.6 1.1 -- -- -- 18 12

01535540 SPRING BROOK NEAR SPRING BROOK, PA. (LAT 41 17 07 LONG 75 35 33)

8.0 .9 -- -- -- 12 19

01536200 ABRAHAMS CREEK NEAR DALLAS, PA. (LAT 41 20 41 LONG 75 54 00)

12 2.0 -- -- -- 24 14

01537900 LITTLE HAPWALLOPEN CREEK NEAP WAPWALLOPEN, PA. (LAT 41 05 43 LONG 76 07 181

5.0 1.5 -- -- -- 8 13

01538520 LITTLE NESCOPECK CREEK AT SYBERTSVILLE , PA. (LAT 41 00 12 LONfi 76 04 25)

9.2 1.7 -- -- 13 36

01538970 FISHING CREEK AT FORKS, PA. (LAT 41 06 27 LONG 76 21 44)

4.0 1.2 -- -- -- 6 8.

01540350 CATAMISSA CREEK AT CATAWISSA, PA. (LAT 40 57 00 LONG 76 27 56)

7.3 4.6 -- -- -- 7.

01541250 ANDERSON CREEK AT CURWENSV ILLE , PA. (LAT 40 58 20 LONG 78 31 20)

21 7.0

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN PENNSYLVANIA Doa

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS- SPE-
DIS- SOLVED SOLVES NON- CIFIC BIO-
SOLVED ORTHO SOLIDS CAR- CON- COLOR CHEM-

CHLO- FLUO- PHOS- IRESI- HARD- BONATE DUCT- (PLAT- ICAL
RIDE RIDE NITRATE PHATE DUE AT NESS HARD- ANCE PH TEMPER- INUM- OXYGEN

(CD (F) (N03) (P04) 180 C) (CA,MG) NESS (MICRO- ATURE COBALT DEMAND
DATE (MG/L) (MG/LI (MG/L) (MG/LI (MG/L) (MG/L) (MG/L) MHOS) (UNITS) (DEC, C) UNITS) (MG/L)

DELAWARE RIVER BASIN--CONTINUED

01480490 WEST BRANCH BRANDYWINE CREEK AT COATESVILLE, PA. (LAT 39 59 08 LONG 75 49 40)

JUL
16... 11 .0 5.6 -- 108 56 20 150 7.5 22.0 7
AUG
26... 13 -- 3.4 .09 -- 58 24 172 7.5 21.0 10
SEP
23... 12 .0 5.5 -- 119 64 19 172 7.8 23.0 2

01480617 WEST BRANCH BRANDYWINE CREEK AT MODENA, PA. (LAT 39 57 42 LONG 75 48 06)

JUL
16... 19 .8 12 -- 176 80 28 254 7.7 28.0 15
AUS
26... 22 .7 21 1.6 184 85 40 286 7.8 26.0 15
SEP
22... 27 .7 17 -- 180 104 41 305 7.7 29.0 5

01480700 EAST BRANCH BRANDYWINE CREEK NEAR DOWNINGTOWN, PA. (LAT 40 02 05 LONG 75 42 32}

JUL
16... 12 .0 6.8 -- 112 52 20 146 7.6 25.0 5
AUG
26... 12 -- 11 .07 -- 51 19 153 7.6 22.0 10
SEP
23... 12 .0 5.6 -- 115 56 18 156 7.4 22.0 4

SUSDUEHANNA RIVER BASIN

01516300 TIOGA RIVER AT COVINGTON, PA. (LAT 41 44 40 LONG 77 04 471

MAY
13... 4.6 -- -- -- -- 84 84 365 3.5 13.0

MAY
12... 6.4 -- -- -- -- 54 17 143 7.9

01533100 SUGAR RUN CREEK AT SUGAR RUN, PA. (LAT 41 38 31 LONG 76 13 55)

MAY
12... 5.2 -- -- -- -- 44 14 116 7.7

01533840 TUNKHANNOCK CREEK AT GLENWOOD, PA. (LAT 41 38 54 LONG 75 43 11)

MAY
12... 7.8 -- -- -- -- 40 -- 101 7.6 18.0

01533960 SOUTH BRANCH TUNKHANNOCK CREEK NEAR EAST BENTON, PA. (LAT 41 34 33 LONG 75 40 00)

MAY
12... 9.9 -- -- -- -- 49 18 140 7.5 19.0

01534170 EAST BRANCH LACKAWANNA RIVER AT UNIONIALE, PA. (LAT 41 43 08 LONG 75 28 48)

MAY
13... 5.0 -- -- -- -- 26 11 72 7.4 14.0

01535540 SPRING BROOK NEAR SPRING BROOK, PA. (LAT 41 17 07 LONG 75 35 33)

MAY
12 6.8 -- -- -- -- 24 14 72 6.6 13.0

01536200 ABRAHAMS CREEK NEAR DALLAS, PA. (LAT 41 20 41 LONG 75 54 00)

MAY
12... 8.5 -- -- -- -- 38 19 110 7.2 17.0

01537900 LITTLE WAPWALLOPEN CREEK NEAR WAPWALLOPEN, PA. (LAT 41 05 43 LONG 76 07 18)

MAY
11... 4.3 -- -- -- -- 19 12 67 7.4 19.0

01538520 LITTLE NESCOPECK CREEK AT SYBERTSVILLE, PA. (LAT 41 00 12 LONG 76 04 25)

MAY
11... 5.9 -- -- -- -- 30 20 93 7.2 19.0

MAY
11... 3.9 -- -- 15 10 49 7.4

01540350 CATAWISSA CREEK AT CATAWISSA, PA. (LftT 40 57 00 LONG 76 27 56)

MAY
11... 6.5 -- -- -- -- 37 37 150 4.6 20.0

01541250 ANDERSON CREEK AT CURWENSVILLE, PA. (LAT 40 58 20 LONG 78 31 20)

MAY
20... 5.6 -- -- -- -- 36 36 153 4.2

01541325 CLEARFIELD CREEK AT FLINTON, PA. (LAT 40 43 05 LONG 78 31 38)

MAY
19... 3.4 -- -- -- -- 82 82 230 4.7 6.5

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN PENNSYLVANIA

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS- 3)1 S-
DIS- DIS- SOLVED SOLVED SOLVED
DIS- DIS- SOLVED SOLVED MAR- DIS- SODIUM PO- DIS-

SOLVED SOLVE3) MAN- CAL- NE- SOLVED PLUS TAS- BICAR- SOLVED
DIS- SILICA IRON 6ANESE CIUM SIUM SODIUM POTAS- SIUM BONATE SULFATE

CHARGE (SI02) (FE) (MN) 1CA) IMG) (NA) SIUM (K) (HC03) (SCK)
DATE (CFS) (MG/L) (UG/L) (UG/L) (MG/LI (MG/LI (MG/L) (MG/L) (MG/L) (Mfi/L) (MG/L)

SUSOUEHANNA RIVER BASIN--CONTINUED

01541331 KILLBUCK RUN NEAR SAINT AUGUSTINE, PA. (LAT 40 39 42 LONG 78 34 55)

5.2 1.8 -- -- -- 7 13

01542330 BLACK MOSHANNON CREEK NEAR PHILLIPS3URG, PA. (LAT 40 52 43 LONG 78 04 36)

1.8 .5 -- -- 3 5.2

01545610 LEFT BRANCH YOUNG WOMANS CREEK NEAR RENOVO, PA. (LAT 41 22 19 LONG 77 42 01)

4.2 1.0 -- -- -- 9 7.7

01545680 TONGASCOOTACK CREEK NEAR LOCK HAVEN, PA. (LAT 41 10 15 LONG 77 32 59)

5.4 3.2 -- -- -- 1 27

01546100 BALD EAGLE CREEK ABOVE SPRING CREEK, AT MILES1URG, PA. (LAT 40 56 32 LONG 77 47 28)

50 20

01547100 SPRING CREEK AT MILESBURG, PA. (LAT 40 55 54 LONG 77 47 13)

01547280 ANTIS RUN NEAR MILESBURG, PA. (LAT 40 58 35 LONG 77 44 42)

8.2 3.2 -- -- -- 23 23

01547600 RDMOLA BRANCH NEAR HOWARD, PA. (LAT 41 03 27 LONG 77 41 101

5.4 1.2 -- -- -- 11 8.6

01549550 LITTLE PINE CREEK NEAR ENGLISH CENTER, PA. (LAT 41 24 26 LONG 77 19 19)

7.0 1.3 -- -- -- 12 14

01549790 LARRVS CREEK AT LARRYS CREEK, PA. (LAT 41 13 10 LONG 77 13 12)

4.4 1.2 -- -- -- 16 7.7

01551830 LOYALSOCK CREEK NEAR FORKSVILLE, PA. (LAT 41 28 10 LONG 76 35 05)

3.6 .8 -- -- -- 4 9.2

01553110 WHITE DEER HOLE CREEK AT ALLENWOOD, PA. (LAT 41 06 14 LONG 76 53 54)

15 3.7 -- -- -- 50 9.8

01553480 BUFFALO CREEK AT LEWISBURG, PA, (LAT 41 58 19 LONG 76 53 30)

18 5.0 -- -- -- 63 13

01555250 MAHAMOY CREEK AT DORNSIFE, PA. (LAT 40 44 45 LONG 76 *7 32)

28 80 -- -- -- -- 545

01555570 WICONISCO CREEK NEAR ELIZA3ETHVILLE, PA. (LAT 40 33 40 LONG 76 48 30)

10 6.1 -- -- -- 13 9.9

01555690 ARMSTRONG CREEK NEAR ENDERS, PA. (LAT 40 29 Of) LONG 76 52 55)

3.7 2.3 -- -- -- 4 8.7

01555780 FRANKSTOWN BRANCH JUNIATA RIVER AT EAST FREEDOM, PA. (LAT 40 21 23 LONG 78 25 41)

13 3.1 -- -- -- 37 15

01559750 RAYSTDWN BRANCH JUNIATA RIVER NEAR MANNS CHOICE, PA. (LAT 40 01 02 LONG 78 37 07)

13 3.3 -- -- -- 33 15

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN PENNSYLVANIA 661

CHEMICAL ANALYSES, WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS- SPE-
DIS- SOLVED SOLVED NON- CIFIC BIO-
SOLVED ORTHO SOLIDS CAR- CON- COLOR CHEM-

CHLO- FLUO- PHOS- (RESI- HARD- BONATE DUCT- (PLAT- ICAL
RIDE RIDE NITRATE PHATE DUE AT NESS HARD- ANCE PH TEMPER- INUM- OXYGEN

(CD (F) (N03I (P04) 180 C) (CA,MG) NESS (MICRO- ATURE COBALT DEMAND
DATE (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) MHOS) (UNITS) (DEG C) UNITS) (MG/L)

SUSQUEHANNA RIVER BASIN--CONTINUED

01541331 KILLBUCK RUN NEAR SAINT AUGUSTINE, PA. (LAT 40 39 « LONG 78 34 55]

MAY
19... 2.1 -- -- -- -- 21 15 61 7.5

01542330 BLACK MOSHANNON CREEK NEAR PHILLIPSBURG, PA. (LAT 40 52 43 LONG 78 04 36)

- - 7 4 26 7.3

01545610 LEFT BRANCH YOUNG WOMANS CREEK NEAR RENOVO, PA. (LAT 41 22 19 LONG 77 42 01)

15 7 62 7.4

01545680 TONGASCOOTACK CREEK NEAR LOCK HAVEN, PA. (LAT 41 10 35 LONG 77 32 59)

MAY
19... .7 -- -- -- -- 27 26 82 5.7 17.5

01546100 BALD EAGLE CREEK ABOVE SPRING CREEK AT MILESBURG, PA. (LAT 40 56 32 LONG 77 47 28)

MAY
27... -- -- .5 .07 -- 14.5
27... -- -- -- -- -- -- -- 100 7.4
JUN
19... -- -- 1.8 .10 -- -- -- -- -- 19.0
19... -- -- -- -- -- -- -- 135 7.7

01547100 SPRING CREEK AT MILESBURG, PA. (LAT 40 55 54 LONG 77 47 13)

MAY
27... -- -- 12 .48
27...

01547280 ANTIS RUN NEAR MILESBURG, PA. ILAT 40 58 35 LONG 77 44 42)

MAY
21... 1.6 -- -- -- -- 34 15 102 7.7

01547600 ROMOLA BRANCH NEAR HOWARD, PA. (LAT 41 03 27 LONG 77 41 10)

19 10 56 7.3

01549550 LITTLE PINE CREEK NEAR ENGLISH CENTER, PA. (LAT 41 24 26 LONG 77 19 19)

23 13 70 7.4 16.0

01549790 LARRYS CREEK AT LARRYS CREEK, PA. ILAT 41 13 10 LONG 77 13 12)

16 3 50 7.2

01551830 LOYALSOCK CREEK NEAR FORKSVILLE, PA. (LAT 41 28 10 LONG 76 35 05)

13 9 46 7.4

01553110 WHITE DEER HOLE CREEK AT ALLENWOOD, PA. (LAT 41 06 14 LONG 76 53 54)

MAY
13... 3.0 -- -- -- -- 53 12 125 8.0

01553480 BUFFALO CREEK AT LEWISBURG, PA. (LAT 41 58 19 LONG 76 53 30)

MAY
11... 3.3 -- -- -- -- 66 14 141 8.2

01555250 MAHANOY CREEK AT DORNSIFE, PA. (LAT 40 44 45 LONG 76 47 32)

399 399 1240 4.9

01555570 WICONISCO CREEK NEAR ELIZABETHVILLE, PA. (LAT 40 33 40 LONG 76 48 30)

50 40 140 7.8

015^5690 ARMSTRONG CREEK NEAR ENDERS, PA. ILAT 40 29 00 LONG 76 52 55)

19 15 60 6.6

01555780 FRANKSTOWN BRANCH JUNIATA RIVER AT EAST FREEDOM, PA. (LAT 40 21 23 LONG 78 25 41)

46 15 114 7.2 4.0

01559750 RAYSTOWN BRANCH JUNIATA RIVER NEAR MANNS CHOICE, PA. (LAT 40 01 02 LONG 78 37 07)

MAY
14... 17 -- -- -- -- 46 19 160 7.5

>2 ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN PENNSYLVANIA

CHEMICAL ANALYSES^ WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

BIS- BIS- DIS-
BIS- BIS- SOLVEB SOLVED SOLVED
BIS- DIS- SOLVEB SOLVED MAG- PIS- SODIUM PO- DIS-
SOLVED S!UVEB MAN- CAL- NE- SOLVEB PLUS TAS- BICAR- SOLVED
"DIS- SILICA IRON fiANESE CIUM SIUM SODIUM POTAS- SIUM DONATE SULFATE
CHARGE (SI02) (FE) (MM) (CA) (MG) (NA) SIUM (K) (HC03I (504)
DATE (CFS) (MG/L) (UG/L) (UG/L) (M.G/L) (MG/L) (MG/L) (MG/LI (MG/L) (MG/L) (MG/L)

SUSOUF.HANNAH RIVER BASIN--CONTINUED

01564550 3LACKLOG CREF.K NEAR ORHISONIA, PA. (LAT 40 13 55 LONG 77 52 25)'

MAY
12... 58 -- -- -- 15 3.2 -- -- -- 47 3.5

01566900 BUFFALO CREEK NEAR NEWPORT, PA. (LAT 40 29 37 LONG 77 08 20)

MAY
12... 56 -- -- -- 14 3.1 -- -- 42 11

01570100 CONODOGUINET CREEK TRIBUTARY NO. 1 NEAR ENOLA, PA. (LAT 40 17 21 LONG 76 59 38)

OCT
10... .07 -- -- -- 34 5.6 -- 6.4 -- 116 16
MAR
26... 1.2 -- 60 10 31 3.5 -- 4.8 -- 84 20

01570200 CONODOfiUINET CREEK TRIBUTARY MO. 2 NEAR ENOLA, PA. (LAT 40 17 21 LONG 76 58 35)

OCT
10... .10 -- -- -- 54 6.0 -- 1.2 -- 173 13
MAR
26... 1.1 -- 30 20 23 3.8 -- 6.2 -- 67 22
AUG
30... 1.0 6.8 -- -- 23 3.3 7.0 -- 1.9 72 22

01570230 CONODOGUINET CREEK TRIBUTARY NO. 2A NEAR ENOLA, PA. (LAT 40 17 44 LONG 76 57 55)

OCT
10.. .08 -- -- -- 43 5.2 -- 2.1 -- 139 11
MAR
26... 1.3 -- 70 20 24 3.5 -- 8.3 -- 75 20

01570260 CONODOGUINET CREEK TRIBUTARY NO. 2B NEAR ENOLA, PA. (LAT 40 17 47 LONG 76 57 51)

DCT
10... .06 -- -- -- 47 5.5 -- 2.3 -- 156 9.6
MAR
26... 1.4 70 20 17 3.0 3.2 -- 49 15

01570300 CONDBOGUINET CREEK TRIBUTARY NO. 3 NEAR ENOLA, PA. (LAT 40 18 05 LONG 76 56 57)

BCT
10... .01 -- -- -- 38 6.6 -- 3.9 -- 134 15
MAR
26... .62 -- 110 30 18 2.8 -- 9.7 -- 54 20

APR
02...

01571100 SPRING CREEK TRIBUTARY NEAR HARRISBURG, PA. (LAT 40 16 41 LONG 76 49 461

01571110 YELLOW BREECHES CREEK NEAR WALNUT BOTTOM, PA. (LAT 40 05 47 LONG 77 23 34)

MAY
08... 12 -- -- 1.4 1.0 -- -- 1 10

01571185 MOUNTAIN CREEK AT PINE GROVE FURNACE, PA. (LAT 40 01 51 LONG 77 18 18)

MAY
08... 35 -- -- -- 1.0 .6 -- -- -- 2 2.4

01571190 MOUNTAIN CREEK NEAR MOUNT HOLLY SPRINGS, PA. (LAT 40 05 36 LONG 77 11 14)

MAY
08... 97 - -- -- 2.8 1.2 -- -- -- 5 6.8

01571820 SWATARA CREEK AT RAVINE, PA. (LAT 40 34 57 LONG 76 24 25)

MAY
08... 99 -- -- -- 18 14 -- -- -- -- 116

01572950 SWATARA CREEK TRIBUTARY NEAR HARPER TAVERN, PA. (LAT 40 26 28 LONG 76 36 00)

MAY
08... 15 -- -- -- 1.5 .8 -- -- -- 7 2.4

01573880 LATIMORE CREEK TRIBUTARY NEAR YORK SPRINGS, PA. (LAT 40 01 18 LONG 77 09 39)

APR
02...

01573890 NORTH FORK LATIMORE CREEK TRIBUTARY NEAR YORK SPRINGS, PA. (LAT 40 02 04 LONG 77 OB 33)

APR
02...

01

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN PENNSYLVANIA 663

CHEMICAL ANALYSES. WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

BIS- DIS- SPE-
DIS- SOLVED SOLVED NON- CIFIC BIO-
SOLVED ORTHO SOLIDS CAR- CON- COLOR CHEM-

CHLO- FLUO- PHOS- IRESI- HARD- BONATE DUCT- (PLAT- ICAL
RIDE RIDE NITRATE PHATE DUE AT NESS HARD- ANCE PH TEMPER- INUM- OXYGEN

(CD (F) (N03) (P04) 180 C) (CA.MG) NESS (MICRO- ATURE COBALT DEMAND
DATE (MG/L) (M6/L) (M6/L) (MG/L) (MG/L) (MG/L) (MG/L) MHOS) (UNITS! (DEG Cl UNITS) (MG/LI

SUSQUEHANNA RIVER BASIN--CONTINUED

01564550 BLACKLOG CREEK NEAR ORBISONIA, PA. (LAT 40 13 55 LONG 77 52 ?5)

MAY
12... 2.3 -- -- -- -- 51 12 119 8.0

01566900 BUFFALO CREEK NEAR NEWPORT, PA. (LAT 40 29 37 LONG 77 08 20)

MAY
12... 2.6 -- -- -- -- 48 14 106 7.7

01570100 CONODOGUINET CREEK TRIBUTARY NO. 1 NEAR ENOLA, PA. (LAT 40 17 27 LONG 76 59 38)

OCT
10... 6.3 -- 2.1 -- -- 108 13 253 8.0 -- 2 MAR
26... 5.9 -- 5.2 -- -- 92 23 205 7.3 -- 2

01570200 CONODOGUINET CREEK TRIBUTARY NO. 2 NCAR ENOLA, PA. (LAT 40 1? 21 LONG 76 58 35)

OCT
10... 4.3 -- .1 -- -- 159 17 298 8.0 -- 2 MAR
26... 4.1 -- 2.8 -- -- 73 18 179 7.6 -- 3 AUG
30... 3.5 .3 11 .01 122 71 12 191 8.0 -- 50

01570230 CONODOGUINET CREEK TRIBUTARY NO. 2A NEAR ENOLA, PA. (LAT 40 17 44 LONG 76 57 55)

OCT
10... 5.6 -- .0 -- -- 129 15 263 7.8 -- 1 MAR
26... 5.3 -- 3.0 -- -- 75 13 182 7.4 -- 2

01570260 CONODOGUINET CREEK TRIBUTARY NO. 2B NEAR ENOLA. PA. (LAT 40 17 47 LONfi 76 57 51)

OCT
10... 4.4 -- 1.5 -- -- 140 12 276 8.0 -- 2 MAR
26... 3.5 -- 1.9 -- -- 55 15 139 7.3 -- 2

0157030C CONODOGUINET CREEK TRIBUTARY NO. 3 NEAR ENOLA, PA. (LAT 40 18 05 LONG 76 56 57)

OCT
10... 3.4 -- .0 -- -- 122 12 259 8.2 -- 3 MAR
26... 8.0 .8 -- 57 12 147 7.0 -- 2

01571100 SPRING CREEK TRIBUTARY NEAR HARRISBURG, PA. ILAT 40 16 41 LONG 76 49 46)

01571110 YELLOW BREECHES CREEK NEAR WALNUT BOTTOM, PA. (LAT 40 05 47 LONG 77 23 34)

. 4 -- -- -- 8 7 29 5.6 13.0

01571185 MOUNTAIN CREEK AT PINE GROVE FURNACE, PA. (LAT 40 01 51 LONG 77 18 181

1.3 -- -- -- 54 25 6.0

01571190 MOUNTAIN CREEK NEAR MOUNT HOLLY SPRINGS, PA. (LAT 40 05 36 LONG 77 11 14)

2.1 -- -- -- -- 12 8 46 7.5

01571820 SWATARA CREEK AT RAVINE, PA. (LAT 40 34 57 LONG 76 24 25)

5.0 -- -- -- -- 103 103 315 4.1 14.5

01572950 SHATARA CREEK TRIBUTARY NEAR HARPER TAVERN, PA. (LAT 40 26 28 LONG 76 36 001

1.1 -- -- -- 7 2 26 7.6

01573880 LATIMORE CREEK TRIBUTARY NEAR YORK SPRINGS, PA. (LAT 40 01 18 LONG 77 09 39)

7.6 .10

01573890 NORTH FORK LATIMORE CREEK TRIBUTARY NEAR YORK SPRINGS, PA. (LAT 40 02 04 LONG 77 08 33)

9.7 .63 -- -- -- -- -- 5.0

01573940 BEAVER CREEK AT ROSSVILLE, PA. (LAT 40 04 39 LONG 76 54 561

4.5 -- -- -- -- 52 15 135 7.8

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN PENNSYLVANIA

CHEMICAL ANALYSESi WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

HIS- DIS- DIS-
IIS- HIS- SOLVED SOLVE! SOLVE!
BIS- BIS- SOLVED SOLVED MAG- DIS- SODIUM PO- DIS-
SOLVED SOLVED MAN- CAL- ME- SOLVED PLUS TAS- BICAR- SOLVED
BIS- SILICA IRON GANESE CIUM SIUM SODIUM POTAS- SIUM BONATE SULFATE

CHARGE (SI02) (FE) (MM) (CA) (MG) INA) SIUM (Kl (HC03) < S04 >
(CFS) (MG/L) (UG/LI (UG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) IMG/L)

SUSQUEHANNA RIVER BASIN--CONTINUED

01577500 MUIDY CREEK AT CASTLE FIN, PA. ILAT 39 46 21 LONG 76 18 58)

APR
13. ..
13. ..
SEP
25...

222 4.4 6.2 2.6

70 7.0 170 40 6.5 3.0 4.8 2.2 28 1.9

POTOMAC RIVER BASIN

01600700 LITTLE WILLS CREEK AT BARD, PA. (LAT 39 55 35 LONG 78 39 40)

3.1 -- -- -- 6.0 2.4 -- -- -- 20 11

01600400 SHAFFERS RUN NEAR FAIRHOPE, PA. ILAT 39 50 57 LONG 78 47 53)

4.2 -- -- -- 4.4 1.8 -- -- -- 11 8.8

01608900 TOWN CREEK AT CHANEYSVILLE, PA. (LAT 39 48 31 LONG 78 29 46)

15 -- -- -- 14 3.0 -- -- -- 46 11

01610130 WEST BRANCH SIDELING HILL CREEK AT PURCELL, PA. (LAT 39 47 11 LONG 78 21 53)

5.2 -- -- -- 4.0 2.2 -- -- -- 14 9.1

01613080 LITTLE TONOLtlWAY CREEK AT WARFORDSBURG, PA. (LAT 39 45 30 LONG 78 11 19)

30 -- -- -- 9.2 3.1 -- -- -- 25 12

01613450 LICKING CREEK NEAR HUSTONTOWN, PA. (LAT 40 00 58 LONG 78 02 33)

17 -- -- -- 14 4.6 -- -- -- 60 6.5

01614140 BACK CREEK NEAR CHAMBERSBURG, PA. ILAT 39 53 35 LONG 77 44 30)

48 -- -- -- 30 5.9 -- -- -- 105 18

01638900 WHITE RUN NEAR GETTYSBURG, PA. (LAT 39 47 45 LONG 77 11 50)

69 30

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN PENNSYLVANIA 665

CHEMICAL ANALYSES. WATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS- DIS- SPE
DIS- SOLVED SOLVED NON- CIFIC BIO-
SOLVED ORTHO SOLIDS CAR- CON- COLOR CHEM-

CHLO- FLUO- PHOS- (RESI- HARD- BDNATE DUCT- (PLAT- ICAL
RIDE RIDE NITRATE PHATE DUE AT NESS HARD- ANCE PH TEMPER- INUM OXYGEN

(CD (Fl (N03) (PG4) 180 C) (CA.MG) NESS (MICRO- ATURE COBALT DEMAND
DATE (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) (MG/L) MHOS) (UNITS) (BEG C) UNITS) (MG/L)

SUSQUEHANNA RIVER BASIN CONTINUED

01577500 MUDDY CREEK AT CASTLE FIN. PA. (LAT 39 46 21 LONG 76 18 58)

APR
13... 6.8 .1 12 .02 55 26 16 66 7.2 10.0 4
13... -- -- -- -- -- -- 88
SEP
25... 6.7 .0 12 .01 85 29 6 84 6.8 -- 2

POTOMAC RIVER BASIN

MAY
14... 3.6 -- -- -- -- 25 9 78 7.5 18.0

01600400 SHAFFERS RUN NEAR FAIRHOPE, PA. (LAT 39 50 57 LONG 76 47 53)

MAY
14... 1.6 -- -- 19 10 55 7.6

HAY
15... 15 -- -- -- 48 10 114 7.9

01610130 HEST BRANCH SIDELING HILL CREEK AT PURCELk, PA. (LAT 39 47 11 LONG 78 21 531

MAY
11... 1.2 -- -- -- 19 8 61 6.6

01613060 LITTLE TONOLOWAY CREEK AT WARFORDSBURG, PA. (LAT 39 45 30 LONG 76 11 191

MAY
11... 6.1 -- -- -- -- 36 15 100 7.2

01613450 LICKING CREEK NEAR HUSTONTOWN, PA. (LAT 40 00 56 LONG 76 02 33)

MAY
12... 5.2 -- -- -- -- 54 5 136 6.0

01614140 BACK CREEK NEAR CHAMBERSBURG, PA. (LAT 39 53 35 LONG 77 44 30)

HAY
11... 4.0 -- -- -- -- 100 14 224 6.3 21.5

01636900 WHITE RUN NEAR GETTYSBURG, PA. (LAT 39 47 45 LONG 77 11 50)

MAY
07... 8.3 -- -- -- -- 86 29 213 7.2

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN PENNSYLVANIA

SUSPENDED-SEDIMENT DISCHARGE MEASUREMENTS, WATER YEAR OCTOBER 1969 TO SEPTEMBE" 1970

DATE

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OCT 1, 1969
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OCT 28.. ....
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NOV 11. .....
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DEC 1......
DEC 2.. ....

DEC 8. .....

DEC 12... ...
DEC 16..... .
DEC 22. .....
DEC 22......
MAR 5, 1970

MAR 6.. ....
MAR 12... ...
MAR 17. .....

MAR 25... ...

MAR 25. .....
MAR 29. .....
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APR 2. .....
APR 10. .....
APR 14. .....
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OCT 6, 1969

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DEC 7......
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1230 255
1410 306
0730 9.

0800 4.
0800 3.
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SUSPENDED-
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(TONS/DAY) DATE

DELAWARE RIVER BASIN

RAND AVENUE, PHILADELPHIA, PA

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SUSQUEHAN

01545500 WEST BRANCH SUSOUEHANNA RIVER

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YOUNG WOMANS CREEK NEAR

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SUSPENDED-
3NCEN- SEDII^E^T
RATION DISCHARGE

MG/L) (TONS'BAY)

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8 .12
185 6.5
11^0 206
3660 4180
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7 .03
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. 05

45800
42600
28200
17700
8270

00
49
13
05
69

277
97
63
47
19

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN PENNSYLVANIA

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

MAY

MAY
MAY

MAY
MAY
MAY
MAY
MAY

MAY
MAY
MAY
MAY
MAY

MAY

MAY
MAY
MAY

MAY

MAY

MAY

MAY
MAY
MAY
MAY

JUN
JUN
JUN
JUN
JUN

JUN
JUN
JUN
JUN
JUN

JUL
JUL
JUL

JUL
JUL
JUL
JUL
JUL

JUL
JUL
JUL
JUL
JUL

JUL
JUL
JUL
JUL

FEB
APR
APR
APR

APR
APR
APR
APR

DATE

15. .....

16... ...
16.. ....

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17.....
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2, 1970
2.. ....
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9. .....
9. .....

10......
10.. ....
10. .....
10. .....
10.. ....

10......
10. .....
10. .....
15. .....

10.. ....
2. .....
2......
2. .....

2......
2.. ....
2... ...
2... ...

TIME

1400

0830
1900

0830

1830
1215

1700
2215
0530

0900

0825

1915

0830

1930

0930
1430
2030
0800

0845
1030
1930
1525
1625

1900
2230
0845
1300
1000

1700
1645
1300

1140
1345
2040
2005
2225

0240
0515
0750
1020
1200

1215
1410
1830
2025

1155
0200
0300
0415

0525
0650
0840
0940

SUSPENDED-
CONCEN- SEDIMENT
DISCHARGE TRATION DISCHARGE

(CFSI (MG/L) (TONS/DAY) DATE TIME

SUSOUEHANNA RIVER BAS IN--CONT I NUEB

900
932

1030
1010

2388

2925
2550

2496
2388
2246

1700

2906 4

2830

2212

2046

1790
1715
1598
1420

628
298
223
342
335

592
610
486
503
210

125
120
156

9.6 1
7.2 1
8.6
39 5
118 19

144 9
138 5
133 4
86 3
63 2

58 2
47 2
35 2
16 4

01577500 MUDDY C

850 6
297
327
367 1

439 2
573 4
790 9
815 8

5 36
6 40
9 54
6 44
3 35

9 638
0 812
6 758
4 426
0 138

4 162
6 168
0 121
4 80
5 82

4 64
3 57
6 3580
3 1750
9 1080

5 497
3 281
4 143
1 123
6 88

7 90
1 53
2 56
2 52
8 31

7 12
4 3.2
3 1.8
tO 37
2 74

4 54
>5 107
LI 14
8 11
3 1.7

2 .65
2 .84

6 3.0

)8 2.1
9 2.1
33 62
0 631

8 380
4 218
LI 148
5 80
9 37

9 37
»3 31
L9 21
7 19

EEK AT CASTLE FIN,

0 1920
34 1390
»7 38
38 78
5 163

*1 286
78 740
38 2130
7 1890

JUL 15.
JUL 16.
JUL 16.
JUL 16.

JUL 16.
JUL 17.
JUL 17.
JUL 17.
JUL 18.

JUL 22.
JUL 29.
JUL 30.
JUL 30.
JUL 30.

JUL 30,
JUL 31.
JUL 31.
JUL 31.
JUL 31.

AUG 1.
AUG 5.
AUG 12.
AUG 19.
AUG 26.

AUG 31.
AUG 31.
AUG 31.
AUG 31.
AUG 31.

SEP 1.
SEP 9.
SEP 15.

SEP 15.

SEP 15.
SEP 16.

SEP 23.
SEP 30.

JUL 26,
AUG 2.
AUG 6.
AUG 19.
AUG 20.

AUG 20.
AUG 31.
SEP 3.
SEP 27.
SEP 27.

SEP 27.
SEP 27.
SEP 27.

PA. ILAT

PR 2.
PR 2.
PR 2.
PR 2.

PR 2.
PR 2.
PR 3.
UL 10.

. . . . 2105
. . . . 0755
. . . . 1110
. . . . 1645

. . . . 2145
. . . . 0840
. . . . 1400
. . . . 1915
. . . . 1145

. . . . 1015
. . . . 1100
. . . . 0800
. . . . 1115
. . . . 1415

. . . . 2000
. . . . 0800
. . . . 1220
. . . . 1520
. . . . 2010

. . . . 0910
. . . . 1100
. . . . 1520
. . . . 1115
. . . . 2045

. . . . 1430
. . . . 1530
. . . . 1705
. . . . 1935
. . . . 2305

. . . . 1000
. . . . 1350
. . . . 1420

. . . . 1625

. . . . 2200
. . . . 0900

. . . . 1245
. . . . 1210

1970 1200
. . . . 1745
. . . . 1500
. . . . 1635
. . . . 1655

. . . . 1940
. . . . 1930
. . . . 1930
. . . . 1045
. . . . 1250

. . . . 1455
. . . . 1715
. . . . 1930

39 46 21 LONG

. . . . 1530
. . . . 1635
. . . . 1740
. . . . 1830

. . . . 1905
. . . . 2100
. . . . 1245
. . . . 1215

CONCEN-
DISCHARGE TRATION

(CFS) IMG/ LI

426
1210
1150
1110

1040
710
655
619
520

401
186
435
469
418

358
444
1030
847
682

583
210
110
80
80

478
610
610
529
418

236
76
556

556

342
335

130
210

6.7
47
24
6.2
13

11
10
7.6
17
23

32
30
23

76 18 58)

850
996
1158
1381

1479
1284
634
805

163
77
134
93
48

58
26
21
16
10

5
3
86
41
23

13
18
248
156
33

22
5
3
3
3

28
195
137
83
48

12
2
40
116
69

143
54
15
9
5

4
2
2

85
95
16
52
92

66
73
254
483
277

426
352
236

746
991
1360
1870
2540

2545
3790
210
629

SUSPENDED-
SEDIMENT
DISCHARGE

(TONS/DAY)

110
89
438
289
144

163
50
37
27
14

5.4
1. 5
101
52
26

13
22
690
357
61

35
2.8
. 89
. 65
. 65

36
226
226
119
54

7.6
. 41
60
200
104

171
50
14
7.
3.

2.
. 0
1.

1.5
12
1.0
. 87
3.2

2.0
2.0
5.2
22
17

37
29
15

1560
2270
3660
5850
9470

10200
13100
359
1370

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN PENNSYLVANIA

SUSOUEHANNAH RIVER BASIN--CONTINUED

DCT 1, 1969.
DCT 8.......
OCT 15.......
OCT 22.......
DCT 29.......

NOV 5.......
NOV 8.......
NOV 9.......
NOV 10.......
NOV 19.......

NOV 20.......
NOV 21.......
NOV 26.......
DEC 3.......
DEC 11.......

DEC 12.......
DEC 13.......
DEC 17.......
FEB 3, 1970.
FEB 5.......

FEB 11.
FEB 16.
FEB 25.
MAR 4.
MAR 11.

MAR 12.
MAR 18.
MAR 25.
MAR 27.
MAR 26.

PR 2.

SUSPENDED-SEDIMENT DISCHARGE, WATER

MEAN
DISCHARGE

(CFS)

69
53
35
76
44

320
836
1530
689
367

1230
1130
646
401
2920

2420
1670
878
3500
2680

1100
721
878
520
583

547
435
646
3730
3330

4720
6550
4940
3770
3230

2700
2750
6700
4630
3650

3330
4120
1450
2480

MEAN
CONCEN-
TRATION

(MG/L)

1
1
1
1
1

5
57
46
8
6

43
15
5
4
106

25
15
5
220
29

15
7
8
5
22

13
18
12
170
50

428
210
83
22
15

10
10
280
63
25

15
38
7
59

SUSPENDED-
SEDIMENT
DISCHARGE

(TONS/DAY)

0.19
. 14
. 09
. 21
. 12

4.3
193
213
19
5.9

149
46
8.7
4.3
965

163
76
12
2060
210

45
14
19
7.0
35

19
21
21
1760
450

7600
3600
1110
224
131

73
74
5070
822
246

135
423
27
628

YEAR OCTOBER 1969

DATE

APR 26...... .
APR 28.......
APR 29.......
MAY 6. ......

MAY 13.......

MAY 16. ......

MAY 26. ......

JUN 3.......
JUN 10..... ..

JUN 19. ......
JUN 24. ......

JUL 8.. .....

JUL 17..... ..
JUL 18.... ...
JUL 22.......

AUG 1.......
AUK 5 ....

AUG 19... ....

SEP 1.......

SEP 15. ......
SEP 16. ......

SEP 17.......

TO SEPTEMBER 1970

MEAN
DISCHARGE

(CFS)

3310
2090
1690
795

444
1060
976
1060
2460

2570
2140
1670
2440
2230

1610
1420
664
296
230

359
486
204
130
120

1130
700
529
401
637

547
210
115
64
84

325
236
76
262
305

198
130
210

MEAN
CONCEN-
TRATION

(MG/L)

33
14
11
6
5

4
41
20
16
64

26
18
14
110
25

12
6
7
4
3

26
14
3
1
2

97
27
11
5
82

18
5
3
3
3

45
17
2
35
13

5
2
2

SUSPENDED-
SEDIMENT
DISCHARGE

(TONS/DAY)

350
125
62
27
11

4.8
123
53
46
443

194
104
63
847
151

59
31
13
3.2
1.9

37
18
1.7
. 35
. 65

296
51
16
5.4
178

27
2.8
. 93
. 66
. 66

59
11
. 41
42
11

2.7
. 70
1.1

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

(METHODS OF ANALYSIS: B, BOTTOM WITHDRAWAL TUBEl C. CHEMICALLY DISPERSEDl N, IN NATIVE WATERt P PIPETl
Vt VISUAL-ACCUMULATION TUBEl Wt IN DISTILLED WATERI

WATER
TEM-
PERA-

PARTICLE SIZE

CONCEN- SEDIMENT PERCENT FINER THAN THE SIZE (IN MILLIMETERS! INDICATED

(MG/L) (TONS/DAY! .002 .004 .008 .016 .031 .062 .125 .250 .500 1.00 2.00

DELAWARE RIVER BASIN

NOV 20 1969
DEC 22.....

MAR 29 1970
APR 2.....

APR 15. ....

JUN 21. ....
AUG 23.....

0735 8.0
1230 4.0

0800 5.0

0815 8.0

0915 22.0

14
255

378

76

653

145 5.5

255 52

2320 4090

69 81 91 97 99 99 100

38 49 60 73 86 98 99 100 39 49 65 85 97 99 100

23 32 45 66 84 89 94

- - SCBW

- - SCBW
- - SCPW

100 -- SCPW
99 100 -- SCPW

SUSOUEHANNA RIVER BASIN

01545500 WEST BRANCH SUSOUEHANNA RIVER AT RENOVQ, PA. (LAT 41 19 30 LONG 77 45 05)

0 4.0 52120 270 38100 25 36 49 62 74 64 94 98 99 100

01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA. ILAT 41 23 22 LONG 77 41 28)

90 99 100
118 168 12 23 30 41 52 64 61 96 100

01553170 WARRIOR RUN AT MCEWENSVILLE, PA. (LAT 41 04 26 LONG 76 50 01)

0 140 581 220 -- 74 88 94 95 99 100

SEP
18...D

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES IN DELAWARE

CHEMICAL ANALYSES, HATER YEAR OCTOBER 1969 TO SEPTEMBER 1970

DIS-
SOLVES
CAL-
DIS- CIUM

CHARGE (CAI
(CFSI (HG/LI

DIS-
SOLVED
MAG-
NE-
SIUM

(MSI
(MS/LI

DIS-
DIS- SOLVED
BIS- SOLVED DIS- ORTHO
BICAR- SOLVES CHLO- SOLVED PHOS-BONATE SULFATE RIDE NITRATE PHATE

(HC03I (S04) (CD (N03I (P04) (HG/LI (MG/L) (MS/LI (MS/LI (MS/L)

SPE-
NON- CIFIC
CAR- CON-
HARD- BONATE DUCT-
NESS HARD- ANCE

(CA.MS) NESS (MICRO-
(MS/L) (MG/L) MHOS)

SIN

01477400 SOUTH BRANCH NAAMAN CREEK NEAR CLAYMONT, DEL. (LAT 39 40 00 LONS 75 29 40)

28 16 5.5 50 8.0 21 12 .05 63 22

01479500 HILL CREEK AT STANTON, DEL. (LAT 39 42 50 LONG 75 40 001

5 12 4.8 52 16 11 6.1 .03 50 7

ST. JONES RIVER BASIN

01483650 FORK BRANCH AT DUPONT, DEL. (LAT 39 11 56 LONG 75 34 401

01 -- 4.0 96 16 13 3.5 l.n 97 18

01483680 MAIDSTDNE BRANCH AT DUPONT, DEL. (LAT 39 11 18 LONG 75 34 04)

59 7.0 2.8 26 11 11 14 .24 29 8

KURDERKILL RIVER BASIN

01484020 BROWNS BRANCH NEAR HOUSTON, DEL. (LAT 38 57 31 LONS 75 30 33)

10 2.7 32 16 12 18 1.1 36]

01484050 PRATT BRANCH NEAR FELTON, DEL. (LAT 39 00 37 LONS 75 31 46)

7.2 4.2 13 26 12 20 .05 36 2

01484060 DOUBLE RUN NEAR MAGNOLIA, DEL. (LAT 39 03 16 LONG 75 29 43)

4.2 ' 3.2 14 .7 11 17 .02 24]

BROADKILL RIVER BASIN

01484240 PEMBERTON BRANCH NEAR MILTON, DEL. (LAT 3B 46 26 LONG 75 20 29)

2.0 .8 12 1.3 7.1 6.0 .03 9

01484270 BEAVERDAM CREEK NEAR MILTON, DEL. (LAT 38 45 41 LONG 75 16 03)

4.2 1.7 4 4.4 13 25 2.1 18 I

INDIAN RIVER BASIN

01484550 PEPPER CREEK AT DAGSBORO, DEL. (LAT 38 32 50 LONG 75 14 40)

2.2 9 16 12 7.8 .04

NANTICOKE RIVER BASIN

01487700 ELLIOTT POND BRANCH NEAR LAUREL, DEL. (LAT 38 34 39 LONG 75 31 421

3.5 1.5 15 3.2 6.5 15 15

A INCLUDES 3 PLATINUM COB
B INCLUDES 7 PLATINUM COB
C INCLUDES 25 PLATINUM COB
D INCLUDES 20 PLATINUM COB
E INCLUDES 12 PLATINUM COB

S OF COLOR.

S OF COLOR.

INDEX

Ac idi ty ....

Riverdale , lid ....

near Hyattsville, Md ....

Delaware. ....

New Jersey. ....

Pennsylvania.. ....

Androscoggin River basin. ....

Arbutus, Md. , East Branch Herbert Run at.

Arsenic.... ....

Auburn, Maine, Androscoggin River near... Axemann, Pa., Spring Creek near. ....

Bald Eagle Creek, at Blanchard, Pa.......

near Milesburg, Pa. .... Baring, Maine, St. Croix River at........ Barium... .... Barnum, W. Va., North Branch Potomac Rive
at. ....

Delaware River near. .... Batten Kill at Middle Falls, N.Y.........

Hudson River at. .... Bear Mountain, N.Y., Hudson River at..... Beaver Kill at Cooks Falls, N.Y..........

Bel Air, Md . , Bynum Run at .... Bel Pre Creek at Layhill, Md ....

Berne, Pa., Schuylkill River at. .... Bethlehem, Pa., Lehigh River at. ....

Bingham, Maine, Kennebec River at........ Biochemical oxygen demand. .... Biological and microbiological informatio

Blanchard, Pa., Bald Eagle Creek at......

Brandywine Creek, at Chadds Ford, Pa..... at Wilmington, Del. ....

River at. ....
Broadkill River basin. .... Bromide. ....

Bynum Run at Bel Air, Md ....

Cacapon River near Great Cacapon, W. Va..

Calc ium. ....

Catskill, N.Y. , Hudson River at. ....

Chaptico Creek at Chaptico, Md ....

Chemical oxygen demand. ....

Loon Lake near. .... Chloride. ....

Chromium. .... Cleverly, Md. , Nursery Run at .... Coastal River basins. .... Cobalt. .... Coeymans, N.Y., Hudson River at ....

River near. ....

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. 572

..... 576

. . 626-629
.... 669

..... 650-653

..... 654-668

. . . 33-36,603

. 525

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. 36
. 485

..... 489-490

. 486-487
. 26
... .. 13

..... 529

..... 313
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..... 214-215
. 304

..... 491-496
..... 521
..... 573

..... 397-401
..... 342
..... 10
32
..... 18
n. .. . 18-19

..... 489-490

. 429-433
433-436
..... 131
..... 560-561
. 451

..... 364-370
..... 669
..... 11
..... 100
..... 521

..... 540
..... 13

..... 170-171
..... 429-433
..... 577

..... 18
..... 4
. 464-465

..... 129
..... 11

..... 13
. 573
.. 608-611,612
..... 13
. 190-191

. 574-575

Color. ....

Conestoga Creek at Lancaster, Pa. ....

a Wilder, Vt ....

Con ecticut River basin. .... 86-110 Con cocheaque Creek, at Fairview, Md. ......

Con doguinet Creek, tributary No. 1 near En Pa. ....

Coo s Falls, N.Y. , Beaver Kill at..........

Corinth, N.Y. , Hudson River at ....

Crescent Dam, N.Y. , Mohawk River at........

Dawsonville, Md., Seneca Creek at..........

Delaware Bay at Ship John Shoal Lighthouse, Delaware River, above Lackawaxen River, nea Barry ville, N.Y. ....

Pa.... ....

at Bristol, Pa. -Burlington, N. J. Bridge., at Chester, Pa. ....

Del.... ....
at Dunnf ield, N. J. .... at Easton, Pa. ....

at Montague , N. J. .... at Port Jervis, N.Y. ....

at Skinners Falls, N.Y...................

at Tre ton, N. J. .... East B anch, at Fishs Eddy, N.Y. .... near C llicoon, N.Y. ....

Delaware River basin
301-448,600-602,642-643,648-649,650-659

Dennysville, Maine, Dennys River at........ Density at 20°C. .... Dissolved oxygen. ....

Dunnf ield, N. J. , Delaware River at ....

East Hampton, Conn., Salmon River near..... East Stroudsburg, Pa., Delaware River

Easton, Pa., Delaware River at ....

Eddyville, N.Y. , Rondout Creek at..........

near. ....

Esopus Creek at Shandaken, N.Y.............

Fairview, Md. , Conococheaque Creek at...... Falls, Pa., Susquehanna River at ....

Fishkill Creek, at Beacon, N.Y. .... at Hopewell Junction, N.Y. ....

Fivemile Creek near Kanona, N.Y............ Fluoride. ....

Folsom, N. J. , Great Egg Harbor River at.... Foada, N.Y. , Cayadutta Creek at .... Mohawk River at ....

Fort Hunter, N.Y. , Schoharie Creek at......

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.... 518-519

.... 91-99
.... 86

,595,613,615
544-547

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.... 510-512
304
.... 21-23
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. . . . 136-137

72-74
181-183

.... 534-538

.... 567

N.J 301-303

313
314

390-396
364-370
418-423

437-443
325-328
331-337

310
320-321
315-317
444-148
348-349
312
.... 384-389
350-360
305-306
.... 311
.... 321-324
.... 329-330
.... 308-309
.... 307

,666,668-669
27
27
18
18

23
449
325-328

.... no

.... 321-324
331-337
, 343-347
. . . . 198
. 1
508-509
. . . . 510-512
194-196

, 361-364

544-547
.... 466

.... 102
, 211-212
.... 210

.... 463
11
295-300
170-171
.... 172

.... 173

Frederick, Md. , Monocacy River near. .... Fredericksburg, Va. , Rappahannock River near.

Front Royal, Va, , South Fork Shenandoah River

Genegantslet Creek at Smithville Flats, N.Y. . Georges Creek at Franklin, Md. .... Gilead, Maine, Wild River at ....

near West Milton, N.Y.... ....

Great Cacapon, W. Va. , Cacapon River near.... Great Egg Harbor Ri ver at Folsom, N. J. ....

Gwynns Falls at Villa Nova, Md. ....

near Orangeburg, N. Y. ....

Hadley, N. Y. , Sacandaga River at .... Hale Eddy, N. Y. , West Branch Delaware River a

Hanover, Mass., Indian Head River at .... Hanover, Va. , Pamunkey River near. ....

Harrisburg, Pa., Susquehanna River at........

Henryton, Md . , South Branch Patapsco River

Hollofield, Md. , Patapsco River at ....

near North Pownal, Vt ....

Housatonic River basin. .... Howard, Pa. , Bald Eagle Creek at ....

at Catski 11 , N. Y. ....

at Corinth, N.Y............................

at Hudson Falls, N.Y....................... at Mechanicville, N.Y......................

at Spier Falls, N.Y. .... at Stillwater, N.Y.........................

at Waterford, N.Y..........................

Hudson River basin. 128-220,618-625,634-63

Hyattsville, Md. , Northwest Branch Anacostia River near. ....

Iodide. ....

Johnson City, N.Y., Susquehanna River at... 45

Jones River basin. 60

Kanona, N.Y. , Fivemile Creek near. ....

Kennebec River at Bingham, Maine. ....

Kingston, Mass. , Jones River at .... Kitzmiller, Md., North Branch Potomac River

at Old Forge, Pa. ....

. 582-585

456
. 531-532
33-35

. 145-146
455
540
. 295-300

526

. 221-222

135
t 308-309

59-62
. 586-589

. 514-517
. 250-251

524

162-163

160-161

121-126
488

208-209

. 192-193

136 137

139
164

137-138
151-152

165-167

201-202

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