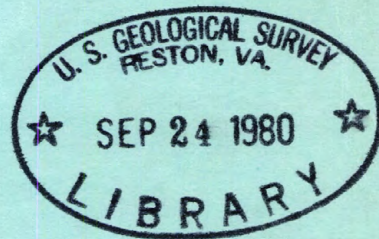


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Water Resources Data for West Virginia



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WV-79-1
WATER YEAR 1979

Prepared in cooperation with the State of
West Virginia and with other agencies

CALENDAR FOR WATER YEAR 1979

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Water Resources Data for West Virginia

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WV-79-1

WATER YEAR 1979

Prepared in cooperation with the State of
West Virginia and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

CECIL B. ANDRUS, Secretary

GEOLOGICAL SURVEY

H. William Menard, Director

For information on the water program in West Virginia write to
District Chief, Water Resources Division
U.S. Geological Survey
3017 Federal Building
Charleston, West Virginia 25301

1980

PREFACE

This report was prepared by personnel of the West Virginia district of the Water Resources Division of the U.S. Geological Survey under the supervision of D. H. Appel, District Chief, and J. E. Biesecker, Regional Hydrologist, Northeastern Region. It was done in cooperation with the State of West Virginia and with other agencies.

This report is one of a series issued by State. General direction for the series is by Philip Cohen, Chief Hydrologist, U.S. Geological Survey, and S. M. Lang, Acting Assistant Chief Hydrologist for Scientific Publications and Data Management.

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GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

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INTRODUCTION

Water resources data for the 1979 water year for West Virginia consist of records of stage, discharge, and water quality of streams and springs; stage and contents of lakes and reservoirs; and water levels of ground water. This report contains discharge records for 117 gaging stations; stage only records for 8 gaging stations; stage and contents for 7 lakes and reservoirs; contents for 1 reservoir; change in contents for 1 reservoir; water quality for 92 gaging stations; and water levels for 34 observation wells. Also included are 2 crest-stage partial-record stations and 1 low-flow partial record station. Additional water data were collected at various sites, not involved in the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in West Virginia.

Records of discharge or stage of streams, and contents or stage of lakes and reservoirs were first published in a series of U.S. Geological Survey water-supply papers entitled "Surface Water Supply of the United States." Through September 30, 1960, these water-supply papers were in an annual series and then in a 5-year series for 1961-65 and 1966-70. Records of chemical quality, water temperatures, and suspended sediment were published from 1941 to 1970 in an annual series of water-supply papers entitled "Quality of Surface Waters of the United States." Records of ground-water levels were published from 1935 to 1974 in a series of water-supply papers entitled "Ground-water Levels in the United States." Water-supply papers may be consulted in the libraries of the principal cities in the United States or may be purchased from Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, Va. 22202.

For water years 1961 through 1974, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1975 water year, water data for streamflow, water quality, and ground water are published as an official Survey report on a State-boundary basis. These official Survey reports carry an identification number consisting of the two letter State abbreviation, the last two digits of the water year, and the volume number. For example, this report is identified as "U.S. Geological Survey Water-Data Report WV-78-1." Water-Data reports are for sale by the National Technical Information Service, U. S. Department of Commerce, Springfield, Virginia, 22161.

Additional information, including current prices, for ordering specific reports may be obtained from the district chief at the address given on the back of the title page or by telephone (304) 343-6181, ext. 310.

COOPERATION

The U.S. Geological Survey and organizations of the State of West Virginia have had cooperative agreements for the systematic collection of streamflow records since 1895, for ground-water levels since 1941, and for water-quality records since 1969. Organizations that assisted in collecting data through cooperative agreement with the survey are:

West Virginia Department of Natural Resources, D. C. Callaghan, Director, through Division of Water Resources, D. W. Robinson, Chief.

West Virginia State Department of Highways, C. L. Miller, Commissioner.

West Virginia Geological and Economic Survey, R. B. Erwin, Director.

Clarksburg Water Board, G. S. Pritchard, Secretary and General Manager.

Morgantown Water Commission, T. E. Urquhart, Manager.

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, U.S. Soil Conservation Service, and U.S. Fish and Wildlife Service.

Assistance was also furnished by the National Weather Service of the U.S. Department of Commerce.

The following organizations aided in collecting records:

Appalachian Power Company and Monongahela Power Company.

Organizations that supplied data are acknowledged in station descriptions.

HYDROLOGIC CONDITIONS

Streamflow throughout the State was above normal from December through February, and during May, August and September. Streamflow in other months showed both above and below normal trends for the same periods. On an annual basis, approximate streamflow in the northeastern panhandle of the State was 120-140% of normal, 130-160% in the north, 130-140% in the central, and 170-180% in the south. Graphical illustrations of monthly and annual streamflow compared to a 30-year base period are shown for four stations in figures 4 and 4a.

Ground-water levels were generally above normal at year end throughout the State. Water levels were below normal from January through July in many counties located on a north-south line through the central part of the State while water levels elsewhere were above normal. Water levels were above normal throughout most of the State for the remainder of the water year.

During water year 1978, revisions were made in the terminology used to define 143 of the water-quality parameter codes that have been used by the Geological Survey in its publication of water-quality data and in its WATSTORE data system. These revisions were made to achieve consistency in terminology and to conform to a joint USGS-EPA agreement on terminology. They do not represent a change in the way the codes have been used in the past or in the association of specific code numbers with identified analytical procedures.

Use of the new terminology began with data for the 1978 water year and it first appeared in that publication. Definitions on which the terminology is based are included in the "Definitions" section of this report, and a table showing both old and new terminology is attached as an appendix to this report.

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting English units to International System of units (SI) on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet, or about 326,000 gallons, or 1,233 cubic meters.

Algae are mostly aquatic single-celled, colonial, or multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum algal dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

Aquifer is a geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

Artesian means confined and is used to describe a well in which the water level stands above the top of the aquifer, tapped by the well. A flowing artesian well is one in which the water level is above the land surface.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, others perform an essential role in nature in the recycling of materials; for example, by decomposing organic matter into a form available for reuse by plants.

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria which ferment lactose with gas formation within 48 hours at 35°C. In the laboratory these bacteria are defined as the organisms which produce colonies within 24 hours when incubated at 35°C ± 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5°C ± 0.2°C on M-FC medium (nutrient medium for bacteria growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Fecal streptococcal bacteria are bacteria found also in intestines of warm-blooded animals. Their presence in water is considered to verify fecal pollution. They are characterized as gram-positive, cocci bacteria which are capable of growth in brain-heart infusion broth. In the laboratory they are defined as all the organisms which produce red or pink colonies within 48 hours at 35°C ± 1.0°C on M-enterococcus medium (nutrient medium for bacteria growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material: See Bottom material.

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

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

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m³), and periphyton and benthic organisms in grams per square meter (g/m²).

Dry mass refers to the mass of residue present after drying in an oven at 60°C for zooplankton and 105°C for periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and ash mass, and represents the actual mass of the living matter. The organic mass is expressed in the same units for ash mass and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material is the unconsolidated material of which a streambed, lake, pond, reservoir, or estuary bottom is composed.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined.

Cells/volume refers to the number of cells of any organisms which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters.

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

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

Color unit is produced by one milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Contents is the volume of water in a reservoir or lake. Unless otherwise indicated, volume is computed on the basis of a level pool and does not include bank storage.

Control designates a feature downstream from the gage that determines the stage-discharge relation at the gage. This feature may be a natural constriction of the channel, an artificial structure, or a uniform cross section over a long reach of the channel.

Control structure as used in this report is a structure on a stream or canal that is used to regulate the flow or stage of the stream or to prevent the intrusion of salt water.

Cubic feet per second per square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (FT³/s, ft³/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second, 448.8 gallons per minute, or 0.02832 cubic meters per second.

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment), that passes a given point within a given period of time.

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

Instantaneous discharge is the discharge at a particular instant of time.

Dissolved refers to the amount of substance present in true chemical solution. In practice, however, the term includes all forms of substance that will pass through a 0.45-micrometer membrane filter, and thus may include some very small (colloidal) suspended particles. Analyses are performed on filtered samples.

Diversity index is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n}$$

Where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community. Diversity index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specified location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the river above the specified point. Figures of drainage area given herein include all closed basins, or noncontribution areas, within the area unless otherwise noted.

Drainage basin is a part of the surface of the earth that is occupied by a drainage system, which consists of a surface stream or a body of impounded surface water together with all tributary surface streams and bodies of impounded surface water.

Gage height (G.H.) is the water-surface elevation referred to some arbitrary gage datum. Gage height is often used interchangeably with the more general term "stage," although gage height is more appropriate when used with a reading on a gage.

Gaging station is a particular site on a stream, canal, lake, or reservoir where systematic observations of hydrologic data are obtained.

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate (CaCO_3).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

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

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

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

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

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

Not detected (ND) the substance was analyzed for but not detected.

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

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

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

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

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

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

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology.

The classification is as follows:

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

The particle-size distribution given in this report are not necessarily representative of all particles in transport in the stream. Most of the organic material is removed and the sample is subjected to mechanical and chemical dispersion before analysis in distilled water. Chemical dispersion is not used for native water analysis.

Percent composition is a unit for expressing the ratio of a particular part of a sample or population to the total sample or population, in terms of types, numbers, mass or volume.

Pesticides are chemical compounds used to control undesirable plants and animals. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

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

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

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

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

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

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

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

Milligrams of oxygen per area or volume per unit time [$\text{mg O}_2/(\text{m}^2 \cdot \text{time})$ for periphyton and macrophytes and $\text{mg O}_2/(\text{m}^3 \cdot \text{time})$ for phytoplankton] are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

Runoff in inches (IN, in) shows the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sediment is solid material that originates mostly from disintegrated rocks and is transported by, suspended in, or deposited from water; it includes chemical and biochemical precipitates and decomposed organic material such as humus. The quantity, characteristics, and cause of the occurrence of sediment in streams are influenced by environmental factors. Some major factors are degree of slope, length of slope, soil characteristics, land usage, and quantity and intensity of precipitation.

Suspended sediment is the sediment that at any given time is maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid.

Suspended-sediment concentration is the velocity-weighted concentration of suspended sediment in the sampled zone (from the water surface to a point approximately 0.3 ft above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L).

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or by volume, that passes a section in a given time. It is computed by multiplying discharge times mg/L times 0.0027.

Sediment (continued)

Suspended-sediment load is quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the sum of the suspended-sediment discharge and the bed-load discharge. It is the total quantity of sediment, as measured by dry weight or volume, that passes a section during a given time.

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

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

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in micromhos per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in micromhos). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

Substrate is the physical surface upon which an organism lived.

Natural substrates refers to any naturally occurring emerged or submersed solid surface, such as a rock or tree, upon which an organism lived.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrates are basket samplers (made of wire cages filled with clean streamside rocks) and multi-plate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

Surface area of a lake is that area outlined on the latest U.S.G.S. topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimeted. All areas shown are those for the stage when the planimeted map was made.

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

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

Suspended, recoverable is the amount of a given constituent that is in solution after the part of a representative water-suspended sediment sample that is retained on a 0.45 μ m membrane filter has been digested by a method (usually using a dilute acid solution) that results in dissolution of only readily soluble substances. Complete dissolution of all the particulate matter is not achieved by the digestion treatment and thus the determination represents something less than the "total" amount (that is, less than 95 percent) of the constituent present in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results. Determinations of "suspended, recoverable" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total recoverable concentrations of the constituent.

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 μ m membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total." Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

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

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

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

Tons per acre-foot indicates the dry mass of dissolved solids in 1 acre-foot of water. It is computed by multiplying the concentration in milligrams per liter by 0.00136.

Tons per day is the quantity of substance in solution or suspension that passes a stream section during a 24-hour day.

Total is the total amount of a given constituent in a representative water-suspended sediment sample, regardless of the constituent's physical or chemical form. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent present in both the dissolved and suspended phases of the sample. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total." (Note that the word "total" does double duty here, indicating both that the sample consists of a water-suspended sediment mixture and that the analytical method determines all of the constituent in the sample.)

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

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

Weighted average is used in this report to indicate discharge-weighted average. It is computed by multiplying the discharge for a sampling period by the concentrations of individual constituents for the corresponding period and dividing the sum of the products by the sum of the discharges. A discharge-weighted average approximates the composition of water that would be found in a reservoir containing all the water passing a given location during the water year after thorough mixing in the reservoir.

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

WSP is used as an abbreviation for "Water-Supply Paper" in references to previously published reports.

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, the order of listing hydrologic-stations records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indentation in a list of stations in the front of the report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete 8-digit number for each station such as 03041000, which appears just to the left of the station name, includes the 2-digit part number "03" plus the 6-digit downstream order number "041000".

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The 8-digit downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

The well and miscellaneous site numbering system of the U.S. Geological Survey is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude and the last 2 digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 1 below.

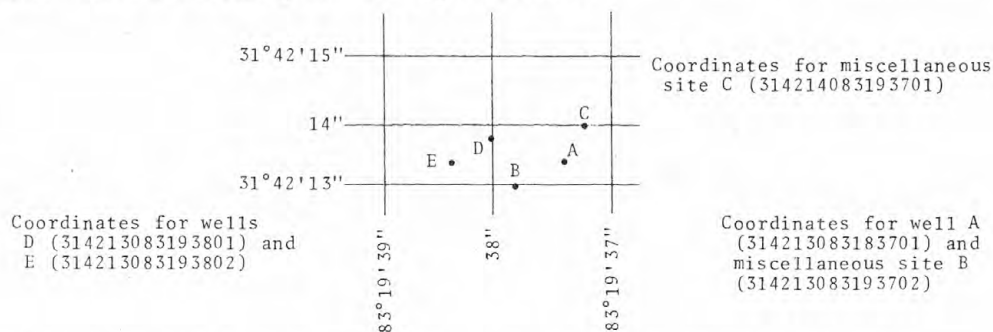


Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude)

SPECIAL NETWORKS AND PROGRAMS

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 physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

National stream-quality accounting network (NASQAN) is a data collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

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

EXPLANATION OF STAGE AND WATER-DISCHARGE RECORDS

Collection and computation of data

The base data collected at gaging stations consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and contents of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from either direct readings on a nonrecording gage or from a water-stage recorder that gives either a continuous graph of the fluctuations or a tape punched at selected time intervals. Measurements of discharge are made with a current meter, using the general methods adopted by the Geological Survey. These methods are described in standard text-books, in Water-Supply Paper 888, and in U.S. Geological Survey Techniques of Water Resources Investigations, book 3, chapter A6.

For stream-gaging stations, rating tables giving the discharge for any stage are prepared from stage-discharge relation curves. If extensions to the rating curves are necessary to express discharge greater than measured, they are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, computation of flow over dam or weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharge are computed from the daily figures. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes by engineers and observers are used in applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the control, the daily mean discharge is computed by what is basically the shifting-control method.

At some stream-gaging stations the stage-discharge relation is affected by the backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

At some stream-gaging stations the stage-discharge relation is affected by ice in the winter, and it becomes impossible to compute the discharge in the usual manner. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge for other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some gaging stations there are periods when no gage-height record is obtained or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records for other stations in the same or nearby basins. Likewise daily contents may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

The data in this report generally comprise a description of the station and tabulations of daily and monthly figures. For gaging stations on streams or canals a table showing the daily discharge and monthly and yearly discharge is given. For gaging stations on lakes and reservoirs a monthly summary table of stage and contents or a table showing the daily contents is given. Tables of daily mean gage heights are included for some streamflow stations and for some reservoir stations. Records are published for the water year, which begins on October 1 and ends on September 30.

The description of the gaging station gives the location, drainage area, period of record, notations of revisions of previously published records, type and history of gages, general remarks, average discharge, and extremes of discharge or contents. The location of the gaging station and the drainage area are obtained from most accurate maps available. River mileage, given under "LOCATION" for some stations, is that determined and used by the Corps of Engineers or other agencies. Periods for which there are published records for the present station or for stations generally equivalent to the present one are given under "PERIOD OF RECORD."

Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual or compilation reports. In order to make it easier to find such revised records, a paragraph headed "REVISED RECORDS" has been added to the description of all stations for which revised records have been published. Listed therein are all the reports in which revisions have been published, each followed by the water years for which figures are revised in that report. In listing the water years only one number is given; for instance, 1965 stands for the water year October 1, 1964 to September 30, 1965. If no daily, monthly, or annual figures of discharge are affected by the revision, the fact is brought out by notations after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

The type of gage currently in use; the datum of the present gage referred to National Geodetic Vertical Datum; and a condensed history of the types, locations, and datums of previous gages used during the period of record are given under "GAGE." National Geodetic Vertical Datum is explained in the section, "DEFINITION OF TERMS."

Information pertaining to the accuracy of the discharge records and to conditions which affect the natural flow of the gaging station is given under "REMARKS." For reservoir stations information on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir is given under "REMARKS."

The average discharge for the number of years indicated is given under "AVERAGE DISCHARGE"; it is not given for stations having fewer than 5 complete years of record or for stations where changes in water development during the period of record cause the figure to have little significance. In addition, the median of yearly mean discharges is given for stream-gaging stations having 10 or more complete years of record if the median differs from the average by more than 10 percent. Under "EXTREMES" are given first, the extremes for the period of record, second, information available outside the period of record, and last, those for the current year. Unless otherwise qualified, the maximum discharge (or contents) is the instantaneous maximum corresponding to the crest stage obtained by use of a water-stage recorder (graphic or digital), a crest-stage gage, or a nonrecording gage read at the time of the crest. If the maximum gage height did not occur on the same day as the maximum discharge (or contents), it is given separately. Similarly, the minimum is the instantaneous minimum unless otherwise qualified. For some stations peak discharges are listed with EXTREMES FOR THE CURRENT YEAR; if they are, all independent peaks, including the maximum for the year, above the selected base with the time of occurrence and corresponding gage heights are published in tabular format. The base discharge, which is given in the table heading, is selected so that an average of about three peaks a year will be presented. Peak discharges are not published for any canals, ditches, drains, or for any stream for which the peaks are subject to substantial control by man. Time of day is expressed in 24-hour local standard time; for example, 12:30 a.m. is 0030, 1:30 p.m. is 1330. The minimums for these stations are published in a separate paragraph following the table of peaks.

The daily table for stream-gaging stations gives the mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also may be expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN"), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are omitted if there is extensive regulation or diversion, if the drainage area includes large noncontributing areas, or if the average annual rainfall over the drainage basin is usually less than 20 inches. In the yearly summary below the monthly summary, the figures shown are the appropriate daily discharges for the calendar and water years.

Footnotes to the table of daily discharge are introduced by the word "NOTE." Footnotes are used to indicate periods for which the discharge is computed or estimated by special methods because of no gage-height record, backwater from various sources, or other unusual conditions. Periods of no gage-height record are indicated if the period is continuous for a month or more or includes the maximum discharge for the year. Periods of backwater from an unusual source, of indefinite stage-discharge relation, or of any other unusual condition at the gage site are indicated only if they are a month or more in length and the accuracy of the records is affected. Days on which the stage-discharge relation is affected by ice are not indicated. The methods used in computing discharge for various unusual conditions have been explained in preceding paragraphs.

For most gaging stations on lakes and reservoirs the data presented comprise a description of the station and a monthly summary table of stage and contents. For some reservoirs a table showing daily contents or stage is given. A skeleton table of capacity at given stages is published for all reservoirs for which records are published on a daily basis, but is not published for reservoirs for which only monthly data are given.

Data collected at partial-record stations follow the information for continuous record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations, and the second is a table of annual maximum stage and discharge at crest-stage stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. Occasionally, a series of discharge measurements are made within a short time period to investigate the seepage gains or losses along a reach of a stream or to determine the low-flow characteristics of an area. Such measurements are also given in special tables following the tables of partial-record stations.

Accuracy of field data and computed results

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

The station description under "REMARKS" states the degree of accuracy of the records. "Excellent" means that about 95 percent of the daily discharges are within 5 percent; "good" within 10 percent; and "fair" within 15 percent. "Poor" means that daily discharges have less than "fair" accuracy.

Figures of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft³/s; to tenths between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures above 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the figure. The same rounding rules apply to discharge figures listed for partial-record stations.

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

Other data available

Information of a more detailed nature than that published for most of the gaging stations such as gage-height records and rating tables is on file in the district office. Also most gaging-station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the district office.

EXPLANATION OF WATER-QUALITY RECORDS

Collection and examination of data

Surface-water samples for analyses are usually collected at or near gaging stations. The quality-of-water records are given immediately following the discharge records at these stations. Where a surface-water daily-record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream order sequence.

The descriptive heading for water-quality records give the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, pH, dissolved oxygen, water temperature, sediment discharge, etc.); extremes for the period of daily record; extremes for the current year; and general remarks.

Water analysis

Most methods for collecting and analyzing water samples are described in the U.S. Geological Survey Techniques of Water-Resources Investigations listed on a following page.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

Chemical-quality data published in this report are considered to be the most representative values available for the stations listed. The values reported represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. In the rare case where an apparent inconsistency exists between a reported pH value and the relative abundance of carbon dioxide species (carbonate and bicarbonate), the inconsistency is the result of a slight uptake of carbon dioxide from the air by the sample between measurement of pH in the field and determination of carbonate and bicarbonate in the laboratory.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the district office.

Water temperature

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

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published.

Sediment

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

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

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

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

EXPLANATION OF GROUND-WATER LEVEL RECORDS

Collection of the data

Only ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for local needs. See figure 1.

Measurements are made in many types of wells, under varying conditions of access and at different temperatures, hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land surface datum is a datum plane that is approximately at land surface at each well; National Geodetic Vertical Datum of 1929 is the datum plane on which the national network of precise levels is based. If known, the altitude of the land-surface datum above National Geodetic Vertical Datum of 1929 is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (eom).

Water levels are reported to as many significant figures as can be justified by the local conditions. For example, in a measurement of a depth to water of several hundred feet, the error in determining the absolute value of the total depth to water may be a few tenths of a foot, whereas the error in determining the net change of water level between successive measurements may be only a hundredth or a few hundredths of a foot. For lesser depths to water the accuracy is greater. Accordingly, most measurements are reported to a hundredth of a foot, but some are given only to a tenth of a foot or a larger unit.

Thirty-four manuals by the U.S. Geological Survey have been published to date in the series on techniques describing procedures for planning and executing specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) is on surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises. The reports listed below are for sale by the U.S. Geological Survey, Branch of Distribution, 1200 South Eads Street, Arlington, VA 22202 (authorized agent of the Superintendent of Documents, Government Printing Office).

NOTE: When ordering any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations".

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-C1. *Fluvial sediment concepts*, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. *Computation of rate and volume of stream depletion by wells*, by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P. E. Greenson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis*, by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 8-A1. *Methods of measuring water levels in deep wells*, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

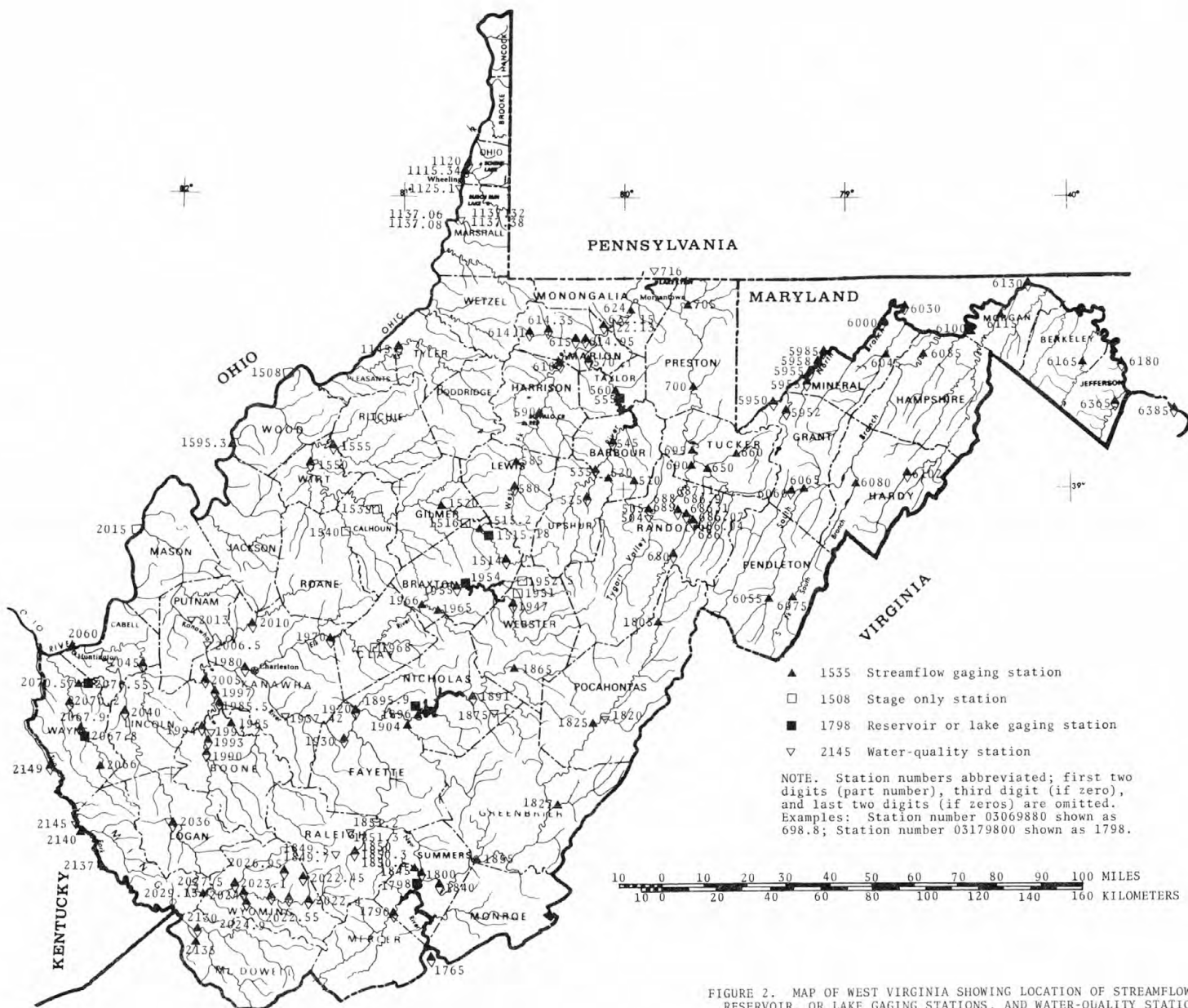


FIGURE 2. MAP OF WEST VIRGINIA SHOWING LOCATION OF STREAMFLOW, RESERVOIR, OR LAKE GAGING STATIONS, AND WATER-QUALITY STATIONS.

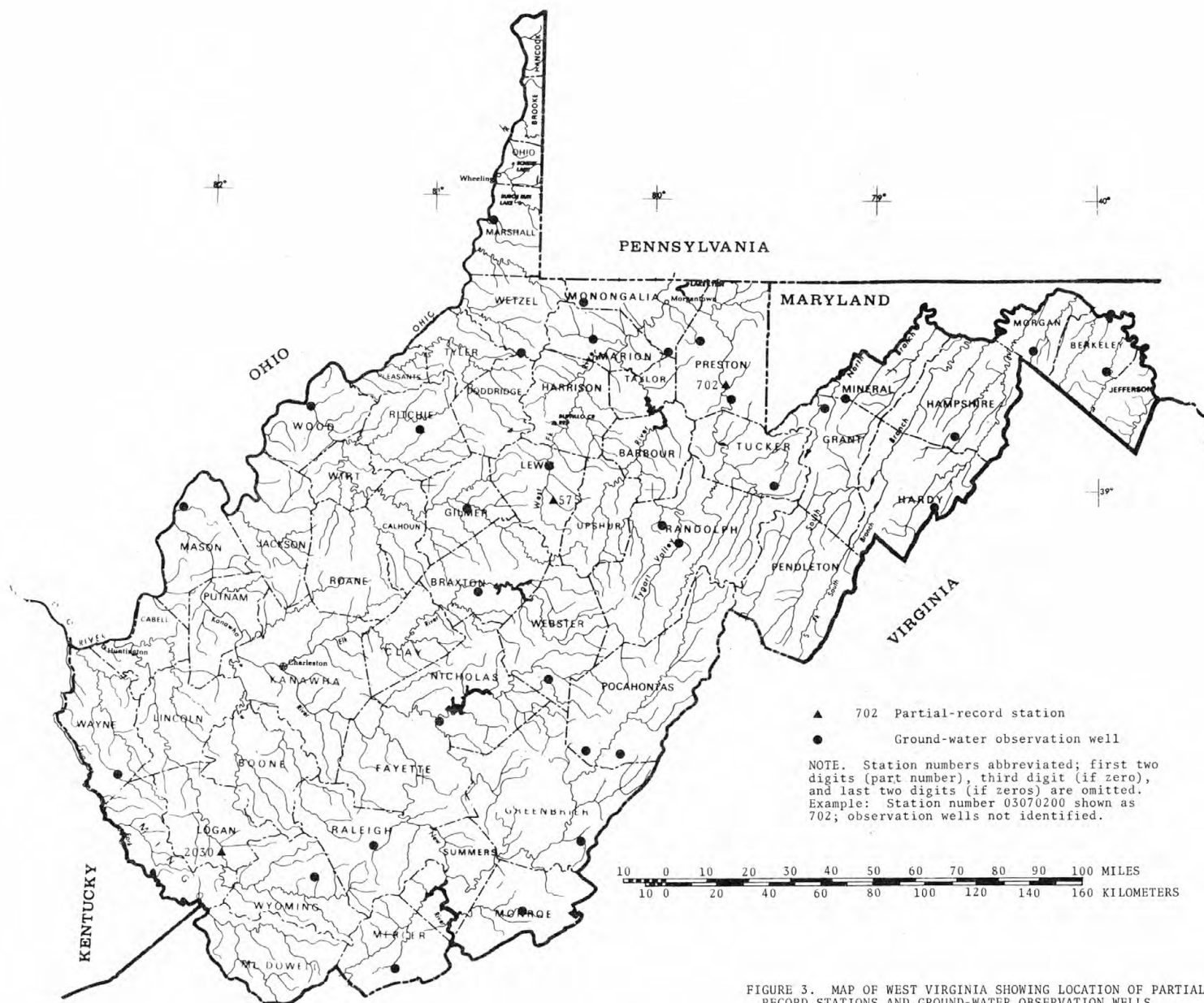


FIGURE 3. MAP OF WEST VIRGINIA SHOWING LOCATION OF PARTIAL-RECORD STATIONS AND GROUND-WATER OBSERVATION WELLS.

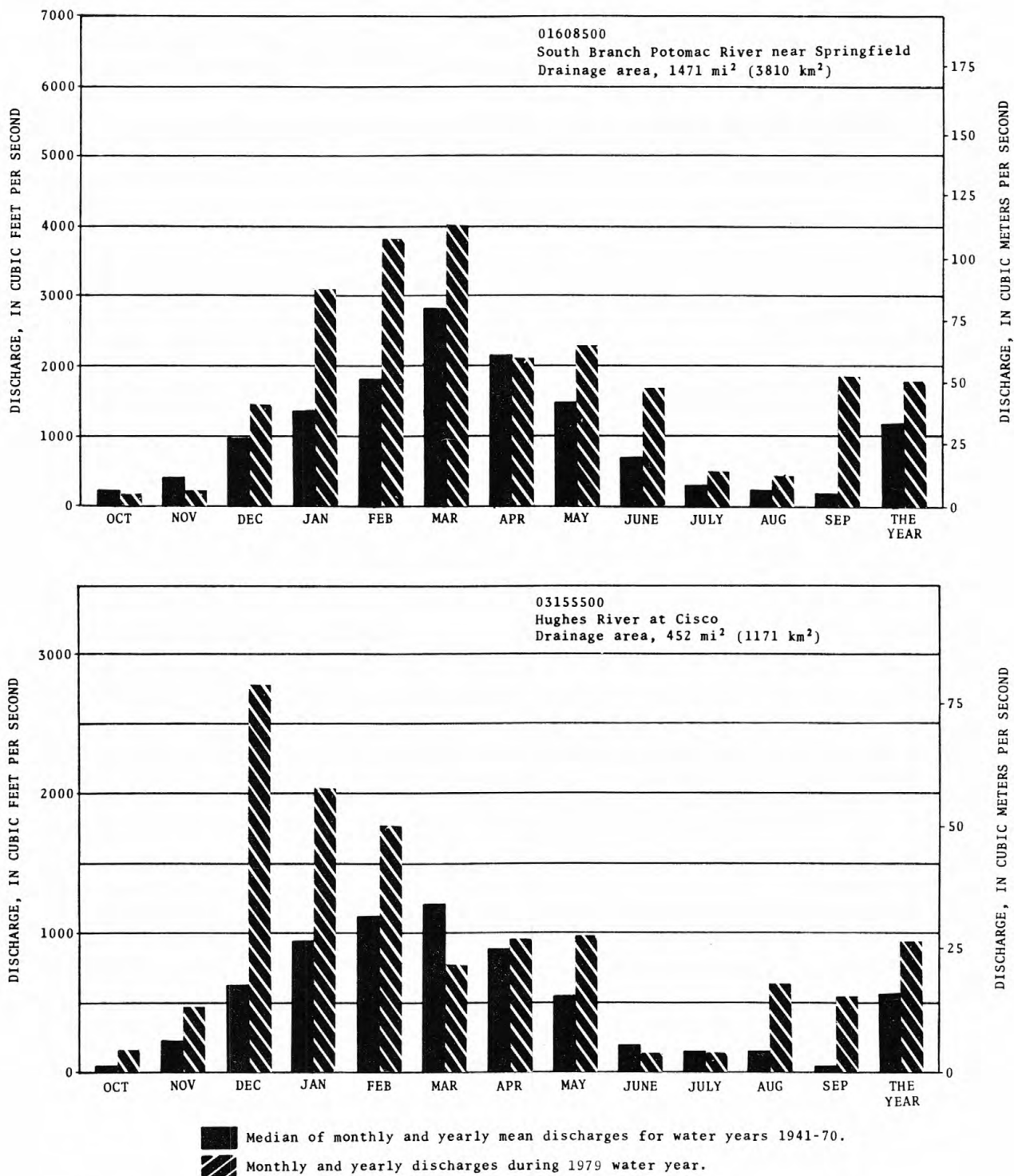


FIGURE 4.--DISCHARGE AT THE SOUTH BRANCH POTOMAC RIVER AND THE HUGHES RIVER INDEX GAGING STATIONS DURING THE 1979 WATER YEAR COMPARED TO MEDIAN DISCHARGE FOR THE PERIOD 1941-70

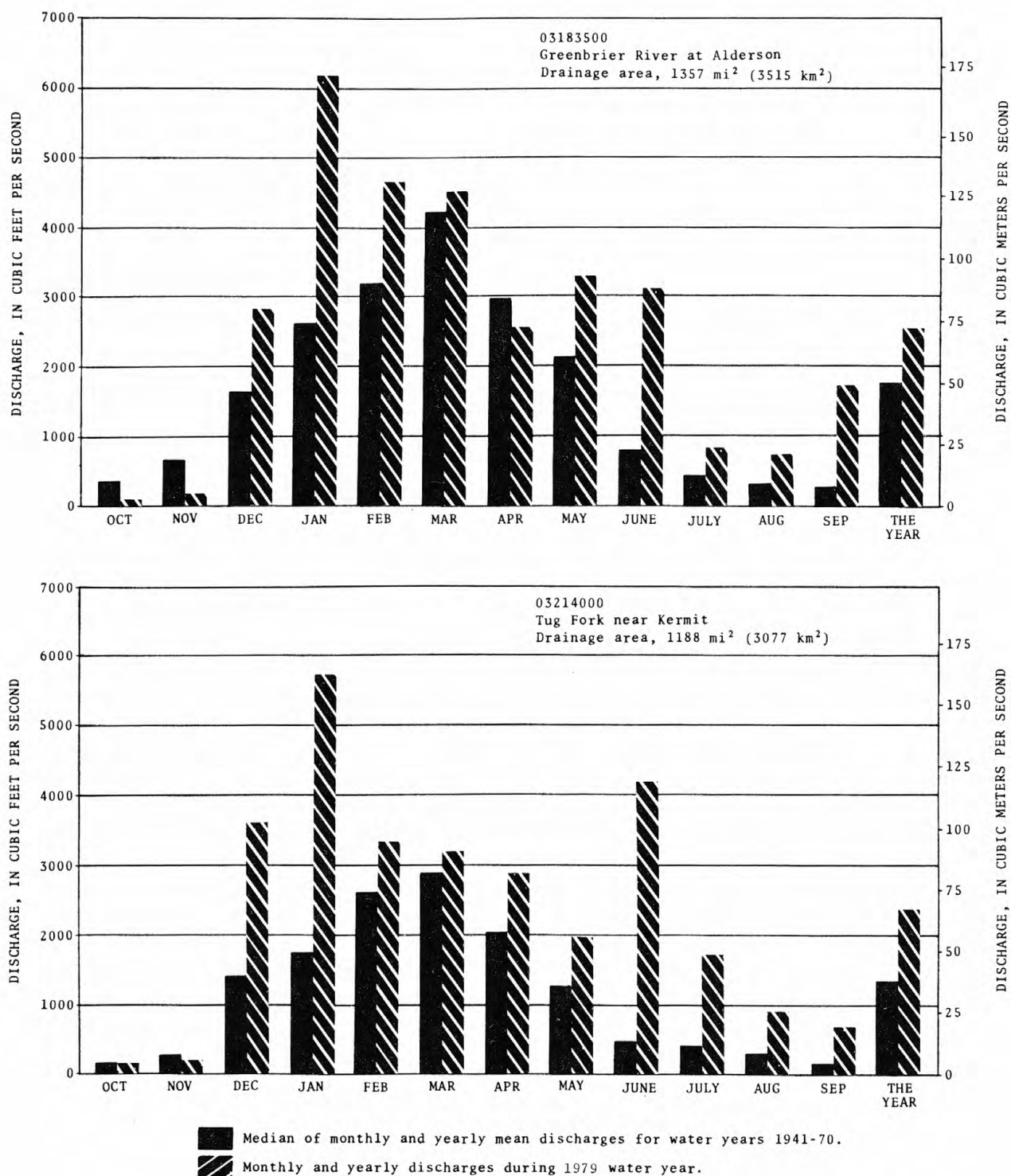


FIGURE 4a.--DISCHARGE AT THE GREENBRIER RIVER AND THE TUG FORK RIVER INDEX GAGING STATIONS DURING THE 1979 WATER YEAR COMPARED TO MEDIAN DISCHARGE FOR THE PERIOD 1941-70

01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD

LOCATION.--Lat 39°18'07", long 79°18'26", Garrett County, Hydrologic Unit 02070002, on left bank 0.3 mi (0.5 km) southeast of Steyer, 0.4 mi (0.6 km) downstream from Steyer Run, 2.0 mi (3.2 km) northeast of Gorman, and at mile 81.8 (131.6 km).

DRAINAGE AREA.--73.0 mi² (189.1 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1956 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,276.01 ft (693.728 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records fair except those for winter periods, which are poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--23 years, 173 ft³/s (4.899 m³/s), 32.18 in/yr (817 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,900 ft³/s (195 m³/s) July 3, 1978, gage height, 10.30 ft (3.139 m), from rating curve extended above 3,000 ft³/s (85.0 m³/s) on basis of slope-area measurement of peak flow; minimum, 2.9 ft³/s (0.082 m³/s) Sept. 10, 1965, gage height, 2.03 ft (0.619 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1954, reached a stage of 13.0 ft (3.96 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft³/s (62 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 21	0645	2840 80.4	6.88 2.097	Mar. 5	0745	2370 67.1	6.40 1.951
Feb. 24	2015	2860 81.0	6.90 2.103	May 12	2315	*2920 82.7	6.96 2.121

Minimum discharge, 11 ft³/s (0.31 m³/s) Oct. 11, gage height, 2.18 ft (0.664 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	37	150	624	120	347	229	155	181	23	21	38
2	19	35	130	850	100	532	490	137	156	40	23	40
3	17	33	320	460	100	680	420	132	173	29	22	90
4	21	29	860	390	100	1400	394	189	220	29	18	49
5	21	26	580	300	90	1890	407	212	148	200	15	100
6	17	22	350	270	75	1050	322	164	125	110	15	693
7	15	19	248	290	80	684	260	142	122	68	17	242
8	24	18	799	540	80	533	260	126	181	52	18	148
9	22	19	1250	350	70	477	250	111	128	43	22	112
10	18	19	629	270	70	486	260	115	103	38	25	93
11	14	18	398	230	65	500	230	216	115	36	128	77
12	15	18	294	200	70	350	209	674	96	34	274	62
13	15	19	237	180	70	300	188	1120	79	31	126	56
14	21	21	200	170	75	439	183	445	68	43	64	70
15	18	41	172	160	90	350	178	305	60	60	72	88
16	19	160	154	150	400	274	200	240	52	90	49	60
17	38	130	188	230	300	249	194	190	49	56	38	52
18	24	100	154	340	150	226	179	168	66	35	47	45
19	24	80	142	240	130	214	155	149	43	24	90	56
20	19	62	470	400	120	202	141	131	33	21	66	47
21	19	50	1450	950	300	184	126	119	30	33	52	123
22	19	43	670	640	600	168	119	108	34	48	45	307
23	20	38	416	460	700	156	310	104	32	46	37	162
24	24	48	374	360	1840	260	211	224	31	27	30	115
25	26	46	631	370	1640	350	181	732	27	21	40	90
26	29	43	370	310	1020	232	188	368	24	21	79	79
27	157	46	291	260	559	199	246	290	20	22	131	75
28	73	340	261	230	399	177	250	247	17	22	77	84
29	51	250	250	190	---	162	214	195	27	35	79	85
30	44	180	240	155	---	153	178	180	32	52	52	72
31	38	---	308	168	---	148	---	191	---	28	42	---
TOTAL	899	2040	13386	10737	9413	13372	7220	7879	2472	1417	1814	3410
MEAN	29.0	65.0	432	346	336	431	241	254	82.4	45.7	58.5	114
MAX	157	340	1650	950	1840	1890	490	1120	220	200	274	693
MIN	14	18	130	150	65	148	119	104	17	21	15	38
CFSM	.40	.93	5.92	4.74	4.60	5.90	3.30	3.48	1.13	.63	.80	1.56
IN.	.46	1.04	6.82	5.47	4.80	6.81	3.68	4.01	1.26	.72	.92	1.74
CAL YR 1978	TOTAL	78970	MEAN	216	MAX	3600	MIN	14	CFSM	2.96	IN	40.24
WTH YR 1979	TOTAL	74059	MEAN	203	MAX	1890	MIN	14	CFSM	2.78	IN	37.74

01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
APR 18...	1500	160	345	4.8	16.0	10.0	10.8
MAY 30...	1330	150	320	5.3	23.0	13.0	--
JUN 20...	0945	36	723	5.1	22.0	17.5	--
JUL 27...	1130	24	780	4.9	25.0	23.0	8.9
AUG 21...	1015	54	660	4.7	21.0	19.0	7.8
SEP 24...	1045	118	410	4.1	14.0	12.0	10.2

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
APR 18...	--	--	--	--	--	--	--	--	--	--	--
MAY 30...	120	120	.3	15	40	5.1	2.3	4	.1	3.3	1.0
JUN 20...	340	330	.0	.0	120	8.9	4.2	3	.1	--	1.8
JUL 27...	400	400	.0	.0	140	12	5.5	3	.1	7.6	2.1
AUG 21...	340	340	.0	.0	120	10	4.0	2	.1	5.8	1.8
SEP 24...	200	200	1.5	74	67	7.4	2.3	2	.1	3.6	1.3

DATE	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+N03 DIS- SOLVED (MG/L AS N)
APR 18...	--	--	140	--	--	--	--	--	--	--	--
MAY 30...	0	.0	120	2.6	.1	5.2	--	179	.24	72.5	.48
JUN 20...	4	--	340	2.8	.2	6.4	525	491	.71	51.0	.68
JUL 27...	2	49	400	3.5	.2	8.1	595	576	.81	38.6	.51
AUG 21...	0	.0	320	2.8	.2	6.6	501	467	.68	73.0	--
SEP 24...	0	.0	210	2.5	.2	6.3	335	303	.46	107	.44

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)
AUG 21...	1	0	0	2	<10	10	20	<10	12	20

POTOMAC RIVER BASIN

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01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)
APR 18...	2300	1400	940	--	--	--	330	0	340	--
MAY 30...	1300	980	320	--	--	--	320	0	320	--
JUN 20...	510	320	190	--	--	--	600	0	600	--
JUL 27...	400	340	60	--	--	--	810	20	790	--
AUG 21...	3200	2900	310	71000	8	20	850	0	890	140
SEP 24...	4800	2400	2400	--	--	--	610	50	560	--
DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, IN BOT- TOM MA- TERIAL (UG/G)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JUN 20...	--	--	--	--	--	--	--	5	.49	100
JUL 27...	--	--	--	--	--	--	--	9	.58	100
AUG 21...	<.5	.00	0	0	1	200	50	30	4.4	--
SEP 24...	--	--	--	--	--	--	--	25	8.0	--

POTOMAC RIVER BASIN

01595200 STONY RIVER NEAR MT. STORM, WV

LOCATION.--Lat 39°16'10", long 79°15'45", Grant County, Hydrologic Unit 02070002, on left bank 100 ft (30 m) downstream from highway bridge on U.S. Highway 50, 1.0 mi (1.6 km) west of Mt. Storm, and at mile 6.4 (10.3 km).

DRAINAGE AREA.--48.8 mi² (126.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,554.54 ft (778.624 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for October and February, which are poor. Flow regulated by Stony River Reservoir, 14.0 mi (22.5 km) upstream from station, capacity, 1,948,000,000 gal (7.373 hm³), of which 1,681,000,000 gal (6.363 hm³) is controlled above minimum pool. Since 1963, minor regulation by Virginia Electric and Power Company dam 4.0 mi (6.4 km) upstream from station.

AVERAGE DISCHARGE.--18 years, 98.3 ft³/s (2.784 m³/s), 27.35 in/yr (695 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,340 ft³/s (151 m³/s) July 3, 1978, from rating curve extended above 2,500 ft³/s (71 m³/s); gage height, 10.34 ft (3.152 m); minimum, 1.8 ft³/s (0.051 m³/s) July 13, 1968; minimum daily, 1.9 ft³/s (0.054 m³/s) July 13, 1968; minimum gage height, 1.79 ft (0.546 m), sometime during period Oct. 3-23, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,860 ft³/s (52.7 m³/s) Feb. 24, gage height, 6.86 ft (2.091 m); minimum, 3.2 ft³/s (0.091 m³/s), sometime during period Oct. 3-23, gage height, 1.79 ft (0.546 m), from minimum-stage indicator.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	4.0	44	311	39	287	68	98	164	30	19	15
2	4.4	4.0	41	413	32	162	136	89	114	30	23	15
3	4.1	3.8	73	297	28	164	166	87	40	26	20	21
4	4.5	3.7	271	256	24	343	215	98	60	116	17	20
5	5.0	3.6	182	232	21	580	223	101	46	81	16	116
6	4.5	3.4	162	217	17	570	210	89	42	53	14	640
7	4.2	3.7	172	265	17	525	187	84	41	45	12	570
8	6.0	4.3	386	308	17	444	180	77	46	43	12	417
9	5.7	4.3	750	244	16	387	182	72	48	42	12	315
10	4.3	4.2	262	215	15	256	180	73	48	43	14	200
11	3.6	4.5	138	190	14	156	170	148	51	44	31	73
12	4.0	4.1	136	172	14	220	160	154	48	41	98	31
13	3.8	4.5	136	132	13	217	156	375	43	42	42	30
14	4.2	4.6	148	95	13	229	160	331	40	48	24	46
15	5.0	6.4	166	89	15	210	162	283	36	53	26	81
16	5.4	46	172	87	244	187	166	232	34	55	17	71
17	9.7	40	162	134	156	166	164	74	36	50	15	36
18	9.1	27	144	140	130	67	148	71	40	47	15	22
19	7.0	16	130	120	120	68	132	71	37	45	17	24
20	5.6	12	180	150	130	72	118	68	34	43	15	22
21	4.5	11	462	444	200	73	99	68	30	40	15	67
22	3.6	9.3	205	355	287	73	49	64	29	36	15	158
23	3.3	8.6	172	290	371	74	98	67	27	33	14	200
24	4.0	13	175	413	1160	319	80	94	25	29	13	177
25	4.1	12	205	444	1300	391	74	274	24	27	12	162
26	4.2	9.3	187	359	992	283	99	202	23	29	15	152
27	10	14	180	301	673	229	168	207	21	25	23	146
28	5.7	85	175	253	520	81	140	265	19	23	17	144
29	4.3	47	164	57	---	42	122	250	38	26	15	128
30	4.0	46	150	46	---	38	108	215	35	27	14	110
31	3.4	---	192	41	---	38	---	188	---	22	14	---
TOTAL	155.6	459.3	6122	7070	6578	6951	4320	4569	1319	1294	626	4209
MEAN	5.02	15.3	197	228	235	224	144	147	44.0	41.7	20.2	140
MAX	10	85	750	444	1300	580	223	375	164	116	98	640
MIN	3.3	3.4	41	41	13	38	49	64	19	22	12	15
CFSM	.10	.31	4.04	4.67	4.82	4.59	2.95	3.01	.90	.86	.41	2.87
IN.	.12	.35	4.67	5.39	5.01	5.30	3.29	3.48	1.01	.99	.48	3.21
(†)	1315	1333	1175	1144	1208	1315	1345	1357	1431	1345	1456	1285
CAL YR 1978	TOTAL	40701.9	MEAN	112	MAX	2560	MIN	3.3	CFSM	2.30	IN	31.03
WTR YR 1979	TOTAL	43672.9	MEAN	120	MAX	1300	MIN	3.3	CFSM	2.46	IN	33.29

† Month-end contents, in millions of gallons, in Stony River Reservoir, furnished by West Virginia Pulp and Paper Co.

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1961 to March 1974, September 1974 to current year.

INSTRUMENTATION.--Temperature recorder since December 1961.

REMARKS.--Temperature recorder pen did not ink Oct. 1-3, July 28 to Aug. 22.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 27°C July 1, Aug. 22, 23, 1968; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 25.0°C July 24; minimum, 0.5°C Jan. 16, 17, and Feb. 6-15.

TEMPERATURE (°C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
(CONTINUOUS ETHYL ALCOHOL-ACTUATED THERMOGRAPH)

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
OCT 03...	1400	4.1	380	<4.0	17.0	13.0	--	--	--	--
NOV 14...	1200	4.5	--	7.3	18.0	8.5	--	--	--	--
DEC 27...	1430	169	150	6.0	.0	4.0	--	--	--	--
FEB 06...	1340	17	340	<5.0	7.0	.5	--	--	--	--
MAR 20...	1340	76	210	5.0	7.0	15.0	--	--	--	--
APR 18...	1600	131	125	5.2	--	14.0	43	41	.3	--
MAY 09...	1200	71	185	<3.0	27.0	19.0	--	--	--	--
JUN 19...	1405	36	255	5.0	28.0	21.0	--	--	--	--
JUL 25...	1230	28	250	5.0	25.0	23.0	--	--	--	--
SEP 05...	1200	20	300	<5.0	20.5	20.0	--	--	--	--
10...	1345	233	110	4.8	--	23.5	39	37	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
APR 18...	13	2.5	--	--	2	--	51	1.7	278	.38	98.3
SEP 10...	12	2.2	.8	.1	1	62	39	1.1	59	.08	37.1

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
APR 18...	--	--	--	--	--	2900	1100	1800	--
SEP 10...	0	<10	10	20	20	1700	--	970	28000

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR 18...	--	470	0	480	--	--	--	--
SEP 10...	<10	850	30	820	450	.00	0	50

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

[illegible]

01595300 ABRAM CREEK AT OAKMONT, WV

LOCATION.--Lat 39°22'00", long 79°10'45", Mineral County, Hydrologic Unit 02070002, on downstream side of right wingwall of highway bridge, 0.5 mi (0.8 km) east of Oakmont, 1.2 mi (1.9 km) downstream from Emory Run, 1.8 mi (2.9 km) southwest of Elk Garden, and at mile 1.9 (3.1 km).

DRAINAGE AREA.--42.6 mi² (110.3 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1956 to current year.

REVISED RECORDS.--WRD WV-78-1: Drainage area.

GAGE.--Water-stage recorder. Altitude of gage is 1,840 ft (560.8 m), from topographic map.

REMARKS.--Water-discharge records good except those for January and February, which are poor.

AVERAGE DISCHARGE.--23 years, 67.4 ft³/s (1.909 m³/s), 21.49 in/yr (546 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,310 ft³/s (65.4 m³/s) July 3, 1978, gage height, 8.17 ft (2.490 m), from rating curve extended above 1,200 ft³/s (34 m³/s) on basis of contracted-opening measurement at gage height 9.82 ft (2.993 m); minimum, 0.2 ft³/s (0.006 m³/s) Sept. 13-19, 1959, Sept. 14-18, 1964; minimum gage height, 1.48 ft (0.451 m) Sept. 16, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Aug. 18, 1955, reached a stage of 9.82 ft (2.993 m), from floodmarks, discharge, 3,830 ft³/s (108 m³/s), from rating curve extended above 1,200 ft³/s (34 m³/s) on basis of contracted-opening measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (20 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 24	1900	*1310 37.1	6.72 2.048	Mar. 5	0530	920 26.1	6.02 1.835
Feb. 26	0015	1190 33.7	6.51 1.984	Sept. 6	0130	1020 28.9	6.21 1.893

Minimum discharge, 3.5 ft³/s (0.099 m³/s) Oct. 23, minimum gage height, 2.18 ft (0.664 m) Oct. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	4.6	46	271	44	187	85	97	73	30	21	15
2	5.6	4.4	31	315	38	294	180	85	61	30	25	14
3	5.0	4.3	55	178	37	365	151	81	64	25	16	23
4	5.6	4.4	222	126	36	666	165	105	90	126	13	18
5	5.6	4.4	109	100	33	813	197	118	60	101	11	105
6	4.7	4.2	68	84	30	535	148	87	49	47	10	488
7	4.4	4.2	53	103	28	357	118	78	43	32	9.4	154
8	5.3	4.7	134	192	27	298	109	71	40	25	13	92
9	5.3	4.5	236	105	25	265	113	59	51	21	17	70
10	4.4	4.3	137	78	24	248	101	75	46	21	12	58
11	4.4	4.2	92	68	23	217	83	261	53	22	23	48
12	4.4	4.1	77	62	23	171	75	170	40	18	115	41
13	4.1	4.4	67	58	22	151	70	279	32	20	59	37
14	5.3	4.7	59	70	22	173	81	168	27	39	30	49
15	5.9	10	51	59	25	148	75	131	24	80	27	48
16	6.2	41	47	51	35	122	74	110	22	96	20	34
17	8.9	36	47	60	30	112	69	87	23	52	17	28
18	7.0	27	38	69	25	103	61	75	30	37	19	24
19	5.2	16	37	50	22	97	55	73	22	30	22	27
20	4.8	12	70	77	25	89	52	66	17	32	18	22
21	4.5	10	382	221	35	83	49	60	16	40	17	58
22	3.9	9.1	163	235	190	76	55	55	18	28	17	173
23	3.7	8.8	115	122	237	74	94	60	16	23	16	95
24	4.0	13	105	104	651	181	79	131	17	19	16	63
25	4.1	12	164	120	792	210	70	357	15	18	15	50
26	4.7	9.7	111	86	656	139	112	184	13	21	50	44
27	8.6	15	86	78	283	111	237	142	12	18	59	39
28	8.1	69	62	71	205	91	172	122	11	17	32	44
29	5.9	54	51	64	---	83	138	96	32	21	24	44
30	5.0	51	54	56	---	74	115	78	56	29	20	38
31	4.6	---	98	50	---	70	---	73	---	19	17	---
TOTAL	164.2	455.0	3067	3383	3623	6603	3183	3634	1073	1137	780.4	2043
MEAN	5.30	15.2	98.9	109	129	213	106	117	35.8	36.7	25.2	68.1
MAX	8.9	69	382	315	792	813	237	357	90	126	115	488
MIN	3.7	4.1	31	50	22	70	49	55	11	17	9.4	14
CFSM	.11	.32	2.09	2.30	2.73	4.50	2.24	2.47	.76	.78	.53	1.44
IN.	.13	.36	2.41	2.66	2.85	5.19	2.50	2.86	.84	.89	.61	1.61

CAL YR 1978	TOTAL	28101.7	MEAN 77.0	MAX 1360	MIN 3.7	CFSM 1.63	IN 22.10
WTR YR 1979	TOTAL	29145.6	MEAN 79.9	MAX 813	MIN 3.7	CFSM 1.69	IN 22.92

POTOMAC RIVER BASIN

01595300 ABRAM CREEK AT OAKMONT, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965, 1969-71, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)
OCT 03...	1130	4.8	490	<4.0	15.0	12.0	--	--	--	--
NOV 14...	1015	4.8	--	4.0	12.0	--	--	--	--	--
DEC 27...	1205	86	200	5.0	3.0	1.5	--	--	--	--
FEB 06...	1140	33	320	<5.0	2.0	1.0	--	--	--	--
MAR 20...	1147	89	220	<5.0	20.0	6.0	--	--	--	--
APR 18...	1400	66	245	5.6	--	10.5	110	100	.5	
MAY 09...	1110	59	255	<4.0	22.0	17.0	--	--	--	--
JUN 19...	1235	22	415	<4.0	20.0	19.0	--	--	--	--
JUL 25...	1045	17	400	<5.0	24.0	20.5	--	--	--	--
SEP 05...	1055	14	410	<5.0	21.5	20.5	--	--	--	--
10...	1045	58	265	5.2	--	13.0	97	95	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
APR 18...	27	9.3	--	--	3	--	120	5.3	207	.28	36.9
SEP 10...	26	7.9	4.1	.2	2	25	96	4.4	180	.24	28.2

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
APR 18...	--	--	--	--	--	1400	890	510	--
SEP 10...	0	<10	<10	30	10	650	--	170	18000

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR 18...	--	1900	100	1800	--	--	--	--
SEP 10...	<10	1700	0	1800	990	.00	0	90

01595500 NORTH BRANCH POTOMAC RIVER AT KITZMILLER, MD

LOCATION.--Lat 39°23'38", long 79°10'55", Garrett County, Hydrologic Unit 02070002, on left bank 0.6 mi (1.0 km) downstream from bridge on State Highway 38 in Kitzmiller, 1.5 mi (2.4 km) downstream from Wolfden Run, and at mile 68.9 (110.9 km).

DRAINAGE AREA.--225 mi² (583 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1949 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,572.26 ft (479.225 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 15, 1954, at site 0.3 mi (0.5 km) upstream at datum 7.58 ft (2.310 m) higher. Oct. 15, 1954, to Nov. 20, 1955, nonrecording gage at bridge 0.5 mi (0.8 km) upstream at datum 21.51 ft (6.556 m) higher.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Regulation at low flow by Stony River Reservoir, 30 mi (48 km) above station (see station 01595200). Gage-height telemeter at station.

AVERAGE DISCHARGE.--30 years, 449 ft³/s (12.72 m³/s), 27.10 in/yr (688 mm/yr), adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,400 ft³/s (946 m³/s) Oct. 15, 1954, gage height, 13.73 ft (4.185 m), from floodmarks, present site and datum; minimum, 4.6 ft³/s (0.13 m³/s) Oct. 3-7, 1953, gage height, 1.45 ft (0.442 m), site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,400 ft³/s (96 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 21	0800	5170 146	7.57 2.307	May 13	0200	3920 111	7.01 2.137
Feb. 24	2145	*7540 214	8.40 2.560	Sept. 6	0330	3400 96.3	6.75 2.057
Mar. 5	0800	5860 166	7.84 2.390				

Minimum discharge, 34 ft³/s (0.96 m³/s) Oct. 11, 12, 23, gage height, 2.33 ft (0.710 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	45	385	1460	266	1280	453	498	534	120	77	99
2	40	45	306	2000	246	1450	1140	437	441	129	83	94
3	39	43	433	1280	243	1880	977	405	327	120	73	166
4	40	42	2250	960	238	3530	1040	529	499	399	63	129
5	44	40	1270	833	194	5110	1180	620	329	541	55	184
6	40	39	840	743	175	3380	971	502	268	248	51	2490
7	36	39	647	806	200	2450	803	442	237	179	48	1430
8	40	39	1470	1460	196	2010	742	400	309	150	54	1020
9	43	42	2870	910	175	1790	748	359	264	133	72	812
10	39	40	1570	762	165	1650	777	331	222	129	54	613
11	37	39	935	634	165	1430	690	770	231	134	187	381
12	36	39	744	565	181	1150	612	817	204	121	511	252
13	36	41	625	505	190	1020	566	2240	170	114	337	228
14	39	43	552	465	200	1250	579	1200	148	145	158	260
15	42	53	487	422	216	1090	559	931	136	198	142	311
16	39	400	473	385	970	872	586	801	124	261	113	237
17	57	338	491	703	742	785	581	515	120	167	88	186
18	54	249	406	952	415	646	526	425	149	136	85	131
19	43	161	364	557	360	593	460	383	126	124	139	138
20	40	123	590	562	330	569	419	343	105	117	114	111
21	37	107	3570	2450	495	521	384	312	96	132	97	174
22	36	98	1490	1650	1670	478	309	293	98	139	92	878
23	35	91	982	1080	1730	444	572	276	99	126	84	653
24	36	116	819	1050	4470	928	512	561	100	100	82	501
25	39	110	1360	1090	5130	1340	418	1770	89	87	103	423
26	40	95	924	887	3930	930	488	1060	82	87	199	378
27	136	165	761	710	2190	758	947	898	75	85	399	338
28	97	800	625	560	1590	560	801	851	72	81	211	341
29	64	542	529	425	---	431	659	747	104	93	180	335
30	54	451	512	332	---	383	566	630	195	142	136	283
31	48	---	625	325	---	355	---	563	---	95	112	---
TOTAL	1443	4475	29905	27523	27072	41063	20065	20909	5953	4832	4199	13576
MEAN	46.5	149	965	888	967	1325	669	674	198	156	135	453
MAX	136	800	3570	2450	5130	5110	1180	2240	534	541	511	2490
MIN	35	39	306	325	165	355	309	276	72	81	48	94
CAL YR 1978	TOTAL	191957	MEAN 526	MAX 8310	MIN 34	CFSM 2.34	IN 31.74					
WTR YR 1979	TOTAL	201015	MEAN 551	MAX 5130	MIN 35	CFSM 2.45	IN 33.23					

POTOMAC RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: August 1961 to current year.

INSTRUMENTATION.--Temperature recorder since August 1961.

REMARKS.--Period of missing record, Jan. 2 to Feb. 28, due to recorder malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 32.0°C Aug. 15, 16, 18, 1965; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 28.0°C Aug. 7; minimum, 0.0°C on many days during winter period.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
APR 18...	1200	500	285	4.6	14.0	9.0	10.8	100	100	--	--	32
AUG 22...	1200	34	540	4.7	21.0	17.5	8.8	240	240	.0	.0	79

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 18...	5.9	2.2	4	.1	--	1.0	2	--	120	2.8	.1	4.6
AUG 22...	10	4.6	4	.1	6.2	1.6	0	.0	240	3.2	.2	6.8

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
APR 18...	--	175	.24	236	.44	--	--	--	--	--	3900
AUG 22...	372	347	.51	34.1	--	0	<10	10	20	10	960

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR 18...	1200	2700	--	--	670	30	640	--	--	--	--
AUG 22...	890	70	1100	20	1200	0	1300	150	.00	0	90

POTOMAC RIVER BASIN

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.5	15.0	9.5	6.0	5.0	4.0	6.5	4.0	---	---	4.0	3.5
2	17.5	14.0	8.5	5.0	4.5	3.5	---	---	---	---	4.5	3.5
3	17.0	12.5	9.0	5.0	5.5	4.5	---	---	---	---	4.5	3.0
4	17.5	14.5	9.5	6.0	9.0	5.5	---	---	---	---	4.5	3.5
5	16.0	12.0	10.0	6.5	8.5	6.5	---	---	---	---	4.0	3.5
6	15.0	12.5	10.0	6.5	6.5	5.5	---	---	---	---	4.5	4.0
7	12.5	11.5	8.5	7.0	6.5	5.5	---	---	---	---	5.0	3.5
8	11.0	10.0	8.5	6.5	10.0	6.5	---	---	---	---	5.5	4.0
9	12.5	7.5	8.0	4.5	10.0	7.0	---	---	---	---	6.0	4.5
10	13.0	8.0	8.0	5.0	7.0	4.0	---	---	---	---	6.0	5.0
11	13.5	8.5	9.0	5.5	4.0	4.0	---	---	---	---	5.0	2.5
12	16.0	11.0	8.0	6.5	4.0	4.0	---	---	---	---	3.5	2.5
17	9.5	8.0	8.5	8.0	5.0	4.0	---	---	---	---	5.5	2.5
18	10.0	6.5	9.0	8.0	4.0	3.5	---	---	---	---	5.0	4.0
19	11.5	8.5	8.5	7.0	4.0	3.5	---	---	---	---	6.5	4.5
20	11.5	9.0	7.0	5.5	4.0	3.5	---	---	---	---	7.5	4.5
21	12.5	8.0	7.0	5.0	6.0	4.0	---	---	---	---	8.0	4.5
22	13.0	8.0	7.0	6.0	5.0	4.0	---	---	---	---	9.0	5.5
23	13.0	9.5	6.5	6.0	4.5	4.0	---	---	---	---	8.5	6.5
24	11.5	8.5	6.5	6.0	4.5	4.0	---	---	---	---	8.5	7.5
25	12.0	6.5	6.0	4.0	4.0	4.0	---	---	---	---	7.5	6.0
26	13.0	10.5	4.0	3.5	4.0	4.0	---	---	---	---	6.5	4.5
27	13.0	9.5	3.5	3.5	4.5	4.0	---	---	---	---	4.5	3.5
28	10.5	8.0	5.0	3.5	4.5	4.5	---	---	4.0	2.5	6.0	3.0
29	10.5	7.0	5.0	4.0	5.0	4.5	---	---	---	---	9.0	5.5
30	10.0	6.5	5.5	4.5	4.5	4.0	---	---	---	---	10.0	8.0
31	9.0	7.0	---	---	4.0	4.0	---	---	---	---	11.0	9.0
MONTH	17.5	6.5	10.5	3.5	10.0	3.5	6.5	4.0	4.0	2.5	11.0	2.5
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.0	10.0	12.5	9.0	20.0	17.0	21.0	18.5	27.0	22.5	23.0	20.5
2	11.0	9.5	13.5	9.0	20.5	18.0	18.0	17.5	26.0	22.0	25.0	20.5
3	10.0	8.0	13.0	11.5	19.5	16.0	22.0	17.5	26.0	21.0	23.5	21.0
4	8.0	7.0	12.0	11.0	18.5	15.0	20.5	16.5	26.0	20.5	24.0	20.5
5	7.0	6.0	13.0	9.5	19.5	16.0	18.0	15.0	26.0	21.0	22.5	19.5
6	6.5	5.0	14.5	10.0	19.0	16.5	21.0	15.0	26.5	21.5	20.0	18.5
7	6.0	3.0	15.5	11.5	22.0	16.5	22.0	16.0	28.0	21.0	22.0	20.0
8	7.5	5.5	18.5	13.5	21.0	19.0	23.0	17.0	27.0	22.5	21.5	19.0
9	7.5	5.5	20.0	15.0	23.0	19.0	23.0	18.5	27.0	21.0	19.0	17.5
10	7.5	4.5	19.5	17.0	24.5	20.5	21.5	20.0	27.0	22.5	20.0	16.5
11	9.0	5.5	18.5	16.0	22.5	16.5	25.0	19.0	24.0	20.5	19.5	16.5
12	9.5	8.5	18.0	15.0	19.5	15.0	25.0	21.0	20.5	17.0	20.0	18.0
13	9.5	7.5	16.0	14.5	20.5	15.5	25.0	22.0	20.0	16.0	19.0	17.5
14	9.5	7.0	16.0	14.5	22.0	15.0	24.5	22.0	21.5	17.5	18.5	17.5
15	9.0	7.0	16.0	14.0	23.5	17.0	25.0	22.5	19.5	17.5	17.5	15.0
16	7.0	6.5	16.5	14.0	23.5	18.0	24.0	21.0	20.0	15.5	17.5	13.5
17	7.5	6.0	16.0	12.0	21.0	19.0	26.0	22.0	18.5	15.0	18.0	13.5
18	10.0	6.0	16.5	12.0	23.5	18.5	24.5	21.5	19.0	17.0	17.5	13.5
19	11.0	7.0	18.0	14.5	24.0	19.0	25.0	19.5	21.0	18.0	17.5	15.0
20	11.5	7.5	18.5	14.0	24.0	17.5	23.0	21.5	21.5	19.0	16.5	12.5
21	13.0	8.5	17.5	15.5	22.5	19.0	24.5	21.0	21.0	19.5	15.0	14.0
22	14.0	11.0	18.5	14.0	24.5	19.0	24.5	21.0	19.5	19.0	14.5	14.0
23	13.5	11.5	18.0	16.5	25.0	20.0	26.0	21.0	22.0	18.5	15.0	14.0
24	12.5	11.0	17.0	16.0	22.5	17.0	25.5	22.0	23.5	20.0	15.0	13.0
25	16.0	12.0	16.0	13.0	22.0	14.5	26.0	22.0	23.5	20.5	15.5	13.5
26	15.0	13.0	13.0	11.5	23.0	15.5	24.5	22.5	22.0	20.0	16.5	14.5
27	13.0	10.5	12.5	11.0	23.5	16.5	25.0	22.0	20.5	19.5	16.5	14.5
28	10.5	8.5	15.5	12.5	22.5	18.0	23.5	22.0	22.0	19.0	16.5	16.0
29	9.5	8.0	17.0	14.0	22.5	19.5	22.5	21.0	23.5	20.0	16.5	16.0
30	11.0	7.5	18.0	14.5	22.0	19.0	25.0	20.0	24.0	20.0	16.5	16.0
31	---	---	17.5	16.5	---	---	26.0	20.5	25.0	20.0	---	---
MONTH	16.0	3.0	20.0	9.0	25.0	14.5	26.0	15.0	28.0	15.0	25.0	12.5

POTOMAC RIVER BASIN

01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV

LOCATION.--Lat 39°26'44", long 79°06'39", Garrett County, Md., Hydrologic Unit 02070002, on left bank at highway bridge at Barnum, W. Va., 0.4 mi (0.6 km) upstream from Folly Run, and 4.0 mi (6.4 km) southwest of Piedmont, W. Va., and at mile 59.4 (95.6 km).

DRAINAGE AREA.--266 mi² (689 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,151.82 ft (351.075 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Regulation at low flow by Stony River Reservoir, 39 mi (63 km) above station (see station 01595200).

AVERAGE DISCHARGE.--13 years, 536 ft³/s (15.18 m³/s), 27.36 in/yr (695 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,100 ft³/s (767 m³/s) July 3, 1978, gage height, 13.37 ft (4.075 m), from rating curve extended above 8,000 ft³/s (227 m³/s) on basis of slope-area measurement of peak flow; minimum, 10 ft³/s (0.28 m³/s) Oct. 2, 3, 1968, gage height, 1.69 ft (0.515 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,000 ft³/s (110 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 21	1200	4630 131	7.14 2.176	Mar. 5	1700	6210 176	7.90 2.408
Feb. 26	0700	*6350 180	7.96 2.426				

Minimum discharge, 35 ft³/s (0.99 m³/s) Oct. 12, 23, gage height, 2.01 ft (0.613 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	54	483	1470	346	1880	560	658	595	155	104	114
2	43	51	373	2400	299	1790	1300	590	510	127	93	107
3	46	50	386	1660	320	2460	1250	546	392	144	93	152
4	45	51	2290	1150	316	3930	1350	640	515	271	81	195
5	46	49	1620	961	252	5980	1550	792	392	779	73	176
6	48	45	939	867	252	5430	1300	687	316	303	61	2670
7	44	43	705	805	270	3480	1050	601	278	202	57	1560
8	43	43	1180	1600	250	2810	950	557	320	161	57	1030
9	46	44	3170	1040	230	2460	900	504	324	130	79	786
10	48	46	1940	846	220	2310	980	456	307	130	76	629
11	44	46	1060	730	220	2040	880	812	267	127	167	411
12	42	45	825	635	230	1650	748	998	263	119	488	286
13	41	45	699	590	250	1430	687	2630	215	114	568	230
14	42	46	629	562	260	1590	693	1540	186	198	244	233
15	46	49	557	525	300	1610	687	1080	170	189	167	286
16	46	260	546	499	1030	1270	705	924	155	328	152	295
17	49	342	557	609	1140	1160	711	658	117	252	112	240
18	64	292	499	1200	723	1010	658	525	158	167	102	176
19	57	194	462	669	500	820	584	472	170	150	133	176
20	50	147	486	723	450	720	536	426	133	135	149	176
21	46	123	3650	2260	690	650	493	392	119	140	119	186
22	43	109	1910	2060	1890	630	426	359	119	150	104	1110
23	40	104	1130	1240	2130	580	618	337	117	140	102	792
24	40	109	910	1090	4440	780	658	568	117	130	93	594
25	41	125	1470	1230	6230	1650	546	1900	102	112	119	503
26	43	113	1080	998	6000	1400	546	1380	88	104	144	439
27	66	115	867	860	3420	1100	1120	1040	84	102	536	413
28	140	612	705	773	2240	850	1100	902	79	102	313	401
29	89	742	612	579	---	700	867	819	88	107	215	420
30	69	520	579	421	---	560	748	693	222	164	173	371
31	59	---	640	402	---	520	---	601	---	146	135	---
TOTAL	1610	4514	32959	31454	34898	55250	25201	25087	6918	5578	5109	15157
MEAN	51.9	154	1063	1015	1246	1782	840	809	231	180	165	505
MAX	140	742	3650	2400	6230	5980	1550	2630	595	779	568	2670
MIN	40	43	373	402	220	520	426	337	79	102	57	107
CAL YR 1978	TOTAL	213994	MEAN 586	MAX 10900	MIN 40	CFSM 2.20	IN 29.93					
WTR YR 1979	TOTAL	243835	MEAN 668	MAX 6230	MIN 40	CFSM 2.51	IN 34.10					

POTOMAC RIVER BASIN

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01595800 NORTH BRANCH POTOMAC RIVER AT BARNUM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1967 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)
APR 18...	1030	600	205	4.9	14.0	7.5	10.8	--	--	87
AUG 22...	1030	34	480	4.7	18.5	19.0	8.2	.6	30	200

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
APR 18...	--	--	--	--	--	--	--	1000	760	240
AUG 22...	314	.43	1	<10	10	20	20	680	620	60

DATE	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR 18...	--	--	540	0	540	--	--	--	--
AUG 22...	24000	20	1400	0	1400	320	.00	0	60

POTOMAC RIVER BASIN

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD

LOCATION.--Lat 39°28'45", long 79°03'55", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank 0.2 mi (0.3 km) downstream from Savage River, 0.5 mi (0.8 km) northwest of Luke, and at mile 53.3 (85.8 km).

DRAINAGE AREA.--404 mi² (1,046 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1899 to July 1906 (published as "at Piedmont, W. Va."), October 1949 to current year.

REVISED RECORDS.--WSP 192: 1899-1904. WSP 1432: 1905-6, drainage area at former site.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 944.22 ft (287.798 m) National Geodetic Vertical Datum of 1929. June 27, 1899, to July 15, 1906, nonrecording gage at bridge 1.1 mi (1.8 km) downstream at datum about 35 ft (11 m) lower.

REMARKS.--Water-discharge records good except those for winter periods, which are fair to poor. Flow regulated since 1913 by Stony River Reservoir, 45 mi (72 km) above station (see station 01595200), and since December 1950, by Savage River Reservoir, 5 mi (8 km) above station (see station 01597500). Some regulation at low flow by West Virginia Pulp and Paper Company at site used 1899-1906.

AVERAGE DISCHARGE.--36 years (water years 1900-05, 1950-79), 710 ft³/s (20.11 m³/s), 23.87 in/yr (606 mm/yr), adjusted for storage since October 1949.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,400 ft³/s (1,120 m³/s) Oct. 15, 1954, gage height, 17.15 ft (5.227 m); minimum daily, 6 ft³/s (0.17 m³/s) Sept. 4, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,230 ft³/s (233 m³/s) Mar. 5, gage height, 8.98 ft (2.737 m); maximum gage height, 11.17 ft (3.405 m) Feb. 22 backwater from ice jam; minimum, 59 ft³/s (1.67 m³/s) Oct. 3, gage height, 0.94 ft (0.287 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	154	155	580	1950	438	4030	651	913	832	235	136	641
2	153	151	474	3640	376	3320	1500	782	703	194	121	482
3	139	150	464	3480	395	3070	1370	706	582	205	119	177
4	155	150	3010	2430	392	4650	1490	917	712	323	116	216
5	155	148	2930	1530	320	7140	1700	1200	572	1060	116	197
6	158	144	2080	1070	320	8010	1430	1130	453	460	109	2730
7	153	141	1390	978	330	6490	1200	964	396	299	115	1800
8	152	142	1720	2210	310	5570	1080	828	456	230	120	1180
9	153	141	3960	1780	300	4950	1040	735	470	194	136	912
10	156	143	2760	1380	290	3890	1110	673	829	185	141	867
11	151	143	2030	960	290	2650	981	1160	642	188	196	755
12	149	141	2090	747	300	2290	879	1540	534	178	501	624
13	147	141	1580	716	300	1820	817	3070	414	179	695	568
14	152	126	1080	710	310	1690	815	1920	335	205	294	576
15	153	136	729	652	400	1710	810	1440	290	216	199	632
16	156	366	629	674	1200	1380	819	1220	255	416	188	618
17	155	516	620	805	1300	1280	802	896	232	328	145	445
18	172	457	572	1570	1000	1150	717	686	244	258	175	284
19	164	319	526	769	700	944	644	618	243	221	163	283
20	156	254	509	774	600	828	594	572	192	233	188	283
21	152	219	4040	2520	800	775	556	512	165	192	156	307
22	147	204	2800	2960	1800	725	492	485	174	189	142	1200
23	143	194	1970	2060	2500	682	635	461	168	178	131	935
24	143	183	1660	1820	5440	916	712	827	167	152	118	728
25	143	189	2370	1780	6900	1890	600	2710	147	127	146	619
26	147	167	2200	1230	7740	1620	595	2240	132	120	162	557
27	163	176	2120	1050	6020	1560	1200	1700	121	124	555	523
28	266	731	1310	946	4510	1400	1260	1270	119	124	359	513
29	201	858	828	721	---	1030	1010	1250	138	142	262	538
30	173	584	899	759	---	646	1050	1040	281	208	211	476
31	161	---	937	693	---	600	---	873	---	189	289	---
TOTAL	4922	7569	50867	45364	45581	78706	28559	35338	10998	7552	6504	20666
MEAN	159	252	1641	1463	1628	2539	952	1140	367	244	210	689
MAX	266	858	4040	3640	7740	8010	1700	3070	832	1060	695	2730
MIN	139	126	464	652	290	600	492	461	119	120	109	177
CAL YR 1978	TOTAL	319526	MEAN 875	MAX 10600	MIN 109	CFSM 2.17	IN 29.42					
WTR YR 1979	TOTAL	342626	MEAN 939	MAX 8010	MIN 109	CFSM 2.32	IN 31.55					

POTOMAC RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1961 to December 1962, July to September 1963, December 1963 to September 1973, October 1974 to current year.

INSTRUMENTATION.--Temperature recorder during all periods.

REMARKS.--Period of missing record, October, November, May 20 to September 30, due to recorder malfunction.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum, 33.0°C July 3, 1966; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum unknown; minimum, 0.5°C on many days during winter periods.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1							4.5	3.0	4.0	4.5	2.5	3.0
2							4.0	2.5	3.0	6.0	3.5	5.0
3							4.5	3.0	4.0	3.5	.5	1.5
4							8.0	4.5	6.5	1.0	.5	.5
5							8.0	6.0	7.0	1.0	.5	.5
6							6.0	5.0	5.5	1.5	.5	1.0
7							5.5	4.5	5.0	2.0	1.0	1.5
8							9.5	5.5	7.0	2.5	1.0	2.0
9							10.0	7.5	9.0	1.0	.5	.5
10							7.0	3.0	5.0	1.0	.5	.5
11							3.0	2.0	2.0	.5	.5	.5
12							3.0	2.0	2.0	.5	.5	.5
13							3.5	2.0	2.5	.5	.5	.5
14							3.0	1.5	2.0	1.0	.5	.5
15							2.0	1.0	1.5	.5	.5	.5
16							3.0	1.0	2.5	1.0	.5	.5
17							4.0	3.0	3.5	1.0	.5	.5
18							3.0	2.0	2.5	1.0	.5	.5
19							2.5	2.0	2.0	.5	.5	.5
20							2.5	2.0	2.5	.5	.5	.5
21							5.5	2.5	4.5	1.5	.5	1.0
22							4.5	3.0	3.5	2.0	1.0	1.5
23							3.5	2.5	3.0	1.5	.5	1.0
24							3.0	2.0	2.5	2.5	.5	1.5
25							3.5	2.5	3.0	2.0	.5	1.5
26							2.5	2.0	2.0	1.0	.5	.5
27							2.5	.5	1.5	2.0	.5	1.0
28							1.0	.5	.5	2.0	1.0	1.5
29							1.0	.5	.5	1.5	.5	1.0
30							1.5	.5	1.0	1.0	.5	.5
31							2.5	1.0	1.5	1.0	.5	.5
MONTH							10.0	.5	3.5	6.0	.5	1.0

POTOMAC RIVER BASIN

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

POTOMAC RIVER BASIN

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01600000 NORTH BRANCH POTOMAC RIVER AT PINTO, MD

LOCATION.--Lat 39°33'59", long 78°50'25", Mineral County, W. Va., Hydrologic Unit 02070002, on right bank at downstream side of Western Maryland Railway bridge at Pinto, 2.8 mi (4.5 km) downstream from Mill Run, and at mile 32.6 (52.5 km).

DRAINAGE AREA.--596 mi² (1,544 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year.

REVISED RECORDS.--WSP 1332: 1943.

GAGE.--Water-stage recorder. Datum of gage is 648.23 ft (197.581 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 10, 1938, nonrecording gage at highway bridge 250 ft (76 m) downstream at same datum.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Some regulation at low flow by Stony River Reservoir, 66 mi (106 km) above station (see station 01595200), and since December 1950, by Savage River Reservoir, 25 mi (40 km) above station (see station 01597500).

AVERAGE DISCHARGE.--41 years, 886 ft³/s (25.09 m³/s), 20.19 in/yr (513 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,000 ft³/s (1,050 m³/s) Oct. 16, 1954, gage height, 23.23 ft (7.081 m); minimum, 31 ft³/s (0.88 m³/s) Dec. 18, 19, 1943, gage height, 1.37 ft (0.418 m), result of freezeup.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 29, 1924, reached a stage of about 24 ft (7.3 m), discharge, about 55,000 ft³/s (1,560 m³/s). Flood of Mar. 17, 1936, reached a stage of about 23.5 ft (7.16 m), from floodmarks, discharge, about 50,000 ft³/s (1,420 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,800 ft³/s (362 m³/s) Feb. 26, gage height, 13.28 ft (4.048 m); minimum, 126 ft³/s (3.57 m³/s) Nov. 15, gage height, 1.88 ft (0.573 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	177	695	1750	603	4580	888	1250	1030	319	217	564
2	172	170	566	3990	483	4200	2160	1080	899	250	188	690
3	171	169	514	3870	482	4140	2070	964	770	241	172	394
4	165	169	2470	2700	509	6330	2220	1160	841	298	161	311
5	173	169	3050	1930	378	9570	2650	1540	769	1140	157	292
6	174	167	2240	1340	320	10400	2210	1470	586	631	152	3550
7	171	165	1500	1230	380	7890	1810	1290	498	376	147	2550
8	169	164	1540	2050	369	6350	1560	1130	502	286	151	1590
9	168	164	3720	1990	352	5480	1480	984	637	243	159	1180
10	172	163	3050	1610	343	4670	1500	893	1170	230	181	1010
11	171	163	1990	1190	340	3180	1310	1140	988	233	175	954
12	169	164	2090	908	350	2770	1180	1800	774	224	404	767
13	166	167	1740	835	370	2350	1090	2890	600	206	911	663
14	173	165	1260	790	390	2010	1060	2260	476	270	415	688
15	173	152	918	755	450	2150	1060	1720	403	260	266	735
16	179	250	735	739	1000	1750	1050	1430	357	471	232	724
17	184	618	711	897	1500	1580	1040	1140	327	448	205	604
18	182	554	698	1600	1100	1430	937	853	318	333	179	369
19	193	394	610	969	800	1230	845	758	320	280	231	338
20	177	299	581	871	750	1060	770	703	275	287	224	336
21	173	255	3330	2470	850	1010	717	631	236	300	217	368
22	169	231	3050	3340	1900	936	663	595	243	255	191	1470
23	167	224	2060	2310	2180	879	660	625	245	247	180	1250
24	161	226	1760	2100	5390	1160	895	1210	231	229	164	973
25	162	213	2680	2210	9280	2720	753	3080	215	228	157	839
26	165	209	2330	1530	11100	2200	746	3090	191	366	194	794
27	169	217	2200	1310	7550	2040	1530	2160	172	215	443	729
28	235	463	1670	1200	5220	1830	1880	1590	161	195	509	752
29	242	1090	959	1010	---	1530	1490	1570	180	210	572	800
30	201	678	1030	832	---	968	1400	1310	253	273	330	669
31	183	---	1030	969	---	877	---	1100	---	284	280	---
TOTAL	5501	8409	52777	51295	54739	99270	39624	43416	14667	9828	8164	26953
MEAN	177	280	1702	1655	1955	3202	1321	1401	489	317	263	898
MAX	242	1090	3720	3990	11100	10400	2650	3090	1170	1140	911	3550
MIN	161	152	514	739	320	877	660	595	161	195	147	292

CAL YR 1978 TOTAL 390628 MEAN 1070 MAX 10700 MIN 131 CFSM 1.80 IN 24.38
WTR YR 1979 TOTAL 414643 MEAN 1136 MAX 11100 MIN 147 CFSM 1.91 IN 25.88

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-74, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLOR (PLAT- INUM- COBALT UNITS)
OCT								
31...	1400	183	1200	7.2	17.0	12.0	--	--
JAN								
02...	1430	4170	200	7.2	2.0	5.5	--	--
MAR								
09...	0845	5600	190	7.2	1.0	6.0	--	5
APR								
16...	1400	1050	390	7.9	9.5	9.0	10.2	--
MAY								
02...	0930	1100	320	7.1	8.0	12.0	--	--
29...	1430	1540	285	7.5	21.5	16.0	--	--
JUN								
01...	1535	1030	285	7.3	21.0	19.0	--	--
19...	1320	330	777	7.8	24.0	24.2	--	--
JUL								
05...	1530	1280	425	7.1	20.0	19.0	--	--
26...	1330	295	480	7.5	25.0	24.5	7.0	--
AUG								
02...	1300	189	800	7.3	28.5	29.5	--	--
22...	0930	192	955	7.8	17.0	21.0	7.5	--
SEP								
24...	1700	942	330	7.2	18.0	17.0	9.4	--

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT
MAR								
09...	68	60	--	--	19	5.1	5.0	13
APR								
16...	--	--	--	--	--	--	--	--
MAY								
29...	93	78	.0	.0	28	5.7	12	22
JUN								
19...	230	200	.0	.0	71	12	59	36
JUL								
26...	150	94	.0	.0	49	6.9	29	29
AUG								
22...	330	290	.0	.0	110	13	64	29
SEP								
24...	110	110	.0	.0	35	6.3	16	23

DATE	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
MAR									
09...	.3	--	1.1	10	8	1.0	57	8.7	.1
APR									
16...	--	--	--	--	--	--	110	--	--
MAY									
29...	.5	13	1.4	--	15	.9	84	19	.1
JUN									
19...	1.7	--	4.3	--	30	--	220	78	.1
JUL									
26...	1.0	33	3.9	--	57	3.5	100	37	.1
AUG									
22...	1.5	68	3.9	--	34	1.1	270	96	.1
SEP									
24...	.7	18	1.8	--	8	1.0	90	23	.1

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD

LOCATION.--Lat 39°37'16", long 78°46'24", Allegany County, Hydrologic Unit 02070002, on left bank at downstream side of Wiley Ford Bridge, 2.0 mi (3.2 km) south of Cumberland, 2.1 mi (3.4 km) downstream from Wills Creek, and at mile 19.6 (31.5 km).

DRAINAGE AREA.--875 mi² (2,266 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1929 to current year. Gage-height records collected at various sites about 2.0 mi (3.2 km) upstream from September 1901 to December 1932 and thereafter at present site, are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 726: Drainage area. WSP 781: 1932(M).

GAGE.--Water-stage recorder. Datum of gage is 585.22 ft (178.375 m) National Geodetic Vertical Datum of 1929. Prior to June 18, 1929, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Regulation by Stony River Reservoir, 79 mi (127 km) above station (see station 01595200), and since December 1950, by Savage River Reservoir, 39 mi (63 km) above station (see station 01597500). Prior to July 1957, small amount of inflow from industrial wastes and sewage from city of Cumberland from water diverted from Evitts Creek, mouth of which is below station. Diversion to Chesapeake and Ohio Canal prior to 1935. Gage-height telemeter at station.

AVERAGE DISCHARGE.--50 years, 1,256 ft³/s (35.57 m³/s), 19.49 in/yr (495 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88,200 ft³/s (2,500 m³/s) Mar. 17, 1936, gage height, 29.1 ft (8.87 m), from rating curve extended above 33,000 ft³/s (935 m³/s) on basis of slope-area measurement of peak flow; minimum (river only), 12 ft³/s (0.34 m³/s) Sept. 22, 1932, gage height, 2.38 ft (0.725 m); minimum daily (including flow in canal), 38 ft³/s (1.08 m³/s) Sept. 24, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 29.2 ft (8.90 m) June 1, 1889, discharge, about 89,000 ft³/s (2,520 m³/s). Flood of Mar. 29, 1924, reached a stage of 28.4 ft (8.66 m), discharge, about 82,000 ft³/s (2,320 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10,000 ft³/s (280 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 26	0930	19500 552	15.67 4.776	Mar. 6	0345	*20400 578	16.19 4.935

Minimum discharge, 161 ft³/s (4.56 m³/s) Oct. 4, Nov. 15; minimum daily, 173 ft³/s (4.90 m³/s) Oct. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	203	200	917	2120	979	6630	1480	2010	1570	476	424	731
2	203	190	795	7100	813	6380	3720	1700	1390	393	368	997
3	197	184	823	6650	793	6790	3810	1530	1210	352	260	1050
4	197	181	3080	4290	823	10300	3790	1850	1200	474	281	586
5	207	186	4460	3070	720	17700	4570	2350	1160	1420	255	551
6	205	180	3130	2080	660	18000	3890	2370	917	1110	238	6340
7	199	180	2050	1860	630	12500	3100	2110	793	653	217	4570
8	196	180	1970	2540	640	9720	2580	1830	769	482	224	2650
9	191	178	4910	2740	620	8340	2440	1580	945	397	231	1790
10	189	175	4710	2190	530	7520	2370	1460	1940	392	249	1390
11	195	175	2840	1670	530	5470	2040	1610	1690	401	278	1300
12	189	178	2790	1240	530	4550	1830	2380	1260	357	559	1040
13	185	188	2350	1230	540	3760	1690	3390	1000	331	1240	888
14	203	186	1690	1290	590	3200	1630	3090	810	834	863	967
15	202	182	1270	1190	600	3380	1610	2290	680	833	533	998
16	210	297	1000	970	560	2780	1580	1910	596	816	402	907
17	224	743	956	1140	2000	2420	1530	1570	555	1260	359	799
18	215	717	919	1640	1200	2200	1390	1210	528	911	305	519
19	226	554	817	1380	1000	2020	1290	1080	506	753	343	434
20	209	415	794	1030	900	1800	1190	1010	448	587	317	434
21	194	345	3260	2500	1000	1710	1110	925	404	958	350	584
22	191	306	4190	4570	2000	1580	1050	872	393	785	346	1970
23	183	296	2740	3130	3600	1490	958	890	418	601	303	1820
24	173	319	2330	3560	7000	2180	1240	2310	372	537	290	1380
25	175	326	3910	4540	13100	6660	1090	4410	340	491	254	1100
26	178	304	3320	2830	16200	4370	1220	5010	305	453	287	957
27	187	326	3000	2210	11600	3490	2550	3470	271	662	505	849
28	232	448	2390	1950	7570	2920	3190	2790	246	408	1220	820
29	317	1320	1300	1630	---	2440	2600	2490	259	481	1890	878
30	248	904	1390	1250	---	1740	2270	2090	309	558	895	779
31	213	---	1400	1440	---	1490	---	1750	---	514	616	---
TOTAL	6336	10363	71501	77030	77728	165530	64808	65337	23284	19680	14902	40078
MEAN	204	345	2306	2485	2776	5340	2160	2108	776	635	481	1336
MAX	317	1320	4910	7100	16200	18600	4570	5010	1940	1420	1890	6340
MIN	173	175	794	970	530	1490	958	872	246	331	217	434

CAL YR 1978	TOTAL	577883	MEAN	1583	MAX	15100	MIN	154	CFSM	1.81	IN	24.57
WTR YR 1979	TOTAL	636577	MEAN	1744	MAX	18000	MIN	173	CFSM	1.99	IN	27.06

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

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1964 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1964 to current year.

REMARKS.--Water temperatures are measured in field at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 33.0°C July 13, 14, 1966, July 16, 18, Aug. 19, 23, 1968, July 17, 1977; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,600 mg/L Feb. 13, 1966, July 4, 1978; minimum daily mean, 1 mg/L Jan. 17, 1975.

SEDIMENT LOADS: Maximum daily, 66,300 tons (59,800 tonnes) July 4, 1978; minimum daily, 2.1 tons (1.9 tonnes) Aug. 27, 1971.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 26.5°C July 19; minimum daily, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLOR (PLAT- INUM- COBALT UNITS)
DATE	TIME							
OCT								
05...	0930	208	750	8.0	--	14.5	--	35
NOV								
01...	1245	202	950	7.6	13.0	11.5	--	50
JAN								
02...	1530	7870	140	7.3	2.0	5.0	--	5
MAR								
09...	0830	8500	180	7.3	1.0	6.0	--	10
APR								
17...	1100	1400	320	7.4	13.0	9.1	11.4	--
MAY								
02...	0900	1740	260	7.4	8.0	11.0	--	5
29...	1315	2500	265	7.9	20.0	16.5	--	--
JUN								
01...	1600	1580	225	7.0	21.0	19.0	--	5
19...	1100	495	670	7.9	22.5	21.6	--	--
JUL								
05...	1500	1940	465	7.2	20.0	21.0	--	50
26...	1100	740	690	7.7	25.0	24.0	8.0	--
AUG								
02...	1440	384	520	7.7	26.0	28.5	--	15
22...	1330	328	740	7.9	17.0	21.0	9.3	--
SEP								
25...	1315	1180	315	7.7	21.5	17.0	10.4	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	
OCT									
05...	280	220	--	--	88	14	44	25	1.2
NOV									
01...	370	320	--	--	120	18	41	19	.9
JAN									
02...	53	38	--	--	15	3.8	4.5	15	.3
MAR									
09...	54	40	--	--	15	4.1	4.1	14	.2
APR									
17...	--	--	--	--	--	--	--	--	--
MAY									
02...	110	84	--	--	29	7.9	8.0	14	.3
29...	86	64	.0	.0	25	5.7	10	20	.5
JUN									
01...	100	79	--	--	28	7.3	8.3	15	.4
19...	200	160	.0	.0	61	12	41	30	1.3
JUL									
05...	210	170	--	--	64	11	33	26	1.0
26...	230	180	.0	.0	75	11	43	28	1.2
AUG									
02...	200	170	--	--	61	11	28	23	.9
22...	230	190	.0	.0	74	12	47	30	1.3
SEP									
25...	110	90	.0	.0	33	6.3	13	20	.5

POTOMAC RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HC03)	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS C02)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	
OCT										
05...	--	3.7	67	55	1.1	200	73	.1	5.9	
NOV										
01...	--	4.1	67	55	2.7	280	65	.2	5.5	
JAN										
02...	--	1.9	18	15	1.4	35	7.4	.0	5.0	
MAR										
09...	--	1.3	18	15	1.4	41	7.3	.1	5.1	
APR										
17...	--	--	--	--	--	100	--	--	--	
MAY										
02...	--	1.5	25	21	1.6	74	13	.1	5.2	
29...	11	1.4	--	22	.5	71	15	.1	5.7	
JUN										
01...	--	1.5	25	21	4.0	73	13	.1	6.0	
19...	--	3.4	--	40	--	170	53	.1	6.4	
JUL										
05...	--	3.5	40	33	4.0	170	47	.1	5.9	
26...	46	3.3	--	54	2.1	180	61	.1	6.1	
AUG										
02...	31	2.8	37	30	1.2	140	41	.1	5.8	
22...	51	3.5	--	45	1.1	180	69	.1	5.8	
SEP										
25...	15	1.8	--	18	.7	78	20	.1	5.9	
		SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS P04)	
OCT										
05...		499	462	.68	280	.48	--	.14	--	
NOV										
01...		576	568	.78	314	.26	--	.06	--	
JAN										
02...		84	82	.11	1790	1.2	--	.07	--	
MAR										
09...		100	87	.14	2300	1.0	--	.03	--	
APR										
17...		--	--	--	--	--	--	--	--	
MAY										
02...		164	151	.22	770	.63	--	.03	.09	
29...		--	150	.20	1010	--	.50	--	--	
JUN										
01...		167	150	.23	712	.66	--	.04	.12	
19...		424	374	.58	567	--	.60	--	--	
JUL										
05...		412	355	.56	2160	.69	--	.15	.46	
26...		449	415	.61	897	--	.57	--	--	
AUG										
02...		374	308	.51	388	.36	--	.06	.18	
22...		469	419	.64	415	--	--	--	--	
SEP										
25...		188	172	.26	599	--	.54	--	--	
		ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)
AUG										
22...	2	0	0	2	<10	10	30	30	9	20

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)
OCT										
05...	10000	9900	140	--	--	--	470	50	420	--
NOV										
01...	500	360	140	--	--	--	570	20	550	--
JAN										
02...	4500	4500	20	--	--	--	350	300	50	--
MAR										
09...	2000	1800	200	--	--	--	230	40	190	--
APR										
17...	1000	960	40	--	--	--	500	0	510	--
MAY										
02...	420	400	20	--	--	--	270	10	260	--
29...	860	790	70	--	--	--	330	20	310	--
JUN										
01...	520	510	10	--	--	--	260	160	100	--
19...	700	560	140	--	--	--	550	0	550	--
JUL										
05...	2400	2200	160	--	--	--	780	340	440	--
26...	1100	1000	80	--	--	--	500	40	460	--
AUG										
02...	510	450	60	--	--	--	400	40	360	--
22...	880	740	140	56000	84	90	500	30	470	720
SEP										
25...	720	690	30	--	--	--	370	0	370	--

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT										
05...	--	--	--	--	--	--	--	24	13	100
DEC										
09...	--	--	--	--	--	--	--	279	4380	93
21...	--	--	--	--	--	--	--	262	4280	89
MAR										
06...	--	--	--	--	--	--	--	1730	93900	93
JUN										
19...	--	--	--	--	--	--	--	14	19	100
JUL										
26...	--	--	--	--	--	--	--	33	66	100
AUG										
22...	<.5	.00	0	0	1	30	170	26	23	--
SEP										
25...	--	--	--	--	--	--	--	23	73	--

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM
DEC								
09...	2330	5810	4.0	279	4380	--	--	--
21...	2350	6050	4.0	262	4280	43	58	72
MAR								
06...	0135	20100	2.0	1730	93700	39	52	66

DATE	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 2.00 MM
DEC							
09...	--	93	100	--	--	--	--
21...	78	89	96	99	99	99	100
MAR							
06...	84	93	98	99	100	--	--

POTOMAC RIVER BASIN

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.0	12.0	8.0	1.0	1.0	2.0	7.0	9.0	19.0	25.5	---	23.0
2	12.0	12.0	8.0	---	1.0	2.0	7.0	9.0	---	25.5	---	23.0
3	12.0	11.0	---	1.0	2.0	2.0	8.0	8.0	---	24.0	---	23.0
4	11.5	11.0	---	1.0	3.0	---	8.0	8.0	---	24.5	---	---
5	13.0	11.0	4.0	1.0	1.0	2.0	8.0	8.0	---	25.5	---	22.0
6	12.0	12.0	4.0	2.0	1.0	2.0	7.0	9.0	19.0	26.0	---	22.0
7	13.0	11.0	4.0	1.0	1.0	5.0	7.0	10.0	21.0	25.0	23.0	---
8	13.0	12.0	4.0	---	1.0	5.0	7.0	11.0	---	25.5	23.0	19.0
9	11.0	12.0	4.0	1.0	1.0	5.0	6.0	11.0	---	24.0	24.0	---
10	11.0	13.0	---	---	1.0	5.0	7.0	12.0	---	25.0	23.0	19.0
11	11.0	10.0	4.0	2.0	---	5.0	7.0	12.0	26.5	26.0	23.0	19.0
12	13.0	12.0	4.0	2.0	2.0	5.0	7.0	11.0	25.5	24.0	24.0	20.0
13	12.0	10.0	4.0	2.0	1.0	5.0	7.0	13.0	24.0	25.0	23.0	19.0
14	10.0	10.0	3.0	2.0	2.0	5.0	7.0	13.0	24.0	---	23.0	19.0
15	10.0	13.0	4.0	1.0	2.0	5.0	6.0	13.0	26.0	25.0	24.0	20.0
16	12.0	13.0	5.0	1.0	2.0	4.0	7.0	---	26.0	24.5	24.0	20.0
17	13.0	---	5.0	1.0	.0	6.0	8.0	14.0	26.5	25.0	23.0	21.0
18	11.0	13.0	5.0	1.0	.0	---	6.0	---	26.5	25.5	23.0	21.0
19	10.0	14.0	4.0	1.0	.0	6.0	7.0	---	26.5	26.5	22.0	18.0
20	10.0	12.0	4.0	2.0	.0	8.0	7.0	---	26.5	25.5	24.0	19.0
21	11.0	10.0	4.0	1.0	1.0	6.0	7.0	---	25.5	26.5	24.0	20.0
22	12.0	8.0	3.0	1.0	1.0	6.0	6.0	17.0	25.5	26.0	23.0	19.0
23	10.0	7.0	5.0	1.0	1.0	6.0	6.0	---	26.0	25.5	23.0	18.0
24	11.0	6.0	3.0	---	2.0	6.0	6.0	17.0	26.0	25.5	23.5	19.0
25	12.0	6.0	2.0	1.0	2.0	6.0	12.0	---	---	25.0	23.0	20.0
26	12.0	6.0	3.0	2.0	2.0	5.0	13.0	---	26.0	---	24.0	20.0
27	10.0	5.0	2.0	2.0	2.0	5.0	12.0	---	26.0	26.0	24.0	20.0
28	11.0	5.0	2.0	3.0	2.0	5.0	---	---	24.5	25.0	24.0	21.0
29	10.0	6.0	3.0	2.0	---	5.0	---	13.0	24.0	---	24.0	---
30	12.0	6.0	2.0	2.0	---	6.0	13.0	---	---	26.0	24.0	---
31	13.0	---	3.0	2.0	---	---	---	17.0	---	25.5	24.0	---

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)	
	LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)	
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14	10	12	6.5	37	92						
2	14	10	23	12	24	52						
3	18	9.6	21	10	25	56						
4	18	9.6	25	12	28	233						
5	20	11	28	14	31	373						
6	19	11	18	8.7	33	279						
7	19	10	13	6.3	35	194						
8	20	11	10	4.9	35	186						
9	19	9.8	12	5.8	212	3030						
10	18	9.2	13	6.1	272	3430						
11	16	8.4	11	5.2	270	2070						
12	13	6.6	9	4.3	240	1810						
13	19	9.5	8	4.1	145	920						
14	24	13	10	5.0	132	602						
15	25	14	10	4.9	175	600						
16	26	15	12	9.6	200	540						
17	23	14	50	100	156	403						
18	19	11	52	101	91	226						
19	17	10	15	22	55	121						
20	16	9.0	25	28	38	81						
21	17	8.9	32	30	190	2640						
22	18	9.3	41	34	138	1590						
23	24	12	54	43	33	244						
24	32	15	51	44	33	208						
25	33	16	51	45	34	359						
26	30	14	51	42	32	287						
27	26	13	50	44	30	243						
28	18	11	47	57	30	194						
29	16	14	46	164	32	112						
30	16	11	49	120	30	113						
31	10	5.8	---	---	30	113						

POTOMAC RIVER BASIN

45

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV

LOCATION.--Lat 39°26'35", long 78°49'20", Mineral County, Hydrologic Unit 02070002, on right bank 100 ft (30 m) downstream from Hazel Run, 1.0 mi (1.6 km) downstream from Cabin Run, 4.0 mi (6.4 km) northeast of Headsville, 8.0 mi (12.9 km) east of Keyser, and at mile 12.5 (20.1 km).

DRAINAGE AREA.--219 mi² (567 km²).

PERIOD OF RECORD.--August 1938 to current year.

REVISED RECORDS.--WSP 951: 1939-40.

GAGE.--Water-stage recorder. Datum of gage is 624.90 ft (190.470 m) Corps of Engineers datum. Prior to Oct 11, 1946, nonrecording gage on bridge 1.0 mi (1.6 km) upstream at datum 6.14 ft (1.871 m) higher. Oct. 11-23, 1946, nonrecording gage at present site and datum.

REMARKS.--Records good except those for February, which are poor. The flow from 111 mi² (287 km²) upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,080 acre-ft (23.5 hm³).

AVERAGE DISCHARGE.--41 years, 167 ft³/s (4.729 m³/s), 10.36 in/yr (263 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s (453 m³/s) Aug. 18, 1955, gage height, 12.20 ft (3.719 m), from rating curve extended above 4,900 ft³/s (140 m³/s) on basis of contracted-opening measurement at gage height 11.53 ft (3.514 m); minimum, 1.2 ft³/s (0.034 m³/s) Sept. 10-12, 1965; minimum gage height, 2.02 ft (0.616 m) Oct. 2, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,950 ft³/s (169 m³/s) Feb. 26, gage height, 10.63 ft (3.240 m); minimum discharge, 13 ft³/s (0.368 m³/s) Oct. 12, minimum gage height 2.78 ft (0.847 m) Oct. 12, Nov. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	17	58	203	151	1200	215	220	173	48	131	79
2	16	17	50	932	132	1290	557	195	152	41	179	66
3	16	17	48	648	120	1680	662	180	149	37	157	492
4	17	17	108	400	105	1880	795	180	162	61	116	243
5	17	17	123	300	95	1860	976	186	142	102	91	191
6	16	17	102	260	86	1700	718	169	121	77	73	1430
7	15	17	81	217	81	1160	581	153	108	56	58	720
8	15	18	91	207	78	892	507	142	99	43	47	492
9	15	18	298	178	74	761	468	131	314	37	49	373
10	14	17	257	150	69	686	408	122	411	38	42	281
11	14	17	187	130	68	625	337	120	262	36	43	212
12	14	17	148	110	66	559	289	127	176	34	105	159
13	14	18	121	99	64	504	254	174	138	32	167	120
14	17	18	102	97	62	461	230	201	113	46	115	105
15	18	18	87	107	70	407	206	194	95	72	86	92
16	19	28	77	90	110	355	185	185	81	128	66	74
17	20	34	71	85	90	314	166	170	76	242	52	61
18	21	36	65	121	77	280	152	157	75	175	47	52
19	20	34	61	100	66	250	141	149	68	139	47	51
20	18	31	62	125	73	221	131	140	58	189	43	44
21	18	27	118	1150	100	197	124	131	52	557	40	77
22	18	25	174	944	140	179	118	122	51	286	39	439
23	17	23	159	568	887	166	119	157	47	242	37	305
24	16	24	155	713	2110	212	124	268	44	277	36	225
25	16	22	470	726	3020	510	119	673	42	296	37	168
26	17	21	412	470	4640	416	122	536	40	398	95	128
27	16	28	326	386	2090	347	189	416	37	276	89	103
28	16	49	238	363	1410	296	283	340	34	217	159	96
29	16	66	190	270	---	263	269	278	38	200	319	97
30	16	66	150	215	---	235	243	228	39	195	215	85
31	14	---	128	179	---	214	---	193	---	158	114	---
TOTAL	512	774	4717	10543	16134	20120	9688	6637	3397	4735	2894	7060
MEAN	16.5	25.8	152	340	576	649	323	214	113	153	93.4	235
MAX	21	66	470	1150	4640	1880	976	673	411	557	319	1430
MIN	14	17	48	85	62	166	118	120	34	32	36	44
CFSM	.08	.12	.69	1.55	2.63	2.96	1.48	.98	.52	.70	.43	1.07
IN.	.09	.13	.80	1.79	2.74	3.42	1.65	1.13	.58	.80	.49	1.20
CAL YR 1978	TOTAL	80040	MEAN 219	MAX 3530	MIN 14	CFSM 1.00	IN 13.60					
WTR YR 1979	TOTAL	87211	MEAN 239	MAX 4640	MIN 14	CFSM 1.09	IN 14.81					

POTOMAC RIVER BASIN

47

01606000 NORTH FORK SOUTH BRANCH POTOMAC RIVER AT CABINS, WV

LOCATION.--Lat 38°59'05", long 79°14'10", Grant County, Hydrologic Unit 02070001, on left bank 380 ft (116 m) upstream from bridge on Forest Service Road No. 74, 1.8 mi (2.9 km) downstream from Jordan Run, 6 mi (9.6 km) west of Petersburg and at mile 3.0 (4.8 km).

DRAINAGE AREA.--314 mi² (813 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1940 to September 1961, October 1961 to September 1978 (occasional discharge measurements and annual maximums only), October 1978 to current year.

REVISED RECORDS.--WSP 1272: 1945.

GAGE.--Water-stage recorder. Datum of gage is 1,050.13 ft (320 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Water-discharge records good except those for January and February, which are poor.

AVERAGE DISCHARGE.--22 years, 391 ft³/s (11.07 m³/s), 16.91 in/yr (430 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 50,000 ft³/s (1420 m³/s) June 17, 1949, gage height, 18.0 ft (5.486 m) from floodmarks, from rating curve extended above 4,400 ft³/s (120 m³/s) on basis of slope-area measurement of peak flow; minimum, 5.0 ft³/s (0.14 m³/s) Oct. 1-5, 9-11, 1953; minimum gage height, 1.68 ft (0.512 m) Sept. 16, 17, 1946.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 3,300 ft³/s (94 m³/s) and maximum (*).

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Jan. 2	1630	4620	131	7.93	2.417	Mar. 5	1900	4500	127	7.85	2.393
Jan. 21	2200	4060	115	7.54	2.298	June 10	0530	5510	156	8.47	2.582
Feb. 24	2200	*8800	249	10.00	3.048	Sept. 6	0330	5900	167	8.68	2.646
Feb. 25	2330	8420	238	9.84	2.999						

Minimum discharge, 8.0 ft³/s (0.23 m³/s) Oct. 3, gage height, 2.63 ft (0.802 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	20	221	1010	250	1300	464	526	603	117	100	130
2	9.5	10	175	3070	237	1620	596	422	512	121	168	119
3	9.5	10	155	2670	221	2050	736	362	446	128	172	145
4	9.0	17	568	1000	234	2380	1200	350	1250	120	137	141
5	9.0	17	758	660	218	4270	1240	362	1210	183	112	181
6	9.5	17	470	550	212	3420	1080	320	846	146	92	3980
7	10	18	315	470	200	2080	846	300	603	114	78	1680
8	11	19	458	1800	194	1460	715	284	477	96	66	872
9	10	19	1900	1210	170	1100	652	272	554	85	63	536
10	10	19	1680	700	170	886	603	276	2950	84	60	354
11	10	19	1350	510	160	862	519	356	1600	96	49	264
12	10	19	617	430	160	720	470	742	982	84	122	219
13	11	20	434	390	160	624	452	910	645	77	230	189
14	16	20	330	500	150	589	477	708	452	110	142	190
15	16	23	264	370	150	575	470	617	330	209	109	202
16	26	34	237	330	200	464	470	519	268	211	92	164
17	33	64	218	354	180	434	452	404	247	169	77	137
18	33	79	194	554	160	398	446	330	268	130	73	121
19	28	79	175	350	150	364	422	292	250	107	294	113
20	25	70	222	386	170	350	386	264	198	95	307	108
21	22	55	2510	2850	982	335	345	240	175	93	214	123
22	19	46	1610	2900	2050	310	310	227	198	94	186	1200
23	18	40	1020	1600	2200	296	288	244	166	95	166	2380
24	17	55	666	1250	5010	782	300	750	161	505	152	1540
25	16	99	1040	1330	6720	2030	280	2030	151	251	140	925
26	16	86	862	894	5250	1480	288	1520	132	229	201	602
27	17	101	680	687	2550	1040	645	1040	114	198	214	412
28	17	181	540	610	1530	774	502	870	103	167	211	328
29	20	234	430	464	---	652	790	715	98	141	191	288
30	22	218	356	350	---	533	645	575	110	130	186	245
31	22	---	392	290	---	464	---	458	---	111	154	---
TOTAL	510.5	1724	20847	30541	30043	34735	17489	17285	16099	4496	4558	17888
MEAN	16.5	57.5	672	985	1073	1120	583	558	537	145	147	596
MAX	33	234	2510	3070	6720	4270	1240	2030	2950	505	307	3980
MIN	8.5	17	155	290	150	296	280	227	98	77	49	108
CFSM	.05	.18	2.14	3.14	3.42	3.57	1.86	1.78	1.71	.46	.47	1.90
IN.	.06	.20	2.47	3.62	3.56	4.12	2.07	2.05	1.91	.53	.54	2.12

WTP YR 1979 TOTAL 196215.5 MEAN 538 MAX 6720 MIN 8.5 CFSM 1.71 IN 23.25

POTOMAC RIVER BASIN

01606000 NORTH FORK SOUTH BRANCH POTOMAC RIVER AT CABINS, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1969-71, 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
APR 18...	0745	457	105	8.7	9.0	7.5	50	11	.0	.0	17
MAY 15...	1100	621	110	8.5	--	14.5	61	13	.0	.0	20
JUN 20...	0730	232	135	8.8	--	17.0	70	5	.0	.0	24
JUL 11...	1700	100	170	8.9	29.0	21.0	86	23	.0	.0	29
24...	0430	966	116	--	--	--	--	--	--	--	--
24...	0530	894	126	--	--	--	--	--	--	--	--
24...	0800	736	187	--	--	--	--	--	--	--	--
24...	0900	687	178	--	--	--	--	--	--	--	--
24...	1000	638	169	--	--	--	--	--	--	--	--
24...	1100	596	160	--	--	--	--	--	--	--	--
24...	1200	561	155	--	--	--	--	--	--	--	--
AUG 23...	1000	169	150	8.2	22.0	20.5	71	14	.0	.0	24
SEP 10...	1645	340	140	8.0	--	18.0	58	7	.0	.0	19

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS C02)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
APR 18...	1.9	--	--	39	--	12	1.8	73	.10	90.1
MAY 15...	2.6	--	--	48	--	14	1.3	70	.10	117
JUN 20...	2.5	1.8	.1	65	--	12	.9	105	.14	65.8
JUL 11...	3.3	2.4	.1	63	.2	16	2.4	112	.15	30.2
AUG 23...	2.6	1.9	.1	57	.7	11	1.7	94	.13	42.9
SEP 10...	2.5	1.0	.1	51	1.0	9.1	1.5	84	.11	77.1

POTOMAC RIVER BASIN

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01606000 NORTH FORK SOUTH BRANCH POTOMAC RIVER AT CABINS, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
APR 18...	--	--	--	--	--	50	50	0	--
MAY 15...	--	--	--	--	--	200	190	10	--
JUN 20...	--	--	--	--	--	600	590	10	--
JUL 11...	--	--	--	--	--	100	90	10	--
AUG 23...	--	--	--	--	--	130	100	30	--
SEP 10...	0	<10	<10	<10	<10	130	--	10	10000

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR 18...	--	0	0	0	--	--	--	--
MAY 15...	--	10	0	10	--	--	--	--
JUN 20...	--	10	4	6	--	--	--	--
JUL 11...	--	10	1	9	--	--	--	--
AUG 23...	--	10	10	0	--	--	--	--
SEP 10...	<10	10	10	0	260	.00	0	40

DATE	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
JUL 24...	883	2300	JUL 24...	1290	2220
24...	334	806	24...	840	1350
24...	1780	3540	24...	413	626
24...	1530	2840			

POTOMAC RIVER BASIN

01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, WV

LOCATION.--Lat 38°59'34", long 79°10'26", Grant County, Hydrologic Unit 02070001, on right bank 1.2 mi (1.9 km) downstream from North Fork South Branch Potomac River, 2.5 mi (4.0 km) west of Petersburg, and at mile 72.6 (116.8 km).

DRAINAGE AREA.--642 mi² (1,663 km²).

PERIOD OF RECORD.--June 1928 to current year.

REVISED RECORDS.--WSP 951: 1939-41. WSP 1141: 1932, 1933(M), 1936-38.

GAGE.--Water-stage recorder. Datum of gage is 962.00 ft (293.218 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Dec. 4, 1928, nonrecording gage at same site and datum.

REMARKS.--Records good except those for February, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--51 years, 708 ft³/s (20.05 m³/s), 14.98 in/yr (380 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 62,000 ft³/s (1,760 m³/s) June 17, 1949, gage height, 22.83 ft (6.959 m), from rating curve extended above 17,000 ft³/s (480 m³/s) on basis of slope-area measurement of peak flow; minimum, 42 ft³/s (1.19 m³/s) Sept. 28, 29, 1959, Sept. 11, 12, 1966; minimum gage height, 0.94 ft (0.287 m) Sept. 28, 29, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1877 reached a stage of 21.2 ft (6.46 m), from floodmarks.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,000 ft³/s (170 m³/s) and maximum (*).

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 2	1730	6950 197	7.67 2.338	Mar. 5	1545	8420 238	8.41 2.563
Jan. 21	0945	9180 260	8.79 2.679	June 10	0915	6440 182	7.39 2.252
Feb. 25	0100	14800 419	11.10 3.383	Sept. 6	0630	8880 251	8.64 2.633
Feb. 26	0230	*16800 476	11.90 3.627				

Minimum discharge, 86 ft³/s (2.44 m³/s) Oct. 2, gage height, 1.24 ft (0.378 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	87	93	342	1240	550	2700	923	1010	954	276	203	248
2	89	91	266	4470	480	3010	1060	870	855	270	304	228
3	87	91	230	3930	450	3540	1200	775	773	288	295	270
4	89	91	587	2070	450	3770	1760	757	2310	270	241	292
5	91	89	978	1410	387	7360	1860	786	2000	342	206	293
6	93	91	698	1110	380	6260	1630	702	1480	302	182	5870
7	91	89	501	961	370	3960	1370	642	1140	246	165	2590
8	91	91	548	2550	350	2820	1210	600	981	221	152	1420
9	91	91	2210	2030	340	2170	1140	561	1040	206	147	977
10	91	91	2540	1480	330	1760	1390	555	4170	207	144	725
11	85	91	1370	1130	330	1690	949	687	2690	224	136	569
12	87	91	940	914	320	1460	872	1040	1710	209	228	463
13	89	89	710	808	300	1270	846	1220	1230	201	488	391
14	93	93	568	901	290	1180	916	1550	958	234	287	380
15	110	95	462	700	320	1120	885	1320	773	328	217	417
16	110	110	405	610	450	957	881	1100	642	347	187	343
17	114	135	363	670	400	900	848	907	606	295	168	291
18	114	144	326	265	360	825	822	769	646	239	164	260
19	106	152	290	540	320	780	774	682	611	212	385	243
20	103	135	340	659	360	745	722	615	463	202	516	233
21	99	118	2360	5750	987	701	672	549	402	208	352	253
22	97	111	1730	4670	3090	656	624	510	450	206	329	2160
23	93	107	1120	2470	3190	625	595	533	379	199	283	3640
24	91	114	967	2150	7560	1130	623	1010	358	685	257	2440
25	89	144	1300	2550	11600	3170	580	2820	344	468	247	1550
26	89	136	1190	1580	11600	2400	577	2080	308	411	385	1120
27	91	164	975	1260	5030	1750	1070	1460	272	344	410	868
28	91	251	752	1150	3070	1380	1540	1280	253	293	366	735
29	95	334	610	944	---	1170	1380	1090	244	256	331	674
30	95	309	550	790	---	1020	1170	916	260	238	344	564
31	95	---	629	640	---	925	---	796	---	215	295	---
TOTAL	2940	3834	26757	53002	53664	63205	30589	30193	29302	8642	8414	30507
MEAN	94.8	128	863	1710	1917	2039	1020	974	977	279	271	1017
MAX	114	334	2540	5750	11600	7360	1860	2820	4170	685	516	5870
MIN	87	89	230	540	290	625	577	510	244	199	136	228
CFSM	.15	.20	1.34	2.66	2.99	3.18	1.59	1.52	1.52	.44	.42	1.58
IN.	.17	.22	1.55	3.07	3.11	3.66	1.77	1.75	1.70	.50	.49	1.77

CAI YR 1978 TOTAL 295050 MEAN 808 MAX 13300 MIN 87 CFSM 1.26 IN 17.10
WTP YR 1979 TOTAL 341049 MEAN 934 MAX 11600 MIN 87 CFSM 1.46 IN 19.76

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LOCATION.--Lat 38°37'53", long 79°14'38", Pendleton County, Hydrologic Unit 02070001, on left bank 50 ft (15 m) upstream from bridge on U.S. Highway 33, 0.1 mi (0.2 km) upstream from Hawes Run, 0.4 mi (0.6 km) north of Brandywine, 0.9 mi (1.4 km) downstream from Broad Run, and at mile 42.9 (69.0 km).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,770 ft³/s (135 m³/s) Feb. 26, gage height, 7.86 ft (2.396 m); minimum, 5.6 ft³/s (0.159 m³/s) part or all of each day Oct. 1-4, 10-13, gage height, 1.86 ft (0.567 m).

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	6.4	19	75	69	441	125	122	75	22	22	17
2	5.8	6.4	15	758	55	433	118	104	67	22	21	16
3	5.6	6.4	14	497	55	433	132	96	866	21	13	21
4	6.0	6.4	28	227	61	409	218	90	1720	19	10	29
5	6.4	6.4	53	147	36	980	227	88	830	23	8.5	441
6	6.0	6.8	48	112	36	794	182	77	329	18	8.1	2000
7	5.8	6.8	34	125	43	489	150	69	191	16	7.3	413
8	5.8	6.8	69	521	42	361	132	62	140	15	6.8	173
9	5.8	6.8	233	321	36	261	127	58	116	14	6.8	102
10	5.8	6.8	309	191	34	212	114	55	135	14	6.4	69
11	5.8	6.8	160	140	31	215	104	106	197	15	7.3	52
12	5.8	6.4	110	104	33	203	90	140	137	14	34	42
13	5.8	6.4	88	94	27	173	92	247	108	13	28	34
14	8.5	6.4	69	92	29	157	94	752	92	13	15	36
15	8.5	7.3	58	69	29	135	94	349	77	12	12	39
16	8.1	7.7	48	69	35	112	96	209	66	12	10	43
17	7.7	9.4	43	66	38	102	94	147	70	9.8	9.8	41
18	7.3	12	35	62	27	96	88	118	66	9.8	11	34
19	6.8	12	33	43	38	90	80	106	55	11	16	28
20	6.4	9.4	29	76	46	84	75	94	45	9.8	16	23
21	6.4	8.1	33	2140	58	77	70	82	41	9.8	21	48
22	6.4	7.7	29	968	160	70	66	74	39	9.8	17	1040
23	6.4	8.1	24	389	417	67	66	67	34	10	15	710
24	6.0	8.5	33	675	1790	776	64	72	31	15	14	349
25	6.0	8.1	145	665	2470	1250	59	301	31	13	16	167
26	6.4	8.1	140	337	2490	655	59	289	27	13	67	118
27	6.4	12	112	206	1000	309	142	167	23	12	43	92
28	6.4	15	78	162	635	209	258	127	21	11	29	77
29	6.4	15	66	122	---	167	191	102	21	10	24	69
30	6.4	23	66	100	---	147	147	86	25	9.8	25	59
31	6.4	---	64	77	---	130	---	77	---	9.4	21	---
TOTAL	198.9	263.4	2285	9630	9820	10037	3554	4533	5675	426.2	561.0	6382
MEAN	6.42	8.79	73.7	311	351	324	118	146	189	13.7	18.1	213
MAX	8.5	23	309	2140	2490	1250	258	752	1720	23	67	2000
MIN	5.6	6.4	14	43	27	67	59	55	21	9.4	6.4	16
CFSM	.06	.09	.72	3.05	3.44	3.18	1.16	1.43	1.85	.13	.18	2.09
JN.	.07	.10	.83	3.51	3.58	3.66	1.30	1.65	2.07	.16	.20	2.33
CAL YR 1978	TOTAL	41558.2	MEAN 114	MAX 3220	MIN 5.6	CFSM 1.12	JN 15.16					
WTR YR 1979	TOTAL	53365.5	MEAN 146	MAX	2490	MIN 5.6	CFSM 1.43	JN 19.46				

POTOMAC RIVER BASIN

01608000 SOUTH FORK SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV

LOCATION.--Lat 39°00'44", long 78°57'23", Hardy County, Hydrologic Unit 02070001, on right bank 0.2 mi (0.3 km) downstream from Stony Creek, 3.5 mi (5.6 km) south of Moorefield, and at mile 6.0 (9.7 km).

DRAINAGE AREA.--283 mi² (733 km²).

PERIOD OF RECORD.--June 1928 to September 1935, August 1938 to current year.

REVISED RECORDS.--WSP 1141: 1933(M), 1940, 1942-43, 1945, 1948(M). WSP 1302: 1931(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 861.51 ft (262.588 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers datum). Prior to Mar. 11, 1940, nonrecording gage at Harness Ford Bridge 2.0 mi (3.2 km) upstream at datum about 31 ft (9.45 m) higher.

REMARKS.--Records good except those for February, and those for period of doubtful-or-no gage-height record, Feb. 21 to Apr. 2, which are poor. The flow from 92.7 mi² (240.1 km²) upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,870 acre-ft (24.5 hm³).

AVERAGE DISCHARGE.--48 years, 218 ft³/s (6.174 m³/s), 10.46 in/yr (266 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,000 ft³/s (1,100 m³/s) June 18, 1949, gage height, 16.1 ft (4.91 m), from rating curve extended above 7,000 ft³/s (200 m³/s) on basis of slope-area measurement of peak flow; minimum, 4.4 ft³/s (0.12 m³/s) Sept. 10, 11, 1965, Sept. 9-11, 1966, gage height, 0.92 ft (0.280 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,570 ft³/s (186 m³/s) Feb. 26, gage height, 7.70 ft (2.347 m), from floodmark; minimum discharge, 18 ft³/s (0.510 m³/s) Oct. 24, minimum gage height, 1.09 ft (0.332 m) Oct. 11, 12, 13, Aug. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	20	31	136	210	1200	340	345	275	70	38	50
2	28	20	31	356	190	1200	320	290	240	64	36	46
3	26	20	30	1100	140	1300	318	257	282	60	44	50
4	24	21	30	669	168	1100	318	239	678	56	43	84
5	29	20	41	445	156	1400	318	231	1370	80	36	93
6	28	21	50	336	110	1800	397	208	846	70	33	2370
7	28	21	50	280	120	1400	474	187	530	60	30	1260
8	28	21	53	357	120	990	401	172	395	52	29	600
9	26	21	98	597	110	790	366	159	323	50	29	394
10	26	21	447	452	100	620	335	152	400	50	28	255
11	26	21	366	347	87	610	278	337	490	54	28	186
12	26	20	254	277	89	570	243	1160	431	46	44	146
13	26	21	192	238	76	500	226	780	332	44	57	118
14	30	21	154	200	84	440	226	1320	267	43	65	107
15	24	21	125	180	47	370	229	1250	218	46	53	96
16	25	24	106	173	84	310	232	822	185	44	43	91
17	25	22	94	159	77	290	231	590	179	48	39	89
18	24	25	83	140	73	270	218	450	176	44	39	86
19	22	25	75	112	71	250	201	372	152	38	41	81
20	20	25	69	128	88	230	185	318	126	34	48	71
21	20	24	70	1300	150	210	173	275	115	41	52	74
22	20	25	70	2370	250	200	162	240	118	41	46	909
23	20	24	69	1060	590	190	158	222	106	46	48	1460
24	19	25	68	842	1500	300	155	229	98	46	43	1050
25	19	25	84	1470	2900	2090	148	575	90	48	44	629
26	20	22	283	904	5500	1390	139	1130	79	61	55	421
27	21	26	276	616	2700	958	183	722	65	57	76	305
28	20	26	225	491	1700	630	436	560	59	53	76	243
29	20	28	171	389	---	470	508	445	56	50	67	205
30	19	29	152	313	---	400	417	363	81	44	59	173
31	20	---	145	250	---	370	---	297	---	41	53	---
TOTAL	744	685	3992	16777	17570	22948	8335	14707	8762	1581	1422	11742
MEAN	24.0	22.8	129	541	628	737	278	474	292	51.0	45.9	391
MAX	30	29	447	2370	5500	2090	508	1370	1370	80	76	2370
MIN	19	20	30	112	71	190	139	152	56	34	28	46
CFSM	.09	.08	.46	1.91	2.22	2.60	.98	1.68	1.03	.18	.16	1.38
IN.	.10	.09	.52	2.21	2.31	3.00	1.10	1.93	1.15	.21	.19	1.54
CAL YR 1978	TOTAL	192463	MEAN 281	MAX 5000	MIN 19	CFSM .99	IN 13.47					
WTR YR 1979	TOTAL	109165	MEAN 299	MAX 5500	MIN 19	CFSM 1.06	IN 14.35					

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV

LOCATION.--Lat 39°26'49", long 78°39'16", Hampshire County, Hydrologic Unit 02070001, on left bank at highway bridge, 2.0 mi (3.2 km) east of Springfield, and at mile 13.4 (21.6 km).

DRAINAGE AREA.--1,471 mi² (3,810 km²).

PERIOD OF RECORD.--June 1894 to February 1896, (fragmentary), June 1899 to February 1902, August 1903 to July 1906, August 1928 to current year.

REVISED RECORDS.--WSP 1552: 1903-06, 1929-30(M), 1932-33(M), 1935(M), 1937-40(M), 1942-43(M), 1945(M).

GAGE.--Water-stage recorder. Datum of gage is 562.02 ft (171.304 m) National Geodetic Vertical Datum of 1929. June 1894 to February 1896, nonrecording gage at Baltimore & Ohio Railroad bridge 11.2 mi (18.0 km) upstream at different datum. June 26, 1899, to Feb. 2, 1902, nonrecording gage at bridge 10.0 mi (16.1 km) upstream at different datum. Aug. 28, 1903, to July 14, 1906, nonrecording gage at present site at different datum. Aug. 8 to Sept. 24, 1928, nonrecording gage at present site and datum.

REMARKS.--Records poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--55 years (water years 1900-01, 1904-05, 1929-79), 1,291 ft³/s (36.56 m³/s), 11.92 in/yr (303 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 143,000 ft³/s (4,050 m³/s) Mar. 18, 1936, gage height, 34.2 ft (10.42 m), from rating curve extended above 28,000 ft³/s (793 m³/s) on basis of measurement made about 10 mi (16 km) upstream from station, adjusted for storage and inflow and slope-area measurement at gage height 29.84 ft (9.095 m); minimum, 29 ft³/s (0.82 m³/s) Jan. 28, 1956, result of freezeup, July 30, 1966, result of temporary dam; minimum gage height, 0.39 ft (0.119 m) July 30, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1877 reached a stage of about 34 ft (10.4 m), from flood-marks, discharge, 140,000 ft³/s (3,960 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 10,000 ft³/s (280 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Jan. 22	0045	14100	399	11.95	3.642	Mar. 6	0800	11800	334	10.77	3.283
Feb. 26	1745	*34200	969	19.17	5.843	Sept. 6	2115	12600	357	11.20	3.414

Minimum discharge, 141 ft³/s (3.993 m³/s) Nov. 8; minimum gage height, 1.57 ft (0.479 m) Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161	149	608	1410	1350	6630	1670	2100	1680	630	385	453
2	159	149	660	3940	1200	6350	2920	1800	1790	491	498	406
3	159	147	517	8060	1000	7250	3030	1700	1710	436	565	544
4	161	147	530	4580	1000	7020	4050	1600	2640	498	498	600
5	163	147	1090	3030	910	8280	4520	1500	4480	747	424	700
6	161	147	1480	2200	890	11100	3750	1500	3200	608	370	5720
7	159	145	1000	1870	910	7870	3030	1300	2350	504	331	7070
8	159	145	683	1980	980	5840	2520	1200	1930	424	308	3520
9	154	151	1340	3530	920	4760	2260	1200	2340	385	300	2300
10	151	149	3630	2720	860	4010	2150	1100	3450	375	283	1670
11	147	149	2970	2000	800	3590	1870	1500	4860	375	292	1260
12	147	149	1980	1700	760	3390	1620	3000	3060	370	349	1020
13	147	151	1310	1400	720	3000	1480	3100	2260	350	586	858
14	159	151	1080	1380	670	2740	1470	4000	1810	450	675	731
15	171	159	939	1350	700	2580	1510	4500	1480	640	511	675
16	178	195	876	1200	730	2370	1440	3000	1240	740	396	675
17	181	267	798	1120	700	2140	1410	2300	1090	600	340	593
18	184	308	699	1280	650	2020	1400	1900	1200	470	317	524
19	184	308	651	1300	630	1910	1350	1600	1100	410	317	500
20	178	275	620	1100	700	1820	1300	1500	950	350	385	480
21	171	231	1800	4470	930	1750	1250	1300	820	360	653	478
22	163	209	3180	12300	860	1650	1200	1200	723	370	488	1430
23	163	195	2140	6230	3000	1500	1200	1100	798	385	465	6000
24	159	187	1690	4640	11900	1590	1200	2200	683	401	424	5910
25	156	178	2060	6300	20900	4760	1200	5850	668	723	406	3650
26	151	184	2680	4270	29200	5490	1100	5780	623	1430	472	2520
27	149	249	2240	3030	15200	3940	2000	3660	565	832	600	1850
28	147	370	1840	2570	8120	2940	2800	2700	524	615	600	1430
29	149	551	1400	2150	---	2390	3200	2230	498	524	558	1290
30	149	723	1300	1800	---	2050	2600	2000	530	485	558	1120
31	147	---	1230	1540	---	1790	---	1700	---	430	530	---
TOTAL	4967	6665	45021	96450	107190	124520	62600	71120	51052	16408	13894	55977
MEAN	160	222	1452	3111	3828	4017	2087	2294	1702	529	448	1866
MAX	184	723	3630	12300	29200	11100	4520	5850	4860	1430	675	7070
MIN	147	145	517	1100	630	1500	1100	1100	498	350	283	406
CFSM	.11	.15	.99	2.12	2.60	2.73	1.42	1.56	1.16	.36	.31	1.27
IN.	.13	.17	1.14	2.44	2.71	3.15	1.58	1.80	1.29	.41	.35	1.42

CAI. YR 1978 TOTAL 573097 MEAN 1570 MAX 25100 MIN 145 CFSM 1.07 IN 14.49
WTR YR 1979 TOTAL 655864 MEAN 1797 MAX 29200 MIN 145 CFSM 1.22 IN 16.59

POTOMAC RIVER BASIN

01610000 POTOMAC RIVER AT PAW PAW, WV

LOCATION.--Lat 39°32'13", long 78°27'28", Allegany County, Md., Hydrologic Unit 02070003, on left bank 250 ft (76 m) upstream from bridge on Maryland State Highway 51 at Paw Paw, 3.3 mi (5.3 km) downstream from Little Cacapon River, and at mile 277 (446 km).

DRAINAGE AREA.--3,109 mi² (8,052 km²).

PERIOD OF RECORD.--October 1938 to current year.

GAGE.--Water-stage recorder. Datum of gage is 487.88 ft (148.706 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1939, nonrecording gage at bridge 250 ft (76 m) downstream at same datum.

REMARKS.--Records good except those for winter periods, which are fair. Low flow affected by Stony River Reservoir (see station 01595200), and since December 1950, by Savage River Reservoir (see station 01597500). Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--41 years, 3,249 ft³/s (92.01 m³/s), 14.19 in/yr (360 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 111,000 ft³/s (3,140 m³/s) Oct. 16, 1942, gage height, 38.36 ft (11.692 m); minimum, 164 ft³/s (4.64 m³/s) Sept. 10, 11, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 54.0 ft (16.46 m) Mar. 18, 1936, discharge, 240,000 ft³/s (6,800 m³/s), from rating curve extended above 85,000 ft³/s (2,410 m³/s) on basis of slope-area measurement of peak flow at site 5.0 mi (8.0 km) upstream at Okonoko, W. Va.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20,000 ft³/s (560 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 22	0600	23600 668	16.84 5.133	Mar. 6	1300	40000 1130	22.20 6.767
Feb. 26	2030	*65300 1850	29.13 8.879	Sept. 7	0130	23300 660	16.74 5.102

Minimum discharge, 441 ft³/s (12.5 m³/s) Oct. 25, 26, gage height, 3.49 ft (1.064 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	493	484	1790	3590	3470	17800	4120	5050	3940	1510	1360	1760
2	492	472	1740	11300	2710	16700	8410	4390	4010	1450	1420	1820
3	486	461	1570	18200	2410	19800	9980	3890	3690	1170	1500	2360
4	495	458	2630	11600	2300	21800	10900	3980	4020	1180	1270	2110
5	499	453	5750	7850	2150	31600	13200	4600	7000	2510	1090	1760
6	500	457	5170	5860	1800	38100	11000	4670	5410	2700	948	11800
7	489	455	3900	4900	1750	28300	8550	4300	4170	1790	834	17200
8	482	455	3170	5320	1750	19600	7010	3860	3350	1360	748	8500
9	470	450	6150	7280	1690	15600	6290	3470	3710	1130	724	5570
10	463	447	9450	6030	1470	13300	6050	3170	6620	1040	725	4230
11	466	447	7370	4920	1340	10800	5320	3110	10200	1130	755	3520
12	461	449	5550	3990	1310	9270	4690	5690	6340	1050	992	2930
13	461	461	4650	3470	1300	7890	4320	6960	4610	970	2330	2460
14	491	463	3690	3470	1430	6770	4130	8020	3570	1640	2250	2250
15	499	469	2950	3270	1540	6490	4130	7650	2920	3580	1640	2360
16	516	538	2430	2980	1580	5790	3960	5930	2470	3720	1220	2160
17	548	782	2150	2820	1700	5090	3840	4790	2200	3360	1010	1970
18	545	1220	1990	3060	1800	4670	3620	3880	2140	2440	890	1680
19	538	1140	1830	3730	1900	4320	3390	3330	2030	1890	852	1400
20	543	940	1690	2870	2040	3940	3160	3030	1890	1570	961	1310
21	517	799	2370	7670	2410	3710	2970	2740	1620	3060	1280	1300
22	493	717	7750	21300	2740	3470	2810	2510	1480	2100	1240	3760
23	482	654	5710	13000	10700	3260	2640	2530	1550	1660	1100	7570
24	467	650	4540	11400	23100	3500	2730	4850	1440	1510	1040	8630
25	447	661	7890	17100	43700	14100	2740	10000	1310	1640	957	5810
26	447	640	8140	10800	59700	13800	2610	14700	1220	2640	990	4330
27	454	687	6300	7420	44400	9790	3950	9340	1110	2500	1280	3460
28	455	809	4970	6370	21500	7550	6230	7350	1000	1750	1600	2950
29	512	1590	3710	5420	---	6240	6430	6110	940	1540	6210	2810
30	561	2010	3290	4440	---	5230	5680	5230	1060	1680	3140	2620
31	506	---	3320	3970	---	4450	---	4420	---	1590	2190	---
TOTAL	15278	20718	133510	225400	245690	362730	164860	163550	97020	58860	44546	122390
MEAN	493	691	4310	7271	8775	11700	5495	5276	3234	1899	1437	4080
MAX	561	2010	9450	21300	59700	38100	13200	14700	10200	3720	6210	17200
MIN	447	447	1570	2820	1300	3260	2610	2510	940	970	724	1300

CAL YR 1978 TOTAL 1494948 MEAN 4096 MAX 47000 MIN 447 CFSM 1.32 IN 17.89
WTR YR 1979 TOTAL 1654652 MEAN 4533 MAX 59700 MIN 447 CFSM 1.46 IN 19.80

POTOMAC RIVER BASIN

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01610200 LOST RIVER AT MCCAULEY NEAR BAKER, WV

LOCATION.--Lat 39°03'18", long 78°43'31", Hardy County, Hydrologic Unit 02070003, on left bank at McCauley, 1.4 mi (2.3 km) upstream from Three Springs Run, and 1.7 mi (2.7 km) east of Baker.

DRAINAGE AREA.--155 mi² (401 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1971 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,259.34 ft (383.847 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 4, 1974, at site 350 ft. (107 m) downstream at same datum.

REMARKS.--Water-discharge records good except those for February, which are poor.

AVERAGE DISCHARGE.--8 years, 188 ft³/s (5.324 m³/s), 16.47 in/yr (418 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,600 ft³/s (413 m³/s) June 23, 1972, gage height, 11.58 ft (3.530 m), site then in use, from floodmarks, from rating curve extended above 1,000 ft³/s (28 m³/s) on basis of slope-area measurement of peak flow; minimum, 1.8 ft³/s (0.051 m³/s), July 23, 24, 1977, gage height, 0.63 ft (0.192 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,900 ft³/s (54 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Jan. 21	2015	3160	89.5	6.49	1.978	May 25	0630	4500	127	7.35	2.240
Jan. 24	1630	3760	106	6.89	2.100	Sept. 6	0115	2320	65.7	5.80	1.768
Feb. 26	0015	*9610	272	9.83	2.996						

Minimum discharge, 8.6 ft³/s (0.244 m³/s) Oct. 12, 13, 25; minimum gage height, 0.79 ft (0.241 m) Oct. 12.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	10	85	161	100	665	158	214	183	33	30	22
2	10	9.5	62	1030	110	675	198	173	140	27	25	19
3	10	10	50	640	98	665	325	150	412	23	22	30
4	12	10	65	350	97	580	595	142	625	55	19	54
5	12	10	85	249	80	822	524	143	391	86	16	114
6	12	9.5	74	187	61	930	408	120	260	45	14	1080
7	10	9.5	60	169	70	635	315	106	185	31	12	295
8	10	9.5	57	237	68	468	260	96	143	24	11	142
9	9.5	9.5	225	165	59	367	249	89	135	21	13	94
10	9.0	9.5	373	160	46	300	220	85	620	24	12	70
11	9.0	9.0	196	126	49	315	173	370	357	33	10	54
12	9.0	9.0	133	103	48	265	154	805	234	23	65	45
13	10	9.5	103	112	46	227	156	730	154	19	72	38
14	30	9.0	82	123	46	205	181	1210	113	21	36	42
15	23	10	65	91	44	175	173	630	87	117	23	39
16	15	14	61	94	42	142	171	476	71	181	18	30
17	14	21	53	85	40	131	149	334	71	143	16	26
18	13	24	46	87	37	122	130	252	70	73	15	22
19	12	16	48	58	35	114	117	207	53	52	21	21
20	12	12	47	85	40	103	109	165	44	40	24	19
21	11	10	51	1430	48	95	102	133	38	35	20	24
22	11	9.5	52	1200	500	87	95	116	48	39	18	516
23	11	9.0	44	504	735	82	96	167	39	34	16	765
24	11	10	45	1380	3170	163	89	472	35	27	15	401
25	11	10	464	1040	3820	496	84	2370	34	25	16	216
26	11	9.5	340	516	4160	440	84	948	29	149	52	138
27	10	19	229	353	1030	340	163	540	24	73	33	100
28	10	40	138	286	665	265	229	448	22	52	29	82
29	10	63	106	209	---	220	255	353	22	40	26	74
30	10	100	100	163	---	179	242	270	40	58	41	61
31	10	---	113	131	---	156	---	201	---	39	27	---
TOTAL	376.5	510.5	3652	11524	15344	10429	6204	12515	4679	1642	767	4633
MEAN	12.1	17.0	118	372	548	336	207	404	156	53.0	24.7	154
MAX	39	100	464	1430	4160	930	595	2370	625	181	72	1080
MIN	9.0	9.0	44	50	35	82	84	45	22	19	10	19
CFSM	.08	.11	.76	2.40	3.54	2.17	1.34	2.61	1.01	.34	.16	.99
IN.	.09	.12	.88	2.77	3.68	2.50	1.49	3.00	1.12	.39	.18	1.11
CAL YR 1978 TOTAL	76803.9		MEAN 210	MAX 4470	MIN 9.0	CFSM 1.36	IN 18.43					
WTR YR 1979 TOTAL	72276.0		MEAN 198	MAX 4160	MIN 9.0	CFSM 1.28	IN 17.35					

POTOMAC RIVER BASIN

01610200 LOST RIVER AT MCCAULEY NEAR BAKER, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968, 1974 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1974 to October 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum 29.0°C Aug. 26, 1976; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT									
31...	1035	9.3	195	--	18.0	13.0	--	9	.23
DEC									
12...	1200	130	80	7.3	--	1.5	13.6	4	1.4
JAN									
21...	1310	1210	90	--	--	3.0	--	1000	3270
21...	1600	2350	50	--	--	3.0	--	668	4240
21...	1730	2580	40	--	--	3.0	--	729	5080
23...	1605	439	90	8.0	-2.0	3.0	14.0	51	60
24...	1230	620	66	--	--	3.0	--	401	671
24...	1350	1670	66	--	--	3.0	--	384	1730
24...	1445	2460	58	--	--	3.0	--	782	5190
24...	1525	3240	59	--	--	3.0	--	808	7070
24...	1630	3760	52	--	--	3.0	--	750	7610
24...	1730	3470	51	--	--	3.0	--	729	6830
FEB									
22...	0900	370	--	--	--	1.0	--	29	29
24...	0900	1480	59	--	--	--	--	288	1150
24...	1100	1390	56	--	--	--	--	182	683
25...	0630	2910	53	--	--	--	--	313	2460
25...	0830	2640	53	--	--	--	--	393	2800
25...	1715	2950	56	--	--	--	--	141	1120
25...	1930	4270	55	--	--	--	--	126	1450
26...	0710	4730	51	--	--	--	--	444	5670
26...	0900	4500	52	--	--	--	--	425	5160
26...	1215	3320	54	--	--	--	--	495	4440
MAR									
07...	1330	623	75	8.8	14.0	6.5	13.0	6	10
APR									
17...	0930	150	85	6.7	12.0	7.0	12.6	3	1.2
MAY									
25...	0830	4160	60	--	--	--	--	519	5830
25...	1030	3700	60	--	--	--	--	597	5960
25...	1130	3320	60	--	--	--	--	522	4680
25...	1710	2090	60	--	--	--	--	72	406
25...	1945	1870	60	--	--	--	--	72	364
JUN									
05...	1510	356	80	7.5	--	17.0	11.2	8	7.7
JUL									
10...	1000	22	135	9.3	25.0	21.0	7.0	2	.12
AUG									
21...	1400	20	190	7.6	21.0	22.0	7.6	5	.27

POTOMAC RIVER BASIN

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01611500 CACAPON RIVER NEAR GREAT CACAPON, WV

LOCATION.--Lat 39°34'43", long 78°18'34", Morgan County, Hydrologic Unit 02070003, on left bank at Rock Ford, 3.0 mi (4.8 km) southwest of Great Cacapon, and at mile 6.5 (10.5 km).

DRAINAGE AREA.--677 mi² (1,753 km²).

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

REVISED RECORDS.--WSP 800: 1924(M). WSP 921: Drainage area. WSP 951: 1936-37, WSP 1552: 1925-26(M), 1928, 1929(M), 1932.

GAGE.--Water-stage recorder. Datum of gage is 456.78 ft (139.227 m) Corps of Engineers datum. Prior to Nov. 10, 1933, nonrecording gage at same site and datum.

REMARKS.--Records good except those for February, which are poor.

AVERAGE DISCHARGE.--56 years (water years 1924-79), 586 ft³/s (16.60 m³/s), 11.75 in/yr (298 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,600 ft³/s (2,480 m³/s) Mar. 18, 1936, gage height, 30.1 ft (9.17 m), from rating curve extended above 52,000 ft³/s (1,470 m³/s); minimum, 26 ft³/s (0.74 m³/s) Sept. 11-13, 1966; minimum gage height, 0.35 ft (0.107 m) Sept. 21, 22, 1932, Sept. 11-13, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1889 reached a stage of 24.7 ft (7.53 m), from floodmarks, discharge, 57,500 ft³/s (1,630 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,900 ft³/s (110 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Jan. 3	0800	4890	138	7.56	2.304	Mar. 6	1800	3970	112	6.89	2.100
Jan. 22	1200	9400	266	10.42	3.176	Mar. 25	1300	4880	138	7.55	2.301
Jan. 25	0900	9820	278	10.64	3.243	May 26	0300	5630	159	8.08	2.463
Feb. 26	1800	*16600	470	13.69	4.173	Sept. 6	1900	5880	167	8.25	2.515

Minimum discharge, 90 ft³/s (2.55 m³/s) Oct. 11, 12, 13, gage height, 0.87 ft (0.265 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	105	364	513	660	3010	810	790	705	199	206	183
2	97	105	369	1150	540	3040	1120	715	810	268	187	156
3	96	103	316	3780	480	3530	1290	640	665	223	164	142
4	98	104	292	1900	530	3070	1900	610	956	203	152	156
5	100	104	297	1170	450	2830	2380	630	1370	256	146	190
6	101	104	312	559	360	3660	1960	645	998	412	137	2910
7	100	99	310	777	390	3130	1520	555	760	304	128	2440
8	98	96	290	787	370	2350	1260	490	610	226	124	1140
9	95	102	394	580	320	1880	1120	452	560	185	121	705
10	93	98	851	733	290	1540	1120	436	1140	168	114	485
11	91	94	1090	590	270	1390	980	505	1980	160	116	372
12	90	95	686	500	260	1320	800	1540	1320	160	135	300
13	91	96	516	469	250	1120	735	1840	908	170	160	251
14	114	97	427	532	240	999	725	2050	650	166	262	236
15	137	103	366	450	230	912	780	2090	485	183	243	228
16	178	114	318	482	220	797	725	1440	392	1050	181	210
17	182	128	290	467	210	690	680	1160	356	908	148	194
18	153	136	266	437	200	645	620	890	428	595	135	175
19	135	165	242	320	200	605	560	745	412	408	130	160
20	126	170	229	466	220	577	510	690	307	310	126	150
21	120	156	238	1250	300	547	468	610	254	342	131	164
22	116	139	250	7540	543	518	444	520	228	314	146	580
23	114	126	264	2950	1050	485	428	510	213	236	137	1570
24	111	123	261	2400	6990	580	440	805	203	213	133	1920
25	106	121	882	7720	11500	3180	420	1890	196	201	126	1180
26	105	115	2000	3210	13700	2600	412	4240	183	208	168	795
27	108	124	1290	1930	7530	1820	525	2270	172	349	156	590
28	108	135	875	1570	3590	1410	914	1520	164	360	216	460
29	109	166	550	1280	---	1170	932	1280	158	271	183	380
30	105	268	480	1000	---	1020	872	1030	166	228	310	342
31	104	---	508	829	---	890	---	820	---	206	241	---
TOTAL	3480	3681	15823	49141	51893	51315	27450	34408	17749	9482	5062	18764
MEAN	112	123	510	1585	1853	1655	915	1110	592	306	163	625
MAX	182	268	2000	7720	13700	3660	2380	4240	1980	1050	310	2910
MIN	90	94	229	320	200	485	412	436	158	160	114	142
CFSM	.17	.18	.75	2.34	2.74	2.45	1.35	1.64	.87	.45	.24	.92
IN.	.19	.20	.87	2.70	2.85	2.82	1.51	1.89	.98	.52	.28	1.03
CAL YR 1978 TOTAL	311551		MEAN 854	MAX 18000	MIN 90	CFSM 1.26	IN 17.12					
WTR YR 1979 TOTAL	288248		MEAN 790	MAX 13700	MIN 90	CFSM 1.17	IN 15.84					

01613000 POTOMAC RIVER AT HANCOCK, MD

LOCATION.--Lat 39°41'49", long 78°10'39", Washington County, Hydrologic Unit 02070004, on left bank 0.2 mi (0.3 km) downstream from Little Tonoloway Creek, 0.5 mi (0.8 km) downstream from bridge on U.S. Highway 522 at Hancock, 1.1 mi (1.8 km) upstream from Tonoloway Creek (formerly called Great or Big Tonoloway Creek), and at mile 239 (385 km).

DRAINAGE AREA.--4,073 mi² (10,549 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1932 to current year. Gage-height records collected at same site since June 1925 are contained in reports of U.S. Weather Service.

REVISED RECORDS.--WSP 781: 1933(M). WSP 801: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 383.68 ft (116.946 m) National Geodetic Vertical Datum of 1929.

Oct. 1, 1932, to Jan. 5, 1935, Mar. 18, 1936, to Jan. 20, 1937, nonrecording gage, on former highway bridge just upstream at same datum.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Slight regulation at low flow from power plants upstream. Low flow affected slightly by Stony River Reservoir (see station 01595200) and since December 1950, by Savage River Reservoir (see station 01597500). Gage-height telemeter at station.

AVERAGE DISCHARGE.--47 years, 4,120 ft³/s (116.8 m³/s), 13.75 in/yr (349 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 340,000 ft³/s (9,630 m³/s) Mar. 18, 1936, gage height, 47.6 ft (14.508 m), from rating curve extended above 120,000 ft³/s (3,400 m³/s) on basis of slope-area measurement of peak flow; minimum observed, 180 ft³/s (5.10 m³/s) Oct. 4, 1932, gage height, 2.01 ft (0.613 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1932, about 40 ft (12.2 m) in May 1889, discharge, about 220,000 ft³/s (6,230 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 23,000 ft³/s (650 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 3	1900	23600 668	13.29 4.051	Mar. 1	0015	24600 697	13.61 4.148
Jan. 22	1530	31800 901	15.68 4.779	Mar. 6	2115	43800 1240	18.67 5.691
Jan. 25	1100	31000 878	15.45 4.709	Sept. 7	0945	25800 731	13.98 4.261
Feb. 27	0130	*81300 2300	25.96 7.913				

Minimum discharge, 543 ft³/s (15.4 m³/s) Oct. 1, 13, Nov. 11, 12, 13, 14, gage height, 2.72 ft (0.829 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	554	630	2190	4140	4780	23200	5300	6560	5070	1440	1840	2320
2	588	606	2240	5540	3960	21500	7780	5750	4880	1890	1680	1910
3	584	590	2200	21100	3420	24200	12800	5020	4770	1690	1690	2020
4	593	579	2160	17600	3330	25000	13700	4710	4660	1460	1680	2720
5	594	572	3190	10800	3000	32200	16500	5080	7050	1780	1440	2240
6	597	569	5450	8150	2600	41200	15600	5620	7550	3320	1240	8490
7	593	569	5550	6430	2400	36700	11900	5360	5740	2830	1080	22800
8	583	552	5080	6320	2530	24900	9450	4830	4510	2030	960	12600
9	573	552	4780	7520	2400	19300	8120	4360	3880	1590	894	7650
10	563	552	8030	7930	2100	16100	7690	3940	5640	1340	840	5530
11	552	547	10600	6510	1900	13900	7010	3770	11300	1240	840	4370
12	552	543	8660	5430	1850	11600	6000	4920	9290	1280	923	3720
13	549	543	7310	4650	1850	9990	5410	9080	6470	1220	1410	3080
14	602	550	6180	4310	2000	8610	5080	9810	4830	1350	2730	2690
15	610	554	5120	4130	2200	7720	5030	10600	3850	2510	2500	2600
16	649	584	4300	3940	2300	7310	4910	8440	3200	4710	1880	2580
17	696	631	3690	3720	2400	6310	4680	6730	2830	4920	1430	2340
18	718	803	3260	3560	2600	5690	4530	5390	2630	3770	1190	2090
19	689	1250	2970	3990	2700	5260	4190	4500	2620	2890	1060	1770
20	663	1330	2750	3860	2900	4870	3920	3990	2360	2300	995	1530
21	662	1240	2580	4720	3400	4490	3680	3660	2130	2810	1100	1540
22	632	1150	3000	24400	3900	4250	3470	3290	1870	3480	1430	2720
23	603	1060	5550	20600	14400	3970	3290	3130	1710	2400	1430	7600
24	587	994	5850	14000	25300	3940	3130	4300	1770	1960	1280	11000
25	573	939	6010	27200	51800	14900	3330	4860	1610	1790	1190	8420
26	554	910	11300	18200	71500	20100	3240	19700	1490	1960	1130	6000
27	552	891	9810	11300	68300	13800	3900	14500	1380	3200	1190	4650
28	552	880	8510	8970	31300	10400	6580	10300	1260	2710	1500	3810
29	552	889	6750	7660	---	8380	8190	8260	1150	2080	4000	3360
30	561	1420	4870	6380	---	7120	7430	7160	1150	1930	4960	3210
31	649	---	4290	5210	---	5920	---	5960	---	2030	3300	---
TOTAL	18579	23479	164230	288190	323120	442830	205840	207580	118650	71910	50812	147360
MEAN	599	783	5298	9296	11540	14280	6881	6696	3955	2320	1639	4912
MAX	718	1420	11300	27200	71500	41200	16500	19700	11300	4920	4960	22800
MIN	549	543	2160	3560	1850	3940	3130	3130	1150	1220	840	1530
CFSM	.15	.19	1.30	2.28	2.83	3.51	1.69	1.64	.97	.57	.40	1.21
IN.	.17	.21	1.50	2.63	2.95	4.04	1.88	1.90	1.08	.66	.46	1.35

CAL YR 1978 TOTAL 1898003 MEAN 5200 MAX 57900 MIN 543 CFSM 1.28 IN 17.34
WTR YR 1979 TOTAL 2062580 MEAN 5651 MAX 71500 MIN 543 CFSM 1.39 IN 18.84

POTOMAC RIVER BASIN

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01613000 POTOMAC RIVER AT HANCOCK, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-72, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT
DEC 14...	1030	200	8.2	2.5	20	68	37	20	4.3	5.4	14

DATE	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
DEC 14...	.3	1.9	37	30	.4	37	5.9	.0	6.8	108

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
DEC 14...	100	.15	.83	.08	1800	1700	120	100	20	80

POTOMAC RIVER BASIN

01616500 OPEQUON CREEK NEAR MARTINSBURG, WV

LOCATION.--Lat 39°25'25", long 77°56'20", Berkeley County, Hydrologic Unit 02070004, on right bank 300 ft (91 m) upstream from Evans Run, 2.3 mi (3.7 km) upstream from Tuscarora Creek, 3.0 mi (4.8 km) southeast of Martinsburg, and at mile 11.1 (17.9 km).

DRAINAGE AREA.--272 mi² (704 km²).

PERIOD OF RECORD.--May 1905 to July 1906, July 1947 to current year.

REVISED RECORDS.--WSP 1702: 1959.

GAGE.--Water-stage recorder. Datum of gage is 354.89 ft (108.170 m) National Geodetic Vertical Datum of 1929. Prior to July 1906, nonrecording gage at approximately the same site at different datum. July 23, 1947, to July 22, 1948, nonrecording gage at present site and datum.

REMARKS.--Records good except those for February, which are poor.

AVERAGE DISCHARGE.--32 years (water years 1947-79), 228 ft³/s (6.457 m³/s), 11.38 in/yr (289 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft³/s (538 m³/s) June 22, 1972, gage height, 17.45 ft (5.319 m), from rating curve extended above 7,100 ft³/s (200 m³/s); minimum observed, 25 ft³/s (0.71 m³/s) Oct. 25, 1947; minimum gage height, 1.24 ft (0.378 m) Jan. 8, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of about 17.5 ft (5.33 m), from information by local residents.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,900 ft³/s (54 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 2	2100	2050 58.1	8.60 2.621	June 2	0100	2360 66.8	9.40 2.865
Jan. 22	0500	3230 91.5	10.61 3.234	June 3	1300	2110 59.8	8.77 2.673
Jan. 25	0500	4860 138	11.81 3.600	July 20	1600	3260 92.3	10.64 3.243
Feb. 26	1500	*6130 174	12.54 3.822	Sept. 6	1300	2160 61.2	8.90 2.713

Minimum discharge, 78 ft³/s (2.21 m³/s) Nov. 26, gage height, 2.03 ft (0.619 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	92	179	255	302	1110	383	225	1170	215	146	122
2	111	91	135	1410	323	1000	460	214	1100	236	140	113
3	112	91	118	1100	312	923	463	219	1650	189	147	110
4	116	90	160	484	317	813	736	213	1430	186	136	166
5	120	92	182	343	270	1000	637	223	752	264	129	192
6	113	89	170	304	256	1300	526	217	495	194	122	1630
7	109	91	140	295	210	881	439	195	394	171	120	574
8	106	89	130	490	230	711	432	188	343	163	119	302
9	103	85	548	486	220	602	410	192	307	155	128	236
10	104	84	985	335	210	546	454	179	286	151	118	205
11	103	82	373	282	170	644	380	175	280	153	116	189
12	105	85	266	249	160	575	354	170	270	148	164	178
13	116	86	227	242	150	494	344	237	243	157	202	168
14	155	87	200	247	140	465	344	878	225	650	144	166
15	129	87	178	220	130	420	330	384	214	252	128	164
16	114	100	165	229	130	372	310	285	211	195	119	149
17	111	111	154	220	120	350	290	235	374	197	117	142
18	106	122	142	210	110	342	286	211	495	205	115	138
19	103	104	138	180	110	327	275	208	284	168	118	136
20	102	92	136	209	120	313	265	200	242	842	113	129
21	99	87	144	1840	140	300	257	188	225	626	134	173
22	95	84	139	2310	153	287	253	186	221	270	163	743
23	93	82	128	748	266	279	251	218	211	216	123	477
24	92	83	140	1760	1410	343	247	630	200	218	117	337
25	92	81	906	3800	4130	1240	241	612	192	195	117	243
26	95	79	486	871	5520	892	240	950	185	198	147	212
27	96	92	308	649	2520	622	294	550	181	182	138	192
28	95	112	235	594	1190	514	277	459	176	167	130	183
29	93	139	194	504	---	463	247	464	172	164	128	180
30	90	215	183	447	---	428	232	359	176	160	189	172
31	89	---	186	416	---	396	---	303	---	154	152	---
TOTAL	3280	2904	7788	21698	19798	19088	10636	9926	12704	7441	4179	8121
MEAN	106	96.8	251	700	707	614	355	320	423	240	135	271
MAX	155	215	985	3800	5520	1300	736	950	1650	842	202	1630
MIN	89	79	118	180	110	279	232	170	172	148	113	110
CFSM	.39	.36	.92	2.57	2.60	2.26	1.31	1.18	1.56	.88	.50	1.00
IN.	.45	.40	1.07	2.97	2.71	2.61	1.45	1.36	1.74	1.02	.57	1.11

CAL YR 1978 TOTAL 119273 MEAN 327 MAX 5920 MIN 79 CFSM 1.20 IN 16.31
WTO YR 1979 TOTAL 127523 MEAN 349 MAX 5520 MIN 79 CFSM 1.28 IN 17.44

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV

LOCATION.--Lat 39°26'04", long 77°48'07", Jefferson County, Hydrologic Unit 02070004, on right bank 0.1 mi (0.2 km) downstream from Rumsey Bridge at Shepherdstown, 3.3 mi (5.3 km) upstream from Antietam Creek, and at mile 184 (296 km).

DRAINAGE AREA.--5,936 mi² (15,374 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1928 to September 1953. Annual maximums, water years 1954-64. July 1964 to current year. Gage-height record and estimated discharges October 1953 to June 1964 available in files of Maryland district office.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1929(M).

GAGE.--Water-stage recorder. Datum of gage is 281.00 ft (85.649 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for winter periods, which are fair. Some regulation at low flow by power plants above station, Stony River Reservoir (see station 01595200), and since December 1950 by Savage River Reservoir (see station 01597500). Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--40 years (water years 1929-53, 1965-79), 6,098 ft³/s (172.7 m³/s), 13.95 in/yr (354 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 335,000 ft³/s (9,490 m³/s) Mar. 19, 1936, gage height, 42.1 ft (12.83 m), from floodmarks, from rating curve extended above 200,000 ft³/s (5,660 m³/s) on basis of slope-area measurement of peak flow; minimum, 170 ft³/s (4.81 m³/s) Aug. 1, 1966; minimum daily, 185 ft³/s (5.24 m³/s) July 31, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in June 1889 and May 1924 reached stages of 39.2 ft (11.95 m) and 29.8 ft (9.08 m) respectively, from floodmarks, discharges, about 290,000 ft³/s (8,210 m³/s) and 168,000 ft³/s (4,760 m³/s) respectively, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 23,000 ft³/s (650 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 3	2100	31700 898	10.78 3.286	Mar. 26	0630	32100 909	10.86 3.310
Jan. 22	2000	43700 1240	13.22 4.029	Apr. 6	0430	25200 714	9.35 2.850
Jan. 25	1730	62200 1760	16.55 5.044	May 26	2300	28000 793	9.98 3.042
Feb. 27	0700	*110000 3120	23.60 7.193	Sept. 7	1630	41100 1160	12.70 3.871
Mar. 7	0430	56200 1590	15.54 4.737				

Minimum discharge, 784 ft³/s (22.2 m³/s) Oct. 1, 2, gage height, 1.71 ft (0.521 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	956	1010	2880	5470	8110	36900	8520	9360	7940	2660	2900	3790
2	937	976	3160	8130	6940	33100	8910	8240	8150	3140	2700	2890
3	961	971	2940	26800	5830	33800	15800	7260	8010	3330	2400	2510
4	1010	937	2860	27000	5430	34600	18900	6620	8250	2950	2400	3080
5	1020	917	3110	17100	4900	38400	22300	6560	8170	2870	2300	3380
6	1020	914	6480	12400	4200	51700	24100	7080	10500	3710	2100	13600
7	1010	915	6500	9980	3890	52800	19200	7170	8560	4470	1900	39200
8	999	907	5370	9580	3760	38200	15200	6670	6840	3510	1700	25300
9	976	909	4830	11800	3500	28400	13000	6050	5640	2760	1550	13800
10	955	878	11100	11900	3300	22800	12200	5520	5320	2320	1810	9430
11	941	883	14400	9990	3100	20100	11300	5090	9270	2070	1510	7180
12	929	889	11100	8050	2900	17300	9720	5010	13500	1970	1470	5910
13	974	895	8120	6920	2800	15000	8680	8420	9260	1970	1980	5030
14	1090	922	6710	6230	2800	12800	8110	11300	6880	2340	2980	4410
15	1130	976	5520	6050	3000	11400	7780	12900	5430	2500	3570	4210
16	1090	985	4560	5340	3100	10500	7590	11800	4520	3850	3010	4150
17	1100	1080	3870	5110	3300	9490	7170	9240	4010	5630	2400	3750
18	1120	1170	3350	4750	3400	8810	6730	7500	4260	5720	2000	3370
19	1120	1390	3070	4570	3600	7870	6330	6250	4070	4420	1820	3050
20	1100	1810	2950	4490	3800	7290	5860	5460	3600	3760	1810	2690
21	1050	1740	2840	7290	4000	6760	5500	4980	3230	4310	1740	2600
22	1030	1530	2860	30800	4200	6360	5210	4620	2950	4400	2020	6660
23	1020	1370	7250	35200	4530	6020	4970	4320	2690	4220	2560	10600
24	971	1280	7400	23500	20300	5940	4720	5300	2500	3360	2280	13200
25	935	1200	7970	53300	66500	13200	4590	10700	2490	3040	2200	13400
26	918	1160	15700	40600	96000	30900	4720	19600	2300	2980	2540	9550
27	941	1220	14300	22300	103000	23200	5000	23400	2160	3170	2390	7280
28	928	1300	10800	16400	56600	17000	8330	15900	2050	4180	2160	5950
29	932	1300	8280	13700	---	13500	10800	13000	1930	3490	2390	5110
30	946	1640	6230	11200	---	11500	10700	11000	1920	3000	6030	4670
31	957	---	5500	9360	---	9790	---	9220	---	3100	5240	---
TOTAL	31066	34074	202010	465310	436790	635430	301940	275540	166400	105200	75860	239750
MEAN	1002	1136	6516	15010	15600	20500	10060	8888	5547	3394	2447	7992
MAX	1130	1810	15700	53300	103000	52800	24100	23400	13500	5720	6030	39200
MTN	918	878	2840	4490	2800	5940	4590	4320	1920	1970	1470	2510
CFSM	.17	.19	1.10	2.53	2.63	3.45	1.70	1.50	.93	.57	.41	1.35
IN.	.19	.21	1.27	2.92	2.74	3.98	1.89	1.73	1.04	.66	.48	1.50

CAL YR 1978 TOTAL 2735380 MEAN 7494 MAX 85300 MIN 780 CFSM 1.26 IN 17.14
WTR YR 1979 TOTAL 2969370 MEAN 8135 MAX 103000 MIN 878 CFSM 1.37 IN 18.61

POTOMAC RIVER BASIN

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued
(National stream-quality accounting network station)

WATER-QUALITY RECORDS

PERIOD OF RECORD.--March to September 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAR										
29...	1300	13600	195	8.0	25.0	8.0	7.0	12.8	170	180
APR										
25...	1345	4640	300	8.2	28.6	18.5	2.0	10.9	K2	K23
MAY										
14...	1200	10600	260	8.2	--	23.0	5.0	--	--	--
17...	1330	9200	180	8.1	16.9	19.5	10	8.8	64	400
JUN										
04...	1300	8240	240	8.1	23.9	21.5	5.0	--	1200	2500
12...	1330	9820	220	8.2	--	--	40	--	330	670
JUL										
11...	1400	2070	360	8.5	25.6	23.2	3.0	10.2	K15	180
31...	1430	4050	325	7.9	31.0	26.0	5.0	8.7	120	K5
AUG										
13...	1430	1950	365	8.2	25.0	24.5	7.0	8.7	K19	K19
27...	1400	2370	380	8.3	29.5	25.0	4.0	8.8	40	440
SEP										
05...	1430	3310	270	8.1	23.5	25.5	20	7.2	710	880

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)
MAR										
29...	73	34	22	4.4	4.1	11	.2	1.3	39	--
APR										
25...	120	47	36	6.9	6.9	11	.3	1.6	71	--
MAY										
14...	100	48	31	6.0	6.1	11	.3	1.7	54	--
17...	70	30	21	4.2	3.5	10	.2	1.6	40	--
JUN										
04...	94	31	29	5.3	5.1	10	.2	1.7	63	1.0
12...	90	39	28	4.8	4.5	10	.2	1.7	51	--
JUL										
11...	160	71	48	8.9	12	14	.4	2.3	86	--
31...	140	49	43	7.7	9.9	13	.4	2.2	90	--
AUG										
13...	160	39	49	9.0	11	13	.4	2.4	120	1.5
27...	150	50	45	8.0	11	14	.4	2.7	95	.9
SEP										
05...	120	40	36	6.2	7.4	12	.3	2.7	75	1.2

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
MAR										
29...	28	6.4	.0	5.9	109	96	.15	4000	.94	.01
APR										
25...	43	11	.1	2.0	157	150	.21	1970	.79	.02
MAY										
14...	44	9.9	.1	2.8	146	134	.20	4180	.53	.05
17...	26	4.0	.0	5.9	106	90	.14	2630	.68	.05
JUN										
04...	30	7.2	.1	6.0	128	122	.17	2850	.85	.01
12...	29	6.8	.1	5.2	125	111	.17	3310	.61	.04
JUL										
11...	60	17	.1	3.7	258	204	.35	1440	.91	.04
31...	44	14	.1	5.9	199	181	.27	2180	.94	.01
AUG										
13...	41	15	.1	4.5	241	204	.33	1270	.94	.08
27...	45	15	.1	3.9	223	188	.30	1430	1.0	.07
SEP										
05...	31	9.9	.1	6.1	166	150	.23	1480	1.2	.15

POTOMAC RIVER BASIN

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01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N03)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS TOTAL (MG/L AS P04)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
MAR 29...	.01	.92	.93	.74	.19	1.9	8.3	.03	.09	.01
APR 25...	.02	.21	.23	.00	.29	1.0	4.5	.02	.06	.02
MAY 14...	.06	.22	.27	.00	.31	.80	3.5	.04	.12	.01
17...	.06	.24	.29	.02	.27	.97	4.3	.04	.12	.02
JUN 04...	.01	.42	.43	.01	.42	1.3	5.7	.09	.28	.04
12...	.05	.37	.41	.22	.19	1.0	4.5	.07	.21	.02
JUL 11...	.05	.38	.42	.00	.99	1.3	5.9	.04	.12	.02
31...	.01	.69	.70	.40	.30	1.6	7.3	.05	.15	.03
AUG 13...	.10	.76	.84	.59	.25	1.8	7.9	.05	.15	.03
27...	.08	.44	.51	.23	.28	1.5	6.7	.06	.18	.03
SEP 05...	.18	.29	.44	.14	.30	1.6	7.3	.09	.28	.04

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDED TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDED RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
MAR 29...	1	0	1	0	0	0	2	1	1	--
JUN 12...	3	1	2	100	50	50	1	1	0	20
SEP 05...	2	1	1	--	--	--	1	0	2	10

DATE	CHRO- MIUM, SUS- PENDED RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDED RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)
MAR 29...	--	20	1	0	1	4	3	1	620	610
JUN 12...	10	10	2	2	0	6	5	1	2200	2200
SEP 05...	0	10	1	1	0	4	3	1	810	730

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
MAR 29...	10	6	3	3	50	20	30	<.5	.0	<.5
JUN 12...	0	9	8	1	110	110	5	<.5	.0	<.5
SEP 05...	80	9	8	1	90	90	3	<.5	.0	<.5

POTOMAC RIVER BASIN

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAR 29...	0	0	0	0	0	0	50	40	10
JUN 12...	0	0	0	0	0	0	30	30	0
SEP 05...	0	0	0	0	0	0	20	10	10

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAR 29...	--	2.1	.6	510	--	--	--
APR 25...	1.9	--	--	--	8	100	100
MAY 14...	2.4	--	--	8800	14	401	88
17...	2.2	--	--	--	18	447	93
JUN 04...	3.2	--	--	--	67	1490	80
12...	--	4.7	1.0	590	78	2070	94
JUL 11...	7.0	--	--	33000	20	112	60
31...	4.4	--	--	--	15	164	100
AUG 13...	2.8	--	--	--	5	26	100
27...	--	--	--	--	14	90	78
SEP 05...	--	3.4	--	--	38	340	100

POTOMAC RIVER BASIN

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01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO JULY 1979

DATE TIME	MAR 29,79 1300	MAY 14,79 1200	JUN 12,79 1330	JUL 11,79 1400
TOTAL CELLS/ML	510	8800	590	33000
DIVERSITY: DIVISION	1.0	0.1	1.7	1.8
..CLASS	1.0	0.1	1.7	1.8
..ORDER	1.9	1.0	1.8	2.0
...FAMILY	2.9	1.7	2.3	2.4
....GENUS	3.1	1.8	2.3	2.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....MICRACTINIACEAE								
.....GOLENKINIA	--	-	--	-	--	-	590	2
....MICRACTINIUM	--	-	--	-	52	9	3900	12
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	--	-	--	-	980	3
....KIRCHNERIELLA	5	1	70	1	--	-	--	-
....SELENASTRUM	--	-	--	-	13	2	590	2
....WESTELLA	--	-	--	-	--	-	1600	5
...SCENEDESMACEAE								
....SCENEDESMUS	10	2	--	-	100#	17	790	2
....TETRASTRUM	--	-	--	-	--	-	790	2
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	10	2	--	-	13	2	200	1
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCACEAE								
.....CYCLOTELLA	180#	35	5700#	65	--	-	13000#	40
....MELOSIRA	20	4	--	-	--	-	--	-
..PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	70	1	13	2	--	-
....COCCONEIS	--	-	70	1	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	10	2	1300	14	--	-	--	-
...DIATOMACEAE								
....DIATOMA	15	3	--	-	--	-	--	-
...FRAGILARIACEAE								
....FRAGILARIA	15	3	--	-	--	-	--	-
....SYNEDRA	5	1	700	8	--	-	--	-
...GOMPHONEMACEAE								
....GOMPHONEMA	60	12	70	1	--	-	--	-
...MERIDIONACEAE								
....MERIDION	10	2	--	-	--	-	--	-
...NAVICULACEAE								
....NAVICULA	60	12	560	6	--	-	--	-
...NITZSCHACEAE								
....NITZSCHIA	30	6	210	2	120#	20	390	1
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOCHRYSIDACEAE								
.....CHROOMONAS	--	-	--	-	--	-	200	1
....CRYPTOMONADACEAE								
.....CRYPTOMONAS	--	-	70	1	26	4	2800	8
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
.....ANACYSTIS	60	12	--	-	--	-	6900#	21
...HORMOGONALES								
....NOSTOCACEAE								
.....ANABAENA	15	3	--	-	--	-	--	-
...OSCILLATORIA								
....OSCILLATORIA	--	-	--	-	260#	43	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
.....TRACHELOMONAS	5	1	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV
(National stream-quality accounting network station)

LOCATION.--Lat 39°16'55", long 77°47'22", Jefferson County, Hydrologic Unit 02070007, on left bank 0.4 mi (0.6 km) downstream from Cattail Run, 1.0 mi (1.6 km) upstream from Millville, 5.0 mi (8.0 km) upstream from Harpers Ferry, and at mile 5.0 (8.0 km).

DRAINAGE AREA.--3,040 mi² (7,874 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1895 to March 1909, August 1928 to current year.

REVISED RECORDS.--WSP 951: 1936(M). WSP 1432: Drainage area at former site, 1895-99, 1901-02, 1905, 1907-08, 1932(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 293.00 ft (89.306 m) National Geodetic Vertical Datum, adjustment of 1912. Apr. 15, 1895, to Mar. 31, 1909, nonrecording gage at site 0.8 mi (1.3 km) downstream at datum 0.32 ft (0.098 m) higher.

REMARKS.--Water-discharge records good except those for February, which are poor. Regulation by hydroelectric plants, particularly that of Potomac Light and Power Co., 0.5 mi (0.8 km) upstream from station. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--64 years (water years 1896-1908, 1929-79), 2,684 ft³/s (76.01 m³/s), 11.99 in/yr (305 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 230,000 ft³/s (6,510 m³/s) Oct. 16, 1942, gage height, 32.4 ft (9.88 m), from floodmarks; minimum, about 59 ft³/s (1.67 m³/s) Oct. 4, 1930, gage height, 0.39 ft (0.119 m); minimum daily, 194 ft³/s (5.49 m³/s) July 24, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1870 reached practically same stage as flood of Mar. 18, 1936, 26.36 ft (8.035 m), discharge, 151,000 ft³/s (4,280 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 15,000 ft³/s (420 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 22	2315	20200	572	June 5	0700	20900	592
Jan. 25	2200	22800	646	Sept. 7	1300	41100	1160
Feb. 26	1300	*54200	1530	Sept. 23	1615	21500	609
Mar. 7	0715	20200	572				

Minimum discharge, 577 ft³/s (16.34 m³/s) Nov. 24, gage height, 1.51 ft (0.460 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	751	640	1000	1570	4130	14400	4760	4410	3820	1560	1270	1820
2	740	641	1020	1930	3600	11100	4470	3870	3930	1600	1260	1540
3	731	642	970	4320	3220	9480	4250	3540	4340	1560	1270	1430
4	737	637	981	5450	2960	8240	4820	3160	12900	1570	1150	1240
5	755	652	958	4930	2700	7870	5470	2980	19800	1650	1070	2290
6	808	641	1070	3800	2600	12300	5560	2920	13800	1650	993	9380
7	745	638	1010	3190	2460	19100	5270	2830	9020	1450	945	35300
8	728	640	1020	3150	2380	13900	4900	2600	6750	1400	958	17400
9	718	639	1220	3970	2200	10200	4610	2420	5430	1290	963	8990
10	705	642	2360	4670	2100	8400	4520	2290	4580	1250	771	6400
11	656	636	2490	4290	1920	7520	4340	2150	5560	1250	882	4910
12	691	653	2630	3490	1900	6960	3960	2050	5360	1250	958	3830
13	711	650	2300	3160	1800	6280	3600	2920	4940	1240	1360	3130
14	658	657	1820	2710	1700	5630	3490	6170	3950	1540	1440	2790
15	681	681	1610	2540	1700	5240	3670	9730	3400	1340	1630	2900
16	715	659	1320	2500	1800	4790	3810	7340	3030	1170	1420	3910
17	706	724	1270	2270	2000	4340	3720	5810	2950	1350	1130	3390
18	702	742	1220	2140	2600	3980	3600	4780	3190	1440	982	2870
19	711	754	1050	2020	4300	3730	3390	4050	3020	1390	948	2520
20	694	748	1100	2030	3290	3500	3190	3630	2800	1570	952	2220
21	688	776	940	3260	2860	3360	2980	3320	2370	1290	1040	2150
22	683	777	993	13100	2880	3190	2840	3060	2190	1240	1170	3190
23	671	753	965	17500	3600	3030	2720	2810	2090	1220	1120	15600
24	647	712	978	12800	7390	3100	2620	2870	2070	1270	2270	14500
25	638	674	1460	20600	24600	7730	2560	3480	1920	1290	1380	9740
26	650	668	2390	17500	50600	12100	2530	6260	1840	1360	1200	7210
27	669	697	2590	10500	45300	11200	2720	8010	1780	1710	1130	5780
28	626	729	2430	7780	23100	8300	3310	6180	1730	1820	1590	4800
29	656	787	2020	6360	---	6700	4490	5110	1640	1610	1650	4080
30	646	851	1770	5440	---	5760	4830	4380	1540	1460	1960	3510
31	626	---	1630	4730	---	5120	---	3680	---	1390	1950	---
TOTAL	21543	20740	46585	183700	211610	236550	117000	128810	141740	44180	38812	188820
MEAN	695	691	1503	5926	7558	7631	3900	4155	4725	1425	1252	6294
MAX	808	851	2630	20600	50600	19100	5560	9730	19800	1820	2270	35300
MIN	626	636	940	1570	1700	3030	2530	2050	1540	1170	771	1240
CFSM	.23	.23	.49	1.95	2.49	2.51	1.28	1.37	1.55	.47	.41	2.07
IN.	.26	.25	.57	2.25	2.59	2.89	1.43	1.58	1.73	.54	.47	2.31

CAL YR 1978 TOTAL 1225426 MEAN 3357 MAX 41600 MIN 626 CFSM 1.10 IN 15.00
WTR YR 1979 TOTAL 1380090 MEAN 3781 MAX 50600 MIN 626 CFSM 1.24 IN 16.89

POTOMAC RIVER BASIN

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01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-63, 1965, 1969-71, March to September 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPF- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
MAR										
29...	1030	6680	205	8.2	21.5	8.0	10	11.6	220	670
APR										
25...	1100	2540	410	8.6	24.5	18.5	3.0	10.3	K9	K11
MAY										
14...	1430	7550	340	8.2	--	23.0	25	--	--	--
17...	1100	5900	270	8.1	16.7	18.0	20	8.3	510	670
JUN										
04...	1100	11800	275	8.2	20.4	19.6	3.0	--	1700	8900
12...	1030	5230	290	8.1	--	21.0	40	--	1000	440
JUL										
11...	1030	1260	420	8.7	24.2	23.5	2.0	10.0	47	640
31...	1045	1400	520	8.6	28.5	25.5	3.0	10.2	120	K12
AUG										
13...	1130	1530	450	8.7	22.0	21.5	20	9.1	400	260
27...	1130	1400	440	8.7	28.0	26.0	15	9.0	160	370
SEP										
05...	1130	2460	440	8.8	24.5	27.0	15	7.2	230	280

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)
MAR										
29...	76	21	22	5.1	7.6	18	.4	1.3	55	--
APR										
25...	130	29	37	9.0	15	20	.6	1.7	100	--
MAY										
14...	130	21	37	9.4	14	19	.5	1.9	110	--
17...	99	21	28	7.1	11	19	.5	2.8	78	--
JUN										
04...	110	16	30	7.3	13	21	.6	1.9	89	1.1
12...	120	27	36	7.6	7.7	12	.3	2.4	94	--
JUL										
11...	160	28	40	14	27	27	.9	2.4	130	--
31...	200	50	57	14	36	28	1.1	2.8	150	--
AUG										
13...	170	31	47	13	37	32	1.2	2.7	140	.5
27...	170	29	48	12	26	25	.9	2.8	140	.5
SEP										
05...	160	33	47	11	29	28	1.0	3.0	130	.4

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)
MAR										
29...	25	4.3	.0	6.4	110	105	.15	1980	.86	.05
APR										
25...	42	9.2	.1	1.2	184	175	.25	1260	.82	.02
MAY										
14...	39	8.4	.1	4.1	189	180	.26	3850	1.0	.15
17...	29	6.0	.0	6.7	154	138	.21	2450	1.4	.23
JUN										
04...	36	6.6	.1	7.1	157	156	.21	5000	1.1	.03
12...	25	6.6	.1	6.7	164	149	.22	2320	1.4	.07
JUL										
11...	62	14	.1	.5	263	238	.36	895	.57	.10
31...	84	16	.1	6.2	323	306	.44	1220	1.1	.03
AUG										
13...	84	17	.1	6.4	299	291	.41	1240	.26	.01
27...	66	15	.1	5.0	281	259	.38	1060	.87	.13
SEP										
05...	61	14	.1	5.0	264	255	.36	1750	2.6	.15

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITRO- GEN. AMMONIA TOTAL (MG/L AS NH4)	NITRO- GEN. ORGANIC TOTAL (MG/L AS N)	NITRO- GFN.AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN.NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GFN.AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN. TOTAL (MG/L AS N)	NITRO- GEN. TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS PO4)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
MAR										
29...	.06	.25	.30	.00	.45	1.2	5.1	.08	.25	.06
APR										
25...	.02	.33	.35	.12	.23	1.2	5.2	.06	.18	.06
MAY										
14...	.18	.76	.91	.53	.38	1.9	8.5	.19	.58	.08
17...	.28	.62	.85	.23	.62	2.3	10	.20	.61	.14
JUN										
04...	.04	1.7	1.7	1.4	.30	2.8	12	.22	.67	.09
12...	.08	.88	.95	.35	.60	2.4	10	.16	.49	.09
JUL										
11...	.12	.84	.94	.67	.27	1.5	6.7	.08	.25	.01
31...	.04	.97	1.0	.71	.29	2.1	9.3	.21	.64	.09
AUG										
13...	.01	1.2	1.2	.86	.34	1.5	6.5	.15	.46	.05
27...	.16	.82	.95	.52	.43	1.8	8.1	.18	.55	.10
SEP										
05...	.18	.80	.95	.45	.50	3.6	16	.20	.61	.11

DATE	ARSENIC TOTAL (UG/L AS AS)		ARSENIC SUS-PENDED TOTAL (UG/L AS AS)		ARSENIC DIS-SOLVED (UG/L AS AS)		BARIUM, SUS-PENDED RECOV-ERABLE (UG/L AS BA)		BARIUM, DIS-SOLVED (UG/L AS BA)		CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)		CADMIUM SUS-PENDED RECOV-ERABLE (UG/L AS CD)		CADMIUM DIS-SOLVED (UG/L AS CD)		CHROMIUM, TOTAL RECOV-ERABLE (UG/L AS CR)		
MAR 29...	1		0		1		0		0		0		1		0		1		30
JUN 12...	3		0		3		100		60		40		1		0		1		20
SEP 05...	2		1		1		100		60		40		1		0		3		10

DATE	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DIS- SOLVED (UG/L AS CR)	CORAL T, TOTAL RECOV- FRABLE (UG/L AS CO)	CORAL T, SUS- PENDED RECOV- ERABLE (UG/L AS CO)	COPPER, TOTAL DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOV- FRABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)
MAR 29...	10	20	1	0	1	4	3	1	640	610
JUN 12...	10	10	1	0	2	10	7	3	1400	1400
SEP 05...	0	10	1	1	0	4	3	1	640	610

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV- (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
MAR 29...	30	19	17	2	40	40	5	.5	.0	.5
JUN 12...	0	10	8	2	100	100	5	<.5	.0	<.5
SEP 05...	30	8	8	0	70	70	5	<.5	.0	<.5

DATE	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDED TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDED RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAR 29...	0	0	0	0	0	0	60	50	10
JUN 12...	0	0	0	0	0	0	90	60	30
SEP 05...	0	0	0	0	0	0	30	0	30

POTOMAC RIVER BASIN

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01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAR							
29...	--	2.7	.7	1400	--	--	--
APR							
25...	3.4	--	--	--	7	48	100
MAY							
14...	4.1	--	--	12000	163	3320	94
17...	4.4	--	--	--	61	972	97
JUN							
04...	6.1	--	--	--	169	5380	91
12...	--	2.5	.6	2400	69	974	100
JUL							
11...	4.2	--	--	55000	20	68	65
31...	5.6	--	--	--	28	106	100
AUG							
13...	11	--	--	--	26	107	100
27...	--	--	--	--	20	76	100
SEP							
05...	--	3.2	1.7	--	39	259	95

POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO JULY 1979

DATE TIME	MAR 29,79 1030	MAY 14,79 1430	JUN 12,79 1030	JUL 11,79 1030
TOTAL CELLS/ML	1400	12000	2400	55000
DIVERSITY: DIVISION	1.2	1.0	1.5	0.9
..CLASS	1.2	1.0	1.5	0.9
...ORDER	1.9	2.0	2.1	1.3
....FAMILY	2.8	2.5	2.3	2.2
.....GENUS	2.9	2.8	2.4	3.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....CHLOROCOCCACEAE								
.....CHLOROCOCCUM	--	-	--	-	--	-	720	1
...HYDRODICTYACEAE								
....PEDIASTRUM	300#	21	--	-	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	13	1	480	1
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	2200#	18	64	3	3800	7
....CHODATELLA	--	-	130	1	--	-	*	0
....DICTYOSPHAERIUM	--	-	--	-	--	-	960	2
....KIRCHNERIELLA	--	-	--	-	26	1	3600	7
...OOCYSTIS	--	-	320	3	--	-	1900	3
....SELENASTRUM	--	-	130	1	--	-	5800	10
....TETRAEDRON	--	-	--	-	--	-	480	1
....TREUBARIA	--	-	--	-	26	1	*	0
...SCENEDESMACEAE								
....SCENEDESMUS	56	4	2300#	19	590#	24	22000#	40
....TETRASTRUM	--	-	--	-	--	-	960	2
...TETRASPORALES								
....PALMELLACEAE								
....SPHAEROCYSTIS	--	-	4100#	33	--	-	1900	3
...VOLVOCALES								
....CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	47	3	--	-	52	2	720	1
...ZYGNEMATALES								
....DESMIDIACEAE								
....SPONDYLIUM	--	-	130	1	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCACEAE								
.....CYCLOTELLA	220#	15	1200	9	220	9	4100	7
....MELOSIRA	19	1	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	26	1	--	-
...PENNALES								
....ACHNANTHACEAE								
....COCCONEIS	38	3	65	1	--	-	--	-
....CYMBELLACEAE								
....CYMBELLA	9	1	--	-	--	-	--	-
...DIATOMACEAE								
....DIATOMA	19	1	--	-	--	-	--	-
...GOMPHONEMACEAE								
....GOMPHONEMA	9	1	--	-	--	-	--	-
...NAVICULACEAE								
....NAVICULA	490#	34	900	7	--	-	*	0
...NITZSCHACEAE								
....NITZSCHIA	75	5	450	4	90	4	480	1
...SURIHACEAE								
....SURIELLA	66	5	--	-	--	-	--	-

POTOMAC RIVER BASIN

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01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO JULY 1979

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOMONADACEAE								
.....CRYPTOMONAS	--	-	--	-	39	2	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
.....ANACYSTIS	--	-	--	-	240	10	6200	11
...HORMOGONALES								
....NOSTOCACEAE								
.....ANABAENA	75	5	390	3	--	-	--	-
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	--	-	1000#	43	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
.....TRACHELOMONAS	9	1	65	1	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

POTOMAC RIVER BASIN

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD

LOCATION.--Lat 39°16'25", long 77°32'35", Frederick County, Hydrologic Unit 02070008, on left bank at downstream side of bridge on U.S. Highway 15 at Point of Rocks, 0.3 mi (0.5 km) downstream from Catoclin Creek (Virginia), 6 mi (9.7 km) upstream from Monocacy River, and at mile 159.5 (256.6 km).

DRAINAGE AREA.--9,651 mi² (24,996 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1895 to current year.

REVISED RECORDS.--WSP 192: 1895-1905. WSP 1432: 1899, 1901-2, 1904-5, 1912, 1914(M), 1915, 1917(M), 1918, 1919(M), 1920, 1921-23(M), 1924, 1925-28(M), 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 200.63 ft (61.152 m) National Geodetic Vertical Datum of 1929. Prior to October 28, 1929, nonrecording gage at same site. Prior to Sept. 2, 1902, at datum about 0.45 ft (0.317 m) higher.

REMARKS.--Water-discharge records good. Low flow affected slightly since 1913 by Stony River Reservoir (see station 01595200) and since December 1950 by Savage River Reservoir (see station 01597500). Low flow affected extensively at times by run-of-the-river hydroelectric plants. Gage-height telemeter at station.

AVERAGE DISCHARGE.--84 years, 9,362 ft³/s (265.1 m³/s), 13.17 in/yr (335 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 480,000 ft³/s (13,600 m³/s) Mar. 19, 1936, gage height, 41.03 ft (12.506 m) from rating curve extended above 300,000 ft³/s (8,500 m³/s) on the basis of adjustment of figure of peak flow at station near Washington for inflow and storage, and slope-area measurement of peak flow; minimum, 530 ft³/s (15.0 m³/s) Sept. 11, 12, 1966, gage height, 0.27 ft (0.082 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 40.2 ft (12.25 m), from floodmarks, discharge, about 460,000 ft³/s (13,000 m³/s) from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 35,000 ft³/s (990 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 3 or 4	Unknown	Unknown	Unknown	Mar. 7	1000	81100 2300	15.36 4.682
Jan. 23	0230	63100 1790	13.01 3.965	Mar. 26	1830	43600 1230	10.13 3.088
Jan. 25	2330	96900 2740	17.29 5.270	May 27	0600	35600 1010	8.81 2.685
Feb. 27	0730	*178000 5040	25.94 7.907	Sept. 7	1700	87800 2490	16.19 4.935

Minimum discharge, 1,580 ft³/s (44.7 m³/s) Nov. 12, gage height, 0.97 ft (0.296 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1820	1640	3230	7920	13200	56400	14300	14900	12400	4240	4860	6780
2	1790	1710	4570	11400	11900	45900	13800	13300	13200	4940	4480	5200
3	1760	1690	4290	27500	10300	44500	18800	11800	12700	5280	4360	4440
4	1780	1660	4350	35500	9170	44700	23900	10800	19600	5110	4030	4490
5	1860	1630	4290	25100	9130	46800	27100	10300	28500	4900	3780	6180
6	1920	1620	6430	18300	8240	65600	30500	10500	25700	5330	3490	23000
7	1900	1620	8360	15000	7100	78200	26300	10700	19800	6080	3100	74400
8	1810	1610	7370	13700	7270	58600	21600	10200	15400	5820	2890	53000
9	1780	1620	7080	16300	6000	43100	18800	9380	12400	4760	2950	27000
10	1750	1630	11200	17200	5000	34900	17900	8670	10700	4110	2730	18300
11	1700	1610	17900	16100	4500	31100	16800	8020	13300	3770	2780	13700
12	1650	1610	15600	13700	4100	27500	15000	7660	18900	3570	2820	10900
13	1720	1640	11800	11200	4100	23900	13500	9510	15900	3530	3400	9240
14	1820	1630	9700	10200	4300	21000	12600	16700	12100	3880	4140	8050
15	1930	1730	8120	9760	4500	18600	12400	22700	9960	4240	5360	7620
16	1950	1820	6780	9000	4600	16800	12300	20900	8490	4420	5140	8400
17	1940	1890	5830	8270	4600	15400	11900	16500	7890	6570	4220	7990
18	1910	2060	5200	7620	4400	13900	11300	13500	7950	7820	3480	6970
19	1920	2140	4600	7380	4200	12800	10700	11300	7940	6660	3160	6230
20	1900	2450	4420	7470	4000	12000	10100	9990	7100	5790	3240	5560
21	1850	2690	4220	14300	4800	11300	9550	9120	6310	6040	3220	5440
22	1820	2660	4120	35500	6000	10600	9000	8420	5770	5460	3360	11100
23	1760	2450	6730	57900	7200	10000	8600	7960	5470	6220	3940	23700
24	1720	2350	9580	48000	10000	9890	8240	8830	5250	5070	5240	28900
25	1640	2170	9890	78000	91800	16100	7970	13500	4930	4650	4540	25200
26	1660	2020	17100	72500	161000	40800	8020	22500	4780	4550	4030	19100
27	1670	2100	18600	38600	172000	37700	8250	33300	4540	4990	4230	14800
28	1640	2170	14700	27700	103000	28000	10800	24900	4260	5800	4430	12000
29	1630	2270	11700	22600	---	23000	15300	19800	4070	5900	4250	10300
30	1650	2530	9380	18600	---	18500	16500	16700	3890	4960	6260	9080
31	1640	---	7760	15600	---	16200	---	14300	---	4780	8620	---
TOTAL	55290	58440	264900	717920	686410	934790	441830	426660	329200	159140	126530	467070
MEAN	1784	1948	8545	23160	24510	30150	14730	13760	10970	5134	4082	15570
MAX	1950	2690	18600	78000	172000	78200	30500	33300	28500	7820	8620	74400
MIN	1630	1610	3230	7380	4000	9890	7970	7660	3890	3530	2730	4440
CFSM	.19	.20	.89	2.40	2.54	3.12	1.53	1.43	1.14	.53	.42	1.61
IN.	.21	.23	1.02	2.77	2.65	3.60	1.70	1.64	1.27	.61	.49	1.80

CAL YR 1978 TOTAL 4286980 MEAN 11750 MAX 133000 MIN 1610 CFSM 1.22 IN 16.52
WTH YR 1979 TOTAL 4668180 MEAN 12790 MAX 172000 MIN 1610 CFSM 1.33 IN 17.99

POTOMAC RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1960 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1960 to current year.

REMARKS.--Water temperatures are measured daily in field at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 33.5°C Aug. 24, 1964, July 19, 1977; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,350 mg/L Apr. 3, 1970; minimum daily mean, 1 mg/L on many days most years.

SEDIMENT LOADS: Maximum daily, 689,000 tons (625,000 tonnes) June 23, 1972; minimum daily, 2.0 tons (1.8 tonnes) on many days during 1964, 1966-69.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 31.0°C Aug. 14 and 25; minimum daily, river was ice covered on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 876 mg/L Feb. 26; minimum daily mean, 3 mg/L Oct. 11, 16, 18.

SEDIMENT LOADS: Maximum daily, 400,000 tons (364,000 tonnes) Feb. 27; minimum daily, 14 tons (13 tonnes) Oct. 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM- COBALT UNITS)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
OCT												
31...	1130	1610	560	8.9	14.0	12.5	20	220	69	62	15	30
NOV												
30...	1100	2530	555	8.5	9.5	6.5	20	200	70	59	13	33
FEB												
01...	1400	13200	240	8.2	.5	1.5	0	100	32	30	6.2	6.0
MAR												
14...	1130	20900	240	8.2	12.0	7.5	5	91	36	27	5.7	4.5
MAY												
01...	1215	14900	265	8.5	18.5	14.5	5	100	38	30	6.8	8.0
JUN												
01...	1115	13200	220	7.9	22.5	19.0	10	81	21	24	5.1	6.1
JUL												
16...	1110	4300	360	8.4	26.5	26.0	5	150	46	43	11	17
AUG												
29...	0930	4180	405	8.4	23.5	24.5	5	160	43	45	11	21

DATE	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HCO3)	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
OCT												
31...	23	.9	3.0	180	150	.4	84	28	.1	.2	324	311
NOV												
30...	26	1.0	3.4	160	130	.8	90	27	.1	2.3	332	307
FEB												
01...	11	.3	1.8	83	68	.8	29	7.8	.1	6.9	146	129
MAR												
14...	10	.2	1.5	67	55	.7	30	7.3	.1	7.1	131	116
MAY												
01...	14	.3	1.7	79	65	.4	38	9.6	.1	3.4	160	137
JUN												
01...	14	.3	1.7	73	60	1.5	28	6.0	.1	6.9	136	114
JUL												
16...	19	.6	2.6	130	110	.8	54	13	.1	2.3	242	207
AUG												
29...	22	.7	2.7	140	110	.9	53	17	.1	4.1	242	223

POTOMAC RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS PO4)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 31...	.44	1410	.88	.09	.28	140	130	10	30	30	0
NOV 30...	.45	2270	1.2	.13	.40	170	150	20	20	0	20
FEB 01...	.20	5200	1.5	.06	.18	550	480	70	50	20	30
MAR 14...	.18	7390	1.3	.05	.15	1000	950	50	70	30	40
MAY 01...	.22	6440	.83	.04	.12	440	420	20	30	30	4
JUN 01...	.19	4850	1.0	.07	.21	1200	1200	20	70	60	8
JUL 16...	.33	2810	.62	.08	.25	610	610	0	80	80	5
AUG 29...	.33	2730	.85	.12	.37	760	760	0	80	70	10

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	TEMPER- ATURE (DEG C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .002 MM	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM
JAN 26...	0930	77800	2.0	188	39500	43	54	66
FEB 25...	1310	92800	2.0	345	86400	33	42	53
SEP 07...	1845	82600	23.0	669	149000	--	50	57

DATE	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM	SED. SUSP. SIEVE DIAM. % FINER THAN 1.00 MM
JAN 26...	78	87	92	96	99	100	--
FEB 25...	63	71	80	87	94	100	--
SEP 07...	71	77	81	86	96	99	100

DATE	TRITIUM IN WATER MOLE- CULES (TU)	TRITIUM WATER MOLE- CULES COUNT ERROR (TU)
OCT 01-31	43.0	1.5
NOV 01-30	39.7	1.4
DEC 01-31	49.0	1.7

POTOMAC RIVER BASIN

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

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	12.0	6.0	4.0	---	6.0	13.0	16.0	---	23.0	29.0	26.0
2	19.0	11.0	6.0	4.5	2.0	6.0	13.0	15.0	20.0	23.0	28.0	26.0
3	17.0	11.0	6.0	3.0	1.0	6.0	13.0	---	20.0	22.0	29.0	28.0
4	18.0	11.0	8.0	2.5	4.0	6.0	12.0	16.0	20.0	23.0	29.0	28.0
5	18.0	11.0	7.5	2.0	4.0	7.0	13.0	14.0	20.0	21.0	27.0	26.0
6	19.0	12.0	7.0	2.0	---	8.0	10.0	19.0	20.0	24.0	29.0	25.0
7	16.0	12.0	7.0	---	---	7.0	8.0	17.0	21.0	25.0	29.0	23.0
8	14.0	12.0	7.5	2.0	2.0	8.0	8.0	18.0	22.0	21.0	29.0	22.0
9	12.0	11.0	8.0	2.0	---	7.0	9.0	19.0	22.0	26.0	30.0	20.0
10	15.0	11.0	4.0	1.0	---	8.0	8.0	21.0	23.0	23.0	30.0	22.0
11	14.0	11.5	5.0	1.0	---	8.0	12.0	22.0	22.0	---	30.0	---
12	14.0	11.0	4.5	---	---	7.0	11.0	23.0	23.0	27.0	28.0	26.0
13	20.0	11.0	4.0	1.0	---	7.0	11.0	23.0	22.0	27.0	26.0	24.0
14	16.0	12.0	4.0	2.0	---	8.0	11.0	22.0	22.0	26.0	31.0	23.0
15	14.0	14.0	3.0	2.0	---	6.0	12.0	21.0	25.0	26.0	---	23.0
16	13.0	11.0	4.0	3.0	---	6.0	11.0	20.0	21.0	28.0	24.0	23.0
17	13.0	11.0	5.0	2.0	---	7.0	11.0	19.0	22.0	29.0	28.0	23.0
18	11.0	13.0	4.5	1.0	---	7.0	12.0	20.0	22.0	28.0	22.0	23.0
19	13.0	10.0	4.0	---	---	8.0	12.0	20.0	22.0	28.0	29.0	22.0
20	14.0	9.0	3.0	1.0	---	8.0	12.0	22.0	22.0	27.0	30.0	21.0
21	13.0	9.0	4.5	1.0	---	9.0	13.0	---	22.0	27.0	23.0	20.0
22	13.0	9.0	4.0	---	---	10.0	15.0	---	21.0	25.0	30.0	20.0
23	14.0	9.0	3.0	2.0	---	10.0	16.0	---	24.0	27.0	29.0	20.0
24	13.0	10.0	3.5	2.0	---	12.0	16.0	21.0	22.0	28.0	26.0	18.0
25	11.0	8.0	4.0	3.0	2.0	11.0	---	20.0	21.0	28.0	31.0	19.0
26	14.0	6.0	4.0	2.0	2.5	10.0	17.0	19.0	21.0	28.0	25.0	---
27	13.0	5.0	3.0	4.0	3.0	8.0	16.0	18.0	21.0	28.0	26.0	19.0
28	12.0	5.0	2.0	4.0	4.0	8.0	17.0	17.0	22.0	26.0	28.0	19.0
29	12.0	5.0	3.0	3.0	---	---	17.0	16.0	23.0	26.0	26.0	20.0
30	12.0	6.0	2.0	4.0	---	10.0	16.0	17.0	23.0	27.0	28.0	20.0
31	12.0	---	4.0	3.0	---	12.0	---	---	---	29.0	28.0	---

POTOMAC RIVER BASIN

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

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER			NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	9	44	7	31	10	87	13	278	27	962	140	21300
2	8	39	6	28	16	197	22	677	22	707	100	12700
3	6	29	6	27	12	139	102	8460	20	556	77	9250
4	8	38	7	31	13	153	255	24400	22	545	77	9290
5	8	40	7	31	13	151	127	8880	27	666	112	14200
6	8	41	6	26	19	330	60	2960	25	556	173	30500
7	7	36	6	26	23	519	30	1220	25	479	254	53600
8	7	34	6	26	17	338	35	1290	30	589	169	27400
9	5	24	6	26	22	421	36	1580	25	405	82	9540
10	5	24	7	31	45	1360	20	929	25	337	62	5840
11	3	14	9	39	72	3480	16	696	20	243	50	4200
12	5	22	9	39	47	1980	16	592	20	221	46	3420
13	5	23	8	35	32	1020	16	484	20	221	30	1940
14	5	25	7	31	21	550	20	551	20	232	28	1590
15	5	26	6	28	15	329	30	791	20	243	32	1610
16	3	16	6	29	12	220	44	1070	20	248	18	816
17	4	21	6	31	12	189	57	1270	25	310	22	915
18	3	15	7	39	12	168	55	1130	50	594	40	1500
19	4	21	10	58	18	224	32	638	75	850	16	553
20	4	21	8	53	10	119	10	202	90	972	14	454
21	4	20	10	73	11	125	130	5340	75	972	15	458
22	5	25	11	79	8	89	439	47500	50	810	12	343
23	6	29	7	46	13	236	402	66700	30	583	13	351
24	5	23	6	38	14	362	66	8940	74	2000	15	401
25	5	22	6	35	15	401	210	47300	409	109000	39	2090
26	6	27	4	22	46	2120	145	29700	876	384000	245	27400
27	7	32	4	23	58	2910	104	10800	856	400000	154	15800
28	7	31	4	23	38	1510	65	4860	378	114000	48	3630
29	7	31	4	25	23	727	62	3780	---	---	21	1300
30	7	31	5	34	17	431	50	2510	---	---	17	849
31	7	31	---	---	12	251	33	1390	---	---	14	612
TOTAL	---	855	---	1063	---	21136	---	286918	---	1021301	---	263852
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14	541	16	644	33	1100	17	195	23	302	29	531
2	15	559	13	467	33	1180	27	360	22	266	24	337
3	18	914	12	382	33	1130	26	371	19	224	26	312
4	31	2000	10	292	69	3970	24	331	17	185	40	485
5	46	3370	9	250	290	22400	24	311	20	204	56	944
6	48	3950	8	227	185	12800	23	331	12	113	117	7350
7	43	3050	6	173	96	5130	26	427	14	117	444	93600
8	25	1460	7	193	64	2660	30	471	18	140	633	101000
9	12	609	10	253	49	1640	20	257	13	104	142	10400
10	11	532	8	187	43	1240	12	133	14	103	80	3950
11	7	318	10	217	43	1540	16	163	18	135	50	1850
12	10	405	16	331	58	2960	20	193	21	160	32	942
13	10	364	30	770	84	3610	21	200	23	211	30	748
14	5	170	46	2070	65	2120	22	230	26	291	26	565
15	7	234	77	4720	82	2210	23	263	32	463	27	555
16	6	199	71	4010	57	1310	26	310	36	500	24	544
17	7	225	44	1960	38	810	38	674	23	262	20	431
18	12	366	31	1130	33	708	38	802	18	169	20	376
19	15	433	30	915	32	686	32	575	17	145	22	370
20	7	191	29	782	26	498	34	532	20	175	14	210
21	5	129	28	689	20	341	36	587	22	191	12	176
22	7	170	26	591	20	312	32	472	22	200	44	1310
23	6	139	24	516	18	266	40	672	22	234	132	8690
24	5	111	26	620	13	184	36	493	28	396	148	11500
25	7	151	37	1350	13	173	31	389	28	343	104	7080
26	9	195	71	4370	13	168	29	356	26	283	67	3460
27	13	290	145	13000	12	147	28	377	33	377	50	2000
28	18	525	152	10200	14	161	37	579	28	335	27	875
29	23	950	63	3370	15	165	39	621	29	333	21	584
30	18	802	40	1800	15	158	39	522	52	879	27	662
31	---	---	32	1240	---	---	29	374	39	908	---	---
TOTAL	---	23352	---	57719	---	71777	---	12571	---	8748	---	261837
TOTAL LOAD FOR YEAR:			2031129		TONS.							

MONONGAHELA RIVER BASIN

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03050400 TYGART VALLEY RIVER AT ELKINS, WV

LOCATION.--Lat 38°55'00", long 79°50'43", Randolph County, Hydrologic Unit 05020001, at city water plant, at Elkins, 2.5 mi (4.0 km) upstream from gaging station.

DRAINAGE AREA.--268 mi² (694 km²) upstream from water plant: 272 mi² (704 km²) upstream from gaging station.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: January 1947 to current year.

REMARKS.--No appreciable inflow between water plant and gaging station except during periods of heavy local rains. During flood periods part of the flow is diverted around the water plant in a flood by-pass channel.

COOPERATIONS.--Temperature records were furnished by City of Elkins pump station.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 33.0°C July 22, 1952; minimum daily, 0.0°C on many days during winter months most years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 23.5°C Aug. 7, 8, 9, 10, 11; minimum daily, 0.5°C Jan. 5, 6, 26, Feb. 3, 10, and 11.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	10.0	6.0	2.0	1.0	2.0	13.5	14.0	16.5	20.0	21.0	22.0
2	18.0	10.0	6.0	1.5	1.0	3.5	13.5	14.5	18.5	19.5	22.0	22.0
3	18.0	10.0	5.5	3.0	.5	4.5	13.0	14.5	16.5	19.5	21.5	22.0
4	18.0	10.0	5.5	3.5	1.0	4.5	13.0	15.0	18.0	19.0	21.5	22.0
5	17.0	10.0	6.5	.5	1.0	5.5	13.0	15.5	18.5	16.5	22.0	21.0
6	16.0	9.5	6.5	.5	1.0	5.5	8.0	14.0	18.0	17.0	22.0	21.5
7	15.5	9.0	6.5	1.0	1.0	5.0	8.0	16.5	19.0	18.0	23.5	21.0
8	15.5	9.0	6.5	1.0	1.0	5.5	5.5	18.0	20.0	20.0	23.5	21.0
9	14.0	9.0	8.0	1.0	1.0	5.5	8.0	18.5	20.0	20.0	23.5	18.0
10	14.0	9.0	6.0	1.0	.5	6.0	7.0	20.5	21.0	20.5	23.5	17.0
11	14.0	9.0	6.0	1.0	.5	4.5	10.0	21.0	20.5	21.0	23.5	18.0
12	14.5	9.0	5.5	1.0	1.0	4.5	10.5	19.0	18.0	21.0	22.0	18.0
13	13.5	9.0	5.5	1.0	1.0	5.5	10.5	19.0	18.0	22.0	20.5	20.0
14	13.5	9.5	3.0	2.0	1.0	5.5	11.5	15.5	16.5	21.0	17.0	20.5
15	13.5	9.5	3.0	2.0	1.0	4.5	11.5	15.5	18.5	22.0	18.0	19.5
16	13.0	9.5	2.0	3.0	1.0	5.0	9.5	16.5	18.5	23.0	18.0	19.0
17	12.0	10.0	3.0	3.0	1.0	5.5	5.0	16.5	21.0	22.0	18.0	18.0
18	11.0	9.5	3.0	2.0	1.5	5.5	11.0	17.0	21.5	22.0	18.0	18.0
19	11.0	10.0	3.0	1.0	1.5	5.5	10.5	17.0	22.0	21.0	18.0	18.0
20	11.0	10.0	4.0	1.5	1.0	6.0	11.0	18.0	22.0	21.0	16.5	18.0
21	10.5	10.5	5.5	3.0	1.5	6.5	12.0	19.0	21.5	21.0	16.5	18.0
22	11.0	10.5	5.5	3.0	1.5	7.0	13.5	19.0	22.0	20.0	16.5	18.0
23	10.5	10.0	5.5	3.5	1.5	10.0	16.5	19.0	21.0	20.5	18.0	18.0
24	10.5	10.0	5.5	3.5	4.0	10.0	17.0	19.0	20.0	21.5	18.0	15.5
25	11.0	9.5	4.5	3.0	3.5	8.5	17.0	16.5	19.0	22.0	19.0	15.0
26	11.0	6.5	4.0	.5	2.0	7.0	17.0	15.5	16.5	21.5	21.5	15.5
27	10.5	6.5	3.5	1.0	2.0	7.0	16.5	14.0	18.5	21.5	21.0	16.5
28	10.5	7.0	3.0	1.5	2.0	7.0	15.0	13.5	19.0	21.5	22.0	15.5
29	10.5	7.0	2.0	1.5	---	9.0	13.5	14.0	19.5	20.0	22.0	15.5
30	10.5	6.0	2.0	1.5	---	10.5	13.0	15.5	19.5	20.0	22.0	18.0
31	10.0	---	1.5	1.0	---	11.0	---	16.5	---	20.5	22.0	---
MEAN	13.0	9.0	4.5	2.0	1.5	6.0	12.0	16.5	19.5	20.5	20.5	18.5
WTR YR 1979	MEAN	12.0	MAX	23.5	MIN	.5						

MONONGAHELA RIVER BASIN

03050500 TYGART VALLEY RIVER NEAR ELKINS, WV

LOCATION.--Lat 38°55'30", long 79°52'45", Randolph County, Hydrologic Unit 05020001, on left bank 1.4 mi (2.3 km) upstream from Leading Creek, 1.5 mi (2.4 km) west of Elkins, and at mile 78.3 (126.0 km).

DRAINAGE AREA.--272 mi² (704 km²).

PERIOD OF RECORD.--October 1944 to current year. Prior to October 1960, published as Tygart River near Elkins.

GAGE.--Water-stage recorder. Datum of gage is 1,893.95 ft (577.276 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Nov. 16, 1944, nonrecording gage and Nov. 16, 1944, to Sept. 30, 1951, water-stage recorder at site 200 ft (61 m) upstream at same datum.

REMARKS.--Records good except those for February, which are poor. Slight regulation at times by flood-diversion dam upstream from station.

AVERAGE DISCHARGE.--35 years, 535 ft³/s (15.15 m³/s), 26.71 in/yr (678 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,100 ft³/s (371 m³/s) Dec. 31, 1969, gage height, 15.65 ft (4.770 m); maximum gage height, 15.84 ft (4.828 m) Jan. 27, 1978; minimum daily, 0.1 ft³/s (0.003 m³/s) Sept. 20-29, 1959; minimum gage height, 1.01 ft (0.308 m) Sept. 26-28, 1959.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (140 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	2115	*6380 181	12.58 3.834	Feb. 17	0130	6240 177	12.44 3.792
Dec. 22	0245	6660 189	12.86 3.920	Feb. 25	1300	6270 178	12.47 3.801
Jan. 22	0230	*6900 195	13.08 3.987				

Minimum discharge, 8.6 ft³/s (0.24 m³/s) Oct. 3, gage height, 1.24 ft (0.378).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	24	252	1480	259	999	316	491	348	94	464	184
2	18	24	189	3170	240	1180	729	377	283	186	935	158
3	10	20	163	3200	230	1100	1060	316	251	273	466	622
4	12	21	1600	1150	250	957	1570	333	684	208	294	311
5	11	21	1820	670	220	1500	1430	733	694	364	204	220
6	12	21	736	560	180	1360	1100	953	460	316	163	900
7	13	20	392	682	200	910	789	666	317	204	142	1320
8	14	29	1580	3800	210	698	604	477	257	153	90	619
9	12	19	5510	2110	190	523	704	363	195	104	96	387
10	12	15	4780	1020	170	428	1170	293	631	95	119	270
11	12	19	1270	648	150	517	1030	338	499	91	113	206
12	12	19	716	498	170	531	842	919	385	79	717	168
13	12	19	494	445	160	471	651	1250	258	80	1330	137
14	15	19	291	895	150	492	523	1420	188	95	487	119
15	12	24	223	832	300	579	423	899	142	109	294	130
16	14	28	189	625	3700	505	382	638	132	331	195	123
17	14	75	195	640	5600	473	333	442	90	741	148	99
18	14	61	195	1330	1400	425	300	332	103	291	150	87
19	15	60	177	956	660	385	270	266	193	171	971	85
20	23	44	921	808	400	348	245	221	134	298	1790	80
21	21	36	5710	4760	672	304	223	208	108	488	1540	89
22	19	47	4680	5970	1880	262	203	188	104	587	974	830
23	18	44	1200	1830	2810	234	187	159	116	380	550	1040
24	27	65	696	1210	5390	294	189	631	186	281	372	932
25	31	137	2510	1630	6070	930	180	3280	147	318	277	472
26	19	109	1630	1070	2960	812	176	1810	120	250	224	301
27	24	271	854	734	1510	580	999	984	94	304	298	222
28	42	565	484	597	978	436	1370	986	67	1060	522	204
29	67	371	318	458	---	358	869	936	81	771	384	227
30	51	261	289	354	---	304	645	658	159	1190	290	219
31	24	---	561	313	---	267	---	442	---	722	230	---
TOTAL	621	2492	40625	44445	37109	19162	19512	22009	7426	10634	14829	10761
MEAN	20.0	83.1	1310	1434	1325	618	664	710	248	343	478	359
MAX	67	565	5710	5970	6070	1500	1970	3280	694	1190	1790	1320
MIN	10	19	163	313	150	234	176	159	67	79	90	80
CFSM	.07	.31	4.82	5.27	4.87	2.27	2.44	2.61	.91	1.26	1.76	1.32
IN.	.08	.34	5.56	6.08	5.08	2.62	2.72	3.01	1.02	1.45	2.03	1.47

CAL YR 1978	TOTAL	192290	MEAN	527	MAX	7150	MIN	10	CFSM	1.94	IN	26.30
WTR YR 1979	TOTAL	230025	MEAN	630	MAX	6070	MIN	10	CFSM	2.32	IN	31.46

03051000 TYGART VALLEY RIVER AT BELINGTON, WV

LOCATION.--Lat 39°01'45", long 79°56'10", Barbour County, Hydrologic Unit 05020001, on left bank opposite mouth of Mill Creek, 0.2 mi (0.3 km) downstream from highway bridge at Belington, and mile 61.5 (99.0 km).

DRAINAGE AREA.--408 mi² (1,057 km²), excluding that of Mill Creek.

PERIOD OF RECORD.--June 1907 to current year. Prior to October 1960, published as Tygart River at Belington.

REVISED RECORDS.--WSP 823: Drainage area: WSP 953: 1933(M), 1941(M). WSP 1335: 1912, 1914-15, 1916(M), 1921-22(M), 1925(M), 1928, 1933. WSP 1385: 1909(M), 1913-15(M), 1917-18, 1924(M), 1928(M), 1932, 1934, 1936, 1938-39, 1948-49.

GAGE.--Water-stage recorder. Datum of gage is 1,679.49 ft (511.909 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Apr. 25, 1939, nonrecording gage at site 0.2 mi (0.3 km) upstream at same datum.

REMARKS.--Records good except those for February, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--72 years, 807 ft³/s (22.85 m³/s), 26.86 in/yr (682 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,400 ft³/s (521 m³/s) July 25, 1912, gage height, 20.3 ft (6.19 m) from floodmarks, site then in use; minimum, 0.1 ft³/s (0.003 m³/s) Sept. 13, 1930, gage height, 1.56 ft (0.475 m), site then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1888, reached a stage of 21.7 ft (6.61 m), former site, from floodmarks, discharge, 21,200 ft³/s (600 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,200 ft³/s (180 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)		Date	Time	Discharge (ft ³ /s) (m ³ /s)		Gage height (ft) (m)	
Dec. 9	1900	9780	277	13.63	4.154	Feb. 17	0400	8050	228	12.32	3.755
Dec. 21	1500	*10300	292	13.99	4.264	Feb. 24	2200	9750	276	13.61	4.148
Jan. 22	0400	9770	277	13.62	4.151						

Minimum discharge, 21 ft³/s (0.59 m³/s) Oct. 12, gage height, 2.24 ft (0.683 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	55	592	2430	390	1750	494	834	537	166	620	289
2	33	47	455	4630	360	2290	1190	636	430	214	1150	233
3	29	49	390	4950	350	2140	1670	521	360	330	757	1510
4	27	45	2980	1980	380	1720	2900	559	702	253	430	834
5	26	43	3580	1200	330	2480	2300	933	939	543	278	440
6	26	41	1550	930	270	2500	1830	1490	625	445	204	1240
7	26	41	911	1110	300	1640	1320	1100	430	265	178	2150
8	26	41	2240	5270	280	1220	986	790	345	204	154	1090
9	26	49	8760	3690	260	939	1200	592	278	169	115	664
10	28	43	7540	1780	250	761	2220	490	691	122	139	450
11	24	39	2410	1100	230	1010	1560	614	917	130	178	330
12	22	38	1300	850	260	1040	1530	1030	746	117	691	257
13	23	38	914	768	240	878	1140	1930	420	105	1850	214
14	27	36	704	1640	220	877	895	2330	292	148	1040	190
15	31	47	547	1850	450	1030	697	1550	221	214	543	207
16	35	166	473	1200	5500	915	609	1120	190	1170	360	197
17	43	305	507	1080	7200	853	526	785	169	2020	245	163
18	47	340	517	2110	2000	761	465	576	130	895	249	136
19	40	214	482	1650	1000	678	420	460	204	465	1160	127
20	34	163	1260	1360	620	603	380	375	193	265	2570	120
21	38	112	9380	6960	1000	525	350	340	163	796	2140	136
22	36	110	7370	8810	2690	452	315	330	157	697	1570	1060
23	34	105	2240	3260	4860	402	301	274	148	581	948	1520
24	34	151	1340	1870	9140	425	292	900	204	400	610	1520
25	38	221	3840	2390	9120	1080	283	5070	229	405	786	774
26	57	233	2960	1780	5020	1170	283	3590	169	345	576	485
27	166	719	1640	1250	2580	880	1150	1810	130	350	959	350
28	172	1860	970	1010	1680	678	2240	1740	120	1050	1230	335
29	125	1190	650	792	---	557	1510	1580	87	933	780	410
30	110	730	654	597	---	478	1120	1110	193	1330	508	435
31	80	---	1010	470	---	425	---	730	---	1000	378	---
TOTAL	1497	7271	70166	70767	56980	33157	32576	36189	10419	16127	23396	17866
MEAN	48.3	242	2263	2283	2035	1070	1086	1167	347	520	755	596
MAX	172	1860	9380	8810	9140	2500	2500	5070	939	2020	2570	2150
MIN	22	36	390	470	220	402	283	274	87	105	115	120
CFSM	.12	.59	5.55	5.60	4.99	2.62	2.66	2.86	.85	1.28	1.85	1.46
IN.	.14	.66	6.40	6.45	5.20	3.02	2.97	3.30	.95	1.47	2.13	1.63

CAL YR 1978 TOTAL 333017 MEAN 912 MAX 10800 MIN 22 CFSM 2.24 IN 30.36
WTR YR 1979 TOTAL 376411 MEAN 1031 MAX 9380 MIN 22 CFSM 2.53 IN 34.32

MONONGAHELA RIVER BASIN

03052000 MIDDLE FORK RIVER AT AUDRA, WV

LOCATION.--Lat 39°02'25", long 80°04'10", Barbour County, Hydrologic Unit 05020001, on right bank at Audra, 600 ft (183 m) upstream from highway bridge, and at mile 2.7 (4.3 km).

DRAINAGE AREA.--149 mi² (386 km²).

PERIOD OF RECORD.--February 1942 to September 1979 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 1,670 ft (509 m), from topographic map.

REMARKS.--Records good except those for February, which are poor.

AVERAGE DISCHARGE.--37 years, 347 ft³/s (9.827 m³/s), 31.63 in/yr (803 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s (326 m³/s) June 23, 1972, gage height, 13.67 ft (4.167 m), from rating curve extended above 6,800 ft³/s (190 m³/s) on basis of slope-area measurement of peak flow; minimum, 0.2 ft³/s (0.006 m³/s) Oct. 11-27, 1953; minimum gage height, 1.07 ft (0.326 m) Sept. 9, 1957.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,000 ft³/s (85 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Dec. 9	1215	5760	163	9.28	2.829	Feb. 16	1000	4610	131	8.39	2.557
Dec. 21	1230	*8000	227	11.00	3.353	Feb. 24	0330	4930	140	8.64	2.633
Jan. 21	2045	3690	105	7.66	2.335	Feb. 24	2330	4560	129	8.35	2.545

Minimum discharge, 6.3 ft³/s (0.18 m³/s) Oct. 12, 13, gage height, 1.53 ft (0.466 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.5	33	306	795	150	750	240	369	282	36	138	133
2	8.2	27	250	1210	140	1010	393	303	226	61	275	101
3	7.6	25	240	1260	150	862	575	261	179	79	205	475
4	8.3	23	1600	740	170	750	844	296	296	59	124	289
5	8.0	21	1220	520	150	1070	780	381	243	119	92	157
6	8.1	21	675	385	130	964	690	397	192	97	69	946
7	9.6	19	456	540	140	720	535	361	146	66	54	690
8	11	20	1330	2210	150	520	429	310	115	47	44	393
9	9.0	20	4630	1130	130	377	605	261	106	35	51	282
10	7.6	21	1960	740	110	317	1000	219	166	31	55	195
11	6.9	19	940	480	100	413	916	205	264	29	69	141
12	6.6	18	620	385	110	381	720	278	222	27	236	106
13	6.4	17	434	349	99	357	550	790	157	24	331	83
14	8.1	17	349	625	91	393	434	740	119	29	179	73
15	9.5	25	289	640	130	530	349	550	97	46	131	131
16	14	84	254	500	3540	452	303	447	68	192	101	99
17	17	172	293	480	1630	401	261	338	55	233	76	65
18	18	160	310	670	860	345	233	275	84	136	76	49
19	18	124	299	520	500	303	198	226	117	124	429	42
20	18	95	615	545	320	271	179	188	66	93	705	46
21	15	79	5620	2910	390	229	160	172	51	76	715	54
22	12	69	2080	2180	934	195	149	182	49	73	495	438
23	10	61	952	1050	2020	172	138	138	95	185	397	565
24	10	106	625	805	4020	188	138	429	99	143	261	409
25	9.8	198	1240	844	2950	275	131	1030	104	136	296	282
26	13	146	958	665	1480	268	133	934	78	112	226	205
27	172	373	670	495	922	247	361	760	55	115	470	152
28	178	670	400	405	665	226	545	765	40	146	620	163
29	91	475	320	320	---	205	565	650	33	136	413	243
30	60	377	289	240	---	182	461	470	29	296	293	226
31	42	---	425	200	---	166	---	341	---	212	198	---
TOTAL	821.2	3515	30649	25438	22181	13539	13015	13086	3833	3193	7824	7233
MEAN	26.5	117	989	821	792	437	434	422	128	103	252	241
MAX	178	670	5620	2910	4020	1070	1000	1030	296	296	715	946
MIN	6.4	17	240	200	91	166	131	138	29	24	44	42
CFSM	.18	.79	6.64	5.51	5.32	2.93	2.91	2.83	.86	.69	1.69	1.62
IN.	.21	.88	7.65	6.35	5.54	3.38	3.25	3.27	.96	.80	1.95	1.81

CAL YR 1978 TOTAL 133675.8 MEAN 366 MAX 5620 MIN 6.4 CFSM 2.46 IN 33.37
WTR YR 1979 TOTAL 144327.2 MEAN 395 MAX 5620 MIN 6.4 CFSM 2.65 IN 36.03

MONONGAHELA RIVER BASIN

81

03052500 SAND RUN NEAR BUCKHANNON, WV

LOCATION.--Lat 38°57'50", long 80°09'10", Upshur County, Hydrologic Unit 05020001, on right bank 300 ft (91 m) downstream from Left Fork, 4.5 mi (7.2 km) southeast of Buckhannon, and at mile 6.0 (9.7 km).

DRAINAGE AREA.--14.5 mi² (37.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1946 to current year.

REVISED RECORDS.--WSP 1725: 1955(M).

GAGE.--Water-stage recorder. Altitude of gage is 1,530 ft (466 m), from topographic map.

REMARKS.--Water-discharge records good.

AVERAGE DISCHARGE.--33 years, 26.6 ft³/s (0.753 m³/s), 24.91 in/yr (633 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,000 ft³/s (56.6 m³/s) June 25, 1950, from rating curve extended above 600 ft³/s (17 m³/s); maximum gage height, 6.29 ft (1.917 m) Mar. 19, 1963; no flow for several days in 1951-56, 1964-66.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 400 ft³/s (11 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	0800	560 15.9	4.18 1.274	Feb. 16	0530	538 15.2	4.09 1.247
Dec. 21	0600	*707 20.0	4.69 1.430	Feb. 23	2200	441 12.5	3.69 1.125

Minimum discharge, 1.2 ft³/s (0.034 m³/s) Oct. 12, gage height, 0.30 ft (0.091 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	4.3	21	76	15	95	21	27	15	7.5	8.1	5.9
2	1.6	3.9	16	242	14	129	44	21	11	7.6	5.8	8.1
3	1.6	3.6	32	93	13	72	77	18	10	4.1	4.4	151
4	2.2	3.4	247	47	15	56	84	22	10	11	3.3	42
5	2.0	3.2	94	31	13	165	61	28	7.2	8.4	2.8	33
6	1.6	3.0	44	26	11	90	49	28	5.7	4.8	2.5	126
7	1.6	2.9	27	132	14	53	36	23	4.6	3.3	2.3	56
8	1.6	3.3	206	233	14	37	29	19	4.1	2.6	2.2	27
9	1.6	3.2	402	63	11	26	75	15	3.6	2.2	2.4	16
10	1.5	2.9	118	37	9.3	30	95	12	3.3	2.9	2.6	11
11	1.4	2.8	56	27	8.4	45	77	11	7.2	2.4	14	7.9
12	1.3	2.7	38	24	9.0	40	52	27	3.9	1.9	55	6.1
13	1.4	2.7	29	54	10	33	36	65	2.9	1.9	21	5.3
14	2.8	2.6	24	68	9.1	42	28	47	2.5	4.0	10	8.7
15	2.7	6.5	20	46	112	43	22	33	2.1	3.6	7.9	8.0
16	2.2	18	18	36	352	35	18	26	2.0	12	5.1	5.0
17	3.1	21	22	42	103	29	16	19	1.9	7.9	4.0	3.8
18	2.7	18	18	42	54	24	13	15	4.6	5.5	10	3.3
19	2.3	12	18	34	30	20	11	12	2.5	4.4	60	3.8
20	2.0	9.0	120	54	20	17	10	9.2	1.9	3.3	63	3.1
21	1.8	7.4	407	270	48	14	9.4	8.7	2.7	3.4	132	29
22	1.7	6.4	100	136	124	12	8.8	7.2	3.1	2.6	52	99
23	1.6	6.2	49	67	240	11	8.2	6.9	6.4	2.9	34	77
24	2.0	11	51	63	267	16	8.0	47	3.8	2.2	19	31
25	2.2	9.4	148	72	166	18	7.7	92	3.0	9.3	15	17
26	6.1	8.7	76	51	99	16	8.1	67	2.3	18	12	11
27	52	89	44	37	64	14	28	53	1.8	19	42	8.3
28	16	96	29	32	58	12	57	55	1.6	13	26	23
29	8.6	51	22	24	---	12	49	44	3.3	24	17	39
30	6.0	31	20	20	---	10	37	28	5.0	38	11	40
31	4.8	---	41	17	---	11	---	19	---	15	7.6	---
TOTAL	141.6	445.1	2557	2196	1902.8	1227	1075.2	905.0	139.0	248.7	654.0	905.3
MEAN	4.57	14.8	82.5	70.8	68.0	39.6	35.8	29.2	4.63	8.02	21.1	30.2
MAX	52	96	407	270	352	165	95	92	15	38	132	151
MIN	1.3	2.6	16	17	8.4	10	7.7	6.9	1.6	1.9	2.2	3.1
CFSM	.32	1.02	5.69	4.88	4.69	2.73	2.47	2.01	.32	.55	1.46	2.08
IN.	.36	1.14	6.56	5.63	4.88	3.15	2.76	2.32	.36	.64	1.68	2.32

CAL YR 1978	TOTAL	10935.0	MEAN	30.0	MAX	407	MIN	1.3	CFSM	2.07	IN	28.05
WTR YR 1979	TOTAL	12396.7	MEAN	34.0	MAX	407	MIN	1.3	CFSM	2.35	IN	31.80

MONONGAHELA RIVER BASIN

03052500 SAND RUN NEAR BUCKHANNON, WV--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
DEC							
05...	1000	100	--	--	1.0	3.5	--
06...	1020	44	80	7.3	6.0	5.5	--
18...	1640	18	--	--	1.0	4.0	--
JAN							
16...	1440	36	150	6.9	.0	3.5	8.6
FEB							
08...	1330	14	--	--	.0	4.0	--
APR							
02...	1800	45	100	7.3	13.5	3.0	9.4
19...	0910	11	130	6.3	--	8.5	--
MAY							
14...	1530	43	120	6.6	17.5	12.0	--
AUG							
17...	0840	4.2	170	6.5	11.0	18.0	--
27...	1640	40	160	6.5	--	18.0	--
SEP							
12...	1300	6.3	195	6.8	28.5	18.5	--

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
APR												
19...	45	41	.0	.0	10	4.9	--	--	4	--	46	5.1
AUG												
27...	--	--	--	--	--	--	--	--	--	--	--	--
SEP												
12...	65	57	.0	.0	15	6.8	4.1	.2	8	2.5	54	5.0

DATE	SOLIDS, RESIDUE AT 190 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ARSENIC TOTAL IN RCT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM ROT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM ROT- TOM MA- TERIAL (UG/G)	CORALT, RECCV. FM RCT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM ROT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
APR											
19...	92	.13	2.38	--	--	--	--	--	260	160	100
AUG											
27...	--	--	--	--	--	--	--	--	--	--	--
SEP											
12...	107	.15	1.82	0	<10	<10	20	<10	280	--	40

DATE	IRON, RECOV. FM ROT- TOM MA- TERIAL (UG/G AS FE)	LEAD, RECOV. FM ROT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/G AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/G AS MN)	MANGA- NESE, DIS- SOLVED (UG/G AS MN)	MANGA- NESE, RECOV. FM ROT- TOM MA- TERIAL (UG/G)	MERCURY RECCV. FM RCT- TOM MA- TERIAL (UG/G AS HG)	SELF- NIUM, TOTAL IN ROT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM ROT- TOM MA- TERIAL (UG/G AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
APR											
19...	--	--	1100	0	1100	--	--	--	--	--	--
AUG											
27...	--	--	--	--	--	--	--	--	--	58	6.3
SEP											
12...	4400	10	970	0	970	710	.00	0	40	8	.14

MONONGAHELA RIVER BASIN

83

03052500 SAND RUN NEAR BUCKHANNON, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
SEP					
21...	1800	42	166	473	54
21...	1900	84	162	453	103
21...	2000	96	155	496	129
21...	2100	110	175	343	102
21...	2200	124	181	351	118
21...	2300	117	167	297	94
21...	2400	117	163	325	103
22...	0100	110	166	285	85
22...	0200	110	167	256	76
22...	0300	103	169	260	72
28...	0800	29	149	95	7.4
28...	0900	32	148	65	5.6
28...	1000	33	155	50	4.5
28...	1100	37	156	--	--
28...	1200	37	155	--	--
28...	1300	37	155	42	4.2
28...	1400	42	159	42	4.8
28...	1500	42	157	43	4.9
28...	1600	37	162	36	3.6
28...	1700	37	161	42	4.2

MONONGAHELA RIVER BASIN

03053500 BUCKHANNON RIVER AT HALL, WV

LOCATION.--Lat 39°03'05", Long 80°06'50", Barbour County, Hydrologic Unit 05020001, on right bank 0.2 mi (0.3 km) upstream from highway bridge at Hall, 1.0 mi (1.6 km) upstream from Pecks Run, and at mile 7.5 (12.1 km).

DRAINAGE AREA.--277 mi² (717 km²).

PERIOD OF RECORD.--June 1907 to May 1909 (gage heights only), April 1915 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 783: 1918(M).

GAGE.--Water-stage recorder. Datum of gage is 1,369.15 ft (417.317 m) Baltimore & Ohio RR datum. June 1907 to May 25, 1909, nonrecording gage at site 0.2 mi (0.3 km) downstream at datum 4.12 ft (1.256 m) lower. Apr. 15, 1915, to June 8, 1939, nonrecording gage at site 500 ft (152 m) downstream at present datum.

REMARKS.--Records good except those for February, which are poor.

AVERAGE DISCHARGE.--64 years, 594 ft³/s (16.82 m³/s), 29.12 in/yr (740 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s (368 m³/s) Mar. 7, 1967, gage height, 15.07 ft (4.593 m), from rating curve extended above 9,100 ft³/s (260 m³/s); minimum, 0.2 ft³/s (0.006 m³/s) Oct. 23, 27, 1930, gage height, 1.30 ft (0.396 m), site then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,500 ft³/s (130 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	1830	*9360	265	12.50	3.810	Jan. 22	0245	5090	144	9.45	2.880
Dec. 21	1845	9230	261	12.41	3.783	Feb. 16	2100	6430	182	10.41	3.173
Jan. 2	2100	4560	129	9.07	2.765	Feb. 24	1745	6600	187	10.53	3.210
Jan. 8	1400	5340	151	9.63	2.935						

Minimum discharge, 18 ft³/s (0.51 m³/s) Oct. 13, gage height, 3.82 ft (1.164 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	102	632	1340	360	1430	434	645	515	88	416	250
2	23	91	482	3460	330	1850	928	510	427	138	302	198
3	23	76	454	3340	310	1570	1160	423	341	219	262	551
4	24	71	2930	1530	365	1280	1730	489	355	181	205	527
5	25	64	3410	900	330	2610	1430	772	395	294	154	282
6	25	61	1530	670	290	2670	1180	849	298	274	121	1420
7	27	57	882	576	332	1490	918	710	242	181	101	1550
8	30	61	1910	4710	314	999	736	580	198	129	88	803
9	26	60	8270	2960	250	738	906	460	170	101	82	509
10	23	60	6610	1400	210	611	2220	372	144	86	144	360
11	23	61	2160	934	180	864	1840	341	184	80	154	270
12	19	53	1130	726	200	865	1380	607	226	77	416	212
13	19	50	795	632	180	724	1010	1100	167	67	768	170
14	24	49	619	1190	170	726	785	1430	124	75	449	154
15	37	63	488	1300	603	944	635	1040	99	82	306	219
16	44	302	404	910	5000	839	523	799	82	432	242	242
17	57	443	404	782	3000	733	429	597	73	782	181	163
18	68	412	450	970	1500	631	265	452	84	294	163	126
19	68	308	406	760	800	543	308	355	144	216	432	100
20	59	223	806	844	470	475	266	284	111	188	1020	73
21	49	176	7760	3570	834	412	237	230	86	154	1430	99
22	42	149	5880	4350	1920	347	216	212	86	129	1090	800
23	38	134	1830	2140	3280	305	207	186	160	360	905	1200
24	37	163	1060	1390	6200	326	197	635	184	465	521	910
25	39	372	2070	1570	5550	511	201	2040	154	323	355	540
26	47	317	1960	1270	3370	567	209	2040	126	319	298	427
27	487	759	1210	940	2060	500	1000	1590	92	432	370	314
28	585	1770	710	781	1330	432	1310	1470	73	733	831	365
29	265	1330	540	645	---	381	1010	1310	62	575	581	824
30	164	850	470	505	---	336	807	928	67	775	421	726
31	122	---	647	430	---	299	---	640	---	640	323	---
TOTAL	2541	8693	58909	47925	39738	27008	24577	24096	5469	8889	13131	14384
MEAN	82.0	290	1900	1546	1419	871	819	777	182	287	424	479
MAX	585	1770	8270	4710	6200	2670	2220	2040	515	782	1430	1550
MIN	19	49	404	430	170	299	197	186	62	67	82	73
CFSM	.30	1.05	6.86	5.58	5.12	3.14	2.96	2.81	.66	1.04	1.53	1.73
IN.	.34	1.17	7.91	6.44	5.34	3.63	3.30	3.24	.73	1.19	1.76	1.93

CAL YR 1978 TOTAL 234643 MEAN 643 MAX 9000 MIN 19 CFSM 2.32 IN 31.51
WTR YR 1979 TOTAL 275360 MEAN 754 MAX 8270 MIN 19 CFSM 2.72 IN 36.98

MONONGAHELA RIVER BASIN

85

03054500 TYGART VALLEY RIVER AT PHILIPPI, WV

LOCATION.--Lat 39°09'00", long 80°02'25", Barbour County, Hydrologic Unit 05020001, on right bank at Philippi, 0.2 mi (0.3 km) downstream from Anglins Run, 5.0 mi (8.0 km) downstream from Buckhannon River, and at mile 44.9 (72.2 km).

DRAINAGE AREA.--916 mi² (2,372 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1940 to current year. Prior to October 1960, published as Tygart River at Philippi.

GAGE.--Water-stage recorder. Datum of gage is 1,280.55 ft (390.312 m) National Geodetic Vertical Datum of 1929. Prior to May 23, 1940, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for period Jan. 30 to Feb. 21, which are poor.

AVERAGE DISCHARGE.--39 years, 1,850 ft³/s (52.39 m³/s), 27.43 in/yr (697 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,000 ft³/s (1,220 m³/s) Mar. 7, 1967, gage height, 25.93 ft (7.903 m); minimum, 4.9 ft³/s (0.14 m³/s) Oct. 10-12, 21, 1953; minimum gage height, 0.92 ft (0.280 m) Sept. 9, 10, 1957.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 25, 1912, reached a stage of 27.3 ft (8.32 m), read on National Weather Service gage 0.2 mi (0.3 km) downstream, or about 26 ft (8 m), present site and datum, discharge, about 37,000 ft³/s (1,000 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 13,000 ft³/s (370 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	1500	24000	680	18.91	5.764	Jan. 22	0100	17300	490	15.68	4.779
Dec. 21	1400	*26200	742	19.80	6.035	Feb. 16	1600	16800	476	15.38	4.688
Jan. 8	1600	13400	379	13.28	4.048	Feb. 24	2400	20400	578	17.27	5.264

Minimum discharge, 60 ft³/s (1.70 m³/s) Oct. 13, gage height, 1.63 ft (0.497 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	278	1820	4580	990	4180	1280	2190	1570	338	1300	761
2	76	236	1430	9620	850	5460	2740	1740	1290	352	1460	578
3	70	206	1270	10500	810	5080	3500	1450	1040	593	1400	1840
4	74	196	7300	5050	850	4150	5590	1560	1290	596	811	2190
5	72	180	9310	3150	830	6460	5010	2190	1760	876	568	1040
6	68	173	4580	2420	610	7000	4100	3020	1320	1020	415	3320
7	66	167	2690	2600	660	4440	3180	2530	986	651	337	4940
8	79	167	4910	11500	640	3130	2510	2000	772	446	291	2690
9	83	167	20800	9100	600	2420	2530	1600	646	341	263	1640
10	74	177	16800	4540	560	1970	5600	1290	880	278	275	1120
11	70	167	6810	3000	520	2450	5280	1270	1380	240	359	809
12	65	157	3530	2200	580	2650	4190	1840	1340	237	836	615
13	62	151	2510	2020	540	2290	3170	3720	881	208	3000	484
14	74	147	1970	3540	500	2230	2510	4790	610	227	1750	416
15	93	176	1580	4360	900	2750	2050	3570	458	335	1060	488
16	110	666	1320	3030	14300	2550	1740	2690	364	1460	758	573
17	126	1200	1320	2540	14600	2300	1490	2040	324	3650	541	420
18	152	1240	1460	3820	4900	2040	1300	1570	280	1670	486	322
19	160	891	1360	3460	2400	1800	1140	1240	399	899	1330	274
20	150	647	1980	2940	1400	1590	1010	1000	433	617	4330	264
21	130	500	21200	11600	2300	1400	907	837	338	810	4330	298
22	121	406	16200	15500	5430	1190	825	812	321	720	3620	2290
23	112	380	6100	7720	10100	1040	784	692	337	1010	2570	4430
24	106	387	3450	4460	18600	1020	746	1600	497	1160	1650	3480
25	104	766	7060	5080	17700	1680	728	7680	551	841	1580	1940
26	128	823	6860	4200	11200	2230	722	7520	417	834	1260	1270
27	772	1690	4070	3070	6410	1900	2190	4670	328	844	1780	905
28	1260	4740	2680	2530	4170	1580	4540	4160	254	1500	2890	875
29	677	3680	1900	2090	---	1350	3550	3840	220	1790	2140	1590
30	463	2360	1700	1600	---	1180	2750	2810	207	2140	1420	1610
31	353	---	2020	1300	---	1040	---	1990	---	2090	1030	---
TOTAL	6033	23121	167990	153120	123950	82550	77662	79911	21493	28773	45840	43472
MEAN	195	771	5419	4939	4427	2663	2589	2578	716	928	1479	1449
MAX	1260	4740	21200	15500	18600	7000	5600	7680	1760	3650	4330	4940
MIN	62	147	1270	1300	500	1020	722	692	207	208	263	264
CFSM	.21	.84	5.92	5.79	4.83	2.91	2.83	2.81	.78	1.01	1.62	1.58
IN.	.25	.94	6.82	6.22	5.03	3.35	3.15	3.25	.87	1.17	1.86	1.77
CAL YR 1978 TOTAL	743738			MEAN 2038	MAX 23200	MIN 62	CFSM 2.23	IN 30.20				
WTP YR 1979 TOTAL	853915			MEAN 2339	MAX 21200	MIN 62	CFSM 2.55	IN 34.68				

03054500 TYGART VALLEY RIVER AT PHILIPPI, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1963, 1965, 1968-1974, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
OCT										
31...	1135	340	--	7.0	16.0	10.0	--	--	--	--
DEC										
12...	1320	3540	75	7.0	7.5	8.0	--	--	--	--
JAN										
23...	1150	7310	60	7.0	10.0	4.0	--	--	--	--
MAR										
06...	1200	7510	60	6.9	8.0	8.0	--	--	--	--
APR										
16...	1255	1510	80	7.0	--	9.5	27	12	.0	.0
MAY										
22...	1125	866	90	7.4	23.0	19.5	36	28	.0	.0
JUN										
26...	1000	432	150	7.0	22.0	19.0	55	38	.0	.0
JUL										
20...	0800	684	115	7.0	--	23.0	38	33	.0	.0
AUG										
14...	1200	1670	110	7.0	26.0	19.5	37	20	.0	.0
SEP										
13...	0915	487	115	7.1	18.5	18.5	43	17	.0	.0
25...	1120	1980	135	7.0	23.0	15.0	--	--	--	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
APR											
16...	7.4	2.1	--	--	15	--	24	2.5	57	.08	232
MAY											
22...	10	2.6	--	--	8	--	28	2.4	56	.08	131
JUN											
26...	16	3.6	6.0	.4	17	--	44	3.4	110	.15	128
JUL											
20...	11	2.6	4.4	.3	5	1.0	31	3.0	83	.11	153
AUG											
14...	11	2.2	4.2	.3	17	3.3	22	2.8	71	.10	320
SEP											
13...	13	2.5	3.8	.3	26	4.0	23	2.5	52	.07	68.4

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECov. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECov. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECov. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECov. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECov- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECov- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECov. FM BOT- TOM MA- TERIAL (UG/G AS FE)
APR									
16...	--	--	--	--	--	470	340	130	--
MAY									
22...	--	--	--	--	--	300	290	10	--
JUN									
26...	--	--	--	--	--	420	400	20	--
JUL									
20...	--	--	--	--	--	620	500	120	--
AUG									
14...	--	--	--	--	--	870	770	100	--
SEP									
13...	0	<10	<10	20	<10	350	--	70	840

DATE	LEAD, RECov. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECov- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECov. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECov. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECov. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECov. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR								
16...	--	170	0	180	--	--	--	--
MAY								
22...	--	130	10	120	--	--	--	--
JUN								
26...	--	100	10	90	--	--	--	--
JUL								
20...	--	100	0	110	--	--	--	--
AUG								
14...	--	90	30	60	--	--	--	--
SEP								
13...	<10	80	0	80	240	.00	0	60

MONONGAHELA RIVER BASIN

87

03055500 TYGART LAKE NEAR GRAFTON, WV

LOCATION.--Lat 39°18'50', long 80°02'00", Taylor County, Hydrologic Unit 05020001, at dam on Tygart Valley River, 2.2 mi (3.5 km) upstream from Threefork Creek, and 2.4 mi (3.9 km) upstream from Grafton.

DRAINAGE AREA.--1,184 mi² (3,067 km²).

PERIOD OF RECORD.--April 1938 to current year (monthend contents only). Prior to October 1960, published as "Tygart Reservoir".

GAGE.--Water stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity dam completed and accepted February 1938; storage began May 15, 1938. Capacity, 285,000 acre-ft (351 hm³) from sedimentation resurvey made in 1959, between elevations 991.5 ft (302.21 m), sill of valves, and 1,167.0 ft (355.70 m), crest of spillway, National Geodetic Vertical Datum of 1929. Dead storage, 2,700 acre-ft (3.33 hm³). Figures given herein represent total contents. Conservation pool elevation is 1,010.0 ft (307.85 m) and water below elevation 991.5 ft (302.21 m), cannot be withdrawn. Reservoir is used for flood control, for supplementary supply for navigation of Monongahela River during period of low flow, and for recreation.

COOPERATION.--Records furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 251,100 acre-ft (310 hm³) June 25, 1972, elevation, 1,155.22 ft (352.111 m); minimum since October 1939, 8,330 acre-ft (10.3 hm³) Jan. 25, 1940, elevation, 1,005.15 ft (306.370 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 196,300 acre-ft (242 hm³) Feb. 27, elevation 1,135.24 ft (346.021 m); minimum, 21,890 acre-ft (27.0 hm³) Feb. 1, elevation, 1,024.16 ft (312.164 m).

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Change in contents (equivalent in cfs)
Sept. 30.....	1072.94	77670	-	-
Oct. 31.....	1050.22	47960	-29720	-483
Nov. 30.....	1059.66	59550	+11600	+195
Dec. 31.....	1048.55	46040	-13520	-220
CAL YR 1978			+24340	+34
Jan. 31.....	1027.38	24660	-21370	-348
Feb. 28.....	1126.19	175200	+150600	+2712
Mar. 31.....	1033.84	30570	-144700	-2353
Apr. 30.....	1079.44	87430	+56860	+956
May 31.....	1093.75	110800	+23390	+380
June 30.....	1095.04	113100	+2253	+38
July 31.....	1096.85	116300	+3221	+52
Aug. 31.....	1093.62	110600	-5699	-93
Sept. 30.....	1080.40	88930	-21660	-364
WTR YR 1979			+11260	+16

MONONGAHELA RIVER BASIN

03056000 TYGART VALLEY RIVER AT TYGART DAM NEAR GRAFTON, WV

LOCATION.--Lat 39°18'50", long 80°02'00", Taylor County, Hydrologic Unit 05020001, at Tygart Dam, 2.2 mi (3.5 km) upstream from Threefork Creek, and 2.4 mi (3.9 km) upstream from Grafton.

DRAINAGE AREA.--1,184 mi² (3,067 km²).

PERIOD OF RECORD.--June 1938 to current year. Prior to October 1960, published as Tygart River at Tygart Dam near Grafton.

GAGE.--Water-stage recorder.

REMARKS.--Discharge computed from records of flow through gates and valves in dam. Flow regulated by Tygart Lake (station 03055500).

COOPERATION.--Records furnished by Corps of Engineers.

AVERAGE DISCHARGE.--41 years, 2,341 ft³/s (66.30 m³/s), 26.85 in/yr (682 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft³/s (566 m³/s) Feb. 2, 1939; no flow Aug. 2, 1938.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,700 ft³/s (416 m³/s) Feb. 28; minimum daily, 220 ft³/s (6.23 m³/s) June 20, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1040	450	4680	6330	2480	14300	900	565	2060	400	2890	1420
2	1290	450	4480	4210	748	14000	950	575	1480	440	2140	1420
3	1270	345	2800	5000	768	12900	1030	580	1180	565	1430	1410
4	1250	240	1160	8570	792	7690	1820	585	890	650	1430	2130
5	1240	240	4680	9260	812	4910	3420	595	890	650	1420	2820
6	1220	240	8350	8700	825	9510	5530	1040	895	915	1010	2810
7	1200	240	8090	6170	833	13400	5870	1480	900	1180	470	2860
8	1180	240	5540	3730	844	12700	5700	1500	900	915	340	3600
9	1160	240	2950	7300	850	12000	4510	1500	900	650	340	4270
10	1700	240	6180	9660	850	11200	4610	1500	900	525	340	4190
11	1320	240	11300	9180	846	8800	5720	1500	1200	400	340	3430
12	677	240	11800	8670	844	6050	5740	1520	1500	400	340	2700
13	667	240	11400	7880	840	5800	5210	1530	1500	400	1030	1830
14	657	240	11100	7200	840	5550	3880	2340	1500	400	2350	847
15	550	365	10400	6980	850	5300	2740	3920	940	400	2150	560
16	450	750	9900	6600	3100	5100	2200	4630	610	400	1020	560
17	447	1070	9200	5180	7950	4850	2170	4540	610	2490	610	440
18	440	1090	8350	4210	9590	3790	1490	4470	610	3580	610	320
19	440	1100	5650	4230	9310	2680	875	4420	348	2020	613	320
20	437	1640	3040	4170	8800	2630	655	3830	220	693	2370	410
21	430	2160	3620	3510	8180	2150	555	2160	220	400	4400	560
22	430	2110	7940	5210	7020	1710	452	915	260	400	4390	563
23	430	2050	10800	8750	3850	1690	460	600	300	540	4350	580
24	427	1500	10500	8610	1440	1670	468	605	300	827	3050	2350
25	325	987	6980	6760	1660	1660	472	3990	350	900	1430	4210
26	230	980	7180	8300	3110	1680	478	9580	400	900	1430	4160
27	327	992	10400	8860	9490	1710	488	9840	400	900	1440	4080
28	433	1070	10000	8300	13800	1720	515	7750	400	1170	2190	2760
29	443	1150	9500	7630	---	1290	542	5720	400	1440	2910	1320
30	450	3290	8800	6820	---	872	555	3800	400	2120	2890	2000
31	450	---	8000	5140	---	887	---	3030	---	2010	2150	---
TOTAL	23010	26189	234770	211120	101322	180199	70005	90610	23463	29680	53873	60930
MEAN	742	873	7573	6810	3619	5813	2334	2923	782	957	1738	2031
MAX	1700	3290	11800	9660	13800	14300	5870	9840	2050	3580	4400	4270
MIN	230	240	1160	3510	748	872	452	565	220	400	340	320
CAL YR 1978 TOTAL	979338		MEAN	2683	MAX	11800	MIN	230				
WTP YR 1979 TOTAL	1105171		MEAN	3028	MAX	14300	MIN	220				

MONONGAHELA RIVER BASIN

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03057000 TYGART VALLEY RIVER AT COLFAX, WV

LOCATION.--Lat 39°26'15", long 80°07'55", Marion County, Hydrologic Unit 05020001, on right bank at highway bridge at Colfax, 300 ft (91 m) upstream from Guyses Run, and at mile 6.0 (9.7 km). Records include flow of Guyses Run.

DRAINAGE AREA.--1,366 mi² (3,538 km²), including that of Guyses Run.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1939 to current year. Prior to October 1960, published as Tygart River at Colfax.

REVISED RECORDS.--WSP 1083: 1942(M), WSP 1335: 1941.

GAGE.--Water-stage recorder. Datum of gage is 856.27 ft (260.991 m) National Geodetic Vertical Datum of 1929, supplementary adjustment of 1944. Formerly published as 855.49 ft (260.753 m) Baltimore & Ohio RR datum. Since Jan. 19, 1945, auxiliary water-stage recorder at Fairmont waterworks, 5.7 mi (9.2 km) downstream from base gage, at datum 856.99 ft (261.211 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Flow regulated by Tygart Lake (station 03055500). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--40 years, 2,635 ft³/s (74.62 m³/s), 26.20 in/yr (665 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,500 ft³/s (637 m³/s) Feb. 14, 1948, gage height, 16.86 ft (5.139 m); maximum gage height, 19.77 ft (6.026 m) Mar. 5, 1963, backwater from West Fork River; minimum discharge, 94 ft³/s (2.66 m³/s) July 3, 1946; minimum daily, 129 ft³/s (3.65 m³/s) May 5-7, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1888 reached a stage of 39.6 ft (12.07 m) at site 1,100 ft (335 m) downstream, present datum, from information by local resident. The stage on that day was probably affected by backwater from West Fork River.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,500 ft³/s (439 m³/s) Feb. 28, maximum gage height, 14.25 ft (4.343 m) Dec. 9, backwater from West Fork River; minimum discharge, 247 ft³/s (7.0 m³/s) June 22, gage height, 3.48 ft (1.061 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	906	509	5000	7780	3600	15200	1230	950	2770	484	3110	1640
2	1340	502	4770	7760	1050	14700	1660	872	1790	498	2700	1610
3	1320	486	4110	5600	1090	13800	1790	882	1620	601	1590	1620
4	1320	314	5550	8280	1050	9700	2260	1150	1130	866	1570	1960
5	1300	302	4820	9270	1000	9280	3420	1540	1080	1140	1560	3040
6	1280	296	8720	8670	970	9540	5630	1510	1050	1010	1390	3590
7	1270	296	8150	7190	1100	14000	6140	1990	1020	1500	632	3370
8	1250	296	10300	5160	1000	13000	5920	1880	1050	1340	384	3630
9	1230	292	10600	6760	990	12100	5460	1800	1040	758	392	4580
10	1490	289	8750	9740	1000	11300	5020	1750	1020	719	380	4460
11	1860	287	11800	9200	990	9780	6370	1880	1240	466	457	3970
12	719	286	12000	8600	980	6420	6210	2280	1660	443	743	2900
13	715	286	11400	7990	980	6120	5830	2270	1630	437	996	2370
14	738	286	10900	8330	970	5910	4460	2470	1600	449	2190	1280
15	788	348	10300	7980	1100	5690	3300	3880	1330	440	2720	657
16	511	1000	9650	7260	8190	5430	2490	4900	680	1090	1440	635
17	496	1590	9040	6250	11000	5200	2450	4810	682	1950	679	595
18	488	1600	8300	5080	12000	4530	2070	4720	670	4180	768	386
19	478	1470	6660	4840	12000	3010	1240	4630	576	2670	831	382
20	473	1600	3450	4960	11000	2920	842	4310	260	1200	1590	383
21	469	2370	8220	6770	10000	2640	806	2710	254	448	4610	808
22	465	2300	8100	5710	9200	1970	616	1360	260	442	4590	2050
23	463	2230	11100	8510	8300	1940	640	718	336	475	4630	1250
24	464	1970	10700	9460	6220	1940	630	1200	342	849	3870	1810
25	443	1150	9900	7340	5760	1970	619	4180	343	946	1780	4550
26	335	1130	6760	8060	6900	1960	639	9650	430	956	1670	4440
27	903	1740	10600	9040	9300	1980	1430	10800	433	997	2240	4330
28	753	2520	9960	8510	14100	1980	1400	8910	431	1270	2300	3820
29	589	2020	9360	7850	---	1780	1200	6860	441	2130	3290	2070
30	543	2950	8730	7120	---	1080	1050	4430	482	2450	3200	2150
31	521	---	8230	5870	---	1100	---	3260	---	2300	2770	---
TOTAL	25840	32715	265930	230940	141840	197970	82822	104552	27650	35504	61072	70336
MEAN	834	1091	8578	7450	5066	6386	2761	3373	922	1145	1970	2345
MAX	1860	2950	12000	9740	14100	15200	6370	10800	2770	4180	4630	4580
MIN	335	286	3450	4840	970	1080	616	718	254	437	380	382

CAL YR 1978 TOTAL 1119635 MEAN 3067 MAX 12000 MIN 286 MEAN† 3101 CFSM† 2.27 IN† 30.81
WTR YR 1979 TOTAL 1277171 MEAN 3499 MAX 15200 MIN 254 MEAN† 3515 CFSM† 2.57 IN† 34.89

† Adjusted for change in contents in Tygart Lake.

MONONGAHELA RIVER BASIN

03057000 TYGART VALLEY RIVER AT COLFAX, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1963-65, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
MAR 19...	1340	2980	100	8.3	19.0	7.0	--	--	--	--	--
APR 16...	1000	2480	85	6.9	--	9.0	--	31	19	.0	.0
MAY 02...	0945	836	105	8.1	15.0	11.0	--	41	27	.0	.0
JUN 11...	0915	1150	90	8.2	--	17.5	--	36	26	.0	.0
JUL 23...	1100	428	100	8.2	26.0	23.0	8.2	39	35	.0	.0
AUG 13...	1140	656	160	9.0	26.0	21.0	--	61	40	.0	.0
SEP 11...	1530	4180	100	6.2	--	22.0	--	35	24	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
APR 16...	8.3	2.4	--	--	12	--	27	2.7	58	.08	388
MAY 02...	11	3.2	--	--	14	--	38	3.0	78	.11	176
JUN 11...	10	2.6	2.6	.2	10	--	30	1.8	61	.08	189
JUL 23...	11	2.9	3.4	.2	4	.1	33	3.3	77	.10	89.0
AUG 13...	18	3.9	4.4	.2	21	.0	41	3.9	104	.14	184
SEP 11...	10	2.4	3.1	.2	11	14	23	2.8	58	.08	655

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FF)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
APR 16...	--	--	--	--	--	430	430	0	--
MAY 02...	--	--	--	--	--	140	140	0	--
JUN 11...	--	--	--	--	--	330	320	10	--
JUL 23...	--	--	--	--	--	150	140	10	--
AUG 13...	--	--	--	--	--	420	370	50	--
SEP 11...	0	10	10	20	<10	690	--	90	23000

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR 16...	--	110	0	160	--	--	--	--
MAY 02...	--	200	0	210	--	--	--	--
JUN 11...	--	140	20	120	--	--	--	--
JUL 23...	--	80	10	70	--	--	--	--
AUG 13...	--	80	20	60	--	--	--	--
SEP 11...	200	140	90	50	680	.00	0	140

03058000 WEST FORK RIVER AT BROWNSVILLE, WV

LOCATION.--Lat 39°00'10", long 80°28'35", Lewis County, Hydrologic Unit 05020002, on right bank at downstream side of highway bridge at Brownsville, 0.4 mi (0.6 km) downstream from Skin Creek, 2.5 mi (4.0 km) south of Weston, and at mile 71.0 (114.2 km).

DRAINAGE AREA.--102 mi² (264 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1946 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,010.85 ft (308.107 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Aug. 15, 1949, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for Feb. 12-23, which are poor.

AVERAGE DISCHARGE.--33 years, 165 ft³/s (4.673 m³/s), 21.97 in/yr (558 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,420 ft³/s (182 m³/s) June 25, 1950, gage height, 17.20 ft (5.243 m), from rating curve extended above 3,400 ft³/s (96 m³/s) on basis of slope-area measurement of peak flow; no flow for several days during 1952-54, Sept. 16, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft³/s (62 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	1400	2530 71.6	10.89 3.319	Jan. 8	0700	2460 69.7	10.56 3.219
Dec. 9	1100	*4720 134	14.53 4.429	Feb. 16	1300	2790 79.0	11.11 3.386
Dec. 21	0800	4270 121	13.59 4.142	Feb. 23	2400	2800 79.3	11.13 3.392
Jan. 2	1000	2400 68.0	10.46 3.188	Mar. 5	0900	2980 84.4	11.44 3.487

Minimum discharge, 4.5 ft³/s (0.13 m³/s) Oct. 1, 2, 3, minimum gage height, 5.04 ft (1.536 m) July 12, 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	20	117	652	98	420	178	178	91	35	30	38
2	4.5	15	82	2020	93	444	325	125	73	38	20	32
3	4.5	11	184	1030	88	333	568	105	60	30	14	63
4	5.7	9.5	1930	321	102	413	712	154	55	32	12	52
5	6.2	9.5	1220	191	80	2260	444	359	47	55	8.5	83
6	6.7	8.0	286	144	73	1030	352	321	38	35	8.5	1000
7	6.7	9.5	144	432	80	374	230	202	30	22	7.0	452
8	6.7	11	1170	2220	78	230	174	141	27	14	5.8	131
9	6.7	13	4140	796	68	157	436	108	27	8.5	7.0	75
10	6.0	13	1930	306	52	154	1020	85	27	8.5	8.5	52
11	5.7	13	367	191	47	405	508	80	32	7.0	32	40
12	6.7	13	193	138	45	306	306	147	30	5.8	237	30
13	9.1	11	136	128	43	205	212	237	25	4.8	237	25
14	24	11	104	640	42	223	164	321	18	7.0	80	38
15	25	30	80	500	200	288	131	184	14	12	50	55
16	16	163	67	270	2310	212	110	131	10	962	38	45
17	24	202	66	226	1100	167	91	94	8.5	908	25	32
18	28	178	57	310	300	138	80	73	8.5	110	27	25
19	25	108	53	216	180	116	70	63	8.5	75	110	22
20	18	67	548	314	120	102	63	52	7.0	47	333	20
21	14	48	3630	1780	300	85	57	47	8.5	32	780	244
22	13	37	1330	1330	700	73	52	47	12	22	295	1030
23	15	30	329	504	1600	68	52	45	16	16	174	732
24	18	62	244	397	2400	147	52	448	25	20	83	258
25	17	127	1100	604	1730	348	50	818	22	20	63	108
26	41	79	652	378	1250	255	63	616	18	25	55	70
27	343	585	299	240	809	164	827	464	12	40	720	50
28	175	801	171	195	436	122	628	355	8.5	30	269	188
29	62	413	116	154	---	102	420	258	7.0	45	113	532
30	39	189	99	125	---	85	269	144	16	42	70	310
31	26	---	266	110	---	83	---	94	---	38	50	---
TOTAL	1002.7	3286.5	21110	16862	14424	9509	8644	6496	781.5	2746.6	3962.3	5832
MEAN	32.3	110	681	544	515	307	288	210	26.1	88.6	128	194
MAX	343	801	4140	2220	2400	2260	1020	818	91	962	780	1030
MIN	4.5	8.0	53	110	42	68	50	45	7.0	4.8	5.8	20
CFSM	.32	1.08	6.68	5.33	5.05	3.01	2.82	2.06	.26	.87	1.26	1.90
IN.	.37	1.20	7.70	6.15	5.26	3.47	3.15	2.37	.29	1.00	1.45	2.13

CAL YR 1978 TOTAL 76661.2 MEAN 210 MAX 5000 MIN 4.5 CFSM 2.06 IN 27.96
WTR YR 1979 TOTAL 94656.6 MEAN 259 MAX 4140 MIN 4.5 CFSM 2.54 IN 34.52

MONONGAHELA RIVER BASIN

03058000 WEST FORK RIVER AT BROWNSVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963, 1965, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
OCT 30...	1100	39	180	6.8	9.5	5.0	--	--	--	--	--
DEC 08...	0900	708	--	7.0	15.0	9.5	--	--	--	--	--
APR 02...	1600	346	180	7.0	14.0	4.5	8.4	--	--	--	--
APR 19...	1245	87	110	7.2	--	12.5	--	52	35	.0	.0
MAY 04...	1220	150	110	7.8	--	15.0	--	49	32	.0	.0
MAY 15...	1330	175	185	7.1	19.0	15.0	--	--	--	--	--
JUN 28...	1350	9.3	180	7.1	28.0	22.0	--	64	30	.0	.0
JUL 30...	1130	44	--	7.0	--	21.0	--	75	43	.0	.0
AUG 16...	1315	34	180	6.6	20.5	19.0	--	59	37	.0	.0
SEP 11...	1510	32	165	6.6	29.0	24.5	--	64	36	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
APR 19...	14	4.2	--	--	17	--	36	3.8	93	.13
MAY 04...	13	3.9	--	--	17	--	31	3.0	79	.11
JUN 28...	18	4.6	7.5	.4	34	--	33	10	129	.18
JUL 30...	21	5.5	6.4	.3	32	6.2	41	5.9	146	.20
AUG 16...	17	4.1	8.6	.5	22	11	27	16	126	.17
SEP 11...	18	4.7	4.1	.2	29	14	32	3.2	104	.14

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
APR 19...	21.8	--	--	--	--	--	520	430	90	--
MAY 04...	32.0	--	--	--	--	--	690	620	70	--
JUN 28...	3.24	--	--	--	--	--	--	--	90	--
JUL 30...	17.3	--	--	--	--	--	1200	1100	90	--
AUG 16...	11.6	--	--	--	--	--	810	640	170	--
SEP 11...	9.13	0	<10	<10	10	<10	800	--	130	12000

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
APR 19...	--	80	0	80	--	--	--	--	15	3.5
MAY 04...	--	40	0	60	--	--	--	--	23	9.3
JUN 28...	--	--	--	90	--	--	--	--	--	--
JUL 30...	--	150	10	140	--	--	--	--	--	--
AUG 16...	--	120	10	110	--	--	--	--	--	--
SEP 11...	10	120	0	120	1300	.00	0	40	--	--

MONONGAHELA RIVER BASIN

93

03058500 WEST FORK RIVER AT BUTCHERVILLE, WV

LOCATION.--Lat 39°05'25", long 80°28'05", Lewis County, Hydrologic Unit 05020002, on right bank at Butcherville, 0.5 mi (0.8 km) upstream from Freemans Creek, 3,500 ft (1,067 m) downstream from abandoned bridge on Weston-Clarksburg interurban electric railway, 3.0 mi (4.8 km) north of Weston, and at mile 62.0 (99.8 km).

DRAINAGE AREA.--181 mi² (469 km²).

PERIOD OF RECORD.--April 1915 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1053: 1935. WSP 1335: 1918, 1923.

GAGE.--Water-stage recorder. Datum of gage is 993.0 ft (302.67 m) Department of Highways datum. Prior to Feb. 17, 1937, nonrecording gage at interurban bridge 3,500 ft (1,067 m) upstream. Feb. 17, 1937, to Apr. 7, 1939, nonrecording gage at site 2,500 ft (762 m) upstream. Prior to Oct. 1, 1942, at datum 10.0 ft (3.05 m) lower.

REMARKS.--Records good, except those for February, which are poor. The flow from 30.4 mi² (78.7 km²) is partially controlled, but not diverted, by eight floodwater detention reservoirs and one multi-purpose reservoir. Some additional regulation of low flow from one water-supply reservoir, approximate capacity 96 acre-ft (118,000 m³).

AVERAGE DISCHARGE.--64 years, 301 ft³/s (8.524 m³/s), 22.58 in/yr (574 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,000 ft³/s (510 m³/s) June 25, 1950, gage height, 16.81 ft (5.124 m), from rating curve extended above 7,500 ft³/s (220 m³/s) on basis of slope-area measurement of peak flow; no flow at times during October 1919, September, October, December 1922, caused by either diversion or pondage at small dam upstream.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of 1888 reached a stage of 17 ft (5.2 m) at site 3,500 ft (1,067 m) upstream, present datum, from information by local residents. The stage on that day may have been affected by backwater from a dam which has since been washed out.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,310 ft³/s (235 m³/s) Dec. 9, gage height, 11.62 ft (3.542 m); minimum 13 ft³/s (0.37 m³/s) Aug. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	55	46	205	1150	210	740	475	309	185	64	39	55
2	54	40	148	3240	190	775	613	222	150	98	29	59
3	55	34	475	1650	170	608	965	192	127	51	23	309
4	59	31	3370	631	190	800	1060	306	117	91	19	119
5	50	29	1840	411	160	3630	665	599	104	127	16	138
6	49	27	539	323	150	1570	515	519	89	62	19	1480
7	50	26	767	690	160	626	341	337	79	43	16	755
8	50	29	1950	3200	150	415	261	240	77	30	16	348
9	49	28	7150	1390	130	299	715	185	74	24	18	228
10	48	27	3610	617	120	320	1410	155	108	21	18	197
11	48	25	855	380	100	655	740	182	110	19	91	165
12	55	24	487	280	97	515	451	299	82	17	399	152
13	61	24	327	250	93	351	316	439	71	16	403	141
14	95	32	258	1110	91	395	249	475	62	19	177	175
15	86	134	225	950	479	463	205	295	57	22	121	160
16	71	411	197	559	3290	348	170	215	54	875	95	77
17	65	463	192	450	2000	264	141	162	54	1150	79	106
18	69	403	180	520	700	217	119	129	45	175	87	112
19	68	231	170	400	290	187	104	114	40	102	167	108
20	58	141	785	675	200	165	91	100	34	68	527	102
21	53	100	5370	2770	450	138	84	95	56	49	1090	479
22	55	79	2240	1950	1200	119	77	87	61	37	479	1610
23	64	69	700	885	2760	110	77	82	73	28	292	1170
24	65	95	531	840	3900	255	79	571	83	28	148	551
25	64	185	1780	1050	2820	531	79	1120	60	32	125	306
26	175	132	1060	720	2040	387	98	885	32	39	106	140
27	680	990	567	519	1280	252	1170	705	24	65	1090	91
28	327	1230	359	451	780	190	970	559	17	41	459	300
29	129	675	261	379	---	157	695	427	18	65	202	790
30	77	330	231	300	---	134	463	261	34	69	112	500
31	58	---	511	260	---	134	---	187	---	49	75	---
TOTAL	2942	6090	36840	29000	24200	15750	13398	10453	2177	3576	6537	10923
MEAN	94.9	203	1188	935	864	508	447	337	72.6	115	211	364
MAX	680	1230	7150	3240	3900	3630	1410	1120	185	1150	1090	1610
MIN	48	24	148	250	91	110	77	82	17	16	16	55
CFSM	.52	1.12	6.56	5.17	4.77	2.81	2.47	1.86	.40	.64	1.17	2.01
IN.	.60	1.25	7.57	5.96	4.97	3.24	2.75	2.15	.45	.73	1.34	2.24
CAL YR 1978	TOTAL	136268	MEAN 373	MAX 9800	MIN 14	CFSM 2.06	IN 28.01					
WTR YR 1979	TOTAL	161886	MEAN 444	MAX 7150	MIN 16	CFSM 2.45	IN 33.27					

MONONGAHELA RIVER BASIN

03059000 WEST FORK RIVER AT CLARKSBURG, WV

LOCATION.--Lat 39°16'15", long 80°21'20", Harrison County, Hydrologic Unit 05020002, on downstream side of left abutment of Hartland Bridge on Camden Street at Clarksburg, 700 ft (213 m) downstream from dam at Clarksburg waterworks, 1.2 mi (1.9 km) upstream from Elk Creek, and at mile 32.4 (52.1 km).

DRAINAGE AREA.--384 mi² (995 km²).

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

REVISED RECORDS.--WSP 1113: 1924, 1927, 1929(M), 1930, 1933-35(M), 1936-39, 1940(P), 1944(M), 1945.

GAGE.--Water-stage recorder. Datum of gage is 921.82 ft (280.971 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1961, water-stage recorder at several sites 700 ft (213 m) upstream at datum 10 ft (3.0 m) higher. June 11, 1954, to Sept. 30, 1961, present base gage used as the supplementary gage. Since Oct 1, 1961, former base gage used as the supplementary gage.

REMARKS.--Records good except those for period of no gage-height record, Feb. 6-23 and those above 10,000 ft³/s (283 m³/s), which are poor. Some water diverted for supply of City of Clarksburg. The flow from 36.1 mi² (93.5 km) is partially controlled, but not diverted, by nine floodwater detention reservoirs and one multi-purpose reservoir. Some additional regulation of low flow by five other reservoirs, combined capacity of 1950 acre-ft (2.40 hm³).

AVERAGE DISCHARGE.--56 years, 591 ft³/s (16.74 m³/s), 20.90 in/yr (531 mm/yr), adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft³/s (504 m³/s) Mar. 7, 1967, gage height, 23.40 ft (7.132 m); no flow over dam during parts of several years.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,700 ft³/s (190 m³/s) and maximum (*).

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	1515	*13600 385	18.58 5.663	Feb. 25	0215	8330 236	13.13 4.002
Dec. 21	1730	9160 259	13.99 4.264	Mar. 5	1615	8180 232	12.98 3.956

Minimum discharge, 17 ft³/s (0.48 m³/s) Aug. 10, gage height, 2.86 ft (0.872 m).

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	81	435	1780	450	1430	460	625	410	54	73	124
2	41	65	295	5600	390	1570	1490	465	339	144	54	94
3	42	55	505	3660	360	1270	1480	375	263	157	43	1070
4	44	50	6180	1350	400	1390	2180	455	244	105	37	714
5	48	46	4720	786	375	6450	1420	966	208	267	33	276
6	47	43	1370	595	340	4100	1000	997	168	196	30	1720
7	43	42	605	605	380	1570	738	684	142	102	46	1240
8	42	42	3870	4200	353	972	570	495	130	68	27	494
9	42	42	12600	3030	331	732	810	380	128	51	26	293
10	41	42	9070	1270	279	625	2530	303	124	45	26	202
11	40	42	2090	816	250	1120	1620	362	199	42	52	171
12	40	40	966	620	220	1070	960	1860	162	39	315	152
13	41	38	666	565	210	780	702	1650	119	36	738	140
14	69	36	500	1710	200	702	565	1100	100	34	385	160
15	126	52	410	2150	300	900	485	726	84	41	193	236
16	105	810	353	1130	3000	756	415	510	76	126	130	205
17	86	882	335	888	4500	620	353	366	78	2350	98	106
18	73	1030	307	1140	1000	530	295	283	78	696	124	111
19	72	600	271	834	500	465	255	227	73	190	159	115
20	65	323	555	894	400	420	223	193	66	124	348	104
21	58	205	7710	4530	1100	362	202	184	115	84	1260	400
22	53	152	5280	3690	2500	311	187	182	128	63	1180	3080
23	48	128	1490	1830	5000	275	187	157	154	51	625	2160
24	48	128	906	1620	8000	410	190	615	179	48	415	1330
25	52	154	3090	2360	7160	900	182	2030	122	42	385	708
26	91	199	2270	1490	4970	852	187	1830	78	52	912	392
27	1150	1180	1170	984	2780	590	1520	1510	58	63	2110	221
28	828	2800	696	822	1730	460	1900	1500	48	82	1370	286
29	335	1530	490	678	---	380	1330	948	42	84	590	1410
30	165	756	415	565	---	327	912	605	41	119	307	974
31	107	---	690	520	---	303	---	425	---	119	184	---
TOTAL	4084	11593	70250	52712	47478	32642	25348	23008	4156	5674	12275	18688
MEAN	132	386	2266	1700	1696	1053	845	742	139	183	396	623
MAX	1150	2800	12600	5600	8000	6450	2530	2030	410	2350	2110	3080
MIN	40	36	271	520	200	275	182	157	41	34	26	94
MEAN‡	141	395	2275	1709	1705	1062	853	751	148	192	405	632
CFSM‡	0.37	1.03	5.92	4.45	4.44	2.77	2.22	1.96	0.39	0.50	1.05	1.65
IN.‡	0.43	1.15	6.82	5.13	4.62	3.19	2.48	2.26	0.44	0.58	1.21	1.84
CAL YR 1978 TOTAL	245125				15000		MEAN‡ 681	CFSM‡ 1.77	IN.‡ 24.03			
WTR YR 1979 TOTAL	307908				12600		MEAN‡ 853	CFSM‡ 2.22	IN.‡ 30.14			

‡ Adjusted for diversion by city of Clarksburg; records furnished by Clarksburg Water Board.

03061000 WEST FORK RIVER AT ENTERPRISE, WV

LOCATION.--Lat 39°25'20", long 80°16'40", Harrison County, Hydrologic Unit 05020002, on left bank 150 ft (46 m) downstream from highway bridge at Enterprise, 0.8 mi (1.3 km) upstream from Binghamon Creek, and at mile 12.1 (19.5 km).

DRAINAGE AREA.--759 mi² (1,966 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1907 to September 1916, October 1916 to September 1918 (gage heights only), October 1932 to current year.

REVISED RECORDS.--WSP 803: 1936. WSP 823: Drainage area. WSP 1113: 1936-38(M), 1939, WSP 1335: 1911-15, 1937. WSP 1625: 1915(M), 1935(M).

GAGE.--Water-stage recorder. Datum of gage is 869.45 ft (265.008 m) National Geodetic Vertical Datum, adjustment of 1912. June 1907 to Sept. 30, 1918, nonrecording gage at site 150 ft (46 m) upstream at same datum.

REMARKS.--Water-discharge records good except those for periods of no gage-height record, Feb. 1 to Mar. 19, and May 25 to June 12, which are poor. The flow from about 40 mi² (104 km²) is partially controlled, but not diverted, by sixteen floodwater detention reservoirs, one municipal water-supply reservoir, and one multipurpose reservoir. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--55 years (water years 1908-1916, 1934-79), 1,148 ft³/s (32.51 m³/s), 20.54 in/yr (522 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,500 ft³/s (1,030 m³/s) Mar. 7, 1967, gage height, 28.05 ft (8.550 m), from rating curve extended above 21,000 ft³/s (600 m³/s) on basis of slope-area measurement at gage height 27.84 ft (8.486 m); minimum, 3.4 ft³/s (0.10 m³/s) July 27, 1934; minimum gage height, 0.6 ft (0.18 m) Sept. 10, 14, 25, 1908.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1888 reached a stage of about 33 ft (10 m), present site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 12,000 ft³/s (340 m) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	1700	16100 456	16.44 5.011	Jan. 2	1200	12700 360	14.19 4.325
Dec. 9	1300	*27600 782	23.34 7.114	Feb. 25	---	24000 680	Unknown
Dec. 21	1200	15900 450	16.31 4.971	Mar. 5	---	16000 453	Unknown

Minimum discharge, 63 ft³/s (1.78 m) Aug. 7, 8, gage height, 1.46 ft (0.445 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72	212	1040	3390	1100	2800	999	1250	790	158	184	336
2	79	174	681	10800	950	3100	2600	906	680	195	133	286
3	78	150	796	7950	840	2500	2630	798	520	285	105	1290
4	84	136	11800	3520	959	2700	3570	1450	480	240	82	1450
5	90	124	9240	2140	740	13000	2630	2720	430	378	78	573
6	86	118	3010	1650	780	8800	1900	2180	340	364	67	1890
7	83	113	1430	1500	840	3500	1420	1510	300	195	68	2590
8	83	113	7660	5420	833	2200	1110	1070	290	137	82	1130
9	78	116	25600	6530	730	1600	1890	811	270	110	89	633
10	74	116	16300	3660	650	1200	4510	648	250	109	73	445
11	71	111	4920	2430	590	2100	3110	567	540	118	311	348
12	69	107	2220	1880	550	2400	2010	2640	473	98	654	302
13	72	101	1580	1620	520	1600	1500	3520	325	88	1100	272
14	138	94	1210	3070	490	1400	1190	2160	241	90	637	293
15	203	97	963	4930	636	1800	1010	1400	200	106	390	368
16	192	930	833	3240	4680	1500	875	991	173	534	281	349
17	166	1770	788	2300	8280	1300	744	721	190	3110	214	230
18	143	1860	712	2670	2000	1100	630	559	190	1280	294	195
19	126	1660	633	2300	1000	970	533	460	168	402	586	241
20	113	1030	791	1990	780	918	469	392	145	244	491	212
21	111	620	12900	8580	2200	812	420	375	184	175	1540	500
22	103	421	9850	7610	4900	702	383	370	376	130	1790	4940
23	92	324	3480	4100	9600	626	380	313	287	119	897	3580
24	88	290	1980	3610	15000	965	397	1060	303	178	791	1890
25	90	290	5850	5360	16000	1920	365	3850	267	112	889	962
26	124	293	4980	3620	11000	1770	364	3400	182	136	1360	619
27	1700	1410	2740	2520	6700	1260	2540	4000	140	192	3570	458
28	1800	4920	1740	2070	3700	955	3420	5000	124	215	2650	1030
29	835	3310	1230	1790	---	801	2400	2200	120	400	1160	2860
30	438	1780	1030	1500	---	691	1760	1300	123	423	715	1870
31	286	---	1330	1310	---	650	---	980	---	293	459	---
TOTAL	7767	22790	139317	115060	97048	67640	47759	49601	9101	10614	21740	32142
MEAN	251	760	4494	3712	3466	2182	1592	1600	303	342	701	1071
MAX	1800	4920	25600	10800	16000	13000	4510	5000	790	3110	3570	4940
MIN	69	94	633	1310	490	626	364	313	120	88	67	195
CFSM	.33	1.00	5.92	4.89	4.57	2.88	2.10	2.11	.40	.45	.92	1.41
IN.	.38	1.12	6.83	5.64	4.76	3.32	2.34	2.43	.45	.52	1.07	1.58
CAL YR 1978	TOTAL	498178	MEAN	1365	MAX	25900	MIN	65	CFSM	1.80	IN	24.42
WTR YR 1979	TOTAL	620579	MEAN	1700	MAX	25600	MIN	67	CFSM	2.24	IN	30.42

MONONGAHELA RIVER BASIN

03061000 WEST FORK RIVER AT ENTERPRISE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1963-65, 1968-74, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)
MAR 22...	1040	752	550	7.2	--	10.0	8.0	--	--	--	--
APR 21...	1700	408	930	5.9	--	16.0	--	410	380	.0	.0
MAY 02...	1300	959	545	7.1	--	11.0	--	240	210	.0	.0
JUN 12...	1400	481	695	7.5	--	20.5	--	350	310	.0	.0
JUL 24...	1145	188	870	7.0	30.0	25.0	--	490	480	.0	.0
AUG 13...	0930	1200	815	8.9	16.5	20.0	--	350	290	.0	.0
SEP 11...	1120	347	545	6.4	--	20.0	--	230	200	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
APR 21...	110	33	--	--	31	--	470	8.7	759	1.03	836
MAY 02...	65	18	--	--	27	--	250	6.0	423	.58	1100
JUN 12...	98	26	34	.8	46	--	360	9.1	651	.89	845
JUL 24...	140	35	67	1.3	16	3.1	590	9.9	965	1.31	490
AUG 13...	99	25	34	.8	59	.1	320	13	604	.82	1960
SEP 11...	65	17	22	.6	36	27	220	8.0	376	.51	352

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
APR 21...	--	--	--	--	--	5400	4300	1100	--
MAY 02...	--	--	--	--	--	3900	3100	850	--
JUN 12...	--	--	--	--	--	2700	2500	160	--
JUL 24...	--	--	--	--	--	850	400	450	--
AUG 13...	--	--	--	--	--	5600	5600	40	--
SEP 11...	0	<10	20	30	60	2200	--	230	53000

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR 21...	--	1300	690	610	--	--	--	--
MAY 02...	--	720	270	450	--	--	--	--
JUN 12...	--	1000	0	1000	--	--	--	--
JUL 24...	--	1600	0	1700	--	--	--	--
AUG 13...	--	760	120	640	--	--	--	--
SEP 11...	60	660	40	620	800	.00	0	2880

MONONGAHELA RIVER BASIN

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03061410 LAUREL RUN AT CURTISVILLE, WV

LOCATION.--Lat 39°31'14", long 80°26'20", Marion County, Hydrologic Unit 05020003, on right upstream wingwall of bridge on Secondary State Route 7, 250 ft (76.2 m) upstream from mouth, and 1.4 mi (2.3 km) west of Logansport.

DRAINAGE AREA.--1.11 mi² (2.88 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1005.81 ft (306.57 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for period of no gage-height record Dec. 19-21, and those for February, which are poor. Rainfall records collected at site January 1978 to December 1979 are contained in files of U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 6.56 ft (1.999 m) Jan. 26, 1978 from floodmark, backwater from Owen Davy Fork, discharge not determined; minimum discharge, 0.02 ft³/s (<0.001 m³/s) June 25, 26, Oct. 4, 5, 1978; minimum gage height, 3.86 ft (1.177 m) June 28, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 6.17 ft (1.881 m) Dec. 20 from floodmark, backwater from Owen Davy Fork, discharge not determined; minimum discharge, 0.02 ft³/s (<0.001 m³/s) Oct. 4, 5; minimum gage height, 3.86 ft (1.177 m) June 28, 1979.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.40	1.5	14	.96	4.1	6.8	1.3	.80	.75	.45	.40
2	.08	.34	1.2	17	.89	5.0	6.6	1.0	.65	.93	.27	.38
3	.08	.30	16	4.5	.91	3.7	4.3	1.1	.45	.45	.18	.31
4	.05	.30	26	3.0	.85	8.4	2.8	4.1	.45	5.8	.14	.20
5	.02	.30	6.8	2.3	.79	16	1.9	5.5	.31	2.5	.10	.35
6	.05	.30	3.8	2.0	.72	5.0	1.4	2.6	.27	1.0	.09	.62
7	.08	.20	2.8	3.2	.67	2.8	1.1	1.6	.20	.55	.08	.35
8	.08	.20	31	5.5	.61	2.0	1.1	1.2	.23	.40	.14	.21
9	.05	.16	32	3.6	.57	1.4	6.3	.93	.23	.27	.14	.16
10	.03	.16	7.0	2.3	.52	1.4	5.3	.80	1.4	.93	.10	.13
11	.03	.12	3.2	1.8	.47	1.4	2.8	.70	1.9	.35	.49	.11
12	.05	.12	2.3	1.4	.43	1.2	2.2	3.6	.80	.23	1.4	.10
13	.10	.12	1.8	1.4	.41	1.1	1.7	4.8	.45	.23	.48	.09
14	.90	.24	1.4	11	.45	1.4	1.4	1.9	.27	.23	.27	.26
15	.49	1.9	1.2	4.5	2.2	1.2	1.4	1.3	.20	.18	.19	.15
16	.48	6.5	.97	2.6	4.4	1.2	1.3	.93	.16	.14	.13	.11
17	.54	6.3	.91	3.2	2.8	1.2	1.1	.70	.16	.12	.10	.09
18	.38	4.6	.77	3.7	2.0	1.1	1.0	.60	.14	.10	.67	.08
19	.25	2.5	.74	3.4	1.4	1.1	.93	.45	.10	.09	.55	.09
20	.19	1.6	12	6.1	1.1	.93	.80	.45	.09	.08	.48	.08
21	.15	1.2	23	17	6.3	.80	.75	.45	.18	.08	.62	1.6
22	.12	.93	3.4	4.5	10	.75	.65	.31	.14	.08	.47	3.0
23	.13	.85	1.8	2.8	21	.80	.65	.31	.10	.14	.32	1.6
24	.16	1.0	2.8	12	19	3.0	.45	3.0	.09	.16	.95	.69
25	.16	.84	7.2	6.3	28	3.9	.45	8.8	.08	.12	1.3	.42
26	6.7	.75	3.1	3.2	13	2.4	1.4	3.4	.07	1.1	2.2	.28
27	7.1	9.2	1.6	2.3	4.8	1.6	3.7	13	.05	.50	3.1	.20
28	2.1	7.8	.95	1.8	3.2	1.3	2.8	7.1	.75	1.8	1.2	13
29	1.1	3.7	.65	1.4	---	1.1	2.1	2.5	1.4	9.1	1.4	3.8
30	.63	2.3	.56	1.2	---	.93	1.6	1.4	.93	2.5	.96	1.6
31	.47	---	3.8	1.1	---	3.9	---	.93	---	.93	.62	---
TOTAL	22.83	55.23	202.25	150.1	128.45	82.11	66.78	76.76	13.05	31.84	19.59	30.46
MEAN	.74	1.84	6.52	4.84	4.59	2.65	2.23	2.48	.44	1.03	.63	1.02
MAX	7.1	9.2	32	17	28	16	6.8	13	1.9	9.1	3.1	13
MIN	.02	.12	.56	1.1	.41	.75	.45	.31	.05	.08	.08	.08
CFSM	.67	1.66	5.87	4.36	4.14	2.39	2.01	2.23	.40	.93	.57	.92
IN.	.76	1.85	6.77	5.03	4.30	2.75	2.24	2.57	.44	1.07	.66	1.02

CAL YR 1978 TOTAL 883.34 MEAN 2.42 MAX 41 MIN .02 CFSM 2.18 IN 29.58
WTR YR 1979 TOTAL 879.45 MEAN 2.41 MAX 32 MIN .02 CFSM 2.17 IN 29.45

MONONGAHELA RIVER BASIN

03061410 LAUREL RUN AT CURTISVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
OCT 12...	0900	.05	--	--	22.0	11.0	--
DEC 04...	1025	29	60	7.1	14.5	10.0	--
09...	1245	25	55	7.2	--	7.0	--
20...	1150	.82	90	7.2	6.0	4.0	--
21...	1130	9.4	70	7.1	3.0	6.0	--
JAN 11...	0925	1.7	80	7.0	-7.0	.0	--
FEB 05...	1030	.78	60	6.8	-4.0	-.5	--
MAR 22...	0950	.76	50	7.1	8.0	3.5	9.5
MAY 02...	1330	1.0	80	7.4	28.5	16.5	--
JUN 07...	1445	.20	75	7.3	25.0	22.0	--
JUL 10...	1400	.88	110	7.4	23.0	18.0	--
AUG 09...	1630	.10	--	--	31.0	27.0	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS F)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	SODIUM PERCENT	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
DEC 09...	22	11	6.0	1.8	1.3	.1	11	1.1	11	16

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)
DEC 09...	1.3	.0	6.5	44	41	.06	2.97	10	0

DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC 09...	10	0	0	240	100	20	<.5	0	0

MONONGAHELA RIVER BASIN

99

03061435 HIBBS RUN NEAR MANNINGTON, WV

LOCATION.--Lat 39°32'35", long 80°23'25", Marion County, Hydrologic Unit 05020003, on right upstream wingwall of bridge on Secondary State Route 5, 275 ft (83.8 m) upstream from mouth, and 2.3 mi (3.7 km) northwest of Mannington.

DRAINAGE AREA.--1.42 mi² (3.68 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1977 to September 1979 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 990 ft (302 m), from topographic map.

REMARKS.--Water-discharge records good except those for periods of doubtful-or-no gage-height record, Mar. 26 to May 2, June 21 to July 10, Aug. 1-10, and those for February, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 7.63 ft (2.326 m) Jan. 26, 1978 from floodmark, backwater from Dents Run, discharge not determined; minimum discharge, 0.02 ft³/s (<0.001 m³/s) Oct. 4, 1978; minimum gage height, 3.98 ft (1.213 m) July 19, 20, 21, 22, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 6.70 ft (2.042 m) Sept. 28, backwater from Dents Run, discharge not determined; minimum discharge, 0.02 ft (<0.001 m³/s) Oct. 4; minimum gage height, 3.98 ft (1.213 m) July 19, 20, 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.06	.38	1.8	21	1.3	5.6	7.7	1.5	1.1	.95	.35	.71
2	.06	.33	1.4	27	1.1	6.7	6.8	1.1	.84	1.2	.28	.56
3	.05	.28	21	5.9	1.2	4.5	5.5	1.2	.70	.60	.22	.49
4	.06	.25	34	3.4	1.1	11	3.8	6.7	.64	5.6	.17	.36
5	.06	.20	7.3	2.4	1.0	24	2.5	10	.58	3.1	.14	.37
6	.06	.20	3.5	2.1	.94	6.8	1.7	3.7	.46	1.3	.11	.84
7	.06	.17	2.4	6.0	.86	3.4	1.4	2.0	.35	.70	.10	.53
8	.06	.15	36	12	.78	2.2	2.5	1.4	.25	.52	.18	.37
9	.06	.15	45	4.9	.70	1.7	6.4	1.0	.25	.35	.31	.30
10	.06	.15	8.7	3.1	.66	1.5	5.4	.84	.46	.30	.30	.23
11	.06	.15	4.0	2.3	.60	1.5	3.6	.81	1.1	.20	.70	.20
12	.03	.15	3.0	2.0	.56	1.4	2.7	15	.58	.15	5.0	.17
13	.07	.11	2.5	1.9	.53	1.1	2.2	15	.40	.52	1.4	.15
14	.52	.12	2.0	18	.63	1.4	1.8	3.8	.30	.35	.69	.37
15	.38	.96	1.9	6.9	1.0	1.5	1.8	2.0	.25	.25	.52	.27
16	.28	8.7	1.6	3.7	5.6	1.7	1.6	1.3	.20	.15	.36	.18
17	.34	6.7	1.6	4.8	3.7	1.5	1.5	.96	.15	.11	.29	.14
18	.31	4.7	1.4	6.0	2.6	1.4	1.3	.81	.15	.08	.78	.12
19	.28	2.2	1.4	4.1	1.8	1.3	1.2	.69	.15	.06	1.1	.15
20	.26	1.4	17	8.6	1.4	1.1	1.0	.60	.11	.04	.79	.13
21	.23	.97	29	28	10	.94	.92	.62	.15	.04	.74	4.5
22	.21	.74	6.2	6.7	14	.89	.80	.51	.14	.08	.61	9.7
23	.17	.65	3.5	3.6	28	.93	.70	.46	.12	.11	.56	2.2
24	.20	.67	5.1	16	26	4.6	.59	2.7	.11	.08	3.2	1.0
25	.16	.64	15	10	44	6.9	.92	16	.10	.11	5.1	.68
26	5.9	.60	5.7	4.3	20	4.0	1.7	5.4	.09	.35	4.3	.50
27	8.9	12	3.5	2.8	6.9	2.0	3.8	24	.07	2.5	12	.39
28	1.8	12	2.6	2.1	4.3	1.6	3.0	13	.70	26	2.2	40
29	.93	4.3	2.1	1.7	---	1.4	2.5	3.4	1.7	12	2.7	6.5
30	.60	2.5	1.5	1.5	---	1.2	1.9	1.8	1.2	1.5	1.8	2.8
31	.48	---	5.6	1.4	---	5.5	---	1.2	---	.52	1.1	---
TOTAL	22.70	62.52	277.3	224.2	181.26	111.26	79.23	139.50	13.40	59.82	48.10	74.91
MEAN	.73	2.08	8.95	7.23	6.47	3.59	2.64	4.50	.45	1.93	1.55	2.50
MAX	9.9	12	45	28	44	24	7.7	24	1.7	26	12	40
MIN	.03	.11	1.4	1.4	.53	.89	.59	.46	.07	.04	.10	.12
CFSM	.51	1.47	6.30	5.09	4.56	2.53	1.86	3.17	.32	1.36	1.09	1.76
IN.	.59	1.64	7.26	5.87	4.75	2.91	2.07	3.65	.35	1.57	1.26	1.96

CAL YR 1978 TOTAL 1044.45 MEAN 2.86 MAX 45 MIN .03 CFSM 2.01 IN 27.34
WTR YR 1979 TOTAL 1294.20 MEAN 3.55 MAX 45 MIN .03 CFSM 2.50 IN 33.88

MONONGAHELA RIVER BASIN

03061435 HIBBS RUN NEAR MANNINGTON, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978-79 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
OCT							
12...	1000	.03	--	--	23.0	11.5	--
DEC							
04...	0940	48	60	7.0	14.5	10.0	--
09...	1330	31	55	7.5	--	6.5	--
20...	1015	1.1	85	7.1	5.0	4.0	--
JAN							
11...	1020	2.2	80	7.1	-7.0	.0	--
FEB							
05...	1130	1.0	60	7.0	-5.0	-1.0	--
MAR							
22...	0920	.89	60	7.3	8.5	3.5	9.6
MAY							
02...	1235	1.1	80	7.2	26.0	14.0	--
JUN							
07...	1430	.30	70	7.2	25.0	22.0	--
JUL							
10...	1215	.35	100	7.2	22.0	18.0	--
AUG							
09...	1415	.31	--	--	33.0	24.5	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
DEC										
09...	23	11	6.1	1.9	1.2	10	.1	1.1	12	17

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INIUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)
DEC									
09...	1.0	.0	5.9	41	42	.06	3.43	10	0

DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC									
09...	0	0	0	180	0	40	<.5	0	0

MONONGAHELA RIVER BASIN

101

03061495 DAVY RUN AT KATY, WV

LOCATION.--Lat 39°30'38", long 80°12'51", Marion County, Hydrologic Unit 05020003, on left downstream wingwall of bridge on Secondary State Route 250/32, 300 ft (91.4 m) upstream from mouth, and 2.5 mi (4.0 km) west of Barrackville.

DRAINAGE AREA.--1.76 mi² (4.56 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1977 to September 1979 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 920 ft (280 m), from topographic map.

REMARKS.--Water-discharge records good except those for periods of backwater Dec. 8, 9, 21, Jan. 2, 21, Feb. 23-26, and Mar. 4, 5, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 11.23 ft (3.423 m) July 3, 1978, from floodmark, backwater from Buffalo Creek, discharge not determined; minimum discharge, 0.19 ft³/s (0.005 m³/s) part or all of each day Oct. 9-13 and Nov. 13, 14, 1978; minimum gage height, 4.13 ft (1.259 m) Jan. 4, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum gage height 9.20 ft (2.804 m) Feb. 26, from floodmark, backwater from Buffalo Creek, discharge not determined; minimum discharge, 0.19 ft³/s (0.005 m³/s) part or all of each day Oct. 9-13 and Nov. 13, 14, gage height, 4.29 ft (1.308 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	.48	2.6	12	3.9	9.5	6.8	2.2	3.8	.58	.58	1.3
2	.25	.44	2.1	35	3.2	9.5	6.2	1.0	2.5	.65	.45	1.1
3	.23	.41	16.	10	2.9	8.1	6.8	2.2	2.2	.51	.40	.90
4	.41	.38	37	5.6	2.7	16	5.6	4.7	1.8	1.2	.35	.80
5	.26	.38	9.1	4.3	2.0	46	5.0	9.0	1.6	.79	.35	1.4
6	.23	.34	5.1	3.6	1.9	17	4.4	5.6	1.4	.58	.31	.92
7	.27	.38	3.5	5.1	1.8	10	3.8	4.1	1.3	.51	.31	.79
8	.25	.38	28	10	1.7	7.4	3.1	3.5	1.4	.45	.27	1.4
9	.22	.33	59	5.7	1.4	5.0	6.8	2.8	1.3	.40	.31	1.2
10	.19	.33	11	4.6	1.7	4.4	9.2	2.2	1.5	.45	.35	1.1
11	.14	.30	7.2	3.9	1.7	3.8	6.2	2.5	1.7	.40	.58	.96
12	.22	.29	5.8	3.4	1.3	3.4	4.7	4.7	1.3	.35	1.0	.86
13	.36	.26	4.5	3.2	1.2	2.8	4.1	8.6	1.2	.40	.54	.79
14	.32	.22	3.7	11	1.2	3.1	3.5	4.4	1.1	.40	.46	.78
15	.45	.59	3.1	8.2	1.6	2.5	2.1	3.5	1.0	.31	.44	.72
16	.38	1.3	2.7	5.4	4.0	2.5	2.8	2.8	.94	.31	.38	1.0
17	.35	1.5	2.3	6.1	2.5	2.2	2.5	2.2	1.2	.27	.35	.77
18	.30	2.1	2.1	7.2	2.0	2.2	1.9	1.8	.94	.27	.64	.67
19	.33	1.6	1.9	5.6	1.8	2.2	1.8	1.7	.86	.26	.47	.59
20	.30	1.3	3.4	6.4	1.6	1.9	1.8	1.6	.79	.25	.43	.69
21	.27	1.1	11	23	5.6	1.9	1.7	1.7	.86	.24	.70	.58
22	.25	1.0	6.0	13	9.8	1.8	1.7	1.6	.79	.27	.70	3.3
23	.23	.95	4.6	9.1	27	1.8	1.7	1.5	.72	.45	.63	11
24	.28	.97	6.8	12	30	3.1	1.6	4.4	.72	.51	.70	2.8
25	.29	.85	14	13	47	3.8	1.6	10	.72	.35	.90	1.6
26	2.4	.90	7.4	9.2	29	3.1	1.7	5.6	.65	.58	1.3	1.5
27	3.4	6.6	5.3	7.7	13	2.8	3.5	14	.58	.58	.82	1.3
28	.97	8.1	3.9	6.9	9.8	2.5	3.1	15	.51	1.1	.73	6.1
29	.68	5.0	3.0	5.6	---	2.2	2.8	7.4	.58	1.8	2.5	8.6
30	.57	3.5	2.5	4.9	---	1.9	2.5	4.4	.58	1.2	1.4	3.1
31	.51	---	3.5	4.3	---	3.1	---	3.4	---	.79	1.4	---
TOTAL	14.11	42.18	278.4	265.9	213.4	187.5	112.0	141.2	36.54	17.21	20.75	58.62
MEAN	.52	1.41	8.98	8.58	7.62	6.05	3.73	4.55	1.22	.56	.67	1.95
MAX	3.4	8.1	59	35	47	46	9.2	15	3.8	1.8	2.5	11
MIN	.19	.22	1.9	3.2	1.2	1.8	1.6	1.5	.51	.24	.27	.58
CFSM	.30	.80	5.10	4.88	4.33	3.44	2.12	2.59	.69	.32	.38	1.11
IN.	.34	.89	5.88	5.62	4.51	3.96	2.37	2.98	.77	.36	.44	1.24

CAL YR 1978 TOTAL 1186.93 MEAN 3.25 MAX 69 MIN .19 CFSM 1.85 IN 25.07
WTR YR 1979 TOTAL 1380.81 MEAN 3.81 MAX 59 MIN .19 CFSM 2.17 IN 29.36

MONONGAHELA RIVER BASIN

03061495 DAVY RUN AT KATY, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978-79 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
OCT							
12...	1215	.22	--	--	24.0	13.0	--
DEC							
04...	0850	54	160	7.2	15.0	11.5	--
09...	1445	36	200	7.4	--	8.0	--
20...	1420	1.8	425	8.2	7.5	7.0	--
JAN							
11...	1130	3.8	360	7.9	-3.0	3.0	--
FEB							
05...	1415	1.9	475	7.5	-3.0	1.0	--
MAR							
22...	1205	1.8	400	7.5	12.5	4.5	10.0
MAY							
02...	1025	1.9	430	8.0	14.0	9.5	--
JUN							
07...	1700	1.4	400	7.6	25.5	18.0	--
JUL							
11...	1200	.41	430	7.5	--	--	--
AUG							
09...	1100	.29	--	--	--	19.5	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
DEC										
09...	98	44	27	7.4	7.2	13	.3	2.1	54	48

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)
DEC									
09...	1.7	.1	7.3	138	135	.19	13.4	20	0

DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC									
09...	0	0	20	1400	100	20	<.5	0	0

MONONGAHELA RIVER BASIN

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03061500 BUFFALO CREEK AT BARRACKVILLE, WV

LOCATION.--Lat 39°30'15", long 80°10'20", Marion County, Hydrologic Unit 05020003, near center of span on downstream side of highway bridge at Barrackville, 1,700 ft (518 m) upstream from Finchs Run, and at mile 4.0 (6.4 km).

DRAINAGE AREA.--115 mi² (298 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1907 to December 1908, May 1915 to June 1924, August 1932 to current year.

REVISED RECORDS.--WSP 783: 1917(M). WSP 1335: 1916(M), 1918-20(M), 1921, 1922(M), 1924(M), 1933(M), 1940.

GAGE.--Water-stage recorder. Datum of gage is 882.42 ft (268.962 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Dec. 6, 1940, nonrecording gage at same site. Prior to June 4, 1943, at datum 1.98 ft (0.604 m) higher.

REMARKS.--Water-discharge records good except those for Jan. 22 to Feb. 20, which are poor.

AVERAGE DISCHARGE.--56 years (water years 1908, 1916-23, 1933-79), 169 ft³/s (4.786 m³/s), 19.96 in/yr (507 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 9,490 ft³/s (269 m³/s) Jan. 22, 1917, gage height, 16.2 ft (4.94 m), present datum; no flow during greater part of period September to November 1908.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1912 reached a stage of about 18 ft (5.5 m), present site and datum, discharge, 11,600 ft³/s (330 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,500 ft³/s (99 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	1245	3510 99.4	9.88 3.011	Feb. 23	2300	3520 99.7	9.90 3.018
Dec. 9	0630	5030 142	11.64 3.548	Feb. 26	0200	*5870 166	12.55 3.825
Jan. 2	0715	3700 105	10.12 3.085	Mar. 5	0330	4940 140	11.54 3.517

Minimum discharge, 9.1 ft³/s (0.26 m³/s) Oct. 11; minimum gage height 1.98 ft (0.604 m) July 22.

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	34	160	1240	110	532	978	146	162	57	70	80
2	11	30	126	2520	100	652	752	120	125	61	49	73
3	10	26	584	665	92	525	568	115	103	56	37	162
4	12	25	2780	351	91	812	342	302	88	275	30	81
5	12	22	736	246	79	3010	262	844	73	330	25	60
6	13	21	334	201	67	808	190	422	60	92	20	109
7	14	19	212	234	73	443	146	265	54	51	19	86
8	12	20	1830	920	69	317	131	190	50	33	17	59
9	12	21	3800	426	64	230	452	144	44	25	19	44
10	12	20	920	284	60	198	792	117	44	23	25	37
11	11	19	434	205	57	184	382	110	218	31	38	34
12	11	19	304	172	56	152	275	206	118	27	140	30
13	13	16	234	159	55	131	212	1030	69	26	100	25
14	30	18	190	1220	54	144	178	352	50	33	64	31
15	50	22	154	703	60	150	158	218	39	25	47	40
16	35	298	132	358	490	133	138	156	34	20	32	31
17	42	307	123	320	300	135	123	115	36	20	25	24
18	38	329	106	486	190	130	107	93	29	15	31	21
19	28	182	98	295	140	121	96	79	25	13	72	23
20	23	110	121	406	110	112	88	68	24	12	58	21
21	21	78	1870	2230	264	100	81	66	25	10	52	61
22	18	62	546	1000	1060	90	78	65	30	11	51	446
23	15	52	298	650	2160	86	69	51	26	28	48	385
24	19	56	272	540	2600	186	65	322	21	38	123	146
25	19	52	1190	930	2740	431	60	1140	18	23	325	84
26	37	45	528	590	3090	292	61	546	15	34	283	61
27	700	374	309	370	788	196	365	987	14	62	1030	52
28	172	780	201	300	490	148	347	1330	16	180	252	816
29	83	362	156	220	---	131	247	449	17	780	307	932
30	53	227	137	180	---	117	186	262	53	428	222	290
31	41	---	238	140	---	125	---	176	---	131	120	---
TOTAL	1578	3646	19123	18561	15509	10821	7929	10486	1680	2950	3731	4344
MEAN	50.9	122	617	599	554	349	264	338	56.0	95.2	120	145
MAX	700	780	3800	2520	3090	3010	978	1330	218	780	1030	932
MIN	10	16	98	140	54	86	60	51	14	10	17	21
CFSM	.44	1.06	5.37	5.21	4.82	3.04	2.30	2.94	.49	.83	1.04	1.26
IN.	.51	1.12	6.19	6.00	5.02	3.50	2.56	3.39	.54	.95	1.21	1.41

CAL YR 1978 TOTAL 89901 MEAN 246 MAX 4380 MIN 10 CFSM 2.14 IN 29.08
WYR 1979 TOTAL 100358 MEAN 275 MAX 3800 MIN 10 CFSM 2.35 IN 32.46

03061500 BUFFALO CREEK AT BARRACKVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1963, 1964, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June to September 1979.

WATER TEMPERATURES: June to September 1979.

SUSPENDED SEDIMENT DISCHARGE: June to September 1979.

REMARKS.--Sediment samples were taken once daily by an observer and hourly by automatic sampler on rises.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,370 micromhos Aug. 9, 1979; minimum daily, 130 micromhos July 5, 1979.

WATER TEMPERATURES: Maximum daily, 24.0°C July 16, Aug. 8, 1979; minimum daily, 15.0°C June 26, July 5, 6, 1979.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 530 mg/L July 29, 1979; minimum daily mean, 5 mg/L Sept. 10, 1979.

SEDIMENT LOADS: Maximum daily, 1,490 tons (1,350 tonnes) Sept. 28, 1979; minimum daily, 0.32 tons (0.29 tonnes) July 21, 1979.

EXTREMES FOR CURRENT PERIOD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,370 micromhos Aug. 9; minimum daily, 130 micromhos July 5.

WATER TEMPERATURES: Maximum daily, 24.0°C July 16, Aug. 8; minimum daily, 15.0°C June 26, July 5, 6.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 530 mg/L July 29; minimum daily mean, 5 mg/L Sept. 10.

SEDIMENT LOADS: Maximum daily, 1,490 tons (1,350 tonnes) Sept. 28; minimum daily, 0.32 tons (0.29 tonnes) July 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW- INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)			
DEC										
05...	1150	705	350	7.6	9.0	8.0	--			
09...	1545	3620	115	7.3	--	7.0	--			
20...	1510	99	420	7.6	7.5	4.0	--			
FEB										
06...	1145	64	400	7.1	-8.0	-1.0	--			
MAR										
22...	1340	88	520	7.0	18.5	5.0	8.6			
MAY										
01...	1610	135	250	8.1	28.0	14.0	--			
JUN										
05...	1430	67	300	7.8	22.0	18.5	--			
25...	1330	17	750	7.9	30.0	19.0	--			
JUL										
26...	1415	28	825	7.6	28.0	25.0	--			
AUG										
08...	1440	17	1210	--	30.0	27.0	--			
SEP										
10...	1400	36	580	8.2	--	19.0	--			

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)
DEC										
09...	42	27	--	--	12	3.0	4.8	19	.3	1.7
MAY										
01...	93	47	.0	.0	26	6.9	--	--	--	--
JUL										
26...	250	160	.0	.0	73	16	170	--	4.7	--
AUG										
08...	320	220	.0	.0	87	24	160	--	3.9	--
SEP										
10...	170	65	.0	.0	48	11	77	--	2.6	--

DATE	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
DEC										
09...	15	--	31	2.8	.0	6.1	74	71	.10	723
MAY										
01...	46	--	93	8.7	--	--	197	--	.27	71.8
JUL										
26...	91	4.5	460	42	--	--	804	--	10.9	60.8
AUG										
08...	98	--	500	40	--	--	949	--	1.29	43.6
SEP										
10...	100	1.2	180	15	--	--	404	--	.55	40.0

MONONGAHELA RIVER BASIN

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03061500 BUFFALO CREEK AT BARRACKVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
DEC 09...	30	0	--	0	--	0	--	--	10
MAY 01...	--	--	--	--	--	--	--	--	--
JUL 26...	--	--	--	--	--	--	--	--	--
AUG 08...	--	--	--	--	--	--	--	--	--
SEP 10...	--	--	0	--	<10	--	10	10	--

DATE	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)
DEC 09...	--	--	--	430	--	100	--	--	--
MAY 01...	--	580	550	30	--	--	--	90	70
JUL 26...	--	900	870	30	--	--	--	120	0
AUG 08...	--	400	350	50	--	--	--	540	50
SEP 10...	10	400	--	60	18000	--	10	100	20

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY DIS- SOLVED (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
DEC 09...	100	--	<.5	--	0	--	0	--
MAY 01...	20	--	--	--	--	--	--	--
JUL 26...	120	--	--	--	--	--	--	--
AUG 08...	490	--	--	--	--	--	--	--
SEP 10...	80	720	--	.00	--	0	--	50

MONONGAHELA RIVER BASIN

03061500 BUFFALO CREEK AT BARRACKVILLE, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	989	276	365
2									---	640	330	432
3									---	500	402	464
4									---	445	638	394
5									---	130	727	427
6									---	185	572	502
7									---	236	818	480
8									---	323	1430	362
9									---	377	2370	465
10									---	432	1320	478
11									---	573	1360	638
12									---	664	937	689
13									---	898	748	805
14									---	641	346	808
15									---	629	475	843
16									---	563	897	940
17									---	1440	676	885
18									---	2170	728	1850
19									---	1850	761	1320
20									---	1620	571	2120
21									---	872	529	896
22									---	921	564	410
23									---	784	569	348
24									---	897	561	---
25									---	617	933	---
26									---	615	807	345
27									---	642	746	220
28									---	613	479	342
29									---	1540	226	395
30									---	698	144	231
31									---	215	231	---
MEAN									788	720	659	691
PERIOD	MEAN		696	MAX	2370	MIN		130				

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	19.0	22.0	20.0
2									---	---	23.0	21.0
3									---	18.0	22.0	22.0
4									---	19.0	---	---
5									---	15.0	---	21.0
6									---	15.0	22.0	21.0
7									---	16.0	22.0	20.0
8									---	18.0	24.0	20.0
9									---	19.0	22.0	19.0
10									---	19.0	23.0	18.0
11									---	20.0	23.0	18.0
12									---	21.0	20.0	19.0
13									---	22.0	18.0	19.0
14									---	22.0	19.0	20.0
15									---	23.0	18.0	18.0
16									---	24.0	18.0	16.0
17									---	23.0	17.0	16.0
18									---	23.0	18.0	17.0
19									---	21.0	19.0	17.0
20									---	22.0	19.0	16.0
21									---	22.0	20.0	17.0
22									---	22.0	20.0	17.0
23									---	23.0	21.0	16.0
24									---	23.0	21.0	---
25									19.0	22.0	20.0	---
26									15.0	---	20.0	---
27									18.0	23.0	20.0	---
28									19.0	22.0	19.0	---
29									20.0	21.0	22.0	17.0
30									20.0	19.0	21.0	16.0
31									---	21.0	20.0	---
MEAN									18.5	20.5	20.5	18.5
PERIOD	MEAN		20.0	MAX	24.0	MIN		15.0				

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SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

LOCATION.--Lat 39°34'55", long 80°06'17", Monongalia County, Hydrologic Unit 05020003, on right bank at site 200 ft (61.0 m) upstream from mouth, at Crown.

WATER-DISCHARGE RECORDS

GAGE.--Water-stage recorder. Altitude of gage is 960 ft (293 m), from topographic map.

REMARKS.--Water-discharge records good. Rainfall records collected at site since February 1978 are contained in files of U.S. Geological Survey.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 303 ft³/s (8.58 m³/s) Mar. 5, 1979, gage height, 5.32 ft (1.622 m); minimum, 0.20 ft³/s (0.006 m³/s) Sept. 11, 1978, minimum gage height, 0.20 ft (0.061 m) Aug. 7, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 303 ft³/s (8.58 m³/s) Mar. 5, gage height 5.32 ft (1.622 m); minimum, 0.21 ft³/s (0.006 m³/s) Aug. 7, 8, gage height, 0.20 ft (0.061 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.31	.72	2.1	24	2.5	16	8.0	3.0	3.3	.73	.29	1.0
2	.31	.67	1.8	38	2.3	16	10	2.4	2.6	.78	.29	1.1
3	.31	.61	14	11	2.2	13	7.4	2.7	2.4	.60	.27	1.2
4	.33	.58	33	6.8	2.0	26	5.8	4.9	2.1	3.0	.21	.80
5	.33	.53	10	5.2	2.2	96	4.7	7.4	1.6	1.3	.21	.91
6	.31	.50	5.4	4.4	2.1	15	3.9	5.2	1.5	.83	.21	2.1
7	.31	.50	3.7	8.6	1.8	9.7	3.3	3.9	1.4	.68	.21	1.4
8	.31	.50	32	14	1.6	7.2	3.1	3.0	1.4	.60	.35	.99
9	.31	.50	59	8.3	1.5	5.6	10	2.6	1.3	.56	.34	.84
10	.31	.46	15	6.0	1.4	5.1	9.5	2.3	1.3	.64	.53	.74
11	.29	.42	8.7	4.2	1.3	4.4	6.5	2.0	2.0	.60	1.3	.68
12	.28	.42	6.4	3.6	1.3	3.7	5.2	2.9	1.1	.53	1.5	.81
13	.30	.42	5.0	3.5	1.2	3.3	4.4	3.1	.88	.60	.69	.75
14	1.1	.39	3.9	18	1.2	3.4	3.9	2.3	.83	.56	.54	.91
15	.69	.76	3.2	9.6	1.3	3.1	3.6	1.9	.78	.50	.50	.73
16	.71	3.4	2.8	5.6	5.0	2.7	3.3	1.6	.73	.47	.42	.60
17	1.1	2.9	2.7	7.3	3.7	2.6	2.9	1.5	.88	.41	.38	.55
18	.72	3.3	2.4	7.1	3.1	2.5	2.5	1.3	.78	.41	1.1	.53
19	.59	2.2	2.3	4.5	2.7	2.4	2.1	1.2	.68	.41	.82	.99
20	.52	1.7	6.4	12	2.5	2.1	2.0	1.1	.64	.41	.65	.62
21	.44	1.4	26	29	8.9	2.0	1.9	1.2	.73	.41	1.4	4.9
22	.41	1.2	8.8	10	16	1.9	1.8	1.0	.64	.41	1.5	11
23	.38	1.2	5.7	7.2	46	1.8	1.7	1.0	.60	.50	.89	6.6
24	.38	1.3	11	12	46	3.1	1.6	3.4	.60	.35	1.3	3.1
25	.38	1.1	24	10	73	3.1	1.5	4.5	.56	.35	1.9	2.0
26	1.1	1.0	10	7.0	40	2.7	2.5	3.3	.53	.44	1.6	1.5
27	2.9	7.2	6.6	5.4	18	2.4	6.9	10	.50	.41	7.4	1.2
28	2.3	9.6	4.5	4.7	14	2.1	5.2	11	.60	.60	2.3	14
29	1.4	4.1	3.6	3.8	---	2.0	4.5	6.0	.94	.94	3.5	9.4
30	1.1	2.7	3.4	3.2	---	1.9	3.9	4.1	.64	.53	2.2	4.7
31	.87	---	6.4	2.8	---	4.7	---	3.0	---	.38	1.4	---
TOTAL	21.12	51.29	329.8	296.8	304.8	267.5	132.6	104.8	34.54	19.94	36.20	76.65
MEAN	.68	1.71	10.6	9.57	10.9	8.63	4.45	3.38	1.15	.64	1.17	2.56
MAX	2.9	8.6	59	38	73	96	10	11	3.3	3.0	7.4	14
MIN	.28	.39	1.8	2.8	1.2	1.8	1.5	1.0	.50	.35	.21	.53
CFSM	.28	.70	4.36	3.94	4.49	3.55	1.83	1.39	.47	.26	.48	1.05
IN.	.32	.78	5.05	4.54	4.66	4.09	2.04	1.60	.53	.31	.55	1.17
CAL YR 1979	TOTAL	1464.97	MEAN	4.01	MAX	96	MIN	.28	CFSM	1.65	IN	22.42
WTR YR 1979	TOTAL	1677.04	MEAN	4.59	MAX	96	MIN	.21	CFSM	1.89	IN	25.66

MONONGAHELA RIVER BASIN

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03062213 STEWART RUN AT CROWN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978-79 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
DEC							
04...	1355	30	155	7.4	11.0	10.5	--
09...	0930	70	145	7.6	--	7.5	--
JAN							
04...	1140	7.1	280	7.4	-1.5	2.5	--
FEB							
06...	1330	2.2	320	7.1	-2.0	1.0	--
26...	1105	34	300	7.3	--	--	10.0
MAR							
20...	1345	2.2	350	6.9	22.0	6.0	9.4
MAY							
01...	1035	29	315	7.7	14.0	9.0	--
JUN							
05...	1140	1.6	320	7.5	25.5	27.0	--
JUL							
11...	1000	.61	300	7.7	26.0	23.0	--
AUG							
08...	1100	.23	--	--	30.0	23.5	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
DEC										
09...	62	41	17	4.7	4.2	12	.2	2.4	21	39

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)
DEC									
09...	1.9	.0	6.8	107	89	.15	20.2	40	0

DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC									
09...	0	3	10	90	0	100	<.5	0	20

MONONGAHELA RIVER BASIN

03062215 INDIAN CREEK AT CROWN, WV

LOCATION.--Lat 39°34'36", long 80°05'50", Monongalia County, Hydrologic Unit 05020003, on right upstream wingwall of U. S. Route 19 bridge, 3.7 mi (6.0 km) north of Rivesville, and at mile 2.5 (4.0 km).

DRAINAGE AREA.--11.8 mi² (30.6 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Altitude of gage is 955 ft (291 m), from topographic map.

REMARKS.--Water-discharge records good except those for Jan. 18 to Feb. 20 and June 12 to Aug. 8, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 886 ft³/s (25.1 m³/s) Jan. 26, 1978, gage height, 9.18 ft (2.798 m); minimum, 1.3 ft³/s (0.037 m³/s) Sept. 11, 30, 1978; minimum gage height, 1.79 ft (0.546 m) June 25, 26, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 200 ft³/s (5.7 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	0815	339 9.60	5.96 1.817	Feb. 23	1915	393 11.1	6.32 1.926
Dec. 9	0630	560 15.9	7.43 2.265	Feb. 24	1845	269 7.62	5.42 1.652
Dec. 21	0230	309 8.75	5.74 1.750	Feb. 25	2245	639 18.1	7.92 2.414
Dec. 25	0100	261 7.39	5.35 1.631	Mar. 5	0300	*822 23.3	8.86 2.701
Jan. 2	0415	347 9.83	6.01 1.832	Sept. 28	1815	268 7.59	5.12 1.561

Minimum discharge, 1.4 ft³/s (0.040 m³/s) Oct. 1, gage height, 1.80 ft (0.549 m).

a May have been less during period of no gage-height record July 17 to Aug. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	12	26	113	20	69	57	16	19	3.5	4.0	6.9
2	1.5	11	21	191	16	74	66	13	14	4.1	3.5	6.1
3	1.4	9.8	87	56	13	61	51	14	13	3.0	2.9	7.7
4	2.4	8.7	196	34	13	121	37	28	11	17	2.6	5.1
5	1.8	6.0	61	26	11	344	29	52	8.9	8.0	2.5	5.1
6	1.7	4.9	36	22	10	78	22	33	7.3	4.5	2.0	14
7	1.8	5.2	23	36	9.4	46	18	22	6.5	3.8	1.9	8.1
8	2.0	5.6	182	59	8.5	30	17	17	6.5	3.1	2.2	5.7
9	1.8	4.6	320	35	7.6	22	52	14	6.1	2.6	2.6	4.8
10	1.7	3.7	71	27	6.9	21	59	12	6.1	2.3	5.3	4.1
11	1.7	3.3	36	21	6.3	19	40	13	10	2.6	8.5	3.8
12	1.9	3.2	25	18	6.2	16	28	16	6.5	2.1	15	3.6
13	2.4	3.0	19	16	6.0	14	22	19	5.0	2.5	7.3	3.8
14	5.7	2.9	17	69	5.9	15	18	14	4.2	2.1	5.3	5.3
15	3.8	8.7	14	45	6.5	13	17	13	3.8	2.1	5.1	4.3
16	4.0	46	12	32	23	13	14	11	3.4	3.6	4.3	3.3
17	5.7	41	12	27	18	12	12	9.3	3.8	2.3	4.1	3.1
18	3.8	41	10	41	14	12	11	8.9	3.4	2.0	8.1	2.8
19	3.2	29	9.9	28	12	10	12	8.1	3.0	1.7	8.5	5.1
20	2.4	21	25	47	11	11	11	7.7	2.8	1.6	6.1	3.6
21	2.7	7.2	145	160	51	10	9.9	8.1	3.0	1.4	8.1	27
22	2.5	5.3	45	100	90	9.2	9.3	7.3	3.4	1.6	9.9	63
23	2.4	5.0	29	70	208	8.8	8.1	6.9	3.0	2.1	8.9	38
24	2.3	5.5	46	55	225	18	6.1	22	2.8	3.3	19	15
25	3.0	4.8	122	90	301	35	5.7	38	2.7	2.1	24	8.5
26	19	4.5	48	60	220	17	8.9	25	2.5	2.5	14	8.1
27	66	49	34	48	80	13	50	67	2.3	2.3	54	6.5
28	33	74	26	42	58	11	37	76	2.6	5.0	15	101
29	23	48	21	36	---	9.9	28	39	4.1	15	22	53
30	18	35	20	30	---	8.9	22	25	3.3	9.0	14	23
31	14	---	33	25	---	22	---	19	---	6.0	8.5	---
TOTAL	238.5	508.6	1771.9	1659	1457.3	1163.8	778.0	674.3	174.0	124.8	299.2	449.4
MEAN	7.69	17.0	57.2	53.5	52.0	37.5	25.9	21.8	5.80	4.03	9.65	15.0
MAX	66	74	320	191	301	344	66	76	19	17	54	101
MIN	1.4	2.9	9.9	16	5.9	8.8	5.7	6.9	2.3	1.4	1.9	2.8
CFSM	.65	1.44	4.85	4.53	4.41	3.18	2.20	1.85	.49	.34	.82	1.27
IN.	.75	1.60	5.59	5.23	4.59	3.67	2.45	2.13	.55	.39	.94	1.42

CAL YR 1978 TOTAL 7846.3 MEAN 21.5 MAX 396 MIN 1.4 CFSM 1.82 IN 24.73
WTP YR 1979 TOTAL 9299.1 MEAN 25.5 MAX 344 MIN 1.4 CFSM 2.16 IN 29.31

MONONGAHELA RIVER BASIN

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03062215 INDIAN CREEK AT CROWN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
DEC							
04...	1315	203	190	7.0	12.0	10.0	--
05...	0950	59	560	7.1	2.5	6.5	--
09...	0830	500	140	7.7	--	7.5	--
JAN							
04...	1320	34	500	7.2	-2.0	1.5	--
FEB							
06...	1230	10	425	6.9	-5.0	-1.0	--
MAR							
20...	1530	11	300	7.0	24.5	6.0	9.0
MAY							
01...	1145	15	330	7.8	22.0	10.5	--
JUN							
05...	0945	8.7	320	7.6	22.0	20.0	--
JUL							
11...	1100	3.0	300	7.7	26.0	23.0	--
AUG							
08...	1250	2.2	--	--	30.5	25.5	--

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)
DEC										
09...	51	35	14	4.0	7.1	22	.4	2.4	16	47

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)
DEC									
09...	1.9	.0	6.7	102	93	.14	138	40	0

DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC									
09...	0	3	10	130	0	150	<.5	0	20

MONONGAHELA RIVER BASIN

03062400 COBUN CREEK AT MORGANTOWN, WV

LOCATION.--Lat 39°36'30", long 79°57'20", Monongalia County, Hydrologic Unit 05020003, on left bank at Morgantown, 30 ft(9 m) upstream from concrete box culvert on Greenbag Road, and at mile 1.4 (2.3 km).

DRAINAGE AREA.--10.9 mi² (28.2 km²).

PERIOD OF RECORD.--April 1965 to current year.

GAGE.--Water-stage recorder and concrete and metal control. Altitude of gage is 890 ft (271.3 m), from topographic map.

REMARKS.--Records fair except those for periods of no gage-height record, Nov. 24 to Dec. 19, July 24 to Sept. 5, and those for February, which are poor.

AVERAGE DISCHARGE.--14 years, 16.5 ft³/s (0.467 m³/s), 20.56 in/yr (522 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,770 ft³/s (50.1 m³/s) June 23, 1972, gage height, 12.80 ft (3.901 m), from floodmark, from rating curve extended above 800 ft³/s (23 m³/s) on basis of culvert rating computation; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 250 ft³/s (7.1 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	---	310 8.78	Unknown	Mar. 5	0515	261 7.39	4.48 1.366
Dec. 9	---	490 13.9	Unknown	May 27	2215	292 8.27	4.82 1.469
Feb. 23	1645	368 10.4	5.57 1.698	July 16	0915	*556 15.7	6.97 2.124
Feb. 25	2245	256 7.25	4.42 1.347				

Minimum discharge, 0.21 ft³/s (0.006 m³/s) Oct. 12, gage height, 0.44 ft (0.134 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.41	6.0	27	60	12	47	39	18	22	3.1	4.5	9.0
2	.46	4.5	20	134	11	48	42	15	16	3.1	3.2	8.1
3	.46	4.0	40	55	10	42	36	18	13	2.8	2.7	12
4	.90	3.7	210	37	11	71	31	44	11	12	2.4	8.2
5	.82	3.5	100	26	10	162	25	60	8.5	8.1	2.1	6.1
6	.61	3.2	45	22	9.2	68	19	39	6.5	4.5	1.8	27
7	.46	3.2	25	38	10	42	15	28	5.3	3.5	1.6	17
8	.51	3.5	140	61	9.0	32	14	21	6.5	3.1	1.5	11
9	.46	3.0	290	35	8.2	25	34	17	5.3	2.1	1.9	8.1
10	.41	2.8	110	25	7.5	25	38	13	4.5	2.3	2.9	7.3
11	.37	2.6	50	19	6.9	25	36	11	6.1	2.1	6.8	5.7
12	.33	2.4	27	16	6.2	21	30	10	4.5	2.0	20	5.3
13	.51	2.6	20	15	5.9	18	24	12	4.0	1.8	8.0	4.5
14	5.0	2.8	16	89	5.6	20	21	8.5	3.5	1.8	4.0	5.7
15	3.5	7.5	14	35	10	18	19	7.7	3.3	1.4	3.5	5.3
16	2.6	28	12	27	80	16	17	6.5	3.1	153	3.0	3.8
17	2.6	24	11	35	50	15	14	5.3	3.1	66	2.4	3.3
18	1.6	22	10	29	25	14	12	4.5	3.1	31	10	3.1
19	1.3	16	14	25	14	13	10	4.0	2.6	16	9.0	7.7
20	1.1	14	26	45	11	12	9.5	3.8	2.1	10	6.2	3.5
21	1.0	12	125	109	25	10	8.5	3.8	2.1	6.1	5.1	22
22	.82	10	55	53	102	8.5	7.7	3.3	2.1	4.3	5.0	78
23	.75	9.5	38	37	231	8.1	6.9	3.3	2.0	3.8	7.9	55
24	1.0	10	44	40	210	13	6.5	39	1.8	4.0	14	32
25	1.2	13	82	33	157	16	6.1	107	1.8	2.5	11	18
26	20	8.1	49	27	130	14	7.7	53	1.8	2.6	35	14
27	51	45	31	24	59	12	35	99	1.4	2.8	99	10
28	21	82	25	23	45	11	37	120	1.3	4.5	50	25
29	14	50	20	19	---	10	30	50	1.8	19	35	39
30	10	35	19	16	---	11	23	31	2.6	15	25	27
31	7.0	---	30	13	---	19	---	22	---	8.0	15	---
TOTAL	152.18	433.9	1725	1222	1271.5	866.6	653.9	877.7	152.7	402.3	399.5	481.7
MEAN	4.91	14.5	55.6	39.4	45.4	28.0	21.8	28.3	5.09	13.0	12.9	16.1
MAX	51	82	290	134	231	162	42	120	22	153	99	78
MIN	.33	2.4	10	13	5.6	8.1	6.1	3.3	1.3	1.4	1.5	3.1
CFSM	.45	1.33	5.10	3.62	4.17	2.57	2.00	2.60	.47	1.19	1.18	1.48
IN.	.52	1.48	5.89	4.17	4.34	2.96	2.23	3.00	.52	1.37	1.36	1.64
CAL YR 1978	TOTAL	8098.84	MEAN	22.2	MAX	426	MIN	.33	CFSM	2.04	IN	27.64
WTR YR 1979	TOTAL	8638.98	MEAN	23.7	MAX	290	MIN	.33	CFSM	2.17	IN	29.48

MONONGAHELA RIVER BASIN

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03065000 DRY FORK AT HENDRICKS, WV

LOCATION.--Lat 39°04'20", long 79°37'20", Tucker County, Hydrologic Unit 05020004, on right bank at Hendricks, 0.4 mi (0.6 km) upstream from confluence with Blackwater River.

DRAINAGE AREA.--345 mi² (894 km²).

PERIOD OF RECORD.--October 1940 to current year. Published as "Dry Fork River," 1949-52.

GAGE.--Water-stage recorder. Datum of gage is 1,698.76 ft (517.782 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Dec. 21, 1941, nonrecording gage at same site and datum.

REMARKS.--Records good except those for February, which are poor.

AVERAGE DISCHARGE.--39 years, 756 ft³/s (21.41 m³/s), 29.76 in/yr (756 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,000 ft³/s (1,330 m³/s) Oct. 15, 1954, gage height, 15.23 ft (4.642 m), from rating curve extended above 15,000 ft³/s (430 m³/s) on basis of slope-area measurement of peak flow; minimum, 5.5 ft³/s (0.17 m³/s) Sept. 10, 11, 1965, gage height, 0.99 ft (0.302 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 7,800 ft³/s (220 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 21	0830	*12800 362	8.66 2.640	Feb. 24	2230	12200 346	8.48 2.585
Feb. 16	0700	7890 223	7.01 2.137				

Minimum discharge, 28 ft³/s (0.79 m³/s) Nov. 11, 12, minimum gage height, 1.21 ft (0.369 m) Oct. 3, 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	42	688	2310	350	1420	867	562	800	177	308	262
2	32	38	504	4510	320	1800	1720	469	664	303	720	228
3	32	35	483	2800	300	2420	1770	416	600	314	469	1880
4	35	32	3050	1510	330	3430	2050	555	1080	504	314	867
5	44	30	2100	1010	300	4780	2060	720	858	984	228	592
6	42	30	1200	867	280	3360	1580	608	712	511	174	5280
7	36	29	824	1040	330	2000	1880	555	577	314	140	2210
8	36	30	2180	2650	310	1510	966	455	547	215	130	1230
9	41	30	5820	1660	290	1250	1040	396	518	166	140	816
10	39	29	3160	1100	270	1140	1240	342	664	147	114	585
11	36	29	1630	820	250	1270	1220	555	469	174	137	435
12	33	28	1120	720	230	993	1140	1090	360	140	903	342
13	32	30	840	680	220	903	948	1710	276	108	948	276
14	33	32	680	1140	210	1140	849	1360	219	266	504	308
15	39	44	511	900	500	1170	752	975	181	372	396	525
16	48	266	483	780	6000	930	704	840	155	664	298	325
17	70	390	608	1040	2700	903	648	640	147	314	211	228
18	77	354	469	1640	1200	858	744	518	287	202	314	185
19	65	224	462	1040	890	800	656	442	303	151	2110	177
20	59	166	2040	980	700	776	570	378	166	124	1660	170
21	50	134	9090	6130	800	720	504	336	127	124	1230	266
22	44	114	3360	3480	1910	656	442	319	177	308	876	1960
23	41	106	1740	1870	2920	632	410	281	211	238	624	2270
24	39	257	1330	1440	8250	1200	403	1260	325	252	476	1590
25	41	366	3160	1300	7640	2060	366	3430	314	348	396	993
26	48	233	1860	1000	4420	1360	366	2200	185	396	409	704
27	242	497	1280	849	2390	1020	1090	1600	127	390	490	525
28	121	1640	800	768	1600	816	1010	1600	100	372	562	469
29	79	1060	660	608	---	728	808	1360	89	325	476	483
30	59	840	600	470	---	632	680	1070	92	469	429	403
31	48	---	1230	400	---	570	---	867	---	325	336	---
TOTAL	1674	7135	53962	47512	45910	43247	29483	27909	11330	9697	16522	26584
MEAN	54.0	238	1741	1533	1640	1395	983	900	378	313	533	886
MAX	242	1640	9090	6130	8250	4780	2060	3430	1080	984	2110	5280
MIN	32	28	462	400	210	570	366	281	89	108	114	170
CFSM	.16	.69	5.05	4.44	4.75	4.04	2.85	2.61	1.10	.91	1.55	2.57
IN.	.18	.77	5.82	5.12	4.95	4.66	3.18	3.01	1.22	1.05	1.78	2.87

CAL YR 1978	TOTAL	288397	MEAN 790	MAX 9090	MIN 28	CFSM 2.29	IN 31.10
WTR YR 1979	TOTAL	320965	MEAN 879	MAX 9090	MIN 28	CFSM 2.55	IN 34.61

MONONGAHELA RIVER BASIN

03066000 BLACKWATER RIVER AT DAVIS, WV

LOCATION.--Lat 39°07'35", long 79°28'10", Tucker County, Hydrologic Unit 05020004, on right bank 0.4 mi (0.6 km) southwest of Davis, 0.5 mi (0.8 km) downstream from Beaver Creek, and at mile 10.6 (17.1 km).

DRAINAGE AREA.--86.2 mi² (223.3 km²).

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

REVISED RECORDS.--WSP 583: 1921-23. WSP 803: Drainage area. WSP 1173: 1931-34(M,m). WSP 1305: 1928(M), 1932-37(M), 1939-41(M), 1944-48(M).

GAGE.--Water-stage recorder. Datum of gage is 3,058.87 ft (932.344 m) levels by West Virginia Power and Transmission Co. Prior to Dec. 18, 1952, nonrecording gage at site 60 ft (18 m) downstream at same datum.

REMARKS.--Records good except those for February, which are poor.

AVERAGE DISCHARGE.--58 years, 197 ft³/s (5.579 m³/s), 31.04 in/yr (788 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,170 ft³/s (203 m³/s) Mar. 29, 1924, gage height, 13.20 ft (4.023 m), from floodmark; minimum, 1.5 ft³/s (0.042 m³/s) Sept. 11, 12, 1959, gage height, 0.90 ft (0.274 m), caused by filling of small water-supply pool about 1.0 mi (1.6 km) upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,500 ft³/s (42 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 21	0700	2070	58.6	7.10	2.164	Feb. 25	0700	*2890	81.8	8.27	2.521
Jan. 21	1600	2050	58.1	7.07	2.155	Mar. 5	0800	1690	47.9	6.48	1.975
Feb. 16	0900	2020	57.2	7.03	2.143	Sept. 6	1400	2520	71.4	7.75	2.362

Minimum discharge, 12 ft³/s (0.45 m³/s) Oct. 12, gage height, 1.38 ft (0.421 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	21	182	765	84	350	290	138	214	94	63	59
2	16	18	139	1030	77	551	564	117	160	117	192	57
3	16	17	176	599	72	768	476	109	156	103	86	270
4	18	16	1080	348	80	1240	446	218	290	287	62	214
5	19	16	808	266	66	1600	542	278	170	458	49	218
6	18	16	367	231	56	1170	407	190	120	168	43	2050
7	18	16	224	413	58	640	275	146	111	100	39	1340
8	27	16	621	859	52	413	236	130	146	75	34	494
9	27	16	1350	412	50	326	275	122	132	63	42	238
10	22	16	994	281	47	282	356	120	102	63	42	172
11	14	16	445	217	45	314	308	200	97	69	75	130
12	18	15	280	188	44	240	226	311	87	57	344	109
13	18	15	214	195	42	226	196	776	70	49	265	94
14	16	16	177	364	40	287	194	320	61	72	117	118
15	20	45	150	256	100	282	220	196	54	84	103	188
16	23	180	146	200	1300	218	245	180	49	86	79	126
17	35	183	184	250	900	204	234	142	49	97	59	89
18	37	141	172	440	310	200	228	114	109	63	99	70
19	31	90	132	284	240	176	174	103	68	49	296	76
20	26	63	385	260	180	152	140	96	47	42	533	77
21	22	51	1880	1880	210	134	124	91	50	55	257	140
22	19	44	1120	1160	500	120	112	96	287	76	136	772
23	18	41	476	538	790	112	202	87	90	117	102	476
24	19	66	332	371	1940	262	174	226	178	63	86	252
25	19	69	716	330	2550	533	136	704	108	49	79	168
26	26	55	455	251	1470	302	150	455	70	69	134	132
27	187	198	260	220	748	204	365	335	53	72	182	112
28	75	605	217	194	430	180	293	305	47	93	126	112
29	45	358	170	160	---	162	210	230	45	90	111	128
30	30	254	150	130	---	136	168	166	49	102	87	111
31	26	---	385	97	---	122	---	176	---	73	69	---
TOTAL	841	2673	14367	13189	12481	11906	7966	6877	3269	3055	3991	8592
MEAN	27.1	89.1	463	425	446	384	266	222	109	98.5	129	286
MAX	187	605	1880	1880	2550	1600	564	776	290	458	533	2050
MIN	14	15	132	97	40	112	112	87	45	42	34	57
CFSM	.31	1.03	5.97	4.93	5.17	4.46	3.09	2.58	1.27	1.14	1.50	3.32
IN.	.36	1.15	6.20	5.69	5.39	5.14	3.44	2.97	1.41	1.32	1.72	3.71

CAL YR 1978	TOTAL	87430	MEAN	240	MAX	3040	MIN	14	CFSM	2.78	IN	37.73
WTR YR 1979	TOTAL	89207	MEAN	244	MAX	2550	MIN	14	CFSM	2.83	IN	38.50

03068000 SHAVERS FORK AT BEMIS, WV

LOCATION.--Lat 38°48'27", long 79°44'16", Randolph County, Hydrologic Unit 05020004, on right bank at downstream side of bridge on State Secondary Route 22, at Bemis, 0.6 mi (1.0 km) upstream from Fishing Hawk Creek, and at mile 39.9 (64.2 km).

DRAINAGE AREA.--115 mi² (298 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1922 to December 1925, October 1973 to September 1979 (discontinued).

GAGE.--Water-stage recorder. Datum of gage is 2,574.06 ft (784.573 m) National Geodetic Vertical Datum of 1929. February 17, 1922 to December 31, 1925, nonrecording gage on downstream side of bridge, at present site, at datum 2.18 ft (0.664 m) lower.

REMARKS.--Water-discharge records good except those for January and February, which are poor.

AVERAGE DISCHARGE.--9 years, 342 ft³/s (9.685 m³/s), 40.39 in/yr (1026 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,600 ft³/s (413 m³/s) June 2, 1974, gage height, 8.64 ft (2.633 m), from floodmark, from rating curve extended above 6,100 ft³/s (170 m³/s); maximum gage height, 9.62 ft (2.932 m) (corrected) Jan. 26, 1978; minimum discharge, 9.5 ft³/s (0.27 m³/s) Sept. 9, 10, 1976; minimum gage height, 0.43 ft (0.131 m) Aug. 31, 1925, present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 13, 1918, reached a stage of about 13.1 ft (4.0 m), present datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,900 ft³/s (82 m³/s) and maximum (*).

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	1230	2920 82.7	5.37 1.637	Jan. 21	0600	5120 145	6.82 2.079
Dec. 9	1245	4240 120	6.27 1.911	Feb. 24	2145	8470 240	8.42 2.566
Dec. 21	0815	3890 110	6.05 1.844	Mar. 5	0630	*8680 246	8.49 2.588
Jan. 2	1100	3800 108	5.99 1.826	Sept. 22	0415	3270 92.6	5.62 1.713

Minimum discharge, 12 ft³/s (0.340 m³/s) Oct. 3, 4, gage height, 1.31 ft (0.399).

REVISIONS.--The gage heights for peaks above the base, annual maximum (*), and minimum, for the 1978 water year have been revised as shown in the following table. They supersede figures published in the report for 1978.

Date	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 1	4000 113	6.12 1.865	Mar. 26	5140 146	6.83 2.082
Jan. 9	3890 110	6.05 1.844	May 13	4530 128	6.45 1.966
Jan. 26	*12600 357	9.62 2.932	July 3	3180 90.1	5.56 1.695
Mar. 14	3320 94.0	5.66 1.725	Aug. 7	3340 94.6	5.67 1.728
Mar. 22	3480 98.6	5.77 1.759			

Minimum discharge, 14 ft³/s (0.65 m³/s) Sept. 21, gage height 1.34 ft (0.408 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	32	380	1160	130	520	498	269	390	94	455	206
2	14	30	281	2550	120	592	598	241	337	370	395	178
3	13	27	257	922	110	756	1120	199	309	238	297	273
4	18	24	1670	492	120	2000	994	297	874	160	227	227
5	25	23	914	380	110	5170	778	714	435	509	185	169
6	30	22	526	320	100	1960	598	405	309	238	163	1240
7	25	21	385	532	110	962	445	305	245	151	140	603
8	24	20	1830	1460	100	694	395	257	210	120	122	380
9	22	23	3390	556	98	568	465	227	199	102	166	305
10	21	23	1250	380	95	556	556	199	514	98	127	251
11	20	21	640	300	94	640	455	241	435	108	172	210
12	19	19	470	270	92	445	435	420	337	89	1270	178
13	18	19	370	250	90	390	385	532	231	77	652	155
14	19	20	280	425	87	532	385	604	175	92	345	154
15	31	23	240	320	250	556	353	385	145	120	269	239
16	58	68	220	280	1780	350	341	337	125	172	206	184
17	50	106	250	325	728	320	301	269	114	238	163	139
18	45	116	192	476	400	333	301	220	199	127	257	120
19	43	132	178	280	300	309	273	192	210	137	1210	116
20	39	90	616	350	250	390	238	166	120	104	874	110
21	34	70	2690	2720	280	385	213	154	100	112	1210	170
22	29	60	842	1310	385	310	196	145	130	210	568	1480
23	24	58	509	628	640	280	185	135	154	142	405	1470
24	24	203	435	510	2970	1360	224	756	142	400	337	630
25	25	231	1020	560	2830	1130	203	1590	118	269	400	417
26	26	135	532	350	1960	580	199	721	98	333	365	331
27	125	148	350	290	850	420	1200	544	79	646	460	274
28	100	670	277	250	580	345	592	694	68	850	460	263
29	63	430	240	190	---	353	395	532	60	580	325	256
30	46	465	220	160	---	329	321	400	58	834	349	219
31	37	---	538	140	---	313	---	333	---	460	269	---
TOTAL	1081	3329	21992	19136	15659	23848	13642	12483	6920	8180	12843	10947
MEAN	34.9	111	709	617	559	769	455	403	231	264	414	365
MAX	125	670	3390	2720	2970	5170	1200	1590	874	850	1270	1480
MIN	13	19	178	140	87	280	185	135	58	77	122	110
CFSM	.30	.97	6.17	5.37	4.86	6.69	3.96	3.50	2.01	2.30	3.60	3.17
IN.	.35	1.08	7.11	6.19	5.07	7.71	4.41	4.04	2.24	2.65	4.15	3.54

CAL YR 1978 TOTAL 122663 MEAN 336 MAX 5170 MIN 13 CFSM 2.92 IN 39.68
WTR YR 1979 TOTAL 150060 MEAN 411 MAX 5170 MIN 13 CFSM 3.57 IN 48.54

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)
OCT 26...	1430	25	36	7.0	16.0	12.0	2.0
NOV 30...	1210	532	46	6.0	5.0	5.0	--
30...	1245	550	46	6.0	--	5.0	5.6
JAN 05...	1315	380	47	5.8	--	1.0	1.5
30...	1030	160	26	6.0	--	1.0	1.6
MAR 01...	1050	502	27	5.7	4.5	3.5	2.3
APR 05...	1510	778	49	5.9	--	7.0	1.2
16...	0930	420	50	6.8	--	4.0	--
MAY 02...	1100	214	46	6.4	18.0	10.5	5.5
31...	1100	325	42	7.0	22.0	15.0	1.0
JUL 03...	1000	250	48	6.4	19.5	15.5	4.0
AUG 09...	1110	160	35	7.0	23.0	21.5	6.4
28...	1200	446	50	6.0	27.0	18.5	1.4
SEP 11...	0800	214	<50	7.3	--	15.0	--

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)
APR 16...	8	1	.0	.0	2.1	.7	--	--	7	--	4.3
SEP 11...	10	8	.0	.0	2.7	.7	.5	.1	3	.2	5.6

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
APR 16...	.6	20	.03	22.7	--	--	--	--	--	250	170
SEP 11...	1.0	24	.03	13.9	0	<10	<10	<10	<10	190	--

DATE	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR 16...	80	--	--	40	0	40	--	--	--	--
SEP 11...	90	13000	20	220	210	9	390	.00	0	60

DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 26...	2	.14
NOV 30...	10	15
JAN 05...	0	.00
30...	6	2.6
MAR 01...	7	9.5
APR 05...	4	8.4

DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
MAY 02...	6	3.5
31...	3	2.6
JUL 03...	9	6.1
AUG 09...	15	6.5
28...	15	18

MONONGAHELA RIVER BASIN

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03068600 SHAVERS FORK ABOVE BOWDEN, WV

LOCATION.--Lat 38°54'10", long 79°41'41", Randolph County, Hydrologic Unit 05020004, at cableway, 0.5 mi (0.8 km) upstream from Taylor Run, 0.9 mi (1.4 km) southeast of Bowden, and at mile 31.5 (50.7 km).

DRAINAGE AREA.--138 mi² (357 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1973 to June 1975 (partial record station), July 1975 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,240 ft (683 m), from topographic map. Prior to Oct. 3, 1978, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for January and February, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 12,300 ft³/s (348 m³/s) June 2, 1974, from rating curve extended above 4,400 ft³/s (120 m³/s); minimum daily, 18 ft³/s (0.51 m³/s) Sept. 9, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3100 ft³/s (88 m³/s) and maximum (*).

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 8	1600	3480 98.6	5.02 1.530	Feb. 16	0430	4000 113	*a7.57 2.307
Dec. 9	1400	4850 137	5.49 1.673	Feb. 24	2300	*9710 275	6.68 2.036
Dec. 21	0930	4730 134	5.45 1.661	Feb. 26	0100	3400 96.3	4.82 1.469
Jan. 2	1230	3940 112	5.20 1.585	Mar. 5	0830	9410 266	6.65 2.027
Jan. 21	0730	5500 156	5.68 1.731				

a Ice jam.

Minimum discharge, 22 ft³/s (0.62 m³/s) Oct. 3, gage height, 2.01 ft (0.613 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	33	434	1160	150	650	526	301	398	90	441	240
2	22	31	317	2640	140	704	737	273	368	322	398	218
3	22	28	279	1050	130	903	1150	239	315	280	301	538
4	23	28	1730	570	140	2050	1220	286	878	206	228	330
5	28	26	1020	440	130	5670	955	770	520	538	180	196
6	32	24	597	390	120	2280	759	508	375	287	166	1300
7	30	25	425	470	140	1150	566	372	301	190	142	782
8	28	25	1830	1490	130	830	479	293	245	147	113	502
9	28	24	3720	640	125	650	536	252	228	121	147	375
10	27	24	1390	410	120	618	682	252	483	117	138	294
11	26	23	726	370	115	748	546	364	450	125	138	228
12	25	24	498	340	110	500	526	693	375	100	1160	185
13	25	24	390	325	105	420	460	818	259	87	770	161
14	24	24	310	479	100	555	425	818	201	100	398	166
15	28	26	260	440	330	640	390	498	166	142	294	252
16	51	97	245	360	2300	420	372	407	138	265	223	206
17	54	148	266	350	900	360	317	317	121	252	180	152
18	50	143	213	510	450	360	309	259	201	171	231	121
19	50	161	196	330	320	332	279	219	252	166	1230	117
20	45	120	688	381	280	390	239	184	142	129	1010	104
21	39	93	3310	2830	320	416	207	166	125	125	1300	129
22	35	77	1100	1480	520	356	184	161	129	261	682	1480
23	31	72	566	670	790	325	172	143	190	171	484	1440
24	32	225	434	600	3450	1190	184	730	206	375	375	715
25	33	309	1220	650	3380	1260	184	1640	147	308	390	466
26	33	178	570	400	2260	660	172	929	117	338	382	345
27	116	225	430	340	1050	479	1170	650	93	544	458	287
28	105	780	330	290	715	381	693	794	84	866	520	252
29	64	526	300	220	---	364	479	632	70	565	345	252
30	46	488	301	190	---	340	372	466	63	878	360	228
31	39	---	488	160	---	317	---	375	---	484	308	---
TOTAL	1214	4031	24583	20975	18820	26318	15290	14809	7640	8750	13492	12061
MEAN	39.2	134	793	677	672	849	510	478	255	282	435	402
MAX	116	780	3720	2830	3450	5670	1220	1640	878	878	1300	1480
MIN	22	23	196	160	100	317	172	143	63	87	113	104
CFSM	.28	.97	5.75	4.91	4.87	6.15	3.70	3.46	1.85	2.04	3.15	2.91
IN.	.33	1.09	6.63	5.65	5.07	7.09	4.12	3.99	2.06	2.36	3.64	3.25

CAL YR 1978 TOTAL 135418 MEAN 371 MAX 5610 MIN 22 CFSM 2.69 IN 36.50
WTR YR 1979 TOTAL 167983 MEAN 460 MAX 5670 MIN 22 CFSM 3.33 IN 45.28

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: September 1975 to current year.

WATER TEMPERATURES: August 1975 to May 1979, June to September 1979 (partial record).

TURBIDITY: July 1975 to current year.

SUSPENDED SEDIMENT DISCHARGE: July 1975 to current year.

REMARKS: Sediment samples are taken once daily and more frequently during rises.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 88 micromhos Jan. 19, 1977; minimum daily, 20 micromhos Oct. 7, 17-19, 1978.

WATER TEMPERATURES (Water years 1975-78): Maximum daily, 25.0°C June 14, 1976; minimum daily, 0.0°C on many days during winter periods.

TURBIDITY: Maximum daily, 100 JTU July 14, 1978; minimum daily, 1 JTU on many days.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 311 mg/L Mar. 5, 1979; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 6,170 tons (5,600 tonnes) Mar. 5, 1979; minimum daily, 0 tons (0 tonnes) on many days.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--A specific conductance of 72 micromhos was observed Aug. 25, 1975. A water temperature of 24.0°C was observed July 28, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 68 micromhos Sept. 11; minimum daily, 20 micromhos Oct. 7, 17-19.

TURBIDITY: Maximum daily, 70 JTU Mar. 5; minimum daily, 1 JTU on many days.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 311 mg/L Mar. 5; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 6,170 tons (5,600 tonnes) Mar. 5; minimum daily, 0 tons (0 tonnes) on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)
NOV							
02...	1110	30	40	7.0	12.5	9.0	2.0
29...	1200	509	30	6.4	6.5	4.5	4.5
DEC							
09...	0850	4080	30	5.4	--	7.0	19
09...	1100	4500	50	5.3	--	7.0	50
09...	1530	4700	50	5.1	--	7.0	50
09...	1700	4240	60	--	--	7.0	--
JAN							
04...	1225	599	48	6.0	-4.0	1.0	1.9
31...	1430	160	23	6.8	--	1.0	2.0
FEB							
28...	1145	685	26	6.4	9.5	4.0	1.2
MAR							
08...	1510	840	25	6.0	10.0	--	--
APR							
04...	1020	1170	48	6.2	6.5	7.5	7.0
MAY							
01...	1530	294	49	6.4	14.0	14.0	1.5
30...	1530	408	48	6.8	18.0	15.0	1.1
JUN							
15...	1310	168	<50	6.8	25.0	17.5	--
JUL							
03...	1700	237	52	7.0	24.0	20.0	3.5
AUG							
08...	1115	110	37	7.0	24.0	22.0	3.9
28...	1455	503	55	>6.0	26.0	20.5	10
SEP							
05...	1400	183	50	7.5	21.0	17.0	--
19...	1135	117	65	6.7	17.0	15.0	--
19...	1530	117	60	6.9	--	20.0	1.6
22...	1730	1080	<50	6.0	--	15.0	--

DATE	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)
JUN											
15...	10	7	3.0	.7	.5	9	.1	.9	.4	3	.9
SEP											
22...	12	11	3.5	.7	.5	8	.1	1.2	.7	1	2.0

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN											
15...	6.2	.7	.0	3.3	28	17	.04	12.7	80	40	4
SEP											
22...	6.9	.9	.0	3.1	40	18	.05	117	330	190	100

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03068600 SHAVERS FORK ABOVE BOWDEN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	DATE	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
NOV 02...	2	.16	APR 04...	7	22
29...	8	11	MAY 01...	3	2.4
DEC 09...	77	848	30...	1	1.1
09...	80	972	JUL 03...	6	3.8
09...	73	926	AUG 08...	15	4.5
09...	189	2160	28...	14	19
JAN 04...	0	.00	SEP 19...	1	.32
31...	0	.00			
FEB 28...	3	5.5			

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	32	40	39	27	25	27	---	37	31	37
2	---	40	---	40	37	28	27	---	---	34	39	---
3	---	---	30	41	36	27	27	---	---	52	32	38
4	---	35	31	40	35	26	26	27	---	39	32	38
5	---	39	32	40	41	24	26	26	---	35	32	36
6	23	39	30	40	37	27	27	27	---	37	50	36
7	20	39	30	39	34	26	27	28	---	37	32	35
8	---	40	---	39	41	26	26	28	---	36	34	37
9	21	41	30	40	35	27	25	28	---	37	31	38
10	21	---	29	39	38	26	26	---	---	36	33	38
11	21	40	29	42	40	27	27	29	---	35	34	68
12	21	38	27	39	35	27	27	31	---	35	42	36
13	21	40	29	38	42	27	26	---	---	45	36	38
14	21	---	29	42	36	27	26	29	---	39	34	36
15	21	40	28	45	---	28	26	30	---	36	33	39
16	21	42	27	44	35	29	26	29	---	33	32	37
17	20	37	27	50	33	27	30	28	---	33	33	42
18	20	38	28	29	33	28	27	---	---	34	36	40
19	20	38	29	33	32	27	27	---	---	35	33	38
20	21	---	27	31	32	27	31	---	---	35	34	38
21	22	38	27	31	33	26	27	---	---	35	36	38
22	---	---	28	28	31	31	27	---	---	32	33	---
23	22	---	26	28	31	26	27	---	---	51	32	---
24	22	---	41	28	30	25	27	---	37	35	35	---
25	22	38	41	30	27	25	27	---	35	35	---	39
26	22	---	42	31	26	25	27	---	35	39	39	34
27	44	35	41	29	27	28	25	---	34	31	37	33
28	36	37	43	28	29	28	28	---	36	35	55	32
29	41	39	40	29	---	28	27	---	36	60	37	32
30	41	37	---	30	---	28	27	48	36	32	36	34
31	---	---	25	34	---	26	---	---	---	32	35	---
MEAN	25	39	31	36	34	27	27	30	36	37	36	38
WTD YR 1979	MEAN	33	MAX	68	MIN	20						

03068600 SHAVERS FORK ABOVE BOWDEN, WV--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	---	6.0	7.0	2.0	3.0	11.0	9.0	---	---	---	---
2	14.0	9.0	---	6.0	2.0	5.0	10.0	---	---	---	---	---
3	14.0	---	7.0	1.0	2.0	5.0	10.0	---	20.0	---	---	---
4	14.0	8.0	7.0	.0	1.0	6.0	11.0	12.0	---	---	---	---
5	13.0	11.0	7.0	.0	1.0	5.0	8.0	10.0	---	---	---	---
6	13.0	8.0	5.0	2.0	.0	5.0	6.0	10.0	---	---	---	---
7	12.0	9.0	5.0	4.0	1.0	5.0	6.0	12.0	---	---	---	---
8	---	8.0	---	2.0	1.0	5.0	11.0	14.0	---	22.0	---	---
9	9.0	7.0	7.0	1.0	1.0	5.0	9.0	15.0	---	---	---	---
10	9.0	---	---	1.0	1.0	6.0	4.0	17.0	---	---	---	---
11	9.0	8.0	2.0	2.0	1.0	4.0	5.0	15.0	---	---	---	---
12	11.0	9.0	3.0	2.0	1.0	1.0	10.0	15.0	---	---	---	---
13	12.0	9.0	3.0	3.0	1.0	2.0	11.0	---	---	---	---	---
14	12.0	---	3.0	3.0	1.0	4.0	11.0	13.0	---	---	---	---
15	9.0	10.0	2.0	1.0	---	3.0	10.0	12.0	---	---	---	---
16	8.0	11.0	3.0	2.0	3.0	3.0	7.0	12.0	---	---	---	---
17	9.0	11.0	4.0	3.0	1.0	2.0	5.0	11.0	---	---	---	---
18	7.0	11.0	2.0	3.0	1.0	4.0	5.0	---	---	---	---	---
19	8.0	8.0	2.0	2.0	1.0	5.0	6.0	---	---	---	20.0	---
20	8.0	---	4.0	3.0	1.0	7.0	7.0	---	---	---	---	---
21	7.0	9.0	7.0	3.0	2.0	6.0	15.0	---	---	---	---	---
22	---	---	4.0	3.0	2.0	6.0	13.0	---	---	---	---	---
23	9.0	---	4.0	2.0	---	8.0	13.0	---	---	---	---	---
24	9.0	---	4.0	4.0	3.0	9.0	12.0	---	---	---	---	---
25	9.0	6.0	3.0	2.0	4.0	5.0	13.0	---	---	---	---	---
26	11.0	---	2.0	1.0	4.0	2.0	14.0	---	---	---	---	---
27	11.0	6.0	2.0	1.0	4.0	3.0	14.0	---	---	---	---	---
28	7.0	5.0	1.0	2.0	2.0	2.0	8.0	---	---	20.5	---	---
29	8.0	4.0	1.0	1.0	---	5.0	8.0	---	---	---	---	---
30	8.0	6.0	---	1.0	---	9.0	8.0	15.0	---	---	---	---
31	---	---	---	1.0	---	11.0	---	---	---	---	---	---
MEAN	10.0	8.0	4.0	2.0	1.5	5.0	9.5	13.0	20.0	21.5	20.0	
WTR YR 1979	MEAN	6.5	MAX	22.0	MIN	.0						

TURBIDITY (NTU), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2	---	2	3	1	1	4	1	---	4	3	5
2	2	2	---	7	1	2	6	---	---	15	4	---
3	2	---	1	2	1	2	6	---	---	7	2	3
4	2	1	7	3	1	3	5	1	---	10	2	2
5	2	1	4	1	1	70	4	3	---	6	2	1
6	1	2	2	1	1	5	4	1	---	4	2	15
7	1	1	2	1	1	2	3	1	---	2	1	3
8	1	1	---	6	1	2	4	1	---	3	3	2
9	1	1	20	2	1	1	3	1	---	3	1	4
10	1	---	3	1	1	1	5	1	---	2	1	1
11	1	1	1	1	1	1	6	1	---	2	1	2
12	1	1	2	1	1	1	5	7	---	2	7	1
13	1	1	1	1	1	1	4	---	---	2	4	1
14	1	---	2	2	1	1	3	5	---	2	2	2
15	1	1	1	1	---	2	4	1	---	2	1	2
16	2	3	1	1	15	1	3	1	---	3	2	3
17	3	2	2	3	2	1	15	1	---	3	2	2
18	2	3	1	1	1	1	4	---	---	2	4	2
19	3	4	1	1	1	1	5	---	---	2	20	1
20	2	---	2	1	1	1	2	---	---	4	15	2
21	3	2	20	25	1	2	1	---	---	2	20	1
22	---	---	3	5	1	1	1	---	---	3	2	2
23	1	---	1	1	3	3	1	---	---	10	3	2
24	1	---	1	1	9	4	1	---	2	7	3	2
25	1	6	4	2	7	10	1	---	2	15	---	1
26	1	---	2	2	6	5	2	---	1	6	3	2
27	3	5	1	1	2	4	15	---	1	6	3	2
28	2	15	2	1	2	4	3	---	2	6	10	1
29	1	5	1	1	---	4	1	---	1	6	3	1
30	1	4	---	2	---	4	2	1	2	5	4	1
31	---	---	1	1	---	3	---	---	---	5	5	---
MEAN	2	3	3	3	2	5	4	2	2	5	5	2
WTR YR 1979	MEAN	3	MAX	70	MIN	1						

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)
OCTOBER															
1	1	.06		1	.09		6	7.0		15	47		2	3.5	
2	0	.00		2	.17		4	3.4		47	399		4	7.6	
3	0	.00		2	.15		2	1.5		4	11		5	12	
4	0	.00		1	.08		68	407		3	4.6		37	325	
5	0	.00		2	.14		10	28		2	2.4		311	6170	
NOVEMBER															
6	0	.00		3	.19		3	4.8		1	1.1		23	142	
7	0	.00		2	.14		2	2.3		18	37		5	16	
8	0	.00		3	.20		100	609		26	123		4	9.0	
9	0	.00		15	.97		69	741		4	6.9		2	3.5	
10	0	.00		14	.91		11	41		3	3.3		2	3.3	
DECEMBER															
11	0	.00		12	.75		5	9.8		5	5.0		2	4.0	
12	0	.00		8	.52		3	4.0		6	5.5		3	4.1	
13	0	.00		6	.39		1	1.1		6	5.3		3	3.4	
14	0	.00		5	.32		5	4.2		10	13		5	7.5	
15	1	.08		3	.21		6	4.2		7	8.3		5	8.6	
JANUARY															
16	2	.28		3	.79		6	4.0		7	6.8		3	3.4	
17	3	.44		2	.80		7	5.0		5	4.7		3	2.9	
18	5	.68		1	.39		5	2.9		4	5.5		3	2.9	
19	5	.68		3	1.3		4	2.1		5	4.5		1	.90	
20	2	.24		1	.32		40	115		11	16		2	2.1	
FEBRUARY															
21	1	.11		1	.25		62	596		105	873		4	4.5	
22	0	.00		1	.21		7	21		13	67		3	2.9	
23	0	.00		1	.19		5	7.6		1	1.8		1	.88	
24	0	.00		11	8.0		11	13		2	3.2		80	404	
25	0	.00		10	9.2		22	79		3	5.3		18	74	
MARCH															
26	1	.09		3	1.4		5	7.7		1	1.1		1	1.8	
27	10	3.7		2	1.2		4	4.6		1	.92		0	.00	
28	3	.85		46	89		6	5.3		0	.00		0	.00	
29	1	.17		8	11		1	.81		1	.59	---	0	.00	
30	1	.12		7	9.2		0	.00		13	6.7	---	0	.00	
31	0	.00	---	---	---		19	36		0	.00	---	0	.00	
TOTAL	---	7.50	---	138.48	---	---	2768.31	---	---	1669.51	---	---	2745.84	---	7219.78

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

MONONGAHELA RIVER BASIN

03068604 TAYLOR RUN NEAR ALPENA, WV

LOCATION.--Lat 38°55'24", long 79°40'12", Randolph County, Hydrologic Unit 05020004, on left bank 1.9 mi (3.1 km) northeast of Bowden Post Office, 0.3 mi (0.5 km) northwest of Alpena Gap, and at mile 2.2 (3.5 km).

DRAINAGE AREA.--1.06 mi² (2.75 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1978 to September 1979.

GAGE.--Water-stage recorder. Altitude of gage is 2,750 ft (838 m), from topographic map.

REMARKS.--Water-discharge records good except those for periods of no gage-height record, Oct. 1 to Nov. 3, June 24 to July 5, and those for Jan. 9 to Feb. 24, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 102 ft³/s (2.89 m³/s) Feb. 24, 1979, gage height 2.95 ft (0.899 m) from a rating curve extended above 26 ft³/s (0.74 m³/s); minimum daily, 0.10 ft³/s (0.003 m³/s) Oct. 1, 3, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 30 ft³/s (0.85 m³/s) and maximum (*).

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	1030	31	0.88	2.34	0.713	Feb. 24	Unknown	*102	2.89	2.95	0.899
Dec. 20	1600	36	1.02	2.41	0.735	Sept. 2	1915	33	0.93	2.37	0.722
Dec. 21	0215	34	0.96	2.39	0.728						

a From crest-stage gage.

Minimum daily discharge, 0.10 ft³/s (0.003 m³/s) Oct. 1, 3.

DISCHARGE, IN CUHIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.10	.20	4.0	8.1	1.3	5.6	4.3	1.9	2.8	1.4	.87	1.1
2	.12	.20	3.3	12	1.2	6.9	4.7	1.8	2.3	2.3	.86	4.0
3	.16	.25	4.8	7.2	1.1	8.3	6.3	1.9	3.0	1.4	.76	13
4	.16	.20	12	5.4	1.0	12	6.3	3.3	3.1	6.0	.64	5.7
5	.13	.20	7.8	4.3	.91	13	6.9	3.7	2.3	5.0	.59	4.9
6	.13	.26	5.5	3.3	.88	9.7	5.7	3.2	1.9	2.3	.53	9.3
7	.13	.26	4.5	4.9	.85	6.0	4.7	2.9	1.8	1.5	.48	6.0
8	.20	.31	13	6.3	.83	5.0	4.1	2.5	1.9	1.2	.46	4.5
9	.15	.20	21	4.7	.80	4.2	6.0	2.1	1.5	1.0	.47	3.5
10	.12	.26	10	3.4	.74	3.7	5.9	3.3	1.3	1.3	.56	2.8
11	.12	.26	6.6	2.8	.67	4.7	5.8	3.6	1.2	.95	.67	1.9
12	.12	.24	5.0	2.4	.72	4.1	5.1	4.2	1.0	.78	3.9	1.4
13	.12	.26	4.3	2.9	.67	3.5	4.3	7.0	.88	.70	1.3	1.2
14	.13	.26	3.5	5.8	.63	5.2	3.5	5.8	.78	1.9	.98	2.2
15	.16	.86	2.9	3.9	5.4	4.6	2.9	4.9	.70	1.1	1.0	2.1
16	.25	2.4	2.7	3.1	22	4.0	2.6	4.2	.64	.83	.77	1.1
17	.40	2.1	3.4	5.8	8.0	3.7	2.4	3.4	.73	.73	.65	.92
18	.26	1.1	2.5	4.6	4.2	3.3	2.2	2.9	1.6	.65	2.4	.86
19	.23	.92	2.3	3.8	3.0	3.1	2.1	2.4	.75	.62	6.7	.76
20	.21	.76	17	8.1	2.8	2.9	1.9	1.9	.60	.71	5.1	.66
21	.20	.71	19	15	4.0	2.5	1.7	1.8	.70	.86	4.1	2.2
22	.19	.66	8.1	9.6	6.4	2.3	1.7	1.4	.65	1.1	3.1	3.5
23	.19	.92	5.7	6.9	8.4	2.1	1.6	1.7	.64	.72	2.4	3.7
24	.22	4.9	6.3	6.0	28	3.6	1.4	4.2	1.0	.74	1.9	2.8
25	.20	2.6	7.8	4.3	14	4.1	1.3	6.8	.75	.73	1.7	2.2
26	.41	2.1	5.4	3.2	11	3.3	1.7	5.8	.58	.97	1.7	1.7
27	2.1	6.9	4.0	2.5	7.6	2.9	4.3	5.6	.68	.90	2.9	1.4
28	.60	9.3	2.7	2.1	6.1	2.7	2.9	5.8	.42	.81	2.8	1.7
29	.40	5.7	2.2	1.8	---	2.4	2.4	4.9	.39	1.7	2.1	1.7
30	.29	5.0	2.0	1.7	---	2.0	2.1	4.0	.60	1.6	1.6	1.6
31	.28	---	6.0	1.5	---	2.4	---	3.3	---	1.0	1.2	---
TOTAL	8.43	50.69	205.3	157.4	143.20	143.8	102.8	112.2	36.99	43.50	55.19	90.40
MEAN	.27	1.69	6.62	5.08	5.11	4.64	3.63	3.62	1.23	1.40	1.78	3.01
MAX	2.1	9.3	21	15	28	13	6.9	7.0	3.1	6.0	6.7	13
MIN	.10	.24	2.0	1.5	.63	2.0	1.3	1.4	.39	.62	.66	.66
CFSM	.26	1.55	6.25	4.79	4.82	4.38	3.43	3.42	1.16	1.32	1.68	2.84
IN.	.30	1.78	7.20	5.52	5.12	5.04	3.81	3.93	1.30	1.53	1.94	3.17

WTR YR 1979 TOTAL 1155.90 MEAN 3.17 MAX 28 MIN .10 CFSM 2.99 IN 40.53

03068604 TAYLOR RUN NEAR ALPENA, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)
NOV								
28...	1100	10	50	7.3	--	5.0	3.0	12.2
DEC								
05...	1320	7.2	50	7.0	10.0	5.5	1.5	12.1
09...	1100	26	<50	--	8.0	7.0	5.1	--
09...	1635	15	50	--	--	6.5	4.0	--
19...	1110	2.1	<50	7.3	--	3.5	1.0	13.6
JAN								
04...	1220	5.2	<50	7.1	--	2.0	1.0	12.2
17...	1100	5.8	<50	7.1	--	1.5	1.7	10.8
FEB								
24...	0930	12	33	--	--	--	24	--
24...	1745	16	30	--	--	--	9.0	--
25...	0920	13	27	--	--	--	2.5	--
APR								
03...	0905	7.1	<50	7.3	--	3.0	3.9	10.6
JUN								
15...	0950	.75	50	6.7	24.0	12.0	--	--
SEP								
02...	1910	26	--	--	--	--	--	--
22...	1630	4.3	<50	6.6	--	14.0	--	--

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)
JUN											
15...	16	7	4.4	1.2	.5	6	.1	1.1	.6	9	3.5
SEP											
22...	18	5	5.2	1.1	.5	6	.1	1.1	.6	13	6.4

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN											
15...	7.2	.5	.0	3.7	42	24	.06	.09	50	40	6
SEP											
22...	5.4	.7	.0	3.2	30	25	.04	.35	70	40	3

DATE	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM	SED. SUSP. FALL DIAM. % FINER THAN 2.00 MM
SEP										
02...	40	55	70	82	89	94	97	99	99	100

DATE	TIME	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
NOV			
28...	1100	14	.38
DEC			
05...	1320	3	.06
09...	1100	26	1.8
09...	1635	20	.81
19...	1110	1	.01
JAN			
04...	1220	3	.04
17...	1100	5	.08

DATE	TIME	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
FEB			
24...	0930	96	3.1
24...	1745	112	4.8
25...	0920	13	.46
APR			
03...	0905	11	.21
SEP			
02...	1910	4130	290

MONONGAHELA RIVER BASIN

03068607 STALNAKER RUN NEAR BOWDEN, WV

LOCATION.--Lat 38°55'02", long 79°41'11", Randolph County, Hydrologic Unit 05020004, on right bank 200 ft (61.0 m) upstream from mouth, and 0.9 mi (1.4 km) northeast of Bowden.

DRAINAGE AREA.--1.55 mi² (4.01 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1978 to September 1979.

GAGE.--Water-stage recorder. Altitude of gage is 2,420 ft (738 m), from topographic map.

REMARKS.--Water-discharge records good except those for periods of doubtful-or-no gage-height record, Oct. 1 to Nov. 28, Jan. 17 to Feb. 7, Mar. 21 to Apr. 3, which are poor. Rainfall records collected at site since Oct. 3, 1978 are contained in files of U.S. Geological Survey with only monthly totals published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 132 ft³/s (3.74 m³/s) Sept. 3, 1979, gage height 3.42 ft (1.042 m), from a rating curve extended above 46 ft³/s (1.30 m³/s); minimum daily, 0.05 ft³/s (0.001 m³/s) Oct. 3, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 45 ft³/s (1.3 m³/s) and maximum (*).

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	0715	53 1.50	2.85 0.869	Feb. 16	0445	50 1.42	2.82 0.860
Dec. 20	1545	72 2.04	3.03 0.942	Feb. 23	2015	48 1.36	2.80 0.853
Dec. 21	0315	86 2.44	3.14 0.957	Feb. 24	1645	112 3.17	3.31 1.009
Jan. 21	Unknown	108 3.06	3.29 1.003	Sept. 2	1945	69 1.95	3.01 0.917
Feb. 15	1900	49 1.39	2.81 0.856	Sept. 3	0345	*132 3.74	3.42 1.042

a From crest-stage gage.

Minimum daily discharge, 0.05 ft³/s (0.001 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.23	6.8	14	2.0	8.0	7.4	3.3	2.4	2.1	2.2	1.1
2	.06	.23	5.6	24	1.8	12	9.1	2.8	1.9	3.1	2.0	8.5
3	.05	.20	8.5	13	1.7	14	12	2.9	3.6	1.8	1.6	34
4	.08	.22	21	7.7	1.5	20	11	5.4	3.7	8.2	1.2	12
5	.06	.22	11	5.2	1.3	21	12	5.4	2.4	7.4	.95	7.5
6	.06	.20	7.5	3.6	1.3	14	9.7	4.7	2.0	3.7	.84	17
7	.06	.20	5.0	9.0	1.2	9.0	7.1	4.3	2.0	2.3	.74	10
8	.25	.23	20	14	1.2	6.3	5.6	3.5	2.3	1.6	.68	6.3
9	.19	.22	36	8.9	1.2	4.3	9.2	2.9	1.8	1.2	.68	3.8
10	.17	.21	16	5.0	1.1	4.1	9.4	7.0	1.8	1.3	.66	2.5
11	.15	.21	9.3	4.4	1.0	4.1	9.2	6.8	2.0	1.1	.86	1.9
12	.15	.20	6.1	3.4	1.0	3.2	8.2	6.8	1.6	.87	5.3	1.5
13	.15	.21	4.4	4.2	.97	3.1	6.4	13	1.3	.77	2.2	1.3
14	.18	.22	3.3	9.2	.94	4.9	4.9	10	1.0	2.2	1.5	2.8
15	.23	1.3	2.6	6.0	9.0	4.6	4.1	8.0	1.0	2.7	1.5	2.8
16	.35	6.7	2.5	4.5	31	4.1	3.7	5.9	.82	5.6	1.1	1.7
17	.54	5.0	3.9	8.5	12	3.5	3.7	4.1	.95	2.2	.88	1.4
18	.23	2.9	2.8	7.0	6.2	3.1	3.5	3.2	5.8	1.7	2.9	1.2
19	.20	1.8	2.4	5.6	4.5	2.6	3.2	2.6	1.7	1.3	13	1.1
20	.19	1.3	28	12	4.3	2.4	2.8	2.2	1.2	1.4	9.5	.94
21	.18	1.0	41	35	5.6	2.2	2.5	2.3	1.5	3.2	6.7	4.4
22	.18	.91	15	18	10	2.1	2.3	2.0	1.3	5.7	4.0	6.1
23	.18	1.4	8.5	10	22	2.0	2.2	2.0	1.1	3.1	2.7	5.9
24	.26	10	9.7	8.7	46	4.3	2.0	7.8	1.5	2.4	2.0	3.7
25	.23	5.1	14	6.5	33	6.3	1.8	14	1.1	2.3	2.0	2.6
26	.48	4.1	8.1	4.7	20	4.0	2.9	12	.85	3.0	1.7	2.1
27	3.0	12	5.5	3.8	12	3.5	9.6	10	.72	2.9	4.7	1.7
28	.98	19	3.6	3.1	8.7	3.0	6.8	7.7	.64	2.3	3.2	2.0
29	.54	9.7	2.8	2.7	---	2.7	5.3	5.8	.61	4.9	2.3	2.0
30	.25	8.8	2.6	25	---	2.4	4.1	4.0	.90	5.8	1.8	2.0
31	.23	---	12	2.3	---	3.0	---	3.1	---	3.3	1.4	---
TOTAL	9.93	94.01	325.5	289.0	242.51	183.8	181.7	175.5	51.49	91.44	82.79	151.84
MEAN	.32	3.13	10.5	9.32	8.66	5.93	6.06	5.66	1.72	2.95	2.67	5.06
MAX	3.0	19	41	35	46	21	12	14	5.8	8.2	13	34
MTN	.05	.20	2.4	2.3	.94	2.0	1.8	2.0	.61	.77	.66	.94
CFSM	.21	2.02	6.77	6.01	5.59	3.83	3.91	3.65	1.11	1.90	1.72	3.27
IN.	.24	2.25	7.81	6.93	5.82	4.41	4.36	4.21	1.23	2.19	1.99	3.64

WTR YR 1979 TOTAL 1879.51 MEAN 5.15 MAX 46 MIN .05 CFSM 3.32 IN 45.08

03068607 STALNAKER RUN NEAR BOWDEN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976, 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)
NOV 28...	0915	15	50	7.5	--	5.0	4.2	12.5
DEC 05...	1130	11	<50	7.4	--	5.5	1.5	11.6
09...	1005	45	<50	--	--	7.0	5.7	--
09...	1610	30	50	--	--	7.0	4.0	--
19...	0815	2.4	<50	7.5	1.5	3.5	1.2	14.1
JAN 04...	1000	7.7	50	7.0	-1.5	2.0	1.0	12.1
17...	0930	7.2	<50	7.1	--	1.5	3.0	9.2
FEB 24...	0755	31	32	--	--	--	2.3	--
24...	1710	80	28	--	--	--	24	--
25...	0840	36	27	--	--	--	3.6	--
APR 03...	0715	11	<50	7.2	--	2.0	6.4	10.6
MAY 10...	1445	18	27	4.7	--	--	110	--
25...	0930	17	31	--	--	10.5	5.5	--
JUN 15...	1110	.97	<50	6.7	25.0	12.5	--	--
18...	0250	15	30	7.3	--	--	83	--
SEP 02...	1915	63	--	--	--	--	--	--
22...	1705	6.9	<50	6.5	--	14.0	--	--

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)
JUN 15...	8	4	2.2	.7	.4	9	.1	.8	.4	4	1.6
SEP 22...	10	5	2.6	.8	.6	11	.1	1.1	.5	5	3.1

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN 15...	4.0	.4	.0	3.6	26	14	.04	.07	40	10	2
SEP 22...	4.5	.5	.0	3.6	24	16	.03	.45	50	30	7

DATE	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM	SED. SUSP. FALL DIAM. % FINER THAN .125 MM	SED. SUSP. FALL DIAM. % FINER THAN .250 MM	SED. SUSP. FALL DIAM. % FINER THAN .500 MM	SED. SUSP. FALL DIAM. % FINER THAN 1.00 MM	SED. SUSP. FALL DIAM. % FINER THAN 2.00 MM
MAY 10...	43	56	70	83	90	94	96	97	97	98
JUN 18...	43	56	83	86	92	96	98	99	100	--
SEP 02...	39	53	67	77	85	91	94	96	97	97

DATE	TIME	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT CHARGE, SUS- PENDE (T/DAY)
NOV 28...	0915	10	.40
DEC 05...	1130	2	.06
09...	1005	44	5.3
09...	1610	15	1.2
19...	0815	1	.01
JAN 04...	1000	1	.02
17...	0930	5	.10
FEB 24...	0755	7	.59
24...	1710	202	44

DATE	TIME	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT CHARGE, SUS- PENDE (T/DAY)
FEB 25...	0840	15	1.5
APR 03...	0715	21	.62
MAY 10...	1445	1620	79
25...	0930	20	.92
JUN 18...	0250	602	24

MONONGAHELA RIVER BASIN

03068610 TAYLOR RUN AT BOWDEN, WV

LOCATION.--Lat 38°54'27", long 79°41'49", Randolph County, Hydrologic Unit 05020004, on upstream side of left abutment of bridge on U.S. Highway 33, 450 ft (137 m) upstream from mouth, and 0.7 mi (1.1 km) east of Bowden.

DRAINAGE AREA.--5.06 mi² (13.11 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1973 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 2,240 ft (683 m), from topographic map.

REMARKS.--Water-discharge records good except those for February, which are poor.

AVERAGE DISCHARGE.--6 years, 15.2 ft³/s (0.430 m³/s), 40.79 in/yr (1036 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 382 ft³/s (10.8 m³/s) June 8, 1974, gage height, 6.91 ft (2.106 m), from rating curve extended above 150 ft³/s (4.2 m³/s); minimum, 0.40 ft³/s (0.011 m³/s) Aug. 27, 28, 1974; minimum gage height, 3.72 ft (1.134 m) Aug. 9, 10, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft³/s (4.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	0645	162	4.59	5.66	1.725	Feb. 16	0630	166	4.70	5.69	1.734
Dec. 21	0345	*243	6.88	6.16	1.878	Feb. 24	1730	221	6.26	6.03	1.838
Jan. 21	0045	165	4.67	5.68	1.731	Sept. 3	0400	218	6.17	6.01	1.832

Minimum discharge, 0.46 ft³/s (0.013 m³/s) Oct. 1, 3, 4, minimum gage height, 4.01 ft (1.222 m) Aug. 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.46	.86	24	44	6.5	27	24	10	10	7.5	4.9	4.0
2	.50	.86	19	80	5.6	39	29	8.6	7.9	11	4.4	26
3	.46	.79	27	40	5.4	46	38	9.1	13	6.7	3.6	100
4	.73	.79	81	26	4.7	64	36	16	14	28	2.9	33
5	.54	.79	48	18	4.2	68	37	16	9.2	24	2.3	22
6	.54	.79	31	13	4.2	46	30	13	7.6	13	2.2	56
7	.54	.79	23	30	4.0	31	22	12	7.3	8.7	1.9	31
8	.79	.93	74	47	3.8	23	17	9.8	8.1	6.5	1.8	19
9	.58	.86	122	24	3.8	17	29	8.4	6.6	5.1	1.6	13
10	.54	.79	53	16	3.6	16	29	19	6.3	5.6	1.5	8.8
11	.50	.79	33	13	3.2	17	27	18	6.1	4.4	2.3	6.8
12	.50	.79	24	11	3.4	13	23	21	5.1	3.6	17	5.6
13	.50	.79	19	13	3.1	12	18	43	4.2	3.1	5.5	4.7
14	.63	.79	15	26	2.9	19	15	31	3.6	7.7	3.7	8.6
15	.73	3.8	13	17	26	17	13	22	3.1	7.1	3.8	8.4
16	1.1	21	12	14	100	15	12	16	2.7	9.6	2.7	5.2
17	1.7	17	17	27	38	13	12	12	3.3	5.6	2.2	4.2
18	.73	9.2	13	24	20	12	11	9.5	18	4.2	7.9	3.7
19	.63	5.9	11	17	14	10	9.5	8.1	6.1	3.4	35	3.5
20	.63	4.5	93	39	14	9.1	8.6	6.7	4.3	3.6	29	3.1
21	.58	3.4	140	116	22	8.1	7.8	7.1	5.3	5.1	22	15
22	.58	2.9	53	59	38	7.4	7.1	5.9	4.5	7.7	13	19
23	.58	4.5	30	32	82	7.1	6.8	6.6	4.2	4.7	8.9	18
24	.79	32	34	28	148	14	6.3	20	5.9	4.4	6.9	12
25	.73	16	52	21	114	17	5.8	44	4.4	4.0	7.6	8.7
26	1.5	13	29	15	72	13	7.5	31	3.4	5.6	6.2	7.3
27	10	38	19	12	41	11	28	27	2.7	5.4	15	6.1
28	1.9	61	11	10	29	9.7	20	28	2.4	4.4	10	7.3
29	1.2	38	10	8.7	---	8.7	15	22	2.3	9.6	7.5	6.9
30	.86	32	9.5	8.0	---	7.8	12	16	3.5	10	6.0	6.6
31	.86	---	32	7.3	---	10	---	12	---	6.5	4.9	---
TOTAL	32.91	313.61	1171.5	856.0	816.4	627.9	556.4	528.8	185.1	235.8	244.2	473.5
MEAN	1.06	10.5	37.8	27.6	29.2	20.3	18.5	17.1	6.17	7.61	7.88	15.8
MAX	10	61	140	116	148	68	38	44	18	28	35	100
MIN	.46	.79	9.5	7.3	2.9	7.1	5.8	5.9	2.3	3.1	1.5	3.1
CFSM	.21	2.08	7.47	5.46	5.77	4.01	3.66	3.38	1.22	1.50	1.56	3.12
IN.	.24	2.31	8.61	6.29	6.00	4.62	4.09	3.89	1.36	1.73	1.79	3.48

CAL YR 1978 TOTAL 5823.60 MEAN 16.1 MAX 140 MIN .46 CFSM 3.18 IN 43.25
WTR YR 1979 TOTAL 6042.12 MEAN 16.6 MAX 148 MIN .46 CFSM 3.28 IN 44.41

03068610 TAYLOR RUN AT BOWDEN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1975 to current year.

WATER TEMPERATURES: June 1975 to May 1979, June to September 1979 (partial record).

TURBIDITY: June 1975 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1974 to current year.

REMARKS.--In addition to daily record, samples were collected approximately once a month.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 150 micromhos Sept. 9, 1976; minimum daily, 30 micromhos July 29, 1978.

WATER TEMPERATURES (Water years 1975-78): Maximum daily, 22.5°C Aug. 17, 1978; minimum daily, 0.0°C Jan. 1,

8, 9, 11-13, 15, 16, 29, 31, 1977.

TURBIDITY: Maximum daily, 85 JTU June 27, 1975; minimum daily, 1 JTU on many days.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 305 mg/L July 3, 1978; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 140 tons (127 tonnes) July 3, 1978; minimum daily, 0 tons (0 tonnes) on many days.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--A specific conductance of 175 micromhos was observed Oct. 16, 1974. A water temperature of 20°C was observed Aug. 31, Sept. 4, 1973, and July 30, 1974. A turbidity of 40 JTU was observed Apr. 24, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 106 micromhos Oct. 3; minimum daily, 37 micromhos Sept. 11.

TURBIDITY: Maximum daily, 40 JTU Feb. 24; minimum daily, 1 JTU on many days.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 152 mg/L Sept. 2; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 46 tons (42 tonnes) Dec. 20; minimum daily, 0 tons (0 tonnes) on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)				
OCT											
24...	1005	.85	59	7.0	4.0	8.0	2.0				
DEC											
09...	0915	158	60	6.8	--	7.0	11				
09...	1215	129	60	6.7	--	7.5	9.3				
JAN											
03...	1350	40	28	6.8	>-5.0	.0	--				
29...	1140	8.7	62	6.8	<-5.0	1.5	1.0				
FEB											
28...	1320	25	44	6.7	5.0	5.0	1.0				
APR											
03...	1155	44	65	7.0	9.0	8.0	8.0				
17...	1700	12	66	7.0	9.0	8.0	--				
MAY											
02...	1440	8.2	67	7.0	18.0	14.0	2.0				
30...	0940	15	60	7.0	25.0	11.0	2.0				
JUN											
15...	1200	3.3	70	6.8	25.0	14.0	--				
JUL											
03...	1430	6.6	77	7.0	19.5	16.5	3.8				
AUG											
08...	1430	1.6	125	7.0	26.0	20.0	1.7				
27...	1320	24	85	7.0	20.0	17.0	3.2				
SEP											
19...	1515	--	100	6.9	--	15.0	2.0				
22...	1715	23	60	6.6	--	14.0	--				

DATE	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)	SODIUM, DIS- SOLVED (MG/L AS Na)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS Na)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CaCO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)
JUN											
15...	26	7	7.9	1.4	2.0	14	.2	2.6	.6	19	5.9
SEP											
22...	21	6	6.5	1.2	1.8	15	.2	2.4	.6	15	7.4

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS Al)	IRON, DIS- SOLVED (UG/L AS Fe)	MANGA- NESE, DIS- SOLVED (UG/L AS Mn)
JUN											
15...	8.0	3.1	.0	4.0	46	38	.06	.40	40	10	2
SEP											
22...	6.6	2.3	.0	3.9	38	32	.05	2.36	50	20	2

MONONGAHELA RIVER BASIN

03068610 TAYLOR RUN AT BOWDEN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	DATE	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 24...	3	.01	MAY 02...	5	.11
DEC 09...	94	40	30...	6	.24
09...	52	18	JUL 03...	9	.16
JAN 29...	3	.07	AUG 08...	8	.03
FEB 28...	5	.34	27...	8	.52
APR 03...	16	1.9			

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	103	---	60	63	64	49	51	45	---	68	64	77
2	103	---	---	51	63	61	47	67	---	66	62	65
3	106	---	60	53	60	48	49	---	---	77	65	63
4	102	70	56	48	60	42	45	49	---	79	67	66
5	100	70	55	54	64	41	42	48	---	55	70	74
6	61	70	55	53	66	42	42	45	---	54	75	54
7	60	71	57	64	80	43	40	46	---	57	77	57
8	---	71	58	65	62	41	41	50	---	73	81	65
9	54	72	60	58	62	44	42	47	---	63	90	64
10	56	---	56	56	68	45	47	48	---	64	96	71
11	58	75	54	51	65	49	43	70	---	66	86	37
12	59	75	55	56	65	49	41	65	---	72	105	74
13	60	77	57	71	63	48	42	---	---	---	76	72
14	61	78	57	81	63	48	43	50	---	82	76	74
15	55	76	57	67	88	47	44	40	---	73	74	73
16	55	55	59	57	57	48	46	40	---	67	75	73
17	52	73	69	60	48	46	47	50	---	70	72	75
18	52	70	62	61	48	46	46	---	---	69	71	73
19	55	65	60	53	48	47	46	---	---	72	62	100
20	56	81	55	50	52	48	46	---	---	77	60	80
21	59	67	49	47	51	48	46	---	---	74	62	94
22	54	---	50	44	68	51	47	---	---	57	60	59
23	59	---	52	44	59	55	49	---	---	62	70	58
24	61	---	55	49	49	52	51	52	73	63	69	58
25	58	60	54	66	46	51	52	47	71	64	72	---
26	58	62	54	55	44	47	52	---	73	68	73	---
27	60	69	55	52	43	47	52	---	74	94	85	---
28	60	65	59	59	44	48	45	---	79	85	74	---
29	60	64	56	60	---	48	44	---	80	65	72	---
30	61	65	---	59	---	51	45	40	80	60	74	---
31	62	---	77	60	---	48	---	---	---	59	74	---
MEAN	65	70	57	57	59	48	46	50	76	69	74	69
WTR YR 1979	MEAN	61	MAX	106	MIN	37						

03068610 TAYLOR RUN AT BOWDEN, WV--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.0	---	5.0	6.0	2.0	4.0	9.0	9.0	---	---	---	---
2	12.0	---	---	6.0	2.0	6.0	8.0	14.0	---	---	---	---
3	12.0	---	6.0	1.0	2.0	6.0	9.0	---	---	16.5	---	---
4	12.0	7.0	8.0	1.0	2.0	5.0	10.0	11.0	---	---	---	---
5	11.0	10.0	7.0	1.0	2.0	6.0	7.0	9.0	---	---	---	---
6	11.0	8.0	5.0	3.0	1.0	6.0	6.0	9.0	---	---	---	---
7	10.0	8.0	5.0	5.0	2.0	6.0	5.0	11.0	---	---	---	---
8	---	7.0	---	3.0	2.0	6.0	9.0	13.0	---	---	---	---
9	8.0	6.0	7.5	1.0	2.0	6.0	8.0	13.0	---	---	---	---
10	8.0	---	---	2.0	2.0	6.0	5.0	15.0	---	---	---	---
11	8.0	7.0	2.0	3.0	2.0	5.0	5.0	13.0	---	---	---	---
12	10.0	8.0	3.0	3.0	2.0	3.0	9.0	13.0	---	---	---	---
13	11.0	8.0	3.0	4.0	2.0	3.0	10.0	---	---	---	---	---
14	11.0	10.0	3.0	2.0	2.0	5.0	10.0	12.0	---	---	---	---
15	8.0	9.0	2.0	2.0	---	4.0	9.0	11.0	---	---	---	---
16	8.0	10.0	3.0	2.0	3.0	4.0	7.0	11.0	---	---	---	---
17	8.0	9.0	4.0	3.0	2.0	3.0	6.0	11.0	---	---	---	---
18	7.0	9.0	3.0	3.0	3.0	5.0	6.0	---	---	---	---	---
19	8.0	---	3.0	3.0	2.0	6.0	6.0	---	---	---	---	15.0
20	8.0	8.0	6.0	3.0	---	7.0	6.0	---	---	---	---	---
21	6.0	8.0	6.0	3.0	3.0	6.0	13.0	---	---	---	---	---
22	10.0	---	5.0	3.0	3.0	7.0	11.0	---	---	---	---	---
23	8.0	---	4.0	3.0	5.0	8.0	12.0	---	---	---	---	---
24	8.0	---	4.0	4.0	3.0	8.0	11.0	12.0	---	---	---	---
25	8.0	5.0	3.0	3.0	4.0	6.0	12.0	10.5	---	---	---	---
26	10.0	6.0	2.0	2.0	5.0	2.0	13.0	---	---	---	---	---
27	10.0	5.0	2.0	2.0	5.0	3.0	13.0	---	---	---	17.0	---
28	6.0	4.0	1.0	3.0	3.0	3.0	8.0	---	---	---	---	---
29	8.0	4.0	1.0	2.0	---	7.0	7.0	---	---	---	---	---
30	8.0	6.0	---	2.0	---	8.0	7.0	11.0	---	---	---	---
31	9.0	---	---	2.0	---	9.0	---	---	---	---	---	---
MEAN	9.0	7.5	4.0	3.0	2.5	5.5	8.5	11.5	---	16.5	17.0	15.0
WTR YR 1979	MEAN	6.5	MAX	17.0	MIN	1.0						

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

TURBIDITY (NTU), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1	---	2	3	1	1	7	1	---	3	3	3
2	1	---	---	4	1	1	8	2	---	5	3	4
3	1	---	2	1	1	1	6	---	---	4	3	4
4	1	2	6	2	1	2	5	2	---	6	2	5
5	2	1	2	1	1	4	5	1	---	7	2	2
6	2	1	2	1	1	1	5	1	---	3	3	9
7	1	1	1	1	1	1	4	1	---	3	2	5
8	---	1	3	2	1	1	4	2	---	15	2	4
9	1	1	9	1	1	1	4	1	---	4	2	4
10	1	---	3	1	1	1	5	2	---	5	2	2
11	1	1	2	1	1	1	4	4	---	2	2	1
12	1	1	2	1	1	1	4	3	---	2	3	3
13	1	1	2	1	1	1	5	---	---	---	1	2
14	1	6	1	2	1	1	4	4	---	10	6	8
15	1	1	2	1	7	1	4	2	---	4	2	3
16	1	3	1	1	10	1	3	2	---	5	2	2
17	1	3	2	3	3	1	4	1	---	4	9	2
18	1	1	2	2	1	1	4	---	---	4	9	1
19	1	1	2	2	1	1	4	---	---	3	15	2
20	1	1	25	2	1	1	7	---	---	6	7	1
21	1	1	25	7	1	1	1	---	---	3	7	5
22	1	---	3	3	1	1	2	---	---	4	6	2
23	1	---	3	1	2	1	2	---	---	3	4	1
24	1	---	2	1	40	4	1	3	3	2	4	2
25	1	2	3	1	3	6	2	15	2	4	4	---
26	1	2	2	1	3	5	2	---	2	5	5	---
27	4	4	2	1	1	5	2	---	2	4	9	---
28	1	6	3	1	1	5	4	---	2	3	4	---
29	1	3	1	1	---	5	2	---	1	25	4	---
30	1	3	---	1	---	4	2	3	1	6	3	---
31	1	---	3	1	---	5	---	---	---	4	3	---
MEAN	1	2	4	2	3	2	4	3	2	5	4	3
WTR YR 1979	MEAN	3	MAX	40	MIN	1						

MONONGAHELA RIVER BASIN

03068610 TAYLOR RUN AT BOWDEN, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)		MEAN CONCENTRATION (MG/L)		LOADS (T/DAY)								
OCTOBER				NOVEMBER				DECEMBER				JANUARY				FEBRUARY				MARCH			
1	3	.00	0	.00	7	.45	6	.71	3	.05	3	.22											
2	2	.00	0	.00	9	.46	16	3.8	2	.03	6	.63											
3	4	.00	0	.00	27	2.8	3	.32	4	.06	9	1.1											
4	9	.02	0	.00	60	14	3	.21	4	.05	14	2.4											
5	3	.00	0	.00	9	1.2	5	.24	3	.03	14	2.6											
6	1	.00	1	.00	10	.84	4	.14	3	.03	6	.75											
7	1	.00	1	.00	10	.62	16	2.2	3	.03	6	.50											
8	5	.01	1	.00	46	10	6	.88	2	.02	4	.25											
9	0	.00	2	.00	71	26	2	.13	4	.04	3	.14											
10	0	.00	2	.00	8	1.1	3	.13	3	.03	10	.43											
11	1	.00	3	.01	1	.09	1	.04	2	.02	5	.23											
12	0	.00	2	.00	0	.00	1	.03	2	.02	4	.14											
13	0	.00	1	.00	0	.00	6	.21	3	.03	4	.13											
14	0	.00	1	.00	0	.00	11	.77	4	.03	7	.36											
15	0	.00	7	.07	2	.07	3	.14	33	2.3	3	.14											
16	2	.01	6	.34	3	.10	2	.08	42	11	2	.08											
17	0	.00	6	.28	4	.18	10	.83	13	1.3	2	.07											
18	0	.00	1	.02	0	.00	3	.19	7	.38	3	.10											
19	1	.00	0	.00	2	.06	2	.09	6	.23	3	.08											
20	3	.01	0	.00	139	46	33	8.0	10	.38	3	.07											
21	3	.00	2	.02	87	43	65	24	15	.89	3	.07											
22	2	.00	2	.02	9	1.3	6	.96	14	1.6	2	.04											
23	3	.00	18	.38	4	.32	2	.17	52	17	2	.04											
24	3	.01	48	5.3	28	4.6	1	.08	91	44	22	1.0											
25	1	.00	1	.04	12	1.7	1	.06	28	9.1	3	.14											
26	2	.01	3	.11	5	.39	0	.00	11	2.1	1	.04											
27	8	.43	17	1.8	8	.41	2	.06	6	.66	1	.03											
28	0	.00	19	3.1	6	.18	4	.11	5	.39	3	.08											
29	2	.01	4	.41	4	.11	3	.07	---	---	1	.02											
30	3	.01	4	.35	2	.05	3	.06	---	---	2	.04											
31	1	.00	---	---	11	.95	4	.08	---	---	15	.66											
TOTAL	---	0.52	---	12.25	---	156.98	---	44.79	---	91.80	---	12.58											

[illegible]

MONONGAHELA RIVER BASIN

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03068690 NORTH SPRING AT BOWDEN, WV

LOCATION.--Lat 38°54'43", long 79°42'16", Randolph County, Hydrologic Unit 05020004, 100 ft (30 m) landward from right bank of Shavers Fork, 250 ft (76 m) upstream from bridge on State Secondary Route 5/12, and 0.4 mi (0.6 km) east of Bowden.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1956-58 (discharge measurements only, published as "Cold Spring, Northbank"), June 1975 to current year.

GAGE.--(Base gage) Water-stage recorder, with 16-inch pipe spring box overflow and 16-inch inlet pipe to Bowden National Fish Hatchery as control. Datum of gage is 2201.99 ft (671.167 m) National Geodetic Vertical Datum of 1929. Supplementary water-stage recorder No. 1 and sharp-crested weir in water tower at fish hatchery at datum 2,200.06 ft (670.578 m) National Geodetic Vertical Datum of 1929, nonrecording prior to Nov. 4, 1975. Supplementary water-stage recorder No. 2 and sharp-crested weir in collecting trough in fish hatchery building since Oct. 10, 1975, at datum 2,193.32 ft (668.524 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 6.7 ft³/s (0.19 m³/s) Oct. 9, 1976, gage height, 9.00 ft (2.743 m) Oct. 9, 1976, from floodmark, backwater from Shavers Fork over springbox; minimum daily discharge, 1.8 ft³/s (0.051 m³/s) Jan. 7-11, 1977; minimum gage height, 1.23 ft (0.375 m) June 26, 1975, when water tower valve was open.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 6.2 ft³/s (0.18 m³/s) Dec. 9; maximum gage height, not determined, backwater from Shavers Fork over springbox; minimum daily discharge, 2.0 ft³/s (0.057 m³/s) Oct. 1, 2; minimum gage height, 2.10 ft (0.640 m) Nov. 15.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.0	2.3	3.5	4.2	3.4	4.1	3.8	3.6	3.6	2.9	3.3	3.2
2	2.0	2.3	3.4	5.1	3.5	4.1	3.8	3.5	3.6	3.1	3.3	3.2
3	2.1	2.2	3.3	4.5	3.5	4.1	3.7	3.5	3.6	3.2	3.2	4.7
4	2.1	2.2	4.2	4.2	3.5	4.0	4.2	3.5	3.7	3.4	3.2	4.2
5	2.2	2.2	4.2	3.9	3.6	4.1	4.5	3.5	3.6	3.7	3.1	3.8
6	2.5	2.2	4.0	3.8	3.5	4.0	4.3	3.7	3.6	3.5	3.1	4.2
7	2.5	2.2	3.9	4.0	3.5	3.9	4.0	3.6	3.5	3.4	3.1	4.1
8	2.6	2.2	4.6	4.7	3.5	3.7	3.9	3.6	3.6	3.3	3.1	3.8
9	2.5	2.2	6.2	4.1	3.4	3.6	4.0	3.5	3.4	3.2	3.0	3.8
10	2.4	2.2	5.1	4.0	3.4	3.6	4.2	3.6	3.4	3.2	3.0	3.6
11	2.3	2.2	4.6	3.8	3.4	3.6	4.1	3.8	3.3	3.2	3.0	3.5
12	2.2	2.2	4.4	3.7	3.4	3.6	4.0	3.9	3.3	3.2	3.2	3.3
13	2.2	2.1	4.1	3.7	3.4	3.6	3.9	4.6	3.2	3.1	3.4	3.2
14	2.2	2.3	4.0	3.9	3.4	3.6	3.7	4.3	3.2	3.1	3.4	3.2
15	2.2	2.5	3.9	3.9	4.0	3.6	3.5	4.0	3.1	3.1	3.3	3.2
16	2.2	2.7	3.7	3.8	4.9	3.6	3.6	3.9	3.2	3.3	3.2	3.1
17	2.4	2.8	3.7	3.9	4.3	3.5	3.6	3.8	3.0	3.3	3.2	3.1
18	2.4	2.9	3.7	4.0	4.0	3.5	3.6	3.8	3.5	3.2	3.2	3.0
19	2.4	2.9	3.5	3.9	3.8	3.5	3.5	3.6	3.3	3.2	3.7	3.0
20	2.4	2.8	4.2	4.1	3.8	3.4	3.4	3.6	3.3	3.2	4.0	3.0
21	2.4	2.7	5.9	5.6	3.9	3.4	3.4	3.5	3.2	3.2	4.2	3.0
22	2.3	2.7	4.8	4.9	4.4	3.4	3.3	3.5	3.1	3.2	3.9	3.6
23	2.3	2.6	4.3	4.2	4.7	3.4	3.3	3.4	3.2	3.1	3.8	3.6
24	2.3	2.9	4.2	4.1	5.3	3.4	3.9	3.6	3.3	3.1	3.7	3.6
25	2.2	2.9	4.9	4.1	5.2	3.6	4.3	4.2	3.2	3.2	3.6	3.6
26	2.3	2.9	4.4	3.7	4.6	3.6	3.9	4.1	3.0	3.2	3.4	3.5
27	2.4	3.0	4.1	3.7	4.2	3.6	3.8	3.9	3.0	3.3	3.4	3.3
28	2.4	3.5	3.9	3.6	4.0	3.6	3.8	3.9	3.0	3.4	3.6	3.3
29	2.4	3.6	3.8	3.4	---	3.8	3.8	3.9	3.0	3.4	3.5	3.2
30	2.4	3.6	3.7	3.4	---	3.7	3.7	3.8	2.9	3.2	3.4	3.2
31	2.4	---	3.8	3.4	---	3.7	---	3.7	---	3.4	3.3	---
TOTAL	71.6	78.0	130.0	125.3	109.5	113.9	114.5	116.4	98.9	100.5	104.8	104.1
MEAN	2.31	2.60	4.19	4.04	3.91	3.67	3.82	3.75	3.30	3.24	3.38	3.47
MAX	2.6	3.6	6.2	5.6	5.3	4.1	4.5	4.6	3.7	3.7	4.2	4.7
MIN	2.0	2.1	3.3	3.4	3.4	3.4	3.3	3.4	2.9	2.9	3.0	3.0
CAL YR 1978	TOTAL	1156.3	MEAN	3.17	MAX	6.2	MIN	2.0				
WTR YR 1979	TOTAL	1267.5	MEAN	3.47	MAX	6.2	MIN	2.0				

MONONGAHELA RIVER BASIN

03068690 NORTH SPRING AT BOWDEN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1976 to current year.

TURBIDITY: June 1975 to current year.

INSTRUMENTATION.--Temperature recorder since October 29, 1976. Automatic pumping turbidity sampler.

REMARKS.--Turbidity values listed as 100 JTU represent values of 100 JTU or higher due to instrument limitations. Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 11.5°C Sept. 2-20, 1977; minimum, 8.0°C on many days.

TURBIDITY: Maximum, not determined; minimum, 1 JTU on many days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 11.0°C Sept. 3, 4, 6-30; minimum, 8.0°C Feb. 15-18, 21-27, Mar. 3-6, 9, 13, 14, 17, 20-24, 28-31, Apr. 1-3.

TURBIDITY: Maximum, 25 JTU Sept. 2; minimum, 1 JTU on many days.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	10.5	10.5	10.5	10.5	10.5	10.0	9.5	9.5	9.0	9.0	8.5	8.5
2	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0	8.5	8.5
3	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0	8.0	8.0
4	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0	8.0	8.0
5	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0	8.0	8.0
6	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0	8.5	8.0
7	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.0	9.0	9.0	8.5	8.5
8	10.5	10.5	10.5	10.5	10.0	10.0	9.0	9.0	9.0	8.5	8.5	8.5
9	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.0	8.5	8.5	8.5	8.0
10	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5	8.5	8.5
11	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5	8.5	8.5
12	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5	8.5	8.5
13	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5	8.5	8.0
14	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5	8.0	8.0
15	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.0	8.5	8.5
16	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	8.0	8.0	8.5	8.5
17	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.0	8.0	8.0	8.5	8.0
18	10.5	10.5	10.5	10.5	10.0	10.0	9.0	9.0	8.5	8.0	8.5	8.5
19	10.5	10.5	10.5	10.5	10.0	10.0	9.0	9.0	8.5	8.5	8.5	8.5
20	10.5	10.5	10.5	10.5	10.0	9.5	9.0	9.0	8.5	8.5	8.5	8.0
21	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0	8.5	8.0	8.0	8.0
22	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0	8.0	8.0	8.5	8.0
23	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0	8.0	8.0	8.0	8.0
24	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0	8.0	8.0	8.0	8.0
25	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0	8.0	8.0	8.5	8.5
26	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0	8.0	8.0	8.5	8.5
27	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0	8.5	8.0	8.5	8.5
28	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0	8.5	8.5	8.5	8.0
29	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0	---	---	8.0	8.0
30	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0	---	---	8.0	8.0
31	10.5	10.5	---	---	9.5	9.5	9.0	9.0	---	---	8.0	8.0
MONTH	10.5	10.5	10.5	10.5	10.5	9.5	9.5	9.0	9.0	8.0	8.5	8.0

03068690 NORTH SPRING AT BOWDEN, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	8.0	9.0	9.0	9.0	9.0	9.5	9.5	10.5	10.5	10.5	10.5
2	8.0	8.0	9.0	8.5	9.0	9.0	9.5	9.5	10.5	10.5	10.5	10.5
3	8.5	8.0	9.0	9.0	9.0	9.0	9.5	9.5	10.5	10.5	11.0	10.5
4	9.0	8.5	9.0	9.0	9.0	9.0	9.5	9.5	10.5	10.5	11.0	10.5
5	9.0	9.0	9.0	9.0	9.0	9.0	9.5	9.5	10.5	10.5	10.5	10.5
6	9.0	9.0	9.0	9.0	9.0	9.0	9.5	9.5	10.5	10.5	11.0	10.5
7	9.0	9.0	9.0	9.0	9.0	9.0	9.5	9.5	10.5	10.5	11.0	11.0
8	9.0	8.5	9.0	9.0	9.0	9.0	9.5	9.5	10.5	10.5	11.0	11.0
9	8.5	8.5	9.0	9.0	9.0	9.0	9.5	9.5	10.5	10.5	11.0	11.0
10	8.5	8.5	9.0	9.0	9.0	9.0	9.5	9.5	10.5	10.5	11.0	11.0
11	8.5	8.5	9.0	9.0	9.5	9.0	9.5	9.5	10.5	10.5	11.0	11.0
12	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	11.0	11.0
13	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	11.0	11.0
14	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	11.0	11.0
15	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	11.0	11.0
16	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	11.0	11.0
17	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	11.0	11.0
18	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	11.0	11.0
19	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	11.0	11.0
20	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	11.0	11.0
21	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	11.0	11.0
22	8.5	8.5	9.0	9.0	9.5	9.5	10.0	9.5	10.5	10.5	11.0	11.0
23	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.5	10.5	11.0	11.0
24	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.5	10.5	11.0	11.0
25	9.0	8.5	9.5	9.0	9.5	9.5	10.0	10.0	10.5	10.5	11.0	11.0
26	9.0	9.0	9.5	9.5	9.5	9.5	10.0	10.0	10.5	10.5	11.0	11.0
27	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	10.5	10.5	11.0	11.0
28	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	10.5	10.5	11.0	11.0
29	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	10.5	10.5	11.0	11.0
30	9.0	9.0	9.5	9.0	9.5	9.5	10.5	10.5	10.5	10.5	11.0	11.0
31	---	---	9.0	9.0	---	---	10.5	10.5	10.5	10.5	---	---
MONTH	9.0	8.0	9.5	8.5	9.5	9.0	10.5	9.5	10.5	10.5	11.0	10.5
YEAR	11.0	8.0										

TURBIDITY (NTU), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2	1.0	1.0	1.0	1.0	1.0	1.0	3.0	1.0	1.0	1.0	1.0	1.0
3	1.0	1.0	1.0	1.0	5.0	1.0	1.0	1.0	3.0	1.0	1.0	1.0
4	1.0	1.0	1.0	1.0	8.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
5	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	2.0	1.0	2.0	1.0
6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
7	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0
8	---	---	1.0	1.0	8.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0
9	---	---	1.0	1.0	7.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0
10	---	---	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
11	---	---	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
12	---	---	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
13	---	---	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14	---	---	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0
15	---	---	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0
16	---	---	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
17	---	---	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
18	---	---	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
19	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
20	1.0	1.0	1.0	1.0	10	1.0	5.0	1.0	1.0	1.0	1.0	1.0
21	1.0	1.0	1.0	1.0	6.0	1.0	6.0	2.0	1.0	1.0	1.0	1.0
22	1.0	1.0	---	---	2.0	1.0	2.0	1.0	2.0	1.0	1.0	1.0
23	1.0	1.0	---	---	1.0	1.0	1.0	1.0	4.0	1.0	1.0	1.0
24	1.0	1.0	---	---	1.0	1.0	1.0	1.0	3.0	1.0	1.0	1.0
25	1.0	1.0	---	---	---	---	1.0	1.0	2.0	1.0	2.0	1.0
26	1.0	1.0	---	---	---	---	1.0	1.0	2.0	1.0	1.0	1.0
27	3.0	1.0	---	---	---	---	1.0	1.0	1.0	1.0	1.0	1.0
28	1.0	1.0	---	---	---	---	1.0	1.0	1.0	1.0	1.0	1.0
29	1.0	1.0	---	---	1.0	1.0	1.0	1.0	---	---	1.0	1.0
30	1.0	1.0	---	---	1.0	1.0	1.0	1.0	---	---	1.0	1.0
31	1.0	1.0	---	---	1.0	1.0	1.0	1.0	---	---	1.0	1.0
MONTH	3.0	1.0	3.0	1.0	10	1.0	6.0	1.0	4.0	1.0	2.0	1.0

[illegible]

MONONGAHELA RIVER BASIN

135

03068710 SOUTH SPRING AT BOWDEN, WV

LOCATION.--Lat 38°54'38", long 79°42'22", Randolph County, Hydrologic Unit 05020004, 75 ft (23 m) upstream from bridge, 400 ft (122 m) landward from left bank of Shavers Fork on State Secondary Route 5/12, and 0.3 mi (0.5 km) east of Bowden.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--1956-58, 1961 (discharge measurements only, published as "Cold Spring, Southbank"), June 1975 to current year.

GAGE.--Water-stage and rainfall recorders, sharp-crested weirs, and concrete control. Datum of gage is 2,204.66 ft (671.980 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good. Rainfall records collected at site since July 1975 are contained in files of U.S. Geological Survey with only monthly totals published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21.3 ft³/s (0.603 m³/s) Oct. 9, 1976, gage height, 3.18 ft (0.969 m); minimum, 0.72 ft³/s (0.020 m³/s) Feb. 10, 1977, Mar. 7, 8, 1978, gage height, 1.77 ft (0.539 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12.3 ft³/s (0.348 m³/s) Dec. 21, gage height, 3.02 ft (0.920 m); minimum, 0.94 ft³/s (0.027 m³/s) Feb. 14, gage height, 1.81 ft (0.552 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.5	3.6	3.5	1.2	2.3	2.4	2.0	1.9	1.5	2.2	1.9
2	1.2	1.4	3.4	6.5	1.2	3.2	3.3	1.9	1.9	2.7	2.1	2.1
3	1.2	1.4	3.2	3.9	1.2	3.5	3.4	1.7	2.0	2.2	2.0	8.3
4	1.2	1.3	7.0	2.6	1.2	3.7	3.7	1.9	2.7	2.7	1.9	4.3
5	1.4	1.3	4.8	2.0	1.1	5.3	3.3	2.5	2.2	3.6	1.8	3.0
6	1.4	1.2	3.3	1.8	1.1	3.6	3.0	2.2	1.9	2.7	1.7	3.9
7	1.4	1.2	2.7	2.2	1.1	2.7	2.3	2.1	1.7	2.1	1.7	3.4
8	1.4	1.2	4.0	5.2	1.0	2.2	2.1	1.9	1.8	1.9	1.6	2.7
9	1.4	1.2	10	3.2	1.0	1.9	2.7	1.8	1.8	1.7	1.7	2.2
10	1.2	1.2	4.8	2.2	.99	1.9	3.2	2.2	1.9	1.7	1.6	2.1
11	1.2	1.2	3.1	1.8	.99	2.2	2.8	3.4	1.9	1.7	1.6	1.9
12	1.2	1.2	2.2	1.6	.99	1.7	2.6	4.1	1.8	1.7	3.0	1.8
13	1.2	1.2	1.9	1.7	.99	1.8	2.2	7.5	1.7	1.5	2.7	1.7
14	1.2	1.2	1.7	3.1	.94	2.1	2.1	4.6	1.5	1.8	1.9	1.9
15	1.3	1.3	1.5	2.7	2.8	2.2	1.9	3.1	1.5	2.1	1.7	2.2
16	1.8	2.8	1.4	2.0	7.6	1.9	1.9	2.5	1.4	3.0	1.5	2.0
17	2.2	3.2	1.7	2.2	4.0	1.7	1.8	2.1	1.4	2.5	1.5	1.7
18	2.0	3.2	1.5	2.8	2.5	1.7	1.7	1.9	2.3	2.1	1.7	1.6
19	1.9	3.0	1.5	2.1	1.9	1.6	1.7	1.8	2.0	2.0	3.2	1.5
20	1.7	2.7	3.5	2.4	1.6	1.5	1.6	1.7	1.7	1.9	3.7	1.5
21	1.5	2.2	10	8.4	1.7	1.5	1.6	1.7	1.6	2.0	6.1	2.0
22	1.4	2.1	5.8	6.1	2.7	1.4	1.6	1.6	1.7	2.2	3.0	3.9
23	1.4	2.0	2.9	3.2	3.9	1.5	1.6	1.5	1.7	2.1	2.2	3.3
24	1.4	3.3	2.4	2.7	9.6	1.9	1.7	2.9	1.9	2.3	2.0	2.7
25	1.4	3.4	4.7	2.5	8.5	2.9	1.7	4.8	1.7	2.2	1.9	2.1
26	1.4	3.0	3.3	1.9	5.3	2.2	1.7	3.5	1.5	2.3	1.9	1.9
27	2.7	3.7	2.2	1.7	3.5	1.8	3.5	2.5	1.4	2.5	2.3	1.7
28	2.8	5.6	1.8	1.6	2.5	1.6	3.2	2.6	1.3	2.7	2.7	1.7
29	2.1	4.3	1.6	1.5	---	1.6	2.5	2.3	1.2	2.5	2.2	1.7
30	1.8	4.5	1.5	1.4	---	1.6	2.2	2.1	1.2	3.0	2.1	1.7
31	1.5	---	2.4	1.4	---	1.7	---	1.9	---	2.5	2.0	---
TOTAL	48.1	68.0	105.4	87.9	73.10	68.4	71.0	80.3	52.2	69.4	69.2	74.4
MEAN	1.55	2.27	3.40	2.84	2.61	2.21	2.37	2.59	1.74	2.24	2.23	2.48
MAX	2.8	5.6	10	8.4	9.6	5.3	3.7	7.5	2.7	3.6	6.1	8.3
MIN	1.2	1.2	1.4	1.4	.94	1.4	1.6	1.5	1.2	1.5	1.5	1.5
IN.*	2.70	3.60	8.84	4.93	3.40	2.82	4.25	5.84	4.72	6.22	6.18	6.84

CAL YR 1978 TOTAL 818.58 MEAN 2.24 MAX 11 MIN .77
WTR YR 1979 TOTAL 867.40 MEAN 2.38 MAX 10 MIN .94

* Rainfall.

MONONGAHELA RIVER BASIN

03068710 SOUTH SPRING AT BOWDEN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1976 to current year.

TURBIDITY: June 1975 to current year.

INSTRUMENTATION.--Temperature recorder since October 28, 1976. Automatic pumping turbidity sampler.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 18.0°C July 22-24, 1977; minimum, 5.0°C Feb. 15, 16, 1979.

TURBIDITY: Maximum, not determined; minimum, 1 JTU on many days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 14.0°C July 22-29, Aug. 8-12; minimum, 5.0°C Feb. 15, 16.

TURBIDITY: Maximum, 500 JTU Feb. 25; minimum, 1 JTU on many days.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

03068710 SOUTH SPRING AT BOWDEN, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	7.5	8.5	8.5	10.0	10.0	11.5	11.5	13.5	13.0	13.5	13.5
2	7.5	7.5	8.5	8.5	10.0	10.0	11.5	11.5	13.5	13.5	13.5	13.0
3	7.5	7.5	9.0	8.5	10.5	10.0	11.5	11.5	13.5	13.5	13.0	13.0
4	7.5	7.5	9.0	9.0	10.5	10.5	12.0	11.0	13.5	13.5	13.5	12.5
5	7.5	7.5	9.0	9.0	10.5	10.5	11.0	11.0	13.5	13.5	13.5	13.5
6	7.5	7.5	9.0	9.0	10.5	10.5	11.0	11.0	13.5	13.5	13.5	13.5
7	7.5	7.0	9.0	9.0	10.5	10.5	11.5	11.0	13.5	13.5	13.5	13.5
8	7.5	7.5	9.5	9.0	11.0	10.5	12.0	11.5	14.0	13.5	13.5	13.0
9	7.5	7.0	10.0	9.5	11.0	11.0	12.0	12.0	14.0	14.0	13.0	12.5
10	7.0	7.0	10.0	9.0	11.5	11.0	12.0	12.0	14.0	14.0	12.5	12.5
11	7.0	7.0	9.5	9.0	11.5	11.5	12.0	12.0	14.0	14.0	12.5	12.5
12	7.5	7.0	10.0	9.5	11.5	11.0	12.5	12.0	14.0	13.5	12.5	12.5
13	7.5	7.5	9.5	9.5	11.0	11.0	12.5	12.5	13.0	12.5	13.0	12.5
14	8.0	7.5	9.5	9.5	11.0	11.0	12.5	12.5	12.5	12.5	13.0	13.0
15	8.0	8.0	9.5	9.5	11.0	11.0	13.0	12.5	12.5	12.5	13.0	13.0
16	8.0	8.0	9.5	9.5	11.5	11.0	13.0	13.0	12.5	12.5	13.0	12.5
17	8.0	8.0	9.5	9.5	11.5	11.5	13.5	13.0	12.5	12.5	13.0	13.0
18	8.0	7.5	9.5	9.5	11.5	11.5	13.5	13.5	12.5	12.0	13.0	13.0
19	8.0	7.5	10.0	9.5	12.0	11.5	13.5	13.5	12.0	12.0	13.0	13.0
20	8.0	8.0	10.0	10.0	12.0	12.0	13.5	13.5	13.0	12.5	13.0	13.0
21	8.0	8.0	10.0	10.0	12.0	12.0	13.5	13.5	13.0	12.5	13.0	12.5
22	8.5	8.0	10.0	10.0	12.0	12.0	14.0	13.5	13.0	13.0	13.0	12.5
23	9.0	8.5	10.5	10.0	12.0	12.0	14.0	14.0	13.0	13.0	13.0	13.0
24	9.0	9.0	10.5	10.0	12.0	12.0	14.0	14.0	13.0	13.0	13.0	13.0
25	9.5	9.0	10.0	10.0	12.0	11.5	14.0	14.0	13.0	13.0	12.5	12.5
26	9.5	9.5	10.0	9.5	11.5	11.5	14.0	14.0	13.5	13.0	12.5	12.5
27	9.5	9.0	9.5	9.5	11.5	11.5	14.0	14.0	13.5	13.5	12.5	12.5
28	9.0	8.5	9.5	9.5	11.5	11.5	14.0	14.0	13.5	13.5	12.5	12.5
29	8.5	8.5	9.5	9.5	11.5	11.5	14.0	13.5	13.5	13.5	12.5	12.5
30	8.5	8.5	10.0	9.5	11.5	11.5	13.5	13.0	13.5	13.5	12.5	12.5
31	---	---	10.0	10.0	---	---	13.0	13.0	13.5	13.5	---	---
MONTH	9.5	7.0	10.5	8.5	12.0	10.0	14.0	11.0	14.0	12.0	13.5	12.5
YEAR	14.0	5.0										

TURBIDITY (NTU), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	5.0	2.0	5.0	2.0	7.0	3.0	10	3.0	2.0	2.0	3.0	2.0
2	2.0	2.0	4.0	2.0	6.0	2.0	30	5.0	2.0	2.0	5.0	3.0
3	2.0	2.0	3.0	2.0	5.0	2.0	6.0	3.0	2.0	2.0	6.0	2.0
4	2.0	2.0	3.0	2.0	25	6.0	5.0	2.0	2.0	2.0	10	4.0
5	3.0	2.0	2.0	2.0	10	4.0	3.0	2.0	2.0	2.0	15	6.0
6	3.0	2.0	2.0	2.0	4.0	2.0	3.0	2.0	2.0	2.0	8.0	3.0
7	4.0	2.0	2.0	2.0	3.0	2.0	10	2.0	2.0	2.0	4.0	2.0
8	3.0	2.0	3.0	2.0	20	2.0	10	3.0	2.0	2.0	3.0	2.0
9	2.0	2.0	4.0	2.0	25	7.0	5.0	2.0	2.0	2.0	3.0	2.0
10	3.0	2.0	3.0	2.0	7.0	4.0	3.0	2.0	2.0	2.0	9.0	2.0
11	2.0	2.0	3.0	2.0	4.0	2.0	5.0	2.0	2.0	2.0	10	2.0
12	2.0	2.0	4.0	2.0	3.0	2.0	5.0	2.0	2.0	2.0	6.0	2.0
13	2.0	2.0	2.0	2.0	3.0	2.0	3.0	2.0	2.0	2.0	6.0	2.0
14	2.0	2.0	2.0	2.0	3.0	---	6.0	2.0	2.0	2.0	8.0	2.0
15	2.0	2.0	4.0	2.0	3.0	2.0	4.0	2.0	25	2.0	7.0	2.0
16	2.0	2.0	10	4.0	3.0	2.0	4.0	2.0	30	6.0	7.0	2.0
17	3.0	3.0	5.0	3.0	3.0	2.0	5.0	2.0	6.0	3.0	5.0	2.0
18	3.0	2.0	4.0	2.0	7.0	2.0	2.0	2.0	6.0	2.0	5.0	2.0
19	3.0	3.0	4.0	3.0	5.0	2.0	2.0	2.0	3.0	2.0	4.0	2.0
20	3.0	2.0	4.0	3.0	110	2.0	2.0	2.0	3.0	2.0	4.0	2.0
21	3.0	2.0	4.0	2.0	60	10	2.0	2.0	4.0	2.0	6.0	2.0
22	3.0	2.0	5.0	2.0	10	4.0	2.0	2.0	3.0	2.0	6.0	2.0
23	3.0	2.0	4.0	2.0	4.0	3.0	2.0	2.0	55	3.0	6.0	2.0
24	3.0	2.0	7.0	2.0	20	2.0	2.0	2.0	75	7.0	15	2.0
25	3.0	2.0	7.0	4.0	15	3.0	2.0	2.0	500	8.0	10	2.0
26	2.0	2.0	7.0	3.0	4.0	2.0	2.0	2.0	10	4.0	5.0	2.0
27	6.0	2.0	10	3.0	3.0	2.0	2.0	2.0	4.0	2.0	5.0	2.0
28	4.0	2.0	10	5.0	3.0	2.0	2.0	2.0	3.0	2.0	5.0	2.0
29	4.0	2.0	10	4.0	3.0	2.0	2.0	2.0	---	---	6.0	2.0
30	5.0	2.0	5.0	3.0	4.0	2.0	---	---	---	---	2.0	2.0
31	7.0	2.0	---	---	5.0	2.0	---	---	---	---	15	2.0
MONTH	7.0	2.0	10	2.0	110	2.0	30	2.0	500	2.0	15	2.0

[illegible]

MONONGAHELA RIVER BASIN

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03068800 SHAVERS FORK BELOW BOWDEN, WV

LOCATION---Lat 38°54'47", long 79°46'14", Randolph County, Hydrologic Unit 05020004, on upstream side of right pier, on U.S. Highway 33 bridge, 3.0 mi (4.8 km) west of Bowden, and at mile 26.4 (42.5 km).

DRAINAGE AREA--151 mi² (391 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD--August 1973 to current year. Once daily wire-weight gage readings at same site November 1971 to August 1973 are contained in files of Bowden National Fish Hatchery.

GAGE--Water-stage recorder. Altitude of gage is 2,120 ft (646 m), from topographic map.

REMARKS--Water-discharge records good except those for Dec. 26 to Feb. 22, which are poor.

AVERAGE DISCHARGE--6 years, 438 ft³/s (12.40 m³/s), 39.39 in/yr (1000 mm/yr).

EXTREMES FOR PERIOD OF RECORD--Maximum discharge, 17,300 ft³/s (490 m³/s) Dec. 26, 1973, gage height, 11.47 ft (3.496 m), from floodmark, from rating curve extended above 4,100 ft³/s (120 m³/s); minimum, 18 ft³/s (0.51 m³/s) Sept. 9, 1976, gage height, 3.74 ft (1.140 m).

EXTREMES FOR CURRENT YEAR--Peak discharges above base of 3,600 ft³/s (100 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	1445	4960 140	8.81 2.685	Jan. 21	0815	5140 146	8.90 2.713
Dec. 21	0730	5020 142	8.84 2.694	Feb. 24	2400	9140 259	10.24 3.121
Jan. 2	1230	4140 117	8.40 2.560	Mar. 5	0730	*9460 268	10.33 3.149

Minimum discharge, 23 ft³/s (0.65 m³/s) Oct. 3, 4, gage height, 3.84 ft (1.170 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	39	451	1300	160	616	500	313	368	97	451	225
2	24	36	321	2940	150	694	694	269	350	319	405	257
3	24	33	285	1300	140	872	1110	241	296	296	313	658
4	24	32	1830	600	150	1980	1240	297	823	234	245	358
5	30	31	1170	460	140	5510	894	680	490	540	200	249
6	34	28	640	380	135	2250	704	470	344	303	172	1290
7	34	28	440	500	130	1110	531	350	283	197	151	772
8	33	28	1890	1660	145	751	438	299	249	152	125	456
9	30	28	4060	700	140	610	517	259	229	124	154	345
10	29	30	1670	490	130	568	662	276	429	115	148	285
11	28	28	793	390	125	676	547	382	422	123	148	233
12	26	27	562	320	125	495	514	647	364	103	1140	193
13	25	26	425	300	120	415	432	861	251	87	765	166
14	26	27	320	528	120	522	412	840	197	108	381	172
15	28	31	260	420	370	622	371	511	166	150	293	253
16	53	99	249	350	2700	425	359	421	139	280	233	211
17	62	140	285	381	910	385	316	328	123	261	184	154
18	56	142	225	560	520	349	311	275	217	170	229	127
19	56	154	197	400	360	321	284	234	243	159	1260	122
20	50	110	824	410	310	358	252	205	146	129	1050	112
21	42	88	3640	3200	340	385	225	199	117	136	1310	148
22	38	78	1250	1810	520	333	204	181	128	256	652	1460
23	34	73	664	770	980	313	191	164	171	172	456	1460
24	33	197	539	640	3460	1000	209	659	211	340	367	718
25	34	293	1340	700	3540	1270	206	1670	156	303	381	478
26	36	175	680	470	2390	628	193	870	121	318	385	368
27	115	245	460	370	1050	451	1090	625	93	488	456	306
28	122	751	350	330	670	367	699	736	79	864	533	286
29	76	640	300	240	---	349	473	616	72	550	345	292
30	54	517	280	210	---	329	372	439	69	889	358	259
31	46	---	556	180	---	309	---	350	---	495	289	---
TOTAL	1331	4162	26956	23309	20030	25263	14950	14647	7346	8758	13579	12413
MEAN	42.9	139	870	752	715	815	498	472	245	283	438	414
MAX	122	751	4060	3200	3540	5510	1240	1670	823	889	1310	1460
MIN	24	26	197	180	120	309	191	164	69	87	125	112
CFSM	.28	.92	5.76	4.98	4.74	5.40	3.30	3.13	1.62	1.87	2.90	2.74
IN.	.33	1.03	6.64	5.74	4.93	6.22	3.68	3.61	1.81	2.16	3.35	3.06

CAL YR 1978 TOTAL 149271 MEAN 409 MAX 5900 MIN 24 CFSM 2.71 IN 36.77
WTR YR 1979 TOTAL 172744 MEAN 473 MAX 5510 MIN 24 CFSM 3.13 IN 42.56

MONONGAHELA RIVER BASIN

03068800 SHAVERS FORK BELOW BOWDEN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1975 to current year.

WATER TEMPERATURES: June 1975 to May 1979, June to September 1979 (partial record).

TURBIDITY: June 1975 to current year.

SUSPENDED SEDIMENT DISCHARGE: June 1975 to current year.

REMARKS.--Sediment samples taken twice daily and more frequently on rises.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 156 micromhos Mar. 31, 1976; minimum daily, 24 micromhos Mar. 5, 1979.

WATER TEMPERATURES (Water years 1975-78): Maximum daily, 26.0°C June 23, July 31, Aug. 26, 1975; minimum daily, 0.0°C Jan. 1, 8, 9, 11-13, 15, 23, 29, 30, and Feb. 9, 1977.

TURBIDITY: Maximum daily, 140 JTU Aug. 15, 1975; minimum daily, 1 JTU on many days.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 721 mg/L Mar. 13, 1977; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 16,300 tons (14,800 tonnes) Mar. 13, 1977; minimum daily, 0 tons (0 tonnes) on many days.

EXTREMES OUTSIDE PERIOD OF DAILY RECORD.--A specific conductance of 418 micromhos was observed Feb. 13, 1974. A water temperature of 25.0°C was observed Aug. 30, 31, 1973, Aug. 1, 1974. A turbidity of 45 JTU was observed Mar. 19, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 85 micromhos Aug. 27; minimum daily, 24 micromhos Mar. 5.

TURBIDITY: Maximum daily, 75 JTU Mar. 5; minimum daily, 1 JTU on many days.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 425 mg/L Mar. 5; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 7,390 tons (6,700 tonnes) Mar. 5; minimum daily, 0 tons (0 tonnes) on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)
OCT							
26...	0945	33	42	7.0	18.0	12.0	2.0
NOV							
29...	1540	500	57	6.8	4.0	5.0	4.5
DEC							
09...	0730	--	55	--	--	7.5	22
09...	1220	--	51	--	--	7.0	18
JAN							
04...	1620	582	51	6.4	-2.0	1.0	1.8
29...	1450	236	54	6.8	-4.0	1.0	.85
FEB							
28...	1525	621	34	6.7	11.0	4.0	--
28...	1540	621	34	6.7	--	4.0	1.7
APR							
04...	1310	1070	49	6.8	10.5	8.0	6.0
MAY							
01...	1105	338	53	6.2	13.0	1.0	1.2
29...	1430	--	51	7.0	--	14.5	1.8
30...	1130	449	52	7.0	25.0	12.5	--
JUL							
02...	1120	196	64	7.0	16.0	16.0	2.8
AUG							
08...	0930	122	74	7.0	27.0	22.0	1.9
27...	1515	492	70	7.0	22.5	20.0	--
SEP							
26...	1545	364	80	6.8	25.0	16.0	1.8

DATE	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	DATE	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT			MAY		
26...	3	.27	01...	0	.00
NOV			JUL		
29...	5	6.7	02...	6	3.2
JAN			AUG		
04...	0	.00	08...	3	.99
29...	3	1.9	SEP		
FEB			26...	0	.00
28...	7	12			
APR					
04...	9	23			

03068800 SHAVERS FORK BELOW BOWDEN, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	60	---	51	44	40	33	32	32	---	39	40	64
2	60	---	---	43	43	38	37	---	---	43	38	67
3	62	66	50	42	39	32	34	---	---	37	39	67
4	62	55	59	43	41	30	49	36	---	46	40	66
5	68	56	50	44	40	24	32	32	---	37	41	48
6	38	58	48	43	40	25	32	31	---	38	40	40
7	31	58	48	50	42	32	32	32	---	47	40	42
8	---	59	46	42	41	29	32	32	---	48	43	48
9	34	59	49	43	40	32	38	32	---	47	38	48
10	34	---	46	44	44	32	34	34	---	47	38	47
11	32	58	47	46	40	28	34	40	---	45	46	46
12	33	56	47	45	42	30	32	36	---	47	58	50
13	34	58	47	48	42	30	37	---	---	---	58	71
14	36	62	50	52	42	30	32	37	---	58	63	55
15	34	61	49	48	70	30	31	34	---	45	60	47
16	34	83	48	50	42	31	31	34	---	40	61	47
17	33	56	50	46	36	30	33	34	---	44	77	50
18	29	56	48	40	40	30	32	---	---	45	77	46
19	28	46	54	44	40	30	34	---	---	46	61	49
20	28	52	52	33	40	30	33	---	---	45	63	46
21	30	63	46	36	36	29	32	---	---	48	70	52
22	26	---	45	32	44	29	32	---	---	42	57	37
23	31	---	46	34	43	30	33	---	---	43	64	37
24	33	50	46	36	33	34	33	29	40	64	63	38
25	32	48	46	37	30	29	32	32	39	42	65	---
26	32	51	46	40	29	30	33	---	39	40	69	80
27	80	70	46	59	30	32	40	---	40	38	85	---
28	48	42	48	34	34	33	32	---	45	37	65	---
29	50	58	47	37	---	34	33	32	33	38	65	---
30	54	57	---	38	---	33	32	---	47	43	64	---
31	58	---	51	37	---	32	---	---	---	40	65	---
MEAN	41	58	48	42	40	31	34	33	40	44	57	52
WTR YR 1979	MEAN	44	MAX	85	MIN	24						

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	---	6.0	7.0	2.0	4.0	11.0	9.0	---	---	---	---
2	14.0	---	---	6.0	2.0	5.0	10.0	---	---	16.0	---	---
3	14.0	12.0	7.0	1.0	2.0	5.0	10.0	---	---	---	---	---
4	14.0	8.0	7.0	.0	1.0	6.0	8.0	12.0	---	---	---	---
5	13.0	11.0	7.0	.0	1.0	5.0	8.0	10.0	---	---	---	---
6	13.0	8.0	5.0	2.0	.0	5.0	6.0	10.0	---	---	---	---
7	12.0	9.0	5.0	4.0	1.0	5.0	6.0	12.0	---	---	---	---
8	---	8.0	9.0	2.0	1.0	5.0	11.0	14.0	---	---	22.0	---
9	9.0	7.0	7.0	1.0	1.0	5.0	10.0	15.0	---	---	---	---
10	9.0	---	---	1.0	1.0	6.0	10.0	17.0	---	---	---	---
11	9.0	8.0	2.0	2.0	1.0	4.0	5.0	12.0	---	---	---	---
12	11.0	9.0	3.0	2.0	1.0	1.0	10.0	15.0	---	---	---	---
13	12.0	9.0	3.0	3.0	1.0	2.0	11.0	---	---	---	---	---
14	12.0	10.0	3.0	3.0	1.0	4.0	11.0	13.0	---	---	---	---
15	9.0	10.0	2.0	1.0	---	3.0	10.0	12.0	---	---	---	---
16	8.0	11.0	3.0	2.0	3.0	3.0	7.0	12.0	---	---	---	---
17	8.0	10.0	4.0	3.0	1.0	2.0	5.0	11.0	---	---	---	---
18	7.0	11.0	2.0	3.0	1.0	4.0	5.0	---	---	---	---	---
19	9.0	8.0	2.0	2.0	---	5.0	6.0	---	---	---	---	17.0
20	8.0	9.0	4.0	3.0	1.0	7.0	7.0	---	---	---	---	---
21	7.0	9.0	4.0	3.0	2.0	6.0	15.0	---	---	---	---	---
22	11.0	---	4.0	3.0	2.0	6.0	13.0	---	---	---	---	---
23	9.0	---	4.0	2.0	4.0	8.0	13.0	---	---	---	---	---
24	9.0	7.0	4.0	4.0	4.0	9.0	12.0	---	---	---	---	---
25	9.0	6.0	3.0	2.0	4.0	5.0	13.0	12.5	---	---	---	---
26	11.0	7.0	2.0	1.0	4.0	2.0	13.0	---	---	---	---	16.0
27	11.0	6.0	2.0	1.0	4.0	3.0	14.0	---	---	---	20.0	---
28	7.0	4.0	1.0	2.0	2.0	2.0	8.0	---	---	---	---	---
29	8.0	4.0	1.0	1.0	---	5.0	8.0	14.5	---	---	---	---
30	8.0	6.0	---	1.0	---	9.0	8.0	---	---	---	---	---
31	10.0	---	---	1.0	---	11.0	---	---	---	---	---	---
MEAN	10.0	8.5	4.0	2.0	2.0	5.0	9.5	12.5		16.0	21.0	16.5
WTR YR 1979	MEAN	6.5	MAX	22.0	MIN	.0						

MONONGAHELA RIVER BASIN

03068800 SHAVERS FORK BELOW BOWDEN, WV--Continued

TURBIDITY (NTU), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1	---	2	3	1	1	4	1	---	5	5	4
2	1	---	---	15	2	1	7	---	---	3	2	2
3	20	2	6	2	1	3	8	---	---	4	6	2
4	10	1	20	2	1	3	6	1	---	20	2	3
5	3	1	4	1	1	75	4	5	---	9	1	1
6	2	1	2	1	1	9	4	2	---	4	2	20
7	1	1	3	1	1	2	3	1	---	1	1	3
8	---	1	10	5	1	2	3	1	---	3	2	3
9	2	1	15	1	1	1	8	1	---	2	1	4
10	2	---	4	1	1	1	10	1	---	2	1	1
11	2	2	2	1	1	1	5	2	---	2	1	1
12	2	1	1	1	1	1	5	20	---	2	15	2
13	2	1	1	1	1	1	4	---	---	---	4	1
14	2	2	1	2	1	1	3	9	---	3	2	10
15	2	1	1	1	2	5	4	2	---	2	1	3
16	1	5	1	2	25	1	4	2	---	4	2	5
17	---	3	1	1	2	1	4	1	---	3	9	2
18	---	3	1	1	1	1	3	---	---	2	9	1
19	---	3	2	1	1	1	6	---	---	4	35	1
20	---	3	1	1	2	1	1	---	---	2	30	1
21	---	2	9	20	1	2	1	---	---	2	25	2
22	---	---	3	4	2	1	2	---	---	3	4	2
23	---	---	2	1	5	4	1	---	---	9	2	2
24	---	5	2	1	35	4	1	10	4	10	3	2
25	1	5	5	1	6	10	1	20	1	20	2	---
26	1	4	3	1	5	4	1	---	1	5	4	2
27	2	5	2	1	2	4	4	---	2	7	8	---
28	2	20	2	1	1	4	3	---	1	9	2	---
29	2	7	1	1	---	4	2	2	---	8	3	---
30	3	4	---	1	---	4	2	---	1	6	3	---
31	3	---	2	1	---	3	---	---	---	7	4	---
MEAN	3	3	4	2	4	5	4	5	2	5	6	3
WTR YR 1979	MEAN		4	MAX	75	MIN	1					

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	3	.20	5	.53	1	1.2	20	70	9	3.9	8	13
2	2	.13	5	.49	0	.00	99	892	8	3.2	7	13
3	20	1.3	5	.45	5	3.8	10	35	8	3.0	12	28
4	16	1.2	4	.35	92	553	0	.00	3	1.2	94	730
5	5	.41	4	.33	17	54	2	2.5	2	.76	425	7390
6	1	.09	5	.38	8	14	3	3.1	2	.73	45	273
7	0	.00	4	.30	2	2.4	22	30	10	3.5	8	24
8	0	.00	4	.30	108	953	45	202	5	2.0	5	10
9	0	.00	3	.23	72	790	4	7.6	8	3.0	3	4.9
10	0	.00	4	.32	0	.00	1	1.3	2	.70	4	6.1
11	0	.00	4	.30	0	.00	1	1.1	3	1.0	4	7.3
12	0	.00	4	.29	0	.00	1	.86	4	1.4	1	1.3
13	0	.00	3	.21	0	.00	2	1.6	5	1.6	2	2.2
14	0	.00	5	.36	0	.00	15	21	4	1.3	5	7.0
15	0	.00	7	.59	0	.00	2	2.3	7	7.0	6	10
16	3	.43	10	2.7	0	.00	7	6.6	66	481	4	4.6
17	1	.17	14	5.6	17	13	0	.00	8	20	4	4.2
18	1	.15	15	5.8	16	9.7	4	6.0	3	4.2	4	3.8
19	4	.60	7	2.9	15	8.0	2	2.2	3	2.9	3	2.6
20	3	.41	13	3.9	62	239	6	6.6	10	8.4	3	2.9
21	5	.57	13	3.1	116	1260	160	1430	12	11	4	4.2
22	7	.72	3	.63	34	115	10	49	15	21	3	2.7
23	4	.37	2	.39	17	30	4	8.3	40	133	1	.85
24	3	.27	11	6.4	10	15	4	6.9	160	1880	113	502
25	5	.46	12	9.5	35	127	4	7.6	95	1090	20	69
26	3	.29	13	6.1	10	18	0	.00	40	258	3	5.1
27	16	5.7	18	12	20	25	2	2.0	10	28	1	1.2
28	6	2.0	70	140	15	14	7	6.2	8	14	1	.99
29	6	1.2	10	17	5	4.1	17	11	---	---	5	4.7
30	7	1.0	8	11	2	1.5	15	8.5	---	---	2	1.8
31	6	.75	---	---	11	17	13	6.3	---	---	1	.83
TOTAL	---	18.42	---	232.45	---	4267.70	---	2827.56	---	3985.79	---	9131.27

MONONGAHELA RIVER BASIN

03068900 SHAVERS FORK NEAR ELKINS, WV

LOCATION.--Lat 38°57'58", long 79°46'02", Randolph County, Hydrologic Unit 05020004, at highway bridge, 0.6 mi (1.0 km) downstream from Johns Run, 5.2 mi (8.4 km) northeast of Elkins, and at mile 19.3 (31.1 km).

DRAINAGE AREA.--161 mi² (417 km²).

PERIOD OF RECORD.--Water years 1973 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)
OCT 26...	1545	33	59	7.0	13.0	1.0
NOV 28...	1345	1070	45	6.8	6.0	20
DEC 09...	0815	4350	50	--	7.5	21
DEC 09...	1315	4480	110	--	7.0	13
JAN 04...	1700	690	52	6.6	1.0	1.6
JAN 30...	1340	242	52	7.0	1.0	1.0
FEB 27...	1645	1090	38	6.4	2.0	1.5
APR 03...	1300	970	56	7.0	11.0	4.0
MAY 01...	1315	391	56	7.0	13.0	1.2
MAY 29...	1245	712	54	7.0	14.5	2.6
JUN 15...	0730	218	<50	7.0	16.0	--
JUL 02...	1330	207	71	7.0	17.0	3.6
AUG 07...	1150	154	44	7.0	23.0	4.4
AUG 27...	1410	415	60	7.0	20.0	2.5
AUG 29...	0930	358	55	7.0	19.5	5.0
SEP 19...	1430	121	80	7.3	19.5	1.3
SEP 22...	1800	1170	<50	6.3	15.0	--

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)
JUN 15...	15	3	4.6	.9	.7	9	.1	1.2	.5	12	2.3
SEP 22...	14	9	4.2	.8	.6	8	.1	1.3	.7	5	4.9

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN 15...	6.6	.8	.0	3.3	36	25	.03	14.7	70	40	9
SEP 22...	6.9	1.3	.0	3.2	40	21	.03	66.3	290	230	60

DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 26...	0	.00	MAY 01...	4	4.2
NOV 28...	90	260	MAY 29...	12	23
DEC 09...	129	1520	JUL 02...	10	5.6
DEC 09...	117	1420	AUG 07...	3	1.2
JAN 04...	0	.00	AUG 27...	15	17
JAN 30...	5	3.3	AUG 29...	8	7.7
FEB 27...	7	21	SEP 19...	2	.65
APR 03...	24	63			

03069000 SHAVERS FORK AT PARSONS, WV

LOCATION.--Lat 39°05'45", long 79°40'40", Tucker County, Hydrologic Unit 05020004, on right bank at Parsons, 0.7 mi (1.1 km) upstream from confluence with Black Fork.

DRAINAGE AREA.--214 mi² (554 km²).

PERIOD OF RECORD.--October 1910 to September 1926, October 1940 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 583: 1922. WSP 923: Drainage area. WSP 1335: 1911-12, 1915-17, 1918(M), 1921-22(M), 1926(M). WSP 1705: 1955.

GAGE.--Water-stage recorder. Datum of gage is 1,634.87 ft (498.308 m) National Geodetic Vertical Datum of 1929. (3.761 m), from rating curve extended above 11,000 ft³/s (320 m³/s) on basis of slope-conveyance study; Prior to Aug. 25, 1923, nonrecording gage on old highway bridge 800 ft (244 m) downstream and Aug. 25, 1923, to Sept. 30, 1926, nonrecording gage on railroad bridge 760 ft (232 m) downstream at datum 3.0 ft (0.9 m) lower. Oct. 4, 1940, to Apr. 4, 1942, nonrecording gage at present site and datum.

REMARKS.--Records good except those for February, which are poor.

AVERAGE DISCHARGE.--55 years, 550 ft³/s (15.58 m³/s), 34.90 in/yr (886 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,000 ft³/s (453 m³/s) Oct. 16, 1954, gage height, 12.34 ft (3.761 m), from rating curve extended above 11,000 ft³/s (320 m³/s) on basis of slope-conveyance study; minimum daily discharge 3.0 ft³/s (0.085 m³/s) Oct. 7, 1914.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, and July 17, 1907, reached a stage of approximately 12.5 ft (3.8 m) at site and datum of former gage, discharge, 25,000 ft³/s (710 m³/s), from rating curve extended above 8,000 ft³/s (230 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,300 ft³/s (150 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	1400	6020	170	6.95	2.118	Feb. 25	0415	*8650	245	8.47	2.582
Dec. 21	1000	6760	191	7.39	2.252	Mar. 5	1315	8340	236	8.30	2.530
Jan. 21	1245	5960	169	6.90	2.103						

Minimum discharge, 34 ft³/s (0.96 m³/s) Oct. 2, 3, 4, 11, 13, gage height, 0.47 ft (0.143 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	71	600	1530	210	892	521	442	420	137	521	279
2	34	63	430	3730	200	1090	1030	368	465	231	560	238
3	34	58	390	1980	195	1240	1150	334	373	465	403	1180
4	38	57	2300	937	190	1710	1790	363	820	353	307	606
5	44	54	1720	666	190	5620	1250	764	687	729	252	358
6	39	51	896	560	186	2900	1040	729	453	496	217	1290
7	44	49	594	680	183	1470	764	521	363	303	195	1180
8	49	52	1920	2520	180	982	612	420	325	231	171	638
9	48	48	5520	1230	174	778	687	358	291	192	160	447
10	41	48	2470	690	168	687	1050	316	383	171	189	348
11	38	48	1120	530	163	848	907	425	599	171	174	291
12	37	48	790	459	165	701	778	599	490	163	802	245
13	35	46	552	431	163	567	638	1140	339	137	1090	211
14	39	45	452	820	160	599	560	1270	267	160	509	205
15	41	58	366	813	409	813	496	771	224	201	368	263
16	42	144	323	534	3150	599	472	606	195	425	291	267
17	79	219	344	586	1800	528	425	472	171	383	238	201
18	81	222	331	930	760	478	403	378	231	299	256	163
19	71	195	284	645	500	436	383	325	291	224	1120	149
20	71	177	968	606	440	425	343	283	217	208	1510	142
21	63	135	5170	4620	450	484	307	263	168	224	1450	168
22	55	111	2020	2930	915	420	283	249	165	279	877	1390
23	52	102	990	1230	2090	383	271	231	198	259	580	1540
24	49	147	729	860	4670	694	263	771	252	271	442	975
25	45	335	1920	1020	5170	1670	291	2660	227	442	388	580
26	51	256	1140	660	3150	862	267	1480	177	348	484	425
27	109	496	743	530	1540	612	1030	937	140	398	547	343
28	201	928	515	510	960	490	1140	960	117	952	736	312
29	137	856	398	398	---	436	715	885	121	599	459	316
30	98	588	373	280	---	409	547	632	144	975	393	299
31	81	---	606	240	---	378	---	478	---	645	358	---
TOTAL	1883	5707	36914	34155	28531	30201	20413	20430	9313	11071	16047	15049
MEAN	60.7	190	1191	1102	1019	974	680	659	310	357	518	502
MAX	201	928	5520	4620	5170	5620	1790	2660	820	975	1510	1540
MIN	34	45	284	240	160	378	263	231	117	137	160	142
CFSM	.28	.89	5.57	5.15	4.76	4.55	3.18	3.08	1.45	1.67	2.42	2.35
IN.	.33	.99	6.42	5.94	4.96	5.25	3.55	3.55	1.62	1.92	2.79	2.62

CAL YR 1978 TOTAL 193160 MEAN 529 MAX 6810 MIN 34 CFSM 2.47 IN 33.58
WTR YR 1979 TOTAL 229714 MEAN 629 MAX 5620 MIN 34 CFSM 2.94 IN 39.93

MONONGAHELA RIVER BASIN

03069500 CHEAT RIVER NEAR PARSONS, WV

LOCATION.--Lat 39°07'20", long 79°40'50", Tucker County, Hydrologic Unit 05020004, on left bank 2.0 mi (3.2 km) north of Parsons, 3.0 mi (4.8 km) downstream from confluence of Black and Shavers Forks, and at mile 74.8 (120.4 km).

DRAINAGE AREA.--718 mi² (1,860 km²).

PERIOD OF RECORD.--January 1913 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 893: Drainage area. WSP 1305: 1917(M), 1924(M), 1932(M), 1936(M), 1938-39(M). WSP 1335: 1916. WSP 1385: 1918-19(M).

GAGE.--Water-stage recorder. Datum of gage is 1,589.66 ft (484.528 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Aug. 17, 1944, nonrecording gage on Moss Bridge about 1,600 ft (488 m) upstream at datum 1.13 ft (0.344 m) higher.

REMARKS.--Records good except those for February, which are poor. Monongahela Power Company gage-height telemeter at station.

AVERAGE DISCHARGE.--66 years, 1,685 ft³/s (47.72 m³/s), 31.87 in/yr (809 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,100 ft³/s (1,480 m³/s) Oct. 15, 1954, gage height, 19.08 ft (5.816 m), from rating curve extended above 26,000 ft³/s (740 m³/s) on basis of slope-area measurement of peak flow; minimum observed, 9 ft³/s (0.25 m³/s) Aug. 12, 1930, gage height, 1.28 ft (0.390 m), site and datum then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, reached a stage of 20.5 ft (6.25 m), discharge, 51,300 ft³/s (1,450 m³/s), from floodmarks, at site and datum in use prior to Aug. 17, 1944; it was not exceeded until flood of Oct. 15, 1954, which reached a stage 0.3 ft (0.09 m) higher at that site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 16,000 ft³/s (450 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	1300	17200	487	10.06	3.066	Feb. 16	0800	19700	558	10.67	3.252
Dec. 21	0900	*25900	733	12.08	3.682	Feb. 24	2300	25200	714	11.94	3.639
Jan. 21	0600	17800	504	10.21	3.112	Mar. 5	1300	17000	481	10.01	3.051

Minimum discharge, 86 ft³/s (2.44 m³/s) Oct. 3, 4, gage height, 1.94 ft (0.591 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	93	177	1650	5310	700	3180	1940	1390	1620	464	919	655
2	91	145	1180	10700	650	3930	4010	1140	1450	677	1540	531
3	88	134	1050	6530	614	5110	3970	1000	1210	1050	1040	3740
4	95	126	8000	3200	660	7470	4940	1330	2430	1190	708	2100
5	111	121	5880	2220	540	14000	4530	2130	1970	2730	524	1150
6	104	116	2900	1830	460	8660	3620	1890	1420	1390	424	9700
7	101	113	1880	2130	490	4850	2680	1430	1130	797	362	5790
8	106	118	5570	7230	440	3420	2200	1180	1120	550	319	2950
9	116	116	15600	3700	400	2760	2370	1010	1040	435	328	1850
10	109	111	8310	2430	380	2460	3180	892	1160	387	338	1320
11	99	109	3830	1770	370	2900	2960	1440	1320	414	403	1010
12	93	109	2430	1450	360	2270	2640	2430	1070	377	2370	806
13	91	111	1790	1360	350	1970	2170	4490	788	305	2950	662
14	95	113	1410	2550	340	2310	1940	3600	625	447	1280	662
15	101	145	1110	2340	800	2670	1790	2370	531	662	964	1170
16	113	720	994	1700	13400	2010	1760	1960	452	1160	724	874
17	171	908	1240	2060	6530	1860	1630	1500	403	848	531	604
18	198	818	1010	3600	2600	1750	1710	1180	618	597	716	476
19	168	572	924	2270	1800	1590	1500	993	748	424	4420	447
20	153	446	4000	2220	1500	1500	1270	856	499	377	4650	441
21	136	344	19600	15500	1770	1460	1110	772	372	398	3560	506
22	118	296	7700	9240	3810	1280	983	740	724	618	2310	4700
23	111	269	3720	4220	6850	1180	1070	655	625	618	1570	4940
24	106	416	2550	2980	17600	2100	1030	2530	910	550	1170	3420
25	106	783	6990	3130	18200	4870	955	8060	780	865	974	2080
26	113	566	3950	2220	10600	2950	901	5020	524	772	1160	1460
27	596	1190	2580	1810	5500	2160	2790	3510	377	865	1510	1130
28	464	3830	1750	1620	3600	1750	3030	3350	301	1670	1790	1010
29	304	2740	1360	1240	---	1530	2150	2880	287	1130	1230	1070
30	224	1900	1250	949	---	1340	1710	2150	338	1810	1030	946
31	192	---	2250	800	---	1210	---	1680	---	1190	874	---
TOTAL	4766	17662	124458	110309	101314	98500	68539	65558	26842	25767	42688	58200
MEAN	154	589	4015	3558	3618	3177	2285	2115	895	831	1377	1940
MAX	596	3830	19600	15500	18200	14000	4940	8060	2430	2730	4650	9700
MIN	88	109	924	800	340	1180	901	655	287	305	319	441
CFSM	.21	.82	5.59	4.96	5.04	4.43	3.18	2.95	1.25	1.16	1.92	2.70
IN.	.25	.92	6.45	5.72	5.25	5.10	3.55	3.40	1.39	1.34	2.21	3.02

CAL YR 1978 TOTAL 649728 MEAN 1780 MAX 19600 MIN 88 CFSM 2.48 IN 33.66
WTR YR 1979 TOTAL 744603 MEAN 2040 MAX 19600 MIN 88 CFSM 2.84 IN 38.58

03070000 CHEAT RIVER AT ROWLESBURG, WV

LOCATION.--Lat 39°20'50", long 79°40'00", Preston County, Hydrologic Unit 05020004, on left bank 50 ft (15 m) downstream from Baltimore & Ohio Railroad bridge at Rowlesburg, 300 ft (91 m) upstream from Saltlick Creek, and at mile 44.1 (71.0 km). Records include flow of Saltlick Creek.

DRAINAGE AREA.--972 mi² (2,517 km²), including that of Saltlick Creek.

PERIOD OF RECORD.--July 1912 to September 1923 (gage heights only), October 1923 to current year. Gage-height records collected at practically the same site since 1884 are contained in reports of National Weather Service. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 803: Drainage area. WSP 893: 1936-37. WSP 1173: 1924-34(M,m). WSP 1725: 1924(M), 1930(M), 1932(M), 1936(M), 1938-39(M), 1944(M), 1948-49(M).

GAGE.--Water-stage recorder. Datum of gage is 1,369.8 ft (417.52 m) Baltimore & Ohio RR datum. Prior to Nov. 18, 1923, nonrecording gages at several sites within 500 ft (152 m) of present site at various datums.

REMARKS.--Records good except those below 500 ft³/s (14.2 m³/s), which are fair, and those for February, which are poor.

AVERAGE DISCHARGE.--56 years, 2,268 ft³/s (64.23 m³/s), 31.69 in/yr (805 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 66,300 ft³/s (1,880 m³/s) Oct. 16, 1954, gage height, 15.67 ft (4.776 m), from rating curve extended above 42,000 ft³/s (1,200 m³/s); minimum, 10 ft³/s (0.28 m³/s) Oct. 15, 1930; minimum gage height observed, 0.50 ft (0.152 m) Oct. 3, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 6, 1844, reached a stage of 16.7 ft (5.09 m), referred to present gage by relation curve, discharge, 89,000 ft³/s (2,520 m³/s), from rating curve extended above 45,000 ft³/s (1,300 m³/s). Flood of July 10, 1888, reached a stage of 16.2 ft (4.94 m), referred to present gage by relation curve, discharge, 84,000 ft³/s (2,380 m³/s), from rating curve extended above 45,000 ft³/s (1,300 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 20,000 ft³/s (570 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	1300	26800 759	9.55 2.911	Feb. 16	1400	22200 629	8.74 2.664
Dec. 21	1400	35600 1010	10.94 3.335	Feb. 25	0200	*36800 1040	11.11 3.386
Jan. 21	1000	26800 759	9.56 2.914	Mar. 5	1700	20300 575	8.75 2.667

Minimum discharge, 122 ft³/s (3.46 m³/s) Oct. 2, 3, 4, gage height, 0.69 ft (0.210 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	324	2680	6580	1100	4420	2000	2130	2020	443	1120	1030
2	125	284	2070	13800	940	5600	5790	1760	1880	586	1410	818
3	122	255	1800	10400	840	7660	5100	1530	1560	1030	1440	2540
4	125	220	12300	5060	890	10400	6690	1730	2150	1110	979	3000
5	133	206	9640	3000	700	18900	5780	2780	2590	3010	718	1720
6	141	196	4760	2500	620	12400	4910	3130	1820	2180	554	8150
7	137	188	3060	2730	650	6880	3720	2330	1450	1250	462	7890
8	137	183	7040	10500	590	4680	2980	1890	1320	845	399	4090
9	133	183	24000	6390	540	3660	3060	1580	1240	625	398	2530
10	141	183	12800	3920	500	3140	4810	1440	1210	537	504	1840
11	137	174	5880	2500	490	3840	4560	1880	1610	499	735	1410
12	125	165	3810	2100	480	3320	3910	3380	1380	509	1360	1120
13	125	161	2850	1900	470	2750	3150	5560	1090	431	4270	910
14	137	161	2300	3730	460	2790	2640	5140	814	422	2110	811
15	153	220	1830	2900	1100	3660	2380	3480	663	702	1430	1160
16	161	1710	1600	2400	17700	2910	2300	2670	557	937	1150	1240
17	210	2330	1660	2870	10200	2600	2210	2150	487	1150	853	872
18	255	2130	1740	5000	3500	2390	2220	1720	505	879	752	654
19	272	1440	1500	3400	2400	2210	2110	1430	811	599	2810	577
20	235	1040	2990	3190	2000	2030	1830	1230	702	477	6130	540
21	230	792	28900	19100	2570	1920	1600	1090	483	427	4040	653
22	188	629	12700	14400	5680	1750	1440	1020	478	498	3130	4490
23	183	540	5800	6560	10100	1590	1950	937	829	754	2130	5450
24	165	552	3800	4420	22000	1700	1930	2160	730	665	1640	4660
25	153	937	8470	4290	28400	5350	1680	11600	1020	942	1670	2810
26	178	1060	6460	3370	15700	4010	1470	8030	699	850	1610	2000
27	1210	1840	4150	2500	8170	2930	3060	5100	490	973	2140	1540
28	1230	7410	2500	2200	5060	2350	5170	4340	386	1450	2590	1460
29	760	5300	2000	1800	---	2010	3380	3930	352	1590	2000	1710
30	501	3210	1700	1500	---	1810	2630	2970	412	1710	1530	1610
31	374	---	2380	1200	---	1650	---	2280	---	1760	1320	---
TOTAL	8309	34023	185170	156210	143850	133310	96460	92397	31738	29840	53384	69285
MEAN	268	1134	5973	5039	5138	4300	3215	2981	1058	963	1722	2310
MAX	1230	7410	28900	19100	28400	18900	6690	11600	2590	3010	6130	8150
MIN	122	161	1500	1200	460	1590	1440	937	352	422	398	540
CFSM	.28	1.17	6.15	5.18	5.29	4.42	3.31	3.07	1.09	.99	1.77	2.38
IN.	.32	1.30	7.09	5.98	5.51	5.10	3.69	3.54	1.21	1.14	2.04	2.65

CAL YR 1978 TOTAL 930668 MEAN 2550 MAX 28900 MIN 122 CFSM 2.62 IN 35.62
WTR YR 1979 TOTAL 1033976 MEAN 2833 MAX 28900 MIN 122 CFSM 2.92 IN 39.57

MONONGAHELA RIVER BASIN

03070500 BIG SANDY CREEK AT ROCKVILLE, WV

LOCATION.--Lat 39°37'15", long 79°42'20", Preston County, Hydrologic Unit 05020004, on right bank just downstream from highway bridge at Rockville, and at mile 5.0 (8.0 km).

DRAINAGE AREA.--200 mi² (518 km²).

PERIOD OF RECORD.--May 1909 to March 1918, April 1921 to current year.

REVISED RECORDS.--WSP 583: 1912(M), 1922-23. WSP 643: Drainage area. WSP 923: 1939. WSP 1173: 1930-34(M,m). WSP 1335: 1910-18, 1921, 1922-24(M), 1928(M), 1930-43(M).

GAGE.--Water-stage recorder. Altitude of gage is 1,310 ft (399 m), from topographic map. Prior to Oct. 4, 1924, nonrecording gages at highway bridge at same datum.

REMARKS.--Records good except those for January and February, which are fair.

AVERAGE DISCHARGE.--66 years (water years 1910-17, 1922-79), 423 ft³/s (11.98 m³/s), 28.72 in/yr (729 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 21,300 ft³/s (603 m³/s) July 24, 1912, gage height, 18.0 ft (5.49 m), from rating curve extended above 10,000 ft³/s (280 m³/s) on basis of velocity-area studies; minimum, 0.1 ft³/s (0.003 m³/s) Oct. 21-27, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, reached a stage of about 20 ft (6.1 m), discharge, about 30,000 ft³/s (850 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,800 ft³/s (140 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	1100	5460 155	10.81 3.295	Mar. 5	0700	*7220 204	11.80 3.597
Dec. 9	1000	5650 160	10.93 3.331	Aug. 27	0700	5020 142	10.53 3.210
Feb. 26	0300	6490 184	11.41 3.478				

Minimum discharge, 15 ft³/s (0.42 m³/s) July 23, gage height, 3.32 ft (1.012 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	181	590	1880	200	1010	714	326	450	44	99	242
2	26	151	462	3440	190	1230	1120	281	350	93	71	191
3	27	129	798	1660	180	1740	1060	311	290	67	55	215
4	34	115	4150	939	215	3850	744	726	260	159	44	173
5	38	111	1910	600	177	6090	590	1100	215	207	36	123
6	35	97	953	510	159	2860	474	750	181	82	30	1170
7	30	89	630	778	181	1620	366	558	153	52	27	702
8	32	91	2580	1820	187	1200	326	442	163	38	27	442
9	30	82	4850	900	161	953	578	344	149	31	52	299
10	26	74	2150	630	135	946	1010	290	147	33	56	225
11	23	68	1120	500	130	1120	1040	293	143	34	126	177
12	23	65	764	430	125	744	792	542	118	30	382	141
13	23	66	600	400	120	574	620	834	93	27	320	114
14	56	64	502	696	120	586	518	546	79	24	173	132
15	91	123	390	540	150	546	490	418	67	27	151	165
16	70	834	332	450	1320	442	546	341	60	51	103	108
17	130	680	366	605	946	414	558	272	59	65	78	85
18	92	670	317	792	615	378	494	231	64	33	120	71
19	67	518	299	538	470	341	422	203	55	25	173	74
20	61	394	474	680	400	314	347	177	45	21	112	66
21	53	317	3220	1940	510	284	299	173	41	19	94	344
22	46	263	1400	1180	1810	255	263	175	43	18	85	1460
23	41	235	827	750	2630	237	235	139	39	23	86	1020
24	44	354	660	640	4290	255	209	1140	33	28	179	566
25	44	323	1460	615	4740	390	191	2790	31	41	252	386
26	169	272	925	498	4820	317	195	1540	29	44	338	281
27	1810	438	655	450	1980	275	474	1390	25	52	3300	217
28	675	2020	470	390	1170	242	502	2100	24	57	869	426
29	406	1340	366	335	---	229	458	1110	40	350	590	1020
30	278	834	340	260	---	211	390	696	34	410	510	680
31	215	---	650	220	---	242	---	510	---	171	317	---
TOTAL	4720	10998	35150	26066	28131	29895	16025	20748	3480	2356	8855	11315
MEAN	152	367	1134	841	1005	964	534	669	116	76.0	286	377
MAX	1810	2020	4850	3440	4820	6090	1120	2790	450	410	3300	1460
MIN	23	64	299	220	120	211	191	139	24	18	27	66
CFSM	.76	1.84	5.67	4.21	5.03	4.82	2.67	3.35	.58	.38	1.43	1.89
IN.	.88	2.05	6.54	4.85	5.23	5.56	2.98	3.86	.65	.44	1.65	2.10
CAL YR 1978	TOTAL	193146	MEAN 529	MAX 5450	MIN 23	CFSM 2.65	IN 35.92					
WTR YR 1979	TOTAL	197739	MEAN 542	MAX 6090	MIN 18	CFSM 2.71	IN 36.78					

MONONGAHELA RIVER BASIN

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03071600 CHEAT RIVER AT LAKE LYNN, PA

LOCATION.--Lat 39°43'15", long 79°51'20", Fayette County, Hydrologic Unit 05020004, at the Lake Lynn hydro-electric plant of the West Penn Power Company at Lake Lynn, 3.0 mi (4.8 km) upstream from mouth.

DRAINAGE AREA.--1,411 mi² (3,654 km²).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1948 to September 1957, October 1958 to current year (partial record).

COOPERATION.--Records were furnished by the West Penn Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES (Water years 1949-57): Maximum 29.5°C July 30, 1949, July 28, 1952, and Aug. 6, 1955; minimum, 0.5°C several days during 1951, 1952, 1954, 1955, 1957.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	10.0	8.5	---	.5	2.0	10.0	15.5	19.5	---	29.0	---
2	23.0	10.0	---	3.0	.5	2.0	10.0	16.5	---	23.5	29.0	---
3	22.0	11.0	---	3.0	---	---	10.0	14.5	---	24.0	28.5	---
4	22.0	---	6.5	5.0	---	---	10.0	13.5	20.0	---	---	---
5	22.0	---	7.0	4.5	.0	5.5	10.0	---	20.5	22.0	---	25.5
6	21.0	11.0	8.5	---	.0	5.5	10.0	---	21.5	22.0	28.0	24.5
7	---	10.0	8.5	---	.0	5.5	---	19.0	23.0	---	28.5	24.5
8	---	10.0	9.0	1.0	.0	5.5	---	20.0	23.5	---	29.0	---
9	20.5	10.0	---	.5	.0	6.5	9.0	22.0	---	24.0	29.0	---
10	21.0	---	---	.5	---	---	8.0	21.0	---	24.5	29.0	23.5
11	21.0	---	6.5	.5	---	---	8.0	21.0	23.0	---	---	23.0
12	20.5	---	6.5	.5	.0	3.5	8.0	---	23.0	---	---	23.0
13	---	12.0	6.0	---	.0	5.5	---	---	23.5	---	26.5	23.0
14	---	12.0	5.5	---	.0	5.5	---	21.0	24.5	---	25.5	22.0
15	---	11.0	4.5	.5	.0	5.5	---	21.0	25.0	---	24.5	---
16	19.0	11.0	---	.5	.0	4.5	9.0	19.0	---	---	24.0	---
17	19.0	12.0	---	.5	---	---	9.0	20.0	---	---	24.0	25.0
18	19.0	---	3.5	.5	---	---	9.0	20.0	24.0	---	---	23.5
19	---	---	3.5	.5	---	4.5	10.0	---	24.5	26.5	---	22.0
20	16.5	12.0	3.5	---	.0	4.5	10.0	---	24.5	26.5	24.5	22.0
21	---	12.0	3.5	---	.5	5.5	---	20.0	24.5	---	24.0	22.0
22	---	12.0	3.5	1.5	.5	6.5	---	21.0	25.0	---	24.5	---
23	14.5	---	---	1.5	.5	7.0	14.5	20.0	---	29.0	24.5	---
24	13.5	12.0	---	3.0	---	---	16.5	19.5	---	29.0	25.5	21.0
25	13.5	---	---	3.0	---	---	16.5	19.5	23.5	28.0	---	20.0
26	13.0	---	4.5	2.0	2.0	5.5	15.5	---	24.5	28.0	---	21.0
27	13.0	11.0	4.0	---	3.5	5.5	14.5	---	24.5	26.0	25.0	22.0
28	---	10.0	3.5	---	3.5	9.0	---	---	24.5	---	26.5	21.0
29	---	9.5	3.5	1.0	---	10.0	---	18.0	24.5	---	26.5	---
30	10.0	9.0	---	1.0	---	9.0	14.5	18.5	---	28.0	25.5	---
31	10.0	---	---	1.0	---	---	---	19.0	---	29.0	25.5	---
MEAN	17.5	11.0	5.5	1.5	.5	5.5	11.0	19.0	23.5	26.0	26.5	22.5
WTR YR 1979	MEAN	14.0		MAX	29.0		MIN	.0				

OHIO RIVER MAIN STEM

03111534 OHIO RIVER AT MARTINS FERRY, OH
(Formerly published as 03112500 Ohio River at Wheeling, WV)

LOCATION.--Lat 40°06'18", long 80°42'31", Belmont County, Ohio, Hydrologic Unit 05030106, on right bank at water plant at Martins Ferry, Ohio, 300 ft (91 m) downstream from Old Lock 12, 0.9 mi (1.4 km) downstream from Glenss Run (Ohio), 3.0 mi (4.8 km) upstream from Wheeling Creek (Ohio), and at mile 87.5 (140.8 km), measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--24,700 mi² (64,000 km²), approximately.

PERIOD OF RECORD.--January to March 1844, January 1905 to December 1906 (gage heights only), December 1906 to February 1907, March to April 1913, February to April 1936, December 1936 to February 1937 (published as "at Wheeling"), October 1978 to current year. Monthly discharge for some periods published in WSP 1305. Gage-height records collected in this vicinity since 1882 are in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 610.80 ft (186.172 m) National Geodetic Vertical Datum of 1929. See WSP 1305 for history of gages prior to 1978. Auxiliary water-stage recorder 12.9 mi (20.8 km) downstream from base gage at same datum.

REMARKS.--Records good except those below 20,000 ft³/s (566 m³/s) which are poor. Flow regulated by Ohio River system of locks, dams, and reservoirs.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 466,000 ft³/s (13,200 m³/s) Mar. 19, 1936, gage height 55.2 ft (16.82 m); minimum not determined.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 31, 1942, reached a discharge of 418,000 ft³/s (11,800 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 256,000 ft³/s (7,250 m³/s) Feb. 26, gage height 36.61 ft (11.159 m); minimum, not determined; minimum gage height, 11.68 ft (3.560 m) June 19, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7000	18000	36000	93000	44700	127000	68600	35000	42300	11000	19000	27000
2	6600	19000	30200	184000	35200	135000	76600	31000	39500	13000	20000	23000
3	7900	16000	31600	208000	30200	135000	116000	29000	34000	16000	18300	20000
4	11000	16000	79000	136000	27600	145000	111000	32000	30000	17000	21800	22300
5	10000	15000	123000	110000	27900	180000	100000	38000	31000	22000	15800	24400
6	9000	14000	95900	106000	25000	228000	90500	44000	29000	21000	12000	26000
7	9900	14000	69400	99700	24600	203000	77400	34000	25000	17000	15000	29400
8	9400	14000	70400	100000	26800	167000	67200	35000	23000	13000	12000	34000
9	8300	14000	167000	105000	27100	152000	77100	31000	25200	11000	12000	34000
10	10000	14000	208000	94000	24700	138000	142000	30000	16500	11000	16000	32000
11	11000	13000	134000	85000	24500	135000	144000	27000	25200	12000	26000	26000
12	12000	12000	94600	76000	19200	126000	122000	32000	17800	10000	35000	20000
13	11000	12000	85200	64000	20200	111000	109000	57000	23900	13000	28000	17000
14	26200	13000	68600	66000	20100	102000	93800	64000	24800	12000	30000	20700
15	30100	12000	60100	86000	22000	98000	76300	55000	18200	16000	26200	22100
16	31500	14000	57500	77000	25000	97700	77900	47000	20200	13000	23100	48000
17	25000	29500	42100	63000	48000	79600	74100	39000	13800	16000	20800	46000
18	26900	23800	40300	64000	46300	67000	72200	34000	15000	19000	15000	39000
19	21400	23300	46000	56000	40000	56000	66000	34000	9050	13000	16000	34000
20	18000	20000	38500	50000	36000	54000	58000	29000	15100	11000	20000	32000
21	16000	21000	62500	79000	35000	58000	50000	27000	20900	9100	28000	31000
22	15000	20000	120000	95000	52000	52000	42000	23200	14000	11000	23700	35000
23	13000	20600	92200	75000	80000	49000	39000	22800	10600	8900	24000	46000
24	13000	18000	69000	66000	140000	38000	34000	23700	9100	10000	26000	32000
25	12000	22000	88600	89000	180000	45000	35000	64500	8000	13200	23700	29000
26	16000	22800	92700	87000	220000	70000	33000	111000	11000	14000	23600	29000
27	27500	25100	65300	76000	190000	77000	47000	93000	9700	16600	25900	23800
28	30800	40000	64800	71000	143000	62000	50000	86600	8900	15000	35700	31400
29	26300	53000	52500	66000	---	66000	45000	93500	10000	20500	38000	63500
30	23000	40000	52000	61000	---	70000	34000	71400	11000	26000	33000	41900
31	21000	---	45200	53000	---	71200	---	56100	---	24400	30000	---
TOTAL	515800	609100	2382200	2740700	1635100	3194500	2228700	1429800	591750	455700	713600	939500
MEAN	16640	20300	76850	88410	58400	103000	74290	46120	19730	14700	23020	31320
MAX	31500	53000	208000	208000	220000	228000	144000	111000	42300	26000	38000	63500
MIN	6600	12000	30200	50000	19200	38000	33000	22800	8000	8900	12000	17000

WTR YR 1979 TOTAL 17436450 MEAN 47770 MAX 228000 MIN 6600

WHEELING CREEK BASIN

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03112000 WHEELING CREEK AT ELM GROVE, WV

LOCATION.--Lat 40°02'40", long 80°39'40", Ohio County, Hydrologic Unit 05030106, on right bank at highway bridge at Elm Grove, 500 ft (152 m) downstream from Little Wheeling Creek, and at mile 7.7 (12.4 km).

DRAINAGE AREA.--282 mi² (730 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1940 to current year. Monthly discharge only for October 1940, published in WSP 1907.

REVISED RECORDS.--WSP 1305: 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 667.59 ft (203.481 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--39 years, 331 ft³/s (9.374 m³/s), 15.94 in/yr (405 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,100 ft³/s (626 m³/s) Dec. 30, 1942, gage height, 13.67 ft (4.167 m), from rating curve extended above 15,000 ft³/s (430 m³/s) on basis of slope-area measurements at gage heights 13.2 ft (4.02 m) and 13.67 ft (4.167 m); minimum, 0.1 ft³/s (0.003 m³/s) Oct. 7, 1963, Sept. 26, 27, 1964; minimum gage height, 0.63 ft (0.192 m) Aug. 31, 1953.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 6,000 ft³/s (170 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	0830	7160	203	6.74	2.054	Feb. 25	2300	*11100	314	8.79	2.679

Minimum discharge, 2.2 ft³/s (0.06 m³/s) Oct. 1, 3, gage height, 1.05 ft (0.320 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.5	80	173	1630	250	1330	319	173	662	56	42	108
2	3.5	66	132	4420	220	1350	880	151	510	60	30	83
3	2.6	58	300	1600	190	1170	1010	186	400	59	24	75
4	21	49	2320	770	210	1220	707	770	326	89	21	61
5	10	44	1030	480	160	1540	566	788	256	130	17	51
6	13	42	502	400	150	1210	435	590	215	79	15	44
7	11	42	306	472	160	870	339	421	182	52	13	39
8	7.7	44	1140	824	170	671	313	326	182	40	13	35
9	5.1	39	5680	435	150	526	1700	256	182	34	16	29
10	4.0	29	2170	360	130	442	1850	220	245	52	78	24
11	3.5	23	940	290	120	407	1030	235	313	37	364	23
12	5.7	23	626	267	160	332	788	205	195	34	480	21
13	60	23	495	332	170	294	644	450	143	30	273	20
14	164	23	407	1990	160	289	542	319	117	26	125	47
15	220	25	326	1240	180	261	465	240	103	26	80	45
16	132	32	283	761	600	205	435	220	90	22	59	45
17	109	83	278	644	1600	215	372	169	83	19	45	35
18	80	169	240	743	910	200	319	143	77	16	70	25
19	63	147	220	407	500	191	278	128	69	14	129	23
20	50	103	230	671	350	182	250	113	63	13	120	20
21	42	80	950	2710	420	169	225	132	96	12	93	97
22	34	66	671	1370	752	155	210	124	87	11	75	284
23	32	58	472	824	2760	151	191	210	72	13	63	177
24	32	60	393	2070	4760	205	177	2340	58	12	52	106
25	27	60	950	2200	5220	495	164	3860	49	11	52	69
26	140	52	707	1080	7000	428	164	2160	44	43	69	66
27	1120	103	502	752	2600	332	306	2200	39	34	301	77
28	414	662	306	635	1660	272	313	2380	37	50	236	228
29	220	393	250	480	---	256	245	2040	40	73	215	735
30	140	250	313	379	---	230	200	1070	49	134	247	334
31	100	---	450	300	---	230	---	716	---	69	156	---
TOTAL	3261.6	2928	23762	31536	31712	15828	15437	23335	4984	1350	3573	3026
MEAN	105	97.6	767	1017	1133	511	515	753	166	43.5	115	101
MAX	1120	662	5680	4420	7000	1540	1850	3860	662	134	480	735
MIN	2.6	23	132	267	120	151	164	113	37	11	13	20
CFSM	.37	.35	2.72	3.61	4.02	1.81	1.83	2.67	.59	.15	.41	.36
IN.	.43	.39	3.13	4.16	4.18	2.09	2.04	3.08	.66	.18	.47	.40
CAL YR 1978	TOTAL	137502.7	MEAN	377	MAX	7600	MIN	2.6	CFSM	1.34	IN	18.14
WTR YR 1979	TOTAL	160732.6	MEAN	440	MAX	7000	MIN	2.6	CFSM	1.56	IN	21.20

WHEELING CREEK BASIN

03112000 WHEELING CREEK AT ELM GROVE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
OCT 24...	0915	33	350	8.3	6.0	10.0	6.2	--	--	--	--
FEB 13...	1400	175	--	--	-5.0	.0	--	--	--	--	--
MAR 27...	1305	330	320	8.2	--	4.0	11.7	--	--	--	--
APR 17...	1330	296	220	8.6	--	9.5	--	110	40	.0	.0
MAY 30...	1600	890	250	8.1	--	16.0	--	120	50	.0	.0
JUN 27...	1430	37	455	8.6	--	25.0	--	210	80	.0	.0
JUL 18...	1345	16	400	8.3	30.0	27.0	--	220	95	.0	.0
AUG 28...	0810	273	255	8.7	22.5	21.0	--	110	30	.0	.0
SEP 10...	1845	25	340	7.8	--	23.5	--	160	48	.0	.0
SEP 25...	1430	63	300	8.5	--	20.0	--	--	--	--	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
APR 17...	36	5.7	--	--	73	--	42	4.8	164	.22	131
MAY 30...	39	5.5	--	--	70	--	44	4.7	166	.23	399
JUN 27...	66	11	27	.8	130	.6	120	19	360	.49	36.4
JUL 18...	68	11	24	.7	120	1.2	100	20	330	.45	14.3
AUG 28...	36	5.4	5.4	.2	82	.3	29	4.6	165	.22	122
SEP 10...	50	8.1	12	.4	113	3.4	50	11	224	.30	15.4

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
APR 17...	--	--	--	--	--	170	140	30	--
MAY 30...	--	--	--	--	--	1500	1500	20	--
JUN 27...	--	--	--	--	--	350	10	340	--
JUL 18...	--	--	--	--	--	450	450	0	--
AUG 28...	--	--	--	--	--	1300	1200	70	--
SEP 10...	0	<10	20	20	30	400	--	20	26000

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR 17...	--	10	10	0	--	--	--	--
MAY 30...	--	70	50	20	--	--	--	--
JUN 27...	--	140	10	130	--	--	--	--
JUL 18...	--	30	0	30	--	--	--	--
AUG 28...	--	120	100	20	--	--	--	--
SEP 10...	60	260	250	10	770	.00	0	110

OHIO RIVER MAIN STEM

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03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV
(National Stream-quality accounting network station)

LOCATION.--Lat 40°00'54", long 80°44'20", Marshall County, Hydrologic Unit 05030106, at Bellaire Toll Bridge, at Benwood, and at mile 94.3 (151.7 km).

DRAINAGE AREA.--Approximately 25,070 mi² (64,931 km²)

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (GOLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT 25...	1330	E12000	390	7.3	18.0	4.0	9.6	730	73	150	110
NOV 29...	1400	50400	370	7.3	7.0	1.0	11.7	1000	440	150	110
DEC 20...	1430	40900	250	5.5	4.0	7.0	13.1	1700	340	97	73
JAN 31...	1000	E54000	275	6.9	.5	3.0	14.6	2700	600	100	78
FEB 28...	1500	137000	220	8.5	6.0	60	14.8	4700	3600	91	70
MAR 28...	1030	61600	265	7.8	9.0	6.0	11.5	370	78	100	88
APR 11...	0930	151000	240	8.4	8.0	15	12.2	4600	2500	100	83
MAY 23...	1230	21000	300	8.2	20.0	1.0	8.9	1270	213	110	85
JUN 27...	1000	E9700	385	8.4	23.5	1.0	8.1	650	75	170	130
JUL 18...	0900	E19000	445	8.1	26.0	4.0	7.1	980	160	200	150
AUG 29...	1000	E40000	400	8.4	24.0	20	7.8	2150	1150	150	110
SEP 26...	1000	E31000	345	7.0	20.0	10	9.8	820	42	110	89

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
OCT 25...	43	11	22	23	.8	--	3.2	45	110	27	.3
NOV 29...	41	11	27	28	1.0	--	2.9	37	130	26	.2
DEC 20...	27	7.3	12	21	.5	--	2.3	24	75	16	.1
JAN 31...	27	7.8	19	29	.8	--	1.9	22	81	24	.1
FEB 28...	26	6.3	12	22	.5	--	2.0	21	61	18	.1
MAR 28...	28	8.2	16	25	.7	--	1.9	16	89	17	.1
APR 11...	29	7.4	14	22	.6	--	1.8	20	79	20	.1
MAY 23...	31	8.8	17	24	.7	--	2.2	29	98	17	.2
JUN 27...	46	13	24	23	.8	--	2.8	40	140	24	.3
JUL 18...	56	14	36	28	1.1	39	3.2	43	180	28	.4
AUG 29...	42	9.8	22	24	.8	25	2.9	32	120	20	.2
SEP 26...	32	7.8	17	24	.7	20	2.9	23	94	17	.3

OHIO RIVER MAIN STEM

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
OCT											
25...	4.3	258	248	.35	1.3	--	.01	--	--	--	.50
NOV											
29...	4.3	281	265	.38	1.1	--	.39	--	--	--	.10
DEC											
20...	6.1	169	160	.23	1.0	--	.30	--	--	--	.24
JAN											
31...	5.9	188	180	.26	.99	--	.36	--	--	--	.44
FEB											
28...	5.5	159	144	.22	1.4	--	.13	--	--	--	.80
MAR											
28...	5.1	207	175	.28	.80	--	.40	--	--	--	.23
APR											
11...	5.5	175	169	.24	.89	--	.20	--	.24	--	.42
MAY											
23...	3.8	204	196	.28	.81	--	.23	--	.28	--	.31
JUN											
27...	3.2	346	277	.47	.97	--	.12	--	.15	--	.54
JUL											
18...	3.3	376	347	.51	1.4	--	.10	--	.12	--	.42
AUG											
29...	5.7	270	248	.37	1.4	1.2	.01	--	.01	--	.38
SEP											
26...	5.1	210	194	.29	1.0	.95	.27	.30	.33	.39	.57

DATE	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N)	NITRO- GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHATE, TOTAL (MG/L AS PO4)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS TOTAL (MG/L AS PO4)
OCT											
25...	--	.51	.00	.57	1.8	--	.04	--	.00	8.0	--
NOV											
29...	--	.49	.00	.73	1.6	--	.10	--	.02	7.0	--
DEC											
20...	--	.54	.12	.42	1.5	--	.05	--	.00	6.8	--
JAN											
31...	--	.80	.44	.36	1.8	--	.06	--	.00	7.9	--
FEB											
28...	--	.93	.59	.34	2.3	--	.14	--	.01	10	--
MAR											
28...	--	.63	.11	.52	1.4	--	.11	--	.00	6.3	--
APR											
11...	--	.62	.26	.36	1.5	--	.02	.06	.00	6.7	.06
MAY											
23...	--	.54	.00	.56	1.4	--	.03	.09	.00	6.0	.09
JUN											
27...	--	.66	.29	.37	1.6	--	.05	.15	.01	7.2	.15
JUL											
18...	--	.52	.21	.31	1.9	--	.06	--	.01	8.5	.18
AUG											
29...	--	.39	.01	.38	1.8	1.6	.07	--	.02	7.9	.21
SEP											
26...	.42	.84	.12	.72	1.8	1.7	.08	--	.02	8.1	.25

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

		ARSENIC SUS- PENDE TOTAL (UG/L AS AS)		ARSENIC DIS- SOLVED (UG/L AS AS)		BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)		BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)		BARIUM, DIS- SOLVED (UG/L AS BA)		CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)		CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)		CADMIUM DIS- SOLVED (UG/L AS CD)		CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)							
DATE																									
FEB 28...		1	--	1	0	0	0	0	0	0	2	0	2	20											
MAY 23...		2	--	1	0	0	0	0	1	0	1	0	10												
AUG 29...		2	1	1	0	0	50	1	1	0	20														
DATE		CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)		CHRO- MIUM, DIS- SOLVED (UG/L AS CR)		COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)		COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)		COBALT, DIS- SOLVED (UG/L AS CO)		COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)		COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)		COPPER, DIS- SOLVED (UG/L AS CU)		IRON, TOTAL RECOV- ERABLE (UG/L AS FE)		IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)					
FEB 28...		20	0	9	9	0	73	71	2	13000	13000														
MAY 23...		0	20	2	2	0	4	2	2	740	730														
AUG 29...		10	<10	2	0	2	6	4	2	2000	--														
DATE		IRON, DIS- SOLVED (UG/L AS FE)		LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)		LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)		LEAD, DIS- SOLVED (UG/L AS PB)		MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)		MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)		MANGA- NESE, DIS- SOLVED (UG/L AS MN)		MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)		MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)		MERCURY DIS- SOLVED (UG/L AS HG)					
FEB 28...		160	100	21	79	740	360	380	.5	.0	.5														
MAY 23...		10	10	10	0	250	100	150	<.5	.0	<.5														
AUG 29...		20	11	11	0	320	80	240	<.5	.0	<.5														
DATE		SELE- NIUM, TOTAL (UG/L AS SE)		SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)		SELE- NIUM, DIS- SOLVED (UG/L AS SE)		SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)		SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)		SILVER, DIS- SOLVED (UG/L AS AG)		ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)		ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)		ZINC, DIS- SOLVED (UG/L AS ZN)							
FEB 28...		0	0	0	0	0	0	0	0	220	220	0													
MAY 23...		0	0	0	0	0	0	0	50	50	0														
AUG 29...		0	0	0	0	0	0	0	110	90	20														
DATE		CARBON, ORGANIC TOTAL (MG/L AS C)		CARBON, ORGANIC DIS- SOLVED (MG/L AS C)		CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)		PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M		PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M		PHYTO- PLANK- TON, TOTAL (CELLS PER ML)		BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)		CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)		CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)		SEDI- MENT, DIS- SOLVED (MG/L)		SEDI- MENT CHARGE, SUS- PENDE (T/DAY)		SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
OCT 25...		3.1	--	--	--	--	--	--	--	--	--	--	--	--	16	518	52								
NOV 29...		--	2.1	.4	.710	.550	1800	--	6.53	1.09	29	3950	54												
DEC 20...		2.5	--	--	--	--	--	--	--	--	28	3090	70												
JAN 31...		1.8	--	--	--	--	--	--	--	--	22	3210	89												
FEB 28...		--	7.6	2.3	--	--	--	--	--	--	288	107000	92												
MAR 28...		1.8	--	--	--	--	410	--	--	--	40	6650	85												
APR 11...		2.6	--	--	--	--	--	--	--	--	100	16300	68												
MAY 23...		--	2.2	.4	1.42	1.10	6500	58.0	5.52	.640	18	1020	39												
JUN 27...		--	--	--	--	--	27000	--	--	--	16	419	57												
JUL 18...		5.5	--	--	--	--	15000	--	--	--	14	718	38												
AUG 29...		--	3.2	.6	4.49	3.94	6400	13.5	40.7	6.09	4540	454	13												
SEP 26...		3.4	--	--	--	--	11000	--	--	--	8	670	32												

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	NOV 29,78 1400	MAR 28,79 1030	MAY 23,79 1230	JUN 27,79 1000
TOTAL CELLS/ML	1800	410	6500	27000
DIVERSITY: DIVISION	1.5	0.8	1.5	1.6
..CLASS	1.5	0.8	1.5	1.6
..ORDER	2.2	1.7	1.9	2.0
...FAMILY	3.0	2.9	2.8	2.1
....GENUS	3.5	3.4	3.3	2.6

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....CHLOROCOCCACEAE								
....CHLOROCOCCUM	--	-	--	-	--	-	--	-
....COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	--	-
....HYDRODICTYACEAE								
....PEDIASTRUM	--	-	--	-	--	-	--	-
....MICRACTINIACEAE								
....GOLENKINIA	14	1	--	-	33	1	--	-
....MICRACTINIUM	--	-	--	-	990#	15	--	-
....OOCYSTACEAE								
....ANKISTRODESMUS	140	8	25	6	230	4	290	1
....CHLORELLA	--	-	--	-	--	-	--	-
....CHODATELLA	--	-	--	-	*	0	*	0
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
....GLOEOACTINIUM	--	-	--	-	--	-	190	1
....KIRCHNERIELLA	42	2	5	1	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-
....SELENASTRUM	--	-	--	-	170	3	390	1
....TREUBARIA	--	-	--	-	*	0	--	-
....SCENEDESMACEAE								
....SCENEDESMUS	350#	19	--	-	1900#	29	6900#	26
....TETRASTRUM	--	-	--	-	270	4	390	1
..TETRASPORALES								
...PALMELLACEAE								
....SPHAEROCYSTIS	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	14	1	15	4	170	3	290	1
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCACEAE								
....CYCLOTELLA	260	14	75#	18	--	-	4400#	17
....MELOSIRA	330#	18	70#	17	470	7	3900	15
....SKELETONEMA	--	-	--	-	--	-	--	-
....STEPHANODISCUS	--	-	--	-	380	6	*	0
..PENNALES								
...ACHNANTHACEAE								
....COCCONEIS	--	-	5	1	--	-	--	-
....CYMBELLACEAE								
....CYMBELLA	14	1	--	-	--	-	--	-
....DIATOMACEAE								
....DIATOMA	14	1	20	5	100	2	--	-
....FRAGILARIACEAE								
....ASTERIONELLA	69	4	30	7	530	8	--	-
....FRAGILARIA	--	-	15	4	50	1	--	-
....SYNEDRA	56	3	--	-	33	1	--	-
....GOMPHONEMATACEAE								
....GOMPHONEMA	28	2	--	-	--	-	--	-
....MERIDIONACEAE								
....MERIDION	--	-	10	2	--	-	--	-
....NAVICULACEAE								
....NAVICULA	69	4	80#	20	--	-	--	-
....PINNULARIA	14	1	--	-	--	-	--	-
....NITZSCHACEAE								
....NITZSCHIA	110	6	35	9	100	2	*	0
....SURIRELLACEAE								
....SURIRELLA	--	-	10	2	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	*	0	--	-
....CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	220	3	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

OHIO RIVER MAIN STEM

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03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	NOV 29,78 1400		MAR 28,79 1030		MAY 23,79 1230		JUN 27,79 1000	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
..CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	97	5	10	2	720	11	1500	6
....GOMPHOSPHAERIA	--	-	--	-	--	-	--	-
..HORMOGONALES								
...NOSTOCACEAE								
....ANABAENA	--	-	--	-	--	-	--	-
...OSCILLATORIACEAE								
....OSCILLATORIA	190	11	--	-	--	-	7700#	29
....SCHIZOTHRIX	--	-	--	-	--	-	--	-
...RIVULARIACEAE								
....RAPHIDIOPSIS	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
..EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	5	1	*	0	--	-
....TRACHELOMONAS	28	2	--	-	33	1	190	1

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	JUL 18,79 0900	AUG 29,79 1000	SEP 26,79 1000
TOTAL CELLS/ML	15000	6400	11000
DIVERSITY: DIVISION	1.7	1.6	1.0
..CLASS	1.7	1.6	1.0
...ORDER	2.1	2.1	1.1
...FAMILY	2.5	3.0	2.0
...GENUS	2.8	3.4	2.8

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...CHLOROCOCCACEAE						
....CHLOROCOCCUM	--	-	* 0	--	--	-
...COELASTRACEAE						
....COELASTRUM	470	3	--	-	--	-
...HYDRODICTYACEAE						
....PEDIASTRUM	740	5	--	-	--	-
...MIRACTINIACEAE						
....GOLENKINIA	--	-	* 0	--	--	-
....MIRACTINIUM	--	-	700	11	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	* 0	--	--	-	79	1
....CHLORELLA	--	-	--	-	140	1
....CHODATELLA	* 0	--	--	-	--	-
....DICTYOSPHAERIUM	--	-	460	7	--	-
....GLOEOACTINIUM	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	79	1
....OOCYSTIS	130	1	100	2	--	-
....SELENASTRUM	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-
...SCENEDESMACEAE						
....SCENEDESMUS	1900	13	820	13	470	4
....TETRASTRUM	130	1	150	2	160	1
...TETRASPORALES						
...PALMELLACEAE						
...SPHAEROCYSTIS	--	-	210	3	--	-
...VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	1400	9	52	1	59	1
CHRYSTOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	540	4	280	4	510	4
....MFLOSIRA	5800#	40	1400#	21	670	6
....SKELETONEMA	--	-	--	-	140	1
....STEPHANODISCUS	--	-	--	-	--	-
...PENNALES						
...ACHNANTHACEAE						
...COCCONEIS	--	-	--	-	--	-
...CYMBELLACEAE						
...CYMBELLA	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
....FRAGILARIA	--	-	77	1	120	1
....SYNEDRA	--	-	--	-	* 0	
...GOMPHONEMACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...MERIDIONACEAE						
....MERIDION	--	-	--	-	--	-
...NAVICULACEAE						
....NAVICULA	--	-	--	-	--	-
...PINNULARIA	--	-	--	-	--	-
...NITZSCHIA						
....NITZSCHIA	* 0	--	210	3	79	1
...SURIPELLACEAE						
....SURIPELLA	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	--	-	--	-
...CRYPTOMONADACEAE						
....CRYPTOMONAS	400	3	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

OHIO RIVER MAIN STEM

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03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	JUL 18.79 0900		AUG 29.79 1000		SEP 26.79 1000	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	870	6	77	1	--	-
....GOMPHOSPHAERIA	--	-	100	2	--	-
..HORMOGONALES						
...NOSTOCACEAE						
....ANABAENA	--	-	930	15	1200	10
...OSCILLATORIACEAE						
....OSCILLATORIA	2000	14	770	12	2400*	21
....SCHIZOTHRIX	--	-	--	-	4200*	37
...RIVULARIACEAE						
....RAPHIDIOPSIS	--	-	--	-	1100	10
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	--	-
....TRACHELOMONAS	--	-	*	0	*	0

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

LITTLE GRAVE CREEK BASIN

03113706 LITTLE GRAVE CREEK AT MOUNDSVILLE, WV

LOCATION.--Lat 39°55'45", long 80°44'54", Marshall County, Hydrologic Unit 05030106, at U. S. Highway 250 bridge, and at mile 1.0 (1.6 km).

DRAINAGE AREA.--11.9 mi² (30.8 km²).

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
14...	1600	2.8	300	--	--	--	33	.25
24...	1015	.10	575	6.9	10.0	3.6	9	.00
26...	1615	.50	370	--	--	--	14	.02
27...	0850	7.0	280	--	--	--	30	.57
NOV								
18...	0840	9.5	220	--	--	--	1	.03
27...	1650	11	280	--	--	--	47	1.4
28...	0845	22	268	7.6	10.5	10.0	48	2.9
28...	0915	22	267	--	--	--	89	5.3
DEC								
03...	1625	31	258	--	--	--	351	29
04...	0930	78	224	--	--	--	816	172
05...	1200	33	244	--	--	--	115	10
08...	0930	15	210	--	--	--	183	7.4
08...	1615	52	194	--	--	--	415	58
09...	0901	340	195	--	--	--	1160	1060
09...	1640	115	208	--	--	--	375	116
21...	0850	26	255	--	--	--	49	3.4
25...	0950	31	256	--	--	--	122	10
27...	1200	17	350	8.9	.5	13.7	122	5.6
31...	1646	26	260	--	--	--	64	4.5
JAN								
01...	0815	34	236	--	--	--	36	3.3
01...	1601	78	218	--	--	--	475	100
02...	0840	190	198	--	--	--	208	107
02...	1525	110	213	--	--	--	97	29
14...	1420	93	208	--	--	--	444	111
16...	0915	24	320	8.0	.0	13.5	0	.00
17...	1400	55	341	--	--	--	38	5.6
20...	1415	37	324	--	--	--	34	3.4
21...	1310	84	238	--	--	--	135	31
24...	1515	600	198	--	--	--	3950	6400
FEB								
14...	0830	5.3	300	8.0	.0	13.7	6	.09
22...	0915	35	266	--	--	--	94	8.9
22...	1640	21	285	--	--	--	153	8.7
23...	0925	22	270	--	--	--	174	10
23...	1605	980	221	--	--	--	2700	7140
24...	0920	200	210	--	--	--	337	182
25...	1635	1100	194	--	--	--	6660	19800
MAR								
04...	1625	49	237	--	--	--	51	6.7
27...	0830	9.2	340	7.9	3.0	12.4	1	.02
30...	1750	220	285	--	--	--	14	8.3

LITTLE GRAVE CREEK BASIN

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03113706 LITTLE GRAVE CREEK AT MOUNDSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
APR								
02...	0856	48	288	--	--	--	144	19
09...	0855	53	276	--	--	--	20	2.9
09...	1607	270	209	--	--	--	1040	758
10...	0850	55	300	8.0	6.0	11.8	34	5.1
10...	1330	49	301	--	--	--	20	2.6
27...	0830	21	361	--	--	--	8	.45
MAY								
03...	1650	39	315	--	--	--	139	15
04...	0850	27	319	--	--	--	21	1.5
04...	1640	28	317	--	--	--	25	1.9
21...	0725	7.4	367	--	--	--	7	.14
21...	1220	9.4	380	8.7	18.0	9.7	20	.51
23...	0720	33	290	--	--	--	387	34
24...	0855	180	260	--	--	--	370	180
24...	1830	36	295	--	--	--	68	6.6
25...	0855	66	287	--	--	--	113	20
25...	1625	35	301	--	--	--	43	4.1
26...	0840	28	312	--	--	--	37	2.8
26...	1540	37	305	--	--	--	49	4.9
27...	1401	165	275	--	--	--	588	262
28...	0850	37	301	--	--	--	42	4.2
28...	1615	115	267	--	--	--	293	91
29...	0825	34	302	--	--	--	39	3.6
JUN								
01...	0835	21	325	--	--	--	81	4.6
01...	1520	23	339	--	--	--	15	.93
07...	0830	10	372	--	--	--	18	.51
11...	1045	14	349	--	--	--	21	.82
27...	1145	.71	425	7.8	17.5	7.7	9	.02
JUL								
04...	1010	11	219	--	--	--	201	6.0
04...	1610	10	388	--	--	--	61	1.7
19...	0800	.10	525	7.3	16.0	4.3	23	.01
29...	1335	7.8	630	--	--	--	16	.34
AUG								
11...	0915	18	435	--	--	--	295	14
11...	1650	16	490	--	--	--	140	6.0
12...	0815	12	550	--	--	--	44	1.4
12...	1800	12	580	--	--	--	15	.49
18...	1115	8.8	470	--	--	--	28	.67
18...	1620	12	560	--	--	--	43	1.4
22...	0805	13	550	--	--	--	33	1.2
27...	0955	10	580	--	--	--	34	.92
27...	1215	10	405	8.6	21.0	--	17	.46
SEP								
14...	1400	8.2	350	--	--	--	55	1.2
21...	0715	54	355	--	--	--	1180	172
21...	1400	.60	470	--	--	--	23	.04
22...	0850	11	410	--	--	--	25	.74
24...	1410	2.3	460	8.3	17.0	--	12	.07
28...	0940	16	254	--	--	--	188	8.1
28...	1345	34	290	--	--	--	407	37
28...	1840	24	325	--	--	--	106	6.9

LITTLE GRAVE CREEK BASIN

03113708 PAR RUN AT MOUNDSVILLE, WV

LOCATION.--Lat 39°55'35", long 80°44'34", Marshall County, Hydrologic Unit 05030106, 1000 ft (304 m) upstream from Jefferson Ave. bridge, and at mile 0.3 (0.5 km).

DRAINAGE AREA.--1.30 mi² (3.37 km²).

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
13...	0940	4.9	300	--	--	--	141	1.9
13...	1540	4.9	230	--	--	--	57	.75
24...	1110	.68	540	7.6	15.0	7.9	1	.00
26...	0900	4.2	160	--	--	--	83	.94
26...	1550	20	230	--	--	--	740	40
27...	0920	1.0	220	--	--	--	20	.05
NOV								
27...	1440	8.4	190	--	--	--	589	13
27...	1630	3.4	290	--	--	--	107	.98
28...	0920	2.8	260	--	--	--	5	.04
28...	0945	2.8	530	7.5	9.0	10.2	13	.10
DEC								
03...	1610	13	246	--	--	--	377	13
04...	0905	18	287	--	--	--	243	12
05...	1200	4.9	363	--	--	--	50	.66
08...	0910	14	230	--	--	--	674	.25
08...	1555	39	244	--	--	--	1440	152
09...	0835	45	262	--	--	--	450	.55
09...	1619	20	336	--	--	--	138	7.5
21...	0825	2.9	440	--	--	--	15	.12
25...	0835	4.2	440	--	--	--	17	.19
28...	0920	1.9	530	7.9	4.5	12.1	6	.03
29...	0920	1.9	--	--	--	--	--	--
31...	1710	24	192	--	--	--	510	33
JAN								
01...	0840	12	290	--	--	--	104	3.4
01...	1540	16	306	--	--	--	602	26
02...	0815	32	298	--	--	--	178	15
02...	1500	16	371	--	--	--	57	2.5
14...	1358	10	325	--	--	--	61	1.6
15...	1230	3.4	520	8.2	1.0	13.2	44	.40
17...	1330	7.2	906	--	--	--	70	1.4
20...	1345	8.4	481	--	--	--	82	1.9
21...	1245	15	382	--	--	--	61	2.5
24...	1448	80	309	--	--	--	942	203
FEB								
14...	0915	1.0	510	7.8	5.0	13.0	20	.05
22...	0845	5.6	517	--	--	--	37	.56
22...	1620	16	536	--	--	--	210	9.1
23...	0855	19	435	--	--	--	389	20
23...	1540	110	328	--	--	--	2080	618
24...	0855	30	344	--	--	--	191	15
24...	1555	28	350	--	--	--	158	12

03113708 PAR RUN AT MOUNDSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
FEB								
25...	1601	170	263	--	--	--	4190	1920
26...	1330	12	357	--	--	--	111	3.6
MAR								
04...	1600	5.4	417	--	--	--	87	1.3
27...	0915	1.1	555	7.9	7.0	11.1	30	.09
30...	1725	2.7	380	--	--	--	47	.34
APR								
02...	0827	4.8	395	--	--	--	155	2.0
09...	0830	10	284	--	--	--	324	9.2
09...	1535	12	325	--	--	--	302	9.8
10...	0930	4.4	530	7.8	7.0	10.9	37	.44
10...	1155	4.1	412	--	--	--	460	5.1
27...	0800	2.5	356	--	--	--	24	.16
MAY								
03...	1630	8.0	352	--	--	--	1390	30
04...	0825	4.6	411	--	--	--	27	.34
04...	1625	8.4	309	--	--	--	212	4.8
21...	1325	1.0	515	8.2	21.0	7.8	4	.01
21...	1900	.80	414	--	--	--	5	.01
23...	1855	6.0	374	--	--	--	136	2.2
24...	0830	12	353	--	--	--	215	7.0
24...	1850	6.4	386	--	--	--	99	1.7
25...	0825	7.6	381	--	--	--	72	1.5
25...	1550	6.9	396	--	--	--	51	.95
26...	0820	8.2	380	--	--	--	95	2.1
26...	1610	11	305	--	--	--	305	9.1
27...	1330	15	342	--	--	--	284	12
28...	0830	6.0	384	--	--	--	43	.70
28...	1540	16	342	--	--	--	298	13
29...	0755	9.7	382	--	--	--	58	1.5
JUN								
01...	1500	2.0	488	--	--	--	10	.05
07...	0800	.44	405	--	--	--	66	.08
11...	1020	2.4	456	--	--	--	41	.27
27...	1245	.46	510	7.9	22.0	7.8	8	.01
JUL								
04...	0950	6.9	287	--	--	--	1830	34
04...	1540	.60	544	--	--	--	12	.02
19...	0900	.33	440	7.8	20.0	8.3	1	.00
29...	1315	.70	840	--	--	--	11	.02
AUG								
11...	0850	11	570	--	--	--	562	17
11...	1625	2.0	800	--	--	--	33	.18
12...	0730	5.0	740	--	--	--	52	.70
18...	1055	2.6	610	--	--	--	169	1.2

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
AUG								
18...	1555	1.2	790	--	--	--	13	.04
22...	0750	7.0	460	--	--	--	715	14
27...	0925	2.0	850	--	--	--	21	.11
27...	1315	1.5	635	8.3	19.5	7.8	14	.06
SEP								
14...	1330	1.1	544	--	--	--	41	.12
21...	1840	23	411	--	--	--	590	37
22...	1330	6.2	--	--	--	--	--	--
24...	1330	.54	615	8.2	20.0	--	5	.01
28...	0955	28	332	--	--	--	853	64
28...	1400	6.2	426	--	--	--	106	1.8
28...	1820	2.6	527	--	--	--	94	.66

GRAVE CREEK BASIN

03113732 MIDDLE GRAVE CREEK AT KNOXVILLE, WV

LOCATION.--Lat 39°53'07", long 80°38'29", Marshall County, Hydrologic Unit 05030106, at site 175 ft (53m) upstream from State Route 17/3, 5.1 mi (8.2 km) southeast of Moundsville, and at mile 9.3 (15.0 km).

DRAINAGE AREA.--7.73 mi² (20.02 km²)

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 24...	1230	.98	315	8.4	11.0	11.9	1400	3800	200
NOV 27...	1600	14	190	8.1	15.5	11.9	2000	8000	3300
DEC 27...	1450	13	220	8.2	1.5	13.2	1200	2000	190
FEB 13...	1600	4.2	200	8.0	.0	13.0	2200	3800	550
MAR 26...	1355	9.0	215	8.7	5.5	13.6	2400	15000	240
APR 10...	1210	36	240	8.3	7.0	11.0	280	3500	490
MAY 21...	1630	4.8	230	9.2	24.5	10.4	3300	5000	1500
JUN 26...	1200	.97	290	9.1	16.0	12.4	1000	23000	420
JUL 17...	1420	.24	320	8.9	27.0	9.4	720	2000	350
AUG 27...	1425	14	300	8.6	20.0	8.9	10000	18000	5500
SEP 24...	1115	3.3	305	9.5	12.0	--	4400	14000	2800

03113738 MIDDLE GRAVE CREEK AT MOUNDSVILLE, WV

LOCATION.--Lat 39°54'46", long 80°43'43", Marshall County, Hydrologic Unit 05030106, at 12th Street bridge, and at mile 0.8 (1.3 km).

DRAINAGE AREA.--28.6 mi² (70.1 km²).

PERIOD OF RECORD.--Water years 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
OCT 24...	1215	3.6	390	7.9	12.0	12.2
NOV 28...	1050	58	200	7.5	8.0	11.8
DEC 27...	1330	48	285	8.3	.5	13.8
JAN 15...	1400	84	265	8.2	.0	13.8
FEB 14...	1015	14	270	8.0	.0	14.0
MAR 27...	1045	26	280	8.4	4.0	13.7
APR 10...	1030	138	300	8.1	6.0	11.5
MAY 21...	1445	27	275	8.8	22.0	9.9
JUN 27...	1330	3.7	335	8.4	25.0	11.0
JUL 19...	1000	.97	360	8.2	20.5	9.8
AUG 28...	1000	28	380	8.4	19.5	9.2
SEP 10...	1630	3.7	370	7.9	25.0	--
24...	1140	12	375	8.7	15.5	--

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)
MAY 21...	160	65	.0	.0	52	8.0	--	--	98	--	56
SEP 10...	160	54	.0	.0	51	9.0	14	.5	117	2.7	59

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
MAY 21...	8.9	203	.28	14.8	--	--	--	--	--	330	330
SEP 10...	14	242	.33	2.40	0	<10	20	30	40	180	--

DATE	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
MAY 21...	0	--	--	40	10	30	--	--	--	--
SEP 10...	10	28000	150	30	10	20	840	.00	0	610

GRAVE CREEK BASIN

03113738 MIDDLE GRAVE CREEK AT MOUNDSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT						APR					
13...	0905	16	120	252	11	10...	1030	138	300	22	8.2
13...	1510	27	150	130	9.5	16...	1425	130	215	20	7.0
14...	1630	24	250	97	6.3	27...	0730	29	275	14	1.1
16...	0940	15	260	256	10	MAY					
24...	1215	3.6	390	2	.02	03...	1600	66	260	313	56
26...	1530	24	230	1940	126	04...	0800	78	235	30	6.3
27...	0830	85	220	97	22	04...	1601	108	235	50	15
NOV						21...	1445	27	275	16	1.2
18...	0810	28	260	15	1.1	21...	1835	40	249	14	1.5
27...	1610	32	250	68	5.9	23...	1830	90	255	219	53
28...	0900	65	220	29	5.1	24...	0805	370	190	278	278
28...	1050	58	200	15	2.4	24...	1800	148	217	54	22
DEC						25...	0800	280	206	137	104
03...	1550	96	219	434	112	25...	1530	128	212	59	20
04...	0845	580	177	687	1080	26...	0915	147	218	50	20
05...	1545	200	193	67	36	26...	1630	210	208	95	54
08...	0840	515	216	143	199	27...	1310	430	193	537	623
08...	1530	165	183	308	137	28...	0810	170	215	45	21
09...	0802	980	159	827	2190	28...	1525	255	203	155	107
09...	1555	245	173	205	136	29...	0730	125	224	39	13
21...	0802	114	199	49	15	JUN					
25...	0756	155	205	31	13	01...	1430	40	300	7	.76
27...	1330	48	285	15	1.9	07...	0855	86	317	46	11
31...	1730	88	232	477	113	11...	1000	36	--	--	--
JAN						27...	1330	3.7	335	4	.04
01...	0905	132	177	36	13	JUL					
01...	1515	385	201	419	436	04...	0935	23	258	472	29
02...	0745	550	153	330	490	04...	1520	67	280	536	97
02...	1430	320	155	113	98	19...	1000	.97	360	4	.01
14...	1335	165	155	264	118	29...	1245	63	470	284	48
15...	1400	84	265	22	5.0	AUG					
17...	1310	155	305	29	12	11...	1330	210	444	1040	590
20...	1320	158	274	23	9.8	11...	1600	180	410	270	131
21...	1220	280	197	113	85	12...	0700	120	471	136	44
24...	1420	1040	163	1770	4970	12...	1730	63	480	65	11
FEB						18...	1030	59	480	144	23
14...	1015	14	270	6	.23	18...	1530	65	435	196	34
22...	0820	2150	209	37	215	22...	0720	36	390	423	41
22...	1540	2100	275	149	845	27...	0900	104	480	135	38
23...	0830	2800	215	198	1500	28...	1000	28	380	23	1.7
23...	1515	1750	164	2760	13000	SEP					
24...	0830	500	173	183	247	10...	1630	3.7	370	--	--
24...	1530	490	176	184	243	14...	1300	23	--	73	4.5
25...	1530	2250	169	5560	33800	21...	0615	190	--	922	473
26...	1400	900	167	109	265	21...	1300	36	--	200	19
MAR						22...	0815	65	--	71	12
04...	1530	125	214	26	8.8	24...	1140	12	375	3	.10
27...	1045	26	280	86	6.0	24...	1240	13	--	--	--
30...	1700	50	237	0	.00	28...	1015	100	278	350	94
APR						28...	1415	200	271	438	237
02...	0801	265	240	233	167	28...	1800	254	254	554	380
09...	0801	150	231	1360	551						
09...	1505	680	167	311	571						

03114500 MIDDLE ISLAND CREEK AT LITTLE, WV

LOCATION.--Lat 39°28'30", long 80°59'50", Tyler County, Hydrologic Unit 05030201, on right bank at downstream side of highway bridge at Little, 0.1 mi (0.2 km) upstream from Stewarts Run, 5.0 mi (8.0 km) west of Middlebourne, and at mile 24.5 (39.4 km).

DRAINAGE AREA.--458 mi² (1,186 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1915 to September 1916, October 1916 to September 1922 (gage heights only), October 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 631.32 ft (192.426 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to July 11, 1947, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for February, which are poor.

AVERAGE DISCHARGE.--52 years (water years 1916, 1929-79), 639 ft³/s (18.10 m³/s), 18.95 in/yr (481 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s (708 m³/s) June 26, 1950, gage height, 28.0 ft (8.53 m), from floodmarks; no flow during parts of 1922 and Sept. 1 to Nov. 4, Nov. 7-10, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1875 reached a stage of about 33.5 ft (10.2 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 9,000 ft³/s (250 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 4	1400	13000	368	15.76	4.804	Jan. 25	0100	9410	266	12.76	3.889
Dec. 9	2200	*19400	549	21.06	6.419	Feb. 24	0800	13600	385	16.26	4.956
Dec. 21	1900	11000	312	14.10	4.298	Feb. 26	0400	12500	354	15.30	4.663
Jan. 2	1100	12700	360	15.51	4.727	May 25	0700	9520	270	12.85	3.917
Jan. 21	1600	11100	314	14.19	4.325						

Minimum discharge, 16 ft³/s (0.21 m³/s) July 24, 25, gage height, 2.15 ft (0.655 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	159	519	4730	400	1010	2720	498	345	35	221	365
2	25	132	387	11900	360	1390	3050	404	393	39	137	259
3	24	122	872	4280	320	977	2070	393	345	58	104	203
4	25	102	11400	1140	350	914	935	1630	256	68	87	498
5	22	89	6680	740	290	5200	810	4430	214	145	70	330
6	25	92	1130	560	250	3800	688	1840	176	75	64	228
7	25	83	670	646	270	1070	574	810	188	72	37	176
8	28	89	5750	3550	280	739	498	574	135	64	37	207
9	30	91	18000	2360	240	574	2220	448	113	49	33	167
10	31	85	11500	1100	210	481	5430	365	120	345	31	142
11	28	80	1660	800	180	503	1570	315	191	310	35	106
12	26	75	970	680	190	498	872	282	211	83	263	100
13	28	73	784	600	180	437	719	330	153	83	525	89
14	73	73	670	3920	160	415	622	371	111	73	310	67
15	211	72	558	3940	180	453	563	298	82	57	164	83
16	188	791	470	1200	598	437	514	249	70	53	113	92
17	137	1350	448	928	3350	404	453	210	56	42	92	85
18	142	1520	437	1270	1510	382	404	188	46	38	100	78
19	159	830	393	840	800	355	360	162	43	34	197	73
20	125	492	398	1100	500	335	325	145	38	40	498	64
21	102	345	7410	9080	778	310	310	132	53	38	2020	127
22	78	274	3820	3950	4590	286	294	179	125	31	1110	1150
23	72	221	1090	1370	9530	274	278	176	145	28	519	2640
24	60	203	739	4230	12200	376	263	1730	135	19	409	784
25	55	203	3490	6940	8320	1820	252	7350	94	18	2870	404
26	85	200	2360	1920	9930	942	249	3040	76	31	1080	263
27	2420	758	1060	1060	2710	622	1720	4590	62	113	1810	179
28	1090	4060	664	844	1250	481	2210	6900	49	170	1050	437
29	459	1710	410	688	---	409	865	2000	35	409	1660	3150
30	286	758	437	520	---	365	640	720	29	640	1210	963
31	200	---	921	450	---	547	---	448	---	448	574	---
TOTAL	6285	15132	86097	77336	59926	26806	32478	41207	4089	3708	17430	13509
MEAN	203	504	2777	2495	2140	865	1083	1329	136	120	562	450
MAX	2420	4060	18000	11900	12200	5200	5430	7350	393	640	2870	3150
MIN	22	72	387	450	160	274	249	132	29	18	31	64
CFSM	.44	1.10	6.06	5.45	4.67	1.89	2.37	2.90	.30	.26	1.23	.98
IN.	.51	1.23	6.99	6.28	4.87	2.18	2.64	3.35	.33	.30	1.42	1.10

CAL YR 1978 TOTAL 329209 MEAN 902 MAX 18600 MIN 22 CFSM 1.97 IN 26.74
WTR YR 1979 TOTAL 384003 MEAN 1052 MAX 18000 MIN 18 CFSM 2.30 IN 31.19

MIDDLE ISLAND CREEK BASIN

03114500 MIDDLE ISLAND CREEK AT LITTLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965, 1968-74, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
OCT											
23...	1205	68	125	8.2	19.0	18.5	7.9	--	--	--	--
JAN											
16...	1300	1150	110	8.0	.0	1.5	12.8	--	--	--	--
FEB											
14...	1310	161	--	--	9.0	3.0	--	--	--	--	--
APR											
09...	1200	743	100	8.0	4.0	7.0	11.7	--	--	--	--
23...	1220	286	140	8.1	--	16.0	--	55	24	.0	.0
MAY											
24...	1320	2170	120	7.8	--	17.0	--	--	--	--	--
30...	1230	970	110	7.5	--	17.0	--	43	21	.0	.0
JUN											
28...	0945	49	175	8.0	--	22.0	--	63	21	.0	.0
JUL											
17...	1030	42	180	8.0	28.5	26.5	--	76	34	.0	.0
AUG											
28...	1310	963	150	7.7	--	21.5	--	49	19	.0	.0
SEP											
13...	1130	120	160	7.6	28.0	22.5	--	57	16	.0	.0
25...	1030	402	115	8.5	17.5	16.5	--	--	--	--	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS C02)	SULFATE DIS- SOLVED (MG/L AS SC4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
APR											
23...	15	4.2	--	--	31	--	24	8.6	94	.13	72.6
MAY											
30...	12	3.1	--	--	22	--	20	3.7	69	.09	181
JUN											
28...	18	4.5	12	.7	42	--	20	20	135	.18	18.1
JUL											
17...	22	5.0	11	.6	42	.8	23	17	129	.18	14.6
AUG											
28...	14	3.4	4.7	.3	30	1.2	16	4.7	95	.13	247
SEP											
13...	16	4.1	6.6	.4	41	2.0	16	8.3	89	.12	28.8

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/L AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
APR									
23...	--	--	--	--	--	420	0	730	--
MAY									
30...	--	--	--	--	--	1900	1800	80	--
JUN									
28...	--	--	--	--	--	1100	1100	30	--
JUL									
17...	--	--	--	--	--	710	700	10	--
AUG									
28...	--	--	--	--	--	2500	2400	80	--
SEP									
13...	0	<10	<10	10	<10	740	--	70	13000

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR								
23...	--	30	10	20	--	--	--	--
MAY								
30...	--	80	50	30	--	--	--	--
JUN								
28...	--	80	40	40	--	--	--	--
JUL								
17...	--	30	0	30	--	--	--	--
AUG								
28...	--	100	90	10	--	--	--	--
SEP								
13...	160	130	80	50	460	.00	0	30

OHIO RIVER MAIN STEM

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03150800 OHIO RIVER NEAR MARIETTA, OH

LOCATION.--Lat 39°23'21", long 81°29'03", Washington County, Hydrologic Unit 05030202, on right bank 1.5 mi (2.4 km) southwest of Marietta, 2.0 mi (3.2 km) downstream from Muskingum River, and at mile 174.3 (280.4 km), measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--35,600 mi² (92,200 km²), approximately.

PERIOD OF RECORD.--October 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 567.12 ft (172.858 m) Sandy Hook datum.

REMARKS.--Records published as a stage control station. Corps of Engineers gage height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 38.52 ft (11.741 m) Feb. 27, 1979; minimum, 10.83 ft (3.301 m) Oct. 6, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 38.52 ft (11.741 m) Feb. 27; minimum, 14.98 ft (4.566 m) Nov. 12, 13.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.14	16.19	16.23	19.81	17.59	25.70	20.27	16.26	18.09	16.09	15.89	16.14
2	15.54	15.70	16.14	27.47	17.16	24.75	20.31	16.09	17.59	15.95	15.92	16.06
3	15.41	15.46	16.52	30.64	16.46	25.29	22.07	16.45	17.19	15.75	15.93	15.82
4	15.68	15.62	20.76	28.72	16.57	25.21	23.06	17.38	16.63	16.24	15.93	15.97
5	15.67	15.44	23.99	23.48	16.23	26.61	22.70	18.32	16.21	16.02	15.67	16.15
6	15.35	15.62	23.01	22.10	16.23	30.28	22.05	17.53	16.20	15.80	15.69	15.67
7	15.76	15.76	20.08	21.49	15.73	32.02	21.08	16.53	16.20	15.67	15.65	16.51
8	15.72	15.63	20.34	21.67	16.16	29.35	20.14	16.24	15.92	15.65	15.52	16.77
9	15.13	15.33	29.67	21.92	16.22	26.17	19.94	16.03	16.48	15.90	15.25	15.98
10	15.55	15.25	33.59	21.04	15.91	25.00	23.92	15.96	15.77	15.59	15.51	15.60
11	15.79	15.41	30.47	20.23	15.81	24.25	25.85	16.19	15.97	15.79	16.07	15.32
12	15.41	15.11	22.71	19.56	15.80	24.21	24.58	16.01	15.96	15.91	16.82	15.69
13	15.58	15.00	20.60	18.86	15.80	23.21	23.01	17.13	16.10	15.63	16.38	15.62
14	16.18	15.09	20.08	19.02	15.84	22.38	22.30	17.38	16.05	15.48	16.60	15.77
15	16.12	15.45	19.42	21.01	16.36	22.12	21.38	17.37	15.55	15.47	15.97	17.39
16	16.52	15.85	18.80	19.95	16.08	21.92	20.74	16.92	15.78	15.69	15.24	17.95
17	15.88	15.88	18.41	19.12	17.35	21.43	20.61	16.40	15.60	15.36	15.49	17.61
18	15.59	16.43	17.95	19.02	18.22	20.17	20.22	16.19	15.57	15.20	15.64	17.00
19	15.76	16.07	17.85	18.68	18.14	19.57	20.17	16.24	15.45	15.77	16.21	16.96
20	15.39	15.77	17.88	17.85	17.77	18.68	19.17	16.20	15.66	15.84	16.68	16.54
21	15.65	15.47	19.39	21.03	16.97	19.41	18.52	15.93	15.79	15.81	17.15	16.86
22	15.56	15.46	21.84	22.55	17.94	19.18	17.64	16.09	15.98	15.49	16.63	17.92
23	15.42	15.77	21.74	20.71	21.37	18.70	17.31	15.89	15.90	15.59	16.07	18.24
24	15.15	15.46	19.28	19.74	27.67	18.37	16.90	16.71	15.46	15.45	16.50	17.42
25	15.28	15.60	19.61	23.51	31.13	18.73	16.68	18.36	15.60	15.75	17.34	17.03
26	15.70	15.71	20.95	22.28	36.45	18.77	16.27	21.27	15.94	15.70	16.97	16.75
27	16.07	15.69	19.45	20.92	38.11	19.10	16.89	22.70	15.99	15.95	18.16	16.68
28	16.31	16.70	18.16	20.41	33.28	18.55	17.75	23.17	15.71	16.06	18.11	16.81
29	15.72	17.30	17.93	19.82	---	18.33	17.22	22.23	15.48	15.90	17.27	20.05
30	15.53	16.82	17.78	18.76	---	18.13	16.55	20.80	15.72	16.75	17.64	19.18
31	16.11	---	17.95	18.13	---	18.95	---	19.05	---	16.47	16.73	---
MEAN	15.67	15.73	20.60	21.27	19.80	22.40	20.18	17.58	16.05	15.80	16.34	16.78
MAX	16.52	17.30	33.59	30.64	38.11	32.02	25.85	23.17	18.09	16.75	18.16	20.05
MIN	15.13	15.00	16.14	17.85	15.73	18.13	16.27	15.89	15.45	15.20	15.24	15.32

WTR YR 1979 MEAN 18.18 MAX 38.11 MIN 15.00

NOTE.--Add 567.12 ft to obtain elevation.

LITTLE KANAWHA RIVER BASIN

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV

LOCATION.--Lat 38°44'35", long 80°31'36", Braxton County, Hydrologic Unit 05030203, on right bank on State Secondary Route 24/1, 200 ft (61 m) upstream from footbridge at Gregory, 3.9 mi (6.2 km) west of Wildcat, and at mile 138.6 (223.1 km).

DRAINAGE AREA.--112 mi² (290 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1973 to current year.

GAGE.--Water-stage recorder. Datum of gage is 850.00 ft (259.080 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--5 years, 227 ft³/s (6.429 m³/s), 27.52 in/yr (699 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,090 ft³/s (201 m³/s) Jan. 26, 1978, gage height, 12.62 ft (3.847 m); minimum, 1.6 ft³/s (0.045 m³/s) Aug. 4, 5, 1975; minimum gage height, 3.74 ft (1.140 m) Oct. 12, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,200 ft³/s (62 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	1215	2480 70.2	8.74 2.664	Jan. 21	0600	2860 81.0	9.16 2.792
Dec. 9	1030	*5880 167	11.83 3.606	Feb. 16	0915	3820 108	10.12 3.085
Dec. 21	0800	4930 140	11.10 3.383	Feb. 24	0045	3140 88.9	9.44 2.877
Jan. 2	0900	3000 85.0	9.30 2.835	Mar. 5	0945	2420 68.5	8.67 2.643
Jan. 8	0300	3090 87.5	9.39 2.862	July 16	0800	3180 90.1	9.48 2.890

Minimum discharge, 3.3 ft³/s (0.093 m³/s) Oct. 12, gage height, 3.74 ft (1.140 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	24	163	500	130	755	160	258	135	40	137	71
2	6.1	19	128	2300	110	768	340	192	104	103	87	56
3	5.8	19	128	1070	120	602	515	165	85	67	65	58
4	6.5	17	1650	520	120	515	748	192	94	50	47	47
5	7.1	17	826	336	94	1800	570	336	73	79	36	56
6	7.7	15	376	258	88	1030	470	364	57	58	30	748
7	8.0	14	227	761	97	545	356	286	45	42	27	384
8	7.1	15	1850	2300	87	368	282	215	38	31	32	203
9	6.5	16	4320	865	70	258	885	165	33	25	62	128
10	6.1	16	1380	470	62	212	1330	137	74	24	38	88
11	5.0	14	580	312	57	368	859	132	180	23	57	66
12	4.5	13	372	233	70	356	550	244	135	20	237	52
13	5.6	12	268	224	60	300	384	781	80	18	215	42
14	9.9	12	203	435	51	312	289	636	56	20	114	53
15	17	13	162	440	310	340	221	393	40	69	82	97
16	18	40	139	348	2900	300	177	289	32	1290	58	61
17	22	71	152	320	1100	258	146	197	29	407	43	44
18	28	76	137	340	470	215	122	148	26	185	40	34
19	19	64	139	280	260	185	104	116	32	146	160	30
20	14	51	613	320	240	162	92	92	26	97	300	29
21	12	43	3380	2530	393	135	82	76	22	84	425	64
22	11	36	1100	1630	985	116	76	70	31	66	258	684
23	9.9	34	510	722	1700	104	70	57	80	99	155	735
24	10	67	368	570	2410	160	67	332	77	76	101	368
25	12	90	1010	660	1820	289	65	660	56	61	103	197
26	17	73	690	490	1520	279	137	636	40	120	118	124
27	192	348	430	364	978	227	1190	560	30	356	570	90
28	119	499	282	304	642	185	678	570	24	384	490	139
29	62	328	206	227	---	157	480	411	21	247	247	258
30	40	230	172	185	---	132	352	258	24	411	146	203
31	30	---	275	160	---	120	---	167	---	247	99	---
TOTAL	725.3	2286	22236	20474	16944	11553	11797	9135	1779	4945	4579	5209
MEAN	23.4	76.2	717	660	605	373	393	295	59.3	160	148	174
MAX	192	499	4320	2530	2900	1800	1330	781	180	1290	570	748
MIN	4.5	12	128	160	51	104	65	57	21	18	27	29
CFSM	.21	.68	6.40	5.89	5.40	3.33	3.51	2.63	.53	1.43	1.32	1.55
IN.	.24	.76	7.39	6.80	5.63	3.84	3.92	3.03	.59	1.64	1.52	1.73

CAL YR 1978 TOTAL 91732.4 MEAN 251 MAX 4550 MIN 4.5 CFSM 2.24 IN 30.47
WTR YR 1979 TOTAL 111662.3 MEAN 306 MAX 4320 MIN 4.5 CFSM 2.73 IN 37.09

LITTLE KANAWHA RIVER BASIN

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03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969, 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June to September 1979.

WATER TEMPERATURES: June to September 1979.

SUSPENDED SEDIMENT DISCHARGE: June to September 1979.

REMARKS.--Sediment samples were taken once daily by an observer and hourly by automatic sampler on rises.
Digital conductance recorder with servo unit.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 81 micromhos July 16, 1979; minimum, 40 micromhos July 16, 1979.

WATER TEMPERATURES: Maximum daily, 25.0°C July 14, 17, 23, 25, Aug. 3, 7, 1979; minimum daily, 16.5°C Sept. 10, 1979.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 479 mg/L Sept. 6, 1979; minimum daily mean, 1 mg/L Aug. 31, Sept. 4, 12, 1979.

SEDIMENT LOADS: Maximum daily, 2,260 tons (2,050 tonnes) July 16, 1979; minimum daily, 0.13 tons (0.12 tonnes) Sept. 4, 1979.

EXTREMES FOR CURRENT PERIOD.--

SPECIFIC CONDUCTANCE: Maximum, 81 micromhos July 16; minimum, 40 micromhos July 16.

WATER TEMPERATURES: Maximum daily, 25.0°C July 14, 17, 23, 25, Aug. 3, 7; minimum daily, 16.5°C Sept. 10.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 479 mg/L Sept. 6; minimum daily mean, 1 mg/L Aug. 31, Sept. 4, 12.

SEDIMENT LOADS: Maximum daily, 2,260 tons (2,050 tonnes) July 16; minimum daily, 0.13 tons (0.12 tonnes) Sept. 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)
DEC											
06...	1215	362	60	7.5	10.5	6.5	--	--	--	--	--
JAN											
30...	1045	187	50	7.1	1.0	.5	11.6	--	--	--	--
MAR											
01...	1345	710	60	6.8	8.0	2.5	9.0	--	--	--	--
APR											
10...	1430	1190	<50	7.1	10.0	8.5	--	--	--	--	--
19...	1015	107	50	7.0	12.0	10.0	--	11	6	.0	.0
22...	0845	68	60	6.8	--	14.0	--	10	5	.0	.0
MAY											
15...	1030	375	<50	6.9	19.0	13.0	--	12	7	.0	.0
JUN											
19...	1630	31	60	6.4	27.0	23.0	--	15	7	.0	.0
20...	1530	26	--	--	30.0	24.5	--	--	--	--	--
JUL											
16...	1500	1390	<50	7.1	28.0	20.0	--	--	--	--	--
20...	1230	98	50	6.8	25.0	20.0	--	14	7	.0	.0
AUG											
16...	0800	63	57	6.5	16.5	16.5	--	14	8	.0	.0
SEP											
11...	0945	64	50	6.7	19.0	16.0	--	15	7	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
APR											
19...	2.6	1.1	--	--	5	--	9.2	2.7	29	.04	8.38
22...	2.3	1.1	--	--	5	--	9.4	3.1	29	.04	5.32
MAY											
15...	2.9	1.1	--	--	5	--	7.5	1.9	27	.04	27.3
JUN											
19...	3.9	1.3	2.7	.3	8	--	9.4	3.5	39	.05	3.26
JUL											
20...	3.8	1.2	2.1	.2	7	2.2	8.5	3.1	36	.05	9.53
AUG											
16...	3.6	1.3	2.5	.3	6	3.7	7.1	4.6	44	.06	7.48
SEP											
11...	3.7	1.3	1.8	.2	8	3.1	7.8	2.5	32	.04	5.53

LITTLE KANAWHA RIVER BASIN

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)
APR 19...	--	--	--	--	--	160	110	50	--	--
22...	--	--	--	--	--	150	120	30	--	--
MAY 15...	--	--	--	--	--	470	430	40	--	--
JUN 19...	--	--	--	--	--	610	530	80	--	--
JUL 20...	--	--	--	--	--	410	340	70	--	--
AUG 16...	--	--	--	--	--	3400	3300	100	--	--
SEP 11...	0	<10	<10	<10	<10	290	--	100	4700	<10

DATE	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE SUS- PENDE (T/DAY)
APR 19...	10	10	0	--	--	--	--	6	1.7
22...	10	0	10	--	--	--	--	4	.73
MAY 15...	30	10	20	--	--	--	--	16	16
JUN 19...	20	0	20	--	--	--	--	--	--
JUL 20...	40	0	40	--	--	--	--	--	--
AUG 16...	50	20	30	--	--	--	--	--	--
SEP 11...	30	0	30	170	.00	0	20	--	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN- TRATION	LOADS (T/DAY)	MEAN CONCEN- TRATION	LOADS (T/DAY)	MEAN CONCEN- TRATION	LOADS (T/DAY)	MEAN CONCEN- TRATION	LOADS (T/DAY)	MEAN CONCEN- TRATION	LOADS (T/DAY)	MEAN CONCEN- TRATION	LOADS (T/DAY)
	(MG/L)		(MG/L)		(MG/L)		(MG/L)		(MG/L)		(MG/L)	
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1					---	---	15	1.6	12	4.4	2	.38
2					---	---	53	14	10	2.3	2	.30
3					---	---	21	3.8	13	2.3	2	.31
4					---	---	10	1.4	10	1.3	1	.13
5					---	---	23	5.0	6	.58	19	7.1
6					---	---	10	1.6	6	.49	479	1040
7					---	---	9	1.0	7	.51	100	104
8					---	---	6	.50	17	1.9	15	8.2
9					---	---	5	.34	38	6.5	5	1.7
10					---	---	5	.32	18	1.8	5	1.2
11					---	---	5	.31	12	1.8	3	.53
12					---	---	4	.22	53	40	1	.14
13					---	---	4	.19	26	15	3	.34
14					---	---	3	.16	11	3.4	8	1.1
15					---	---	35	7.1	10	2.2	20	5.2
16					---	---	397	2260	9	1.4	5	.82
17					---	---	33	36	3	.35	2	.24
18					---	---	14	7.0	4	.43	3	.28
19					---	---	9	3.5	35	15	4	.32
20					---	---	5	1.3	102	94	7	.55
21					6	.36	5	1.1	100	115	25	8.9
22					11	.92	3	.53	25	17	256	475
23					63	14	18	5.6	8	3.3	84	167
24					37	7.7	18	3.7	5	1.4	37	37
25					12	1.8	10	1.6	15	5.7	20	11
26					8	.86	91	29	26	8.3	15	5.0
27					8	.65	412	417	178	270	10	2.4
28					7	.45	28	29	75	99	20	7.5
29					5	.28	17	11	13	8.7	9	6.3
30					7	.45	57	64	4	1.6	7	3.8
31					---	---	20	13	1	.27	---	---
TOTAL					---	27.47	---	2920.87	---	725.93	---	1896.74
TOTAL LOAD FOR PERIOD:		5571.01	TONS.									

LITTLE KANAWHA RIVER BASIN

03151518 BURNSVILLE LAKE NEAR BURNSVILLE, WV

LOCATION.--Lat 38°50'38", long 80°37'12", Braxton County, Hydrologic Unit 05030203, at Burnsville Dam on Little Kanawha River, 2.7 mi (4.3 km) upstream from Burnsville, and at mile 124.2 (199.8 km).

DRAINAGE AREA.--163 mi² (422 km²).

PERIOD OF RECORD.--July 1976 to current year. Prior to March 1979, reservoir elevations above 770.38 ft (234.812 m) only.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by rockfill embankment with impervious core, completed in January 1976. Storage-control operations began Mar. 18, 1979. Spillway is a concrete ogee spillway controlled by three crest gates, 42 ft (12.8 m) by 35 ft (10.7 m) each, at crest elevation 792 ft (241.4 m) and a total crest width of 142 ft (43.3 m). Flow is controlled by five 4.0 ft (1.22 m) by 4.5 ft (1.37 m) sluices with hydraulically operated slide gates located in the concrete spillway section. Three 4.0 ft (1.22 m) by 4.0 ft (1.22 m) intakes will discharge through three 30 in (762 mm) diameter conduits for water-quality control. Streambed elevation at dam is 755 ft (230.1 m). Total capacity at flood-control pool elevation of 825 ft (251.5 m), is 65,900 acre-ft (81.3 hm³), of which 61,700 acre-ft (76.1 hm³) is controlled storage above minimum pool elevation of 776 ft (236.5 m). Figures given herein represent total contents. This is a multipurpose reservoir.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 29,140 acre-ft (35.9 hm³) Dec. 11, 1978 elevation, 802.03 ft (244.459 m); minimum since storage-control operations began, 14,110 acre-ft (17.4 hm³) July 30, 1979, elevation, 788.74 ft (240.408 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 29,140 acre-ft (35.9 hm³) Dec. 11, elevation, 802.03 ft (244.459 m); minimum, no storage at times prior to Mar. 18, when natural flow was passing through reservoir.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)	Change in Contents (equivalent in cfs)
Sept. 30.....	755.00	1	-	-
Oct. 31.....	-	-	-	-
Nov. 30.....	-	-	-	-
Dec. 31.....	776.34	4437	-	-
CAL YR 1978	-	-	-	-
Jan. 31.....	-	-	-	-
Feb. 28.....	795.02	20640	-	-
Mar. 31.....	776.46	4505	-16140	-263
Apr. 30.....	794.18	19710	+15210	+256
May 31.....	789.47	14820	-4890	-80
June 30.....	789.34	14690	-130	-2
July 31.....	789.71	15050	+360	+6
Aug. 31.....	789.69	15030	-20	0
Sept. 30.....	789.51	14850	-180	-3
WTR YR 1979		14850	+14850	+21

LITTLE KANAWHA RIVER BASIN

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03151520 LITTLE KANAWHA RIVER BELOW BURNSVILLE DAM, WV

LOCATION.--Lat 38°50'41", long 80°37'45", Braxton County, Hydrologic Unit 05030203, on right bank 2600 ft (792 m) downstream from Burnsville Dam, 1.6 mi (2.6 km) southeast of Burnsville, and at mile 123.7 (199.0 km).

DRAINAGE AREA.--163 mi² (422 km²).

PERIOD OF RECORD.--July 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 700.00 ft (213.360 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated since 1979 by Burnsville Lake (station 03151518).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,530 ft³/s (71.6 m³/s) Oct. 9, 1976, gage height, 58.81 ft (17.925 m); minimum, 3.6 ft³/s (0.10 m³/s) May 26, 1977, gage height, 50.62 ft (15.429 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,110 ft³/s (59.8 m³/s) Mar. 6, gage height, 57.17 ft (17.425 m); minimum, 4.0 ft³/s (0.11 m³/s) Aug. 1, gage height, 51.31 ft (15.639 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	37	212	530	266	2040	184	472	230	33	134	97
2	5.0	31	155	759	145	2030	107	825	166	64	195	93
3	4.8	27	159	1450	113	1990	62	855	132	106	74	64
4	4.7	24	234	1680	150	1690	62	848	107	92	59	45
5	5.0	23	20	1190	163	705	64	810	68	79	60	58
6	5.2	22	21	543	122	1480	66	720	68	79	46	315
7	5.6	20	21	337	128	2010	66	418	68	77	37	465
8	6.0	20	31	902	156	1910	66	202	68	51	38	465
9	6.1	19	268	1460	154	1750	70	148	68	37	38	465
10	5.7	20	31	1410	132	1470	698	135	68	37	39	340
11	5.3	19	657	1300	103	995	1130	158	238	36	80	110
12	4.9	18	2040	999	46	570	980	292	189	36	317	33
13	4.6	16	2050	423	104	437	652	486	94	37	388	53
14	5.8	15	2050	344	193	400	418	652	88	37	179	99
15	12	16	2030	492	332	458	274	660	55	37	104	114
16	21	49	1950	448	855	225	238	507	42	623	91	74
17	28	90	1780	390	1580	50	234	261	44	799	49	54
18	33	111	1450	395	1600	51	184	225	46	354	50	53
19	33	89	525	391	1520	55	158	189	46	182	128	54
20	26	68	221	421	1210	55	158	140	44	98	348	48
21	20	56	51	227	613	57	132	107	44	75	561	106
22	16	48	1090	716	613	57	79	107	43	76	512	290
23	13	44	2020	903	523	57	79	107	153	75	262	635
24	12	76	2020	1410	130	59	79	370	194	117	137	720
25	11	118	1840	1700	23	279	79	788	118	99	111	468
26	19	97	1870	1720	24	394	124	832	64	80	152	270
27	214	342	1100	1670	26	326	585	780	44	314	360	136
28	213	651	432	1460	1100	234	234	728	36	574	456	199
29	99	456	228	985	---	184	91	578	36	488	465	409
30	60	299	220	440	---	184	47	292	35	222	376	358
31	45	---	336	368	---	184	---	212	---	7.4	153	---
TOTAL	949.0	2921	27112	27463	12124	22386	7400	13904	2696	5021.4	5999	6690
MEAN	30.6	97.4	875	886	433	722	247	449	89.9	162	194	223
MAX	214	651	2050	1720	1600	2040	1130	855	238	799	561	720
MIN	4.6	15	20	227	23	50	47	107	35	7.4	37	33

CAL YR 1978 TOTAL 118594.8 MEAN 325 MAX 2200 MIN 4.6
WTR YR 1979 TOTAL 134665.4 MEAN 369 MAX 2050 MIN 4.6

LITTLE KANAWHA RIVER BASIN

03151600 LITTLE KANAWHA RIVER AT BURNSVILLE, WV

LOCATION.--Lat 38°51'55", long 80°40'32", Braxton County, Hydrologic Unit 05030203, on right bank 70 ft (21 m) upstream from Buffalo Creek, 1.0 mi (1.6 km) northwest of Burnsville, 1.4 mi (2.3 km) downstream from Oil Creek, and at mile 119.5 (192.3 km).

DRAINAGE AREA.--248 mi² (642 km²).

PERIOD OF RECORD.--April 1974 to September 1978, October 1978 to September 1979 (gage heights, discharge measurements, and annual maximum discharge only).

GAGE.--Water-stage recorder. Datum of gage is 738.66 ft (225.144 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow partially regulated since 1968 by five floodwater-detention reservoirs affecting 49.5 mi² (128.2 km²), and since 1979 by Burnsville Lake (Station 03151518). Corps of Engineers gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,890 ft³/s (195 m³/s) June 2, 1974, gage height, 16.32 ft (4.974 m); minimum observed, 2.4 ft³/s (0.068 m³/s) May 24, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,920 ft³/s (139 m³/s) Dec. 9, gage height, 12.68 ft (3.865 m); minimum gage height, 3.39 ft (1.033 m) Oct. 3, 4.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.46	3.97	4.86	6.25	5.01	8.40	4.64	5.14	4.68	3.77	3.93	4.13
2	3.44	3.92	4.64	8.38	4.63	8.31	4.82	6.01	4.43	4.01	4.57	4.16
3	3.40	3.87	4.91	7.47	4.48	8.14	5.34	6.07	4.27	4.20	4.05	4.00
4	3.45	3.84	8.01	7.45	4.60	7.73	5.23	6.18	4.20	4.16	3.93	3.86
5	3.50	3.83	5.21	6.79	4.61	8.63	4.87	6.45	3.98	4.14	3.93	4.10
6	3.54	3.82	4.56	5.71	4.48	7.60	4.68	6.04	3.95	4.11	3.86	6.06
7	3.54	3.80	4.30	5.92	4.48	8.26	4.45	5.36	3.94	4.06	3.77	5.58
8	3.55	3.82	6.90	8.09	4.59	7.86	4.36	4.72	3.95	3.93	3.79	5.43
9	3.55	3.81	10.37	7.44	4.55	7.46	5.43	4.44	3.95	3.79	4.04	5.36
10	3.54	3.81	5.90	7.11	4.46	7.07	6.49	4.35	3.97	3.78	3.91	5.05
11	3.52	3.80	5.94	6.88	4.35	6.63	6.81	4.38	4.58	3.78	4.24	4.24
12	3.51	3.79	8.18	6.49	4.10	5.74	6.45	4.91	4.50	3.77	5.51	3.83
13	3.56	3.77	8.13	5.50	4.49	5.38	5.82	5.60	4.07	3.77	5.40	3.74
14	3.70	3.75	8.09	6.02	4.85	5.41	5.32	5.80	4.04	3.78	4.67	4.19
15	3.79	3.82	8.01	5.91	5.64	5.55	4.90	5.74	3.86	3.97	4.27	4.28
16	3.85	4.35	7.79	5.63	8.51	4.90	4.72	5.43	3.72	5.24	4.18	4.08
17	4.06	4.61	7.37	5.53	7.75	4.29	4.68	4.76	3.72	6.01	3.95	3.91
18	3.97	4.63	6.92	5.61	7.40	4.22	4.50	4.64	3.71	5.08	3.91	3.89
19	3.95	4.45	5.48	5.44	7.21	4.17	4.37	4.46	3.71	4.54	4.38	3.88
20	3.88	4.28	6.30	6.00	6.79	4.13	4.35	4.28	3.70	4.15	5.40	3.84
21	3.81	4.17	8.60	7.42	6.29	4.09	4.26	4.15	3.71	4.02	6.16	4.89
22	3.77	4.09	6.97	6.88	6.97	4.08	4.03	4.14	3.78	4.01	5.67	6.02
23	3.75	4.06	8.26	6.64	7.64	4.06	4.03	4.13	4.26	4.01	4.95	6.16
24	3.73	4.56	8.33	7.47	7.12	4.71	4.03	5.55	4.59	4.17	4.43	6.04
25	3.72	4.61	8.83	7.85	6.23	5.42	4.02	6.63	4.21	4.14	4.31	5.45
26	3.87	4.45	7.99	7.57	5.99	5.40	4.18	6.36	3.93	4.04	4.42	4.91
27	5.32	5.94	6.78	7.41	5.33	5.12	5.97	6.15	3.82	4.98	5.70	4.40
28	4.93	6.38	5.50	7.09	6.52	4.81	5.26	6.06	3.70	5.69	5.54	4.73
29	4.45	5.67	4.90	6.47	---	4.58	4.83	5.64	3.69	5.44	5.41	5.72
30	4.19	5.18	4.83	5.48	---	4.54	4.45	5.01	3.70	4.72	5.17	5.34
31	4.06	---	5.52	5.27	---	4.54	---	4.58	---	3.66	4.46	---
MEAN	3.82	4.30	6.72	6.62	5.69	5.85	4.91	5.26	4.01	4.29	4.58	4.71
MAX	5.32	6.38	10.37	8.38	8.51	8.63	6.81	6.63	4.68	6.01	6.16	6.16
MIN	3.40	3.75	4.30	5.27	4.10	4.06	4.02	4.13	3.69	3.66	3.77	3.74

WTR YR 1979 MEAN 5.06 MAX 10.37 MIN 3.40

LITTLE KANAWHA RIVER BASIN

177

03152000 LITTLE KANAWHA RIVER AT GLENVILLE, WV

LOCATION.--Lat 38°56'00", long 80°50'20", Gilmer County, Hydrologic Unit 05030203, on right bank at highway bridge at Glenville, 1000 ft (305 m) upstream from Sycamore Run, and at mile 103.4 (166.4 km).

DRAINAGE AREA.--386 mi² (1,000 km²).

PERIOD OF RECORD.--June 1915 to September 1922 (gage heights only), October 1928 to current year. Monthly discharge only October to December 1928, published in WSP 1305.

REVISED RECORDS.--WSP 783: Drainage area. WSP 1305: 1930, 1932(M). WSP 1435: 1954. WSP 1555: 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 697.79 ft (212.686 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Dec. 14, 1934, nonrecording gage at bridge 300 ft (91 m) upstream at same datum. Auxiliary water-stage recorder 2.7 mi (4.3 km) downstream from base gage at datum 700.23 ft (213.430 m) National Geodetic Vertical Datum of 1929. Prior to May 25, 1971, auxiliary nonrecording gage at same site and datum.

REMARKS.--Records good except those for February, which are poor. Flow partially regulated since 1968 by five floodwater detention reservoirs affecting 49.5 mi² (128.2 km²), and since 1979 by Burnsville Lake (Station 03151518). National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--51 years, 603 ft³/s (17.08 m³/s), 21.21 in/yr (539 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,500 ft³/s (609 m³/s) Mar. 7, 1967, gage height, 34.50 ft (10.516 m), backwater; no flow at times in 1930-33.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 16, 1926, reached a stage of 33.6 ft (10.24 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,600 ft³/s (300 m³/s) Dec. 9, gage height, 28.93 ft (8.818 m) backwater; minimum, 11 ft³/s (0.31 m³/s) Oct. 10, gage height, 1.64 ft (0.500 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	101	503	2020	616	1760	445	478	395	47	57	155
2	30	77	359	5160	448	1960	814	1030	280	74	274	183
3	28	65	774	3070	326	2100	1430	1100	209	177	162	484
4	28	53	5430	2360	369	2250	1500	1180	195	138	101	203
5	27	48	2580	1700	310	5240	859	1700	138	137	93	146
6	25	46	587	1100	250	3250	688	1370	110	126	92	1710
7	24	43	363	800	270	2800	481	918	97	107	71	950
8	24	45	3200	4420	348	2590	394	510	97	96	74	704
9	23	45	11500	2210	298	2350	1490	309	96	64	105	626
10	19	40	4680	2220	260	2160	2560	251	94	53	115	576
11	22	38	1030	1940	220	2100	1580	222	193	51	148	234
12	21	37	2460	1400	150	1530	1610	668	354	49	644	132
13	21	36	2590	1000	210	1010	1180	1070	131	48	844	76
14	41	33	2530	1770	400	872	819	1060	110	51	420	113
15	68	62	2430	1790	718	968	573	928	93	59	188	210
16	62	506	2360	1100	5160	882	437	816	59	235	162	175
17	131	602	2050	950	3500	567	397	427	51	1210	138	111
18	135	742	1790	1200	3000	377	349	314	48	557	98	93
19	101	411	1130	1000	2500	312	263	237	48	366	163	85
20	88	251	1370	1330	1500	270	249	213	47	172	509	77
21	73	179	7330	4740	1210	239	240	151	48	133	1770	350
22	48	144	2840	2670	1500	211	185	157	74	116	997	2320
23	38	129	2750	1880	2440	195	167	138	126	112	680	1520
24	35	251	2740	2740	4400	352	165	970	285	123	301	1160
25	32	321	4320	3550	3440	853	158	2890	222	158	227	887
26	43	253	2880	2480	2740	963	210	1710	102	130	229	430
27	1090	1160	2220	2280	1360	915	1340	1570	80	280	848	252
28	614	2140	925	2030	1020	646	1260	1340	56	827	847	230
29	300	1240	553	1650	---	461	776	1060	46	714	698	1010
30	183	739	469	946	---	393	519	638	43	557	607	779
31	131	---	977	681	---	367	---	304	---	127	376	---
TOTAL	3537	9837	77720	64687	38953	40843	23538	25769	3927	7094	12038	15981
MEAN	114	328	2507	2087	1391	1318	785	811	131	229	388	533
MAX	1090	2140	11500	5160	5160	5240	2560	2890	395	1210	1770	2320
MIN	19	33	359	681	150	195	158	138	43	47	57	76

CAI YR 1978 TOTAL 288283 MEAN 790 MAX 11500 MIN 19
WTR YR 1979 TOTAL 323924 MEAN 887 MAX 11500 MIN 19

LITTLE KANAWHA RIVER BASIN

03153500 LITTLE KANAWHA RIVER AT GRANTSVILLE, WV

LOCATION.--Lat 38°55'20", long 81°05'50", Calhoun County, Hydrologic Unit 05030203, on left bank 1,000 ft (305 m) downstream from bridge on State Highway 16 at Grantsville, 1,200 ft (366 m) downstream from Philip Run, and at mile 80.0 (128.7 km).

DRAINAGE AREA.--913 mi² (2,365 km²).

PERIOD OF RECORD.--October 1928 to September 1978. Monthly discharge only October to December 1928, published in WSP 1305. October 1978 to September 1979 (gage heights, discharge measurements, and annual maximum discharge only).

REVISED RECORDS.--WSP 1275: 1929(M), 1932-36.

GAGE.--Water-stage recorder. Datum of gage is 652.83 ft (198.983 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Nov. 21, 1934, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow partially regulated since 1968 by five floodwater detention reservoirs affecting 49.5 mi² (128.2 km²), and since 1979 by Burnsville Lake (Station 03151518).

AVERAGE DISCHARGE.--50 years, 1,328 ft³/s (37.61 m³/s), 19.75 in/yr (502 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,100 ft³/s (994 m³/s) Mar. 7, 1967, gage height, 43.9 ft (13.38 m), from floodmarks; no flow Sept. 10 to Nov. 16, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,500 ft³/s (779 m³/s) Dec. 9, gage height, 37.92 ft (11.558 m); minimum gage height, 6.35 ft (1.935 m).

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.62	7.49	9.83	14.98	9.81	14.21	9.62	9.76	9.01	6.92	7.62	8.29
2	6.58	7.30	9.15	25.52	9.34	15.05	12.48	10.15	9.31	7.11	7.22	7.68
3	6.55	7.16	10.04	20.62	8.89	14.42	12.68	10.56	8.54	7.41	7.75	11.01
4	6.55	7.05	24.61	14.22	9.02	14.44	15.71	11.18	8.23	7.47	7.34	10.25
5	6.55	6.97	24.07	13.23	8.78	25.78	13.11	14.17	8.04	7.76	7.04	8.38
6	6.57	6.90	11.89	11.77	8.70	21.49	11.74	13.43	7.69	7.85	7.02	11.02
7	6.53	6.86	9.82	10.93	8.79	15.05	10.51	11.63	7.49	7.51	7.09	11.64
8	6.50	6.84	15.83	20.94	8.75	14.04	9.85	10.26	7.37	7.27	6.99	9.88
9	6.48	6.85	34.70	17.30	8.64	13.10	12.55	9.32	7.35	7.13	7.03	9.27
10	6.45	6.84	33.18	14.02	8.50	12.48	18.96	8.79	7.30	6.98	7.24	8.97
11	6.42	6.82	15.51	12.93	8.44	13.14	14.40	8.47	7.83	6.89	7.94	8.54
12	6.38	6.78	12.60	12.27	8.37	12.17	12.92	9.26	8.28	6.87	8.74	7.72
13	6.37	6.75	13.46	11.54	8.53	10.73	11.81	10.88	8.03	6.88	10.80	7.29
14	6.53	6.73	13.14	14.12	9.16	10.45	10.77	11.20	7.40	6.87	9.28	7.12
15	6.93	6.84	12.83	15.65	9.75	11.26	10.03	10.37	7.24	6.91	8.38	7.43
16	7.13	9.63	12.64	12.49	20.41	10.72	9.43	9.93	7.12	6.98	7.72	7.75
17	7.10	10.87	12.27	11.64	22.45	9.81	9.07	9.18	6.99	8.67	7.46	7.48
18	7.52	12.11	11.81	12.98	21.94	9.27	8.85	8.41	6.92	9.31	7.25	7.14
19	7.41	10.36	11.10	11.69	21.94	9.04	8.54	8.19	6.90	8.35	7.46	7.01
20	7.17	9.03	11.06	12.68	21.92	8.83	8.32	7.92	6.86	7.87	8.51	6.94
21	7.01	8.44	29.79	22.81	18.28	8.64	8.21	7.92	6.93	7.25	13.91	7.81
22	6.88	8.12	23.28	19.25	17.21	8.40	8.10	7.98	7.34	7.07	11.80	17.85
23	6.77	7.94	14.26	14.40	21.39	8.24	7.89	7.77	8.04	7.00	10.36	15.39
24	6.68	7.95	13.90	15.75	25.75	9.66	7.86	9.94	8.64	7.51	9.23	12.05
25	6.61	8.73	18.95	19.84	24.23	13.71	7.80	16.22	8.45	7.68	8.55	10.56
26	6.63	8.54	16.69	15.38	22.79	11.94	8.15	14.39	7.85	7.64	8.73	9.30
27	10.38	11.28	14.21	13.77	15.50	10.67	14.86	13.88	7.34	10.17	10.65	8.61
28	10.94	17.00	11.43	13.11	12.53	9.87	14.23	13.44	7.12	10.43	11.16	8.68
29	9.05	13.54	10.00	12.32	---	9.37	12.04	12.05	6.99	9.77	10.63	11.04
30	8.25	11.00	9.43	11.11	---	9.01	10.78	10.33	6.91	9.41	9.97	10.74
31	7.78	---	11.21	10.00	---	8.85	---	9.20	---	8.71	9.09	---
MEAN	7.14	8.62	15.57	14.81	14.28	12.06	11.04	10.52	7.65	7.80	8.71	9.43
MAX	10.94	17.00	34.70	25.52	25.75	25.78	18.96	16.22	9.31	10.43	13.91	17.85
MIN	6.37	6.73	9.15	10.00	8.37	8.24	7.80	7.77	6.86	6.87	6.99	6.94

WTR YR 1979 MEAN 10.62 MAX 34.70 MIN 6.37

LITTLE KANAWHA RIVER BASIN

179

03154000 WEST FORK LITTLE KANAWHA RIVER AT ROCKSDALE, WV

LOCATION.--Lat 38°50'48", long 81°13'26", Calhoun County, Hydrologic Unit 05030203, on right bank on State Route 11, 850 ft (259 m) downstream from Henry Fork at Rocksdales, 9.0 mi (14.5 km) southwest of Grantsville, and at mile 14.1 (22.7 km).

DRAINAGE AREA.--205 mi² (531 km²).

PERIOD OF RECORD.--October 1928 to September 1931, October 1937 to September 1975 (monthly discharge only for some periods, published in WSP 1305), October 1975 to current year (gage heights, occasional discharge measurements, and annual maximum discharge only).

REVISED RECORDS.--WSP 953: 1929-31, 1938(M), 1939. WSP 1275: 1950.

CORRECTIONS.--Annual maximum discharge for water years 1976, 1977, 1978: 6,690 ft³/s (189 m³/s) Jan. 1, 1976; 6,830 ft³/s (193 m³/s) Apr. 5, 1977; 12,200 ft³/s (346 m³/s) Jan. 26, 1978; not previously published.

GAGE.--Water-stage recorder. Datum of gage is 657.85 ft (200.513 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to June 16, 1966, nonrecording gage, crest-stage gage Nov. 4, 1946, to June 15, 1966, on bridge 800 ft (244 m) upstream at same datum.

REMARKS.--Records good.

AVERAGE DISCHARGE.--41 years (water years 1929-31, 1938-75), 258 ft³/s (7.307 m³/s), 17.09 in/yr (434 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,200 ft³/s (572 m³/s) Apr. 16, 1939, gage height, 30.3 ft (9.24 m), from floodmarks, site then in use, from rating curve extended above 13,000 ft³/s (370 m³/s); no flow at times during 1930, 1931, 1954, 1957, 1959, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,300 ft³/s (320 m³/s) Dec. 9, gage height, 27.13 ft (8.269 m); minimum gage height, 3.75 ft (1.143 m) Oct. 11, 12.

GAGE HEIGHT, IN FEET, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.94	4.25	5.50	5.60	5.52	7.13	6.59	6.04	5.21	4.25	4.60	4.47
2	3.92	4.18	5.20	16.58	5.39	6.81	7.54	5.73	4.97	4.48	4.41	4.31
3	3.88	4.12	7.07	9.11	5.30	6.44	8.82	5.60	4.87	4.46	4.26	5.14
4	3.94	4.07	17.56	7.20	5.39	7.38	9.64	7.17	4.77	4.49	4.15	4.55
5	3.93	4.04	9.68	6.46	5.17	14.50	9.17	9.22	4.64	5.85	4.07	4.31
6	3.93	4.01	6.70	6.15	5.19	8.99	7.53	7.57	4.49	5.02	4.27	4.50
7	3.88	3.98	5.90	6.92	5.18	7.35	6.60	6.55	4.37	4.58	4.24	4.85
8	3.84	4.01	12.83	13.82	5.18	6.62	6.25	6.03	4.29	4.34	4.21	4.46
9	3.81	4.01	24.80	8.37	5.05	6.13	9.75	5.68	4.27	4.21	4.17	4.25
10	3.78	4.01	11.61	7.10	5.00	6.07	10.73	5.41	4.29	4.14	4.29	4.13
11	3.76	3.99	7.59	6.50	4.85	6.92	7.75	5.21	4.77	4.13	4.54	4.06
12	3.82	3.97	6.68	6.10	4.86	6.47	6.81	5.07	4.70	4.10	5.58	4.00
13	4.33	3.96	6.25	5.94	5.74	6.13	6.35	6.32	4.32	4.91	5.69	3.95
14	4.57	3.93	5.90	9.24	6.07	6.37	6.23	5.64	4.17	4.96	4.90	4.01
15	4.37	4.19	5.61	7.87	6.72	6.73	5.95	5.28	4.09	5.16	4.57	4.30
16	4.31	5.45	5.43	6.83	15.01	6.27	5.72	5.05	4.02	4.73	4.39	4.30
17	4.25	5.79	5.34	7.00	9.13	6.08	5.51	4.84	4.00	4.46	4.21	4.09
18	4.19	6.39	5.17	7.51	7.21	5.89	5.33	4.69	4.03	4.61	4.11	3.98
19	4.14	5.61	5.07	6.54	6.94	5.73	5.19	4.58	4.01	4.56	4.27	3.91
20	4.09	5.10	8.65	9.37	6.24	5.58	5.11	4.50	3.96	4.28	5.00	3.87
21	4.04	4.80	19.39	13.90	7.71	5.42	5.00	4.51	4.36	4.14	5.76	5.75
22	3.99	4.63	8.97	9.96	10.84	5.26	4.94	4.55	5.77	4.06	5.19	10.79
23	3.94	4.54	7.09	7.91	12.52	5.19	4.91	4.44	8.14	4.08	4.73	8.82
24	3.89	5.05	6.71	10.54	12.34	3.31	4.89	5.88	6.10	5.64	4.45	6.28
25	3.84	5.30	10.45	10.01	13.04	9.31	4.82	5.93	5.32	5.31	4.46	5.43
26	3.92	5.01	7.97	7.72	13.85	7.14	5.32	7.48	4.85	4.82	5.00	4.96
27	6.26	8.06	6.70	6.84	8.97	6.37	10.84	7.16	4.56	6.93	5.61	4.68
28	5.46	8.64	6.08	6.52	7.63	5.97	8.10	7.34	4.37	6.47	5.40	5.29
29	4.83	6.74	5.72	6.07	---	5.76	7.20	6.32	4.25	5.63	7.83	5.81
30	4.53	5.97	5.70	5.78	---	5.57	6.50	5.60	4.22	5.29	5.23	5.34
31	4.36	---	7.81	5.66	---	5.49	---	5.21	---	4.89	4.73	---
MEAN	4.19	4.93	8.43	8.23	7.57	6.75	6.84	5.83	4.67	4.81	4.79	4.95
MAX	6.26	8.64	24.80	16.58	15.01	14.50	10.84	9.22	8.14	6.93	7.83	10.79
MIN	3.76	3.93	5.07	5.66	4.85	5.19	4.82	4.44	3.96	4.06	4.07	3.87

WTR YR 1979 MEAN 5.99 MAX 24.80 MIN 3.76

LITTLE KANAWHA RIVER BASIN

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV
(National stream-quality accounting network station)

LOCATION.--Lat 39°03'35", long 81°23'25", Wirt County, Hydrologic Unit 05030203, on left bank at end of Washington Street in Elizabeth, 1.0 mi (1.6 km) upstream from Tucker Creek, 2.3 mi (3.7 km) northeast of Palestine, 2.4 mi (3.9 km) upstream from old lock 3, and at mile 27.9 (44.9 km).

DRAINAGE AREA.--1,515 mi² (3,924 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1915 to September 1922 (gage heights only), July to September 1939 (fragmentary), October 1939 to current year. Monthly discharge only October 1939 to September 1941, published in WSP 1305.

REVISED RECORDS.--WSP 953: 1940(M).

GAGE.--Water-stage recorder. Datum of gage is 585.51 ft (178.463 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 17, 1950, water-stage recorders or nonrecording gages at old locks 3 and 4 at various datums. Auxiliary water-stage recorder 3.0 mi (4.8 km) upstream from base gage at old lock 4 at datum 596.08 ft (181.685 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for February, which are poor. Flow partially regulated since 1968 by five floodwater detention reservoirs affecting 49.5 mi² (128.2 km²), and since 1979 by Burnsville Lake (Station 03151518). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--40 years, 2,118 ft³/s (59.98 m³/s), 18.98 in/yr (482 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,700 ft³/s (1,440 m³/s) Mar. 7, 1967, gage height, 39.14 ft (11.930 m), backwater, from rating curve extended above 39,000 ft³/s (1,100 m³/s); minimum, 0.6 ft³/s (.017 m³/s) July 14, 1959 (filling pool above old lock 3).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 17, 1939, reached a stage of 32.25 ft (9.830 m), from flood-marks at old lock 4, discharge about 53,000 ft³/s (1,500 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 41,900 ft³/s (1,190 m³/s) Dec. 10, gage height, 36.37 ft (11.086 m); minimum, 98 ft³/s (2.78 m³/s) Oct. 13, gage height, 13.82 ft (4.212 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	169	580	2180	6860	1720	4460	1740	2180	1230	225	864	1080
2	160	454	1560	19100	1500	5780	4320	1630	1140	217	544	760
3	149	371	2430	19600	1200	5570	4440	1820	1130	223	356	656
4	154	314	13400	8280	1100	5060	7010	3450	861	268	283	2190
5	158	272	23800	4910	920	10400	7000	5990	721	400	327	1370
6	155	242	9720	3960	810	18900	4710	5980	627	614	251	748
7	146	221	2730	3200	870	8750	3320	3970	510	537	225	2110
8	135	211	10500	8770	993	5580	2480	2650	409	425	209	1820
9	126	198	37200	12000	940	4500	4150	1830	348	315	229	1210
10	115	192	39100	6530	829	3770	11600	1390	314	250	214	917
11	107	187	21900	4400	670	4010	8430	1090	351	220	644	794
12	104	183	4590	3400	580	4190	4990	944	424	189	991	698
13	108	179	3990	3000	720	3090	3700	1810	566	165	1450	484
14	215	173	3930	5740	970	2360	2590	2420	581	230	1670	354
15	285	205	3520	8170	1200	2570	2350	2090	395	348	1070	286
16	285	1130	3220	5430	7400	2690	1850	1690	280	354	712	253
17	289	2530	3040	3740	16000	2250	1510	1440	234	270	492	338
18	304	3220	2680	4840	8140	1770	1300	1080	204	440	366	353
19	280	3080	2370	4160	5000	1520	1120	772	180	952	355	283
20	338	1860	3570	5080	4200	1370	957	670	160	678	376	219
21	311	1230	23200	16700	4100	1210	842	586	331	516	1550	765
22	254	903	25600	16100	8800	1060	780	551	796	350	4110	6820
23	214	768	9550	8410	16800	949	743	560	1410	517	2850	10400
24	186	703	5010	8720	20000	1880	683	1740	1380	546	1780	5060
25	162	792	8530	13000	21100	5920	641	3440	1020	973	1250	2490
26	175	993	10100	9150	24000	4910	628	7440	815	716	875	1690
27	1240	2500	6180	5570	14500	3190	3350	6000	601	1820	1990	1140
28	2500	5750	4240	4460	6120	2330	7020	5870	422	2610	2340	1260
29	1850	6570	2370	3750	---	1860	4600	4270	297	1900	5440	2210
30	1110	3670	1760	2980	---	1590	3080	2650	242	1520	2820	2410
31	753	---	3050	2200	---	1400	---	1680	---	1190	1580	---
TOTAL	12538	39681	295020	232210	171182	124889	102344	79683	17979	19978	38213	51168
MEAN	404	1323	9517	7491	6114	4029	3411	2570	599	644	1233	1706
MAX	2500	6570	39100	19600	24000	18900	11600	7440	1410	2610	5440	10400
MIN	104	173	1560	2200	580	949	628	551	160	165	209	219

CAL YR 1978 TOTAL 1033787 MEAN 2832 MAX 39100 MIN 104
WTR YR 1979 TOTAL 1184885 MEAN 3746 MAX 39100 MIN 104

LITTLE KANAWHA RIVER BASIN

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03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965-67 (corrected), 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)
OCT												
24...	1025	164	205	7.4	13.0	1.0	10.3	15	11	83	30	--
NOV												
28...	1005	5420	110	7.1	8.0	30	11.6	2200	2500	47	19	--
DEC												
19...	1015	2410	70	6.6	5.0	4.0	14.2	230	75	29	14	--
JAN												
30...	1030	3400	88	6.8	1.0	5.0	16.6	2000	33	30	15	--
MAR												
15...	1200	2570	100	6.5	5.0	15	12.0	190	67	39	19	--
27...	0940	3280	108	6.6	7.0	20	11.4	1000	330	40	21	--
APR												
10...	1010	13300	75	6.7	8.0	8.0	11.0	3900	5400	35	19	--
21...	1005	880	130	7.1	14.5	--	--	--	--	46	--	.0
23...	1600	732	120	6.6	16.0	--	--	--	--	47	20	.0
MAY												
22...	1045	557	90	7.4	21.0	1.0	8.6	33	22	40	12	--
22...	1200	574	120	7.3	20.0	--	--	--	--	43	9	.0
JUN												
26...	1030	830	110	8.3	22.0	20	7.6	2500	78	49	18	--
26...	1130	830	120	6.9	21.0	--	--	--	--	46	15	.0
JUL												
17...	0955	271	135	8.3	27.0	1.0	7.7	22	20	57	10	--
19...	1330	924	220	6.9	21.0	--	--	--	--	59	25	.0
AUG												
14...	0815	1820	160	6.9	22.0	--	--	--	--	52	19	.0
28...	1015	2410	145	6.6	22.5	60	7.6	1500	3150	45	19	--
SEP												
10...	1800	891	140	7.3	22.0	--	--	--	--	48	21	.0
25...	1030	2000	110	6.9	16.5	40	10.0	1870	1700	42	21	--

DATE	ACIDITY (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT												
24...	--	24	5.6	15	27	.7	--	2.7	53	--	30	21
NOV												
28...	--	13	3.5	6.2	21	.4	--	2.1	28	--	21	8.2
DEC												
19...	--	8.1	2.1	2.9	17	.2	--	1.6	15	--	15	3.6
JAN												
30...	--	8.3	2.2	4.8	25	.4	--	1.1	15	--	18	6.5
MAR												
15...	--	11	2.9	5.0	21	.3	--	1.1	20	--	19	5.1
27...	--	11	3.0	5.4	22	.4	--	1.2	19	--	20	6.0
APR												
10...	--	10	2.5	3.6	18	.3	--	1.2	16	--	18	3.8
21...	.0	13	3.3	--	--	--	--	--	23	--	22	6.7
23...	.0	13	3.5	--	--	--	--	--	27	--	22	6.5
MAY												
22...	--	11	3.0	4.9	20	.3	--	1.4	28	--	17	4.8
22...	.0	12	3.1	--	--	--	--	--	34	--	16	5.9
JUN												
26...	--	14	3.5	6.8	22	.4	--	1.9	31	--	21	7.7
26...	.0	13	3.3	6.3	--	.4	--	--	31	--	18	8.4
JUL												
17...	--	16	4.1	9.6	26	.6	11	1.8	47	--	20	11
19...	.0	17	4.1	15	--	.8	--	--	34	8.4	21	45
AUG												
14...	.0	15	3.6	6.9	--	.4	--	--	33	8.1	14	11
28...	--	13	3.1	5.6	20	.4	7.6	2.0	26	--	14	6.6
SEP												
10...	.0	14	3.1	5.7	--	.4	--	--	39	3.3	15	7.2
25...	--	12	2.8	4.6	19	.3	6.6	2.0	21	--	16	5.0

LITTLE KANAWHA RIVER BASIN

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)
OCT												
24...	.1	3.6	139	134	.19	61.5	.01	--	.03	--	--	--
NOV												
28...	.1	5.9	92	77	.13	1350	.34	--	.03	--	--	--
DEC												
19...	.0	5.5	49	48	.07	319	.45	--	.01	--	--	--
JAN												
30...	.1	5.3	58	55	.08	532	.40	--	.03	--	--	--
MAR												
15...	.1	5.7	68	62	.09	472	.30	--	.02	--	--	--
27...	.0	5.6	69	64	.09	611	.24	--	.01	--	--	--
APR												
10...	.0	5.8	60	55	.08	2160	.23	--	.03	--	.04	--
21...	--	--	80	--	.11	190	--	--	--	--	--	--
23...	--	--	82	--	.11	162	--	--	--	--	--	--
MAY												
22...	.1	3.8	61	63	.08	91.7	.06	--	.04	--	.05	--
22...	--	--	67	--	.09	104	--	--	--	--	--	--
JUN												
26...	.1	4.6	111	78	.15	249	.24	--	.04	--	.05	--
26...	--	--	91	--	.12	204	--	--	--	--	--	--
JUL												
17...	.1	3.2	104	94	.14	76.1	.00	--	.07	--	.08	--
19...	--	--	180	--	.24	449	--	--	--	--	--	--
AUG												
14...	--	--	95	--	.13	467	--	--	--	--	--	--
28...	.1	6.2	79	68	.11	514	.31	.28	.01	--	.01	--
SEP												
10...	--	--	84	--	.11	202	--	--	--	--	--	--
25...	.1	6.9	74	64	.10	400	.35	.35	.05	.04	.06	.05

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N)	NITRO- GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHATE, TOTAL (MG/L AS PO4)	PHOS- PHORUS TOTAL (MG/L AS PO4)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT												
24...	.14	--	--	.17	.00	.18	.18	.80	.010	--	--	.000
NOV												
28...	.44	--	--	.47	.26	.21	.81	3.6	.100	--	--	.000
DEC												
19...	.13	--	--	.14	.01	.13	.59	2.6	.030	--	--	.000
JAN												
30...	.11	--	--	.14	.04	.10	.54	2.4	.010	--	--	.000
MAR												
15...	.23	--	--	.25	.18	.07	.55	2.4	.020	--	--	.000
27...	.31	--	--	.32	.25	.07	.56	2.5	.050	--	--	.000
APR												
10...	.35	--	--	.38	.00	.38	.61	2.7	.050	.15	.15	.010
21...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
22...	.12	--	--	.16	.06	.10	.22	.97	.010	.03	.03	.000
22...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
26...	.31	--	--	.35	.10	.25	.59	2.6	.040	.12	.12	.010
26...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
17...	.18	--	--	.25	.20	.05	.25	1.1	.020	--	.06	.000
19...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
14...	--	--	--	--	--	--	--	--	--	--	--	--
28...	.70	--	1.0	.71	.00	.74	1.0	4.5	.090	--	.28	.030
SEP												
10...	--	--	--	--	--	--	--	--	--	--	--	--
25...	.54	.21	.60	.59	.34	.25	.94	4.2	.050	--	.15	.020

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)
NOV 28...	2	--	1	--	100	0	100	25	23	2
MAR 15...	2	--	1	--	0	0	0	0	0	0
MAY 22...	2	--	1	--	0	0	0	1	1	0
AUG 28...	1	0	1	--	0	0	60	0	0	0
SEP 10...	--	--	--	0	--	--	--	--	--	--

DATE	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
NOV 28...	--	10	10	0	--	0	0	2	--	6
MAR 15...	--	10	5	5	--	0	0	0	--	40
MAY 22...	--	20	0	30	--	0	0	0	--	2
AUG 28...	--	20	10	<10	--	1	0	3	--	5
SEP 10...	<10	--	--	--	<10	--	--	--	<10	--

DATE	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 28...	3	3	--	6000	5900	80	--	380	320	59
MAR 15...	40	0	--	1000	900	100	--	4	1	3
APR 21...	--	--	--	500	460	40	--	--	--	--
23...	--	--	--	510	480	30	--	--	--	--
MAY 22...	1	1	--	500	430	70	--	0	0	0
22...	--	--	--	680	620	60	--	--	--	--
JUN 26...	--	--	--	2200	2100	110	--	--	--	--
JUL 19...	--	--	--	790	730	60	--	--	--	--
AUG 14...	--	--	--	1200	1000	170	--	--	--	--
28...	3	2	--	2300	--	70	--	1	1	0
SEP 10...	--	--	<10	1200	--	100	11000	--	--	--

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)
NOV 28...	--	270	230	40	--	<.5	.0	<.5	--	0
MAR 15...	--	50	30	20	--	<.5	.0	<.5	--	0
APR 21...	--	40	10	30	--	--	--	--	--	--
23...	--	50	20	30	--	--	--	--	--	--
MAY 22...	--	80	30	50	--	<.5	.0	<.5	--	0
22...	--	110	30	80	--	--	--	--	--	--
JUN 26...	--	100	60	40	--	--	--	--	--	--
JUL 19...	--	50	0	50	--	--	--	--	--	--
AUG 14...	--	70	40	30	--	--	--	--	--	--
28...	--	160	150	10	--	<.5	.0	<.5	--	0
SEP 10...	<10	90	50	40	300	--	--	--	.00	--

LITTLE KANAWHA RIVER BASIN

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
NOV 28...	0	0	--	0	0	0	40	0	40	--
MAR 15...	0	0	--	0	0	0	50	50	0	--
MAY 22...	0	0	--	0	0	0	30	30	0	--
AUG 28...	0	0	--	0	0	0	20	20	3	--
SEP 10...	--	--	0	--	--	--	--	--	--	30

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 24...	3.5	--	--	--	11	4.9	10
NOV 28...	--	16	1.2	170	53	776	25
DEC 19...	2.4	--	--	--	317	2060	95
JAN 30...	1.1	--	--	--	13	119	76
MAR 15...	--	2.0	.3	--	86	597	20
27...	5.9	--	--	450	48	425	90
APR 10...	7.5	--	--	--	1370	49200	27
21...	--	--	--	--	15	36	--
MAY 22...	--	2.0	.3	4900	13	20	44
JUN 26...	4.0	--	--	390	43	96	95
JUL 17...	4.0	--	--	6800	9	6.6	99
AUG 28...	--	5.8	--	18	42	273	82
SEP 25...	2.9	--	--	430	14	76	89

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	NOV 28,78 1005	MAR 27,79 0940	MAY 22,79 1045	JUN 26,79 1030				
TOTAL CELLS/ML	170	450	4900	390				
DIVERSITY: DIVISION	0.4	0.0	1.1	0.7				
..CLASS	0.4	0.0	1.1	0.7				
...ORDER	0.4	0.7	1.6	1.3				
...FAMILY	1.8	2.4	2.2	1.3				
....GENUS	2.0	2.6	2.8	1.3				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...MICRACTINIAEAE								
....GOLENKINIA	--	-	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	180	4	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	--	-	--	-	80	2	--	-
....CHODATELLA	--	-	--	-	40	1	--	-
....DICTYOSPHAERIUM	--	-	--	-	480	10	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	--	-
....WESTELLA	--	-	--	-	2200#	45	--	-
...SCENEDESMACEAE								
....CRUCIGENIA	--	-	--	-	80	2	--	-
....SCENEDESMUS	--	-	--	-	80	2	--	-
....TETRASTRUM	--	-	--	-	80	2	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	100	2	--	-
...VOLVOCAEAE								
....PANDORINA	--	-	--	-	320	7	--	-
...ZYGNEMATALES								
...DESMIDIACEAE								
....CLOSTERIUM	14	8	--	-	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCAEAE								
....CYCLOTELLA	--	-	75#	17	--	-	--	-
....MELOSIRA	--	-	--	-	--	-	260#	67
....STEPHANODISCUS	--	-	--	-	720	15	--	-
...PENNALES								
....ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-	--	-
....RHOICOSPHEA	--	-	50	11	--	-	--	-
...CYMBELLA								
....CYMBELLA	--	-	--	-	--	-	--	-
...FRAGILARIAEAE								
....FRAGILARIA	14	8	--	-	240	5	--	-
...SYNEDRA	14	8	--	-	--	-	--	-
...GOMPHONEMATAEAE								
....GOMPHONEMA	--	-	130#	28	--	-	--	-
...NAVICULACEAE								
....FRUSTULIA	--	-	25	6	--	-	--	-
....NAVICULA	72#	42	100#	22	--	-	--	-
....PLEUROSIGMA	--	-	--	-	--	-	--	-
...NITZSCHIAEAE								
....NITZSCHIA	58#	33	25	6	40	1	64#	17
...SURIPELLACEAE								
....SURIPELLA	--	-	50	11	--	-	--	-
...XANTHOPHYCEAE								
...HETEROCOCCALES								
...CHLOROTHECIACEAE								
...OPHIOCYTIUM	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	100	2	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....ANACYSTIS	--	-	--	-	140	3	64#	17
...HORMOGONALES								
...OSCILLATORIAEAE								
....OSCILLATORIA	--	-	--	-	--	-	--	-
...RIVULARIAEAE								
...RAPHIIDIOPSIS	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	--	-	--	-
...TRACHELOMONAS	--	-	--	-	--	-	--	-

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

LITTLE KANAWHA RIVER BASIN

03155500 HUGHES RIVER AT CISCO, WV

LOCATION.--Lat 39°07'10", long 81°16'40", Ritchie County, Hydrologic Unit 05030203, on right bank 100 ft (30 m) downstream from confluence of North and South Forks, 1.0 mi (1.6 km) upstream from Cisco, 5.0 mi (8.0 km) south of Petroleum, and at mile 14.0 (22.5 km).

DRAINAGE AREA.--452 mi² (1,171 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1915 to September 1922 (gage heights only), October 1928 to September 1931, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1305. Prior to October 1965, published as "at Cisco."

REVISED RECORDS.--WSP 893: 1939. WSP 1113: 1947.

GAGE.--Water-stage recorder. Datum of gage is 607.92 ft (185.294 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Sept. 30, 1931, nonrecording gage at site 0.9 mi (1.4 km) downstream and Mar. 5, 1939, to Sept. 30, 1945, nonrecording gage at site 1.0 mi (1.6 km) downstream, both at datum 2.56 ft (0.780 m) lower. Oct. 1, 1945, to June 30, 1946, nonrecording gage at bridge across mouth of North Fork at present datum.

REMARKS.--Water-discharge records good except those for February, which are poor.

AVERAGE DISCHARGE.--44 years, 583 ft³/s (16.51 m³/s), 17.52 in/yr (445 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,700 ft³/s (898 m³/s) June 26, 1950, gage height, 32.69 ft (9.964 m); no flow July 26, Aug. 2-6, Sept. 4 to Dec. 5, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 9,500 ft³/s (270 m³/s) and maximum (*).

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 4	1900	12500	354	21.37	6.514	Jan. 2	1330	11800	334	20.37	6.209
Dec. 9	1600	*24000	680	30.46	9.284	Feb. 24	0600	11400	323	20.05	6.111
Dec. 21	1500	11600	329	20.15	6.142	Feb. 26	0830	9760	276	18.34	5.590

Minimum discharge, 11 ft³/s (0.31 m³/s) Oct. 3, gage height, 2.18 ft (0.664 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	109	462	2770	400	1310	704	500	390	54	176	313
2	16	85	325	9580	360	1470	1930	380	405	144	111	216
3	13	70	946	3310	320	1160	2000	340	304	141	76	660
4	19	59	9740	1000	280	946	1280	1530	244	116	56	599
5	28	51	5480	650	260	2650	1060	3540	213	141	45	284
6	30	45	1250	540	250	2280	825	1740	179	158	144	202
7	33	40	743	660	248	1090	594	869	147	103	182	182
8	30	40	5850	3220	240	742	485	577	127	66	85	147
9	23	38	21200	1860	220	550	2100	430	113	45	64	108
10	21	37	10400	580	190	465	4540	327	105	39	72	85
11	15	37	1620	720	180	594	1600	264	108	37	76	68
12	16	35	979	590	206	528	929	268	100	28	405	56
13	17	33	770	550	190	425	687	480	103	27	517	47
14	58	30	654	2630	180	430	605	345	91	44	240	49
15	142	65	533	3080	188	544	550	236	72	62	141	58
16	150	861	450	1070	2600	450	470	182	58	45	98	64
17	125	1480	425	836	3440	395	385	152	49	173	70	58
18	171	1640	405	1310	1500	365	318	127	40	100	66	49
19	138	916	365	800	900	331	268	105	34	74	111	37
20	100	504	863	1580	700	300	236	91	28	49	370	28
21	76	342	9260	7760	1500	272	209	96	56	33	3490	522
22	64	274	3170	3370	2700	236	192	192	164	23	1270	3120
23	53	229	1120	1480	6350	213	188	188	228	23	485	3260
24	45	211	770	2360	9310	885	192	2390	176	405	331	841
25	37	203	2940	5200	5370	1990	185	3480	122	400	2460	365
26	56	184	1950	1710	7760	1030	185	2240	78	216	1290	224
27	1710	894	946	1020	2430	610	1900	2420	51	268	2120	161
28	999	3290	577	797	1480	445	2050	4120	36	220	1000	731
29	353	1470	395	633	---	365	1020	1750	28	209	2270	2680
30	209	724	390	500	---	313	687	786	26	555	1310	869
31	144	---	1050	440	---	288	---	490	---	340	511	---
TOTAL	4908	13996	86028	63006	49752	23672	28374	30635	3875	4338	19642	16083
MEAN	158	467	2775	2032	1777	764	946	988	129	140	634	536
MAX	1710	3290	21200	9580	9310	2650	4540	4120	405	555	3490	3260
MIN	13	30	325	440	180	213	185	91	26	23	45	28
CFSM	.35	1.03	6.14	4.50	3.93	1.69	2.09	2.19	.29	.31	1.40	1.19
IN.	.40	1.15	7.08	5.19	4.09	1.95	2.34	2.52	.32	.36	1.62	1.32

CAL YR 1978 TOTAL 291415 MEAN 798 MAX 21200 MIN 13 CFSM 1.77 IN 23.98
WTR YR 1979 TOTAL 344309 MEAN 943 MAX 21200 MIN 13 CFSM 2.09 IN 28.34

03155500 HUGHES RIVER AT CISCO, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965-66, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
JAN 24...	1245	2110	250	7.3	3.5	2.5	--	--	--	--
APR 21...	1110	210	110	6.6	--	14.0	49	19	.0	.0
23...	1500	188	140	6.9	--	16.0	55	20	.0	.0
MAY 21...	1445	95	210	7.5	24.0	20.0	72	24	.0	.0
JUN 25...	1455	101	220	7.1	--	20.0	71	16	.0	.0
JUL 19...	0930	81	200	6.8	23.0	20.0	61	26	.0	.0
AUG 13...	1530	456	260	7.2	24.0	22.5	76	26	.0	.0
SEP 10...	1925	216	170	6.7	--	20.5	56	18	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS C02)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
APR 21...	13	3.9	--	--	30	--	21	11	89	.12	50.5
23...	15	4.2	--	--	35	--	20	10	89	.12	45.2
MAY 21...	20	5.4	--	--	48	--	20	19	110	.15	28.3
JUN 25...	20	5.2	12	.6	55	--	20	18	140	.19	38.2
JUL 19...	17	4.4	11	.6	35	11	17	17	125	.17	27.3
AUG 13...	22	5.1	17	.9	50	6.2	21	41	194	.26	239
SEP 10...	16	4.0	7.2	.4	45	15	13	10	98	.13	57.2

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
APR 21...	--	--	--	--	--	380	320	60	--
23...	--	--	--	--	--	370	300	70	--
MAY 21...	--	--	--	--	--	490	420	70	--
JUN 25...	--	--	--	--	--	1000	900	100	--
JUL 19...	--	--	--	--	--	2100	2000	90	--
AUG 13...	--	--	--	--	--	2000	1800	200	--
SEP 10...	0	<10	<10	<10	<10	660	--	140	10000

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR 21...	--	60	20	40	--	--	--	--
23...	--	40	10	30	--	--	--	--
MAY 21...	--	100	40	60	--	--	--	--
JUN 25...	--	110	60	50	--	--	--	--
JUL 19...	--	60	0	60	--	--	--	--
AUG 13...	--	110	60	50	--	--	--	--
SEP 10...	<10	110	20	90	370	.00	0	20

OHIO RIVER MAIN STEM

03159530 OHIO RIVER AT BELLEVILLE DAM, WV

LOCATION.--Lat 39°07'07", long 81°44'32", Wood County, Hydrologic Unit 05030202, at right end of Belleville Dam on Ohio River, at Reedsville, Ohio, 1.7 mi (2.7 km) upstream from Wood-Jackson County line, 4.6 mi (7.4 km) downstream from Hocking River, and at mile 203.9 (328.1 km), measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--39,300 mi² (101,800 km²), approximately.

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Gate-opening and water-stage recorder. Headwater reference gage 0.4 mi (0.6 km) upstream at datum 570.00 ft (173.736 m) Ohio River datum. Tailwater reference gage 0.5 mi (0.8 km) downstream at datum 22.00 ft (6.706 m) lower.

REMARKS.--Records poor. Daily discharge computed from head, gate openings, and lockages. Flow regulated by Ohio River system of locks, dams, and reservoirs.

AVERAGE DISCHARGE.--5 years, 61,840 ft³/s (1,751 m³/s), 21.37 in/yr (543 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 390,000 ft³/s (11,000 m³/s) Jan. 27, 1978; minimum daily, 5,100 ft³/s (144 m³/s) Sept. 7, 8, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 330,000 ft³/s (9,350 m³/s) Dec. 9, Feb. 27; minimum daily, 8,700 ft³/s (246 m³/s) Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9200	24100	41500	103000	64600	200000	82000	51000	71900	22100	33000	42000
2	10700	22300	32300	154000	58200	154000	89600	48300	63700	23000	33000	37000
3	8700	15800	41600	260000	43900	166000	136000	42000	55900	20000	31900	32000
4	16100	17100	164000	196000	47400	171000	134000	63700	48000	25000	33800	27000
5	15400	15000	200000	146000	40200	178000	138000	90400	40600	33000	28800	31000
6	9200	15900	147000	133000	40200	247000	120000	78000	44000	27000	25400	30000
7	13900	16800	104000	120000	33500	269000	103000	58300	34700	22000	23200	31000
8	14100	15400	128000	122000	34300	314000	93800	51200	44100	15000	23200	49000
9	9000	15100	330000	127000	40500	182000	98500	41800	42300	19000	21700	40000
10	12100	15200	300000	113000	30600	150000	130000	36800	39900	13000	18100	30000
11	17300	15400	317000	103000	26900	142000	170000	42300	41200	15000	36800	26000
12	11800	15200	190000	92000	27800	143000	169000	35100	36500	20000	50000	25000
13	14300	14500	130000	82800	25200	130000	132000	64000	36700	18000	62700	22000
14	37300	16500	100000	97300	21900	113000	110000	73000	30800	20000	49000	23000
15	42800	12700	85000	121000	26800	118000	100000	63000	21800	15000	47000	41000
16	47200	17200	75000	102000	45000	126000	90000	59400	24400	21000	27700	70000
17	37300	28400	68000	88000	56400	110000	92000	49000	19400	22000	23000	82000
18	32600	41600	60000	90400	62400	100000	84000	42800	17000	14000	27000	65000
19	30700	32100	56000	85200	48500	91800	76000	40300	12000	19200	25000	56000
20	20300	26400	58000	76600	39600	73200	72000	38200	19600	14900	35000	55000
21	22600	23400	130000	96700	44700	78800	64000	34600	23100	14000	75000	52000
22	22500	20800	160000	156000	74400	71400	52000	34300	33100	14000	70000	90000
23	19200	24100	130000	116000	148000	63200	48800	28400	29700	19000	54000	98000
24	15700	18300	95000	104000	204000	62800	45200	58000	21300	15000	44500	80000
25	15100	22000	90000	156000	250000	74600	51800	97200	16100	18000	60000	66000
26	18300	25500	120000	132000	300000	85500	44200	118000	17800	22000	60000	60000
27	37700	27200	120000	123000	330000	87800	57300	144000	21100	23000	74000	55000
28	39400	57800	77400	110000	230000	78400	62000	155000	16000	32000	90000	52000
29	27400	65100	69200	101000	---	76200	61500	129000	15000	40000	80000	86000
30	25100	53500	66600	88500	---	72400	54000	103000	19300	40000	70000	110000
31	22600	---	75000	81200	---	72000	---	81500	---	36000	56000	---
TOTAL	675600	730400	3760600	3676700	2395000	4001100	2761100	2051600	957000	671200	1385800	1563000
MEAN	21790	24350	121300	118600	85540	129100	92040	66180	31900	21650	44700	52100
MAX	47200	65100	330000	260000	330000	314000	170000	155000	71900	40000	90000	110000
MIN	8700	12700	32300	76600	21900	62800	44200	28400	12000	13000	18100	22000
CAL YR 1978 TOTAL	23253600	MEAN 63710	MAX 390000	MIN 5670	CFSM 1.62	IN 22.01						
WTR YR 1979 TOTAL	24629100	MEAN 67480	MAX 330000	MIN 8700	CFSM 1.72	IN 23.31						

03176500 NEW RIVER AT GLEN LYN, VA
(National stream-quality accounting network station)

LOCATION.--Lat 37°22'20", long 80°51'45", Giles County, Hydrologic Unit 05050002, on right bank at upstream side of bridge on U.S. Highway 460 at Glen Lyn, 0.3 mi (0.5 km) upstream from East River, and 6.3 mi (10.1 km) downstream from Wolf Creek.

DRAINAGE AREA.--3,768 mi² (9,759 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1927 to current year.

REVISED RECORDS.--WSP 758: Drainage area. WSP 1305: 1928(M), 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 1,490.24 ft (454.225 m) National Geodetic Vertical Datum of 1929. Aug. 11, 1927, to Oct. 16, 1934, on left bank just upstream from highway bridge at same datum, and Oct. 17, 1934, to June 16, 1939, on left bank 200 ft (61 m) upstream from highway bridge at same datum.

REMARKS.--Water discharge records good. Flow regulated since 1939 by Claytor Reservoir (station 03169000) 5.5 mi (8.8 km) above station. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years, 5,008 ft³/s (141.8 m³/s), 18.05 in/yr (458 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 226,000 ft³/s (6,400 m³/s) Aug. 14, 1940, gage height, 27.50 ft (8.382 m), from rating curve extended above 89,000 ft³/s (2,500 m³/s) on basis of slope-area measurement of peak flow; minimum, 730 ft³/s (20.7 m³/s) Jan. 30, 1966, result of freezeup; minimum daily, 820 ft³/s (23.2 m³/s) Sept. 8, 1930; minimum gage height, 2.10 ft (0.640 m) Sept. 8, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 63,600 ft³/s (1,800 m³/s) Feb. 26, gage height, 13.62 ft (4.151 m); minimum, 957 ft³/s (27.1 m³/s) Oct. 30, Nov. 6, gage height, 3.03 ft (0.924 m); minimum daily, 1,040 ft³/s (29.5 m³/s) Oct. 23, 30, Nov. 20.

DISCHARGE, STREAM (CUBIC FEET PER SECOND), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	1130	1300	2780	2550	4850	16000	6690	7300	5560	4110	4110	4150	
2	1090	1550	4270	11300	4740	14200	4890	6770	7170	2080	5440	1560	
3	1310	1580	1350	17300	3500	10700	11600	6570	5900	3830	5860	1410	
4	1210	1710	1190	11500	1930	12500	14000	7420	5610	4510	5650	4290	
5	1180	1120	3960	7850	1830	23800	12400	8540	6110	3060	1830	9900	
6	1330	1060	5170	6710	4510	31300	11700	4850	6300	4400	1450	12700	
7	1280	1370	3850	6840	4590	20300	9010	4510	5650	4440	4260	9360	
8	1080	1300	2860	6380	3830	15700	7790	5900	4590	3310	3060	8040	
9	1070	1400	3830	7910	3060	14800	7210	5080	4630	1950	2940	6650	
10	1440	1430	3320	6000	3000	11000	9720	4890	4630	4480	3310	4440	
11	1300	1470	2530	3960	1560	8840	10100	6690	6030	5560	3600	3630	
12	1450	1070	4590	5130	1700	8660	7380	10100	5770	5280	2080	4330	
13	1260	1100	4100	4850	3150	9270	8330	9230	5240	4510	2160	7340	
14	1530	1470	2860	3410	3300	8840	12700	15100	4590	3700	3630	7090	
15	1170	1610	2840	2120	3500	8920	5610	13900	4330	2290	3600	4110	
16	1620	1650	2720	4440	5560	7710	6030	10200	3830	1520	2710	2180	
17	1500	1580	1190	3830	10800	5990	8200	8120	6110	4590	2970	3120	
18	1980	3840	1170	3600	10500	4180	7250	7380	7670	3470	2480	5610	
19	2320	1530	2860	3550	10000	4080	6370	6690	9010	4010	1520	4660	
20	2100	1040	2340	4200	7380	6370	6410	4850	7550	3470	1330	3500	
21	1520	1990	2740	25300	7050	5480	6180	5400	7630	9720	2970	7010	
22	1160	2470	2520	23100	8920	6030	3630	5820	11900	6690	2370	28800	
23	1040	2350	2670	17100	15300	6220	4780	5240	8970	4740	2940	31300	
24	2230	1200	1490	15400	19300	24400	7830	6930	7550	7090	2430	15000	
25	1290	1580	3230	11900	36400	45300	5900	9540	7750	6030	3370	12300	
26	1260	1130	3910	9320	55300	23800	5690	8620	8240	5360	1610	9140	
27	1360	1160	4850	7590	32100	16000	17900	7210	7340	5200	1330	7210	
28	1470	2650	4010	4290	18200	13600	15100	4510	6770	4850	5160	7210	
29	1050	2270	3220	4740	---	12800	10100	5990	6030	5560	4550	11300	
30	1040	2550	3370	5440	---	10700	6260	5770	5440	3770	2710	9450	
31	1370	---	2710	4740	---	8120	---	5280	---	5080	3600	---	
TOTAL	43140	49530	94460	252350	285860	415610	256760	224400	193900	138660	97030	246790	
MEAN	1392	1651	3047	8140	10210	13410	8559	7239	6463	4473	3130	8226	
MAX	2320	3840	5170	25300	55300	45300	17900	15100	11900	9720	5860	31300	
MIN	1040	1040	1150	2120	1560	4080	3630	4510	3830	1520	1330	1410	
(*)	+106	+7	-17	-7	+104	-138	+38	+1	-69	+86	-136	0	
MEAN‡	1498	1658	3030	8133	10314	13272	8597	7240	6394	4559	2994	8226	
CFSM‡	.40	.44	.80	2.16	2.74	3.52	2.28	1.92	1.70	1.21	.79	2.18	
IN‡	.46	.49	.93	2.49	2.85	4.06	2.55	2.22	1.89	1.40	.92	2.44	
CAL YR 1978 TOTAL	2013370	MEAN	5516	MAX	53300	MIN	1040	MEAN‡	5516	CFSF‡	1.46	IN‡	19.88
WTR YR 1979 TOTAL	2298490	MEAN	6297	MAX	55300	MIN	1040	MEAN‡	6294	CFSF‡	1.67	IN‡	22.68

* Change in contents, equivalent in cubic feet per second, in Claytor Reservoir; furnished by Appalachian Power Co.
‡ Adjusted for change in contents.

KANAWHA RIVER BASIN

03176500 NEW RIVER AT GLEN LYN, VA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1931, 1950, 1952, 1955-56, 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1968 to current year.

WATER TEMPERATURES: October 1964 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (water years 1968-71, 1973-79): Maximum, 350 micromhos Nov. 6, 1968; minimum, 70 micromhos Mar. 26, 27, 1979.

WATER TEMPERATURES (water years 1964-71, 1973-79): Maximum, 29.0°C July 10, 1973, July 14, 19, 21, 1977; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 204 micromhos Oct. 10; minimum daily, 70 micromhos Mar. 26, 27.

WATER TEMPERATURES: Maximum daily, 27.0°C July 17, 18, Aug. 2; minimum daily, 2.0°C Jan. 26, Feb. 8, 10.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)
OCT											
15...	0830	1060	195	--	16.0	5	--	--	--	--	84
JAN											
05...	0950	9760	115	6.7	3.0	5	--	11.6	--	--	57
FEB											
15...	1515	2120	130	7.1	3.5	10	--	9.6	--	--	59
APR											
05...	1430	11000	95	7.8	11.0	15	--	10.2	--	--	42
25...	1200	5950	114	8.3	16.0	--	4.0	9.7	34	K12	47
MAY											
22...	1130	5870	114	7.0	18.0	--	.00	8.6	510	170	51
JUN											
26...	1220	9630	110	7.6	20.0	--	1.0	8.2	100	340	49
JUL											
24...	0945	9000	120	7.3	23.5	--	.00	6.7	1400	4100	57
AUG											
22...	1130	3680	160	8.0	24.0	--	3.0	7.8	220	720	78
SEP											
19...	1050	5790	114	7.5	22.0	--	4.0	7.4	190	800	43

DATE	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	ALKA- LINITY (MG/L AS CAC03)
OCT											
15...	21	19	8.8	4.5	10	.2	--	1.6	77	--	63
JAN											
05...	16	14	5.3	3.5	11	.2	--	1.5	50	0	41
FEB											
15...	18	14	5.8	3.9	12	.2	--	1.4	50	0	41
APR											
05...	5	11	3.6	2.3	10	.2	--	2.1	45	0	37
25...	3	11	4.8	3.0	12	.2	--	1.8	--	--	44
MAY											
22...	12	12	5.1	2.9	11	.2	--	1.4	--	--	39
JUN											
26...	2	12	4.6	2.7	10	.2	--	1.1	--	--	47
JUL											
24...	1	14	5.3	2.8	9	.2	4.2	1.4	--	--	56
AUG											
22...	15	18	8.1	3.6	9	.2	6.3	2.7	--	--	63
SEP											
19...	10	10	4.3	3.1	13	.2	4.7	1.6	--	--	33

K Results based on colony count outside the acceptable range (non-ideal colony count).

03176500 NEW RIVER AT GLEN LYN, VA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)
OCT 15...	--	21	4.3	.1	4.5	109	107	.15	312	1.1
JAN 05...	16	8.5	3.7	.1	7.2	77	71	.10	2030	.62
FEB 15...	6.4	13	4.7	.1	7.8	83	79	.11	475	.80
APR 05...	1.1	8.1	4.5	.0	6.3	58	63	.08	1720	.62
25...	--	9.6	4.0	.1	7.7	75	68	.10	1210	--
MAY 22...	--	9.2	3.0	.1	7.2	68	64	.09	1080	--
JUN 26...	--	9.2	3.0	.1	7.7	82	69	.11	2130	--
JUL 24...	5.5	8.0	3.1	.1	7.1	72	75	.10	1750	--
AUG 22...	1.2	16	5.2	.1	6.7	109	98	.15	1080	--
SEP 19...	--	7.2	8.4	.1	7.2	72	64	.10	1130	--

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN+NH4 + ORG. SUSP. TOTAL (MG/L AS N)
OCT 15...	4.8	.01	.03	--	1.1	--	--	--	--	--
JAN 05...	2.7	.01	.03	--	.63	--	--	--	--	--
FEB 15...	3.5	.01	.03	--	.81	--	--	--	--	--
APR 05...	2.7	.01	.03	--	.63	--	--	--	--	--
25...	--	--	--	.69	--	.01	.01	.18	.19	.04
MAY 22...	--	--	--	.53	--	.01	.01	.36	.37	.12
JUN 26...	--	--	--	.42	--	.03	.04	.20	.23	.05
JUL 24...	--	--	--	.46	--	.02	.02	1.4	1.4	1.0
AUG 22...	--	--	--	.09	--	.04	.05	.23	.27	.00
SEP 19...	--	--	--	.40	.39	.03	.04	.53	.56	.14

DATE	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHATE, TOTAL (MG/L AS PO4)	PHOS- PHORUS TOTAL (MG/L AS PO4)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)
OCT 15...	--	--	--	--	--	--	--	--	.06	.18
JAN 05...	--	--	--	--	--	--	--	--	.01	.03
FEB 15...	--	--	--	--	--	--	--	--	.03	.09
APR 05...	--	--	--	--	--	--	--	--	.00	.00
25...	.15	.88	--	3.9	.050	.15	.15	.030	--	--
MAY 22...	.25	.90	--	4.0	.030	.09	.09	.130	--	--
JUN 26...	.18	.65	--	2.9	.040	.12	.12	.030	--	--
JUL 24...	.39	1.9	--	8.2	.050	--	.15	.020	--	--
AUG 22...	.28	.36	--	1.6	.060	--	.18	.060	--	--
SEP 19...	.42	.96	.81	4.3	.100	--	.31	.080	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS)		ARSENIC SUS- PENDE TOTAL (UG/L AS AS)		ARSENIC DIS- SOLVED (UG/L AS AS)		BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)		BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)		BARIUM, DIS- SOLVED (UG/L AS BA)		CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)		CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)		CADMIUM DIS- SOLVED (UG/L AS CD)		CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)		CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR)			
	AS	AS	AS	AS	AS	AS	AS	BA	AS	BA	AS	BA	AS	CD	AS	CD	AS	CD	AS	CR	AS	CR		
JUN 26...		2		--		2		0		0		30		0		0		0		30		20		
SEP 19...		1		0		1		0		0		30		1		1		0		30		10		
DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)		COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)		COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)		COBALT, DIS- SOLVED (UG/L AS CO)		COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)		COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)		COPPER, DIS- SOLVED (UG/L AS CU)		IRON, TOTAL RECOV- ERABLE (UG/L AS FE)		IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)		IRON, DIS- SOLVED (UG/L AS FE)		LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)			
OCT 15...		--		--		--		--		--		--		--		--		--		10		--		
JAN 05...		--		--		--		--		--		--		--		--		--		50		--		
FEB 15...		--		--		--		--		--		--		--		--		--		60		--		
APR 05...		--		--		--		--		--		--		--		--		--		10		--		
JUN 26...		<10		0		0		0		4		2		2		340		310		30		4		
SEP 19...		20		2		2		0		6		4		2		770		--		50		25		
DATE	IRON, DIS- SOLVED (UG/L AS FE) (01046)		LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)		LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB) (01050)		LEAD, DIS- SOLVED (UG/L AS PB) (01049)		MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)		MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN) (01054)		MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)		MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)		MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG) (71895)		MERCURY DIS- SOLVED (UG/L AS HG) (71890)					
OCT 15...		10		--		--		--		--		--		--		--		--		--		--		
JAN 05...		50		--		--		--		--		--		--		--		--		--		--		
FEB 15...		60		--		--		--		--		--		--		--		--		--		--		
APR 05...		10		--		--		--		--		--		--		--		--		--		--		
JUN 26...		30		4		4		0		30		30		3		<.5		.0		<.5		<.5		
SEP 19...		50		25		23		2		70		70		5		<.5		<.0		<.5		<.5		
DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)		NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)		NICKEL, DIS- SOLVED (UG/L AS NI)		SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)		SELE- NIUM, SUS- PENDE RECOV- ERABLE (UG/L AS SE)		SELE- NIUM, DIS- SOLVED (UG/L AS SE)		SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)		SILVER, SUS- PENDE RECOV- ERABLE (UG/L AS AG)		SILVER, DIS- SOLVED (UG/L AS AG)		ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)		ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)		ZINC, DIS- SOLVED (UG/L AS ZN)	
JUN 26...		--		--		--		0		0		0		0		0		0		10		10		0
SEP 19...		4		3		1		0		0		0		0		0		0		0		0		0
DATE	CARBON, ORGANIC TOTAL (MG/L AS C)		CARBON, ORGANIC DIS- SOLVED (MG/L AS C)		CARBON, ORGANIC SUS- PENDE TOTAL (MG/L AS C)		PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M		PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M		BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)		PHYTO- PLANK- TON, TOTAL (CELLS PER ML)		CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)		CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)		SEDI- MENT, SUS- PENDE (MG/L)		SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)		SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
APR 25...		--		--		--		--		--		--		--		--		--		5		--		50
25...		2.7		--		--		--		--		--		--		--		--		--		--		--
MAY 22...		2.8		--		--		--		--		--		--		--		--		4		63		100
JUN 26...		--		2.0		.1		1.81		1.57		42.2		450		5.69		1.36		10		260		100
JUL 24...		--		--		--		--		--		--		1300		--		--		46		1120		73
AUG 22...		2.6		--		--		--		--		--		2700		--		--		1		9.9		100
SEP 19...		--		2.4		.0		6.14		5.38		48.4		1200		15.7		2.32		11		172		97

03176500 NEW RIVER AT GLEN LYN, VA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	180	183	---	---	135	105	108	130	135	148	120	
2	186	170	135	135	125	107	100	100	125	165	125	
3	199	178	143	117	---	110	100	125	125	150	120	
4	181	175	160	115	157	100	83	120	145	160	123	
5	198	175	142	110	163	83	80	120	140	160	160	
6	181	155	140	120	140	73	90	---	130	143	120	
7	197	178	135	135	123	95	88	140	135	145	140	
8	164	183	138	135	128	100	83	120	135	145	130	
9	167	183	140	130	135	105	105	120	140	130	138	
10	204	165	118	125	150	100	80	120	140	108	150	
11	182	155	145	135	160	108	100	120	140	120	---	
12	199	165	143	120	175	110	83	120	135	115	140	
13	185	180	135	127	160	105	85	110	135	118	160	
14	183	150	138	113	138	98	90	125	130	120	163	
15	195	175	148	157	135	100	110	105	130	123	132	
16	185	170	150	145	155	103	105	115	140	140	145	
17	183	170	150	133	120	125	88	120	160	135	140	
18	180	150	160	123	110	110	103	123	125	138	128	
19	158	135	160	130	118	128	90	125	123	140	150	
20	160	155	155	117	115	90	125	138	123	140	175	
21	150	145	143	115	125	100	115	150	123	110	165	
22	168	145	150	98	135	123	145	130	133	110	160	
23	170	143	150	90	110	100	155	120	125	140	155	
24	155	160	160	118	105	118	120	138	135	115	155	
25	158	163	158	100	100	80	125	120	135	123	155	
26	175	163	153	115	108	70	125	115	128	120	160	
27	183	178	135	123	105	70	120	118	128	130	---	
28	180	143	---	135	110	98	110	---	125	135	115	
29	190	160	120	155	---	90	115	135	130	125	125	
30	195	155	140	137	---	95	125	120	130	140	140	
31	175	---	138	118	---	98	---	125	---	120	140	
MEAN	180	164	144	124	131	100	105	123	133	133	142	
WTR YR 1979	MEAN	134		MAX	204		MIN	70				

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.5	14.0	---	---	2.5	7.0	14.0	15.5	17.5	20.5	26.0	
2	19.5	13.5	8.5	9.5	3.0	8.0	14.5	15.5	19.0	21.5	27.0	
3	19.0	13.0	10.0	4.5	---	8.0	14.0	16.0	20.0	22.5	25.0	
4	19.5	13.0	11.0	5.0	4.5	8.5	12.0	15.5	18.0	22.0	24.0	
5	20.0	13.5	11.0	5.5	3.0	8.0	11.5	15.5	20.0	21.0	24.0	
6	19.5	13.0	10.5	6.0	3.0	8.0	12.0	---	21.0	20.5	24.5	
7	16.0	13.5	9.0	7.0	2.5	7.5	10.5	17.0	22.5	20.0	25.0	
8	14.0	13.5	10.5	7.5	2.0	8.0	12.0	19.0	23.0	21.5	26.0	
9	13.0	13.5	9.0	4.5	2.5	8.5	13.5	18.5	23.0	22.0	25.5	
10	14.0	13.5	7.5	5.0	2.0	9.0	12.0	18.5	23.0	21.0	26.0	
11	14.5	13.5	5.5	4.0	2.5	9.0	13.0	18.5	22.0	20.5	---	
12	17.5	13.0	6.5	4.5	3.0	7.0	13.5	18.5	21.0	23.5	24.0	
13	18.0	14.0	6.5	4.0	4.0	9.0	13.5	17.5	19.5	25.0	23.0	
14	17.0	14.5	6.5	5.0	4.5	8.0	13.0	16.0	22.5	24.0	23.0	
15	16.0	15.0	7.0	3.0	5.5	8.0	13.5	15.5	21.0	24.0	23.5	
16	14.0	16.0	5.0	4.5	7.0	8.5	13.5	16.0	22.0	26.0	23.5	
17	14.0	15.0	6.5	5.0	4.5	9.0	13.5	16.5	20.0	27.0	22.5	
18	13.5	14.0	6.0	4.5	2.5	10.0	13.5	17.0	20.0	27.0	23.5	
19	14.0	14.5	6.5	4.0	3.0	11.0	13.5	17.5	20.5	25.0	24.0	
20	14.5	14.0	7.5	4.5	3.5	12.5	14.5	17.5	21.0	24.5	24.0	
21	14.0	13.5	9.0	6.0	6.0	13.5	15.5	18.0	20.5	24.5	24.5	
22	14.0	12.5	6.5	6.0	5.5	12.5	16.5	18.0	18.5	23.0	25.0	
23	15.5	12.0	6.0	5.0	5.5	13.0	16.5	17.5	20.0	22.5	23.0	
24	16.0	12.0	6.5	6.0	6.0	12.0	16.5	18.0	20.0	24.0	24.0	
25	16.0	10.0	6.0	4.5	6.5	10.5	16.5	17.5	18.5	24.5	23.0	
26	16.0	9.0	5.0	2.0	6.0	9.0	17.0	15.0	20.5	24.0	24.0	
27	16.0	8.5	5.0	3.0	5.0	5.0	14.5	15.0	21.0	23.5	---	
28	15.5	9.5	---	4.0	6.0	10.5	14.5	---	23.0	23.0	26.0	
29	15.0	8.5	4.5	4.0	---	12.0	14.5	17.0	22.0	24.5	26.5	
30	14.5	10.0	5.0	3.5	---	13.5	13.5	17.5	21.5	23.0	26.5	
31	14.0	---	6.5	4.5	---	14.0	---	19.0	---	26.0	26.5	
MEAN	16.0	13.0	7.5	5.0	4.0	9.5	14.0	17.0	20.5	23.5	24.5	
WTR YR 1979	MEAN	14.0		MAX	27.0		MIN	2.0				

03176500 NEW RIVER AT GLEN LYN, VA--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	MAY 21,79 1130	JUN 26,79 1220	JUL 24,79 0945	AUG 22,79 1130	SEP 19,79 1050
TOTAL CELLS/ML	140	450	1300	2700	1200
DIVERSITY: DIVISION	1.4	0.9	1.6	1.0	1.6
..CLASS	1.4	0.9	1.6	1.0	1.7
...ORDER	2.2	1.2	1.6	1.1	2.1
...FAMILY	2.5	2.1	1.9	1.8	2.6
....GENUS	2.7	2.5	2.0	2.7	2.9

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
...OOCYSTACEAE										
....ANKISTRODESMUS	26#	18	26	6	--	-	170	6	69	6
....CHLORELLA	--	-	--	-	--	-	1100#	39	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	430#	16	41	4
....SELENASTRUM	--	-	--	-	--	-	31	1	--	-
...SCENEDESMACEAE										
....SCENEDESMUS	--	-	210#	46	410#	31	400	15	270#	24
....TETRASTRUM	--	-	51	11	--	-	--	-	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	13	9	--	-	--	-	--	-	--	-
..ZYGNEMATALES										
...DESMIDIACEAE										
....COSMARIUM	--	-	13	3	--	-	--	-	--	-
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCAEAE										
....CYCLOTELLA	--	-	13	3	13	1	140	5	55	5
....MELOSIRA	26#	18	--	-	--	-	15	1	340#	29
...STEPHANODISCUS	13	9	--	-	--	-	--	-	--	-
..PENNALES										
...ACHNANTHACEAE										
....ACHNANTHES	--	-	26	6	--	-	15	1	14	1
....COCCONEIS	--	-	--	-	13	1	15	1	27	2
...CYMBELLACEAE										
....AMPHORA	--	-	--	-	--	-	--	-	14	1
...FRAGILARIACEAE										
....FRAGILARIA	--	-	13	3	210#	15	--	-	--	-
....SYNEDRA	--	-	--	-	26	2	15	1	--	-
...GOMPHONEMATAEAE										
....GOMPHONEMA	--	-	--	-	--	-	15	1	--	-
...NAVICULACEAE										
....NAVICULA	26#	18	51	11	--	-	140	5	69	6
...NITZSCHIACEAE										
....NITZSCHIA	13	9	51	11	90	7	--	-	14	1
...XANTHOPHYCEAE										
..HETEROCOCCALES										
...CHLOROTHECIACEAE										
....OPHIOCYTIUM	--	-	--	-	--	-	--	-	27	2
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
...CHROOCOCCACEAE										
....ANACYSTIS	26#	18	--	-	--	-	250	9	190#	16
...HORMOGONALES										
...OSCILLATORIAEAE										
....OSCILLATORIA	--	-	--	-	580#	43	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
...EUGLENACEAE										
....EUGLENA	--	-	--	-	--	-	--	-	27	2

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

03179000 BLUESTONE RIVER NEAR PIPESTEM, WV

LOCATION.--Lat 37°32'45", long 81°00'30", Summers County, Hydrologic Unit 05050002, on left bank 1.2 mi (1.9 km) downstream from Mountain Creek, 2.5 mi (4.0 km) west of Pipestem, and at mile 8.0 (12.9 km).

DRAINAGE AREA.--363 mi² (940 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1950 to current year.

REVISED RECORDS.--WSP 1705: 1959.

GAGE.--Water-stage and rainfall recorders. Datum at gage is 1,527.35 ft (465.536 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Water-discharge records good except those for January and February, which are poor. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

AVERAGE DISCHARGE.--29 years, 474 ft³/s (13.42 m³/s), 17.73 in/yr (450 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft³/s (547 m³/s) Apr. 5, 1977, gage height, 15.82 ft (4.822 m); minimum, 7.0 ft³/s (0.20 m³/s) Sept. 21-23, 30, 1955, gage height, 1.60 ft (0.488 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1908, that of Apr. 5, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,500 ft³/s (130 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Feb. 24	2200	7680 217	10.81 3.295	May 13	0200	*12600 357	12.95 3.947
Mar. 24	2100	5260 149	9.60 2.926	June 22	0700	8280 234	11.08 3.377

Minimum discharge, 20 ft³/s (0.57 m³/s) Oct. 27, gage height, 1.81 ft (0.552 m).

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	24	149	719	310	1710	533	543	280	445	260	76
2	24	24	98	2260	280	1660	525	448	265	391	226	72
3	23	24	77	1500	250	1380	818	397	536	310	200	77
4	24	23	138	630	225	1210	2170	582	2110	382	176	80
5	24	23	246	495	210	2450	2060	1670	1290	1240	159	138
6	26	22	232	405	190	2150	1530	1260	719	682	149	845
7	28	23	148	845	180	1420	1060	876	490	421	135	529
8	25	24	135	2830	170	1040	827	658	424	320	109	280
9	24	23	481	1560	165	836	827	522	759	280	97	188
10	23	23	796	849	160	690	1000	455	430	382	91	146
11	23	24	371	500	155	741	881	666	403	439	92	123
12	23	23	204	370	150	768	746	1270	433	337	170	108
13	23	23	149	320	145	678	678	6930	305	558	246	96
14	31	23	120	368	150	610	678	2640	242	415	167	96
15	27	26	86	313	334	539	690	1600	208	305	121	104
16	29	32	95	283	3400	452	646	1050	180	248	101	107
17	29	50	99	260	2200	406	554	746	270	242	91	92
18	29	57	92	240	1300	379	480	574	863	208	86	84
19	27	51	86	270	881	361	421	476	706	186	97	78
20	24	49	114	720	686	337	379	409	827	174	152	73
21	23	41	719	2900	674	317	346	367	2780	188	277	95
22	24	33	827	5200	1490	292	320	334	6780	190	154	849
23	25	32	423	1700	2550	280	300	325	3380	210	120	646
24	23	40	289	1320	4990	2860	295	436	2670	168	103	352
25	21	47	858	1180	6630	4300	272	497	3050	144	98	248
26	20	51	719	900	5240	2150	305	469	1740	157	95	200
27	20	63	438	719	2910	1280	965	448	1020	469	98	168
28	23	90	260	600	1800	925	1110	415	702	487	90	198
29	29	98	182	460	---	750	849	379	546	379	98	313
30	27	146	194	390	---	634	662	320	473	343	101	272
31	25	---	325	340	---	558	---	280	---	315	89	---
TOTAL	770	1232	9150	31446	37825	34163	22927	28042	34881	11015	4248	6733
MEAN	24.8	41.1	295	1014	1351	1102	764	905	1163	355	137	224
MAX	31	146	858	5200	6630	4300	2170	6930	6780	1240	277	849
MIN	20	22	77	240	145	280	272	280	180	144	86	72
CFSM	.07	.11	.81	2.79	3.72	3.04	2.11	2.49	3.20	.98	.38	.62
IN.†	.08	.13	.94	3.22	3.88	3.50	2.35	2.87	3.57	1.13	.44	.69
IN.‡	.83	2.79	5.66	---	4.42	2.22	3.09	---	7.03	5.41	3.32	4.86
CAL YR 1978	TOTAL	166196	MEAN 455	MAX 8340	MIN 20	CFSM 1.25	IN 17.03					
WTR YR 1979	TOTAL	222432	MEAN 609	MAX 6930	MIN 20	CFSM 1.68	IN 22.79					

† Runoff.

‡ Rainfall.

03179000 BLUESTONE RIVER NEAR PIPESTEM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-1974, 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)
NOV 01...	1650	26	--	--	12.5	10.5	--	--	--	--	--
JAN 23...	1300	2110	140	6.6	3.0	3.0	13.4	--	--	--	--
FEB 21...	1230	609	170	7.1	3.0	1.0	15.5	--	--	--	--
MAR 28...	1130	926	145	7.1	11.0	6.0	--	--	--	--	--
MAY 12...	0900	682	180	6.8	22.0	18.0	--	56	13	.0	.0
27...	1500	300	190	6.5	19.0	17.0	5.4	84	13	.0	.0
JUN 26...	1130	1840	125	7.7	17.0	15.0	10.4	54	15	.0	.0
SEP 12...	1400	121	350	8.7	24.0	22.0	--	120	26	.0	.0
18...	1540	82	350	8.9	19.0	20.0	11.2	130	18	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
MAY 12...	16	4.0	--	--	43	--	17	9.9	102	.14	188
27...	23	6.5	--	--	71	--	30	8.5	126	.17	102
JUN 26...	16	3.5	5.2	.3	39	--	16	5.5	95	.13	475
SEP 12...	34	7.6	20	.8	90	.4	31	16	163	.22	53.3
18...	37	8.7	18	.7	110	.3	38	15	198	.27	43.8

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- FRABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
MAY 12...	--	--	--	--	--	2200	2100	110	--
27...	--	--	--	--	--	560	530	30	--
JUN 26...	--	--	--	--	--	1500	1400	60	--
SEP 12...	0	<10	10	10	10	220	--	40	20000
18...	--	--	--	--	--	170	--	20	--

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
MAY 12...	--	120	100	20	--	--	--	--
27...	--	70	60	9	--	--	--	--
JUN 26...	--	80	70	9	--	--	--	--
SEP 12...	10	30	20	9	350	.00	0	50
18...	--	30	20	10	--	--	--	--

KANAWHA RIVER BASIN

197

03179800 BLUESTONE LAKE NEAR HINTON, WV

LOCATION.--Lat 37°38'25", long 80°53'15", Summers County, Hydrologic Unit 05050002, at Bluestone Dam on New River, 1.0 mi (1.6 km) upstream from Greenbrier River, 2.2 mi (3.5 km) upstream from Hinton, at New River mile 64.8 (104.3 km) and Kanawha River mile 161.8 (260.3 km).

DRAINAGE AREA.--4,603 mi² (11,922 km²).

PERIOD OF RECORD.--July 1949 to current year (monthend contents only). Prior to October 1960 monthend contents published in WSP 1725.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity-type dam completed in 1952; closure of dam was made Dec. 18, 1947, and storage began July 1949. Spillway equipped with 21 lift gates 30 ft (9.1 m) wide by 31 ft (9.4 m) high and 16 sluice gates 5.67 ft (1.728 m) wide by 10 ft (3.0 m) high. Total level-pool capacity at elevation 1,520 ft (463.3 m), flood-control pool elevation, is 631,000 acre-ft (778 hm³) of which 600,100 acre-ft (740 hm³) is controlled storage above elevation 1,406 ft (428.5 m), minimum-pool elevation, and 10,000 acre-ft (12.3 hm³) is dead storage below elevation 1,391 ft (424.0 m), stilling-basin weir. Figures given herein represent total contents. This is a multipurpose reservoir.

COOPERATION.--Records were furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 510,900 acre-ft (630 hm³) Apr. 6, 1960, elevation, 1,505.97 ft (459.020 m), results of holding water for cofferdam construction on Ohio River; minimum since initial filling, 18,060 acre-ft (22.3 hm³) Oct. 4, 1956, elevation, 1,397.94 ft (426.092 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 377,460 acre-ft (465 hm³) Feb. 28, elevation, 1,487.80 ft (453.481 m); minimum, 28,750 acre-ft (35.4 hm³) Dec. 9, elevation, 1,404.80 ft (428.183 m).

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	(equivalent in cfs)
Sept. 30.....	1410.47	39220	-	-
Oct. 31.....	1410.03	38400	-820	-13
Nov. 30.....	1406.63	32100	-6300	-106
Dec. 31.....	1407.22	33200	+1100	+18
CAL YR 1978			-90	0
Jan. 31.....	1406.41	31700	-1500	-24
Feb. 28.....	1487.06	372500	+340800	+6140
Mar. 31.....	1408.67	35880	-336600	-5470
Apr. 30.....	1410.05	38440	+2560	+43
May 31.....	1410.13	38590	+150	+2
June 30.....	1410.72	39690	+1100	+18
July 31.....	1410.82	39880	+190	+3
Aug. 31.....	1410.90	40030	+150	+2
Sept. 30.....	1410.31	38930	-1100	-18
WTR YR 1979			-290	0

KANAWHA RIVER BASIN

03180000 NEW RIVER AT BLUESTONE DAM, WV

LOCATION.--Lat 37°38'35", long 80°53'00", Summers County, Hydrologic Unit 05050002, on right bank 0.3 mi (0.5 km) downstream from Bluestone Dam, 0.7 mi (1.1 km) upstream from Greenbrier River, 2.0 mi (3.2 km) upstream from Hinton, at New River mile 64.5 (103.8 km) and Kanawha River mile 161.5 (259.9 km).

DRAINAGE AREA.--4,604 mi² (11,924 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1923 to September 1969, October 1975 to current year. Published as "near Hinton" 1923-46. Monthly discharge only October, November 1923, published in WSP 1305.

REVISED RECORDS.--WSP 713: 1925(M). WSP 783: Drainage area. WSP 893: 1930(M), 1935-36(M). WSP 1335: 1929, 1933.

GAGE.--Water-stage recorder. Datum of gage is 1,360.00 ft (414.528 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers datum). Dec. 1, 1923, to Nov. 19, 1934, nonrecording gage and Nov. 20, 1934, to July 1, 1947, water-stage recorder, at site 1.3 mi (2.1 km) upstream at datum 8.49 ft (2.588 m) higher. Auxiliary water-stage recorder 0.7 mi (1.1 km) downstream from present base gage.

REMARKS.--Water-discharge records good. Flow regulated since 1939 by Claytor Lake (station 03169000) and since 1949 by Bluestone Lake (03179800).

AVERAGE DISCHARGE.--50 years, 5,593 ft³/s (158.4 m³/s), 16.50 in/yr (419 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 232,000 ft³/s (6,570 m³/s) Aug. 15, 1940, gage height, 25.7 ft (7.83 m), from floodmarks, present site and datum, from rating curve extended above 70,000 ft³/s (2,000 m³/s) on basis of slope-area measurement of peak flow; minimum, 10 ft³/s (0.28 m³/s) Aug. 30, 1948 (estimated during construction of Bluestone Dam).

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Apr. 21 and May 23, 1901, reached a stage of 24.2 ft (7.38 m) former site and datum, discharge, 234,000 ft³/s (6,630 m³/s). Flood in 1878 probably reached a higher stage.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 51,900 ft³/s (1,470 m³/s) Mar. 1, gage height, 13.73 ft (4.185 m); minimum, 780 ft³/s (22.1 m³/s) Dec. 9, gage height, 7.20 ft (2.195 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1410	1340	3950	4620	5200	48300	7400	7220	5800	5300	5100	4440
2	1290	1950	5200	12600	5500	50600	5800	8280	7460	4120	5300	2420
3	1270	2580	1830	23500	4040	48100	10700	7040	6600	3660	6650	1830
4	1270	2620	1030	16600	3060	42500	15000	7340	8770	5350	6000	3820
5	1290	2460	4350	9890	2300	35000	16300	11700	8560	5550	3540	10500
6	1290	1890	5850	7400	3900	33100	13600	6300	7700	5350	2420	13600
7	1290	1250	5050	8140	5200	36900	11300	6000	6800	5450	3740	13500
8	1290	1540	4300	11200	4170	30200	9610	7580	5550	4300	3780	8420
9	1270	1620	1950	10700	3820	20600	7820	6000	6150	3460	3420	7040
10	1270	1540	932	7880	3780	15000	10100	5300	5950	4350	3420	5650
11	1270	1600	1050	6050	2300	10900	10800	6980	6750	6450	3820	3990
12	1290	1410	5500	4710	1600	9400	9820	10500	6500	5950	4210	4390
13	1290	1270	9540	6250	3060	10200	9610	19800	6000	5950	3420	10700
14	1520	1490	6750	4950	3900	10000	11600	18300	5700	4900	3660	5750
15	1620	1770	2940	3340	4170	9330	8420	17500	4850	3460	3900	3300
16	1600	1920	2980	4800	8350	8070	5900	14600	3900	2860	3500	3060
17	1860	1950	2200	4660	13800	6550	8560	10900	6300	4080	3380	3540
18	2270	3220	1680	4480	13200	5150	7940	7700	9820	4350	2820	4950
19	2420	2940	2580	4620	9470	4660	6800	7340	9610	4040	2540	5000
20	2420	1620	3260	5750	7340	6450	6650	5700	10500	4210	1890	4120
21	1950	1620	3460	20600	7460	6250	6650	5900	11000	8910	2580	6860
22	1490	2500	4660	23300	10800	6350	5200	6500	19900	8000	3620	16300
23	1340	3060	3820	32900	15300	6050	4530	5800	18400	5950	3300	34200
24	1860	1950	2780	27900	21300	13800	8000	7340	14000	7040	2820	27800
25	1620	1680	3990	18300	3390	34100	7220	11500	14300	6920	3220	16200
26	1380	1430	5500	12300	1230	36700	5700	8980	11200	5850	2820	12000
27	1600	1430	6180	9400	932	31000	15400	8280	9330	6300	1680	8210
28	1710	2580	5050	6100	11600	21400	19700	5550	8700	6000	4350	8070
29	1490	3060	3740	4800	---	15100	14900	6500	6800	6500	5900	10600
30	1340	3140	4170	6400	---	12600	8070	6600	6400	4950	2860	10300
31	1340	---	3260	5700	---	9960	---	6000	---	5500	3740	---
TOTAL	47620	60430	119452	329840	180172	634320	289100	271030	259300	165060	113400	270560
MEAN	1536	2014	3853	10640	6435	20460	9637	8743	8643	5325	3658	9019
MAX	2420	3220	9540	32900	21300	50600	19700	19800	19900	8910	6650	34200
MIN	1270	1250	932	3340	932	4660	4530	5300	3900	2860	1680	1830

CAL YR 1978 TOTAL 2449882 MEAN 6712 MAX 47300 MIN 932 MEAN‡ 6712 CFSM‡ 1.46 IN‡ 19.82
WTR YR 1979 TOTAL 2740284 MEAN 7508 MAX 50600 MIN 932 MEAN‡ 7505 CFSM‡ 1.63 IN‡ 22.13

‡ Adjusted for change in contents in Claytor (Virginia) and Bluestone Lakes.

KANAWHA RIVER BASIN

199

03180000 NEW RIVER AT BLUESTONE DAM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: May 1953 to September 1967, October 1969 to current year.

INSTRUMENTATION.--Temperature recorder since May 24, 1953.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURES: Maximum, 30.0°C July 17, 1977; minimum, 0.0°C on several days during winter months most years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 28.0°C Aug. 8, 10, 11; minimum, 1.0°C several days in February.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

03180000 NEW RIVER AT BLUESTONE DAM, WV--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

KANAWHA RIVER BASIN

201

03180500 GREENBRIER RIVER AT DURBIN, WV

LOCATION.--Lat 38°32'35", long 79°50'00", Pocahontas County, Hydrologic Unit 05050003, on left bank at Durbin, 500 ft (152 m) downstream from confluence of East and West Forks, and at mile 150.1 (241.5 km).

DRAINAGE AREA.--134 mi² (347 km²).

PERIOD OF RECORD.--March 1943 to current year.

GAGE.--Water-stage recorder. Datum of gage is 2,699.71 ft (822.872 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for January, February, and March, which are poor.

AVERAGE DISCHARGE.--36 years, 256 ft³/s (7.250 m³/s), 25.94 in/yr (659 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,200 ft³/s (346 m³/s) Mar. 7, 1967, gage height, 9.15 ft (2.789 m), from rating curve extended above 5,000 ft³/s (140 m³/s); maximum gage height, 9.20 ft (2.804 m) Feb. 2, 1956 (ice jam); no flow part of each day Oct. 2, 3, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 2,800 ft³/s (79 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	1200	3210 90.9	5.32 1.622	Feb. 16	1000	*7850 222	7.52 2.292
Dec. 21	1000	2840 80.4	5.09 1.551	Feb. 24	2200	4170 118	5.85 1.783
Jan. 2	1000	3660 104	5.59 1.704	Mar. 5	---	Unknown	Unknown

Minimum discharge, 8.4 ft³/s (0.24 m³/s) Oct. 2, gage height, 0.67 ft (0.204 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.5	13	162	936	135	537	250	276	406	73	104	76
2	9.2	12	119	2840	125	600	292	223	322	121	166	68
3	9.5	12	111	1500	115	880	481	201	342	74	132	67
4	12	12	1050	768	105	1600	700	235	703	75	102	94
5	16	12	768	500	100	2900	666	307	580	151	81	760
6	14	11	435	368	95	1700	539	298	409	91	66	600
7	12	11	292	450	90	620	419	282	287	69	55	444
8	11	11	1120	1380	85	450	352	247	223	55	45	342
9	11	12	2640	896	80	360	358	214	216	46	61	238
10	11	13	1370	570	78	330	339	189	599	58	42	178
11	10	12	678	392	76	410	320	309	384	57	50	141
12	10	11	435	296	74	480	304	412	275	42	275	116
13	11	11	316	260	72	360	298	466	206	38	202	98
14	17	12	239	240	72	295	268	581	162	40	134	106
15	25	14	203	220	300	270	257	481	131	41	106	100
16	19	28	188	240	2010	235	244	363	111	43	81	74
17	19	35	170	260	796	210	230	270	105	38	64	59
18	21	43	133	270	460	195	224	218	143	36	82	51
19	17	34	142	200	350	185	214	186	101	34	292	51
20	15	24	328	395	280	175	205	158	76	31	316	45
21	14	18	2080	2010	265	170	189	139	70	30	456	154
22	13	17	1140	1440	360	162	172	126	87	43	308	755
23	11	18	630	820	653	160	187	211	73	50	224	1040
24	12	67	495	660	2370	270	203	659	65	184	180	696
25	12	58	1010	510	3010	1600	187	1210	61	117	150	427
26	13	34	684	400	2110	900	215	926	47	149	125	286
27	18	63	480	320	1020	540	631	582	39	136	340	210
28	25	155	328	250	624	360	592	535	36	121	210	184
29	17	137	276	200	---	291	470	434	34	118	145	159
30	14	206	260	170	---	243	355	350	43	131	110	133
31	14	---	348	150	---	223	---	300	---	97	88	---
TOTAL	442.2	1116	18630	19911	15910	17711	10161	11388	6336	2389	4792	7752
MEAN	14.3	37.2	601	642	568	571	339	367	211	77.1	155	258
MAX	25	206	2640	2840	3010	2900	700	1210	703	184	456	1040
MIN	9.2	11	111	150	72	160	172	126	34	30	42	45
CFSM	.11	.28	4.49	4.79	4.24	4.26	2.53	2.74	1.58	.58	1.16	1.93
IN.	.12	.31	5.17	5.53	4.42	4.92	2.82	3.16	1.76	.66	1.33	2.15
CAL YR 1978	TOTAL	107074.2	MEAN 293	MAX 4170	MIN 9.2	CFSM 2.19	IN 29.72					
WTR YR 1979	TOTAL	116538.2	MEAN 319	MAX 3010	MIN 9.2	CFSM 2.38	IN 32.35					

KANAWHA RIVER BASIN

03182000 KNAPP CREEK AT MARLINTON, WV

LOCATION.--Lat 38°12'40", long 80°04'30", Pocahontas County, Hydrologic Unit 05050003, at city water plant, at Marlinton, 1.0 mi (1.6 km) upstream from mouth, and 2.0 mi (3.2 km) downstream from discontinued gaging station.

DRAINAGE AREA.--108 mi² (280 km²) at discontinued gaging station.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1946 to current year.

COOPERATION.--Records were furnished by Marlinton City Water Plant.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 28.0°C July 24, 1952, June 2, 1959; minimum daily, -1.0°C several days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 24.0°C Aug. 2, 8, 10; minimum daily, -1.0°C Feb. 10.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.5	7.0	3.5	1.0	.0	3.0	10.0	10.0	13.0	19.0	22.0	20.5
2	14.5	7.0	2.0	.0	.0	3.5	10.0	9.0	14.5	18.5	24.0	21.0
3	14.5	6.0	2.0	.0	.0	4.0	9.0	11.0	14.5	19.0	23.5	22.0
4	13.5	7.0	3.5	.0	.5	3.5	8.0	10.0	15.5	20.0	22.0	22.0
5	13.0	6.5	5.5	.0	.0	3.5	6.0	11.0	15.5	19.0	22.0	22.0
6	13.5	5.5	4.5	1.0	.0	2.0	5.5	13.5	16.5	18.5	23.5	21.0
7	12.0	6.0	3.5	1.5	1.0	1.5	4.5	15.5	16.5	18.5	23.5	20.0
8	9.0	7.0	3.5	.5	1.0	1.5	4.5	16.5	17.0	19.0	24.0	18.5
9	9.0	6.5	3.0	.0	.5	3.0	3.5	18.0	18.5	20.0	23.5	18.0
10	8.0	6.5	1.5	.5	-1.0	2.0	4.5	18.5	18.0	18.0	24.0	16.5
11	9.0	7.0	.0	.5	.0	.5	6.5	18.0	16.5	18.5	22.0	18.0
12	10.0	5.5	.5	1.0	.5	1.0	7.0	18.5	15.5	19.0	21.0	19.0
13	11.0	6.5	.0	1.0	.5	1.5	7.0	18.0	15.5	20.0	18.0	19.0
14	10.0	8.0	.0	.5	1.0	1.0	6.5	16.5	16.5	20.5	18.0	18.5
15	9.0	8.5	.0	.0	2.0	.5	5.5	13.0	18.5	21.5	18.5	18.0
16	8.0	8.0	.5	1.0	1.5	1.0	4.5	12.0	18.5	22.0	18.0	15.5
17	9.0	8.0	.0	1.5	1.0	1.5	5.5	11.5	18.0	21.5	17.0	15.5
18	7.0	7.0	1.0	1.0	.5	1.0	4.5	13.0	16.5	21.0	18.5	16.5
19	8.0	5.5	1.5	.0	.0	1.0	5.5	11.5	17.0	20.5	20.0	16.5
20	8.5	6.5	1.5	1.0	.0	1.5	6.5	14.5	16.5	21.0	21.5	16.5
21	8.0	7.0	1.0	1.0	.5	1.0	8.0	15.5	16.5	21.0	20.0	16.5
22	8.0	6.0	1.0	.5	.5	1.5	9.0	16.5	18.0	21.0	20.0	15.5
23	9.0	6.0	.5	.0	1.5	1.5	10.0	16.5	18.5	22.0	19.0	14.5
24	8.0	5.5	1.0	1.0	1.5	2.0	11.0	16.0	17.0	22.0	19.5	13.5
25	7.0	4.5	.5	.0	1.5	1.0	13.0	15.5	16.5	22.0	20.0	14.5
26	9.0	3.5	.0	.0	2.0	.5	13.5	14.5	16.5	21.5	20.5	15.5
27	10.5	3.5	.0	.5	1.5	1.0	12.0	10.0	16.5	21.0	21.0	15.5
28	9.0	3.5	.0	.5	3.0	2.0	12.0	10.0	18.0	21.0	21.0	15.5
29	8.5	2.0	.0	1.0	---	4.5	11.0	11.0	19.0	22.0	22.0	16.5
30	7.0	3.5	.0	.0	---	6.5	10.0	10.0	19.0	20.0	21.5	16.5
31	6.5	---	.5	.5	---	9.0	---	11.0	---	20.0	21.0	---
MEAN	10.0	6.0	1.5	.5	1.0	2.0	8.0	13.5	17.0	20.5	21.0	17.5
WTR YR 1979	MEAN	10.0		MAX	24.0	MIN	-1.0					

03182500 GREENBRIER RIVER AT BUCKEYE, WV

LOCATION.--Lat 38°11'15", long 80°07'50", Pocahontas County, Hydrologic Unit 05050003, on right bank at upstream side of highway bridge at Buckeye, 1,000 ft (305 m) upstream from Swago Creek, 3.5 mi (5.6 km) downstream from Knapp Creek, and at mile 103.1 (165.9 km). Records include flow of Swago Creek.

DRAINAGE AREA.--540 mi² (1,399 km²), includes that of Swago Creek.

PERIOD OF RECORD.--September 1929 to current year.

REVISED RECORDS.--WSP 758: 1933. WSP 953: 1930-32, 1934-35(M), 1936, 1937(M), 1938-39, 1940(M). WSP 1275: 1936.

GAGE.--Water-stage recorder. Datum of gage is 2,085.89 ft (635.779 m) National Geodetic Vertical Datum of 1929. Prior to Feb. 27, 1939, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for January and February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--50 years, 873 ft³/s (24.72 m³/s), 21.95 in/yr (558 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,500 ft³/s (1,180 m³/s) Feb. 5, 1932, gage height, 17.5 ft (5.33 m), from floodmarks, from rating curve extended above 25,000 ft³/s (710 m³/s); minimum, 3.8 ft³/s (0.11 m³/s) Aug. 13, 1930, gage height, 1.19 ft (0.363 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 11,000 ft³/s (310 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	1700	12200	346	10.29	3.136	Feb. 16	1500	13600	385	10.77	3.283
Jan. 2	1300	15900	450	11.55	3.520	Feb. 24	2400	*16100	456	11.62	3.542
Jan. 21	0700	15500	439	11.43	3.484	Mar. 5	0800	13200	374	10.65	3.246

Minimum daily discharge, 28 ft³/s (0.79 m³/s) Oct. 12, 13, Nov. 6, 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	38	565	3220	420	1960	733	967	1090	197	253	490
2	32	35	397	12100	360	2230	800	762	1030	360	230	420
3	30	32	300	6070	320	3070	956	654	1170	411	293	370
4	33	30	2120	2500	300	5760	1810	656	3300	297	243	340
5	33	30	2730	1500	280	11400	2010	779	2400	462	195	310
6	33	28	1400	1150	260	6600	1700	793	1600	420	162	920
7	32	28	898	1400	250	3600	1340	752	1100	296	138	2100
8	35	30	3310	6600	240	2330	1110	684	860	235	121	1200
9	33	30	9270	3000	235	1690	1070	605	720	199	110	660
10	32	30	5590	1900	230	1350	1180	537	2580	189	108	432
11	30	30	2310	1250	225	1520	1020	1490	2380	189	118	386
12	28	30	1360	1020	220	1370	941	3720	1580	186	219	314
13	28	30	970	914	215	1160	914	3900	1070	157	513	262
14	32	32	743	870	210	1050	899	5310	769	141	342	245
15	33	35	561	800	400	1000	934	2620	579	133	237	266
16	36	38	501	700	3190	811	975	1680	469	145	188	240
17	46	49	464	740	2920	777	896	1180	445	530	154	197
18	53	73	403	780	2020	713	800	910	800	290	131	169
19	46	90	343	700	1400	674	707	739	703	190	275	150
20	46	119	441	800	1200	645	638	619	457	160	644	137
21	44	96	3890	11500	1000	605	577	531	368	180	811	291
22	36	80	3470	4400	1080	552	524	479	370	235	708	4180
23	35	78	1810	2900	2770	513	495	443	440	200	523	4770
24	33	98	1260	2000	9280	2570	534	890	375	400	426	2630
25	33	148	3650	2300	12600	4600	509	4210	356	630	804	1460
26	33	168	2540	1450	9590	2640	561	2870	307	230	760	970
27	33	192	1610	1150	4110	1690	2460	1780	247	376	860	697
28	33	302	1090	940	2320	1230	2370	1470	213	587	1180	573
29	33	474	839	740	---	1030	1660	1260	191	412	860	515
30	35	601	724	620	---	871	1230	1060	182	340	700	438
31	46	---	1040	500	---	758	---	891	---	302	580	---
TOTAL	1098	3074	56599	76514	57645	66769	32353	45241	28151	9079	12886	26132
MEAN	35.4	102	1826	2468	2059	2154	1078	1459	938	293	416	871
MAX	53	601	9270	12100	12600	11400	2460	5310	3300	630	1180	4770
MIN	28	28	300	500	210	513	495	443	182	133	108	137
CFSM	.07	.19	3.38	4.57	3.81	3.99	2.00	2.70	1.74	.54	.77	1.61
IN.	.08	.21	3.90	5.27	3.97	4.60	2.23	3.12	1.94	.63	.89	1.80
CAL YR 1978	TOTAL	335575	MEAN	919	MAX	19200	MIN	28	CFSM	1.70	IN	23.12
WTR YR 1979	TOTAL	415541	MEAN	1138	MAX	12600	MIN	28	CFSM	2.11	IN	28.63

KANAWHA RIVER BASIN

03182700 ANTHONY CREEK NEAR ANTHONY, WV

LOCATION.--Lat 37°54'30", long 80°17'30", Greenbrier County, Hydrologic Unit 05050003, on right bank 0.3 mi (0.5 km) downstream from Big Draft, 1.7 mi (2.7 km) downstream from Rocky Run, 2.2 mi (3.5 km) northeast of Anthony, and at mile 3.2 (5.1 km).

DRAINAGE AREA.-- 144 mi² (373 km²).

PERIOD OF RECORD.--Water years 1949, 1951-53, 1957, 1960, 1966, 1968-71 (occasional low-flow discharge measurements only), October 1971 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,850 ft (564 m), from topographic map.

REMARKS.--Records good except those for period of no gage-height record, Oct. 29 to Dec. 14, and January and February, which are poor.

AVERAGE DISCHARGE.--8 years, 216 ft³/s (6.117 m³/s), 20.37 in/yr (517 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,700 ft³/s (558 m³/s) Dec. 26, 1973, gage height, 19.3 ft (5.88 m), from floodmarks, from rating curve extended above 1,100 ft³/s (31 m³/s); minimum daily, 6.2 ft³/s (0.18 m³/s) Nov. 7, 1978; minimum gage height, 6.16 ft (1.878 m) July 17-19, 23-25, Aug. 8, 9, 10, 12, 13, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,200 ft³/s (91 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 2	1045	5430 154	13.33 4.063	Feb. 25	2300	4280 121	12.56 3.828
Feb. 24	2100	*7720 219	14.66 4.468	May 13	1645	3320 94.0	11.85 3.612

Minimum daily discharge, 6.2 ft³/s (0.18 m³/s) Nov. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.0	6.6	25	671	104	506	154	224	141	89	40	24
2	7.8	6.5	24	3200	92	499	144	183	122	101	34	22
3	7.8	6.5	24	1400	84	511	161	161	300	85	30	22
4	7.8	6.4	31	600	76	768	236	154	752	71	26	20
5	7.8	6.4	160	370	70	1280	261	144	435	69	23	20
6	7.8	6.3	130	270	66	862	247	125	284	57	22	54
7	7.8	6.2	115	360	62	547	215	113	206	48	19	60
8	7.8	6.3	150	1300	58	400	191	103	194	41	18	53
9	7.8	6.4	430	800	56	303	202	95	440	38	16	46
10	7.8	6.6	540	460	54	253	202	90	347	38	14	37
11	7.8	6.5	180	340	52	412	184	274	404	38	22	32
12	7.8	6.4	110	285	50	374	177	449	331	36	66	29
13	7.8	6.3	80	260	48	295	176	2010	239	35	49	26
14	8.3	6.3	64	235	46	259	179	1440	177	35	33	25
15	8.3	6.4	53	220	46	219	196	607	135	34	25	23
16	8.3	9.4	52	210	269	169	234	401	111	31	21	22
17	8.3	12	51	200	368	154	234	290	110	30	19	21
18	7.8	13	42	190	204	142	205	231	647	29	17	21
19	7.6	13	40	185	212	133	176	193	497	27	25	20
20	7.6	9.8	41	450	189	125	153	163	262	25	31	20
21	7.6	7.9	381	2000	170	114	137	141	197	25	61	54
22	7.4	7.2	328	804	368	104	123	128	193	26	72	145
23	7.4	7.4	191	571	919	97	113	126	215	23	65	125
24	7.4	6.8	158	489	4120	908	112	366	209	23	50	94
25	7.2	6.5	710	572	3830	866	106	1290	261	24	43	76
26	7.4	6.6	388	385	2500	481	138	620	220	35	56	66
27	7.8	9.0	239	284	889	333	915	370	164	71	43	58
28	7.8	14	158	225	545	259	581	283	129	80	36	84
29	7.2	28	123	180	---	221	375	224	106	67	32	180
30	6.8	28	110	145	---	189	278	183	99	57	31	230
31	6.6	---	305	120	---	166	---	151	---	47	28	---
TOTAL	238.4	274.7	5433	17781	15547	11949	6805	11332	7927	1435	1067	1709
MEAN	7.69	9.16	175	574	555	385	227	366	264	46.3	34.4	57.0
MAX	8.3	28	710	3200	4120	1280	915	2010	752	101	72	230
MIN	6.6	6.2	24	120	46	97	106	90	99	23	14	20
CFSM	.05	.06	1.22	3.99	3.85	2.67	1.58	2.54	1.83	.32	.24	.40
IN.	.06	.07	1.40	4.59	4.02	3.09	1.76	2.93	2.05	.37	.28	.44
CAL YR 1978	TOTAL	62910.5	MEAN 172	MAX 6280	MIN 6.2	CFSM 1.19	IN 16.25					
WTR YR 1979	TOTAL	81498.1	MEAN 223	MAX 4120	MIN 6.2	CFSM 1.55	IN 21.05					

KANAWHA RIVER BASIN

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03183500 GREENBRIER RIVER AT ALDERSON, WV

LOCATION.--Lat 37°43'30", long 80°38'30", Monroe County, Hydrologic Unit 05050003, on left bank 400 ft (122 m) upstream from highway bridge at Alderson, 0.5 mi (0.8 km) upstream from Muddy Creek, and at mile 28.4 (45.7 km).

DRAINAGE AREA.--1,357 mi² (3,515 km²).

PERIOD OF RECORD.--July 1895 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 536: 1907-9. WSP 783: Drainage area. WSP 803: 1918(M). WSP 953: 1930-41. WSP 1275: 1897, 1905, 1910, 1914(M), 1915-16, 1917(M), 1919-20(M), 1924-25(M), 1927(M), 1929, 1949.

GAGE.--Water-stage recorder. Datum of gage is 1,529.42 ft (466.167 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 15, 1929, nonrecording gage at bridge 400 ft (122 m) downstream at same datum.

REMARKS.--Records good except those for January and February, which are fair. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--84 years, 1,994 ft³/s (56.47 m³/s), 19.95 in/yr (507 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 77,500 ft³/s (2,190 m³/s) Mar. 14, 1918, gage height, 22.0 ft (6.71 m), from floodmarks, from rating curve extended above 37,000 ft³/s (1,000 m³/s); minimum, 24 ft³/s (0.68 m³/s) Aug. 12, Oct. 1, 2, 1930; minimum gage height, 1.63 ft (0.497 m) Sept. 20, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 19,000 ft³/s (540 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Jan. 2	2100	27900	790	12.35	3.764	Feb. 25	0600	*32900	932	13.76	4.194
Jan. 8	1900	19800	561	10.02	3.054	Mar. 5	1900	22400	634	10.77	3.283
Jan. 21	2200	32400	918	13.62	4.151						

Minimum discharge, 80 ft³/s (2.27 m³/s) Oct. 3, 4, 7-11, 13, gage height, 1.88 ft (0.573 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86	89	1130	5580	1000	5520	1710	2690	1900	953	860	970
2	84	92	977	18800	840	5170	1630	2190	2150	942	830	721
3	82	92	719	18900	710	5930	1720	1830	2510	964	640	600
4	83	94	620	7160	660	7250	2570	1720	6560	1070	519	517
5	85	105	3790	3970	600	18400	3800	1810	6710	964	519	499
6	85	102	3520	2840	560	16200	3800	1810	4320	900	452	1130
7	82	97	2000	2640	540	8900	3140	1720	3000	986	386	3290
8	82	97	1400	13800	520	5670	2620	1600	2690	790	340	2590
9	82	94	6490	12700	500	4200	2390	1470	3480	650	300	1690
10	82	94	13800	5970	480	3240	2530	1340	4470	588	273	1150
11	81	92	5930	3730	470	3300	2530	1600	6890	572	259	846
12	82	92	2870	2660	460	3550	2230	2400	5650	526	440	651
13	84	92	1890	2130	450	3000	2080	14000	3650	526	790	533
14	102	94	1360	2010	450	2640	2080	11200	2590	505	800	469
15	112	100	1050	2030	518	2390	2080	7820	1940	470	750	443
16	104	107	844	1730	1730	2100	2640	4800	1550	505	505	421
17	101	116	757	1520	6070	1780	2440	3340	1360	596	404	400
18	92	131	706	1540	3750	1640	2120	2570	1660	780	335	347
19	92	157	625	1570	2580	1550	1830	2100	3380	548	410	300
20	97	171	580	1920	2100	1450	1630	1790	2480	440	484	266
21	102	175	1390	23400	1790	1380	1470	1550	1850	464	860	268
22	113	195	7100	22000	2480	1290	1320	1360	2710	620	1180	3740
23	110	183	4140	9480	5250	1200	1200	1310	3450	491	1280	10600
24	107	179	2560	5480	16900	2870	1180	1870	3450	588	953	7760
25	102	171	3850	5260	31000	8600	1150	4400	4120	910	750	4160
26	100	195	6130	4090	26800	6680	1240	6950	2950	800	898	2570
27	100	239	3600	2900	14000	4400	5870	4500	2010	1780	1130	1740
28	94	446	2380	2300	7340	3200	7790	3240	1530	2230	980	1340
29	92	564	1610	1800	---	2590	4900	2840	1230	1880	1100	1310
30	89	870	1330	1500	---	2230	3480	2500	1080	1360	1980	1180
31	89	---	2050	1180	---	1900	---	2120	---	1020	1390	---
TOTAL	2878	5325	87198	192590	130548	140220	77170	102440	93320	26418	22797	52496
MEAN	92.8	178	2813	6213	4662	4523	2572	3305	3111	852	735	1750
MAX	113	870	13800	23400	31000	18400	7790	14000	6890	2230	1980	10600
MIN	81	89	580	1180	450	1200	1150	1310	1080	440	259	266
CFSM	.07	.13	2.07	4.58	3.44	3.33	1.90	2.44	2.29	.63	.54	1.29
IN.	.08	.15	2.39	5.28	3.58	3.84	2.12	2.81	2.56	.72	.62	1.44
CAL YR 1978	TOTAL	709364	MEAN	1943	MAX	35200	MIN	81	CFSM	1.43	IN	19.45
WTR YR 1979	TOTAL	933400	MEAN	2557	MAX	31000	MIN	81	CFSM	1.88	IN	25.59

KANAWHA RIVER BASIN

03184000 GREENBRIER RIVER AT HILLDALE, WV

LOCATION.--Lat 37°38'25", long 80°48'20", Summers County, Hydrologic Unit 05050003, on left bank 100 ft (30 m) downstream from highway bridge on State Highway 3 at Hilldale, 0.1 mi (0.2 km) upstream from Howard Creek, 0.9 mi (1.4 km) upstream from Powley Creek, 5.0 mi (8.0 km) southeast of Hinton, and at mile 5.6 (9.0 km). Records include flow of Howard Creek.

DRAINAGE AREA.--1,625 mi² (4,209 km²), includes that of Howard Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1936 to current year.

REVISED RECORDS.--WSP 1435: 1955.

GAGE.--Water-stage recorder. Datum of gage is 1,388.66 ft (423.264 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Water-discharge records good except those for January and February, which are fair.

AVERAGE DISCHARGE.--43 years, 2,244 ft³/s (63.55 m³/s), 18.75 in/yr (476 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 58,100 ft³/s (1,650 m³/s) Dec. 27, 1973, gage height, 23.13 ft (7.050 m), from floodmark; minimum, 39 ft³/s (1.10 m³/s) Sept. 18-20, 1946, Sept. 16, 1964; minimum gage height, 0.32 ft (0.098 m) Sept. 16, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 21.85 ft (6.660 m) from data furnished by Corps of Engineers, discharge, 60,800 ft³/s (1,720 m³/s).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 24,000 ft³/s (680 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Jan. 3	0200	29500	835	14.80	4.511	Feb. 25	0900	*35700	1010	16.73	5.099
Jan. 22	0100	35400	1000	16.65	5.075	Mar. 5	2300	24300	688	13.10	3.993

Minimum discharge, 84 ft³/s (2.38 m³/s) Oct. 10-13, gage height, 0.55 ft (0.168 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	88	1240	6310	1500	7140	2160	3650	2180	1060	2030	1220
2	92	88	1170	17400	1150	6580	2010	2930	2260	966	1160	996
3	92	88	902	23300	880	6950	2140	2380	2680	1030	883	920
4	92	88	740	9580	780	7920	3080	2210	6450	1080	685	764
5	90	90	2670	5450	690	18600	4500	2350	8060	1110	624	741
6	90	94	4740	3950	640	19700	4680	2300	5380	930	573	1690
7	90	99	2750	3470	610	11300	4030	2210	3780	945	484	3130
8	88	94	1830	12500	580	7290	3340	2020	2970	863	407	3060
9	86	92	4560	15500	560	5480	2980	1850	3810	699	354	2030
10	86	92	15000	7700	540	4360	3030	1660	5170	638	317	1440
11	84	90	7760	5020	520	4140	3190	1540	7370	610	297	1090
12	84	90	4100	3590	500	4500	2810	2450	6930	577	599	864
13	84	90	2600	2840	490	3980	2610	8180	4580	665	1070	713
14	88	90	1830	2590	480	3460	2550	15300	3060	611	1060	620
15	97	97	1410	2600	656	3100	2510	10400	2190	553	983	566
16	110	104	1100	2240	2170	2730	2930	6180	1660	532	711	534
17	104	110	914	1940	7290	2360	3030	4400	1430	554	539	500
18	99	120	875	1890	5590	2140	2650	3330	1500	804	431	461
19	97	130	758	1960	3790	2000	2310	2680	4230	702	753	395
20	94	159	732	2210	3040	1800	2010	2200	3280	536	935	341
21	94	171	1000	22900	2610	1690	1790	1880	2800	454	884	373
22	99	175	7150	27800	3480	1590	1620	1640	4920	598	1300	2720
23	110	195	5570	12800	6830	1470	1490	1540	4920	580	1430	10200
24	110	191	3470	7390	18000	2890	1450	1830	4730	505	1180	8740
25	104	179	4000	6700	34600	9330	1390	4340	5520	884	934	4940
26	102	175	7230	5780	31300	8540	1510	7860	3960	919	799	3090
27	99	226	4930	4260	18400	5650	6910	5570	2630	1400	1230	2130
28	94	332	3290	3540	9610	4200	10400	4010	1870	2610	1160	1760
29	92	620	2200	2980	---	3330	6650	3360	1440	2160	934	1740
30	90	785	1790	2380	---	2810	4760	2980	1220	1680	1900	1700
31	90	---	2080	1800	---	2430	---	2520	---	1250	1730	---
TOTAL	2921	5042	100391	230370	157286	169460	96520	117750	112980	28505	28376	59468
MEAN	94.2	168	3238	7431	5617	5466	3217	3798	3766	920	915	1982
MAX	110	785	15000	27800	34600	19700	10400	15300	8060	2610	2030	10200
MIN	84	88	732	1800	480	1470	1390	1540	1220	454	297	341
CFSM	.06	.10	1.99	4.57	3.46	3.36	1.98	2.34	2.32	.57	.56	1.22
IN.	.07	.12	2.30	5.27	3.60	3.88	2.21	2.70	2.59	.65	.65	1.36

CAL YR 1978	TOTAL	814880	MEAN	2233	MAX	42500	MIN	84	CFSM	1.37	IN	18.65
WTR YR 1979	TOTAL	1109069	MEAN	3039	MAX	34600	MIN	84	CFSM	1.87	IN	25.39

03184000 GREENBRIER RIVER AT HILLDALE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-1974, 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
OCT											
23...	1455	111	--	--	24.0	13.5	--	--	--	--	--
JAN											
17...	1600	1980	110	--	--	--	--	--	--	--	--
APR											
02...	1640	2020	105	7.6	16.0	13.5	10.8	--	--	--	--
MAY											
11...	1705	1440	90	8.0	--	22.0	--	49	6	.0	.0
15...	1400	9850	70	--	18.0	15.0	--	--	--	--	--
JUN											
13...	1930	3960	85	7.2	21.0	18.0	--	45	9	.0	.0
JUL											
18...	1210	992	160	8.1	--	25.0	--	86	15	.0	.0
24...	0945	492	150	7.8	22.0	25.0	7.8	74	10	.0	.0
SEP											
05...	1215	378	165	7.2	--	23.0	--	64	11	.0	.0
11...	1130	1070	160	7.9	--	19.5	--	46	6	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
MAY											
11...	16	2.2	--	--	43	--	8.5	3.5	77	.10	300
JUN											
13...	15	1.9	--	--	36	--	7.5	2.0	69	.09	738
JUL											
18...	28	3.8	4.2	.2	71	1.1	14	5.5	107	.15	287
24...	24	3.3	4.2	.2	64	2.0	13	5.6	75	.10	99.6
SEP											
05...	21	2.8	3.3	.2	53	6.5	9.8	4.1	89	.12	90.8
11...	15	2.1	3.3	.2	40	1.0	9.5	3.0	62	.08	179

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
MAY									
11...	--	--	--	--	--	290	260	30	--
JUN									
13...	--	--	--	--	--	440	400	40	--
JUL									
18...	--	--	--	--	--	150	120	30	--
24...	--	--	--	--	--	130	90	40	--
SEP									
05...	--	--	--	--	--	380	--	80	--
11...	0	<10	10	20	10	490	--	80	20000

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
MAY								
11...	--	30	30	0	--	--	--	--
JUN								
13...	--	20	10	7	--	--	--	--
JUL								
18...	--	0	0	7	--	--	--	--
24...	--	10	1	9	--	--	--	--
SEP								
05...	--	30	10	20	--	--	--	--
11...	20	30	20	10	460	.00	0	50

KANAWHA RIVER BASIN

03184500 NEW RIVER AT HINTON, WV

LOCATION.--Lat 37°40'15", long 80°53'40", Summers County, Hydrologic Unit 05050004, on right bank at Hinton, 0.2 mi (0.3 km) upstream from Madam Creek, 1.5 mi (2.4 km) downstream from Greenbrier River, at New River mile 62.0 (99.8 km) and Kanawha River mile 159.0 (255.8 km).

DRAINAGE AREA.--6,257 mi² (16,206 km²).

PERIOD OF RECORD.--June 1936 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,355.18 ft (413.059 m) National Geodetic Vertical Datum of 1929. Prior to June 5, 1949, water-stage recorder at site 400 ft (122 m) upstream at same datum.

REMARKS.--Records good. Flow regulated since 1939 by Claytor Lake (station 03169000) and since 1949 by Bluestone Lake (station 03179800). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--43 years, 7,924 ft³/s (224.4 m³/s), 17.20 in/yr (437 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 246,000 ft³/s (6,970 m³/s) Aug. 15, 1940, gage height, 18.97 ft (5.782 m), from rating curve extended above 80,000 ft³/s (2,300 m³/s) on basis of slope-area measurement at station at Bluestone Dam, and gaged inflow from Greenbrier River; minimum, 238 ft³/s (6.74 m³/s) Aug. 21, 1962, gage height, 1.03 ft (0.314 m); minimum daily, 920 ft³/s (26.1 m³/s) Oct. 22, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 57,900 ft³/s (1,640 m³/s) Mar. 1, gage height, 8.45 ft (2.576 m); minimum, 1,210 ft³/s (34.3 m³/s) Nov. 6, 7, gage height, 1.52 ft (0.463 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1430	1430	4900	10400	6650	54100	9810	10600	7980	6340	6870	5350
2	1330	1920	6350	25600	6710	56500	7790	10900	9700	4930	6230	3250
3	1330	2460	2700	44200	4750	54100	12900	9120	9240	4470	7350	2550
4	1330	2500	1740	26300	3730	49100	18100	8810	15000	6350	6550	4240
5	1330	2340	6650	15500	3330	52300	20600	14600	16700	6640	3920	10600
6	1330	1920	10400	11400	4800	52300	18200	8990	13200	6230	2750	14700
7	1350	1350	7730	11500	5870	46600	15500	7430	10600	6340	3960	15600
8	1350	1580	5930	21500	4800	36400	12700	8930	8420	5030	3910	11100
9	1330	1650	6290	26700	4500	25900	10200	7670	9750	3970	3470	8840
10	1330	1600	15700	16000	5100	19200	12900	6770	11100	4790	3440	6900
11	1350	1630	8690	11200	3020	14900	14600	8030	14000	6930	3850	4790
12	1350	1480	9050	8270	2160	13900	13500	12000	13600	6460	4490	4920
13	1380	1350	12000	8870	3550	14300	13300	27900	10500	6560	4160	10800
14	1530	1550	8810	7490	4310	13500	14600	34200	9470	5450	4410	6220
15	1630	1770	4130	5570	4550	12600	12800	29100	7060	3850	4600	3600
16	1630	1920	3820	6770	10400	11200	8990	21000	5440	3190	3940	3250
17	1830	1920	3060	6530	20100	9310	11600	15500	7680	4410	3640	3710
18	2130	3190	2380	6110	18400	7730	10600	11400	11500	4950	3020	5110
19	2300	2940	3100	6350	13400	7130	8690	10300	13700	4560	3150	5190
20	2340	1710	3730	7490	10500	8450	8330	7980	14000	4540	2740	4220
21	1950	1740	4090	38800	10300	8150	8210	7800	13800	9060	3200	6900
22	1550	2500	11300	50400	14200	8210	6890	8330	24400	8520	4570	17300
23	1450	3020	9240	44800	21600	7790	5930	7380	23100	6490	4340	41200
24	1860	2020	5990	34100	38000	16500	9760	9260	18500	7510	3730	34700
25	1650	1770	7490	24600	43200	41200	8450	15800	19600	7700	3880	20300
26	1450	1580	12500	17700	33600	44200	7070	16900	15300	6700	3430	14600
27	1600	1600	10900	13700	20200	35800	21300	14200	12100	7460	2640	10200
28	1710	2740	8270	9700	20500	25900	30600	9580	10800	8390	5170	9560
29	1550	3460	5690	7610	---	18600	24000	9920	8430	8470	6640	11900
30	1430	3690	5630	8750	---	15400	13000	9630	7730	6470	4350	11700
31	1430	---	4900	7550	---	12600	---	8550	---	6530	5130	---
TOTAL	48540	62330	213160	541460	342230	793870	390920	388580	372400	189290	133530	313300
MEAN	1566	2078	6876	17470	12220	25610	13030	12530	12410	6106	4307	10440
MAX	2340	3690	15700	50400	43200	56500	30600	34200	24400	9060	7350	41200
MIN	1330	1350	1740	5570	2160	7130	5930	6770	5440	3190	2640	2550

CAL YR 1978 TOTAL 3208030 MEAN 8789 MAX 51300 MIN 1330 MEAN‡ 8789 CFSM‡ 1.40 IN‡ 19.00
WTR YR 1979 TOTAL 3789610 MEAN 10380 MAX 56500 MIN 1330 MEAN‡ 10377 CFSM‡ 1.66 IN‡ 22.53

‡ Adjusted for change in contents in Claytor (Virginia) and Bluestone Lakes.

KANAWHA RIVER BASIN

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03184950 SOAK CREEK AT SOPHIA, WV
(Formerly published as Soak Creek near Sophia)

LOCATION.--Lat 37°42'27", long 81°15'00", Raleigh County, Hydrologic Unit 05050004, at end of culvert on Old State Route 16 at Sophia, 1.5 mi (2.4 km) upstream from Laurel Branch, and 2.7 mi (4.3 km) upstream from Piney Creek.

DRAINAGE AREA.--3.96 mi² (10.26 km²).

PERIOD OF RECORD.--October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
NOV 15...	1130	.70	250	7.2	13.0	70	7.0	119	.22
DEC 12...	1615	2.1	150	6.4	4.5	10	13.4	8	.05
JAN 24...	1530	18	170	6.5	5.0	100	12.7	141	6.9
FEB 16...	1805	25	114	--	--	--	--	1260	85
MAR 07...	1325	10	100	6.2	9.0	10	11.1	30	.81
21...	1400	1.6	145	6.2	12.0	12	10.1	10	.04
APR 03...	0820	19	152	--	--	180	--	920	47
03...	0855	21	145	--	--	150	--	650	37
03...	1000	27	136	--	--	150	--	3020	220
03...	1010	28	125	--	--	170	--	1090	62
03...	1020	29	124	--	--	160	--	870	68
03...	1030	29	120	--	--	170	--	769	60
03...	1055	28	119	--	--	150	--	954	72
04...	1615	18	135	9.4	11.5	37	10.2	95	4.6
MAY 17...	0930	3.9	115	6.8	10.5	20	10.2	45	.47
JUN 07...	0910	2.4	130	7.0	14.0	9.0	8.6	16	.10
JUL 12...	0920	.93	165	8.0	17.5	--	7.6	14	.04

KANAWHA RIVER BASIN

03184970 CRAB ORCHARD CREEK AT CRAB ORCHARD, WV

LOCATION.--Lat 37°44'31", long 81°13'47", Raleigh County, Hydrologic Unit 05050004, at bridge approximately 1,000 ft (305 m) northwest of WV Route 16 at Crab Orchard, 3.5 mi (5.6 km) southwest of Beckley, and at mile 1.4 (2.3 km).

DRAINAGE AREA.--2.84 mi² (7.36 km²).

PERIOD OF RECORD.--October 1978 to September 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

			STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)			
DATE	TIME										
OCT											
19...	0845		.11	215	6.6	8.5	4.0	4.2			
NOV											
15...	0900		.20	260	6.7	13.0	30	3.0			
DEC											
12...	1445		2.4	105	5.9	5.0	5.2	--			
JAN											
24...	1400		18	220	6.6	4.0	75	13.8			
FEB											
16...	1745		43	87	--	--	--	--			
MAR											
07...	1030		9.1	95	5.9	6.0	25	11.3			
21...	1200		1.2	120	6.0	7.5	1.4	10.4			
APR											
03...	0800		8.8	169	--	--	53	--			
03...	0835		11	169	--	--	110	--			
03...	0905		16	160	--	--	140	--			
03...	0915		17	155	--	--	130	--			
03...	0925		18	151	--	--	150	--			
03...	0935		19	151	--	--	140	--			
03...	0945		20	150	--	--	120	--			
04...	1415		13	80	6.3	10.0	1.4	10.8			
09...	0840		6.5	123	--	--	45	--			
09...	0850		6.8	122	--	--	45	--			
09...	0900		7.0	127	--	--	55	--			
09...	0910		7.6	131	--	--	40	--			
09...	0940		8.4	135	--	--	65	--			
09...	0955		8.6	130	--	--	65	--			
09...	1005		8.8	125	--	--	45	--			
MAY											
16...	1540		5.0	80	6.3	15.5	2.3	9.3			
JUN											
06...	1425		2.5	95	6.7	17.0	2.5	9.3			
JUL											
11...	1310		1.3	155	7.6	18.5	2.2	7.1			
DATE	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)
OCT											
19...	5500	92000	9800	73	21	19	6.2	16	31	.8	--
NOV											
15...	21000	100000	3000	84	23	24	5.8	18	30	.9	--
DEC											
12...	2600	65000	1400	42	29	11	3.6	9.2	31	.6	--
JAN											
24...	5900	80000	1800	39	18	12	2.3	31	62	2.1	--
MAR											
07...	4500	75000	2400	28	8	8.2	1.8	8.0	37	.7	--
21...	8300	101000	2300	83	60	19	8.6	15	28	.7	--
APR											
04...	3100	40000	1700	19	12	4.7	1.7	6.1	40	.6	--
MAY											
16...	3200	43000	10000	20	11	5.0	1.9	6.3	39	.6	--
JUN											
06...	15000	170000	72000	30	14	7.7	2.6	8.4	36	.7	--
JUL											
11...	27000	220000	3890	45	14	12	3.6	13	37	.8	15

03184970 CRAB ORCHARD CREEK AT CRAB ORCHARD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT										
19...	3.4	52	25	29	.2	8.5	151	142	.21	.04
NOV										
15...	4.5	61	27	28	.1	3.1	167	155	.23	.09
DEC										
12...	2.2	13	22	14	.0	5.2	87	77	.12	.56
JAN										
24...	1.6	21	14	53	.1	3.9	153	134	.21	7.44
MAR										
07...	1.2	20	14	13	.1	4.6	59	63	.08	1.45
21...	1.5	23	70	9.7	.0	7.0	151	148	.21	.49
APR										
04...	1.2	7	12	8.8	.0	4.5	46	46	.06	1.61
MAY										
16...	1.2	9	13	8.3	.0	5.0	45	48	.06	.61
JUN										
06...	1.5	16	14	12	.1	5.7	63	63	.09	.43
JUL										
11...	2.0	31	19	17	.1	6.4	107	95	.15	.38

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS P04)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT										
19...	--	--	--	--	--	--	--	--	--	30
NOV										
15...	--	--	--	--	--	--	--	--	--	10
DEC										
12...	1.3	5.7	.01	.03	1.3	.03	.09	180	120	60
JAN										
24...	.73	3.2	.01	.03	.74	.00	.00	--	--	40
MAR										
07...	.54	2.4	.00	.00	.54	.00	.00	--	--	40
21...	.60	2.7	.01	.03	.61	.00	.00	--	--	50
APR										
04...	.44	1.9	.00	.00	.44	.02	.06	270	230	40
MAY										
16...	.26	1.2	.00	.00	.26	.00	.00	--	--	50
JUN										
06...	.30	1.3	.02	.07	.32	.01	.03	--	--	50
JUL										
11...	.36	1.6	.03	.10	.39	.01	.03	--	--	30

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS- (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
DEC								
12...	21	7	20	20	0	0	1600	500
APR								
04...	10	10	10	0	13	0	1000	720

KANAWHA RIVER BASIN

03184970 CRAB ORCHARD CREEK AT CRAB ORCHARD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PR)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 19...	3000	--	--	--	--	880	--	--	--	--	--
NOV 15...	7000	--	--	--	--	1200	--	--	--	--	--
DEC 12...	1100	240	140	100	0	380	<.5	<.5	60	10	50
JAN 24...	130	--	--	--	--	160	--	--	--	--	--
MAR 07...	220	--	--	--	--	180	--	--	--	--	--
21...	0	--	--	--	--	430	--	--	--	--	--
APR 04...	280	8	4	4	20	130	<.5	<.5	30	10	20
MAY 16...	580	--	--	--	--	250	--	--	--	--	--
JUN 06...	820	--	--	--	--	330	--	--	--	--	--
JUL 11...	1300	--	--	--	--	620	--	--	--	--	--

DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 19...	11	.00	APR 03...	714	37
NOV 15...	277	.15	03...	695	38
DEC 12...	8	.05	04...	26	.91
JAN 24...	194	9.4	09...	104	1.8
FEB 16...	76	8.8	09...	106	1.9
MAR 07...	22	.54	09...	165	3.1
21...	4	.01	09...	144	3.0
APR 03...	506	12	09...	196	4.4
03...	555	16	09...	198	4.6
03...	762	33	09...	144	3.4
03...	802	37	MAY 16...	13	.18
03...	734	36	JUN 06...	9	.06
			JUL 11...	13	.05

KANAWHA RIVER BASIN

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03185000 PINEY CREEK AT RALEIGH, WV

LOCATION.--Lat 37°45'40", long 81°09'50", Raleigh County, Hydrologic Unit 05050004, on left bank at Raleigh, 0.5 mi (0.8 km) downstream from Whitestick Creek, 0.5 mi (0.8 km) upstream from Beaver Creek, 1.5 mi (2.4 km) southeast of Beckley, and at mile 12.0 (19.3 km).

DRAINAGE AREA.--52.2 mi² (135.2 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1951 to current year.

REVISED RECORDS.--WSP 1435: 1955(M).

GAGE.--Water-stage recorder. Datum of gage is 2,087.24 ft (636.191 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for January and February, which are poor.

AVERAGE DISCHARGE.--28 years, 61.9 ft³/s (1.753 m³/s), 16.10 in/yr (409 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,870 ft³/s (81.3 m³/s) Mar. 12, 1963, gage height, 6.49 ft (1.978 m); minimum, 0.2 ft³/s (0.006 m³/s) Sept. 5-18, 21-23, 1964; minimum gage height, 1.07 ft (0.326 m) Sept. 9-12, 16, 17, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge above base of 700 ft³/s (20 m³/s), 1,280 ft³/s (36.2 m³/s) Jan. 21, gage height, 4.51 ft (1.375 m); minimum, 1.5 ft³/s (0.042 m³/s) Nov. 6, 7, 14, gage height, 1.20 ft (0.366 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.0	4.8	16	112	42	180	77	89	72	35	31	14
2	2.7	2.7	9.1	358	39	164	74	74	61	55	25	13
3	3.6	2.7	15	220	36	152	134	68	70	89	22	14
4	4.8	1.8	113	130	34	146	233	77	84	63	19	13
5	3.9	1.7	71	95	32	326	198	104	68	180	17	17
6	3.9	1.7	38	70	30	271	149	102	57	100	18	51
7	3.0	1.7	32	282	28	191	115	89	49	63	15	37
8	3.6	2.7	94	484	26	143	96	74	43	47	14	25
9	3.0	2.4	370	264	25	112	112	65	43	40	13	19
10	2.7	2.7	222	155	24	99	115	68	41	53	12	15
11	2.4	3.9	94	100	23	112	104	112	102	37	16	14
12	2.4	2.1	53	75	22	96	91	84	61	32	49	12
13	2.7	1.7	38	70	21	86	86	334	43	94	28	10
14	3.3	1.7	29	80	21	84	91	358	37	72	19	11
15	3.6	4.2	24	65	45	74	81	222	31	57	16	13
16	3.9	5.3	22	57	100	63	77	143	27	45	14	10
17	3.6	7.0	23	54	243	59	70	102	38	37	11	8.3
18	3.3	5.9	21	50	143	55	61	79	177	29	10	8.3
19	2.7	9.7	19	49	112	51	59	68	338	26	89	8.3
20	2.4	3.6	32	194	91	49	51	57	201	26	57	7.5
21	2.7	2.1	212	915	104	47	47	61	386	26	37	38
22	2.4	3.6	198	655	201	43	43	51	461	23	27	177
23	1.8	2.4	102	268	299	47	51	53	271	24	23	140
24	1.8	2.7	84	198	497	299	51	104	191	28	21	63
25	1.8	2.7	184	150	524	406	43	134	180	23	20	38
26	1.8	3.6	140	130	410	233	61	129	143	45	18	28
27	2.7	9.1	94	100	275	155	201	104	96	123	17	23
28	2.1	9.1	61	80	194	120	191	140	53	118	19	55
29	2.4	13	49	66	---	102	143	126	51	74	27	81
30	2.1	24	43	54	---	89	109	96	41	51	20	57
31	2.1	---	70	45	---	79	---	81	---	38	16	---
TOTAL	88.2	142.3	2572.1	5625	3641	4133	3014	3448	3516	1753	740	1020.4
MEAN	2.85	4.74	83.0	181	130	133	100	111	117	56.5	23.9	34.0
MAX	4.8	24	370	915	524	406	233	358	461	180	89	177
MIN	1.8	1.7	9.1	45	21	43	43	51	27	23	10	7.5
CFSM	.06	.09	1.59	3.47	2.49	2.55	1.92	2.13	2.24	1.08	.46	.65
IN.	.06	.10	1.83	4.01	2.59	2.95	2.15	2.46	2.51	1.25	.53	.73
CAL YR 1978	TOTAL	19070.9	MEAN	52.2	MAX	915	MIN	1.7	CFSM	1.00	IN	13.59
WTR YR 1979	TOTAL	29693.0	MEAN	81.4	MAX	915	MIN	1.7	CFSM	1.56	IN	21.16

KANAWHA RIVER BASIN

03185000 PINEY CREEK AT RALEIGH, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to September 1979.

WATER QUALITY DATA. WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)
OCT								
18...	1110	3.6	335	7.5	--	8.0	1.0	--
24...	1555	1.9	--	--	17.5	15.5	--	--
NOV								
13...	1410	1.8	375	7.8	--	15.0	1.0	--
DEC								
05...	1100	75	230	--	6.0	7.0	--	12.2
12...	0935	49	180	6.7	--	2.0	4.4	--
JAN								
23...	1000	254	145	6.3	--	3.0	9.5	--
FEB								
16...	1510	303	209	--	--	--	--	--
20...	1200	95	185	6.3	6.0	.0	--	14.4
23...	1645	350	138	--	--	--	--	--
24...	1330	565	133	--	--	--	--	--
24...	1425	592	133	--	--	--	--	--
24...	1520	619	132	--	--	--	--	--
25...	1350	592	99	--	--	--	--	--
MAR								
06...	0945	307	125	6.7	--	7.0	4.4	11.8
20...	0845	45	205	6.8	--	8.5	.55	11.1
28...	1355	116	175	6.8	12.0	8.0	--	11.8
APR								
02...	1245	68	190	6.7	--	13.0	.60	10.4
MAY								
12...	1620	75	215	6.6	23.0	19.0	--	--
15...	1020	223	105	7.1	--	14.0	1.9	9.9
JUN								
05...	0850	63	--	--	--	--	--	--
12...	1545	60	--	--	24.5	19.5	--	--
JUL								
09...	1200	27	220	8.6	--	17.5	1.0	9.7
18...	1045	36	205	7.2	--	20.0	--	--
23...	1200	21	240	8.4	22.0	23.0	--	9.3
AUG								
02...	1500	21	--	--	--	--	--	--
07...	1430	16	280	--	28.0	25.0	--	--
08...	1500	12	--	--	--	--	--	--
09...	1500	10	--	--	--	--	--	--
10...	1500	9.6	--	--	--	--	--	--
11...	1500	18	--	--	--	--	--	--
12...	1500	55	--	--	--	--	--	--
SEP								
04...	1350	14	320	8.2	25.0	26.0	--	9.8
04...	1400	10	--	--	--	--	--	--
05...	1400	11	--	--	--	--	--	--
06...	1400	49	--	--	--	--	--	--
07...	1400	31	--	--	--	--	--	--
08...	1400	21	--	--	--	--	--	--
09...	1400	16	--	--	--	--	--	--
10...	1400	13	--	--	--	--	--	--
11...	1400	11	--	--	--	--	--	--
12...	1400	9.6	--	--	--	--	--	--
13...	1400	8.8	--	--	--	--	--	--
13...	1850	11	300	7.8	21.0	19.0	--	--
14...	1400	9.2	--	--	--	--	--	--
15...	1400	10	--	--	--	--	--	--
16...	1400	8.8	--	--	--	--	--	--
17...	1400	6.7	--	--	--	--	--	--
18...	1400	6.7	--	--	--	--	--	--
19...	1400	7.9	--	--	--	--	--	--
20...	1400	5.8	--	--	--	--	--	--
21...	1400	8.8	--	--	--	--	--	--
22...	1400	155	--	--	--	--	--	--
23...	1400	109	--	--	--	--	--	--
24...	1400	53	--	--	--	--	--	--
25...	1400	33	--	--	--	--	--	--

03185000 PINEY CREEK AT RALEIGH, WV--Continued

DATE	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLIFORM, TOTAL, IMMEDIATE (COLS. PER 100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	SODIUM PERCENT	SODIUM ADSORPTION RATIO
OCT 18...	1700	9900	130	75	--	--	31	12	35	37	1.4
NOV 13...	533	9000	130	--	--	--	32	13	38	38	1.4
DEC 12...	267	800	73	66	--	--	16	8.0	10	22	.5
JAN 23...	240	640	47	40	--	--	10	5.3	9.0	29	.6
MAR 06...	880	6100	43	34	--	--	9.7	4.5	9.0	31	.6
20...	140	3800	36	22	--	--	9.4	3.0	11	39	.8
APR 02...	240	970	71	52	--	--	16	7.6	14	29	.7
MAY 12...	--	--	66	41	.0	.0	16	6.4	--	--	--
15...	2700	12000	39	24	--	--	8.6	4.3	7.1	27	.5
JUN 05...	--	--	76	57	--	--	18	7.6	13	27	.6
JUL 09...	1700	14000	90	49	--	--	21	9.0	17	29	.8
18...	--	--	76	46	.0	.0	18	7.5	16	--	.8
SEP 13...	--	--	80	52	.0	.0	19	7.9	18	--	.9

DATE	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTIT- UENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT 18...	--	2.7	52	--	130	11	.2	8.5	261	262	.36
NOV 13...	--	3.0	52	--	140	13	.1	3.1	285	--	.39
DEC 12...	--	2.3	7	--	57	12	.0	6.4	127	117	.17
JAN 23...	--	1.6	7	--	50	12	.1	5.8	104	103	.14
MAR 06...	--	1.4	9	--	38	11	.1	5.8	86	85	.12
20...	--	1.5	14	--	19	17	.0	4.9	80	78	.11
APR 02...	--	1.6	19	--	65	11	.1	6.9	134	137	.18
MAY 12...	--	--	25	--	54	9.4	--	--	124	--	.17
15...	--	1.3	15	--	36	5.8	.0	6.2	75	81	.10
JUN 05...	15	1.6	19	--	61	8.4	.1	6.7	144	128	.20
JUL 09...	19	1.6	41	--	73	11	.1	5.9	171	166	.23
18...	--	--	30	3.7	65	11	--	--	133	--	.18
SEP 13...	--	--	35	.9	70	8.9	--	--	144	--	.20

[illegible]

KANAWHA RIVER BASIN

03185000 PINEY CREEK AT RALEIGH, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS- (UG/L AS CR)	CHRO- MIUM, SUS- PENDED RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)
DEC 12...	--	4	15	--	10	0	10	0	--	--	--
APR 02...	--	0	0	--	10	0	0	10	--	--	--
SEP 13...	0	--	--	<10	--	--	--	--	20	10	20
DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PH)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PH)	LEAD, DIS- SOLVED (UG/L AS PH)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PH)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 18...	--	--	90	--	--	--	--	--	--	--	180
NOV 13...	--	--	30	--	--	--	--	--	--	--	260
DEC 12...	360	210	150	--	110	0	220	--	600	0	600
JAN 23...	--	--	70	--	--	--	--	--	--	--	400
MAR 06...	--	--	130	--	--	--	--	--	--	--	260
APR 20...	--	--	1000	--	--	--	--	--	--	--	440
MAY 02...	390	330	60	--	4	1	3	--	360	0	360
JUN 12...	850	790	60	--	--	--	--	--	250	30	220
JUL 05...	--	--	40	--	--	--	--	--	--	--	270
SEP 13...	530	470	60	--	--	--	--	--	330	20	310
JUL 09...	--	--	40	--	--	--	--	--	--	--	220
SEP 18...	450	410	40	--	--	--	--	--	230	10	220
SEP 13...	480	--	60	14000	--	--	--	30	200	50	150
DATE	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	
DEC 12...	--	<.5	.0	<.5	--	--	60	20	40	--	
APR 02...	--	.5	.0	.5	--	--	20	10	10	--	
SEP 13...	340	--	--	--	.00	0	--	--	--	70	

KANAWHA RIVER BASIN

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03185000 PINEY CREEK AT RALEIGH, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT		
18...	0	.00
NOV		
13...	10	.05
DEC		
12...	276	37
JAN		
23...	1	.69
FEB		
16...	97	79
23...	149	141
24...	214	326
24...	289	462
24...	197	329
25...	132	211
MAR		
06...	24	20
20...	4	.49
APR		
02...	6	1.1
MAY		
15...	24	14
JUN		
05...	14	2.4
JUL		
09...	9	.66
AUG		
02...	20	1.1
08...	13	.42
09...	13	.35
10...	13	.34
11...	77	3.7
12...	71	11
SEP		
04...	17	.46
05...	23	.68
06...	87	12
07...	44	3.7
08...	60	3.4
09...	53	2.3
10...	93	3.3
11...	55	1.6
12...	70	1.8
13...	174	4.1
14...	120	3.0
15...	77	2.1
16...	134	3.2
17...	125	2.3
18...	87	1.6
19...	102	2.2
20...	144	2.3
21...	99	2.4
22...	1190	498
23...	2000	589
24...	2310	331
25...	1590	142

KANAWHA RIVER BASIN

03185030 LITTLE BEAVER CREEK AT DANIELS, WV

LOCATION.--Lat 37°45'02", long 81°06'46", Raleigh County, Hydrologic Unit 05050004, 0.4 mi (0.6 km) upstream from Sand Branch, 2.3 mi (3.7 km) downstream from Little Beaver Lake, 4.6 mi (7.4 km) southeast of Beckley, and at mile 1.9 (3.1 km).

DRAINAGE AREA.--11.4 mi² (29.5 km²).

PERIOD OF RECORD.--October 1978 to September 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT									
30...	1600	.08	110	6.6	7.0	7.0	0	22	33
NOV									
13...	1130	.11	115	6.1	9.0	7.0	0	150	200
DEC									
11...	1245	21	100	6.1	3.0	14.4	100	700	610
JAN									
23...	1200	67	60	5.5	3.0	--	60	460	290
MAR									
06...	1115	89	55	6.7	8.0	11.9	80	340	260
20...	1015	13	60	6.2	7.0	11.8	13	210	10
APR									
04...	0930	68	55	6.3	9.0	11.0	190	1400	250
MAY									
16...	1255	37	<50	6.3	14.0	9.9	67	260	42
JUN									
05...	1430	16	51	6.4	17.0	9.5	24	150	86
JUL									
10...	1300	9.2	55	7.8	16.0	9.5	100	800	310

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LOCATION.--Lat 37°45'14", long 81°08'58", Raleigh County, Hydrologic Unit 05050004, at U.S. Highway 19 bridge at Beaver, 1.0 mi (1.6 km) downstream from Little Beaver Creek, 2.8 mi (4.5 km) southeast of Beckley, and at mile 0.5 (0.8 km).

PERIOD OF RECORD.--October 1978 to September 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)
OCT 18...	0912	1.4	190	6.7	8.0	2.0	9.2
NOV 14...	0920	1.1	230	6.8	12.0	1.0	8.3
DEC 11...	1500	56	105	7.0	4.0	2.9	13.7
JAN 24...	1000	149	105	6.5	3.0	7.0	--
FEB 16...	1605	255	96	--	--	--	--
23...	1700	225	82	--	--	--	--
24...	1340	280	78	--	--	--	--
24...	1440	290	83	--	--	--	--
24...	1535	295	86	--	--	--	--
25...	1405	243	71	--	--	--	--
MAR 08...	1000	66	75	6.1	7.0	3.0	12.2
20...	1145	30	100	6.6	9.5	.50	10.9
APR 02...	1415	51	90	6.6	13.5	1.0	9.7
MAY 16...	1000	103	75	6.9	14.0	3.4	10.2
JUN 05...	1150	47	75	7.1	18.0	2.3	9.6
JUL 10...	0930	29	125	8.3	16.0	1.0	9.4

DATE	COLIFORM, FECAL, 0.7 UM-HF (COLS./ 100 ML)	COLIFORM, TOTAL, IMMEDIATE, (COLS. PER 100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L AS CaCO3)	CALCIUM, DISSOLVED (MG/L AS Ca)	MAGNESIUM, DISSOLVED (MG/L AS Mg)	SODIUM, DISSOLVED (MG/L AS Na)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	SODIUM+ POTASSIUM DISSOLVED (MG/L AS Na)
OCT 18...	17000	0	2300	78	38	19	7.4	16	30	.8	--
NOV 14...	6600	41000	500	93	43	22	9.2	17	28	.8	--
DEC 11...	900	4600	1200	37	30	8.9	3.5	8.4	32	.6	--
JAN 24...	520	6900	610	25	15	6.0	2.4	8.8	42	.8	--
MAR 08...	0	13000	6300	25	19	6.2	2.2	7.3	38	.6	--
20...	3400	20000	3200	33	24	7.8	3.3	8.3	34	.6	--
APR 02...	1500	8700	670	33	21	8.1	3.2	7.3	31	.6	--
MAY 16...	5700	16000	900	20	10	4.3	2.3	5.6	36	.5	--
JUN 05...	5500	18000	3000	28	16	6.5	2.8	7.9	37	.7	--
JUL 10...	8700	60000	19000	51	30	12	5.1	17	41	1.0	19

KANAWHA RIVER BASIN

03185050 BEAVER CREEK AT BEAVER, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 18...	3.5	40	37	25	.1	2.9	144	136	.20	.54
NOV 14...	3.4	50	43	24	.5	1.6	161	151	.22	.48
DEC 11...	2.1	7	25	13	.0	4.3	78	70	.11	11.8
JAN 24...	1.4	10	20	15	.1	4.5	68	67	.09	27.4
MAR 08...	1.3	6	18	12	.1	4.7	51	56	.07	9.09
20...	1.3	9	22	13	.0	4.5	66	67	.09	5.35
APR 02...	1.5	12	20	12	.0	4.6	56	65	.08	7.71
MAY 16...	1.2	10	15	7.5	.1	4.9	52	48	.07	14.5
JUN 05...	1.4	12	17	12	.1	5.1	65	60	.09	8.25
JUL 10...	1.6	21	28	12	.1	5.8	105	96	.14	8.22

DATE	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	PHOS- PHATE, ORTHO, DIS- SOLVED (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT 18...	--	--	--	--	--	--	--	--	--	40
NOV 14...	--	--	--	--	--	--	--	--	--	20
DEC 11...	.79	3.5	.00	.00	.79	.00	.00	560	520	40
JAN 24...	.60	2.7	.01	.03	.61	.00	.00	--	--	40
MAR 08...	.44	1.9	.00	.00	.44	.00	.00	--	--	50
20...	.32	1.4	.01	.03	.33	.01	.03	--	--	20
APR 02...	.28	1.2	.00	.00	.28	.00	.00	270	200	70
MAY 16...	.25	1.1	.00	.00	.25	.01	.03	--	--	70
JUN 05...	.25	1.1	.01	.03	.26	.00	.00	--	--	80
JUL 10...	.26	1.2	.02	.07	.28	.00	.00	--	--	180

DATE	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS- (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)
DEC 11...	17	8	10	10	0	0	830	770
APR 02...	0	0	20	6	14	0	60	20

KANAWHA RIVER BASIN

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03185050 BEAVER CREEK AT BEAVER, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
OCT 18...	370	--	--	--	--	160	--	--	--	--	--
NOV 14...	130	--	--	--	--	150	--	--	--	--	--
DEC 11...	60	260	120	140	10	140	<.5	<.5	40	20	20
JAN 24...	40	--	--	--	--	130	--	--	--	--	--
MAR 08...	0	--	--	--	--	100	--	--	--	--	--
20...	60	--	--	--	--	90	--	--	--	--	--
APR 02...	40	8	4	4	20	50	.5	.5	20	0	20
MAY 16...	80	--	--	--	--	50	--	--	--	--	--
JUN 05...	180	--	--	--	--	50	--	--	--	--	--
JUL 10...	40	--	--	--	--	220	--	--	--	--	--

DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 18...	0	.00	FEB 25...	31	20
NOV 14...	6	.02	MAR 08...	12	2.1
DEC 11...	19	2.9	20...	6	.49
JAN 24...	56	23	APR 02...	8	1.1
FEB 16...	51	35	MAY 16...	19	5.3
23...	41	25	JUN 05...	20	2.5
24...	96	73	JUL 10...	13	1.0
24...	286	224			
24...	176	140			

KANAWHA RIVER BASIN

03185120 LITTLE WHITESTICK CREEK AT BECKLEY, WV

LOCATION.--Lat 37°47'23", long 81°10'21", Raleigh County, Hydrologic Unit 05050004, at the downstream end of bridge on U.S. Route 19 - State Route 41 at Beckley, and 0.4 mi (0.6 km) upstream from Cranberry Creek.

DRAINAGE AREA.--4.57 mi² (11.84 km²).

PERIOD OF RECORD.--October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
18...	.21	345	8.1	12.0	--	11.7	22	.01
NOV								
14...	.20	352	7.5	14.0	20	8.8	18	.01
DEC								
12...	3.7	300	6.9	3.0	10	13.2	5	.05
JAN								
23...	14	925	7.0	4.0	39	12.0	77	2.9
FEB								
16...	69	487	--	--	--	--	268	50
23...	70	414	--	--	--	--	633	120
24...	111	404	--	--	--	--	883	265
24...	113	403	--	--	--	--	1440	439
24...	117	403	--	--	--	--	1180	373
25...	45	352	--	--	--	--	137	17
MAR								
06...	14	325	6.8	8.5	12	10.7	28	1.1
20...	1.3	375	8.3	13.5	9.0	--	8	.03
APR								
04...	13	300	6.8	9.5	11	10.9	30	1.1
MAY								
15...	7.1	260	7.3	16.0	6.6	9.5	12	.23
JUN								
06...	1.7	285	7.3	18.0	5.4	9.1	24	.11
JUL								
11...	1.1	340	8.3	16.0	--	7.7	14	.04

KANAWHA RIVER BASIN

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03185130 CRANBERRY CREEK AT BECKLEY, WV

LOCATION.--Lat 37°47'42", long 81°10'22", Raleigh County, Hydrologic Unit 05050004, at Beckley at bridge on Route 41 about 800 ft (244 m) north of the intersection of U.S. Route 19 and State Route 41, 0.4 mi (0.6 km) upstream from Little Whitestick Creek, and 1.9 mi (3.1 km) upstream from Piney Creek.

DRAINAGE AREA.--6.58 mi² (17.04 km²).

PERIOD OF RECORD.--October 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
18...	1.1	485	7.0	12.5	7.0	--	7	.02
NOV								
14...	.17	860	8.6	14.0	6.0	--	6	.00
DEC								
12...	5.4	345	4.7	4.0	10	--	0	.00
JAN								
23...	22	430	5.2	5.0	35	12.8	60	3.6
FEB								
16...	33	307	--	--	--	--	77	6.9
23...	77	244	--	--	--	--	323	67
24...	108	199	--	--	--	--	294	86
24...	113	196	--	--	--	--	256	78
24...	120	189	--	--	--	--	481	156
25...	77	214	--	--	--	--	113	23
MAR								
06...	29	290	4.8	8.5	20	11.1	46	3.6
20...	3.8	710	4.4	13.5	15	9.7	41	.42
APR								
04...	25	230	5.0	10.0	17	10.9	29	2.0
MAY								
16...	7.9	300	5.0	16.5	20	9.4	34	.73
JUN								
06...	4.2	325	4.9	16.5	13	9.5	28	.32
JUL								
11...	2.3	640	5.7	17.0	--	9.8	23	.14

KANAWHA RIVER BASIN

03186500 WILLIAMS RIVER AT DYER, WV

LOCATION.--Lat 38°22'45", long 80°29'05", Webster County, Hydrologic Unit 05050005, on left bank at Dyer, 0.2 mi (0.3 km) downstream from Craig Run, 7.0 mi (11.3 km) southwest of Webster Springs, and at mile 2.1 (3.4 km).

DRAINAGE AREA.--128 mi² (332 km²).

PERIOD OF RECORD.--September 1929 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1275: 1930.

GAGE.--Water-stage recorder. Datum of gage is 2,193.46 ft (668.567 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to June 11, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for February, which are fair.

AVERAGE DISCHARGE.--50 years, 330 ft³/s (9.346 m³/s), 35.01 in/yr (889 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft³/s (623 m³/s) July 4, 1932, gage height, 18.45 ft (5.624 m), from floodmarks, from rating curve extended above 7,000 ft³/s (200 m³/s) on basis of slope-area measurements at gage heights 12.33 ft (3.758 m) and 18.45 ft (5.624 m); minimum daily, 0.5 ft³/s (0.014 m³/s) Oct. 13-16, 21, 1953; minimum gage height, 0.44 ft (0.134 m) Oct. 5, 6, 1953.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,600 ft³/s (130 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 6	1730	*7960 225	10.10 3.078	Feb. 16	0730	5350 152	7.95 2.423
Dec. 7	1800	6460 183	8.96 2.731	Feb. 24	1930	5710 162	8.28 2.524
Jan. 2	0900	4830 137	7.48 2.280	Mar. 5	0445	7860 223	10.04 3.060
Jan. 21	0545	4750 135	7.41 2.259				

Minimum discharge, 6.4 ft³/s (0.18 m³/s) Oct. 3, 4, gage height, 0.83 ft (0.253 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.3	16	312	1790	115	582	291	400	346	135	447	133
2	7.0	16	220	3330	110	651	391	328	314	400	431	111
3	6.7	15	188	1340	105	863	739	269	304	258	261	140
4	8.9	14	2090	727	100	2820	873	455	870	339	185	123
5	12	14	1130	543	95	5030	727	900	460	738	142	120
6	12	13	2830	439	90	1900	546	590	332	388	119	2080
7	11	13	4980	1290	86	999	417	420	249	269	98	666
8	11	14	2370	2560	84	670	349	328	246	201	80	376
9	11	15	1300	1040	82	518	493	269	252	160	81	262
10	11	14	850	676	80	476	631	240	396	160	67	194
11	9.4	13	600	434	78	549	560	225	485	137	112	151
12	8.4	13	460	304	76	412	501	237	346	112	708	118
13	8.0	13	360	268	74	355	446	786	243	96	427	98
14	9.0	12	274	335	74	426	461	828	187	132	225	105
15	13	13	218	271	350	441	633	515	150	332	173	171
16	19	30	191	251	2330	334	567	372	120	440	133	116
17	23	51	231	267	1040	315	443	290	116	376	101	88
18	26	72	199	443	550	290	360	237	272	240	86	72
19	24	69	194	288	430	263	294	198	258	185	336	66
20	19	41	777	479	333	291	249	170	165	246	273	59
21	16	38	2880	3530	384	271	217	155	132	198	489	150
22	14	34	1180	1760	663	232	191	147	231	155	261	1780
23	12	33	669	797	1460	214	179	147	392	135	201	2120
24	12	268	517	670	4250	1070	193	738	300	396	179	813
25	12	177	941	500	3600	931	166	786	262	276	15	455
26	13	113	599	380	2680	605	187	636	198	332	147	303
27	34	151	450	310	1130	440	1510	580	155	2530	253	225
28	45	502	319	260	696	343	978	786	125	1530	252	241
29	30	307	281	210	---	325	708	654	112	1200	396	242
30	23	471	270	180	---	280	520	445	130	1070	265	194
31	19	---	1080	150	---	252	---	332	---	550	181	---
TOTAL	486.7	2565	28960	25822	21145	23148	15220	13463	8148	13716	7260	11772
MEAN	15.7	85.5	934	833	755	747	507	434	272	442	234	392
MAX	45	502	4980	3530	4250	5030	1910	900	870	2530	708	2120
MIN	6.7	12	188	150	74	214	166	147	112	96	67	59
CFSM	.12	.67	7.30	6.51	5.90	5.84	3.96	3.39	2.13	3.45	1.83	3.06
IN.	.14	.75	8.42	7.50	6.15	6.73	4.42	3.91	2.37	3.99	2.11	3.42

CAL YR 1978 TOTAL 117415.7 MEAN 322 MAX 6020 MIN 6.7 CFSM 2.52 IN 34.12
WTR YR 1979 TOTAL 171705.7 MEAN 470 MAX 5030 MIN 6.7 CFSM 3.67 IN 49.90

KANAWHA RIVER BASIN

225

03187500 CRANBERRY RIVER NEAR RICHWOOD, WV

LOCATION.--Lat 38°17'45", long 80°31'40", Nicholas County, Hydrologic Unit 05050005, Monongahela National Forest, on left bank 30 ft (9 m) downstream from U.S. Forest Service highway bridge, 0.6 mi (1.0 km) upstream from Barrenshe Run, 5.0 mi (8.0 km) north of Richwood, and at mile 5.4 (8.7 km).

DRAINAGE AREA.--81.2 mi² (210 km²).

PERIOD OF RECORD.--May to September 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
MAY										
12...	0845	217	<50	5.6	16.0	14.0	7	4	.0	.0
24...	1530	916	16	6.6	21.0	13.0	7	3	.0	.0
JUN										
14...	1015	202	<10	6.8	21.0	14.0	7	5	.0	.0
JUL										
25...	1220	122	40	7.5	26.0	20.0	7	2	.0	.0
SEP										
12...	1120	73	30	6.1	--	11.0	8	3	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS C02)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
MAY											
12...	1.8	.5	--	--	3	--	4.0	.6	18	.02	10.5
24...	1.7	.6	--	--	4	--	4.1	.4	16	.02	39.6
JUN											
14...	1.8	.6	.5	.1	2	--	5.3	.5	26	.04	14.2
JUL											
25...	1.8	.5	.5	.1	5	.3	5.3	.7	23	.03	7.58
SEP											
12...	2.1	.6	.6	.1	5	7.8	4.1	.5	20	.03	3.94

DATE	ARSENIC TOTAL IN ROT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
MAY									
12...	--	--	--	--	--	130	100	30	--
24...	--	--	--	--	--	340	310	30	--
JUN									
14...	--	--	--	--	--	170	150	20	--
JUL									
25...	--	--	--	--	--	190	140	50	--
SEP									
12...	0	<10	<10	<10	<10	180	--	40	3800

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
MAY								
12...	--	10	0	10	--	--	--	--
24...	--	40	10	30	--	--	--	--
JUN								
14...	--	20	10	10	--	--	--	--
JUL								
25...	--	20	10	9	--	--	--	--
SEP								
12...	<10	20	0	20	180	.00	0	260

KANAWHA RIVER BASIN

03189100 GAULEY RIVER NEAR CRAIGSVILLE, WV

LOCATION.--Lat 38°17'30", long 80°38'30", Nicholas County, Hydrologic Unit 05050005, on right bank at downstream side of highway bridge on W. Va. Route 20, 200 ft (61 m) downstream from Cherry River, 1.8 mi (2.9 km) downstream from Cranberry River, 2.7 mi (4.3 km) south of Craigsville, and at mile 60.0 (96.5 km).

DRAINAGE AREA.--528 mi² (1,368 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 1,870.00 ft (569.976 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--15 years, 1,474 ft³/s (41.74 m³/s), 37.91 in/yr (963 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,700 ft³/s (1,150 m³/s) Mar. 7, 1967, gage height, 22.73 ft (6.928 m); minimum, 13 ft³/s (0.37 m³/s) Sept. 27, 1967, gage height, 8.62 ft (2.627 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 12,000 ft³/s (340 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Dec. 9	1130	*26000	736	19.04	5.803	Feb. 24	2200	19500	552	17.42	5.310
Dec. 21	1230	13300	377	15.65	4.770	Feb. 25	2400	14800	419	16.09	4.904
Jan. 2	1200	15300	433	16.24	4.950	Mar. 5	0500	24600	697	18.71	5.703
Jan. 8	0415	12600	357	15.47	4.715	July 16	0745	14200	402	15.91	4.849
Jan. 21	1945	16400	464	16.55	5.044						

Minimum discharge, 25 ft³/s (0.71 m³/s) Oct. 4, gage height, 8.99 ft (2.740 m).

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	100	1290	5820	720	2560	1200	1540	1410	525	2450	636
2	31	83	920	12000	620	2590	1530	1230	1340	1240	2150	527
3	27	79	749	5850	560	3070	2660	1060	1150	1060	1360	692
4	33	75	5870	3130	500	7350	3940	1390	2590	918	947	662
5	43	70	4770	2150	460	17100	3050	3850	1840	2400	724	606
6	53	66	2770	1680	430	6830	2320	2720	1340	1510	663	5340
7	53	66	1850	3780	420	3730	1740	1880	995	1020	533	2990
8	57	70	13700	9740	410	2630	1440	1420	818	755	441	1780
9	50	75	21000	4320	400	1970	1750	1120	811	592	407	1250
10	50	75	8060	2750	390	1690	2760	944	1610	569	364	926
11	50	70	3660	1910	380	2010	2360	1140	3510	513	352	722
12	46	66	2340	1480	370	1630	2030	1280	2250	427	1880	574
13	37	66	1670	1270	360	1440	1750	4670	1360	371	2020	479
14	46	62	1290	1480	360	1480	1750	4770	956	644	1090	448
15	70	66	1020	1390	1310	1660	2510	2820	719	1740	808	583
16	108	108	875	1230	8330	1310	2520	1910	561	6400	635	543
17	130	176	930	1190	4720	1260	1880	1380	500	3930	497	417
18	149	235	884	1780	2630	1130	1500	1070	761	1950	419	353
19	130	275	794	1410	1950	1040	1210	865	1200	1240	2030	320
20	117	230	1460	2150	1490	1020	1000	726	807	994	2070	301
21	96	185	9650	14500	1660	977	856	639	659	920	1760	437
22	83	163	5170	8690	2930	858	745	600	1300	721	1290	5670
23	75	158	2880	3980	6050	781	681	564	2100	646	963	6820
24	66	462	2040	3170	15100	3570	681	2580	1570	1790	856	3520
25	57	749	3330	2990	13400	4360	614	3240	1310	1320	718	2100
26	62	456	2540	2170	10100	2920	597	2940	968	2620	745	1420
27	66	517	1850	1720	4670	2040	4850	2810	720	9340	1170	1060
28	149	1450	1300	1480	3000	1560	3530	3520	565	6920	1450	1000
29	185	1230	1100	1160	---	1420	2630	3080	488	5060	1270	1150
30	148	1590	1020	950	---	1220	1970	2090	563	4970	1140	911
31	117	---	3600	857	---	1070	---	1490	---	2890	822	---
TOTAL	2417	9073	110382	108177	83720	84276	58054	61338	36771	65995	34024	44237
MEAN	78.0	302	3561	3490	2990	2719	1935	1979	1226	2129	1098	1475
MAX	185	1590	21000	14500	15100	17100	4850	4770	3510	9340	2450	6820
MIN	27	62	749	857	360	781	597	564	488	371	352	301
CFSM	.15	.57	6.74	6.61	5.66	5.15	3.67	3.75	2.32	4.03	2.08	2.79
IN.	.17	.64	7.78	7.62	5.90	5.94	4.09	4.32	2.59	4.65	2.40	3.12
CAL YR 1978	TOTAL	480231	MEAN	1316	MAX	22800	MIN 27	CFSM 2.49	IN 33.83			
WTR YR 1979	TOTAL	698464	MEAN	1914	MAX	21000	MIN 27	CFSM 3.63	IN 49.21			

03189100 GAULEY RIVER NEAR CRAIGSVILLE, WV--Continued

PERIOD OF RECORD.--Water years 1968-1973, 1975-1977, 1979.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1974 to April 1977.

INSTRUMENTATION.--Temperature recorder from November 1974 to April 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 31.0°C Aug. 1, 2, 1975; minimum, 0.5°C on many days in 1975 and 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
NOV 02...	1045	92	--	--	14.0	9.0	--	--	--	--
MAR 27...	0925	2050	160	8.2	3.0	4.0	--	--	--	--
MAY 01...	1050	1590	20	6.7	11.0	11.5	--	--	--	--
11...	1450	1130	<50	6.1	19.0	18.0	12	8	.0	.0
24...	1335	3240	35	7.3	23.0	15.0	12	2	.0	.0
JUN 13...	1120	1370	20	7.4	22.0	16.0	12	4	.0	.0
JUL 25...	0900	1350	38	7.0	--	20.0	11	3	.0	.0
SEP 12...	0900	588	40	6.5	20.5	17.0	12	5	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
MAY 11...	3.2	1.0	--	--	4	--	7.5	1.5	28	.04	85.4
24...	2.9	1.1	--	--	10	--	6.3	1.1	21	.03	184
JUN 13...	3.2	.9	--	--	8	--	6.3	1.8	30	.04	111
JUL 25...	3.1	.8	.8	.1	8	1.6	5.5	.7	37	.05	135
SEP 12...	3.2	1.0	1.0	.1	7	4.3	6.6	1.0	30	.04	47.6

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
MAY 11...	--	--	--	--	--	570	550	20	--
24...	--	--	--	--	--	900	860	40	--
JUN 13...	--	--	--	--	--	220	180	40	--
JUL 25...	--	--	--	--	--	610	570	40	--
SEP 12...	0	<10	<10	<10	<10	200	--	60	5300

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
MAY 11...	--	40	0	40	--	--	--	--
24...	--	60	40	20	--	--	--	--
JUN 13...	--	20	0	20	--	--	--	--
JUL 25...	--	30	20	10	--	--	--	--
SEP 12...	<10	20	0	20	200	.00	0	30

KANAWHA RIVER BASIN

03189590 SUMMERSVILLE LAKE NEAR SUMMERSVILLE, WV

LOCATION.--Lat 38°13'20", long 80°53'35", Nicholas County, Hydrologic Unit 05050005, at Summersville Dam on Gauléy River, 4.6 mi (7.4 km) southwest of Summersville, and at mile 34.5 (55.5 km).

DRAINAGE AREA.--803 mi² (2,080 km²).

PERIOD OF RECORD.--May 1965 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by rockfill dam with impervious core, completed in 1971; closure of dam was made and storage began in May 1965. Spillway is uncontrolled saddle spillway 1,250 ft (381.0 m) long. Flow is controlled by three 9 ft (2.7 m) and one 2.5 ft (0.76 m) diameter Howell-Bunger fixed-cone dispersion valves. Total level-pool capacity at elevation 1,710 ft (521.2 m), flood-control pool elevation, is 413,800 acre-ft (510 hm³) of which 390,800 acre-ft (482 hm³) is controlled storage above elevation 1,520 ft (463.3 m), minimum-pool elevation. This is a multipurpose reservoir.

COOPERATION.--Records were furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 421,800 acre-ft (520 hm³) Mar. 5, 1966, elevation, 1,711.7 ft (521.73 m), caused by flood before valves were operational; minimum since initial filling, 6,990 acre-ft (8.62 hm³) Jan. 13, 1967, elevation, 1,464.5 ft (446.38 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 196,500 acre-ft (242 hm³) July 16, elevation, 1,653.77 ft (504.07 m); minimum, 22,813 acre-ft (28.1 hm³) Nov. 16, elevation, 1,520.0 ft (463.30 m).

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)	Change in Contents (equivalent in cfs)
Sept. 30.....	1627.6	133000	-	-
Oct. 31.....	1527.4	25990	-107000	-1740
Nov. 30.....	1548.2	37240	+11250	+189
Dec. 31.....	1576.4	59240	+22000	+358
CAL YR 1978			+240	0
Jan. 31.....	1575.9	58760	-480	-8
Feb. 28.....	1639.4	159000	+100200	+1800
Mar. 31.....	1596.4	81630	-77370	-1260
Apr. 30.....	1652.4	192700	+111100	+1870
May 31.....	1652.7	193500	+800	+13
June 30.....	1652.7	193500	0	0
July 31.....	1652.5	192900	-600	-10
Aug. 31.....	1652.2	192100	-800	-13
Sept. 30.....	1649.3	184100	-8000	-134
WTR YR 1979			+51100	+71

KANAWHA RIVER BASIN

229

03189600 GAULEY RIVER BELOW SUMMERSVILLE DAM, WV

LOCATION.--Lat 38°13'00", long 80°53'30", Nicholas County, Hydrologic Unit 05050005, on right bank 0.4 mi (0.6 km) downstream from Summersville Dam, 5.0 mi (8.0 km) southwest of Summersville, and at mile 34.1 (54.9 km).

DRAINAGE AREA.--804 mi² (2,082 km²).

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

REVISED RECORD.--WDR WV-67: 1966.

GAGE.--Water-stage recorder. Datum of gage is 1,350.00 ft (411.480 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records fair. Flow regulated by Summersville Lake (station 03189590).

AVERAGE DISCHARGE.--13 years, 2,174 ft³/s (61.57 m³/s), 36.72 in/yr (933 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft³/s (504 m³/s) Mar. 26, 1966, gage height, 19.30 ft (5.883 m); minimum, 1.9 ft³/s (0.054 m³/s) Feb. 16, 17, 1967, gage height, 3.67 ft (1.119 m); minimum daily, 2.4 ft³/s (0.068 m³/s) Feb. 10, 13-16, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15,400 ft³/s (436 m³/s) July 27, gage height, 18.45 ft (5.624 m); minimum daily discharge, 105 ft³/s (2.97 m³/s) Nov. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2280	626	125	5120	1010	3750	1820	2160	2380	831	2490	808
2	2290	617	125	7210	1010	6860	823	1660	1990	833	2790	672
3	2320	370	125	8080	894	8080	239	1330	1610	1510	2310	963
4	2300	105	550	7330	688	8020	240	1760	2580	1910	1420	1240
5	2320	110	4210	5680	690	8140	242	5190	2760	2890	865	1730
6	2330	112	4280	4470	691	9240	243	4840	1850	2240	538	7380
7	2310	112	2450	4270	688	11300	243	2980	1530	1490	686	5070
8	2290	112	6340	6640	686	12100	247	2360	1140	952	987	2880
9	2290	112	5550	7920	687	11900	249	1830	872	815	985	1780
10	2310	112	142	7360	614	11700	250	1380	1830	815	765	1140
11	2320	112	590	4830	446	11400	250	1480	4920	813	510	1020
12	2310	115	3420	3290	444	7610	251	2190	4400	590	2410	658
13	2330	115	8350	2200	441	4580	254	5380	2690	356	3420	708
14	2350	115	9710	2530	438	3720	254	8180	1770	622	1890	980
15	2330	117	9900	2610	601	3370	257	4370	1140	2390	1140	470
16	2320	117	9700	2250	4490	2870	257	2880	775	8320	767	410
17	2330	117	9460	2000	7820	1720	257	2180	532	6250	549	627
18	2310	117	7520	1850	5990	1550	257	1690	531	3640	549	300
19	2290	117	4820	1840	4380	1540	257	1250	1400	1560	2100	177
20	2290	120	3400	2360	3920	1540	260	1250	1450	815	3050	183
21	2330	125	6240	5780	2880	1330	261	951	948	890	2710	645
22	2290	122	9190	8230	3060	1230	261	692	2190	953	2040	6710
23	1860	122	6460	8250	6060	1870	261	565	3630	1200	1290	8240
24	980	120	4370	8150	9180	2360	261	3270	2980	2210	1080	4620
25	374	120	3660	8050	5440	1090	261	3910	2230	2810	1130	2950
26	398	122	4480	7920	241	1110	262	3410	1790	3290	881	1990
27	510	122	3780	7060	187	1770	1850	4140	1340	13700	1650	1130
28	649	122	2240	4250	526	1840	4420	5190	843	12300	2770	2310
29	644	122	1420	2190	---	1820	3730	4920	540	7040	2300	3720
30	635	125	1510	1500	---	1820	2830	2950	669	6520	1880	2240
31	631	---	3210	1170	---	1820	---	2430	---	4050	1330	---
TOTAL	57521	4772	137327	152390	64202	149050	21547	88768	55310	94605	49282	63751
MEAN	1856	159	4430	4916	2293	4808	718	2863	1844	3052	1590	2125
MAX	2350	626	9900	8250	9180	12100	4420	8180	4920	13700	3420	8240
MIN	374	105	125	1170	187	1090	239	565	531	356	510	177

CAL YR 1978 TOTAL 643487 MEAN 1763 MAX 13800 MIN 105 MEAN‡ 1763 CFSM‡ 2.19 IN‡ 29.73
WTR YR 1979 TOTAL 938525 MEAN 2571 MAX 13700 MIN 105 MEAN‡ 2642 CFSM‡ 3.29 IN‡ 44.66

‡ Adjusted for change in contents in Summersville Lake.

KANAWHA RIVER BASIN

03190400 MEADOW RIVER NEAR MT. LOOKOUT, WV

LOCATION.--Lat 38°11'25", long 80°56'55", Nicholas County, Hydrologic Unit 05050005, on right bank 1,000 ft (305 m) upstream from mouth, and 2.5 mi (4.0 km) northwest of Mt. Lookout.

DRAINAGE AREA.--365 mi² (945 km²).

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

GAGE.--Water-stage recorder. Altitude of gage is 1,200 ft (366 m), from topographic map.

REMARKS.--Records good except those for January and February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years, 778 ft³/s (22.03 m³/s), 28.95 in/yr (735 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,500 ft³/s (524 m³/s) Mar. 7, 1967, gage height, 13.44 ft (4.097 m); minimum discharge, 11 ft³/s (0.31 m³/s) Oct. 13, 26, 1978; minimum gage height, 2.51 ft (0.765 m) Sept. 12, 13, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,000 ft³/s (140 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)				
Dec. 9	1200	8350	236	10.14	3.091	Feb. 24	2300	7560	214	9.79	2.984
Jan. 2	1600	5160	146	8.59	2.618	Mar. 5	1500	6760	191	9.41	2.868
Jan. 21	1830	*9280	263	10.51	3.203	July 24	0900	6680	189	9.37	2.856

Minimum discharge, 11 ft³/s (0.31 m³/s) Oct. 13, 26; minimum gage height, 2.68 ft (0.817 m) Oct. 13.

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	23	435	2130	350	2100	622	985	796	400	1070	225
2	14	18	313	4230	300	1860	646	740	712	1030	831	177
3	13	17	243	3760	250	1940	1090	580	622	1230	646	215
4	13	16	1040	2350	220	2120	1970	545	1260	768	480	215
5	13	15	1670	1600	190	5520	1690	677	1400	640	360	236
6	14	15	1150	1180	170	5130	1360	646	1100	485	324	1570
7	14	15	768	1610	160	3090	1090	556	817	376	295	1480
8	15	15	2500	3670	150	2040	880	475	562	306	236	964
9	15	17	6130	2710	140	1450	901	410	775	257	208	733
10	16	17	3480	1890	130	1080	1440	364	1040	257	180	530
11	14	17	2060	1440	130	1040	1320	922	1340	268	197	340
12	13	16	1370	1040	120	936	1100	1650	1300	229	1010	257
13	12	16	964	796	120	845	929	3170	971	204	1130	204
14	13	16	658	775	110	803	880	3940	691	239	677	183
15	22	17	480	754	200	747	936	2740	450	530	470	201
16	31	20	380	664	1520	640	1150	1920	316	768	328	208
17	31	41	356	646	2000	580	1030	1310	271	922	246	159
18	31	51	332	634	5400	540	859	915	340	670	194	130
19	30	57	299	568	999	510	691	622	768	455	204	113
20	27	46	348	824	978	465	568	480	677	344	600	101
21	23	43	1820	6810	887	430	485	405	747	288	500	130
22	20	39	2160	6380	1450	388	415	364	2360	253	450	1780
23	17	35	1490	3620	2970	360	372	332	3060	698	340	2550
24	16	36	1120	2490	5650	1530	348	761	2500	3750	285	2010
25	14	55	1610	1980	7200	3030	320	2000	2060	1850	278	1320
26	12	101	1930	1300	7200	2340	313	1800	1480	1310	253	873
27	13	90	1160	1000	4890	1780	803	1900	1010	2790	450	556
28	16	185	852	800	2830	1330	1690	2100	726	3140	580	440
29	22	288	622	652	---	1010	1590	2400	495	2580	380	592
30	25	336	313	495	---	796	1260	1240	410	2360	324	598
31	26	---	948	440	---	658	---	908	---	1600	274	---
TOTAL	569	1673	39001	59238	46714	47088	28748	37857	31056	30997	13800	19090
MEAN	18.4	55.8	1258	1911	1668	1519	958	1221	1035	1000	445	636
MAX	31	336	6130	6810	7200	5520	1970	3940	3060	3750	1130	2550
MIN	12	15	243	440	110	360	313	332	271	204	180	101
CFSM	.05	.15	3.45	5.24	4.57	4.16	2.63	3.35	2.84	2.74	1.22	1.74
IN.	.06	.17	3.97	6.04	4.76	4.80	2.93	3.86	3.17	3.16	1.41	1.95

CAL YR 1978	TOTAL	219640	MEAN 602	MAX 8870	MIN 12	CFSM 1.65	IN 22.39
WTR YR 1979	TOTAL	355831	MEAN 975	MAX 7200	MIN 12	CFSM 2.67	IN 36.27

KANAWHA RIVER BASIN

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03192000 GAULEY RIVER ABOVE BELVA, WV

LOCATION.--Lat 38°14'00", long 81°10'45", Nicholas County, Hydrologic Unit 05050005, on right bank 0.5 mi (0.8 km) upstream from Belva, 1.0 mi (1.6 km) upstream from Twentymile Creek, and at mile 6.7 (10.8 km).

DRAINAGE AREA.--1,315 mi² (3,406 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 783: Drainage area. WSP 873: 1938. WSP 1275: 1929-30.

GAGE.--Water-stage recorder. Datum of gage is 669.00 ft (203.911 m) National Geodetic Vertical Datum, adjustment of 1912.

REMARKS.--Water-discharge records good except those for winter periods, which are fair. Flow regulated since 1965 by Summersville Lake (station 03189590). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--51 years, 2,718 ft³/s (76.97 m³/s), 28.07 in/yr (713 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 105,000 ft³/s (2,970 m³/s) July 5, 1932, gage height, 28.60 ft (8.717 m), from rating curve extended above 65,000 ft³/s (1,800 m³/s) on basis of velocity-area studies and inflow and storage adjustment to record for Kanawha River at Kanawha Falls; minimum, 3.2 ft³/s (0.091 m³/s) Oct. 21, 1953, gage height, 0.10 ft (0.030 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,700 ft³/s (671 m³/s) Jan. 21, gage height, 12.18 ft (3.712 m); minimum, 121 ft³/s (3.43 m³/s) Nov. 5, gage height, 1.06 ft (0.323 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2290	656	577	9000	1500	5520	2560	3490	3470	1250	4390	1070
2	2290	649	516	13200	1300	8760	2260	2870	2910	1570	3490	983
3	2340	642	443	13600	1200	10300	1430	2050	2550	2510	3540	1170
4	2350	296	1340	11200	1100	10400	2570	2260	3220	2720	2110	1540
5	2340	124	5720	9200	1000	15800	2550	6780	4780	3220	1470	1890
6	2350	132	6230	6800	920	15500	2050	7180	3070	3220	937	8300
7	2340	135	3790	6800	880	14800	1680	4420	2470	2060	881	8420
8	2320	140	9400	12000	820	14500	1400	3360	1870	1380	1140	4410
9	2310	137	13500	12400	780	13500	1580	2570	1520	1090	1170	3040
10	2320	137	5300	10400	720	12900	2440	1960	2200	1110	1140	1800
11	2350	135	3000	7000	700	12600	2170	2100	5890	1080	770	1520
12	2340	135	5200	5000	680	9930	1780	3910	6430	1000	2780	1140
13	2320	135	9600	3500	660	6170	1490	8080	4180	738	5440	804
14	2410	135	11800	3700	660	5140	1410	14000	2670	632	3190	1270
15	2390	140	12000	3800	900	4530	1480	8170	1830	2320	1710	1020
16	2380	150	11700	3300	6590	4200	1750	5610	1240	8300	1390	536
17	2390	156	11400	3000	11400	2600	1650	3710	898	7850	858	876
18	2370	167	9400	2800	8990	2200	1410	3020	874	5260	789	713
19	2340	181	5900	2700	6480	2150	1200	1970	1450	2570	1380	384
20	2310	185	4600	3330	5480	2100	1030	1780	2600	1230	4040	328
21	2380	170	9000	15600	4880	1960	925	1580	1520	1110	3330	388
22	2340	167	13000	17800	4880	1680	839	1220	4040	1230	2920	7690
23	2080	163	9000	13300	9650	1670	776	952	7980	1700	1770	11600
24	1440	170	6400	11800	16300	4730	736	3050	6370	5690	1350	8210
25	422	174	6200	11100	17400	5430	699	6120	4840	5490	1410	4820
26	409	205	7600	10000	9660	4290	694	5610	3560	3900	1360	3580
27	432	255	5500	9070	6900	3720	1480	6250	2600	16400	1810	1870
28	627	270	3880	6420	3960	3600	6740	7770	1910	18300	3900	2110
29	672	409	2340	3420	---	3070	6170	8100	1170	10300	3000	4710
30	664	449	2000	2350	---	2780	4850	5010	1030	10000	2230	4310
31	664	---	4400	1880	---	2600	---	3660	---	6680	1940	---
TOTAL	58980	6999	200736	245470	126390	209130	60199	138612	91142	131710	67635	90502
MEAN	1903	233	6475	7918	4514	6746	2007	4471	3038	4249	2182	3017
MAX	2410	656	13500	17800	17400	15800	6740	14000	7980	18300	5440	11600
MIN	409	124	443	1880	660	1670	694	952	874	632	770	328

CAL YR 1978 TOTAL 937063 MEAN 2567 MAX 24500 MIN 124 MEAN‡ 2567 CFSM‡ 1.95 IN‡ 26.47
WTR YR 1979 TOTAL 1427505 MEAN 3911 MAX 18300 MIN 124 MEAN‡ 3982 CFSM‡ 3.03 IN‡ 41.13

‡ Adjusted for change in contents in Summersville Lake.

KANAWHA RIVER BASIN

03192000 GAULEY RIVER ABOVE BELVA, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to September 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)
OCT 25...	1130	394	--	--	15.0	15.5	--	--	--	--	--
JAN 18...	1340	2560	60	--	5.5	2.0	13.2	--	--	--	--
FEB 28...	1510	3570	68	6.5	13.0	3.5	14.0	--	--	--	--
MAY 24...	1115	1940	62	7.5	--	15.0	--	24	6	.0	.0
24...	1510	2480	34	6.6	18.0	15.5	10.8	24	8	.0	.0
JUL 03...	1545	2300	65	7.2	--	20.0	--	22	10	.0	.0
SEP 05...	1200	1590	75	6.7	30.0	22.0	--	23	10	.0	.0
10...	1100	1800	70	6.8	--	19.0	--	22	12	.0	.0
17...	1110	943	85	6.9	--	19.0	--	24	14	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
MAY 24...	5.5	2.4	--	--	18	--	16	2.2	44	.06	230
24...	5.8	2.4	--	--	16	--	16	2.4	42	.06	281
JUL 03...	5.5	2.0	3.1	.3	12	--	14	3.5	54	.07	335
SEP 05...	5.7	2.2	2.7	.2	13	5.1	14	1.7	47	.06	202
10...	5.6	2.0	2.5	.2	10	3.1	13	2.3	48	.07	233
17...	5.7	2.3	2.7	.2	10	2.5	17	2.4	45	.06	115

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
MAY 24...	--	--	--	--	--	520	470	50	--
24...	--	--	--	--	--	780	720	60	--
JUL 03...	--	--	--	--	--	1500	1400	90	--
SEP 05...	--	--	--	--	--	2200	--	100	--
10...	0	<10	<10	<10	10	1500	--	70	13000
17...	--	--	--	--	--	320	--	90	--

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
MAY 24...	--	40	30	10	--	--	--	--
24...	--	50	40	10	--	--	--	--
JUL 03...	--	80	70	9	--	--	--	--
SEP 05...	--	80	70	9	--	--	--	--
10...	20	60	40	20	760	.00	0	50
17...	--	30	20	10	--	--	--	--

KANAWHA RIVER BASIN

233

03193000 KANAWHA RIVER AT KANAWHA FALLS, WV

LOCATION.--Lat 38°08'20", long 81°12'45", Fayette County, Hydrologic Unit 05050006, on right bank 150 ft (46 m) downstream from toll bridge, 0.8 mi (1.3 km) downstream from village of Kanawha Falls, 2.0 mi (3.2 km) downstream from Gauley Bridge, 2.0 mi (3.2 km) downstream from confluence of New River and Gauley River, and at mile 94.5 (152.1 km).

DRAINAGE AREA.--8,367 mi² (21,671 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1877 to current year. October 1916 to September 1918 and October 1927 to October 1928, published as "at Lock 2, Montgomery".

REVISED RECORDS.--WSP 783: Drainage area. WSP 923: 1878, 1886, 1897, 1899, 1901-3. WSP 1305: 1902(M), 1940. WSP 1335: 1931.

GAGE.--Water-stage recorder. Datum of gage is 621.20 ft (189.342 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1928, nonrecording gages at several sites within 9.0 mi (14.5 km) of present site at various datums. Oct. 27, 1928, to Sept. 30, 1964, water-stage recorder at present site at datum 2.00 ft (0.610 m) higher.

REMARKS.--Water-discharge records good. Flow regulated since 1939 by Claytor Lake (station 03169000), since 1949 by Bluestone Lake (station 03179800), and since 1965 by Summersville Lake (station 03189590). Corps of Engineers gage-height telemeter and Appalachian Power Co. remote sender at station.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4310	2270	4850	15700	9680	56000	15500	16600	12400	8950	12100	7230
2	4020	2190	6400	38800	9410	71300	12400	15400	12000	7760	10000	6360
3	3880	2710	5890	65900	8510	71600	11600	13800	13600	7540	10600	4460
4	3810	3070	5550	47800	6550	67300	24500	12700	15700	8030	9660	4800
5	4070	2760	8840	30200	5650	78800	26400	21500	24000	10700	7760	7880
6	3770	2680	15900	20900	4950	77400	24800	22000	18300	10000	5080	24500
7	3770	2210	14200	21500	7060	71300	21100	13200	15000	8550	3720	25900
8	4050	1740	21800	37700	7680	59600	16500	13100	11900	7580	5960	18200
9	3570	1520	39500	46300	6470	47300	15800	13000	10300	6070	5290	13900
10	4010	1980	23100	33900	5730	37800	16000	9630	13500	5680	5000	10600
11	3870	1790	18600	23100	5660	31900	18300	11100	18300	7090	4800	7780
12	3620	1900	12100	16600	4150	27800	17700	15900	22200	8250	6890	6080
13	4070	1710	21300	12800	4050	23100	14900	37700	16600	7680	11400	7360
14	3860	1540	23100	14100	5530	21600	16600	54000	13400	7640	8110	12100
15	4260	1780	17800	11600	6210	19800	17700	45700	9680	7240	6850	6770
16	3970	2060	14500	10300	17200	18100	11700	32300	7830	11700	6250	4220
17	4560	2310	14500	11100	33300	14600	12400	23300	7030	12500	5190	4700
18	4190	2470	12400	10100	33500	11400	14900	17800	10800	11000	4750	5060
19	4810	3680	8380	10100	25700	10300	12200	13800	15100	8070	7030	6370
20	4820	2800	8980	10500	17600	10800	10600	11900	20600	6190	10300	5510
21	5140	2080	12700	55100	17600	11600	10800	9880	15200	6720	8510	5460
22	4620	2100	22300	86000	19800	10900	9760	9700	32700	12400	8620	18400
23	3760	2790	23600	69700	34300	10200	7660	9320	38000	8810	7510	49900
24	3360	3390	16200	56200	59300	19600	8160	11300	29100	13600	6590	51800
25	2350	2310	14100	44800	79400	47700	11500	20800	27400	14200	6150	32800
26	2280	2070	20100	33200	56900	55700	8750	25000	23400	12400	6360	21400
27	2050	2120	19800	27100	40700	47200	16700	23800	16500	25800	6010	15700
28	2470	2170	15200	21400	23900	36500	40800	22200	14000	30400	8350	11500
29	2400	3490	10500	13300	---	26700	35100	20000	11100	21200	9950	16500
30	2400	4270	8130	11500	---	21800	22800	16900	9470	20300	8940	17900
31	2160	---	10400	12100	---	18200	---	13600	---	13800	6580	---
TOTAL	114280	71960	470720	919400	556490	1133900	503630	596930	505110	347850	230310	431140
MEAN	3686	2399	15180	29660	19870	36580	16790	19260	16840	11220	7429	14370
MAX	5140	4270	39500	86000	79400	78800	40800	54000	38000	30400	12100	51800
MIN	2050	1520	4850	10100	4050	10200	7660	9320	7030	5680	3720	4220
CAL YR 1978	TOTAL	4670330	MEAN	12800	MAX	94300	MIN	1520	CFSM 1.53	IN 20.76		
WTR YR 1979	TOTAL	5881720	MEAN	16110	MAX	86000	MIN	1520	CFSM 1.93	IN 26.14		

KANAWHA RIVER BASIN

03193000 KANAWHA RIVER AT KANAWHA FALLS, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: December 1957 to September 1966, July 1968 to current year.

INSTRUMENTATION.--Temperature recorder since Dec. 7, 1957.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 29.0°C Aug. 1-7, 1975; minimum, 0.0°C on several days during 1958-60, 1963, 1971, 1978.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 28.0°C Aug. 10-12; minimum, 1.0°C Jan. 16, Feb. 3-14.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

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TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

KANAWHA RIVER BASIN

03193742 KANAWHA RIVER AT GLASGOW, WV

LOCATION.--Lat 38°12'23", long 81°25'30", Kanawha County, Hydrologic Unit 05050006, on right bank at Glasgow Power Plant, at Glasgow, 0.6 mi (1.0 km) upstream from Kellys Creek, and at mile 78.4 (126 km).

DRAINAGE AREA.--8,631 mi² (22,354 km).

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: July 1977 to current year.

COOPERATION.--Records were furnished by Appalachian Electric Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 30°C Aug. 21, 1978; minimum daily, 0.0°C Feb. 8, 1979.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily 27.0°C July 28; minimum daily, 0.0°C Feb. 8.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	14.0	9.5	5.5	1.0	4.5	10.5	19.0	18.0	20.0	23.5	25.0
2	18.5	14.0	8.0	5.0	1.0	4.5	11.5	19.0	17.0	19.5	24.0	25.0
3	20.5	14.0	9.5	3.5	1.5	5.0	12.0	19.5	18.5	22.0	---	24.5
4	20.5	14.0	9.5	4.0	2.0	4.5	10.0	15.0	19.0	21.5	---	25.0
5	20.0	13.5	8.0	3.0	3.0	5.5	10.0	15.5	18.5	20.5	24.5	26.0
6	20.0	---	8.5	4.0	.5	5.5	11.0	15.0	19.5	21.0	24.0	---
7	20.0	13.5	9.0	3.5	---	5.0	10.5	16.0	20.0	20.0	26.0	23.0
8	19.0	16.0	7.0	3.5	.0	6.5	10.5	16.0	19.5	20.0	25.5	22.0
9	18.5	13.5	10.0	3.5	.5	8.0	11.0	16.5	25.5	21.0	26.5	21.5
10	17.0	12.0	7.0	3.0	.5	8.5	11.5	18.0	20.5	21.0	26.5	21.5
11	18.0	11.5	5.5	1.5	.5	6.5	10.5	20.0	22.0	24.5	---	22.0
12	18.0	11.0	4.5	4.5	.5	6.0	10.5	21.0	21.0	22.0	---	22.0
13	18.5	11.0	4.5	4.5	.5	6.5	---	18.0	19.0	21.5	---	22.0
14	18.0	13.0	5.0	3.5	.5	6.5	13.0	15.5	19.5	23.0	21.5	22.0
15	16.5	16.0	4.5	3.0	.5	6.5	13.5	16.0	---	23.5	21.5	21.5
16	16.5	13.5	4.5	2.0	1.0	5.5	13.5	16.0	---	23.5	22.0	21.0
17	16.0	13.0	5.5	3.0	1.5	5.5	13.0	16.0	21.5	---	22.0	24.5
18	16.5	13.0	5.5	3.0	1.0	8.5	12.0	16.5	21.0	21.0	21.0	21.5
19	16.0	14.0	5.0	2.0	1.5	8.0	11.5	17.0	21.5	22.0	26.0	21.5
20	16.0	12.0	5.5	3.0	2.0	8.5	---	20.5	21.0	21.5	25.0	21.0
21	15.5	11.5	6.0	3.5	1.5	9.5	13.5	---	20.0	21.0	24.0	21.0
22	16.5	13.0	5.5	---	2.0	11.0	14.5	18.5	19.5	22.0	---	21.0
23	18.0	12.0	5.0	4.0	2.0	11.5	---	18.5	18.0	24.5	21.5	20.0
24	15.5	12.0	5.0	4.5	6.0	11.5	15.5	18.5	18.0	25.0	23.0	20.0
25	---	11.0	4.5	4.0	5.5	10.5	15.5	19.0	18.0	25.5	23.0	19.5
26	16.0	11.0	4.0	2.0	6.0	9.5	17.0	16.5	---	26.0	23.0	19.0
27	16.0	10.5	3.5	2.0	4.5	8.5	17.0	16.0	---	26.5	23.5	20.0
28	17.0	10.0	3.5	4.0	4.0	9.0	17.0	15.5	18.5	27.0	24.0	19.0
29	15.0	10.0	2.0	2.0	---	8.5	16.5	18.0	19.5	25.0	24.0	19.0
30	15.0	9.5	2.0	1.0	---	9.5	18.0	15.5	20.0	23.5	24.5	19.0
31	14.5	---	4.0	1.0	---	11.0	---	16.5	---	23.5	24.5	---
MEAN	17.5	12.5	6.0	3.0	2.0	7.5	13.0	17.5	20.0	22.5	24.0	21.5
WTR YR 1979	MEAN	13.5	MAX	27.0	MIN	.0						

03194700 ELK RIVER BELOW WEBSTER SPRINGS, WV

LOCATION.--Lat 38°35'50", long 80°29'20", Webster County, Hydrologic Unit 05050007, on right bank 10 ft (3 m) upstream from swinging footbridge, 6.5 mi (10.5 km) upstream from town of Centralia, 8.9 mi (14.3 km) southwest of Salisbury Station, 8.9 mi (14.3 km) northwest of Webster Springs, and at mile 122.7 (197.4 km).

DRAINAGE AREA.--268 mi² (694 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1959 to current year.

GAGE.--Water-stage and rainfall recorders. Altitude of gage is 1,020 ft (311 m), by barometer.

REMARKS.--Water-discharge records good except those for January and February, which are poor. Corps of Engineers gage-height telemeter at station. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

AVERAGE DISCHARGE.--20 years, 703 ft³/s (19.91 m³/s), 35.62 in/yr (905 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,900 ft³/s (677 m³/s) June 2, 1974, gage height, 13.97 ft (4.258 m), from rating curve extended above 11,000 ft³/s (310 m³/s); minimum, 6.5 ft³/s (0.18 m³/s) Oct. 1, 1959; minimum gage height, 3.00 ft (0.914 m) Oct. 13, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1861, probably in September, reached a stage of 26.34 ft (8.028 m) and flood of July 26, 1896, reached a stage of 25.87 ft (7.885 m), present datum, at site 0.2 mi (0.3 km) upstream, from levels to flood marks pointed out by a local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 8,500 ft³/s (240 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	1200	*11300	320	10.30	3.139	Feb. 24	2300	9250	262	9.52	2.902
Dec. 16	1200	8550	242	9.23	2.813						

Minimum discharge, 27 ft³/s (0.76 m³/s) Oct. 13, gage height, 3.00 ft (0.914 m).

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	85	636	2500	360	1250	521	728	602	143	1020	355
2	33	75	475	5160	310	1330	713	581	565	604	942	276
3	31	68	382	3050	280	1480	1240	487	452	661	641	340
4	35	62	2500	1630	250	2040	2070	742	1120	487	447	330
5	39	58	2360	1070	230	5620	1550	3010	898	1380	328	280
6	47	55	1400	786	210	3050	1170	1900	638	855	266	2280
7	39	53	879	1350	190	1780	877	1190	470	565	222	1730
8	35	53	5170	4490	180	1180	726	843	367	396	191	980
9	36	54	9190	2280	170	869	947	639	326	299	197	662
10	35	51	3860	1390	160	709	1770	507	281	254	193	462
11	32	48	1850	920	150	891	1520	567	361	233	164	350
12	29	46	1140	689	150	777	1250	1750	340	193	954	272
13	28	45	789	584	180	692	1000	1680	264	162	1220	219
14	31	45	609	795	400	713	843	1980	212	159	710	199
15	34	47	476	860	1040	881	732	1290	174	348	517	260
16	46	57	403	735	6710	737	768	917	148	1290	368	240
17	50	109	421	718	3160	698	650	657	132	754	276	178
18	62	126	416	1230	1590	635	560	504	134	420	228	145
19	68	135	378	959	1090	572	469	405	351	304	2180	126
20	59	131	1050	967	793	536	406	339	245	252	2080	113
21	53	110	6050	6490	768	490	361	293	188	229	1480	123
22	47	99	3060	4550	1520	428	323	278	200	212	991	1460
23	43	96	1610	2160	2840	387	300	244	331	205	683	2250
24	41	167	1050	1600	6740	775	308	829	367	400	512	1370
25	37	365	1920	1760	6130	1480	297	1770	310	550	410	826
26	42	293	1540	1230	4280	1110	278	1690	257	529	391	557
27	81	342	1050	890	2320	834	1630	1490	200	4770	568	410
28	186	789	710	700	1450	658	1610	1550	161	4420	771	375
29	133	776	573	560	---	575	1210	1340	136	2550	590	390
30	108	699	490	450	---	495	917	943	127	2690	582	325
31	94	---	1280	380	---	441	---	678	---	1510	458	---
TOTAL	1670	5139	53717	52933	43651	34113	27016	31821	10357	27824	20580	17883
MEAN	53.9	171	1733	1708	1559	1100	901	1026	345	898	664	596
MAX	186	789	9190	6490	6740	5620	2070	3010	1120	4770	2180	2280
MIN	28	45	378	380	150	387	278	244	127	143	164	113
CFSM	.20	.64	6.47	6.37	5.82	4.10	3.36	3.83	1.29	3.35	2.48	2.22
IN.†	.23	.71	7.46	7.35	6.06	4.74	3.75	4.42	1.44	3.86	2.86	2.48
IN.‡	2.88	2.18	7.43	5.97	3.70	3.58	3.88	5.28	3.16	7.78	5.74	---

CAL YR 1978	TOTAL	242934	MEAN	666	MAX	9190	MIN	28	CFSM	2.49	IN	33.72
WTR YR 1979	TOTAL	326704	MEAN	895	MAX	9190	MIN	28	CFSM	3.34	IN	45.35

† Runoff.

‡ Rainfall.

03194700 ELK RIVER BELOW WEBSTER SPRINGS, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: February 1974 to June 1977, November 1977 to current year.

INSTRUMENTATION.--Temperature recorder since Feb. 13, 1974.

REMARKS.--No temperature record for Oct. 6 to Dec. 7, due to instrument malfunctions.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 31.0°C Aug. 1, 2, 1975; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 26.5°C Aug. 10; minimum, 0.5°C Jan. 4, 5, 9, 10.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)
NOV										
01...	1000	81	--	--	13.5	10.0	--	--	--	--
DEC										
08...	1150	5110	--	--	--	8.5	--	--	--	--
FEB										
20...	1000	780	--	--	-4.0	10.0	--	--	--	--
MAR										
26...	1140	1150	60	8.1	1.0	5.0	--	--	--	--
APR										
21...	1430	341	55	7.6	28.0	14.5	24	9	.0	.0
JUN										
11...	1030	350	60	7.0	15.0	20.0	32	11	.0	.0
JUL										
23...	1045	190	73	6.4	24.0	23.0	29	15	.0	.0
SEP										
04...	1010	313	100	6.9	21.0	21.0	--	--	--	--
14...	0900	196	90	7.1	--	20.5	33	8	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
APR											
21...	7.1	1.5	--	--	15	--	8.6	1.9	40	.05	36.8
JUN											
11...	9.6	1.9	--	--	21	--	9.7	2.3	52	.07	49.1
JUL											
23...	8.9	1.7	1.8	.1	14	11	10	2.2	51	.07	26.2
SEP											
14...	10	1.9	1.9	.1	25	3.9	9.5	1.6	48	.07	25.4

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
APR									
21...	--	--	--	--	--	120	120	0	--
JUN									
11...	--	--	--	--	--	210	190	20	--
JUL									
23...	--	--	--	--	--	430	400	30	--
SEP									
14...	0	<10	<10	<10	<10	130	--	20	7700

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR								
21...	--	10	10	0	--	--	--	--
JUN								
11...	--	20	10	10	--	--	--	--
JUL								
23...	--	20	0	20	--	--	--	--
SEP								
14...	10	20	10	9	190	.00	0	30

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	18.5	17.5			---	---	9.5	7.0	1.0	1.0	5.5	5.0
2	19.0	17.0			---	---	9.0	5.0	1.5	1.0	7.0	5.5
3	19.5	15.5			---	---	4.5	1.0	1.0	1.0	8.0	6.5
4	19.5	16.5			---	---	1.0	.5	1.5	1.0	9.0	8.0
5	16.5	15.0			---	---	1.0	.5	1.5	1.0	8.0	7.0
6	---	---			---	---	2.5	1.0	1.5	1.0	7.5	7.0
7	---	---			---	---	4.5	2.5	1.0	1.0	7.0	5.5
8	---	---			11.0	7.5	4.5	4.0	1.5	1.0	7.5	7.0
9	---	---			10.5	7.0	2.5	.5	1.0	1.0	9.0	7.0
10	---	---			6.5	4.0	1.5	.5	1.0	1.0	8.5	8.0
11	---	---			4.0	3.0	1.5	1.0	1.0	1.0	8.0	4.5
12	---	---			4.5	3.5	3.0	1.0	1.0	1.0	5.5	3.5
13	---	---			4.5	4.0	5.0	2.5	1.0	1.0	7.0	4.5
14	---	---			4.0	3.0	5.5	3.5	1.5	1.0	7.5	6.5
15	---	---			3.5	2.5	3.5	1.0	1.5	1.0	6.5	3.5
16	---	---			4.5	2.5	2.0	1.0	3.0	1.0	4.5	2.0
17	---	---			5.0	4.0	3.5	1.5	2.5	1.0	6.5	3.5
18	---	---			4.0	3.0	4.0	2.0	1.5	1.0	6.5	5.5
19	---	---			4.0	3.0	2.0	1.0	1.5	1.0	8.5	5.5
20	---	---			7.5	4.0	4.0	1.5	2.0	1.0	11.5	8.5
21	---	---			8.5	5.5	5.5	4.5	4.0	2.0	12.5	10.0
22	---	---			5.5	4.5	5.0	3.0	5.5	4.0	12.0	9.5
23	---	---			4.5	4.0	3.0	2.0	7.0	5.5	12.0	10.5
24	---	---			5.5	4.5	4.5	3.0	6.5	5.5	11.5	9.5
25	---	---			6.0	4.0	4.0	1.0	7.0	5.5	9.5	6.5
26	---	---			4.5	3.5	1.0	1.0	6.5	4.5	6.5	4.5
27	---	---			4.0	2.5	2.5	1.0	4.0	3.0	4.5	4.0
28	---	---			2.0	1.0	2.5	2.0	5.0	3.0	7.5	4.0
29	---	---			2.0	1.0	1.5	1.0	---	---	11.5	7.5
30	---	---			3.5	1.5	1.0	1.0	---	---	13.0	11.0
31	---	---			7.0	3.5	1.0	1.0	---	---	13.5	12.0
MONTH	19.5	15.0			11.0	1.0	9.5	.5	7.0	1.0	13.5	2.0
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	13.5	13.0	14.5	11.5	16.5	15.5	22.5	20.5	21.0	19.5	23.5	21.0
2	13.0	12.5	16.0	12.0	18.5	16.0	21.5	18.0	20.5	19.5	23.5	21.0
3	12.5	11.0	16.5	15.0	18.0	17.0	20.5	17.0	22.0	19.0	24.0	22.0
4	10.5	9.5	16.5	14.5	17.0	15.0	19.5	18.0	23.5	20.0	24.5	21.5
5	10.5	8.5	14.5	11.5	17.5	16.0	17.5	15.0	24.0	21.0	23.5	22.0
6	9.5	7.5	14.0	11.5	19.5	16.0	18.0	15.0	23.5	21.5	21.5	18.5
7	8.5	6.5	16.5	14.0	20.0	17.5	19.0	16.0	25.5	22.5	19.5	18.0
8	10.5	7.5	19.0	16.0	21.0	19.0	20.5	17.0	26.0	24.0	19.0	17.0
9	10.5	8.0	20.0	17.5	23.5	19.5	20.0	18.5	26.0	23.5	18.0	15.5
10	8.0	6.0	21.5	18.5	23.0	21.0	20.0	18.5	26.5	24.5	19.0	16.0
11	10.5	7.5	21.0	19.5	22.5	19.5	22.0	18.0	25.0	23.0	20.0	17.0
12	12.0	10.5	19.0	15.0	20.0	16.5	23.5	21.0	23.0	17.0	21.5	18.5
13	13.0	12.0	17.5	15.0	19.5	16.5	24.5	22.5	18.0	16.0	21.0	19.5
14	13.5	12.0	16.0	14.0	21.5	17.5	23.5	22.5	19.0	17.0	21.0	19.5
15	12.5	10.0	15.5	14.0	24.0	19.5	24.5	22.0	19.5	18.0	20.0	18.5
16	10.0	8.5	17.0	14.0	24.0	21.5	23.5	18.0	20.0	17.0	20.0	17.0
17	9.5	8.0	17.0	14.0	24.0	21.0	23.0	20.0	20.5	16.5	20.5	16.5
18	11.5	8.0	18.0	14.0	25.0	21.0	22.0	21.0	20.0	19.0	20.5	17.5
19	13.5	9.5	19.0	15.5	24.5	22.0	23.5	20.0	19.5	17.5	21.0	18.5
20	15.0	10.5	20.5	16.5	24.5	21.0	23.0	21.5	18.0	17.0	20.5	17.0
21	16.5	12.0	19.5	18.0	23.0	21.0	23.0	20.5	18.0	17.0	19.0	18.5
22	18.5	14.5	20.0	17.5	23.5	20.0	24.0	21.5	19.0	17.0	18.0	16.0
23	17.5	16.5	19.0	18.0	22.0	20.5	26.0	22.5	20.5	18.5	16.0	15.5
24	18.0	16.0	19.0	16.0	21.0	17.0	24.5	22.5	21.0	19.0	15.5	14.5
25	20.0	16.5	16.0	12.0	19.5	15.5	22.5	21.0	21.5	20.0	16.0	14.5
26	19.5	18.0	12.0	10.5	21.5	16.5	21.5	20.5	23.0	20.5	17.5	15.5
27	18.5	12.5	12.0	10.0	22.5	18.5	20.5	16.5	22.0	20.5	17.5	16.0
28	12.5	10.0	13.0	11.5	23.5	20.0	18.0	16.5	21.0	19.0	17.5	16.5
29	11.5	9.5	15.0	12.0	23.5	21.0	18.0	17.0	22.0	20.5	18.0	17.0
30	11.5	10.5	16.5	13.5	24.0	21.0	18.5	16.5	21.5	20.5	18.0	17.0
31	---	---	16.5	15.5	---	---	19.5	17.5	23.0	20.0	---	---
MONTH	20.0	6.0	21.5	10.0	25.0	15.0	26.0	15.0	26.5	16.0	24.5	14.5
YEAR	26.5	.5										

LOCATION.--Lat 38°38'08", long 80°27'58", Webster County, Hydrologic Unit 05050007, on right bank at Guardian, 50 ft (15 m) upstream from Bear Run, and at mile 8.1 (13.0 km).

PERIOD OF RECORD.--March 1974 to September 1978, October 1978 to September 1979 (gage heights, occasional discharge measurements, and annual maximum discharge only).

REMARKS.--Records for winter periods not adjusted for ice effect. Corps of Engineers gage-height telemeter at station.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,400 ft³/s (181 m³/s) July 16, gage height, 14.50 ft (4.420 m); minimum gage height, 2.86 ft (0.872 m) Oct. 11-13.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.89	3.07	3.59	4.93	3.74	4.63	3.96	4.00	3.83	3.15	4.13	3.78
2	2.88	3.06	3.51	6.78	3.72	4.56	4.23	3.87	3.70	3.48	3.85	3.68
3	2.87	3.05	3.51	5.44	3.74	4.41	5.21	3.81	3.64	3.37	3.67	3.77
4	2.93	3.04	5.09	4.67	3.73	4.36	5.15	4.21	3.90	3.59	3.59	3.65
5	3.03	3.02	4.82	4.28	3.75	5.79	4.77	5.90	3.82	4.13	3.76	3.75
6	3.00	3.01	4.31	4.10	3.63	5.28	4.41	5.11	3.70	3.72	3.71	5.07
7	2.94	3.01	3.98	5.37	3.68	4.67	4.16	4.51	3.57	3.50	3.66	4.62
8	2.90	3.04	6.17	6.80	3.63	4.32	4.06	4.17	3.48	3.37	3.62	4.21
9	2.90	3.05	8.80	5.21	3.55	4.06	4.69	3.95	3.41	3.27	3.84	3.98
10	2.89	3.06	5.72	4.58	3.45	3.94	5.39	3.82	3.36	3.31	3.70	3.81
11	2.87	3.03	4.70	4.23	3.49	4.04	5.08	3.77	3.64	3.26	3.84	3.70
12	2.86	3.01	4.28	4.04	3.58	4.01	4.70	3.77	3.44	3.18	4.38	3.60
13	2.87	3.01	4.06	3.99	3.81	4.01	4.38	3.93	3.34	3.13	4.38	3.50
14	2.98	3.01	3.90	4.23	3.76	4.10	4.16	4.02	3.28	3.21	4.11	3.56
15	3.05	3.05	3.80	4.33	4.90	4.13	3.99	3.99	3.22	3.44	3.98	3.72
16	3.08	3.23	3.73	4.28	7.98	4.12	3.87	3.89	3.17	8.34	3.84	3.51
17	3.10	3.28	3.73	4.26	5.61	4.08	3.77	3.74	3.17	5.45	3.73	3.39
18	3.12	3.26	3.67	4.32	4.78	4.02	3.69	3.65	3.19	4.51	3.72	3.31
19	3.07	3.23	3.69	4.28	4.39	3.95	3.62	3.58	3.17	4.11	4.76	3.25
20	3.02	3.20	4.33	4.48	4.15	3.88	3.58	3.51	3.11	3.85	4.99	3.18
21	3.01	3.17	6.78	7.71	4.36	3.79	3.54	3.45	3.13	3.70	4.97	3.42
22	2.99	3.14	5.33	6.22	5.42	3.71	3.49	3.42	3.39	3.74	4.58	4.54
23	2.98	3.14	4.58	5.02	6.08	3.67	3.47	3.37	3.38	3.62	4.23	4.59
24	3.07	3.30	4.32	4.74	6.69	3.99	3.46	4.71	3.31	3.75	4.03	4.35
25	3.10	3.36	4.96	4.86	6.10	4.50	3.43	4.91	3.27	3.81	3.89	4.05
26	3.25	3.31	4.85	4.60	5.36	4.45	3.46	4.80	3.19	4.50	3.74	3.86
27	3.48	3.66	4.44	4.33	4.98	4.20	3.83	4.83	3.13	8.24	4.28	3.74
28	3.32	3.93	4.14	4.18	4.64	4.00	4.07	4.83	3.08	6.41	4.46	3.81
29	3.19	3.79	3.96	3.99	---	3.88	4.17	4.62	3.05	5.13	4.25	3.85
30	3.13	3.71	3.86	3.86	---	3.78	4.13	4.24	3.06	5.27	4.06	3.78
31	3.09	---	4.30	3.83	---	3.79	---	3.96	---	4.62	3.90	---
MEAN	3.03	3.21	4.55	4.77	4.53	4.20	4.13	4.14	3.37	4.20	4.05	3.83
MAX	3.48	3.93	8.80	7.71	7.98	5.79	5.39	5.90	3.90	8.34	4.99	5.07
MIN	2.86	3.01	3.51	3.83	3.45	3.67	3.43	3.37	3.05	3.13	3.59	3.18
WTR YR 1979 MEAN 4.00 MAX 8.80 MIN 2.86												

KANAWHA RIVER BASIN

241

03195250 LEFT FORK HOLLY RIVER NEAR REPLETE, WV

LOCATION.--Lat 38°41'19", long 80°26'01", Webster County, Hydrologic Unit 05050007, on left bank at Poling, 100 ft (30 m) downstream from Potts Run, 1.8 mi (2.9 km) southeast of Replete, and at mile 8.4 (13.5 km).

DRAINAGE AREA.--48.1 mi² (124.6 km²).

PERIOD OF RECORD.--March 1974 to September 1978, October 1978 to September 1979 (gage heights, occasional discharge measurements, and annual maximum discharge only).

GAGE.--Water-stage recorder. Altitude of gage is 1,190 ft (363 m), from topographic map.

REMARKS.--Periods of no gage-height record, Nov. 9 to Dec. 6 and Dec. 29 to Jan. 9, caused by instrument malfunctions. Records for winter periods not adjusted for ice effect. Corps of Engineers gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,240 ft³/s (91.8 m³/s) July 16, 1979, gage height, 11.71 ft (3.569 m); minimum, 2.1 ft³/s (0.059 m³/s) Aug. 27, 28, 1976, gage height, 4.30 ft (1.311 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,240 ft³/s (91.8 m³/s) July 16, gage height, 11.71 ft (3.569 m); minimum gage height, 4.45 ft (1.356 m) Oct. 12.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.50	4.84	---	---	5.62	6.75	5.89	6.08	5.92	4.88	6.02	5.43
2	4.49	4.81	---	---	5.68	6.84	6.20	5.90	5.74	5.80	5.73	5.29
3	4.49	4.77	---	---	5.79	6.72	6.66	5.81	5.63	5.46	5.53	5.30
4	4.56	4.74	---	---	5.67	6.63	7.07	6.20	5.87	5.61	5.33	5.17
5	4.66	4.72	---	---	5.70	7.84	6.82	7.02	5.75	6.21	5.20	5.20
6	4.59	4.71	---	---	6.04	7.32	6.57	6.91	5.62	5.80	5.11	6.61
7	4.55	4.69	6.24	---	5.97	6.76	6.33	6.50	5.45	5.49	5.04	6.42
8	4.54	4.73	8.06	---	5.67	6.38	6.18	6.18	5.32	5.28	4.98	6.00
9	4.53	---	9.75	---	5.48	6.10	6.90	5.94	5.24	5.12	5.14	5.72
10	4.50	---	7.68	6.55	5.39	5.98	7.48	5.79	5.25	5.14	4.98	5.51
11	4.47	---	6.83	6.25	5.60	6.22	7.21	6.47	5.52	5.05	5.20	5.34
12	4.45	---	6.39	6.02	5.70	6.17	6.87	6.65	5.30	4.93	5.67	5.22
13	4.50	---	6.12	5.99	6.05	6.13	6.54	6.71	5.14	4.86	5.66	5.11
14	4.66	---	5.92	6.38	5.75	6.23	6.29	6.80	5.03	5.08	5.42	5.23
15	4.76	---	5.77	6.45	6.92	6.30	6.07	6.50	4.93	5.23	5.31	5.43
16	4.75	---	5.66	6.33	8.94	6.25	5.91	6.19	4.85	8.09	5.16	5.19
17	4.88	---	5.76	6.35	7.49	6.15	5.77	5.91	4.82	6.56	5.05	5.08
18	4.84	---	5.69	6.50	6.80	6.06	5.65	5.72	4.81	6.18	5.10	4.99
19	4.76	---	5.69	6.40	6.41	5.93	5.55	5.56	4.89	6.02	6.05	4.94
20	4.71	---	6.59	6.56	6.13	5.84	5.48	5.42	4.76	5.78	6.16	4.85
21	4.67	---	8.64	8.75	6.38	5.72	5.42	5.33	4.77	5.65	6.22	5.14
22	4.64	---	7.36	7.94	7.21	5.62	5.37	5.28	4.99	5.52	5.98	6.37
23	4.63	---	6.67	7.06	8.05	5.56	5.34	5.18	5.41	5.44	5.69	6.44
24	4.67	---	6.41	6.79	8.73	5.89	5.32	6.55	5.28	5.47	5.50	6.15
25	4.73	---	6.91	6.84	8.09	6.46	5.27	7.23	5.19	5.44	5.36	5.82
26	4.74	---	6.80	6.60	7.52	6.45	5.33	7.17	5.04	5.66	5.27	5.59
27	5.33	---	6.41	6.34	7.04	6.24	5.95	7.16	4.90	7.77	6.20	5.43
28	5.21	---	6.15	6.17	6.71	6.04	6.23	7.38	4.81	7.44	6.27	5.54
29	5.05	---	---	5.95	---	5.90	6.34	6.97	4.75	6.90	5.95	5.59
30	4.95	---	---	5.79	---	5.76	6.26	6.46	4.79	7.14	5.78	5.50
31	4.94	---	---	5.73	---	5.69	---	6.08	---	6.53	5.60	---
MEAN	4.70	---	---	---	6.52	6.26	6.14	6.29	5.19	5.86	5.54	5.52
MAX	5.33	---	---	---	8.94	7.84	7.48	7.38	5.92	8.09	6.27	6.61
MIN	4.45	---	---	---	5.39	5.56	5.27	5.18	4.75	4.86	4.98	4.85

KANAWHA RIVER BASIN

03195400 SUTTON LAKE AT SUTTON, WV

LOCATION.--Lat 38°39'40", long 80°41'40", Braxton County, Hydrologic Unit 05050007, at Sutton Dam on Elk River, 1.0 mi (1.6 km) upstream from Sutton, and at mile 101.1 (162.7 km).

DRAINAGE AREA.--537 mi² (1,391 km²).

PERIOD OF RECORD.--October 1960 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity-type dam completed in 1961; closure of dam was made in April 1959 and storage above minimum-pool elevation began Feb. 26, 1961. Spillway equipped with 6 taintor gates 40 ft (12.2 m) long by 31 ft (9.4 m) high and 5 sluice gates 5.67 ft (1.728 m) wide by 10 ft (3.0 m) high. Total level-pool capacity at elevation 1,000 ft (304.8 m), flood-control pool elevation, is 265,300 acre-ft (327 hm³) of which 261,200 acre-ft (322 hm³) is controlled storage above elevation 850 ft (259.1 m), minimum-pool elevation. This is a multipurpose reservoir.

COOPERATION.--Records were furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 111,400 acre-ft (137 hm³) June 3, 1974, elevation, 950.19 ft (289.618 m); minimum since initial filling, 734 acre-ft (0.905 hm³) Apr. 1, 1961, elevation, 832.33 ft (253.694 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 93,100 acre-ft (115 hm³) Dec. 11, elevation, 941.49 ft (286.966 m); minimum, 26,110 acre-ft (32.2 hm³) Mar. 24, elevation 891.42 ft (271.705 m).

ELEVATION, IN FEET NGVD, WATER YEAR 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet) (equivalent in cfs)	
Sept. 30.....	922.42	60310	-	-
Oct. 31.....	912.85	47560	-12750	-207
Nov. 30.....	897.63	31490	-16070	-270
Dec. 31.....	895.41	29500	-1990	-32
CAL YR 1978			+120	0
Jan. 31.....	895.56	29630	+130	+2
Feb. 28.....	940.28	90700	+61070	+1100
Mar. 31.....	909.50	43610	-47090	-766
Apr. 30.....	924.38	63200	+19590	+329
May 31.....	922.59	60560	-2640	-43
June 30.....	922.35	60210	-350	-6
July 31.....	922.60	60570	+360	+6
Aug. 31.....	922.43	60320	-250	-4
Sept. 30.....	898.84	32600	-27720	-466
WTR YR 1979			-27710	-38

KANAWHA RIVER BASIN

243

03195500 ELK RIVER AT SUTTON, WV

LOCATION.--Lat 38°39'45", long 80°42'35", Braxton County, Hydrologic Unit 05050007, on left bank 150 ft (46 m) upstream from highway bridge at Sutton, 0.5 mi (0.8 km) upstream from Granny Creek, 0.9 mi (1.4 km) downstream from Sutton Dam, 2.5 mi (4.0 km) downstream from Wolf Creek, and at mile 100.1 (161.1 km).

DRAINAGE AREA.--543 mi² (1,406 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only October 1938 to February 1939, published in WSP 1305.

REVISED RECORDS.--WSP 1305: 1942(M), 1948-50(M).

GAGE.--Water-stage recorder. Datum of gage is 800.00 ft (243.840 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 5, 1940, nonrecording gage and Apr. 5, 1940, to Sept. 30, 1960, water-stage recorder at site 150 ft (46 m) downstream at datum 8.03 ft (2.448 m) higher.

REMARKS.--Water-discharge records good. Flow regulated since 1960 by Sutton Lake (station 03195400).

AVERAGE DISCHARGE.--41 years, 1,136 ft³/s (32.17 m³/s), 28.41 in/yr (722 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,200 ft³/s (969 m³/s) Jan. 29, 1957, gage height, 39.30 ft (11.979 m), present datum; minimum, 0.4 ft³/s (0.011 m³/s) Oct. 25, 26, 28, 29, 1953; minimum gage height, 9.87 ft (3.008 m) Oct. 25, 1953, present datum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 13, 1918, reached a stage of 45.2 ft (13.78 m), present datum, from floodmarks, discharge, about 49,000 ft³/s (1,390 m³/s), from rating curve extended above 28,000 ft³/s (790 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,000 ft³/s (198 m³/s) Mar. 5, gage height, 19.00 ft (5.791 m); minimum, 78 ft³/s (2.21 m³/s) Oct. 1-16, gage height, 10.74 ft (3.274 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78	570	1100	2220	760	4660	280	1880	1100	256	1490	658
2	78	490	1100	3530	600	6580	248	1420	850	284	1100	515
3	78	490	1000	4790	510	6570	252	1220	742	682	906	410
4	78	490	2750	4380	510	6420	1590	1150	742	688	525	410
5	78	470	3420	3290	510	6660	2410	3090	850	1120	530	455
6	78	430	2410	2650	510	6500	1330	4500	1030	1500	485	3700
7	78	430	1540	2740	510	6370	1040	2750	976	1310	320	2990
8	78	425	3610	3620	510	5750	955	1540	820	766	240	1580
9	78	425	997	4870	510	4670	1700	1010	505	460	236	962
10	78	430	146	4470	425	3920	2810	820	450	410	244	724
11	78	450	616	3590	324	3720	2890	820	450	300	374	490
12	78	455	4310	2970	329	3610	2550	1780	450	240	899	405
13	78	475	5310	2670	600	2680	2050	2280	450	240	1770	718
14	80	470	5200	2140	748	1600	1610	2280	383	208	976	706
15	78	470	4480	1800	1070	1340	1050	2140	256	194	760	374
16	272	470	3890	1790	3070	1380	1050	1440	219	2510	505	374
17	455	465	3680	1590	6150	1370	1040	962	187	3720	369	550
18	505	525	3330	1330	5890	1370	857	838	132	2750	374	983
19	505	570	3240	1410	4850	1070	676	616	132	1550	2050	1160
20	505	565	3250	1760	3630	864	605	530	132	628	3160	1360
21	500	560	4030	3460	3100	864	555	530	292	530	1970	1660
22	500	500	5010	5270	3660	784	470	435	515	450	1610	2710
23	500	425	4930	5840	5280	1380	470	383	515	374	871	3600
24	500	425	4700	5540	5840	1580	470	1170	515	490	688	3680
25	500	505	4680	5030	505	272	470	2400	515	772	688	2700
26	505	664	4640	4680	127	260	480	2460	401	857	640	1820
27	505	754	3750	3840	110	264	490	2380	296	4020	1020	1660
28	530	983	2560	3090	676	264	1540	2320	252	6800	1640	1750
29	616	1110	1900	2050	---	264	2310	2450	252	6000	1130	1660
30	634	1100	1580	1050	---	268	2290	1700	252	5590	871	1530
31	634	---	1500	760	---	268	---	1110	---	2760	871	---
TOTAL	9338	16591	94659	98220	51314	83572	36538	50404	14661	48459	29312	42294
MEAN	301	553	3054	3168	1833	2696	1218	1626	489	1563	946	1410
MAX	634	1110	5310	5840	6150	6660	2890	4500	1100	6800	3160	3700
MIN	78	425	146	760	110	260	248	383	132	194	236	374

CAL YR 1978 TOTAL 428114 MEAN 1173 MAX 6550 MIN 71 MEAN‡ 1173 CFSM‡ 2.16 IN‡ 29.32
WTR YR 1979 TOTAL 575362 MEAN 1576 MAX 6800 MIN 78 MEAN‡ 1538 CFSM‡ 2.83 IN‡ 38.42

‡ Adjusted for change in contents in Sutton Lake.

KANAWHA RIVER BASIN

03195500 ELK RIVER AT SUTTON, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960 to current year.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: March 1960 to current year.

TURBIDITY: January 1974 to March 1975.

INSTRUMENTATION.--Temperature recorder since Mar. 3, 1960.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 29.0°C Aug. 30, Sept. 1, 1960; minimum, 0.0°C Feb. 25, 26, 1963, many days during December 1968, January 1969, January 1970, Dec. 19, 20, 1972.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 22.0°C Oct. 3, 5; minimum recorded, 1.5°C Feb. 15-24.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	21.0	20.0	16.5	15.5	9.0	8.5	4.5	4.0	3.0	3.0	4.5	4.5
2	21.5	19.5	16.0	15.5	8.5	8.0	4.0	4.0	3.5	3.0	4.5	4.5
3	22.0	19.0	16.0	15.0	8.0	8.0	4.0	4.0	3.0	2.5	5.5	4.5
4	21.5	19.5	15.5	15.0	9.0	8.0	5.5	4.0	2.5	2.0	5.5	5.5
5	22.0	19.0	15.5	15.0	9.0	8.5	5.5	5.5	2.5	2.0	5.5	5.0
6	20.0	19.0	15.5	15.0	9.0	8.5	5.5	5.5	2.5	2.0	5.0	5.0
7	19.0	18.5	15.0	15.0	9.0	9.0	5.5	4.5	2.5	2.0	6.5	5.0
8	19.5	18.5	15.0	15.0	9.0	8.5	4.5	4.5	2.5	2.0	6.5	6.5
9	20.5	18.0	15.0	15.0	8.5	7.0	4.5	4.0	2.0	2.0	7.0	6.5
10	21.0	18.0	15.5	15.0	7.0	6.5	4.0	4.0	2.5	2.0	7.0	7.0
11	21.5	18.5	15.5	15.0	8.0	6.0	4.0	4.0	2.0	2.0	7.0	7.0
12	21.0	18.5	15.0	15.0	8.5	8.0	4.0	4.0	2.0	2.0	7.0	7.0
13	19.5	18.0	15.0	14.5	8.5	8.0	4.0	3.5	2.0	2.0	7.0	7.0
14	18.5	17.5	15.0	14.5	8.0	7.5	3.5	3.5	2.0	2.0	7.0	7.0
15	17.5	16.5	14.5	14.0	7.5	7.0	3.5	3.5	2.0	1.5	7.0	7.0
16	18.5	16.5	14.0	14.0	7.0	7.0	3.5	3.5	1.5	1.5	7.0	6.5
17	18.5	18.0	14.5	14.0	7.0	6.5	3.5	3.5	2.0	1.5	7.0	6.5
18	19.0	18.0	14.0	14.0	6.5	6.5	3.0	3.0	1.5	1.5	6.5	6.0
19	18.5	18.5	14.0	14.0	6.5	6.5	3.0	3.0	2.0	1.5	7.0	6.5
20	18.5	18.0	14.0	14.0	6.5	6.5	3.0	2.5	2.0	1.5	7.0	6.5
21	18.0	17.5	14.0	14.0	6.5	6.0	2.5	2.5	2.0	1.5	6.5	6.0
22	17.5	17.0	14.0	14.0	6.0	5.5	3.0	2.5	1.5	1.5	6.5	6.0
23	17.5	16.5	14.0	13.5	6.0	5.5	3.5	3.0	1.5	1.5	6.5	6.0
24	17.0	16.5	13.5	12.5	6.0	6.0	4.0	3.5	3.0	1.5	7.0	6.0
25	17.0	16.5	12.5	12.5	6.0	6.0	4.0	4.0	4.5	3.0	6.5	6.0
26	16.5	16.5	12.5	12.5	6.0	6.0	4.0	4.0	5.0	4.0	6.0	6.0
27	17.0	16.0	12.5	12.0	6.0	5.5	4.0	3.5	5.0	4.0	6.5	6.0
28	17.0	16.5	12.0	11.0	5.5	5.0	3.5	3.5	6.5	4.0	8.0	6.0
29	17.0	16.5	11.0	10.0	5.0	4.5	3.5	3.5	---	---	8.0	6.5
30	17.5	17.0	10.0	9.0	4.5	4.5	3.5	3.0	---	---	8.5	7.0
31	17.5	17.0	---	---	4.5	4.5	3.0	3.0	---	---	7.5	7.0
MONTH	22.0	16.0	16.5	9.0	9.0	4.5	5.5	2.5	6.5	1.5	8.5	4.5

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TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

KANAWHA RIVER BASIN

03196500 BIRCH RIVER AT HEROLD, WV

LOCATION.--Lat 38°34'29", long 80°48'04", Braxton County, Hydrologic Unit 05050007, on left bank at downstream side of County Route 40 highway bridge, 100 ft (30 m) downstream from Long Run, 0.8 mi (1.3 km) northeast of Herold and at mile 11.3 (18.2 km).

DRAINAGE AREA.--124 mi² (321 km²).

PERIOD OF RECORD.--October 1929 to December 1931 (gage heights only), water years 1930-31, 1939, 1941, 1960-61, 1964, and 1967 (occasional low-flow measurements only), January 1974 to September 1975 and October 1978 to September 1979.

GAGE.--Water-stage recorder. Datum of gage is 934.46 ft (284.823 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records excellent except those for January and February, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,900 ft³/s (252 m³/s) June 2, 1974, gage height, 12.80 ft (3.901 m); minimum, 4.0 ft³/s (0.11 m³/s) Aug. 2, 1975, gage height, 1.62 ft (0.494 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,960 ft³/s (225 m³/s) Dec. 9, gage height, 12.17 ft (3.709 m); minimum, 8.9 ft³/s (0.25 m³/s) Oct. 13, gage height, 1.73 ft (0.527 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	18	89	497	135	548	193	274	149	66	147	83
2	11	17	76	2600	115	467	222	219	117	96	105	68
3	12	16	73	1200	105	371	446	190	98	67	80	93
4	14	15	845	780	94	345	715	315	106	106	62	77
5	16	15	568	560	84	2080	516	1490	86	274	53	276
6	14	15	312	450	80	992	371	760	72	156	78	1740
7	12	14	214	1350	74	556	274	443	60	97	61	592
8	12	15	2300	2610	70	380	242	300	53	68	49	310
9	12	16	5630	750	66	270	680	226	49	55	53	197
10	11	16	1230	482	64	240	1040	176	46	56	42	131
11	10	15	524	325	62	307	648	150	114	48	47	97
12	9.4	14	332	253	60	283	458	134	80	39	222	74
13	9.4	14	248	242	66	260	340	250	60	33	208	61
14	15	14	197	340	160	278	274	300	49	52	126	102
15	25	14	159	350	810	274	232	256	40	347	95	107
16	23	23	137	317	3490	253	195	216	34	2250	69	72
17	21	32	136	310	1090	240	166	165	38	584	55	59
18	18	29	119	340	560	219	146	132	36	250	48	52
19	15	27	119	310	377	197	128	110	40	153	251	46
20	14	25	262	470	272	174	116	91	36	104	266	40
21	13	23	1670	3150	446	150	106	76	37	80	198	117
22	13	22	840	1720	962	131	96	68	134	66	149	596
23	11	22	455	705	1460	121	89	62	213	58	106	680
24	11	39	347	688	2090	332	85	148	166	76	79	425
25	12	53	730	696	1740	715	78	202	130	69	71	243
26	14	46	616	470	1390	516	96	232	95	120	69	159
27	50	92	410	380	962	350	500	305	68	805	254	118
28	41	148	286	260	608	264	512	419	53	780	245	154
29	28	129	226	220	---	221	473	345	49	386	181	201
30	23	115	186	180	---	183	371	240	55	305	141	154
31	20	---	288	155	---	164	---	172	---	226	110	---
TOTAL	521.8	1053	19624	23160	17492	11881	9808	8466	2363	7872	3720	7124
MEAN	16.8	35.1	633	747	625	383	327	273	78.8	254	120	237
MAX	50	148	5630	3150	3490	2080	1040	1490	213	2250	266	1740
MIN	9.4	14	73	155	60	121	78	62	34	33	42	40
CFSM	.14	.28	5.11	6.02	5.04	3.09	2.64	2.20	.64	2.05	.97	1.91
IN.	.16	.32	5.89	6.95	5.25	3.56	2.94	2.54	.71	2.36	1.12	2.14

WTR YR 1979 TOTAL 113084.8 MEAN 310 MAX 5630 MIN 9.4 CFSM 2.50 IN 33.93

KANAWHA RIVER BASIN

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03196600 ELK RIVER NEAR FRAMETOWN, WV

LOCATION.--Lat 38°35'34", long 80°53'06", Braxton County, Hydrologic Unit 05050007, on right bank opposite mouth of Birch River, at village of Glendon, 2.2 mi (3.5 km) upstream from Strange Creek, 3.2 mi (5.1 km) southwest of Frametown, and at mile 80.7 (129.8 km). Records include flow of Birch River.

DRAINAGE AREA.--752 mi² (1,948 km²), includes that of Birch River.

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

GAGE.--Water-stage recorder. Datum of gage is 775.51 ft (236.375 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1959, nonrecording gage at same site and datum.

REMARKS.--Records good except those for January and February, which are poor. Flow regulated since 1960 by Sutton Lake (station 03195400). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--21 years, 1,567 ft³/s (44.38 m³/s), 28.30 in/yr (719 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft³/s (612 m³/s) Mar. 15, 1967, gage height, 16.05 ft (4.892 m); minimum, 9.0 ft³/s (0.25 m³/s) Sept. 28, 29, 1959, gage height, 1.44 ft (0.439 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,400 ft³/s (464 m³/s) Dec. 9, gage height, 13.47 ft (4.106 m); minimum, 89 ft³/s (2.52 m³/s) Oct. 12, 13, gage height, 1.86 ft (0.567 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	96	649	1220	2770	800	4630	526	2530	1280	334	1920	801
2	95	510	1190	7320	720	7100	669	1800	1070	375	1250	639
3	93	495	1200	6370	650	7010	1090	1480	847	610	1170	522
4	100	487	3730	5370	600	6860	1960	1670	844	832	622	508
5	97	485	5830	4160	560	9930	3700	4140	849	1250	574	810
6	99	431	3370	3240	530	7930	2080	5960	1070	1750	598	5270
7	97	432	2040	4440	490	7050	1450	3690	1060	1620	459	4320
8	95	432	6530	7770	470	6380	1250	2290	922	997	308	2270
9	92	424	12100	6110	450	5100	2440	1440	643	597	308	1300
10	91	424	2080	5330	430	4350	4580	1020	484	463	285	1040
11	91	450	927	4270	420	4250	3960	982	606	431	452	657
12	91	450	3770	3510	410	4170	3520	1540	532	275	1080	522
13	92	473	5570	3180	450	3540	2630	2810	496	270	2220	606
14	115	473	5380	3180	680	2210	2270	2790	473	296	1340	1050
15	117	482	4870	2450	1400	1770	1330	2680	323	522	927	574
16	133	505	4110	2320	7030	1750	1270	2040	243	3610	702	480
17	421	512	4000	2250	7630	1720	1230	1140	240	4570	431	459
18	532	528	3600	1880	6730	1670	1120	1060	190	3380	417	999
19	528	608	3500	1810	5690	1500	877	787	160	2230	1620	1150
20	522	600	4020	2660	4230	1070	742	620	168	882	4240	1390
21	519	591	6930	7430	3990	1040	714	591	203	614	2390	1980
22	515	579	6240	7810	5160	996	574	551	725	566	2050	3570
23	514	454	5520	6860	7230	947	560	431	875	452	1170	4670
24	515	489	5230	6840	10200	2800	553	980	735	522	792	4420
25	508	507	6010	6210	4610	1350	545	3260	661	819	792	3500
26	533	701	5560	5550	2430	965	575	3140	576	981	756	2190
27	675	1040	4750	4620	1600	738	1210	3130	411	3900	1240	1880
28	592	1190	3250	3790	1040	609	1760	3230	298	7770	2030	2130
29	654	1310	2370	2790	---	546	3150	3090	286	6660	1480	2390
30	692	1270	1940	1300	---	499	2950	2450	304	5890	1020	1760
31	679	---	1980	900	---	474	---	1310	---	4030	1040	---
TOTAL	9993	17981	128817	134490	76630	100954	51285	64632	17574	57498	35683	53857
MEAN	322	599	4155	4338	2737	3257	1710	2095	586	1855	1151	1795
MAX	692	1310	12100	7810	10200	9930	4580	5960	1280	7770	4240	5270
MIN	91	424	927	900	410	474	526	431	160	270	285	459

CAL YR 1978 TOTAL 571351 MEAN 1565 MAX 12100 MIN 91 MEAN‡ 1565 CFSM‡ 2.08 IN‡ 28.24
WTR YR 1979 TOTAL 749394 MEAN 2053 MAX 12100 MIN 91 MEAN‡ 2015 CFSM‡ 2.68 IN‡ 36.38

‡ Adjusted for change in contents in Sutton Lake.

KANAWHA RIVER BASIN

03196800 ELK RIVER AT CLAY, WV

LOCATION.--Lat 38°27'36", long 81°05'15", Clay County, Hydrologic Unit 05050007, on right bank at downstream side of pier of highway bridge at Clay, 0.9 mi (1.4 km) downstream from Buffalo Creek, 2.1 mi (3.4 km) downstream from Lower Two Run Creek, and at mile 52.5 (84.5 km).

DRAINAGE AREA.--994 mi² (2,574 km²).

PERIOD OF RECORD.--October 1958 to September 1978, October 1978 to September 1979 (gage heights, occasional discharge measurements, and annual maximum discharge only). Gage-height records collected at same site since 1915 are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 677.46 ft (206.490 m) National Geodetic Vertical Datum of 1929. Prior to Mar. 27, 1959, nonrecording gage at same site and datum.

REMARKS.--Records for winter periods not adjusted for ice effect. Flow regulated since 1960 by Sutton Lake (station 03195400). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--20 years (water years 1959-78), 1,926 ft³/s (54.54 m³/s), 26.31 in/yr (668 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,000 ft³/s (1,360 m³/s) Mar. 15, 1967, gage height, 22.80 ft (6.949 m); minimum, 1.5 ft³/s (0.042 m³/s) Sept. 22, 1959, gage height, -0.13 ft (-0.040 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 14, 1918, reached a stage of 32.4 ft (9.88 m), from reports of National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 32,400 ft³/s (918 m³/s) Dec. 9, gage height, 18.33 ft (5.587 m); minimum gage height, 0.67 ft (0.204 m) Oct. 10.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.80	1.92	3.16	5.10	3.16	5.51	2.25	4.76	3.02	1.42	4.18	2.54
2	.81	1.76	3.06	10.11	3.08	8.31	2.59	3.76	2.82	1.52	3.22	2.08
3	.80	1.52	3.05	8.63	2.73	8.35	3.47	3.51	2.40	1.54	3.11	1.94
4	.80	1.43	6.01	7.39	2.76	8.30	4.74	3.86	2.26	2.22	2.50	1.80
5	.79	1.43	7.66	6.41	2.61	11.77	6.15	6.20	2.24	3.09	2.03	1.85
6	.77	1.49	6.18	5.60	2.81	9.64	5.12	7.97	2.46	3.62	2.03	5.56
7	.75	1.43	4.64	8.11	2.84	8.61	3.96	6.30	2.58	3.52	1.97	7.00
8	.72	1.47	8.15	10.21	2.80	8.11	3.70	4.97	2.44	2.85	1.44	4.72
9	.71	1.43	15.95	8.18	2.64	7.12	4.63	4.10	2.15	2.08	1.41	3.37
10	.67	1.45	7.14	7.28	2.56	6.48	7.47	2.92	1.72	1.73	1.40	2.82
11	.69	1.49	4.01	6.58	2.37	6.41	6.66	2.78	2.20	1.66	1.43	2.23
12	.70	1.55	4.63	6.03	2.45	6.33	6.16	3.07	1.95	1.38	2.46	1.84
13	.73	1.61	7.27	5.66	2.86	6.00	5.35	5.07	1.72	1.09	4.05	1.60
14	.78	1.62	7.21	6.04	3.57	4.79	5.04	5.02	1.67	1.45	3.82	2.39
15	.82	1.54	6.98	5.11	4.26	4.17	3.90	4.90	1.46	1.81	2.84	2.33
16	.85	1.80	6.25	4.83	9.86	3.92	3.63	4.57	1.20	3.25	2.53	1.68
17	.99	1.94	6.13	4.82	9.31	3.87	3.58	3.34	1.18	6.41	1.99	1.50
18	1.59	1.64	5.80	4.61	8.54	3.75	3.48	3.01	1.11	5.40	1.66	1.95
19	1.78	1.54	5.63	4.30	7.87	3.67	3.08	2.27	1.14	4.25	2.35	2.74
20	1.58	1.66	5.97	5.14	6.67	3.09	2.82	1.95	1.05	2.97	5.97	3.10
21	1.51	1.70	9.21	9.80	6.41	3.03	2.75	1.79	1.05	2.05	4.77	3.77
22	1.51	1.83	8.35	10.15	7.81	2.99	2.58	1.74	1.71	1.76	4.44	5.91
23	1.50	1.77	7.54	8.64	9.19	2.81	2.42	1.48	3.50	1.66	3.45	7.01
24	1.55	1.75	7.23	8.88	11.39	4.84	2.48	1.88	2.99	1.86	2.58	6.54
25	1.55	1.60	8.37	8.61	9.63	4.84	2.35	4.64	2.44	2.01	2.59	5.81
26	1.58	1.79	7.75	7.75	7.20	3.78	2.53	5.11	2.14	3.52	2.45	4.42
27	1.88	2.66	7.13	7.01	5.50	3.16	3.98	5.19	1.86	5.62	2.68	3.91
28	1.88	3.21	5.83	6.29	4.19	2.84	4.37	5.59	1.56	8.96	3.90	4.10
29	1.82	3.32	4.88	5.56	---	2.63	5.89	5.23	1.16	8.17	3.80	4.88
30	1.91	3.28	4.34	4.20	---	2.26	5.62	4.81	1.29	7.32	3.09	4.04
31	1.90	---	4.44	3.37	---	2.13	---	3.27	---	6.42	2.97	---
MEAN	1.18	1.82	6.45	6.79	5.25	5.27	4.09	4.03	1.95	3.31	2.87	3.51
MAX	1.91	3.32	15.95	10.21	11.39	11.77	7.47	7.97	3.50	8.96	5.97	7.01
MIN	.67	1.43	3.05	3.37	2.37	2.13	2.25	1.48	1.05	1.09	1.40	1.50

WTR YR 1979 MEAN 3.88 MAX 15.95 MIN .67

KANAWHA RIVER BASIN

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03197000 ELK RIVER AT QUEEN SHOALS, WV

LOCATION.--Lat 38°28'20", long 81°17'10", Kanawha County, Hydrologic Unit 05050007, on right bank 50 ft (15 m) upstream from Queen Shoals Creek, 100 ft (30 m) downstream from highway bridge at Queen Shoals, 4.0 mi (6.4 km) upstream from Big Sandy Creek, and at mile 25.8 (41.5 km). Records include flow of Queen Shoals Creek.

DRAINAGE AREA.--1,145 mi² (2,966 km²), includes that of Queen Shoals Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only October, November 1928, published in WSP 1305.

REVISED RECORDS.--WSP 783: Drainage area. WSP 1335: 1929-32, 1935(M), 1936, 1939, 1943(M).

GAGE.--Water-stage recorder. Datum of gage is 604.09 ft (184.127 m) National Geodetic Vertical Datum of 1929. Prior to June 19, 1932, nonrecording gage and June 19, 1932, to Sept. 30, 1946, water-stage recorder, at bridge 100 ft (30 m) upstream at same datum.

REMARKS.--Water-discharge records good except those for February, which are poor. Flow regulated since 1960 by Sutton Lake (station 03195400). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--51 years, 2,030 ft³/s (57.49 m³/s), 24.08 in/yr (612 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,000 ft³/s (2,040 m³/s) July 5, 1932, gage height, 29.2 ft (8.90 m), from rating curve extended above 40,000 ft³/s (1,100 m³/s); minimum, 0.3 ft³/s (0.008 m³/s) Nov. 4, 5, 1953.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 36,700 ft³/s (1,040 m³/s) Dec. 9, gage height, 21.08 ft (6.425 m); minimum, 74 ft³/s (2.10 m³/s) Oct. 11-13, gage height, 3.92 ft (1.195 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	682	1780	3630	1600	3660	1060	4100	2140	458	3390	1500
2	81	666	1680	10500	1400	7050	1370	3270	1980	507	2250	1120
3	79	528	1690	8810	1250	7580	2210	2640	1600	507	1660	926
4	83	482	4920	9080	1100	7670	4130	2540	1330	706	1490	779
5	88	482	6750	5610	1000	15200	4830	4880	1240	1370	806	730
6	91	476	5420	4610	900	11100	4450	7340	1220	1850	714	3290
7	86	446	3570	5320	840	8520	3020	6070	1450	2140	770	6430
8	81	422	8320	14400	810	7600	2480	4350	1390	1890	618	4170
9	81	422	30800	8210	790	6430	3050	2940	1200	1220	479	2610
10	79	416	10300	6680	770	5550	6830	2160	824	762	419	1760
11	74	410	3540	5650	750	5420	6010	1710	824	565	367	1400
12	74	416	2840	4770	740	5280	5170	1570	993	507	706	888
13	76	434	5760	4330	740	4960	4290	3360	770	367	2100	788
14	93	446	5990	4710	1000	4040	3740	4020	658	372	2580	955
15	115	464	5740	4240	2100	3320	3020	3700	595	626	1670	1660
16	142	500	4980	3650	9970	2810	2390	3380	445	730	1200	888
17	139	549	4690	3480	9770	2730	2250	2460	345	5070	898	698
18	203	542	4390	3470	8250	2630	2120	1730	306	4510	550	806
19	482	542	4150	2930	7270	2540	1850	1530	312	3540	746	1540
20	500	626	4290	3480	5910	2190	1500	1130	280	2250	3610	1810
21	494	618	8770	9670	5440	1790	1270	898	250	1120	4150	2320
22	494	602	8130	12100	7150	1670	1180	824	465	779	3110	4960
23	488	602	6680	8550	8880	1550	964	779	2160	842	2400	6390
24	488	528	6180	8620	12500	3050	917	879	1970	833	1580	5990
25	482	535	7910	9100	12800	4810	879	2640	1440	851	1370	5110
26	482	542	7220	7290	8300	3090	564	4040	1110	2250	1200	3790
27	556	850	6120	6280	5320	2250	2360	4280	879	4470	1360	2830
28	748	1790	4920	5400	3570	1750	3250	4830	610	8230	2330	2640
29	634	1870	3750	4570	---	1430	4310	4470	465	7890	2630	3500
30	626	1870	2830	3000	---	1230	4530	3990	419	6580	2020	3140
31	690	---	2930	1900	---	1070	---	2780	---	5950	1510	---
TOTAL	8912	19758	187040	194040	120920	139970	86394	95290	29670	69742	50683	75418
MEAN	287	659	6034	6259	4319	4515	2880	3074	989	2250	1635	2514
MAX	748	1870	30800	14400	12800	15200	6830	7340	2160	8230	4150	6430
MIN	74	410	1680	1900	740	1070	879	779	250	367	367	698

CAL YR 1978 TOTAL 830976 MEAN 2277 MAX 30800 MIN 74 MEAN‡ 2277 CFSM‡ 1.99 IN‡ 27.01
WTR YR 1979 TOTAL 1077837 MEAN 2953 MAX 30800 MIN 74 MEAN‡ 2915 CFSM‡ 2.55 IN‡ 34.62

‡ Adjusted for change in contents in Sutton Lake.

03197000 ELK RIVER AT QUEEN SHOALS, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961-1975, 1979.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: November 1960 to April 1975.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 29.0°C on several days in July 1963, 1964, 1968; minimum daily, freezing point on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
NOV										
13...	1240	402	--	--	13.0	24.5	--	--	--	--
JAN										
15...	1310	3620	--	--	-3.0	3.0	--	--	--	--
22...	1205	12800	--	--	2.0	3.0	--	--	--	--
FEB										
26...	1345	7740	--	--	2.0	--	--	--	--	--
APR										
21...	1600	1260	60	7.4	--	15.0	19	12	.0	.0
MAY										
15...	1140	3700	--	--	17.5	15.0	--	--	--	--
JUN										
28...	1330	584	80	6.6	--	22.0	27	12	.0	.0
AUG										
10...	1225	420	90	7.3	35.5	28.0	26	14	.0	.0
SEP										
06...	1600	4470	80	6.7	29.0	24.0	25	12	.0	.0
10...	1600	1700	80	7.4	29.0	22.0	26	10	.0	.0
25...	1415	4740	70	7.2	25.0	20.0	24	7	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
APR											
21...	4.5	1.9	--	--	7	--	14	3.4	43	.06	146
JUN											
28...	6.8	2.5	2.8	.2	15	--	16	3.4	50	.07	78.8
AUG											
10...	6.6	2.2	2.0	.2	12	1.2	13	2.6	50	.07	56.7
SEP											
06...	6.5	2.2	2.3	.2	13	5.1	13	2.3	48	.07	579
10...	6.8	2.2	1.9	.2	15	1.2	14	1.9	46	.06	211
25...	6.5	2.0	1.7	.2	17	2.1	11	1.2	44	.06	563

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
APR									
21...	--	--	--	--	--	210	170	40	--
JUN									
28...	--	--	--	--	--	640	600	40	--
AUG									
10...	--	--	--	--	--	330	260	70	--
SEP									
06...	--	--	--	--	--	1400	--	60	--
10...	0	<10	10	20	20	400	--	60	19000
25...	--	--	--	--	--	910	--	60	--

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR								
21...	--	50	20	30	--	--	--	--
JUN								
28...	--	60	20	40	--	--	--	--
AUG								
10...	--	70	30	40	--	--	--	--
SEP								
06...	--	90	80	8	--	--	--	--
10...	40	60	40	20	1800	.00	0	100
25...	--	100	90	6	--	--	--	--

KANAWHA RIVER BASIN

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03198000 KANAWHA RIVER AT CHARLESTON, WV

LOCATION.--Lat 38°22'10", long 81°42'05", Kanawha County, Hydrologic Unit 05050008, on left bank at old lock 6, 1.0 mi (1.6 km) upstream from Davis Creek, 1.5 mi (2.4 km) downstream from Twomile Creek, 2.0 mi (3.2 km) downstream from Patrick Street Bridge at Charleston, 3.5 mi (5.6 km) downstream from Elk River, and at mile 54.3 (87.4 km).

DRAINAGE AREA.--10,419 mi² (26,985 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1939 to current year. Monthly discharge only September 1939 to February 1940, published in WSP 1305.

REVISED RECORDS.--WSP 1335: 1943.

GAGE.--Water-discharge recorder. Datum of gage is 548.00 (167.030 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Auxiliary water-stage recorder 2.3 mi (3.7 km) upstream from base gage at datum 547.00 ft (166.726 m) Corps of Engineers datum. Prior to Oct. 1, 1955, auxiliary gages at different sites and datum.

REMARKS.--Water-discharge records good above and poor below 10,000 cfs. Since 1939, flow regulated by increasing number of reservoirs upstream from station. Corps of Engineers gage-height telemeters at station.

AVERAGE DISCHARGE.--40 years, 14,900 ft³/s (422.0 m³/s), 19.42 in/yr (493 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 216,000 ft³/s (6,120 m³/s) Aug. 15, 1940; maximum gage height, 39.72 ft (12.107 m) Mar. 7, 1955; minimum discharge, less than 1,030 ft³/s (29.2 m³/s) during period Oct. 1-5, 1953; minimum gage height, 17.12 ft (5.218 m) Feb. 13, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 29, 1861, reached a stage of about 54.3 ft (16.55 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 117,000 ft³/s (3,310 m³/s) Jan. 22; maximum gage height, 31.52 ft (9.607 m) Jan. 22; minimum gage height, 17.48 ft (5.328 m) Oct. 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4970	3800	5640	21500	12900	47000	17900	21700	16200	10100	12700	9460
2	5040	3590	8060	54700	12200	76100	16000	19300	15200	8850	11900	8060
3	4420	3930	8900	78600	10900	80100	15000	17300	15800	8530	12300	6100
4	4690	4190	16600	60400	8640	76900	30000	16200	14500	9190	11000	6290
5	4900	3770	16900	38500	7570	93100	34300	27000	24900	13400	9920	6890
6	4960	3600	21000	27200	6460	97800	33600	32000	20400	12800	6100	20700
7	5000	3200	18900	29000	8790	84800	26500	21100	17500	11300	4760	30100
8	4890	2700	37200	60100	9380	74200	21000	18800	14600	9940	6820	20800
9	4620	2400	91500	60900	8030	58700	21100	16500	8560	7700	6020	13400
10	4620	2700	50900	45700	6940	45700	26100	14100	11800	6910	5640	11500
11	3880	2500	26100	31600	6830	39100	28100	13700	17100	8170	5420	7650
12	4860	2600	16300	23700	5310	34900	25100	18500	23600	9170	7030	7230
13	4340	2400	24900	19400	5420	27800	21700	42200	18900	8570	14800	8390
14	5060	2300	29400	21900	7360	27700	21100	57600	12200	8810	10800	12000
15	5050	2500	24900	19400	9020	25000	23300	52200	8460	9410	8840	8560
16	4760	2900	20600	16300	35400	22200	17100	36700	9590	14200	7700	5390
17	5160	3200	20300	15400	49100	18400	16900	27100	7730	18900	6300	5630
18	4750	3500	17900	16100	45200	16000	17700	19600	9700	16400	5500	6080
19	5110	5010	13300	14000	35500	13600	14300	14900	15200	12200	8670	8040
20	5180	4480	14800	17200	25400	13400	14400	13500	20300	8950	15800	7510
21	5270	3800	24900	54700	25100	14100	12800	11300	16900	8350	14700	8190
22	6040	3800	33600	107000	29900	12700	11700	11200	33300	12400	13100	21700
23	4210	3980	32800	84900	42900	12100	9400	11600	39000	11100	11900	53400
24	4600	5340	24200	74100	68300	20300	9810	12100	30400	14300	9510	61000
25	3850	4070	25900	65600	103000	50200	13100	20200	28300	14400	9320	36100
26	4380	3400	29700	46700	81500	61800	10400	28200	23300	15000	9520	22300
27	3210	3900	28400	36800	57900	52400	12600	28600	16900	30900	10500	15200
28	3810	5600	22400	30700	32700	41200	41900	29400	14400	39100	14200	12100
29	3730	5610	16200	21200	---	29900	41400	27500	12300	26500	15000	19500
30	3300	6360	12600	16700	---	24000	30400	23300	10600	27500	11800	20900
31	4380	---	15200	16000	---	20600	---	17300	---	14900	7000	---
TOTAL	143040	111130	750000	1226000	757650	1311800	635110	720700	527640	427950	304570	480170
MEAN	4614	3704	24190	39550	27060	42320	21170	23250	17590	13800	9825	16010
MAX	6040	6360	91500	107000	103000	97800	41900	57600	39000	39100	15800	61000
MIN	3210	2300	5640	14000	5310	12100	9400	11200	7730	6910	4760	5390
CAL YR 1978	TOTAL	5905830	MEAN	16180	MAX	132000	MIN	2300	CFSM	1.55	IN	21.09
WTR YR 1979	TOTAL	7395760	MEAN	20260	MAX	107000	MIN	2300	CFSM	1.95	IN	26.41

KANAWHA RIVER BASIN

03198000 KANAWHA RIVER AT CHARLESTON, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: March 1953 to August 1970, October 1971 to current year.

INSTRUMENTATION.--Temperature recorder since Mar. 13, 1953.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 35.0°C Aug. 25, 26, 1959; minimum, 0.5°C several days in 1969, 78, 79.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 29.5°C Aug. 10; minimum, 0.5°C Feb. 5-7.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	24.0	23.0	16.5	15.0	12.5	11.0	6.0	5.0	2.0	1.5	5.5	5.0
2	23.0	22.5	16.0	15.0	11.5	10.5	6.0	5.5	1.5	1.0	6.0	5.5
3	23.5	22.0	16.0	15.0	11.0	11.0	6.0	4.5	1.5	1.0	6.0	5.5
4	23.0	21.5	16.0	15.0	11.0	10.0	5.0	4.5	1.5	1.0	5.5	5.5
5	22.5	21.0	15.5	15.0	10.0	9.5	4.5	4.0	1.0	.5	6.5	5.5
6	22.0	20.5	16.0	14.5	10.0	9.5	4.5	4.0	1.5	.5	7.5	6.5
7	21.5	19.5	16.0	15.0	9.5	9.0	4.0	3.5	1.5	.5	7.5	7.5
8	20.5	19.5	15.5	14.5	9.0	9.0	4.5	4.0	2.0	1.0	7.5	7.5
9	20.0	18.5	16.0	14.0	9.5	9.0	4.5	3.5	2.0	1.0	7.5	7.5
10	20.0	18.0	15.5	13.0	9.5	8.5	3.5	3.5	1.5	1.0	8.0	7.5
11	19.5	18.0	16.0	13.0	8.5	7.5	4.0	3.5	2.0	1.0	8.5	8.5
12	20.0	18.0	15.5	14.0	8.0	6.5	3.5	3.5	1.5	1.0	8.5	7.5
13	20.0	18.5	15.5	13.5	7.0	6.0	4.0	3.5	1.5	1.0	8.5	8.0
14	19.5	18.5	16.0	14.0	6.5	6.0	4.0	3.0	2.0	1.0	8.5	8.0
15	19.5	17.5	16.0	14.0	6.5	6.0	3.5	3.5	3.0	1.5	8.5	8.5
16	19.0	17.5	15.5	14.0	7.0	6.5	4.0	3.0	3.0	2.0	8.5	8.0
17	19.0	17.0	15.5	14.0	7.5	7.0	4.0	3.0	2.0	1.5	8.0	8.0
18	18.0	16.5	16.5	14.0	7.5	6.5	3.5	3.0	1.5	1.5	8.5	8.0
19	17.5	16.5	15.0	13.5	8.0	7.0	3.5	3.0	1.5	1.0	9.0	8.5
20	17.0	16.5	15.0	13.5	8.0	6.5	4.0	3.5	2.0	1.0	9.5	9.0
21	17.0	16.0	15.0	13.5	8.0	7.0	4.0	3.5	2.0	1.5	10.5	9.5
22	17.0	16.0	15.0	13.0	7.5	7.0	3.5	3.5	2.5	2.0	11.5	10.5
23	17.0	16.0	14.5	12.5	7.0	6.0	3.5	3.5	3.5	2.5	12.0	11.0
24	16.5	16.0	14.5	12.5	6.5	6.0	4.0	3.5	5.0	3.5	12.0	12.0
25	16.5	15.5	13.0	12.0	6.0	6.0	3.5	3.0	5.0	5.0	12.0	11.0
26	16.5	16.0	13.0	11.5	6.0	5.5	3.0	2.5	5.5	4.0	11.0	9.0
27	16.0	15.5	12.5	11.0	6.0	5.5	3.0	2.5	5.5	5.5	9.0	8.5
28	16.0	15.0	13.0	10.5	6.0	5.0	3.0	2.5	5.5	5.5	8.5	8.5
29	16.0	15.0	11.5	10.5	5.5	5.0	3.0	2.5	---	---	9.5	8.5
30	15.5	15.0	11.5	10.5	5.5	4.5	2.5	3.0	---	---	10.5	9.5
31	16.0	15.0	---	---	5.5	5.0	2.5	2.0	---	---	11.0	10.0
MONTH	24.0	15.0	16.5	10.5	12.5	4.5	6.0	2.0	5.5	.5	12.0	5.0

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

03198500 BIG COAL RIVER AT ASHFORD, WV

LOCATION.--Lat 38°10'45", long 81°42'40", Boone County, Hydrologic Unit 05050009, on left bank at downstream side of highway bridge at Ashford, 300 ft (91 m) upstream from Lick Creek, 1.0 mi (1.6 km) downstream from Brush Creek, 1.8 mi (2.9 km) upstream from Bull Creek, and at mile 29.5 (47.5 km).

DRAINAGE AREA.--393 mi² (1,018 km²).

PERIOD OF RECORD.--June 1908 to September 1916, May 1930 to current year. Published as Coal River at Brushton, June 1908 to September 1916 and as Coal River at Ashford, May 1930 to September 1960.

REVISED RECORDS.--WSP 783: Drainage area. WSP 1305: 1913-14(M). WSP 1335: 1912, 1916(M).

GAGE.--Water-stage recorder. Datum of gage is 622.46 ft (189.726 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 9, 1916, nonrecording gage at site 1.0 mi (1.6 km) upstream at different datum. May 7, 1930, to Feb. 10, 1939, nonrecording gage at present site and datum.

REMARKS.--Records good except those for February, which are fair.

AVERAGE DISCHARGE.--57 years, 517 ft³/s (14.64 m³/s), 17.86 in/yr (454 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 35,800 ft³/s (1,010 m³/s) Aug. 9, 1916, gage height, 36.3 ft (11.06 m), from floodmark, site and datum then in use, or 35.66 ft (10.869 m), from floodmark, present site and datum, from rating curve extended above 25,000 ft³/s (710 m³/s); no flow Sept. 18-21, 24, Oct. 6-12, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 5,500 ft³/s (160 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	1200	*19700	558	22.64	6.901	Jan. 22	0100	13300	377	18.08	5.511
Jan. 2	1430	6060	172	11.07	3.374	Mar. 5	1130	5650	160	10.34	3.152
Jan. 8	0500	8280	234	13.64	4.157						

Minimum daily discharge, 23 ft³/s (0.65 m³/s) Oct. 13.

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	29	133	1270	567	1280	578	683	832	292	299	310
2	39	27	121	4990	450	976	650	567	738	254	264	261
3	38	25	118	3470	400	796	1460	495	661	208	229	334
4	42	25	1790	1540	350	820	3200	622	766	282	184	285
5	39	25	1410	952	300	4970	3310	1140	760	480	161	250
6	40	27	733	754	280	3690	2180	946	606	314	155	342
7	36	30	428	1980	270	1930	1250	760	465	240	134	358
8	31	36	5150	6620	230	1220	940	633	370	198	116	271
9	30	36	16800	3210	200	904	1030	530	318	184	107	222
10	29	32	4790	1640	170	766	1460	450	275	240	100	191
11	27	30	1560	1040	140	868	1240	390	639	258	113	164
12	24	29	850	790	140	814	1000	562	694	215	282	143
13	23	30	611	716	140	738	838	778	440	314	271	125
14	36	32	475	772	160	721	814	1980	322	475	194	152
15	55	38	382	710	250	666	760	1040	258	450	143	167
16	47	50	330	633	4570	573	688	694	215	334	116	137
17	42	62	306	606	3290	525	617	515	219	264	97	119
18	33	64	275	573	1660	495	545	405	254	215	87	105
19	29	64	250	490	1060	465	485	346	525	184	495	100
20	26	62	258	1100	820	430	435	303	880	205	683	94
21	27	58	1460	8620	838	400	395	278	1590	198	743	236
22	27	54	2010	8010	1430	370	366	261	5050	161	525	1550
23	25	52	976	3050	2020	366	358	275	2960	167	1180	1780
24	24	60	699	3070	3560	1340	334	420	1250	455	515	976
25	24	60	1310	3500	5270	3270	314	530	862	271	1080	606
26	26	60	1550	1960	4800	1940	310	650	622	254	832	430
27	33	78	964	1250	3120	1180	1070	778	470	738	1530	338
28	40	112	683	1120	1910	904	1270	2700	370	1030	1290	322
29	42	130	530	886	---	754	1020	2180	310	655	778	435
30	37	115	455	727	---	655	826	1080	299	510	530	420
31	32	---	639	644	---	584	---	784	---	378	390	---
TOTAL	1046	1532	48046	66693	38395	35410	29743	23775	24020	10423	13623	11223
MEAN	33.7	51.1	1550	2151	1371	1142	991	767	801	336	439	374
MAX	55	130	16800	8620	5270	4970	3310	2700	5050	1030	1530	1780
MIN	23	25	118	490	140	366	310	261	215	161	87	94
CFSM	.09	.13	3.94	5.47	3.49	2.91	2.52	1.95	2.04	.86	1.12	.95
IN.	.10	.15	4.55	6.31	3.63	3.35	2.82	2.25	2.27	.99	1.29	1.06
CAL YR 1978	TOTAL	222356	MEAN 609	MAX 18100	MIN 23	CFSM 1.55	IN 21.05					
WTR YR 1979	TOTAL	303929	MEAN 833	MAX 16800	MIN 23	CFSM 2.12	IN 28.77					

KANAWHA RIVER BASIN

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03198550 BIG COAL RIVER NEAR ALUM CREEK, WV

LOCATION.--Lat 38°15'00", long 81°47'54", Kanawha County, Hydrologic Unit 05050009, at Chesapeake & Ohio Railroad bridge at end of Sproul Tunnel, 2.6 mi (4.2 km) south of Alum Creek, and at mile 2.1 (3.4 km).

DRAINAGE AREA.--442 mi² (1,145 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 588.75 ft (179.451 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 14, 1976, nonrecording gage at same site. Prior to Jan. 30, 1976, at datum 0.50 ft (0.152 m) lower and Jan. 30 to Apr. 13, 1976, at same datum.

REMARKS.--Water-discharge records good except those for winter periods, which are fair.

AVERAGE DISCHARGE.--5 years, 725 ft³/s (20.53 m³/s), 22.27 in/yr (566 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 28,600 ft³/s (810 m³/s) Jan. 26, 1978, gage height, 32.24 ft (9.827 m), observed, from rating curve extended above 6,700 ft³/s (190 m³/s); minimum daily, 31 ft³/s (0.88 m³/s) Oct. 11, Nov. 3, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,000 ft³/s (170 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	Unknown	*27100	767	30.84	9.400	Feb. 16	1600	6340	180	13.81	4.209
Jan. 2	1600	8860	251	16.12	4.913	Feb. 25	0500	7800	221	15.18	4.627
Jan. 8	Unknown	11200	317	18.08	5.511	Mar. 5	1500	6730	191	14.18	4.322
Jan. 22	0300	16300	462	22.00	6.706	June 22	1600	8950	253	16.20	4.938

a Estimated

Minimum daily discharge, 31 ft³/s (0.88 m³/s) Oct. 11, Nov. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	35	142	1580	754	1570	742	876	954	340	369	365
2	33	33	155	6370	600	1250	840	733	849	292	303	297
3	35	31	150	3670	450	1020	1720	637	758	238	280	359
4	41	32	1680	1740	400	1130	3360	726	862	252	223	319
5	35	33	1580	1200	350	4850	3310	1560	844	528	190	268
6	41	34	858	954	320	3620	2260	1210	672	381	180	344
7	42	35	572	1790	300	1990	1560	928	518	271	157	397
8	33	35	9050	9200	250	1460	1210	746	430	225	135	297
9	32	38	25000	3500	220	1120	1310	625	365	203	130	241
10	32	36	7000	2000	200	967	1680	532	319	230	114	209
11	31	38	1700	1300	170	1080	1510	465	557	289	123	180
12	35	35	1100	1000	160	1040	1260	614	827	238	277	157
13	35	35	830	889	160	945	1070	766	511	328	309	137
14	34	38	550	1000	180	923	1030	1910	375	521	228	157
15	32	38	480	923	250	871	967	1240	297	572	165	182
16	41	58	410	814	5110	758	876	805	252	417	133	150
17	45	78	360	763	3290	700	784	591	238	316	110	133
18	40	84	320	717	2000	660	705	472	249	257	101	119
19	37	76	300	617	1360	621	629	404	465	214	354	108
20	35	58	306	1330	1040	587	576	353	897	217	788	103
21	33	43	1440	10900	1070	539	525	322	1300	228	862	216
22	34	40	2050	10700	1590	496	482	300	7470	177	637	1670
23	33	51	1220	5600	2180	479	461	306	3680	172	1190	2020
24	32	45	880	5500	4180	1390	434	486	1440	482	610	1210
25	32	45	1530	3700	7150	3120	401	606	972	334	1050	954
26	32	46	1650	2180	5190	2070	410	709	700	331	967	518
27	41	80	1140	1570	3170	1440	1170	889	528	1030	1470	404
28	46	110	818	1410	2020	1140	1540	2850	420	1430	1490	365
29	43	135	645	1140	---	959	1270	2410	353	840	981	461
30	38	142	576	932	---	836	1050	1300	331	621	645	486
31	38	---	801	836	---	758	---	928	---	468	472	---
TOTAL	1136	1617	65293	86025	44114	40389	35142	27299	28433	12442	15043	12826
MEAN	36.6	53.9	2106	2775	1576	1303	1171	881	948	401	485	428
MAX	46	142	25000	10900	7150	4850	3360	2850	7470	1430	1490	2020
MIN	31	31	142	617	160	479	401	300	238	172	101	103
CFSM	.08	.12	4.77	6.28	3.57	2.95	2.65	1.99	2.15	.91	1.10	.97
IN.	.10	.14	5.50	7.24	3.71	3.40	2.96	2.30	2.39	1.05	1.27	1.08
CAL YR 1978	TOTAL	275160	MEAN	754	MAX	25000	MIN	31	CFSM	1.71	IN	23.16
WTR YR 1979	TOTAL	369759	MEAN	1013	MAX	25000	MIN	31	CFSM	2.29	IN	31.12

KANAWHA RIVER BASIN

03198550 BIG COAL RIVER NEAR ALUM CREEK, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: October 1974 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1974 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 806 micromhos Oct. 3, 1975; minimum daily, 70 micromhos Jan. 13, 1979.

WATER TEMPERATURES: Maximum daily, 30.0°C several days during summer periods 1975, 1977, 1978; minimum daily, 0.0°C many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,050 mg/L Jan. 26, 1978; minimum daily mean, 1 mg/L Apr. 30, May 8, 1976.

SEDIMENT LOADS: Maximum daily, 137,000 tons (124,000 tonnes) Jan. 26, 1978; minimum daily, 0.27 ton (0.24 tonne) June 19, 1977.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 496 micromhos Nov. 12; minimum daily, 70 micromhos Jan. 13.

WATER TEMPERATURES: Maximum daily observed, 27.0°C Oct. 1, 4; minimum daily observed, 3.0°C Feb. 2, 9, 19.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,180 mg/L Aug. 25; minimum daily mean, 3 mg/L June 10, Aug. 18.

SEDIMENT LOADS: Maximum daily, 69,500 tons (63,100 tonnes) Dec. 9; minimum daily, 0.43 ton (0.39 tonne) Oct. 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CaCO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CaCO3)
OCT											
04...	1100	38	650	7.7	17.0	17.0	8.3	--	--	--	--
NOV											
09...	1000	38	--	--	13.0	9.0	--	--	--	--	--
APR											
04...	1120	3420	225	7.1	20.0	11.0	10.9	--	--	--	--
MAY											
10...	0845	543	200	7.4	--	20.0	--	90	72	.0	.0
JUN											
07...	1340	497	180	7.2	--	20.0	--	97	78	.0	.0
18...	1400	252	305	7.7	30.0	21.0	8.9	120	82	.0	.0
JUL											
05...	1300	567	290	7.3	--	21.0	--	120	83	.0	.0
19...	1815	202	265	8.1	--	24.5	--	110	71	.0	.0
AUG											
02...	1100	302	260	7.5	26.0	24.0	7.8	110	68	.0	.0
SEP											
10...	1445	202	372	6.8	--	21.0	--	120	82	.0	.0
17...	1530	127	550	8.3	32.5	20.5	--	140	91	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS Ca)	MAGNE- SIUM, DIS- SOLVED (MG/L AS Mg)	SODIUM, DIS- SOLVED (MG/L AS Na)	SODIUM AD- SORP- TION RATIO	ALKA- LINEITY (MG/L AS CaCO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS Cl)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
MAY										
10...	18	11	--	--	18	--	87	4.5	175	.24
JUN										
07...	19	12	--	--	19	--	84	4.4	161	.22
18...	24	14	20	.8	36	--	120	7.0	230	.31
JUL										
05...	23	14	17	.7	32	--	110	5.2	225	.31
19...	22	13	19	.8	37	.6	100	6.8	194	.26
AUG										
02...	22	13	14	.6	40	2.5	92	6.0	199	.27
SEP										
10...	24	15	21	.8	44	12	100	9.5	217	.30
17...	28	17	27	1.0	49	--	140	10	272	.37

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS Cd)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS Cr)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS Co)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS Cu)	IRON, RECOV- ERABLE (UG/L AS Fe)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS Fe)	IRON, DIS- SOLVED (UG/L AS Fe)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS Fe)
MAY										
10...	257	--	--	--	--	--	390	370	20	--
JUN										
07...	216	--	--	--	--	--	490	460	30	--
18...	156	--	--	--	--	--	380	350	30	--
JUL										
05...	344	--	--	--	--	--	2100	2100	30	--
19...	106	--	--	--	--	--	460	430	30	--
AUG										
02...	162	--	--	--	--	--	450	440	10	--
SEP										
10...	118	0	<10	<10	<10	<10	540	--	20	6100
17...	93.3	--	--	--	--	--	400	--	50	--

KANAWHA RIVER BASIN

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03198550 BIG COAL RIVER NEAR ALUM CREEK, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS 7N)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 04...	--	--	--	--	--	--	--	--	13	1.3
APR 04...	--	--	--	--	--	--	--	--	1220	11300
MAY 10...	--	80	30	50	--	--	--	--	--	--
JUN 07...	--	70	10	60	--	--	--	--	--	--
18...	--	60	20	40	--	--	--	--	--	--
JUL 05...	--	100	80	20	--	--	--	--	--	--
19...	--	30	0	40	--	--	--	--	--	--
AUG 02...	--	50	10	40	--	--	--	--	--	--
SEP 10...	<10	90	20	70	220	.00	0	40	--	--
17...	--	60	10	50	--	--	--	--	2	.69

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	287	410	370	200	140	163	186	---	176	255	297	293
2	297	420	363	160	228	177	182	171	181	263	279	304
3	295	430	359	190	161	189	---	---	189	275	331	304
4	390	380	194	180	238	193	134	192	196	273	327	295
5	400	---	161	---	270	109	114	147	190	237	---	322
6	400	---	171	190	249	111	124	151	192	253	---	329
7	380	430	156	320	252	141	140	---	193	370	391	358
8	420	420	182	---	258	163	---	184	230	---	402	---
9	410	445	---	---	265	179	160	176	210	---	417	95
10	440	436	---	---	---	187	154	193	225	---	431	348
11	450	448	160	180	280	189	147	---	253	---	451	336
12	440	496	174	100	---	185	152	---	---	---	435	373
13	430	451	205	70	271	185	161	194	---	---	355	380
14	410	446	---	240	---	181	169	116	198	---	399	379
15	400	451	233	220	---	187	174	134	222	271	421	387
16	380	473	242	110	---	194	176	157	237	265	434	409
17	370	404	244	190	122	193	177	180	211	---	---	383
18	400	402	256	140	135	203	182	198	159	328	449	287
19	400	421	---	150	157	213	186	215	282	368	---	286
20	---	373	---	180	172	216	195	---	171	357	301	---
21	400	430	310	80	181	216	202	---	161	---	248	379
22	400	368	200	---	186	217	217	258	105	343	245	---
23	410	382	190	140	191	223	224	267	115	383	159	---
24	390	361	---	160	---	186	---	237	145	344	222	180
25	420	395	---	140	---	115	241	241	174	288	215	---
26	420	398	200	---	---	155	229	---	189	81	216	---
27	390	407	190	---	128	137	207	197	203	244	209	242
28	420	350	210	---	147	153	148	131	218	222	260	246
29	400	394	200	---	---	164	147	128	231	228	211	254
30	400	410	220	---	---	183	153	146	242	---	279	254
31	400	---	190	---	---	177	---	162	---	---	236	---
MEAN	395	415	224	167	202	177	173	182	196	282	319	309
WTR YR 1979	MEAN	257	MAX	496	MIN	70						

03198550 BIG COAL RIVER NEAR ALUM CREEK, WV--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.0	16.0	7.0	9.0	4.0	6.0	10.0	---	14.0	14.0	---	---
2	26.0	16.0	12.0	9.0	3.0	9.0	9.0	14.0	14.0	14.0	---	---
3	27.0	12.0	12.0	9.0	9.0	10.0	---	---	17.0	15.0	---	23.0
4	19.0	15.0	10.5	9.0	9.0	10.0	9.0	14.5	13.0	15.0	---	22.0
5	19.0	---	12.0	---	3.0	9.0	7.0	13.0	13.0	14.0	---	22.0
6	19.0	---	11.0	8.0	4.0	8.0	8.0	15.0	15.0	15.0	---	21.0
7	15.0	15.0	11.0	8.0	4.0	9.0	8.0	---	17.0	15.0	---	21.0
8	16.0	16.0	13.0	---	4.0	---	---	13.0	14.0	---	---	---
9	15.0	16.0	---	---	3.0	8.0	12.0	---	15.0	---	---	20.0
10	15.0	15.0	---	---	---	8.0	8.0	14.0	14.0	---	---	20.0
11	15.0	15.0	4.5	6.0	---	9.0	9.0	---	14.0	---	---	20.0
12	15.0	15.0	10.0	7.0	---	9.0	9.0	---	---	---	---	21.0
13	15.0	16.0	9.0	8.0	5.0	8.0	9.0	14.0	---	---	---	20.0
14	18.0	15.0	---	8.0	---	9.0	10.0	13.0	15.0	---	---	20.0
15	15.0	15.0	10.0	9.0	---	8.0	10.0	13.0	15.0	14.0	---	20.0
16	15.0	15.0	10.0	9.0	---	9.0	9.0	13.0	15.0	14.0	---	20.0
17	15.0	16.0	9.0	9.0	4.0	9.0	10.0	14.0	15.0	---	---	20.0
18	18.0	15.0	10.0	8.0	3.0	8.0	12.0	13.0	14.0	---	---	20.0
19	16.0	15.0	---	6.0	3.0	9.0	15.0	14.0	15.0	---	---	20.0
20	---	14.0	---	6.0	5.0	10.0	17.0	---	14.0	---	---	---
21	16.0	16.0	9.0	7.0	4.0	9.0	16.0	---	14.0	---	---	20.0
22	15.0	14.0	9.0	---	9.0	10.0	15.0	15.0	14.0	---	---	---
23	16.0	13.0	8.0	7.0	9.0	10.0	14.0	13.0	13.0	---	---	---
24	19.0	16.0	---	8.0	---	6.0	---	10.0	12.0	---	---	19.0
25	16.0	10.0	---	4.5	---	5.0	16.0	13.0	13.0	---	---	---
26	15.0	11.0	8.0	---	---	8.0	14.0	---	14.0	---	---	---
27	10.0	10.0	9.0	---	9.0	8.0	14.0	13.0	15.0	---	---	18.0
28	14.0	14.0	8.0	---	4.0	11.0	14.0	13.0	14.0	---	---	19.0
29	15.0	16.0	8.0	---	---	9.0	15.0	14.0	14.0	---	---	19.0
30	15.0	16.0	9.0	---	---	10.0	13.0	13.0	15.0	---	---	18.0
31	16.0	---	9.0	---	---	10.0	---	14.0	---	---	---	---
MEAN	17.0	14.5	9.5	7.5	5.0	8.5	11.5	13.5	14.5	14.5	---	20.0
WTR YR 1979	MEAN	12.5	MAX	27.0	MIN	3.0						

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12	1.5	12	1.1	28	11	238	1080	23	47	120	509
2	11	.98	10	.89	27	11	514	8020	34	55	98	331
3	9	.85	23	1.9	31	13	93	972	67	81	108	297
4	14	1.5	28	2.4	633	3990	88	413	37	40	115	351
5	13	1.2	27	2.4	477	2220	82	266	16	15	1160	17700
6	11	1.2	25	2.3	182	422	74	191	14	12	325	3180
7	7	.79	25	2.4	129	199	123	594	18	15	147	790
8	5	.45	23	2.2	738	19500	385	9560	23	16	100	394
9	5	.43	26	2.7	1030	69500	190	1800	32	19	186	562
10	9	.78	8	.78	550	10400	130	702	33	18	157	410
11	12	1.0	6	.62	440	2020	182	639	33	15	134	391
12	12	1.1	17	1.6	360	1070	244	659	30	13	95	267
13	10	.95	17	1.6	295	661	402	959	33	14	44	112
14	7	.64	28	2.9	114	169	28	76	45	22	40	100
15	13	1.1	30	3.1	42	54	45	112	50	34	55	129
16	13	1.4	30	5.4	24	27	16	35	1040	15900	47	96
17	12	1.5	12	2.5	17	17	34	70	540	4800	72	136
18	10	1.1	14	3.2	17	15	13	25	98	529	54	96
19	11	1.1	16	3.3	11	8.9	7	12	83	305	34	57
20	12	1.1	10	1.6	13	11	166	596	84	236	31	49
21	10	.89	9	1.0	217	884	1050	30900	88	254	23	33
22	13	1.2	9	.97	107	592	850	24600	137	588	25	33
23	12	1.1	10	1.4	63	208	270	4080	170	1000	16	21
24	9	.78	10	1.2	44	105	330	4900	532	7920	247	1300
25	7	.60	11	1.3	177	845	200	2000	1100	21200	435	3670
26	7	.60	14	1.7	178	793	270	1590	820	11500	167	933
27	8	.89	20	4.3	87	268	117	496	534	4570	122	474
28	12	1.5	30	8.9	32	71	70	266	196	1070	121	372
29	19	2.2	40	15	17	30	49	151	---	---	69	179
30	19	1.9	25	9.6	17	26	37	93	---	---	25	56
31	17	1.7	---	---	42	91	27	61	---	---	31	63
TOTAL	---	34.03	---	90.26	---	114231.9	---	95918	---	70288	---	33091

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SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)	
	LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)	
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	34	68	43	102	157	404	35	32	21	21	31	31
2	38	86	27	53	72	165	17	13	14	11	17	14
3	410	1900	26	45	42	86	5	3.2	19	14	57	55
4	875	7940	38	74	48	112	11	7.5	30	18	49	42
5	520	4650	93	392	52	118	175	245	26	13	23	17
6	177	1080	220	715	41	74	123	127	18	8.7	57	53
7	106	446	153	383	13	18	27	20	12	5.1	42	45
8	97	317	134	270	8	9.3	27	16	16	5.8	27	22
9	190	672	56	94	5	4.9	27	15	14	4.9	13	8.5
10	165	748	26	37	3	2.6	32	20	6	1.8	7	4.0
11	68	277	32	40	98	237	42	33	7	2.3	5	2.4
12	67	228	118	196	94	210	22	14	105	96	4	1.7
13	67	194	152	314	33	46	27	24	114	95	5	1.8
14	50	139	364	1910	16	16	138	194	23	14	17	7.2
15	68	178	154	516	10	8.0	205	333	9	4.0	23	11
16	49	116	75	163	10	6.8	74	83	7	2.5	15	6.1
17	27	57	37	59	5	3.2	64	55	5	1.5	7	2.5
18	12	23	17	22	13	8.7	78	54	3	.82	5	1.6
19	12	20	9	9.8	83	104	26	15	143	137	6	1.7
20	12	19	8	7.6	389	983	33	19	262	559	7	1.9
21	10	14	5	4.3	382	1970	48	30	184	428	35	20
22	6	7.8	5	4.1	703	14000	56	27	150	258	347	1700
23	4	5.0	17	14	404	4010	40	19	729	2520	546	3060
24	5	5.9	52	68	193	750	154	216	250	412	225	735
25	5	5.4	116	190	115	302	173	156	1180	3640	70	180
26	14	15	76	145	62	117	204	182	350	914	42	59
27	520	1640	97	233	35	50	205	557	610	2420	26	28
28	235	977	455	3500	15	17	51	197	410	1650	28	28
29	87	298	225	1460	12	11	67	152	93	246	57	71
30	60	170	132	463	12	11	32	54	33	57	18	24
31	---	---	93	233	---	---	24	30	48	61	---	---
TOTAL	---	22296.1	---	11720.8	---	23854.5	---	2942.7	---	13621.42	---	6234.4
TOTAL LOAD FOR YEAR:		394323.11	TONS.									

KANAWHA RIVER BASIN

03199000 LITTLE COAL RIVER AT DANVILLE, WV

LOCATION.--Lat 38°04'47", long 81°50'12", Boone County, Hydrologic Unit 05050009, on right bank at upstream side of highway bridge at Danville, 900 ft (274 m) upstream from Turtle Creek, 2.3 mi (3.7 km) downstream from confluence of Pond and Spruce Forks, and at mile 24.7 (39.7 km).

DRAINAGE AREA.--270 mi² (699 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1930 to current year. Prior to October 1941, published as "at Madison."

REVISED RECORDS.--WSP 1725: 1951(M), 1955(M).

GAGE.--Water-stage recorder. Datum of gage is 661.09 ft (201.500 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1941, nonrecording gage at site 1.5 mi (2.4 km) upstream at datum 6.80 ft (2.073 m) higher.

REMARKS.--Water-discharge records fair.

AVERAGE DISCHARGE.--49 years, 355 ft³/s (10.05 m³/s), 17.86 in/yr (454 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,800 ft³/s (1,210 m³/s) Feb. 3, 1939, gage height, 30.2 ft (9.20 m), from floodmarks, present site and datum, from rating curve extended above 12,000 ft³/s (340 m³/s) on basis of slope-area measurement of peak flow; no flow at times July to October 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 4,500 ft³/s (130 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Dec. 9	0930	*19800	561	24.52	7.474	May 28	1300	4590	130	11.15	3.399
Jan. 2	0930	4940	140	11.74	3.578	June 22	0900	14000	396	21.25	6.477
Jan. 8	0300	5200	147	12.14	3.700	June 23	0215	5590	158	12.70	3.871
Jan. 21	2115	6700	190	14.12	4.304						

Minimum daily discharge, 15 ft³/s (0.42 m³/s) Oct. 11.

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31	18	40	942	447	851	475	360	726	299	284	284
2	29	20	35	3590	350	664	642	326	691	249	265	239
3	26	20	48	1500	280	568	1940	310	647	208	217	342
4	24	20	1250	855	230	638	2080	376	679	338	182	246
5	23	19	592	631	200	2360	1540	698	582	608	158	206
6	21	18	333	543	190	1620	1080	619	461	356	152	290
7	20	20	267	1680	170	1050	764	507	360	264	130	216
8	19	23	4870	3730	150	790	631	422	301	213	120	174
9	18	25	14500	1410	130	620	822	353	259	224	122	154
10	16	22	2030	902	110	602	996	307	229	232	106	134
11	15	18	861	663	90	670	840	273	409	188	135	123
12	16	17	571	554	90	614	686	291	309	178	512	111
13	19	18	440	536	90	563	596	433	244	224	287	106
14	32	20	340	541	110	554	592	460	203	218	179	137
15	41	25	300	474	150	499	539	353	174	1280	141	144
16	32	33	250	449	2700	445	486	284	154	664	116	105
17	25	43	210	443	1400	416	438	237	190	676	104	94
18	22	33	186	403	903	393	396	205	167	398	96	90
19	20	28	178	359	665	371	361	185	522	280	548	87
20	18	25	199	1180	546	344	332	168	551	275	806	80
21	17	23	960	5520	591	316	307	163	2440	228	626	214
22	17	22	862	3230	754	290	287	149	7870	193	417	1630
23	19	22	583	1400	958	295	274	193	3490	172	831	1270
24	19	22	492	2020	2380	1560	247	453	1400	256	467	756
25	16	22	661	2250	3170	1780	230	635	895	181	958	498
26	18	25	624	1230	2590	1090	256	840	639	420	696	353
27	23	44	525	891	1590	776	423	773	494	1130	2430	275
28	28	51	424	846	1110	629	445	3170	389	941	1220	278
29	25	38	359	660	---	547	427	1640	321	626	722	300
30	24	39	340	564	---	485	397	818	323	493	486	246
31	21	---	585	509	---	444	---	619	---	366	358	---
TOTAL	694	773	33915	40505	22144	22844	19529	16620	26119	12378	13871	9182
MEAN	22.4	25.8	1094	1307	791	737	651	536	871	399	447	306
MAX	41	51	14500	5520	3170	2360	2080	3170	7870	1280	2430	1630
MIN	15	17	35	359	90	290	230	149	154	172	96	80
CFSM	.08	.10	4.05	4.84	2.93	2.73	2.41	1.99	3.23	1.48	1.66	1.13
IN.	.10	.11	4.67	5.58	3.05	3.15	2.69	2.29	3.60	1.71	1.91	1.27
CAL YR 1978	TOTAL	142688	MEAN 391	MAX 14500	MIN 15	CFSM 1.45	IN 19.66					
WTR YR 1979	TOTAL	218574	MEAN 599	MAX 14500	MIN 15	CFSM 2.22	IN 30.11					

KANAWHA RIVER BASIN

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03199000 LITTLE COAL RIVER AT DANVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: August 1973 to current year.

WATER TEMPERATURES: July 1973 to current year.

SUSPENDED-SEDIMENT DISCHARGE: August 1973 to current year.

INSTRUMENTATION.--Temperature recorder since July 31, 1973.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,690 micromhos Oct. 18, 1973; minimum daily, 75 micromhos June 22, 1979.

WATER TEMPERATURES: Maximum, 34.5°C July 18, 19, 1977; minimum, 0.0°C Jan. 14-18, 1975.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,230 mg/L Nov. 27, 1973; minimum daily mean, 0 mg/L several days in 1974, 1979.

SEDIMENT LOADS: Maximum daily, 110,000 tons (99,800 tonnes) Jan. 26, 1978; minimum daily, 0 ton (0 tonne) several days in 1974, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 926 micromhos Sept. 21; minimum daily, 75 micromhos June 22.

WATER TEMPERATURES: Maximum, 28.0°C Aug. 8-10, minimum, 1.0°C on several days in December, January, and February.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,550 mg/L July 15; minimum daily mean, 0 mg/L Nov. 13, 29, 30, Dec. 1, 2.

SEDIMENT LOADS: Maximum daily, 46,000 tons (41,700 tonnes) Dec. 9; minimum daily, 0 ton (0 tonne) Nov. 13, 29, 30, Dec. 1, 2.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	720	750	613	190	326	240	305	295	303	375	468	459
2	750	750	612	106	351	262	265	312	275	401	---	511
3	800	780	600	---	347	279	214	329	291	414	---	386
4	700	680	283	182	357	291	135	337	289	463	608	519
5	800	820	206	218	393	142	152	243	289	254	663	546
6	800	830	244	247	---	165	180	207	321	291	696	579
7	840	820	290	252	---	207	214	233	369	348	747	508
8	800	770	123	104	---	240	245	259	417	393	798	587
9	810	760	138	156	419	267	252	287	460	412	815	641
10	860	820	156	202	428	295	206	317	498	421	850	649
11	840	830	189	238	---	288	207	349	507	424	855	697
12	800	850	239	257	395	270	225	353	394	452	501	734
13	860	820	266	278	377	273	247	355	460	442	404	785
14	800	830	283	278	363	278	261	254	521	431	508	717
15	800	800	302	276	129	283	264	296	570	196	615	---
16	520	790	320	286	143	299	277	339	616	199	715	---
17	650	840	328	291	221	310	287	383	635	204	778	---
18	660	710	347	298	---	324	305	422	645	256	849	---
19	700	650	361	309	255	336	326	451	529	316	699	864
20	730	650	369	253	272	351	337	472	235	550	323	888
21	740	690	302	124	248	358	356	491	238	535	289	926
22	780	710	159	178	216	369	358	508	75	606	352	248
23	800	740	186	209	176	382	377	514	108	---	232	212
24	800	740	215	142	150	278	387	410	168	675	320	240
25	850	750	228	190	131	142	390	241	213	542	334	298
26	820	750	203	227	138	169	380	227	251	640	277	363
27	750	641	211	245	205	203	340	193	292	269	---	421
28	760	648	233	258	209	232	277	140	330	273	203	468
29	800	610	261	265	---	259	290	126	360	300	266	486
30	740	620	282	290	---	278	293	177	385	368	336	480
31	760	---	265	308	---	297	---	288	---	406	393	---
MEAN	769	748	284	229	272	270	278	316	368	395	532	547
WTR YR 1979	MEAN	418		MAX	926		MIN	75				

03199000 LITTLE COAL RIVER AT DANVILLE, WV--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.0	17.0	14.5	10.5	7.5	6.0	8.0	6.0	2.5	2.0	8.0	7.0
2	17.0	16.0	14.5	11.0	7.5	5.5	8.0	5.5	2.0	1.5	10.0	8.0
3	19.5	15.0	14.0	9.5	8.5	6.5	5.5	3.0	1.5	1.5	10.0	8.5
4	19.5	16.0	13.5	10.0	10.5	8.5	3.0	1.0	3.5	1.5	11.0	10.0
5	18.5	14.5	14.5	10.0	10.5	8.0	1.5	1.0	3.5	1.5	11.5	9.5
6	16.0	14.5	12.5	9.5	8.0	6.5	2.0	1.0	1.5	1.0	9.5	8.0
7	14.5	13.0	11.0	10.5	6.5	6.0	4.0	2.0	1.0	1.0	9.0	6.5
8	14.5	11.5	11.0	10.0	11.5	6.5	4.5	3.5	2.5	1.0	9.0	8.0
9	15.5	9.5	11.0	9.0	11.5	8.5	4.0	2.0	2.5	1.5	10.5	8.5
10	16.0	10.0	12.5	9.0	8.5	7.0	2.5	2.0	1.5	1.0	10.5	8.5
11	16.0	11.0	13.0	10.0	7.0	5.0	2.5	2.0	1.0	1.0	8.5	5.5
12	18.0	14.0	11.5	11.0	5.5	5.0	2.5	2.0	1.0	1.0	7.5	5.0
13	17.0	15.0	14.5	11.5	5.5	5.0	4.5	2.5	1.0	1.0	8.5	6.5
14	16.0	14.0	14.5	12.0	5.0	5.0	4.0	3.5	2.0	1.0	9.5	8.0
15	14.0	12.0	14.5	13.0	5.0	4.0	4.0	1.5	4.0	2.0	8.0	5.5
16	12.5	10.0	13.0	12.5	5.0	4.0	2.5	1.5	4.5	4.0	6.5	4.5
17	12.5	10.5	14.0	12.0	6.0	5.0	4.0	2.5	4.5	3.5	9.0	6.5
18	14.0	9.0	14.0	12.0	5.5	4.5	4.5	3.5	3.5	1.5	9.5	8.5
19	13.5	10.5	12.0	11.0	5.0	4.5	3.5	1.5	3.0	1.5	11.5	9.0
20	15.5	11.0	11.0	9.0	8.0	5.0	5.0	1.5	3.0	1.5	14.5	11.5
21	15.5	10.5	10.0	8.5	8.0	6.5	6.0	5.0	5.5	3.0	15.0	12.5
22	16.0	11.0	10.5	8.5	6.5	5.0	5.5	5.0	7.5	5.5	14.5	12.0
23	15.5	12.0	10.5	10.0	5.0	4.5	5.0	4.0	9.5	7.5	14.0	13.0
24	17.0	12.0	11.0	10.5	4.5	4.5	5.0	4.0	9.5	8.0	13.0	10.0
25	16.0	10.0	10.5	8.0	5.5	4.5	5.5	4.0	8.0	7.5	10.0	8.5
26	14.5	14.0	8.0	6.5	5.0	4.5	4.5	4.0	7.5	7.5	8.5	6.5
27	16.0	12.5	9.0	7.0	4.5	3.5	4.5	4.0	7.5	5.0	7.0	6.5
28	14.0	10.5	8.5	7.5	3.5	1.5	5.0	3.5	7.0	5.0	11.0	7.0
29	13.5	9.5	7.5	6.0	1.5	1.0	3.5	3.0	---	---	13.0	11.0
30	14.0	10.0	7.5	6.5	3.5	1.5	3.0	3.0	---	---	13.5	12.5
31	14.5	10.0	---	---	6.5	2.5	3.0	2.5	---	---	13.5	13.0
MONTH	19.5	9.0	14.5	6.0	11.5	1.0	8.0	1.0	9.5	1.0	15.0	4.5
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	14.0	13.5	16.0	13.0	16.0	16.0	20.5	18.0	25.0	22.5	24.0	22.0
2	14.0	13.5	17.0	13.5	17.5	16.0	22.5	18.5	25.0	23.0	24.0	22.0
3	14.0	11.0	17.0	16.5	17.5	16.5	23.5	19.5	24.5	22.5	23.5	22.0
4	12.0	10.5	17.0	15.5	17.5	15.5	22.5	20.0	25.5	22.5	25.0	21.5
5	12.0	10.0	15.5	12.5	18.0	17.0	20.0	17.5	26.0	23.0	23.5	23.0
6	11.0	9.0	15.5	12.0	19.5	17.5	20.5	17.5	26.0	23.0	24.0	22.5
7	10.5	7.5	17.5	14.5	20.5	19.0	22.0	18.0	27.0	24.0	25.0	23.0
8	12.0	9.0	19.0	17.0	21.0	19.5	21.5	19.0	28.0	24.5	24.0	21.5
9	13.0	10.0	19.5	18.0	21.5	19.5	21.0	20.0	28.0	24.0	22.5	19.5
10	11.0	9.0	21.0	18.0	23.5	20.5	20.0	19.0	28.0	25.0	22.5	19.0
11	12.5	9.0	22.0	19.5	23.0	20.0	23.0	19.5	26.5	23.5	23.5	20.0
12	13.5	12.5	22.5	20.5	20.5	17.5	25.0	21.5	23.5	20.5	25.0	21.5
13	14.0	13.5	22.0	16.5	20.5	17.5	24.0	22.5	21.5	19.5	24.0	22.0
14	15.0	13.0	17.0	14.5	23.0	18.0	23.5	21.5	23.0	20.0	23.0	22.0
15	14.5	13.0	17.0	16.0	24.0	19.0	23.0	19.5	23.5	20.5	22.0	20.0
16	13.0	11.5	18.5	15.5	23.0	19.5	21.5	19.5	23.5	19.5	21.5	18.5
17	13.0	11.0	19.0	15.0	21.0	19.5	21.0	20.0	24.0	19.0	22.5	19.0
18	14.0	11.0	19.5	15.0	22.0	19.0	21.5	20.5	23.5	20.5	22.5	19.0
19	15.0	12.0	20.0	15.0	22.0	19.5	23.0	20.5	23.0	21.5	22.5	20.0
20	16.0	12.5	21.0	17.0	20.5	19.0	22.5	21.5	21.5	20.5	21.5	18.5
21	16.5	14.0	21.5	19.0	20.5	16.0	22.0	20.5	21.0	20.5	21.0	19.5
22	16.5	15.5	20.5	18.5	16.0	14.5	23.5	21.0	22.0	20.5	19.5	18.0
23	16.0	15.5	19.5	18.0	17.5	15.5	25.5	21.5	22.0	20.0	19.0	17.5
24	18.0	15.5	18.5	16.5	17.5	15.0	25.5	22.5	22.5	20.5	17.5	16.5
25	21.0	17.0	16.5	13.0	16.5	13.5	24.5	23.5	22.5	20.0	18.0	17.0
26	19.5	17.5	13.0	11.0	17.5	16.0	24.5	21.5	21.0	20.0	19.0	17.5
27	17.5	14.5	13.5	13.0	19.0	17.0	21.5	20.0	21.0	19.5	19.0	18.5
28	14.5	12.0	13.5	13.0	20.5	18.0	20.5	19.5	19.5	19.5	19.0	18.0
29	14.0	11.0	15.5	12.5	20.0	19.5	21.0	20.5	21.5	19.5	19.5	19.0
30	14.5	12.5	15.5	13.5	19.5	18.5	22.0	20.0	22.0	21.5	20.0	19.0
31	---	---	16.5	15.5	---	---	24.0	22.0	23.0	21.5	---	---
MONTH	21.0	7.5	22.5	11.0	24.0	13.5	25.5	17.5	28.0	19.0	25.0	16.5
YEAR	28.0	1.0										

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)		MEAN CONCEN- TRATION (MG/L)	
	LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)	
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	27	35	14	14	184	361	38	31	30	23	58	44
2	111	192	9	7.9	72	134	23	15	80	57	30	19
3	345	2370	3	2.5	80	140	20	11	50	29	249	243
4	280	1570	60	61	88	161	115	105	15	7.4	44	29
5	237	985	235	443	48	75	745	1300	20	8.5	92	51
6	171	499	104	174	30	37	115	111	40	16	119	93
7	332	685	53	73	23	22	28	20	23	8.1	25	15
8	240	409	84	96	22	18	20	12	14	4.5	20	9.4
9	182	404	18	17	13	9.1	23	14	12	4.0	15	6.2
10	205	551	12	9.9	11	6.8	22	14	18	5.2	15	5.4
11	129	293	13	9.6	87	105	15	7.6	38	14	19	6.3
12	124	230	42	33	85	71	35	17	380	525	14	4.2
13	123	198	107	125	31	20	90	54	64	50	15	4.3
14	91	145	132	164	14	7.7	50	29	20	9.7	166	59
15	57	83	40	38	11	5.2	1550	7370	15	5.7	27	10
16	31	41	17	13	9	3.7	700	1250	10	3.1	16	4.5
17	14	17	12	7.7	58	30	360	657	5	1.4	14	3.6
18	11	12	8	4.4	33	15	90	97	5	1.3	10	2.4
19	14	14	11	5.5	475	697	45	34	237	351	8	1.9
20	12	11	3	1.4	279	415	50	37	530	1150	6	1.3
21	13	11	9	4.0	662	4920	40	25	250	423	259	416
22	8	6.2	8	3.2	1250	32400	15	7.8	110	124	1080	4900
23	3	2.2	54	28	820	7730	28	13	280	628	267	916
24	3	2.0	231	283	440	1660	68	47	150	189	170	347
25	4	2.5	377	646	170	411	120	59	368	952	82	110
26	21	15	242	549	120	207	520	590	250	470	52	50
27	40	46	285	595	53	71	430	1310	488	3200	47	35
28	30	36	705	6550	23	24	470	1190	190	626	41	31
29	27	31	240	1060	34	29	150	254	230	448	71	58
30	21	23	135	298	31	27	38	51	140	184	30	20
31	---	---	58	97	---	---	42	42	50	48	---	---
TOTAL	---	8918.9	---	11413.1	---	49812.5	---	14774.4	---	9565.9	---	7495.5

TOTAL LOAD FOR YEAR: 265931.57 TONS.

KANAWHA RIVER BASIN

03199300 ROCK CREEK NEAR DANVILLE, WV

LOCATION.--Lat 38°06'01, long 81°49'48", Boone County, Hydrologic Unit 05050009, 1.5 mi (2.4 km) north of Danville and at mile 1.15 (1.9 km), 0.6 mi (1.0 km) north of intersection of U.S. Route 119 and State Route 3.

DRAINAGE AREA.--12.2 mi² (31.6 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1978 to September 1979.

GAGE.--Water-stage recorder. Datum of gage is 675.47 ft (205.88 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water discharge records good except for period January to May, which are fair.

EXTREMES FOR PERIOD DECEMBER 1978 TO SEPTEMBER 1979.--Maximum discharge 599 ft³/s (17.0 m³/s) Dec. 9, gage height, 8.59 ft (2.618 m), no peak above base of 400 ft³/s (11 m³/s); minimum daily, 1.5 ft³/s (0.042 m³/s) June 16, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	88	14	35	21	18	16	5.0	10	6.4
2			---	316	13	26	41	16	17	3.8	8.6	5.4
3			---	140	11	23	154	15	16	2.9	6.8	17
4			---	50	10	24	104	25	14	23	5.4	15
5			---	25	9.0	50	69	38	11	8.9	4.4	18
6			---	22	9.0	46	45	27	8.7	6.4	4.8	17
7			---	169	10	34	32	23	7.0	4.8	3.4	12
8			383	263	9.0	26	25	18	5.8	3.9	2.9	8.1
9			459	100	8.0	20	40	15	5.0	4.6	2.6	6.1
10			154	40	7.5	21	50	13	4.3	4.1	2.6	5.1
11			46	26	7.0	32	38	11	4.4	3.4	6.8	3.8
12			26	22	6.8	24	30	9.9	3.4	23	12	3.1
13			19	21	6.6	21	25	10	2.7	10	7.3	2.6
14			14	26	14	24	25	8.9	2.4	8.7	5.4	6.4
15			12	23	117	20	23	8.1	1.9	139	4.1	4.4
16			9.0	20	260	18	20	7.2	1.5	58	3.1	3.1
17			7.4	18	95	17	17	6.4	2.2	30	2.4	2.4
18			5.8	16	41	15	14	6.0	1.7	18	2.2	2.0
19			5.8	14	28	14	12	5.6	2.6	13	47	2.2
20			7.4	146	25	14	11	5.4	1.5	10	54	1.8
21			39	370	30	13	10	5.2	26	8.1	47	25
22			35	194	36	12	8.9	5.0	40	6.4	21	102
23			26	76	40	18	8.1	23	25	6.1	15	105
24			24	180	180	107	7.5	16	18	18	11	44
25			31	154	234	97	8.1	15	14	9.8	9.8	24
26			29	50	206	63	10	21	9.9	17	11	16
27			23	36	111	45	20	23	7.4	75	26	12
28			19	29	51	35	22	63	6.0	79	23	11
29			16	23	---	28	21	27	5.0	37	18	9.0
30			15	20	---	23	20	17	5.0	23	12	7.3
31			35	17	---	20	---	14	---	16	8.6	---
TOTAL	---	---	---	2694	1588.9	965	931.6	515.7	285.4	675.9	398.2	497.2
MEAN	---	---	---	86.9	56.7	31.1	31.1	16.6	9.51	21.8	12.8	16.6
MAX	---	---	---	370	260	107	154	63	40	139	54	105
MIN	---	---	---	14	6.6	12	7.5	5.0	1.5	2.9	2.2	1.8
CFSM	---	---	---	7.12	4.65	2.55	2.55	1.36	1.78	1.79	1.05	1.36
IN.	---	---	---	8.21	4.84	2.94	2.84	1.57	.87	2.06	1.21	1.52

KANAWHA RIVER BASIN

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03199300 ROCK CREEK NEAR DANVILLE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--December 1978 to September 1979.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May to September 1979.

WATER TEMPERATURE: May to September 1979.

SUSPENDED-SEDIMENT DISCHARGE: May to September 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily observed, 196 micromhos Aug. 18; minimum daily observed, 60 micromhos June 3.

WATER TEMPERATURES: Maximum daily observed, 27.0°C Aug. 8; minimum daily observed, 14.0°C May 25.

SEDIMENT CONCENTRATIONS: Maximum daily observed, 399 mg/L July 15; minimum daily observed, 2 mg/L June 29.

SEDIMENT LOADS: Maximum daily observed, 181 tons (164 tonnes) July 15; minimum daily observed, 0.02 tons (0.02 tonnes) Sept. 20.

ANALYSES OF MISCELLANEOUS STATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
03199300 - ROCK CREEK NEAR DANVILLE WV (LAT 38 06 01 LONG 081 49 48)								
DEC , 1978								
04...	1315	4.3	89	--	11.0	--	118	1.4
08...	1115	312	70	--	--	--	25	21
08...	1220	257	75	6.9	12.0	10.8	430	298
08...	1300	231	81	--	--	--	461	288
09...	1100	468	63	--	--	--	606	766
09...	1620	395	67	--	--	--	311	332
11...	1325	46	94	--	5.0	--	24	3.0
18...	1430	5.8	128	--	4.5	--	11	.17
20...	1000	6.8	132	--	--	--	13	.24
21...	1205	45	88	--	--	--	48	5.8
JAN , 1979								
26...	1235	52	6	--	3.0	--	0	.00
26...	1330	49	75	7.0	3.0	13.6	19	2.5
29...	1440	23	120	7.2	2.0	13.9	5	.31
FER								
28...	1000	52	81	7.5	3.5	13.9	15	2.1
APR								
05...	0945	68	80	7.1	8.0	11.8	24	4.5
16...	1210	20	79	7.6	10.5	11.2	5	.27
MAY								
03...	1130	15	94	7.5	14.5	--	0	.00
10...	1225	13	90	7.6	19.0	9.8	0	.00
JUN								
20...	1555	1.7	170	7.8	25.5	8.7	4	.02
SEP								
18...	1145	2.0	195	7.7	19.0	--	5	.03

KANAWHA RIVER BASIN

03199300 ROCK CREEK NEAR DANVILLE--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	70	134	141	---
2								---	70	130	141	---
3								---	60	142	159	---
4								---	90	---	160	---
5								---	90	137	159	---
6								---	110	140	174	---
7								---	110	139	176	---
8								---	110	142	175	---
9								---	110	79	146	---
10								---	110	153	150	---
11								---	159	162	147	---
12								---	143	164	146	---
13								---	142	140	187	---
14								---	143	122	177	---
15								---	142	70	174	---
16								---	122	92	139	---
17								---	122	77	193	---
18								125	102	106	196	195
19								121	101	118	121	193
20								126	163	130	120	---
21								132	96	130	127	---
22								133	82	137	150	---
23								128	99	139	151	---
24								94	105	123	151	---
25								93	112	124	153	---
26								78	129	89	---	---
27								81	130	87	---	128
28								63	145	87	---	127
29								71	146	100	---	134
30								81	149	100	---	136
31								87	---	143	---	---
MEAN								101	115	121	157	152
WTR YR 1979	MEAN		127	MAX	196	MIN	60					

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	18.0	19.0	22.0	---
2								---	18.0	21.0	22.0	---
3								---	16.0	21.0	26.0	---
4								---	18.0	---	25.0	---
5								---	18.0	21.0	26.0	---
6								---	20.0	17.0	26.0	---
7								---	20.0	17.0	25.0	---
8								---	22.0	20.0	27.0	---
9								---	21.0	20.0	26.0	---
10								---	19.0	20.0	25.0	---
11								---	19.0	25.0	23.0	---
12								---	18.0	25.0	21.0	---
13								---	16.0	20.0	22.0	---
14								---	20.0	21.0	23.0	---
15								---	20.0	20.0	23.0	---
16								---	21.0	23.0	25.0	---
17								---	---	21.0	26.0	---
18								19.0	---	21.0	26.0	---
19								21.0	19.0	22.0	21.0	---
20								24.0	---	24.0	21.0	---
21								21.0	21.0	24.0	22.0	---
22								18.0	18.0	20.0	24.0	---
23								19.0	22.0	20.0	24.0	---
24								19.0	17.0	25.0	23.0	---
25								14.0	18.0	25.0	24.0	---
26								17.0	17.0	22.0	---	---
27								18.0	21.0	23.0	---	17.0
28								18.0	21.0	22.0	---	17.0
29								15.0	21.0	21.0	---	19.0
30								21.0	20.0	21.0	---	20.0
31								21.0	---	21.0	---	---
MEAN								19.0	19.0	21.5	24.0	18.5
WTR YR 1979	MEAN		21.0	MAX	27.0	MIN	14.0					

KANAWHA RIVER BASIN

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03199300 ROCK CREEK NEAR DANVILLE--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1			---	---	27	1.2	20	.27	7	.19	20	.35
2			---	---	30	1.4	19	.19	7	.16	17	.25
3			---	---	26	1.1	18	.14	4	.07	56	2.6
4			---	---	12	.45	179	11	3	.04	40	1.6
5			---	---	7	.21	23	.55	3	.04	57	2.8
6			---	---	6	.14	5	.09	11	.14	43	2.0
7			---	---	7	.13	5	.06	22	.20	28	.91
8			---	---	9	.14	7	.07	56	.44	18	.39
9			---	---	12	.16	8	.10	41	.29	12	.20
10			---	---	33	.38	5	.06	35	.25	7	.10
11			---	---	12	.14	4	.04	35	.64	6	.06
12			---	---	11	.10	17	1.1	32	1.0	5	.04
13			---	---	10	.07	81	2.5	21	.41	8	.06
14			---	---	12	.08	45	1.1	69	1.0	32	.55
15			---	---	15	.08	399	181	14	.15	7	.08
16			---	---	16	.06	54	8.5	5	.04	8	.07
17			---	---	20	.12	51	4.1	7	.05	8	.05
18			3	.05	11	.05	20	.97	32	.19	6	.03
19			3	.05	10	.07	13	.46	50	6.3	7	.04
20			7	.10	7	.03	15	.41	70	10	5	.02
21			5	.07	114	8.8	12	.26	87	12	100	6.8
22			4	.05	82	8.9	7	.12	50	2.8	321	88
23			7	.43	35	2.4	61	1.0	34	1.4	163	46
24			124	5.2	26	1.3	68	3.3	7	.21	62	7.4
25			64	2.6	14	.53	35	.93	10	.26	12	.78
26			52	2.9	6	.16	210	9.6	42	1.2	5	.22
27			16	.99	3	.06	314	64	80	5.6	6	.19
28			192	34	3	.05	167	36	52	3.2	15	.45
29			42	3.1	2	.03	32	3.2	37	1.8	11	.27
30			16	.73	7	.09	23	1.4	29	.94	7	.14
31			15	.57	---	---	8	.35	24	.56	---	---
TOTAL			---	50.84	---	28.43	---	332.87	---	51.57	---	162.45
TOTAL LOAD FOR YEAR:			626.16	TONS.								

KANAWHA RIVER BASIN

03199320 ROCK CREEK AT ROCK CREEK, WV

WATER-QUALITY RECORDS

LOCATION.--Lat 38°06'05", long 81°50'26", Hydrologic Unit 05050009, at State Highway 3 bridge at Rock Creek, 0.3 mi (0.5 km) downstream from Low Gap Branch, 1.5 mi (2.4 km) north of Danville, and at mile 0.5 (0.8 km).

DRAINAGE AREA.--13.3 mi² (34.4 km²).

PERIOD OF RECORD.--December 1978 to September 1979.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May to September 1979.

WATER TEMPERATURES: May to September 1979.

SUSPENDED-SEDIMENT DISCHARGE: May to September 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily observed, 205 micromhos Aug. 17; minimum daily observed, 65 micromhos May 28.

WATER TEMPERATURES: Maximum daily observed, 27.0°C Aug. 4-6; minimum daily observed, 13.0°C May 26.

SEDIMENT CONCENTRATIONS: Maximum daily observed, 1,200 mg/L July 15; minimum daily observed, 5 mg/L Sept. 20.

SEDIMENT LOADS: Maximum daily observed, 533 tons (484 tonnes) July 15; minimum daily observed, 0.02 ton (0.02 tonnes) Sept. 20.

ANALYSES OF MISCELLANEOUS STATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
03199320 - ROCK CREEK AT ROCK CREEK WV (LAT 38 06 05 LONG 081 50 26.01)								
DEC . 1978								
04...	1330	4.3	103	--	11.0	--	160	1.9
11...	1335	46	99	--	4.5	--	44	5.5
JAN , 1979								
29...	1205	24	85	--	--	--	19	1.2
FEB								
28...	1030	52	82	--	3.5	--	25	3.5
APR								
05...	1010	70	69	--	--	--	25	4.7
16...	1250	20	87	--	--	--	7	.38
MAY								
03...	1145	17	86	--	--	--	0	.00
10...	1125	12	89	--	--	--	0	.00
JUN								
20...	1555	1.7	169	--	--	--	4	.02

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	70	148	140	---
2								---	70	151	141	---
3								---	70	133	164	---
4								---	90	133	165	---
5								---	90	133	165	---
6								---	110	141	177	---
7								---	110	141	176	---
8								---	110	144	176	---
9								---	110	148	150	---
10								---	130	156	150	---
11								---	---	163	149	---
12								---	---	172	150	---
13								---	---	171	180	---
14								---	---	173	174	---
15								---	---	183	177	---
16								---	---	191	192	---
17								---	---	189	205	---
18								124	189	107	194	---
19								123	192	116	128	---
20								127	---	128	136	---
21								126	92	128	124	---
22								137	79	145	153	---
23								151	96	145	152	---
24								95	105	118	152	---
25								95	111	119	---	---
26								84	127	98	---	143
27								82	127	89	---	124
28								65	146	89	---	169
29								72	145	99	---	146
30								82	149	99	---	143
31								90	---	146	---	---
MEAN								104	128	126	161	145
WTR YR 1979	MEAN		133	MAX	205	MIN	65					

03199320 ROCK CREEK AT ROCK CREEK, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	18.0	19.0	22.0	---
2								---	18.0	21.0	22.0	---
3								---	16.0	17.0	26.0	---
4								---	17.0	19.0	27.0	---
5								---	18.0	18.0	27.0	---
6								---	20.0	17.0	27.0	---
7								---	20.0	17.0	24.0	---
8								---	22.0	20.0	26.0	---
9								---	21.0	20.0	26.0	---
10								---	19.0	22.0	25.0	---
11								---	---	24.0	24.0	---
12								---	18.0	24.0	---	---
13								---	16.0	21.0	22.0	---
14								---	19.0	22.0	23.0	---
15								---	20.0	21.0	22.0	---
16								---	21.0	23.0	25.0	---
17								---	---	21.0	26.0	---
18								17.0	---	21.0	26.0	---
19								22.0	20.0	23.0	22.0	---
20								22.0	---	24.0	22.0	---
21								21.0	20.0	24.0	21.0	---
22								16.0	18.0	21.0	24.0	---
23								19.0	---	21.0	27.0	---
24								17.0	17.0	24.0	23.0	---
25								15.0	18.0	24.0	---	---
26								13.0	17.0	22.0	---	18.0
27								18.0	16.0	22.0	---	---
28								18.0	21.0	22.0	---	18.0
29								15.0	21.0	22.0	---	19.0
30								20.0	20.0	22.0	---	20.0
31								20.0	---	21.0	---	---
MEAN								18.0	19.0	21.5	24.0	19.0
WTR YR 1979	MEAN	20.5		MAX	27.0		MIN	13.0				

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
APRIL												
1			---	---	72	3.1	27	.35	9	.24	25	.43
2			---	---	164	7.5	30	.28	7	.16	21	.31
3			---	---	82	3.5	57	.45	9	.16	85	3.9
4			---	---	16	.60	323	.19	16	.23	65	2.6
5			---	---	20	.59	78	1.9	13	.15	88	4.3
6			---	---	76	1.8	14	.24	23	.30	56	2.6
7			---	---	122	2.3	11	.14	37	.34	40	1.3
8			---	---	102	1.6	14	.15	102	.80	35	.77
9			---	---	114	1.4	23	.29	53	.36	26	.43
10			---	---	137	1.6	28	.31	41	.29	9	.12
11			---	---	23	.27	32	.29	40	.73	6	.06
12			---	---	21	.19	69	4.3	40	1.3	7	.06
13			---	---	23	.17	168	4.8	53	1.0	9	.06
14			---	---	27	.17	160	3.8	117	1.7	85	1.5
15			---	---	44	.22	1200	533	18	.20	11	.13
16			---	---	87	.35	152	238	7	.06	9	.08
17			---	---	157	.93	62	5.0	9	.06	8	.05
18			8	.13	116	.53	25	1.2	57	.34	7	.04
19			70	1.1	40	.28	13	.46	69	8.8	7	.04
20			143	2.1	23	.09	33	.89	88	13	5	.02
21			29	.41	142	9.5	40	.87	108	14	175	12
22			14	.19	147	15	40	.69	82	4.6	450	124
23			27	1.7	84	5.7	44	.72	58	2.3	240	69
24			193	8.1	36	1.7	68	7.7	17	.50	105	12
25			81	3.3	25	.94	35	1.0	18	.48	28	1.8
26			66	3.7	13	.35	163	7.5	75	2.2	18	.78
27			23	1.4	17	.34	374	76	150	10	17	.55
28			419	73	11	.18	286	61	65	4.0	27	.80
29			121	9.6	9	.12	64	6.4	45	2.2	14	.34
30			18	.83	8	.11	30	1.9	36	1.2	7	.14
31			32	1.2	---	---	17	.73	33	.77	---	---
TOTAL			---	106.76	---	61.13	---	979.37	---	72.47	---	240.21
TOTAL LOAD FOR YEAR:			1459.94	TONS.								

KANAWHA RIVER BASIN

03199400 LITTLE COAL RIVER AT JULIAN, WV

LOCATION.--Lat 38°09'17", long 81°51'10", Boone County, Hydrologic Unit 05050009, on left bank on downstream side of highway bridge on State Route 3 at Julian, 5.6 mi (9.0 km) north of intersection of U.S. Highway 119 and State Route 5, and at mile 17.4 (28.0 km).

DRAINAGE AREA.--319 mi² (826 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 634.13 ft (193.283 m) National Geodetic Vertical Datum of 1929. Prior to Apr. 21, 1976, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for period of no gage-height record, Oct. 1 to Nov. 27, and February, which are poor.

AVERAGE DISCHARGE.--5 years, 572 ft³/s (16.20 m³/s), 24.35 in/yr (618 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,900 ft³/s (535 m³/s) Dec. 9, 1978, gage height, 28.86 ft (8.797 m), from rating curve extended above 1,300 ft³/s (37 m³/s); minimum daily, 16 ft³/s (0.45 m³/s) July 20, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,700 ft³/s (130 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	1000	*18100	513	28.12	8.571	Feb. 24	2300	5790	164	13.98	4.261
Jan. 2	1200	6600	187	15.14	4.615	May 28	1400	5860	166	14.08	4.292
Jan. 8	0500	6950	197	15.64	4.767	June 22	1200	12800	362	22.58	6.882
Jan. 21	2400	8350	236	17.44	5.316						

Minimum daily discharge, 18 ft³/s (0.51 m³/s) Oct. 11, 25

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	21	61	1370	609	1260	606	487	984	363	336	342
2	30	24	55	5100	400	964	900	435	968	282	288	270
3	26	24	61	2520	330	805	2530	405	851	225	246	375
4	26	23	1800	1400	280	812	3080	545	908	313	185	345
5	30	22	1030	956	250	2780	2350	1350	763	815	157	291
6	26	22	504	774	220	2100	1670	1080	568	441	148	342
7	24	23	372	2110	200	1480	1170	781	435	315	129	270
8	24	29	6990	5290	180	1110	932	602	354	237	117	195
9	22	30	17300	2300	150	854	1380	483	297	228	114	160
10	20	27	3500	1820	130	791	1530	408	255	267	108	138
11	18	22	1590	1000	110	912	1300	348	427	200	124	120
12	19	20	968	795	110	851	1050	360	351	176	563	108
13	20	22	697	728	110	774	868	485	267	294	357	96
14	28	24	500	781	120	770	840	574	207	273	192	123
15	62	30	410	676	180	693	743	435	173	1360	142	139
16	50	38	380	623	3900	620	641	342	153	991	117	100
17	38	59	320	637	2280	574	553	279	170	879	100	85
18	31	58	270	550	1400	543	497	228	164	525	93	77
19	26	45	243	465	1000	515	456	195	468	357	570	99
20	23	39	252	1680	777	474	420	173	641	318	1040	94
21	21	35	1260	7020	830	444	387	164	2660	267	972	288
22	20	32	1380	5500	1100	399	354	155	9560	210	553	2290
23	22	34	882	2210	1320	399	336	187	4400	180	974	2110
24	22	34	679	2720	3370	1960	306	516	2010	255	560	1080
25	18	34	928	3310	4570	2480	276	844	1240	219	1040	606
26	21	36	896	2000	3880	1650	306	1100	837	295	854	392
27	33	53	746	1200	2390	1170	608	1100	606	1070	2500	306
28	40	80	571	1100	1640	908	662	4180	474	1210	1670	281
29	33	63	471	940	---	763	613	2540	387	858	996	303
30	30	59	447	795	---	651	550	1270	366	623	623	258
31	26	---	780	704	---	581	---	858	---	453	447	---
TOTAL	867	1062	46343	59474	31836	31087	27914	22909	31944	14499	16315	11683
MEAN	28.0	35.4	1495	1919	1137	1003	930	739	1065	468	526	389
MAX	62	80	17300	7020	4570	2780	3080	4180	9560	1360	2500	2290
MIN	18	20	55	465	110	399	276	155	153	176	93	77
CFSM	.09	.11	4.69	6.02	3.56	3.14	2.92	2.32	3.34	1.47	1.65	1.22
IN.	.10	.12	5.40	6.94	3.71	3.63	3.26	2.67	3.73	1.69	1.90	1.36
CAL YR 1978	TOTAL	199625	MEAN 547	MAX 17300	MIN 18	CFSM 1.72	IN 23.28					
WTR YR 1979	TOTAL	295933	MEAN 811	MAX 17300	MIN 18	CFSM 2.54	IN 34.51					

KANAWHA RIVER BASIN

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03199400 LITTLE COAL RIVER AT JULIAN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to current year.

WATER TEMPERATURES: February 1975 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1974 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,260 micromhos July 22, 1976; minimum daily, 65 micromhos Dec. 9, 1978.

WATER TEMPERATURES: Maximum daily, 33.0°C July 18, 1977; minimum daily, -1.0°C Jan. 17, 22, Dec. 31, 1976,

Jan. 1, 10, 1977.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,100 mg/L Jan. 26, 1978; minimum daily mean, 0 mg/L several days in 1975, 1977, 1979.

SEDIMENT LOADS: Maximum daily, 123,000 tons (112,000 tonnes) Jan. 26, 1978; minimum daily, 0 ton (0 tonne) several days in 1975, 1977, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 910 micromhos Nov. 7; minimum daily, 65 micromhos Dec. 9.

WATER TEMPERATURES: Maximum daily observed, 26.0°C July 12; minimum daily observed, 0.0°C Feb. 10, 11.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,440 mg/L Jul. 5; minimum daily mean, 0 mg/L Nov. 14, 22.

SEDIMENT LOADS: Maximum daily, 59,800 tons (54,300 tonnes) Dec. 9; minimum daily, 0 ton (0 tonne) Nov. 14, 22.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHUS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CaCO3)	HARD- NESS, NONCAR- BONATE (MG/L CaCO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CaCO3)
OCT											
02...	1420	29	>800	7.9	18.0	16.0	8.3	--	--	--	--
NOV											
07...	1400	24	790	--	12.0	11.0	--	--	--	--	--
APR											
16...	1430	627	300	7.6	16.0	12.5	10.0	--	--	--	--
MAY											
10...	1020	402	320	7.5	19.0	24.0	8.5	--	--	--	--
11...	0800	348	370	7.4	--	20.0	--	110	67	.0	.0
JUN											
07...	1155	428	350	7.2	--	20.0	--	120	82	.0	.0
21...	1355	2770	185	7.0	--	18.5	--	54	35	.0	.0
JUL											
03...	1120	228	490	7.4	--	21.0	--	170	110	.0	.0
05...	1010	824	320	7.3	--	18.0	--	110	86	.0	.0
19...	1640	336	335	7.4	--	23.0	--	110	69	.0	.0
AUG											
01...	1230	316	380	7.4	33.0	21.0	8.4	110	75	.0	.0
SEP											
11...	0935	134	650	7.0	--	19.0	--	160	89	.0	.0
19...	1100	99	1000	7.9	28.0	19.0	--	190	110	.0	.0

KANAWHA RIVER BASIN

03199400 LITTLE COAL RIVER AT JULIAN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS C02)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
MAY										
11...	24	13	--	--	46	--	160	6.3	304	.41
JUN										
07...	26	13	--	--	36	--	130	6.1	258	.35
21...	13	6.3	16	.9	23	--	63	4.6	157	.21
JUL										
03...	37	18	55	1.9	52	--	230	8.0	408	.55
05...	23	12	27	1.1	21	--	130	4.1	247	.34
19...	24	12	39	1.6	40	3.1	140	6.1	258	.35
AUG										
01...	25	12	36	1.5	37	2.9	130	5.9	266	.36
SEP										
11...	36	18	63	2.1	73	15	210	9.1	408	.55
19...	43	20	86	2.7	80	--	300	13	560	.76

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
MAY										
11...	286	--	--	--	--	--	340	320	20	--
JUN										
07...	298	--	--	--	--	--	900	890	10	--
21...	1170	--	--	--	--	--	29000	29000	170	--
JUL										
03...	251	--	--	--	--	--	550	540	10	--
05...	550	--	--	--	--	--	29000	29000	50	--
19...	234	--	--	--	--	--	540	520	20	--
AUG										
01...	227	--	--	--	--	--	590	570	20	--
SEP										
11...	148	0	<10	<10	20	<10	490	--	40	7800
19...	150	--	--	--	--	--	460	--	50	--

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT										
02...	--	--	--	--	--	--	--	--	7	.55
APR										
16...	--	--	--	--	--	--	--	--	18	30
MAY										
11...	--	50	0	50	--	--	--	--	19	18
JUN										
07...	--	80	30	50	--	--	--	--	--	--
21...	--	690	610	80	--	--	--	--	--	--
JUL										
03...	--	90	20	70	--	--	--	--	--	--
05...	--	600	550	50	--	--	--	--	--	--
19...	--	50	20	30	--	--	--	--	--	--
AUG										
01...	--	40	10	30	--	--	--	--	--	--
SEP										
11...	<10	80	10	70	230	.00	0	40	--	--
19...	--	70	20	50	--	--	--	--	8	2.2

03199400 LITTLE COAL RIVER AT JULIAN, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	480	760	480	180	283	222	278	267	223	421	443	415
2	640	730	470	100	309	245	225	284	217	423	498	473
3	800	750	---	160	316	258	243	297	---	---	488	321
4	790	650	200	180	323	269	131	292	274	433	---	420
5	760	---	160	220	333	136	151	178	280	324	629	435
6	810	780	---	250	346	165	164	188	309	316	659	498
7	800	910	170	---	362	202	207	210	350	401	704	430
8	810	630	90	90	339	229	231	240	394	458	748	483
9	830	610	65	160	---	254	214	260	426	467	793	557
10	800	640	130	200	372	270	184	309	461	485	811	589
11	840	640	190	240	399	---	192	295	496	492	709	628
12	850	640	240	260	398	248	212	---	389	527	---	652
13	840	650	285	290	376	252	---	---	480	497	406	704
14	750	650	300	---	338	254	243	273	533	441	494	606
15	830	620	320	280	260	263	248	303	577	174	584	672
16	790	560	300	290	116	273	258	346	620	244	672	637
17	700	600	---	220	---	293	268	389	---	230	733	697
18	700	630	380	230	175	291	287	423	652	296	791	---
19	710	500	395	---	210	305	300	456	---	440	661	---
20	740	450	400	250	235	315	313	475	---	533	271	---
21	750	470	220	90	244	322	323	493	218	520	279	610
22	---	530	180	100	220	336	328	---	96	571	323	183
23	700	550	---	190	198	347	346	493	156	---	252	---
24	760	550	220	210	136	175	351	375	221	622	328	---
25	800	550	235	130	124	---	368	---	256	532	241	281
26	670	---	200	200	130	167	340	213	299	431	---	370
27	750	540	210	230	164	196	---	195	334	244	168	---
28	750	540	210	---	184	222	237	103	386	232	213	---
29	740	520	260	239	---	243	244	144	421	283	265	---
30	800	480	290	253	---	259	261	189	438	335	313	---
31	750	---	260	271	---	273	---	229	---	375	338	---
MEAN	758	612	254	204	265	251	255	293	366	405	493	508
WTR YR 1979	MEAN	390	MAX	910	MIN	65						

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	13.0	6.0	11.0	1.0	7.0	15.0	17.0	---	21.0	---	24.5
2	19.0	13.0	5.0	8.0	1.0	11.5	15.0	19.0	---	19.0	---	24.5
3	19.0	12.0	---	7.0	2.0	11.0	10.5	18.0	---	---	---	23.5
4	20.0	12.0	11.0	2.0	3.0	12.0	12.0	---	19.5	21.0	---	25.0
5	19.0	---	9.0	3.0	2.0	9.0	11.0	15.0	21.0	18.0	---	23.0
6	16.0	13.0	---	5.0	1.5	9.0	8.5	17.0	22.0	17.0	---	24.0
7	14.0	11.0	7.0	---	1.0	8.5	9.0	20.0	22.0	22.5	---	24.5
8	13.0	10.0	11.0	5.0	3.0	9.0	13.0	21.5	22.5	22.5	---	20.0
9	14.0	10.0	10.0	3.0	---	11.5	9.5	20.5	23.0	21.0	---	20.5
10	15.0	11.0	7.0	3.0	.0	9.0	7.0	22.0	25.0	21.0	---	21.5
11	15.0	13.0	7.0	2.0	.0	---	12.0	24.0	22.0	23.5	---	23.0
12	18.0	12.0	5.0	2.0	2.0	8.0	14.5	---	22.0	26.0	---	24.0
13	16.0	14.0	5.0	4.0	1.5	10.0	---	---	21.5	23.0	---	22.0
14	15.0	15.0	4.0	---	2.0	8.5	15.0	17.5	23.0	25.0	---	21.0
15	13.0	13.0	2.0	2.0	---	6.0	13.0	18.0	24.5	20.5	---	20.0
16	12.0	12.0	3.0	4.0	---	8.0	13.0	19.5	22.5	22.0	---	21.0
17	12.0	12.0	---	7.0	---	9.0	14.0	20.0	---	---	---	21.5
18	13.0	13.0	3.0	7.0	---	10.5	14.0	20.0	23.0	---	---	---
19	15.0	11.0	5.0	---	---	12.0	16.0	21.0	---	23.0	---	---
20	15.0	8.0	7.0	7.0	---	15.0	17.0	22.0	---	---	---	---
21	15.0	9.0	9.0	7.0	---	11.0	18.0	22.0	18.5	---	---	19.5
22	---	8.0	5.0	4.0	---	15.0	17.0	---	17.0	---	---	17.0
23	16.0	10.0	---	5.0	---	14.0	17.0	20.0	17.0	---	---	---
24	14.0	11.0	5.0	6.0	9.0	10.0	19.0	17.5	15.5	---	---	---
25	15.0	8.0	6.0	3.0	9.0	---	22.0	---	18.0	---	---	18.5
26	15.0	---	5.0	3.0	6.0	5.5	18.0	13.5	19.5	---	---	22.0
27	14.0	7.0	4.0	5.0	5.0	6.0	---	15.0	22.0	---	---	---
28	13.0	9.0	1.0	---	11.0	12.0	13.0	14.5	20.5	---	---	---
29	12.0	5.0	1.0	3.0	---	14.5	14.0	16.0	25.0	---	---	---
30	13.0	7.0	5.0	3.0	---	14.5	15.5	17.0	21.0	---	23.0	---
31	13.0	---	9.0	2.0	---	15.0	---	18.0	---	---	21.0	---
MEAN	15.0	11.0	6.0	4.5	3.5	10.5	14.0	18.5	21.0	21.5	22.0	22.0
WTR YR 1979	MEAN	13.0	MAX	26.0	MIN	.0						

KANAWHA RIVER BASIN

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03199700 COAL RIVER AT ALUM CREEK, WV

LOCATION.--Lat 38°17'11", long 81°48'25", Kanawha County, Hydrologic Unit 05050009, on downstream side of highway bridge on State Route 214 at Alum Creek, 1.1 mi (1.8 km) downstream from confluence of Big Coal and Little Coal Rivers, and at mile 17.5 (28.2 km).

DRAINAGE AREA.--835 mi² (2,163 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to September 1979, discontinued.

GAGE.--Water-stage recorder. Altitude of gage is 590 ft (180 m), from topographic map. Prior to Mar. 19, 1976, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records fair except those for February, which are poor.

AVERAGE DISCHARGE.--5 years, 1,320 ft³/s (37.38 m³/s), 21.47 in/yr (545 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,100 ft³/s (966 m³/s) Jan. 26, 1978, gage height, 33.61 ft (10.244 m), from rating curve extended above 14,000 ft³/s (400 m³/s); minimum daily, 32 ft³/s (0.91 m³/s) July 21, 1977.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 15,000 ft³/s (420 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	1715	*33900	960	33.48	10.205	June 22	1700	16300	462	21.62	6.590
Jan. 22	---	Unknown		Unknown							

Minimum daily discharge, 55 ft³/s (1.56 m³/s) Oct. 22.

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	66	185	2910	1180	2730	1110	1330	1840	722	782	782
2	82	62	197	8300	900	2100	1500	1120	1800	609	662	627
3	75	62	217	7820	800	1620	3710	985	1540	511	574	770
4	75	62	3420	3500	700	1510	6860	1130	1680	504	459	758
5	73	62	3400	1890	650	6480	5990	3460	1610	1290	396	641
6	71	62	1580	1580	580	6220	4190	2800	1270	895	354	676
7	70	66	990	2500	500	3540	2750	2010	949	634	318	762
8	66	70	8000	11000	450	2480	2060	1580	766	511	288	592
9	63	72	30000	4500	400	1840	2290	1520	669	453	262	490
10	60	75	15000	2900	350	1440	3250	1050	592	501	257	450
11	58	73	4330	1890	300	1760	2850	913	834	539	270	350
12	61	63	2440	1550	300	1710	2300	1010	1240	459	706	310
13	63	56	1640	1430	300	1540	1870	1210	786	568	822	270
14	70	60	1250	1700	350	1470	1710	2780	609	806	522	300
15	115	58	990	1900	500	1420	1570	1780	494	1570	348	340
16	146	82	823	1500	8410	1190	1390	1170	435	1790	309	270
17	144	141	734	1250	7530	1080	1210	846	420	1280	285	230
18	107	150	626	1120	5480	1010	1060	690	426	904	279	210
19	80	133	542	1210	2790	926	935	606	686	826	630	220
20	70	113	530	3450	1580	854	830	542	1600	543	1900	220
21	64	103	2430	13700	1780	782	774	505	2530	536	2080	600
22	55	88	3970	19000	2680	706	734	484	13700	444	1430	4500
23	60	80	2290	7680	3440	669	698	481	9130	420	2060	3560
24	60	82	1620	5590	7190	2520	655	819	4110	806	1360	2740
25	56	80	2250	8200	11300	5990	606	1330	2460	655	1750	1580
26	60	133	2640	4440	10000	3970	627	1600	1650	634	1980	1050
27	70	227	1940	2810	7180	2610	1610	2010	1180	2520	3450	778
28	90	222	1410	2310	3810	1940	2260	5780	917	3480	3660	690
29	82	200	1110	1890	---	1560	1920	5890	750	1970	2330	806
30	76	190	976	1500	---	1360	1570	2890	698	1410	1480	798
31	70	---	1470	1320	---	1140	---	1840	---	1030	1030	---
TOTAL	2380	2993	99000	132340	81430	66167	60889	52161	57371	29820	33033	26370
MEAN	76.8	99.8	3194	4269	2908	2134	2030	1683	1912	962	1066	879
MAX	146	227	30000	19000	11300	6480	6860	5890	13700	3480	3660	4500
MIN	55	56	185	1120	300	669	606	481	420	420	257	210
CFSM	.09	.12	3.83	5.11	3.48	2.56	2.43	2.02	2.29	1.15	1.28	1.05
IN.	.11	.13	4.41	5.90	3.63	2.95	2.71	2.32	2.56	1.33	1.47	1.17
CAL YR 1978	TOTAL	470479	MEAN	1289	MAX	30000	MIN	55	CFSM	1.54	IN	20.96
WTR YR 1979	TOTAL	643954	MEAN	1764	MAX	30000	MIN	55	CFSM	2.11	IN	28.69

KANAWHA RIVER BASIN

03199700 COAL RIVER AT ALUM CREEK, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974 to December 1976, March 1977 to current year.

WATER TEMPERATURES: December 1974 to December 1976, April 1977 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1974 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 884 micromhos Sept. 7, 1975; minimum daily, 87 micromhos Dec. 9, 1978.

WATER TEMPERATURES: Maximum daily, 31.0°C July 17, 1977, July 23, 1978; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,500 mg/L Jan. 26, 1978; minimum daily mean, 0 mg/L Nov. 22, 1976, June 23, 1977.

SEDIMENT LOADS: Maximum daily, 246,000 tons (223,000 tonnes) Jan. 26, 1978; minimum daily, 0 ton (0 tonne) Nov. 22, 1977, June 23, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily observed, 544 micromhos Sept. 20; minimum daily observed, 87 micromhos Dec. 9.

WATER TEMPERATURES: Maximum daily observed, 28.0°C Aug. 8; minimum daily observed, 0.0°C Jan. 26, Feb. 3, 17, 19.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,480 mg/L Dec. 9; minimum daily mean, 1 mg/L Oct. 8, 10, 11.

SEDIMENT LOADS: Maximum daily, 120,000 tons (109,000 tonnes) Dec. 9; minimum daily, 0.16 ton (0.15 tonne) Oct. 10, 11.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C) • WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	305	---	354	178	---	172	205	173	191	316	237	291
2	320	---	350	121	---	192	202	181	198	315	255	341
3	317	---	316	---	254	203	135	192	202	335	264	339
4	307	---	184	145	262	208	117	196	211	339	266	333
5	---	454	146	---	---	129	120	145	204	286	284	323
6	---	---	158	192	---	129	131	146	222	---	314	337
7	---	---	169	190	---	157	151	165	223	301	321	376
8	316	460	120	---	---	175	163	179	245	318	335	355
9	---	492	87	---	---	193	165	189	262	337	351	367
10	339	486	129	---	---	202	157	201	282	350	---	378
11	338	---	170	---	---	210	152	216	284	362	350	401
12	---	464	---	---	---	200	164	---	210	365	334	417
13	---	466	212	214	---	200	175	208	236	356	323	431
14	407	485	---	---	---	200	184	207	250	329	363	420
15	439	440	236	---	---	199	190	146	286	---	394	433
16	445	444	245	212	175	204	191	169	310	---	424	468
17	425	384	254	214	123	217	193	205	326	---	---	473
18	463	---	260	---	---	219	199	221	321	---	---	482
19	463	438	269	---	168	226	209	243	350	---	---	522
20	459	412	218	168	192	232	216	256	204	---	241	544
21	456	442	---	101	194	232	---	277	168	320	255	---
22	446	---	---	---	197	241	230	295	110	305	231	201
23	461	407	---	149	162	244	234	285	109	321	244	261
24	---	417	---	153	138	210	242	281	149	269	221	189
25	474	400	181	---	103	121	248	290	177	252	274	214
26	---	383	152	163	111	130	243	---	217	206	213	---
27	---	377	161	183	132	150	---	188	232	191	181	267
28	---	400	176	---	153	166	168	122	260	168	173	---
29	---	396	190	---	---	178	157	133	273	176	202	---
30	---	388	---	---	---	189	160	154	293	202	254	---
31	---	---	199	---	---	199	---	177	---	222	285	---
MEAN	399	430	206	170	169	191	182	201	234	289	281	367
WTR YR 1979	MEAN	258	MAX	544	MIN	87						

03199700 COAL RIVER AT ALUM CREEK, WV--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	---	---	9.0	---	8.0	14.0	14.0	16.0	21.0	26.0	25.0
2	18.0	---	5.0	8.0	---	8.0	14.0	16.0	18.0	21.0	25.0	23.0
3	15.0	---	8.0	---	.0	11.0	10.0	16.0	18.0	24.0	25.0	24.0
4	18.0	---	9.0	---	2.0	11.0	11.0	15.0	19.0	22.0	25.0	23.0
5	---	15.0	8.0	---	---	9.0	10.0	12.0	20.0	20.0	25.0	---
6	---	---	7.0	2.0	---	8.0	9.0	15.0	19.0	---	25.0	24.0
7	14.0	---	7.0	3.0	---	7.0	9.0	17.0	20.0	20.0	27.0	23.0
8	15.0	9.0	---	---	---	9.0	12.0	18.0	22.0	22.0	28.0	21.0
9	---	10.0	10.0	---	---	10.0	10.0	19.0	23.0	21.0	26.0	20.0
10	12.0	10.0	4.0	---	---	9.0	9.0	20.0	25.0	22.0	---	22.0
11	15.0	---	3.0	---	---	5.0	12.0	23.0	23.0	23.0	23.0	22.0
12	---	12.0	---	---	---	6.0	14.0	---	20.0	25.0	23.0	24.0
13	---	15.0	4.0	---	---	6.0	15.0	18.0	19.0	23.0	22.0	23.0
14	14.0	13.0	---	---	---	8.0	15.0	15.0	22.0	24.0	23.0	21.0
15	13.0	12.0	4.0	---	---	4.0	12.0	18.0	24.0	---	22.0	20.0
16	12.0	11.0	5.0	2.0	3.0	6.0	12.0	18.0	23.0	---	22.0	20.0
17	11.0	11.0	4.0	2.0	.0	9.0	12.0	19.0	22.0	---	---	20.0
18	11.0	---	4.0	---	---	9.0	14.0	19.0	22.0	---	---	21.0
19	13.0	11.0	6.0	---	.0	11.0	14.0	19.0	22.0	---	---	21.0
20	14.0	9.0	7.0	4.0	2.0	10.0	16.0	20.0	23.0	---	21.0	21.0
21	14.0	6.0	---	6.0	4.0	13.0	---	20.0	20.0	24.0	22.0	---
22	18.0	---	---	---	7.0	11.0	16.0	20.0	16.0	25.0	20.0	16.0
23	15.0	10.0	---	4.0	9.0	14.0	16.0	20.0	17.0	---	20.0	10.0
24	---	---	---	3.0	8.0	10.0	17.0	18.0	16.0	25.0	---	17.0
25	16.0	5.0	5.0	---	---	8.0	17.0	15.0	17.0	25.0	22.0	18.0
26	---	9.0	5.0	.0	7.0	5.0	18.0	---	19.0	23.0	22.0	---
27	---	9.0	3.0	4.0	---	5.0	---	15.0	20.0	21.0	---	17.5
28	---	---	3.0	---	6.0	9.0	11.0	14.0	19.0	22.0	---	---
29	---	---	2.0	---	---	13.0	11.0	---	21.0	21.0	22.0	---
30	---	---	---	---	---	14.0	10.0	17.0	20.0	22.0	---	---
31	---	---	6.0	---	---	14.0	---	17.0	---	---	23.0	---
MEAN	14.5	10.5	5.5	4.0	4.0	9.0	13.0	17.5	20.0	22.5	23.5	20.5
WTR YR 1979	MEAN	14.5	MAX	28.0	MIN	.0						

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	10	2.4	4	.71	12	6.0	180	1410	55	175	205	1510
2	4	.89	3	.50	15	8.0	750	16800	53	129	250	1420
3	3	.61	3	.50	49	29	308	6500	51	110	265	1160
4	4	.81	2	.33	665	8700	192	1810	42	79	210	856
5	5	.99	3	.50	480	4410	185	944	32	56	1110	21900
6	4	.77	2	.33	164	700	250	1070	73	114	600	10100
7	3	.57	4	.71	148	396	380	2560	164	221	340	3250
8	1	.18	6	1.1	1300	28100	822	24400	145	176	198	1330
9	2	.34	7	1.4	1480	120000	325	3950	144	156	163	810
10	1	.16	9	1.8	772	31300	180	1410	74	70	242	941
11	1	.16	9	1.8	264	3090	125	638	54	44	222	1050
12	4	.66	8	1.4	125	823	150	628	36	29	122	563
13	7	1.2	7	1.1	85	376	400	1540	28	23	139	578
14	7	1.3	7	1.1	66	223	365	1680	44	42	162	643
15	30	9.3	10	1.6	37	99	115	590	230	310	115	441
16	25	9.8	9	2.0	21	47	77	312	650	14800	160	514
17	20	7.8	11	4.2	20	40	63	213	400	8130	135	394
18	16	4.6	21	8.5	20	34	55	166	325	4810	66	180
19	5	1.1	15	5.4	19	28	53	173	223	1680	37	93
20	5	.95	9	2.7	18	26	580	5400	139	593	63	145
21	7	1.2	9	2.5	1350	8420	1350	49900	178	855	53	112
22	8	1.2	10	2.4	405	4340	500	25600	400	2890	52	99
23	9	1.5	9	1.9	160	989	280	5810	500	4640	34	61
24	8	1.3	7	1.5	53	232	460	6940	750	14600	496	3800
25	3	.45	7	1.5	225	1380	205	4540	1000	30500	171	2770
26	3	.49	13	4.7	124	884	160	1920	750	20200	328	3520
27	5	.95	45	28	84	440	92	698	500	9690	231	1630
28	9	2.2	16	9.6	57	217	74	462	300	3090	175	917
29	8	1.8	14	7.6	36	108	65	332	---	---	155	653
30	5	1.0	12	6.2	34	90	59	239	---	---	242	889
31	6	1.1	---	---	113	448	58	207	---	---	108	332
TOTAL	---	57.78	---	103.58	---	215983.0	---	168842	---	118212	---	62661

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

03200500 COAL RIVER AT TORNADO, WV

LOCATION.--Lat 38°20'20", long 81°50'30", Kanawha County, Hydrologic Unit 05050009, on downstream side of highway bridge at Tornado, 0.2 mi (0.3 km) upstream from Falls Creek, and at mile 11.5 (18.5 km).

DRAINAGE AREA.--861 mi² (2,230 km²), includes that of Falls Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1908 to September 1911, October 1911 to June 1912 (gage heights only), November 1928 to September 1931, August 1961 to current year.

GAGE.--Water-stage recorder. Datum of gage is 570.46 ft (173.876 m) National Geodetic Vertical Datum of 1929. Aug. 1, 1971, to Jan. 9, 1973, nonrecording gage at same site and datum. Prior to Aug. 1, 1961, nonrecording gage at same site at different datum.

REMARKS.--Water-discharge records good except those for February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--23 years (water years 1909-11, 1930-31, 1962-79), 1,256 ft³/s (35.57 m³/s), 19.81 in/yr (503 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,500 ft³/s (1,010 m³/s) Mar. 7, 1967, gage height, 31.98 ft (9.748 m); minimum (estimated), 2.0 ft³/s (0.057 m³/s) Oct. 1-10, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 16,000 ft³/s (450 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	2100	*34400 974	29.65 9.037	June 22	1800	16000 453	19.09 5.819
Jan. 22	0500	20200 572	21.61 6.587				

Minimum daily discharge, 51 ft³/s (1.44 m³/s) Nov. 13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	78	206	2530	1410	3020	1390	1480	1870	713	748	730
2	96	68	220	8800	1100	2440	1640	1240	1820	581	565	581
3	85	62	220	6930	900	1980	3680	1100	1590	481	509	713
4	92	60	2870	3450	800	1890	6200	1220	1730	453	389	713
5	92	60	2730	2390	700	6230	5520	3290	1660	1280	329	565
6	89	60	1480	1910	600	5940	4120	2670	1300	892	305	614
7	85	71	968	3130	540	3640	2900	1980	986	598	271	713
8	75	85	10300	13300	480	2720	2260	1520	784	467	237	509
9	71	89	29900	6120	420	2140	2560	1220	664	413	245	401
10	68	82	17500	3520	370	1820	3360	1020	565	467	220	341
11	68	68	3960	2530	320	2120	2990	856	766	509	254	288
12	65	62	2330	1980	310	2030	2490	967	1260	413	680	262
13	65	51	1610	1800	310	1820	2100	1140	802	523	802	237
14	89	57	1220	2280	350	1770	1960	2490	581	802	467	262
15	150	71	967	1910	450	1700	1820	1820	467	1540	317	353
16	164	96	802	1640	8210	1450	1610	1220	377	1800	254	279
17	141	112	713	1520	5980	1300	1430	892	353	1260	213	228
18	112	126	614	1410	3410	1220	1260	713	413	892	199	206
19	89	112	537	1180	2490	1140	1120	598	647	598	537	192
20	75	103	537	2990	1930	1060	1000	523	1590	509	1870	185
21	65	96	2420	14500	2140	986	910	467	2280	509	2030	413
22	62	85	3840	16000	2900	892	838	439	13000	401	1410	3250
23	62	82	2490	5940	3590	856	784	425	9160	353	1960	4270
24	60	85	1800	5700	7220	1220	730	856	3960	784	1340	2720
25	57	89	2140	7900	12000	5460	664	1370	2530	647	1680	1610
26	65	96	2760	4420	10100	4080	713	1640	1750	647	1960	1060
27	96	131	2160	3130	5790	2850	1960	2050	1220	2390	3130	766
28	103	206	1590	2740	3910	2230	2460	5210	948	3380	3500	647
29	99	245	1240	2280	---	1870	2120	5590	748	2000	2370	766
30	96	220	1100	1870	---	1590	1750	2920	680	1390	1500	766
31	89	---	1500	1610	---	1390	---	1890	---	1000	1000	---
TOTAL	2717	2908	102724	137410	78730	70854	64339	50816	56501	28692	31291	24640
MEAN	87.6	96.9	3314	4433	2812	2286	2145	1639	1883	926	1009	821
MAX	164	245	29900	16000	12000	6230	6200	5590	13000	3380	3500	4270
MIN	57	51	206	1180	310	856	664	425	353	353	199	185
CFSM	.10	.11	3.85	5.15	3.27	2.66	2.49	1.90	2.19	1.08	1.17	.95
IN.	.12	.13	4.44	5.94	3.40	3.06	2.78	2.20	2.44	1.24	1.35	1.06
CAL YR 1978	TOTAL	457892	MEAN	1254	MAX	29900	MIN 51	CFSM	1.46	IN	19.78	
WTR YR 1979	TOTAL	651622	MEAN	1785	MAX	29900	MIN 51	CFSM	2.07	IN	28.15	

KANAWHA RIVER BASIN

03200500 COAL RIVER AT TORNADO, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to current year.

TEMPERATURE: May to July 1975 (partial-record station), June to September 1976 (published as once-daily), October 1976 to current year.

SUSPENDED-SEDIMENT DISCHARGE: December 1972 to current year.

INSTRUMENTATION.--Temperature recorder since Nov. 13, 1973.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,020 micromhos Oct. 23, 24, 1973; minimum daily, 88 micromhos Dec. 9, 1978, June 22, 1979.

WATER TEMPERATURES: Maximum recorded, 31.5°C July 8, 19, 20, 1977; minimum recorded, 0.0°C Feb. 3, 4, 7-16, 1979.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,000 mg/L Mar. 17, 1973; minimum daily mean, 0 mg/L on several days in April 1978, Feb. 5, Mar. 21, 22, 1979.

SEDIMENT LOADS: Maximum daily, 263,000 tons (239,000 tonnes) Jan. 26, 1978; minimum daily, 0 ton (0 tonne) on several days in April 1978, Feb. 5, Mar. 21, 22, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 640 micromhos Aug. 13; minimum daily, 88 micromhos Dec. 9, June 22.

TEMPERATURE: Maximum, 27.0°C Aug. 10; minimum, 0.0°C Feb. 3, 4, 7-16.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,850 mg/L Dec. 22; minimum daily mean, 0 mg/L on Feb. 5, Mar. 21, 22.

SEDIMENT LOADS: Maximum daily, 116,000 tons (105,000 tonnes) Dec. 9; minimum daily, 0 tons (0 tonnes) on Feb. 5, Mar. 21, 22.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CaCO ₃)	HARD- NESS, NONCAR- BONATE (MG/L AS CaCO ₃)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CaCO ₃)
OCT											
05...	0945	95	800	8.1	13.5	16.0	9.3	--	--	--	--
NOV											
13...	1145	51	--	--	30.0	10.5	--	--	--	--	--
JAN											
04...	1120	3670	120	7.5	-2.5	1.5	13.7	--	--	--	--
MAR											
01...	1330	2970	190	7.0	7.0	--	12.5	--	--	--	--
APR											
02...	1115	1710	225	7.5	22.0	13.0	10.6	--	--	--	--
MAY											
02...	1615	1080	230	7.5	28.5	14.0	10.5	--	--	--	--
10...	0545	1000	220	7.2	--	19.0	--	81	53	.0	.0
JUN											
08...	1000	680	285	7.3	--	21.0	--	100	70	.0	.0
19...	1625	645	410	7.7	26.0	21.5	7.9	140	97	.0	.0
JUL											
05...	1500	1510	270	7.4	--	21.0	--	120	73	.0	.0
19...	1940	530	265	7.5	--	23.0	--	95	63	.0	.0
30...	1350	1500	230	7.2	33.0	21.0	8.4	75	56	.0	.0
SEP											
10...	1230	336	470	6.7	--	20.0	--	120	77	.0	.0
20...	1040	212	800	8.1	21.5	19.5	--	150	94	.0	.0

KANAWHA RIVER BASIN

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03200500 COAL RIVER AT TORNADO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LILITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS C02)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
MAY										
10...	16	10	--	--	28	--	96	4.5	183	.25
JUN										
08...	21	12	--	--	32	--	100	5.4	200	.27
19...	31	16	38	1.4	46	--	160	8.0	326	.44
JUL										
05...	25	13	31	1.3	43	--	130	6.8	268	.36
19...	20	11	24	1.1	32	2.0	100	5.3	189	.26
30...	16	8.4	14	.7	19	2.3	70	3.9	201	.27
SEP										
10...	26	14	33	1.3	46	18	130	7.7	255	.35
20...	33	17	49	1.7	58	--	200	11	362	.49
DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	ARSENIC TOTAL IN ROT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM ROT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM ROT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM ROT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM ROT- TOM MA- TERIAL (UG/G AS CU)	IRON, RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM ROT- TOM MA- TERIAL (UG/G AS FE)
MAY										
10...	494	--	--	--	--	--	360	340	20	--
JUN										
08...	367	--	--	--	--	--	560	530	30	--
19...	565	--	--	--	--	--	760	740	20	--
JUL										
05...	1090	--	--	--	--	--	3800	3700	60	--
19...	270	--	--	--	--	--	780	750	30	--
30...	814	--	--	--	--	--	1200	1200	40	--
SEP										
10...	231	0	<10	<10	10	<10	660	--	20	3900
20...	207	--	--	--	--	--	380	--	40	--
DATE	LEAD, RECOV. FM ROT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM ROT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM ROT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN ROT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM ROT- TOM MA- TERIAL (UG/G AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT										
05...	--	--	--	--	--	--	--	--	5	1.3
APR										
02...	--	--	--	--	--	--	--	--	26	120
MAY										
10...	--	40	20	20	--	--	--	--	--	--
JUN										
08...	--	50	20	30	--	--	--	--	--	--
19...	--	50	20	30	--	--	--	--	--	--
JUL										
05...	--	80	70	10	--	--	--	--	--	--
19...	--	40	10	30	--	--	--	--	--	--
30...	--	30	10	20	--	--	--	--	--	--
SEP										
10...	30	70	30	40	130	.00	0	20	--	--
20...	--	40	10	30	--	--	--	--	8	4.6

KANAWHA RIVER BASIN

03200500 COAL RIVER AT TORNADO, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	450	460	394	201	---	179	216	203	233	300	325	355
2	---	---	399	112	165	193	214	205	---	267	254	355
3	440	450	402	186	---	215	147	211	295	---	402	---
4	440	460	185	136	---	222	125	151	261	---	279	361
5	450	470	155	187	178	152	199	149	251	240	415	358
6	430	480	156	---	285	127	200	162	262	242	499	357
7	420	460	174	201	290	199	150	201	267	---	---	438
8	450	480	98	200	332	180	169	205	285	---	507	437
9	400	470	88	137	417	205	164	204	315	338	---	438
10	440	470	159	160	254	213	159	255	260	343	---	436
11	440	440	202	---	307	216	155	---	270	342	---	435
12	400	500	---	202	313	208	163	182	---	341	479	482
13	440	500	227	220	270	207	177	247	270	---	640	---
14	470	486	---	217	---	207	200	---	247	294	610	480
15	450	487	225	217	---	210	201	196	323	206	600	482
16	440	462	161	235	---	222	---	195	322	202	600	492
17	430	477	235	215	205	224	204	266	322	203	590	---
18	420	448	208	174	213	222	204	293	345	---	600	---
19	440	448	---	---	192	233	277	---	410	228	---	490
20	430	467	291	182	202	240	191	350	311	400	310	---
21	---	461	213	118	205	252	190	320	319	402	297	385
22	450	481	162	177	206	249	173	393	88	259	292	352
23	440	382	145	140	197	258	289	---	111	250	---	361
24	420	396	193	159	130	200	---	---	220	250	292	350
25	430	402	---	158	174	129	---	282	222	250	310	251
26	430	363	161	159	117	188	295	275	261	249	---	260
27	420	425	---	182	133	134	---	313	227	252	---	348
28	450	449	198	224	---	192	180	162	182	251	---	349
29	440	408	194	230	---	176	176	318	256	254	---	349
30	450	---	192	231	---	213	206	184	---	293	---	---
31	460	---	202	---	---	215	---	446	---	297	263	---
MEAN	437	453	208	184	228	203	193	245	264	278	428	392
WTR YR 1979	MEAN	291	MAX	640	MIN	88						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.0	18.5	11.0	10.0	5.5	5.5	8.0	5.5	1.5	1.0	6.0	4.5
2	18.5	18.0	11.0	10.5	5.5	5.0	8.0	6.0	.5	.5	8.0	6.0
3	18.5	17.5	11.0	10.0	5.5	5.0	6.0	1.5	.5	.0	9.0	8.0
4	18.5	17.5	11.0	10.0	9.0	5.5	1.5	1.0	1.0	.0	9.5	9.0
5	17.5	17.0	11.0	10.0	9.0	9.0	1.0	1.0	1.0	1.0	9.5	8.0
6	17.5	16.5	11.0	10.0	9.0	8.0	2.0	1.0	1.0	.5	8.0	7.5
7	16.0	15.0	10.0	10.0	8.0	7.5	3.5	2.0	.5	.0	7.5	7.0
8	15.0	14.0	10.0	9.5	10.5	7.5	4.5	3.5	.0	.0	7.0	6.5
9	14.0	13.0	9.5	9.0	10.5	8.5	4.0	1.5	.0	.0	8.5	7.0
10	14.5	12.5	9.5	9.0	8.5	5.5	1.5	1.5	.0	.0	8.5	8.5
11	13.5	12.5	10.0	9.0	5.0	4.0	1.5	1.5	.0	.0	8.5	5.5
12	14.0	13.0	9.0	9.0	4.0	3.5	1.5	1.5	.0	.0	5.5	4.5
13	14.0	14.0	10.0	9.0	4.0	3.5	3.5	1.5	.0	.0	6.5	5.0
14	14.5	14.0	10.5	10.0	4.0	3.5	4.0	3.5	.0	.0	7.0	7.0
15	14.0	13.0	10.5	10.5	3.5	3.0	4.0	2.0	.0	.0	7.0	5.5
16	13.0	11.5	10.5	10.5	3.0	2.5	2.0	1.5	3.0	.0	5.5	4.0
17	11.5	11.0	11.5	10.5	3.5	3.0	3.0	1.5	3.0	1.5	6.0	4.5
18	11.5	10.5	11.5	11.0	3.5	3.5	3.0	3.0	1.5	1.0	7.5	6.0
19	11.5	11.0	11.0	10.0	3.5	3.5	3.0	2.0	1.0	.5	9.0	7.5
20	12.5	11.0	10.0	9.5	5.0	3.5	3.5	2.0	1.5	.5	11.5	9.0
21	13.0	11.0	9.0	8.0	6.5	5.0	5.5	4.0	3.5	1.5	13.0	11.5
22	12.5	11.5	8.0	8.0	6.5	4.5	5.5	4.5	5.0	3.5	13.0	12.0
23	14.0	11.5	8.0	7.5	4.5	4.0	4.5	3.5	7.0	5.0	12.5	12.5
24	12.5	12.0	8.0	8.0	3.5	3.5	4.0	3.5	7.0	7.0	12.5	9.5
25	12.5	11.5	8.0	7.5	4.0	3.5	4.0	3.0	7.0	7.0	9.5	6.5
26	13.0	12.5	7.5	7.0	4.0	4.0	3.0	2.5	7.0	5.5	6.5	5.0
27	13.0	12.0	7.0	6.0	4.0	3.5	3.0	2.5	5.5	4.0	5.0	4.5
28	13.0	12.0	6.5	6.0	3.0	2.0	3.0	3.0	4.5	4.0	7.0	4.5
29	12.0	11.5	6.5	6.0	1.5	1.0	3.0	2.0	---	---	11.0	7.0
30	12.5	10.5	6.0	5.5	2.0	1.0	2.0	2.0	---	---	12.0	11.0
31	11.5	10.0	---	---	5.5	2.5	2.0	1.5	---	---	12.5	12.0
MONTH	19.0	10.0	11.5	5.5	10.5	1.0	8.0	1.0	7.0	.0	13.0	4.0

03200500 COAL RIVER AT TORNADO, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.5	12.5	13.5	12.0	16.0	15.5	19.5	19.5	23.5	22.5	21.0	20.5
2	13.0	12.5	14.5	12.5	17.0	16.0	20.5	19.5	24.0	24.0	21.0	21.0
3	13.0	10.0	15.5	14.5	17.5	17.0	21.5	20.5	24.0	23.5	21.5	21.0
4	10.0	9.5	15.5	15.0	17.5	16.5	22.0	21.0	24.0	23.5	21.5	21.5
5	10.0	9.5	15.0	12.5	16.5	16.5	21.0	19.5	24.5	23.5	21.5	21.5
6	9.5	8.5	13.5	12.5	16.5	16.5	19.5	18.5	24.5	24.0	21.5	21.5
7	8.5	8.0	16.0	13.5	17.0	16.5	19.5	19.0	25.0	24.5	21.5	21.5
8	10.0	7.5	18.0	16.0	19.0	17.0	20.0	19.5	26.0	25.0	21.5	20.5
9	10.0	9.5	18.5	17.5	20.0	19.0	20.0	20.0	26.0	25.0	20.5	20.0
10	9.5	8.0	20.0	18.0	21.5	20.0	20.0	20.0	27.0	25.0	19.5	19.5
11	9.5	8.0	21.5	19.5	21.5	21.5	21.0	20.0	26.0	24.0	19.5	19.5
12	12.0	9.5	22.0	21.0	21.5	20.5	22.0	21.0	24.0	21.5	20.5	19.5
13	13.0	12.0	22.0	18.5	20.5	20.0	22.5	22.0	21.5	20.5	20.5	20.0
14	13.5	12.5	18.5	16.0	20.0	20.0	22.5	22.0	20.5	20.5	20.5	20.0
15	13.5	12.0	16.0	15.5	20.5	20.0	22.5	20.5	21.0	20.5	20.0	19.0
16	12.0	11.0	16.0	15.5	21.0	20.5	20.5	19.5	20.5	19.5	19.0	18.5
17	11.0	10.5	16.5	16.0	21.0	21.0	22.0	20.5	21.0	19.5	18.5	18.5
18	11.5	10.5	16.5	16.0	21.0	21.0	22.0	21.5	21.5	19.5	19.0	18.5
19	12.5	11.0	17.5	16.5	21.0	21.0	22.0	21.5	22.0	20.5	19.0	18.5
20	14.0	12.0	18.5	17.5	21.0	20.5	22.0	21.5	21.5	20.5	19.0	18.5
21	15.0	13.5	19.0	18.5	20.5	19.0	22.0	21.5	20.5	20.0	19.0	18.0
22	15.5	15.0	19.5	19.0	18.5	15.5	22.5	22.0	20.0	19.5	18.0	17.5
23	15.5	15.0	19.0	18.5	15.5	15.5	23.5	22.5	20.0	19.5	17.5	16.5
24	16.0	15.0	18.5	17.0	16.0	15.5	24.0	23.5	20.0	19.5	16.5	16.0
25	18.5	16.0	17.0	14.5	16.0	15.0	23.5	23.0	20.5	20.0	16.0	16.0
26	18.5	17.5	14.5	13.0	17.0	15.0	23.0	22.5	20.5	20.0	16.5	16.0
27	17.5	14.5	13.0	12.5	18.5	17.0	22.5	20.0	20.0	19.5	16.5	16.5
28	14.5	11.5	13.0	13.0	20.0	18.5	20.0	20.0	19.5	19.0	16.5	16.5
29	11.5	10.5	13.5	13.0	20.0	20.0	20.5	20.0	19.5	19.0	17.0	16.5
30	12.5	10.5	15.5	13.5	20.0	19.5	21.0	20.0	20.0	19.5	17.0	17.0
31	---	---	15.5	15.0	---	---	22.5	21.0	20.5	20.0	---	---
MONTH	18.5	7.5	22.0	12.0	21.5	15.0	24.0	18.5	27.0	19.0	21.5	16.0
YEAR	27.0	.0										

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	10	2.5	2	.42	20	11	71	485	5	19	50	407
2	11	2.9	1	.18	11	6.5	587	15600	3	8.9	42	277
3	9	2.1	1	.17	9	5.3	256	4790	2	4.9	59	315
4	19	4.7	23	3.7	491	4760	178	1660	1	2.2	200	1020
5	6	1.5	8	1.3	409	3010	156	1110	0	.0	1600	26900
6	9	2.2	5	.81	165	659	34	175	3	4.9	950	15200
7	3	.69	4	.77	65	170	61	516	182	265	400	3930
8	3	.61	4	.92	1280	48600	750	26900	366	474	295	2170
9	4	.77	4	.96	1460	116000	450	7440	388	440	23	133
10	10	1.8	5	1.1	250	11800	250	2380	84	84	14	69
11	8	1.5	6	1.1	117	1250	56	383	150	130	42	240
12	4	.70	7	1.2	109	686	57	305	95	80	33	181
13	6	1.1	10	1.4	78	339	58	282	12	10	22	108
14	6	1.4	13	2.0	50	165	35	215	11	10	21	100
15	3	1.2	11	2.1	40	104	15	77	30	36	24	110
16	12	5.3	11	2.9	18	39	16	71	198	4390	8	31
17	10	3.8	32	9.7	10	19	23	94	24	388	5	18
18	6	1.8	19	6.5	7	12	132	503	29	267	4	13
19	14	3.4	15	4.5	16	23	116	370	16	108	2	6.2
20	10	2.0	42	12	33	48	450	3630	50	261	1	2.9
21	7	1.2	30	7.8	1200	7840	800	33300	71	410	0	.00
22	6	1.0	9	2.1	1850	19200	1350	58300	200	1570	0	.00
23	10	1.7	8	1.8	53	356	283	4340	400	3880	8	18
24	6	.97	36	8.3	16	78	174	2680	1060	24900	810	2670
25	6	.92	20	4.8	68	393	276	5890	1220	40800	675	9950
26	6	1.1	45	12	169	1260	153	1820	760	20700	340	3700
27	6	1.6	20	7.1	52	303	35	296	540	8440	145	1120
28	5	1.4	3	1.7	36	155	11	81	250	2640	80	482
29	10	2.7	9	6.0	14	47	10	62	---	---	45	227
30	6	1.6	18	11	5	15	19	96	---	---	13	56
31	6	1.4	---	---	25	101	12	52	---	---	11	41
TOTAL	---	57.56	---	116.33	---	217454.8	---	173903	---	110322.9	---	69495.10

03200500 COAL RIVER AT TORNADO, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

	MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)		MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)		MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)		MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)		MEAN CONCEN- TRATION (MG/L)		LOADS (T/DAY)					
DAY																								
	APRIL				MAY				JUNE				JULY				AUGUST				SEPTEMBER			
1	17	64	9	36	109	550	26	50	17	34	45	89												
2	125	554	7	23	58	285	7	11	6	9.2	35	55												
3	588	5840	7	21	10	43	5	6.5	8	11	139	325												
4	745	12500	37	122	14	65	7	8.6	4	4.2	68	131												
5	470	7000	375	3330	18	81	750	2590	13	12	57	87												
6	200	2220	100	721	13	46	135	325	33	27	94	159												
7	165	1290	85	454	10	27	50	81	28	20	34	65												
8	140	854	22	90	10	21	27	34	15	9.6	11	15												
9	210	1450	18	59	18	32	16	18	14	9.3	8	8.7												
10	175	1590	77	212	46	70	15	19	21	12	11	10												
11	96	775	46	106	83	172	13	18	27	19	13	10												
12	26	175	13	34	115	391	12	13	148	272	17	12												
13	11	62	64	197	68	147	60	84	86	186	22	14												
14	10	53	370	2490	22	35	225	487	15	19	51	36												
15	27	133	150	737	14	18	688	2860	60	51	30	29												
16	29	126	17	56	15	15	590	2860	48	33	25	19												
17	32	124	13	31	23	22	200	680	22	13	29	18												
18	7	24	10	19	38	42	32	77	26	14	14	7.8												
19	11	33	10	16	91	159	25	40	180	269	6	3.1												
20	7	19	10	14	202	867	21	29	350	1770	7	3.5												
21	3	7.4	11	14	180	1110	21	29	480	2630	14	16												
22	4	9.1	10	12	1520	61400	78	84	375	1430	545	4780												
23	6	13	11	13	600	14800	97	92	410	2170	680	7850												
24	6	12	73	169	23	246	350	741	165	597	388	2850												
25	7	13	135	499	12	82	288	503	350	1590	265	1150												
26	15	29	70	309	10	47	240	419	215	1140	110	315												
27	226	1160	185	1020	8	26	500	3230	495	4180	85	176												
28	62	412	950	13400	13	33	110	1000	310	2930	51	89												
29	27	154	400	6040	11	22	88	475	280	1790	41	85												
30	18	85	174	1380	17	31	47	176	140	567	46	95												
31	---	---	42	214	---	---	40	108	43	116	---	---												
TOTAL	---	36780.5	---	31838	---	80885	---	17148.1	---	21934.3	---	18503.1												
TOTAL LOAD FOR YEAR:				778438.69	TONS.																			

KANAWHA RIVER BASIN

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03200650 KANAWHA RIVER AT POCA, WV

LOCATION.--Lat 38°28'29", long 81°49'09", Putnam County, Hydrologic Unit 05050008, on left bank at John Amos Power Plant, at Poca, 200 ft (61 m) upstream from Pocatalico River, and at mile 39.2 (63.1 km).

DRAINAGE AREA.--11,435 mi² (29,617 km²), excludes that of Pocatalico River.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1975 to current year.

COOPERATION.--Records were furnished by Appalachian Electric Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 36.0°C Aug. 10, 1979; minimum daily, 0.0°C Jan. 18, 1977.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 36.0°C Aug. 10; minimum, 8.0°C Feb. 17.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.5	21.0	---	25.5	12.0	23.0	28.5	21.5	28.5	29.0	33.5	31.0
2	24.5	22.0	22.0	21.0	12.0	22.0	29.5	22.0	31.0	29.0	34.5	32.0
3	24.5	21.5	27.0	13.0	13.0	22.0	29.0	21.5	30.5	28.5	31.0	31.5
4	27.0	24.0	29.0	15.5	14.0	21.0	27.0	29.5	31.0	27.0	32.0	33.0
5	21.0	23.0	22.0	14.5	14.5	22.0	28.0	23.5	30.5	24.5	31.0	35.5
6	28.0	---	22.0	17.0	---	21.0	19.0	22.0	29.0	25.5	32.0	33.5
7	26.0	26.5	22.0	19.0	---	21.5	18.0	27.0	30.0	24.5	33.5	34.5
8	25.0	23.5	29.0	13.5	13.5	23.5	23.5	30.0	33.5	27.0	34.5	29.5
9	21.0	21.5	19.0	10.0	13.5	23.5	25.5	30.5	32.0	30.0	33.5	24.5
10	25.0	19.0	14.0	15.0	16.5	19.5	21.0	30.5	33.5	31.5	36.0	---
11	---	20.5	11.0	11.5	15.5	16.5	23.5	31.0	28.0	31.5	32.0	31.0
12	29.5	25.0	15.5	13.0	17.0	18.5	25.0	30.5	26.5	24.0	29.5	31.0
13	30.0	25.5	20.0	16.0	16.5	19.5	28.5	27.0	26.5	33.5	29.5	---
14	24.5	28.5	14.5	20.0	12.0	21.0	22.0	25.5	28.0	33.5	---	31.0
15	23.5	24.5	21.5	20.5	13.5	16.5	24.0	26.0	29.5	33.0	29.0	30.5
16	22.0	23.5	21.0	20.5	14.5	19.5	22.0	23.5	30.0	33.0	25.0	31.0
17	23.5	23.0	22.0	21.5	8.0	17.0	20.5	21.5	29.5	33.0	23.0	31.0
18	23.0	23.5	21.0	19.5	14.5	22.0	20.0	26.0	31.5	31.0	24.0	---
19	25.0	24.5	19.0	13.5	14.5	23.0	23.5	25.5	29.5	31.0	27.0	28.5
20	---	18.5	20.0	21.5	9.5	25.5	---	26.5	33.0	31.5	29.0	26.5
21	24.0	18.0	23.5	21.0	18.5	25.5	26.5	29.0	29.5	28.0	30.5	31.5
22	24.0	18.5	19.5	---	20.0	23.0	28.5	26.0	29.0	27.0	---	31.0
23	24.5	25.5	15.5	13.5	25.5	24.5	29.0	33.0	25.0	33.5	31.5	24.5
24	25.5	23.5	18.0	21.0	25.5	26.5	28.0	31.0	24.5	33.5	34.5	25.5
25	21.5	18.0	20.0	14.0	24.0	22.0	31.0	30.0	24.5	33.5	33.5	28.0
26	25.0	17.0	19.0	13.5	23.5	20.0	30.5	21.5	28.0	32.0	33.5	29.0
27	20.5	23.0	14.5	18.0	20.0	20.5	20.0	21.0	27.0	32.0	33.5	28.5
28	19.5	22.0	16.0	19.0	19.0	20.5	20.5	22.0	30.5	31.0	31.5	32.0
29	20.5	16.0	16.5	18.0	---	30.5	20.5	26.5	32.0	32.0	34.0	30.5
30	21.0	17.0	19.5	18.0	---	29.0	20.5	25.0	30.5	31.5	34.0	29.0
31	24.5	---	23.0	15.5	---	29.0	---	26.0	---	32.0	34.0	---
MEAN	24.0	22.0	20.0	17.0	16.5	22.5	24.5	26.0	29.5	30.0	31.5	30.0
WTR YR 1979	MEAN	24.5		MAX	36.0	MIN	8.0					

KANAWHA RIVER BASIN

03201000 POCATALICO RIVER AT SISSONVILLE, WV

LOCATION.--Lat 38°31'35", long 81°37'50", Kanawha County, Hydrologic Unit 05050008, on right bank at downstream side of bridge on U.S. Highway 21 at Sissonville, 0.3 mi (0.5 km) downstream from Grapevine Creek, 1.8 mi (2.9 km) downstream from Pocatalico Creek, and at mile 25.0 (40.2 km).

DRAINAGE AREA.-- 238 mi² (616 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1908 to September 1916, May 1930 to September 1931, February 1937 to September 1978, May 1979 to September 1979.

REVISED RECORDS.--WSP 1335: 1908-10, 1912-13, 1915-16.

GAGE.--Water-stage recorder. Datum of gage is 594.56 ft (181.222 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to Nov. 5, 1948, nonrecording gage at same site, at datum 0.59 ft (0.180 m) lower June 26, 1908, to Sept. 30, 1916.

REMARKS.--Water-discharge records fair.

AVERAGE DISCHARGE.--50 years (water years 1909-16, 1931, 1938-78), 296 ft³/s (8.383 m³/s), 16.89 in/yr (429 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,000 ft³/s (481 m³/s) June 27, 1910, from rating curve extended above 9,100 ft³/s (260 m³/s); maximum gage height, 34.4 ft (10.49 m) Apr. 16, 1939 (from floodmarks); no flow Sept. 25-29, 1959, July 9, Aug. 4, 6-8, 20, 21, Sept. 11, 12, 17, 18, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for period May to September, 3,160 ft³/s (89.5 m³/s) Sept. 23, gage height, 14.85 ft (4.526 m); minimum, 10 ft³/s (0.28 m³/s) Sept. 13, gage height 1.97 ft (0.600 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	141	22	61	96
2								---	200	23	41	64
3								---	121	26	30	49
4								---	105	24	23	39
5								---	80	31	19	32
6								---	59	77	16	28
7								---	45	35	15	27
8								---	37	22	16	23
9								---	33	16	20	20
10								---	29	15	26	16
11								---	33	15	44	14
12								---	30	15	140	12
13								---	30	16	165	11
14								---	23	59	76	18
15								---	18	109	41	28
16								139	16	74	29	24
17								106	15	87	21	23
18								80	17	63	17	17
19								65	25	36	334	14
20								54	22	27	234	12
21								50	40	22	141	206
22								45	406	16	124	2550
23								50	308	16	113	2350
24								308	240	178	82	558
25								294	161	243	61	215
26								452	80	384	82	126
27								568	47	1040	370	83
28								790	32	466	230	127
29								382	25	215	970	366
30								201	22	141	530	210
31								138	---	98	174	---
TOTAL	---	---	---	---	---	---	---	---	2440	3611	4245	7358
MEAN	---	---	---	---	---	---	---	---	81.3	116	137	245
MAX	---	---	---	---	---	---	---	---	406	1040	970	2550
MIN	---	---	---	---	---	---	---	---	15	15	15	11
CFSM	---	---	---	---	---	---	---	---	.34	.49	.58	1.03
IN.	---	---	---	---	---	---	---	---	.38	.56	.66	1.15

KANAWHA RIVER BASIN

287

03201000 POCATALICO RIVER AT SISSONVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to September 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
OCT 02...	1230	17	--	--	14.0	17.0	--	--	--	--
APR 22...	0840	124	210	6.7	--	15.0	78	30	.0	.0
MAY 29...	1750	314	--	--	--	--	--	--	--	--
JUL 09...	1030	18	515	7.3	20.5	21.0	140	74	.0	.0
AUG 23...	1330	116	280	6.8	28.0	23.0	83	25	.0	.0
SEP 11...	1515	13	350	7.6	--	23.0	100	38	.0	.0
25...	1030	198	180	7.1	18.0	17.0	58	23	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS C02)	SULFATE DIS- SOLVED (MG/L AS SC4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
APR 22...	23	5.0	--	--	48	--	18	35	136	.19	45.5
JUL 09...	42	9.0	60	2.2	68	6.7	15	120	323	.44	15.7
AUG 23...	25	5.1	17	.8	58	18	16	29	160	.22	50.1
SEP 11...	31	6.1	26	1.1	65	3.2	16	53	202	.27	7.09
25...	17	3.7	9.1	.5	35	5.4	17	14	106	.14	56.7

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
APR 22...	--	--	--	--	--	750	680	70	--
JUL 09...	--	--	--	--	--	920	890	30	--
AUG 23...	--	--	--	--	--	2200	2200	50	--
SEP 11...	0	<10	<10	<10	<10	980	--	60	8800
25...	--	--	--	--	--	1300	--	110	--

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
APR 22...	--	120	0	120	--	--	--	--
JUL 09...	--	310	20	290	--	--	--	--
AUG 23...	--	230	110	120	--	--	--	--
SEP 11...	<10	420	80	340	390	.00	0	30
25...	--	140	50	90	--	--	--	--

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV
(National stream-quality accounting network station)

LOCATION.--Lat 38°31'32", long 81°54'40", Putnam County, Hydrologic Unit 05050008, on left bank at intake line to Ohio River Valley Water Sanitation Commission (ORSANCO) monitor at Kanawha Valley Power Company raw water intake at Winfield Dam, 1.0 mi (1.6 km) downstream from Winfield Toll Bridge, and at mile 31.1, (50.0 km).

DRAINAGE AREA.--11,809 mi² (30,585 km²).

PERIOD OF RECORD.--Water years 1957-70, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1956 to September 1970, January 1974 to current year.

pH: October 1974 to current year.

WATER TEMPERATURES: October 1956 to September 1970, January 1974 to current year.

DISSOLVED OXYGEN: October 1974 to current year.

REMARKS.--Discharges in quality-water tables are estimated.

COOPERATION.--Records of specific conductance, pH, water temperatures, and dissolved oxygen were furnished by ORSANCO.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,700 micromhos Apr. 21, 1961; minimum 76 micromhos Mar. 17, 1978.

pH: Maximum daily, 8.6 units May 14, 1977; minimum daily, 5.3 units July 16, 1979.

WATER TEMPERATURES: Maximum daily, 33.0°C July 24, 1964; minimum daily, 0.0°C Feb. 14, 1958, Mar. 12, 1960, Jan. 30, 1978.

DISSOLVED OXYGEN: Maximum daily, 16.0 mg/L Feb. 19, 20, 1977; minimum daily, 3.1 mg/L July 28, 1977.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 494 micromhos Nov. 28; minimum recorded, 121 micromhos Mar. 7.

pH: Maximum daily, 7.6 units Mar. 16, 17; minimum daily, 5.3 units July 16.

WATER TEMPERATURES: Maximum daily, 27.5°C Aug. 10; minimum daily, 0.5°C Feb. 14, 19, 20.

DISSOLVED OXYGEN: Maximum daily, 15.2 mg/L Mar. 1; minimum recorded, 5.2 mg/L Oct. 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	pH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT											
11...	1000	F4440	280	7.4	19.0	1.0	--	120	24	87	48
NOV											
07...	0815	F2820	310	7.4	15.0	2.0	7.9	270	71	99	57
DEC											
05...	0945	F21900	155	7.3	10.0	200	9.7	5600	6200	56	26
JAN											
16...	1000	F17700	140	7.1	3.0	2.0	13.2	430	430	48	27
MAR											
13...	0930	F32200	110	6.8	7.0	9.0	11.6	870	100	43	22
APR											
10...	1000	F30600	88	6.4	10.0	15	--	820	200	54	24
17...	0820	F17900	145	6.6	12.5	1.0	9.6	620	130	58	23
MAY											
09...	0905	F18700	110	7.3	17.0	1.0	9.8	350	11	49	27
JUN											
19...	0930	F16900	170	8.0	22.0	1.0	7.1	1300	6	64	31
JUL											
03...	1015	F15200	185	8.3	22.0	3.0	7.4	970	6	68	26
SEP											
05...	0930	F9910	240	6.7	25.0	8.0	7.9	360	37	66	36

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT 11...	25	6.0	33	44	1.5	--	2.1	39	55	45
NOV 07...	28	7.0	34	42	1.5	--	2.4	42	55	50
DEC 05...	14	5.1	11	29	.6	--	2.4	30	36	13
JAN 16...	12	4.3	9.3	29	.6	--	1.4	21	32	12
MAR 13...	11	3.8	7.0	25	.5	--	1.2	21	26	7.7
APR 10...	14	4.6	9.9	28	.6	--	1.7	30	31	10
17...	15	5.1	11	28	.6	--	1.5	35	32	10
MAY 09...	12	4.5	9.2	28	.6	--	1.4	22	28	9.1
JUN 19...	17	5.3	17	36	.9	--	1.4	33	30	18
JUL 03...	19	4.9	14	31	.7	15	1.4	42	36	16
SEP 05...	17	5.6	15	33	.8	17	1.8	30	39	16
DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)
OCT 11...	.2	4.2	201	194	.27	.67	--	.32	--	.58
NOV 07...	.1	2.2	218	204	.30	.52	--	.40	--	.80
DEC 05...	.1	4.8	117	104	.16	.70	--	.13	--	.65
JAN 16...	.1	5.8	100	90	.14	.66	--	.08	--	.24
MAR 13...	.1	5.3	77	75	.10	.67	--	.08	--	.10
APR 10...	.1	6.0	93	95	.13	.52	--	.08	--	.26
17...	.1	6.0	103	102	.14	.51	--	.09	.11	.24
MAY 09...	.0	5.3	92	83	.13	.47	--	.09	.11	.29
JUN 19...	.1	6.1	139	115	.19	.48	--	.14	.17	.39
JUL 03...	.1	6.3	135	123	.18	.55	--	.11	.13	.60
SEP 05...	.1	5.6	133	120	.18	.45	.44	.20	.24	.33
DATE	NITRO- GEN, KJEL- DAHL, TOTAL (MG/L AS N)	NITRO- GEN, NH4 + ORG. SUSP. TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHATE, TOTAL (MG/L AS P04)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P04)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT 11...	.90	.00	.91	1.6	--	7.0	--	.06	--	.04
NOV 07...	1.2	.46	.74	1.7	--	7.6	--	.12	--	.09
DEC 05...	.78	.41	.37	1.5	--	6.6	--	.11	--	.00
JAN 16...	.32	.13	.19	.98	--	4.3	--	.03	--	.01
MAR 13...	.18	.02	.16	.85	--	3.8	--	.03	--	.01
APR 10...	.34	.00	.44	.86	--	3.8	--	.06	--	.02
17...	.33	.16	.17	.84	--	3.7	.12	.04	.12	.01
MAY 09...	.38	.21	.17	.85	--	3.8	.06	.02	.06	.01
JUN 19...	.53	.00	.60	1.0	--	4.5	.18	.06	.18	.03
JUL 03...	.71	.30	.41	1.3	--	5.6	--	.06	.18	.05
SEP 05...	.53	.00	.53	.98	.97	4.3	--	.05	.15	.03

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDED TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDED RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
NOV 07...	1	--	1	0	0	0	21	14	7	10
MAR 13...	2	--	1	0	0	0	0	0	0	10
MAY 09...	2	--	1	0	0	0	0	0	0	20
SEP 05...	2	1	1	0	0	50	0	0	0	20

DATE	CHROMIUM, SUSPENDED RECOV. (UG/L AS CR)	CHROMIUM, DIS- SOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)
NOV 07...	10	0	2	1	1	3	2	1	300	280
MAR 13...	4	6	0	0	0	44	44	0	1300	1200
MAY 09...	10	10	2	2	0	2	0	5	600	590
SEP 05...	10	10	0	0	1	13	11	2	560	--

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV 07...	20	360	250	110	40	40	0	<.5	.0	<.5
MAR 13...	70	6	3	3	70	30	40	<.5	.0	<.5
MAY 09...	10	11	11	0	50	20	30	<.5	.0	<.5
SEP 05...	40	4	3	1	100	30	70	<.5	.0	<.5

DATE	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDED TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDED RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)
NOV 07...	0	0	0	0	0	0	20	20	0	<2.6
MAR 13...	0	0	0	0	0	0	50	50	0	--
MAY 09...	0	0	0	0	0	0	20	0	20	1.6
SEP 05...	0	0	0	0	0	0	10	0	10	--

[illegible]

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)	DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C)
OCT 11...	2.2	--	--	APR 17...	1.5	--	--
NOV 07...	--	3.6	1.3	MAY 09...	--	1.7	.3
DEC 05...	6.6	--	--	JUN 19...	2.0	--	--
JAN 16...	2.0	--	--	JUL 03...	4.1	--	--
MAR 13...	--	2.0	.4	SEP 05...	--	2.4	.2
APR 10...	2.1	--	--				

DATE	PCB, TOTAL (UG/L)	ALDRIN, TOTAL (UG/L)	CHLOR- DANE, TOTAL (UG/L)	DDD, TOTAL (UG/L)	DDE, TOTAL (UG/L)	DDT, TOTAL (UG/L)	DI- ELDRIN, TOTAL (UG/L)	ENDRIN, TOTAL (UG/L)	ETHION, TOTAL (UG/L)	HEPTA- CHLOR, TOTAL (UG/L)	HEPTA- CHLOR EPOXIDE TOTAL (UG/L)
NOV 07...	--	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MAY 09...	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SEP 05...	--	--	--	--	--	--	--	--	--	--	--

DATE	LINDANE TOTAL (UG/L)	MALA- THION, TOTAL (UG/L)	METH- OXY- CHLOR, TOTAL (UG/L)	METHYL PARA- THION, TOTAL (UG/L)	METHYL TRI- THION, TOTAL (UG/L)	PARA- THION, TOTAL (UG/L)	TOX- APHENE, TOTAL (UG/L)	TOTAL TRI- THION (UG/L)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M
NOV 07...	ND	ND	ND	ND	ND	ND	ND	ND	3.39	2.44
MAY 09...	ND	ND	ND	ND	ND	ND	ND	ND	20.5	17.0
SEP 05...	--	--	--	--	--	--	--	--	23.1	19.2

DATE	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 11...	--	--	--	11	132	68
NOV 07...	27000	16.9	2.67	8	61	30
DEC 05...	--	--	--	190	11200	98
JAN 16...	--	--	--	21	1000	83
MAR 13...	--	--	--	26	2260	82
APR 10...	0	--	--	76	6280	62
APR 17...	--	--	--	12	580	76
MAY 09...	680	92.0	20.4	141	7120	7
JUN 19...	1800	--	--	18	821	80
JUL 03...	750	--	--	17	698	69
SEP 05...	610	90.0	5.41	15	401	81

ND Not detected.

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	376	---	442	191	198	139	183	156	154	208	149	226
2	382	---	410	182	215	133	201	160	171	233	152	226
3	361	---	352	137	225	129	207	166	188	245	165	221
4	332	---	322	131	232	129	193	174	188	257	177	225
5	304	---	226	---	250	136	172	184	190	266	188	245
6	300	412	206	---	266	128	167	170	179	265	195	268
7	307	416	226	157	275	121	168	152	175	251	196	205
8	314	415	206	168	284	123	166	151	181	228	214	172
9	325	396	147	138	283	122	176	164	195	217	233	158
10	326	375	123	136	281	129	184	171	197	215	253	170
11	328	381	139	---	280	141	175	181	204	231	265	184
12	318	392	161	---	285	153	170	196	199	246	277	189
13	308	395	183	---	289	155	172	194	191	256	295	197
14	292	391	162	---	292	156	180	159	175	254	273	225
15	284	409	138	---	335	165	187	128	175	287	256	224
16	309	428	144	182	283	174	187	127	181	281	248	216
17	332	---	150	191	188	178	197	139	196	282	230	221
18	337	---	154	206	164	185	202	150	207	230	230	224
19	356	484	151	210	162	189	201	166	225	197	236	236
20	356	480	156	211	169	194	202	180	217	175	258	264
21	355	491	172	198	172	207	206	189	223	175	245	260
22	339	489	156	142	182	209	208	202	209	205	230	249
23	336	466	158	125	170	217	206	216	159	217	219	195
24	334	438	145	---	158	220	216	232	149	222	242	143
25	349	434	159	---	135	206	239	246	153	233	226	132
26	340	445	160	145	124	158	238	214	160	244	222	133
27	337	459	155	150	122	143	227	181	172	206	233	139
28	343	494	152	158	129	139	207	177	183	167	235	147
29	357	437	163	170	---	147	168	162	193	141	219	159
30	426	407	171	180	---	159	156	148	198	144	219	165
31	458	---	184	189	---	171	---	150	---	143	212	---
MEAN	339	432	193	168	219	160	192	174	186	223	226	201
WTR YR 1979	MEAN	223	MAX	494	MIN	121						

PH (UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.5	---	6.8	6.8	6.9	6.4	7.4	7.3	6.7	7.1	---	6.9
2	6.5	---	6.8	6.9	6.9	6.5	7.3	7.2	6.7	6.9	---	6.9
3	6.5	---	6.7	6.7	6.9	6.6	7.3	7.2	6.9	6.8	---	6.8
4	6.7	---	6.7	6.8	7.0	6.6	7.2	7.2	6.9	6.8	---	6.9
5	6.8	---	6.5	---	7.0	6.7	7.2	7.2	7.0	6.8	---	6.9
6	6.7	6.9	6.6	---	7.0	6.7	7.3	7.2	7.0	6.9	---	7.0
7	6.7	7.0	6.8	6.9	7.0	6.7	7.3	7.1	7.0	6.8	---	7.1
8	6.7	7.1	6.7	6.8	7.1	6.7	7.3	7.1	7.0	6.8	---	7.0
9	7.0	7.0	6.2	6.7	7.1	---	7.3	7.1	7.0	6.6	---	7.0
10	6.7	7.3	6.0	6.8	7.1	---	7.3	7.1	7.0	6.6	7.1	7.1
11	6.6	7.0	6.1	---	7.1	---	7.2	7.2	7.0	6.5	6.9	7.1
12	6.4	6.8	6.3	---	7.1	---	7.2	7.3	7.1	6.0	6.9	7.2
13	6.2	6.8	6.5	---	7.0	---	7.3	7.4	7.1	5.8	7.1	7.1
14	6.3	6.8	6.6	---	6.9	---	7.3	7.3	7.0	5.8	7.2	7.1
15	6.5	6.9	6.6	---	7.0	7.5	7.3	7.2	7.0	5.6	7.3	7.2
16	6.5	6.9	6.7	6.8	7.0	7.6	7.4	7.2	6.9	5.3	7.3	7.2
17	6.6	---	6.7	6.9	6.9	7.6	7.4	7.3	7.0	5.8	7.2	7.1
18	6.7	---	6.7	6.9	6.9	7.5	7.3	7.3	6.8	6.8	7.2	7.1
19	6.8	6.7	6.6	6.9	7.0	7.5	7.3	7.3	6.8	6.8	7.1	7.1
20	6.7	6.7	6.6	7.0	7.0	7.5	7.3	7.3	7.0	6.8	7.1	7.1
21	6.7	6.7	6.6	6.9	7.0	7.5	7.3	7.4	7.0	6.7	7.2	7.2
22	6.6	6.7	6.7	6.8	6.6	7.5	7.3	7.4	6.9	6.7	7.1	7.2
23	6.7	6.6	6.9	6.7	6.5	7.4	7.3	7.4	6.7	6.7	7.1	7.1
24	6.8	6.6	6.7	---	6.5	7.3	7.4	7.1	6.8	---	7.2	7.0
25	6.8	6.7	6.8	---	6.4	7.3	7.5	7.0	6.8	---	7.1	7.0
26	6.8	6.7	6.9	6.8	6.4	7.3	7.5	7.1	6.9	---	6.9	7.0
27	6.7	6.8	6.9	6.9	6.3	7.3	7.5	7.1	7.0	---	6.9	7.0
28	6.7	6.8	6.8	6.9	6.4	7.3	7.3	7.0	7.0	---	6.9	7.0
29	6.7	6.8	6.9	6.9	---	7.3	7.3	6.9	7.0	---	7.0	7.0
30	6.7	6.8	6.9	6.9	---	7.3	7.3	6.8	7.0	---	7.0	6.9
31	6.7	---	6.9	6.9	---	7.3	---	6.8	---	---	6.9	---
MEAN	6.7	6.8	6.7	6.9	6.9	7.2	7.3	7.2	6.9	6.5	7.1	7.0
WTR YR 1979	MEAN	6.9	MAX	7.6	MIN	5.3						

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	---	11.0	4.5	2.0	5.0	11.0	13.5	17.5	21.0	23.5	25.5
2	24.0	---	10.5	6.0	1.5	5.5	12.0	13.5	18.0	22.0	24.0	25.5
3	24.0	---	10.5	5.5	1.5	6.0	12.5	14.5	18.5	22.5	24.5	26.0
4	23.5	---	11.0	4.0	1.5	6.0	12.5	14.5	19.0	23.0	25.0	26.0
5	23.0	---	10.0	---	1.0	6.5	12.0	15.5	20.0	23.0	25.5	26.0
6	22.5	15.5	9.5	---	1.0	7.0	12.0	15.5	21.0	23.5	26.0	26.5
7	22.0	15.5	9.0	3.0	1.0	7.5	11.5	15.5	21.0	23.5	26.5	26.0
8	21.5	15.5	9.0	3.5	1.0	7.5	11.0	16.0	21.5	23.5	27.0	24.5
9	21.0	15.5	10.0	3.5	1.0	7.5	10.5	17.0	22.0	23.0	27.0	23.0
10	20.5	15.0	9.0	3.0	1.0	7.5	10.5	18.0	22.5	23.0	27.5	23.0
11	20.0	15.0	7.5	---	1.0	7.5	10.0	19.0	22.5	23.5	27.0	23.5
12	20.0	15.0	7.0	---	1.0	7.0	10.5	20.5	22.5	23.5	27.0	23.5
13	20.0	15.0	6.0	---	1.0	7.0	11.0	21.5	22.5	23.5	27.0	23.5
14	19.5	15.0	5.5	---	.5	7.5	12.5	20.0	22.0	24.0	26.5	23.5
15	19.0	15.0	5.5	---	1.0	7.5	13.5	17.0	22.0	24.5	26.0	23.5
16	19.0	15.0	6.0	2.5	1.5	7.5	13.0	16.5	22.0	25.0	25.5	23.0
17	18.5	---	6.0	2.5	1.5	7.0	13.0	17.0	22.0	25.0	25.0	23.0
18	18.0	---	6.0	3.0	1.0	7.0	13.0	17.5	22.5	25.5	25.0	23.0
19	18.0	14.5	6.0	2.5	.5	7.5	13.5	17.5	23.0	25.0	24.5	23.0
20	18.0	14.0	6.5	2.5	.5	8.5	13.5	18.5	23.5	24.0	24.5	23.0
21	18.0	14.0	6.5	3.5	1.0	9.5	14.0	19.0	23.0	23.5	24.5	23.0
22	18.5	14.0	7.0	4.0	2.0	10.0	14.5	19.0	22.0	23.0	24.0	22.0
23	18.5	14.0	6.5	4.0	3.0	11.0	14.5	19.5	20.5	24.5	24.0	20.0
24	18.0	13.5	5.5	---	4.5	11.5	15.0	20.0	20.0	25.0	24.5	19.5
25	17.5	13.5	5.0	---	5.5	11.5	16.0	19.5	19.0	20.0	24.0	19.5
26	17.5	13.0	5.0	2.5	5.5	9.5	16.5	18.5	19.0	20.0	24.0	20.0
27	17.5	12.5	5.0	2.5	5.5	8.0	17.0	17.0	19.5	23.0	25.0	20.0
28	17.0	12.5	4.5	2.5	5.0	7.5	17.0	16.0	20.0	23.0	26.0	20.0
29	17.0	11.5	4.0	2.5	---	8.0	15.0	16.0	21.0	22.0	25.5	20.0
30	17.0	11.0	4.0	2.5	---	9.0	13.5	16.0	21.0	22.0	25.0	20.0
31	17.0	---	4.0	2.0	---	10.5	---	16.5	---	23.0	25.5	---
MEAN	19.5	14.0	7.0	3.5	2.0	8.0	13.0	17.5	21.0	23.5	25.5	23.0
WTR YR 1979	MEAN	15.0	MAX	27.5	MIN	.5						

DISSOLVED OXYGEN (DO), MG/L, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	---	11.2	10.8	12.0	15.2	12.7	10.4	10.3	8.3	7.2	---
2	5.7	---	11.4	10.2	12.3	14.5	12.2	10.3	10.2	6.1	6.9	7.3
3	5.5	---	11.8	10.0	12.7	13.5	11.8	10.1	9.7	6.0	6.7	7.0
4	7.0	---	11.9	11.4	13.7	14.0	11.6	9.9	9.7	6.3	6.2	7.0
5	8.4	---	11.5	---	14.0	14.5	11.9	9.5	9.6	6.4	5.8	7.0
6	9.1	10.4	11.7	---	11.8	14.0	12.1	9.4	9.5	6.0	6.6	7.1
7	8.9	10.5	12.3	11.7	10.9	14.0	12.3	9.6	8.7	7.7	7.0	7.5
8	8.2	11.7	12.2	12.2	11.1	13.4	12.5	9.6	8.3	7.3	6.8	8.4
9	7.6	11.5	10.1	12.0	---	13.3	12.6	9.4	8.2	6.0	6.0	8.0
10	7.7	12.3	11.2	13.6	---	13.2	12.4	9.0	7.8	6.1	6.3	8.0
11	7.5	12.5	12.5	10.0	---	13.0	12.4	8.9	7.7	6.2	5.8	7.8
12	7.2	11.0	12.9	10.0	---	13.0	12.5	8.5	7.9	7.9	5.7	8.0
13	7.1	11.0	13.3	10.0	---	12.6	12.4	8.2	7.6	7.5	5.8	7.3
14	6.9	10.5	13.0	10.0	---	12.4	12.0	7.9	7.9	7.6	6.0	7.1
15	6.8	10.5	12.7	10.0	---	12.6	11.7	8.9	7.9	7.7	6.4	6.9
16	7.2	10.5	12.8	11.5	---	12.7	11.6	9.4	7.6	7.6	6.3	6.8
17	7.3	---	12.7	12.3	11.5	13.1	11.6	9.3	8.0	7.3	7.0	6.6
18	7.6	---	12.5	12.7	12.2	13.3	11.7	9.1	7.5	7.7	7.1	6.2
19	7.5	9.4	12.4	12.5	12.5	12.1	11.5	8.9	7.9	7.9	7.2	7.1
20	7.4	9.3	12.2	12.2	12.2	11.4	11.7	8.6	8.7	6.1	7.2	8.2
21	6.8	9.4	11.9	11.9	11.9	11.3	11.6	8.3	9.1	6.3	7.9	7.6
22	6.6	9.3	11.4	11.9	12.3	11.2	11.5	8.2	8.8	6.3	7.4	8.2
23	6.6	9.1	11.5	11.5	12.6	12.1	11.3	7.8	9.4	7.9	7.0	8.5
24	6.3	8.7	12.0	10.0	13.0	12.5	10.5	9.1	9.9	7.2	7.0	9.7
25	6.0	9.1	12.3	---	13.4	12.4	9.8	9.6	10.1	7.0	7.1	10.5
26	6.3	9.4	12.0	12.1	13.8	13.6	9.7	9.9	10.0	6.7	6.8	10.2
27	6.3	9.7	11.9	12.4	14.2	14.4	9.5	10.6	10.1	6.5	6.5	10.1
28	6.1	10.0	12.0	12.3	15.0	14.3	9.2	10.9	10.0	6.5	---	10.1
29	5.7	10.8	12.0	12.2	---	13.9	9.7	10.8	9.2	7.0	6.4	9.3
30	5.2	11.3	11.5	12.0	---	13.7	10.3	10.7	8.6	7.1	5.5	9.3
31	---	---	11.1	12.0	---	13.4	---	10.9	---	7.0	5.6	---
MEAN	7.0	10.4	12.0	11.5	12.7	13.2	11.5	9.4	8.9	7.7	6.6	8.0
WTR YR 1979	MEAN	9.8	MAX	15.2	MIN	5.2						

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	NOV 7,78 0815	APR 10,79 1000	MAY 9,79 0905	JUN 19,79 0930	JUL 3,79 1015	SEP 6,79 0930				
TOTAL CELLS/ML	27000	0	680	1800	750	610				
DIVERSITY: DIVISION	0.2	0.0	0.6	1.0	1.1	1.2				
..CLASS	0.3	0.0	0.6	1.0	1.1	1.2				
...ORDER	0.3	0.0	1.8	1.9	1.5	1.3				
...FAMILY	0.3	0.0	2.2	2.6	2.2	1.5				
....GENUS	0.0	0.0	2.2	3.2	2.4	1.6				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)										
..CHLOROPHYCEAE										
...CHLOROCOCCALES										
...COELASTRACEAE										
....COELASTRUM	--	-	--	-	--	-	130#	17	--	-
...MICRACTINIACEAE										
....GOLENKINIA	--	-	--	-	120#	17	--	-	--	-
...MICRACTINIUM	510	2	--	-	--	-	--	-	--	-
...OOCYSTACEAE										
....ANKISTRODESMUS	260	1	--	-	26	4	26	3	13	2
...DICTYOSPHAERIUM	--	-	--	-	90	5	--	-	--	-
...FRANCEIA	--	-	--	-	26	1	--	-	--	-
...OOCYSTIS	--	-	--	-	--	-	13	2	--	-
...SELENASTRUM	--	-	--	-	--	-	--	-	26	4
...SCENEDESMACEAE										
...CRUCIGENIA	--	-	--	-	52	3	--	-	52	9
...SCENEDESMUS	--	-	--	-	240	14	280#	38	--	-
..VOLVOCALES										
...CHLAMYDOMONADACEAE	260	1	--	-	--	-	--	-	--	-
...CHLAMYDOMONAS	--	-	--	-	52	8	190	11	13	2
...VOLVOCAEAE										
....PANDORINA	--	-	--	-	100	6	--	-	--	-
CHRYSTOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
...COSCINODISCACEAE										
....CYCLOTELLA	9500#	36	--	-	320#	47	180	10	170#	22
...MELOSIRA	16000#	60	--	-	--	-	570#	32	26	3
...PENNALES										
...ACHNANTHACEAE										
...COCONEIS	--	-	--	-	--	-	26	1	--	-
...CYMBELLACEAE										
....CYMBELLA	--	-	--	-	--	-	13	1	--	-
...FRAGILARIACEAE										
...ASTERIONELLA	--	-	--	-	52	8	90	5	--	-
...FRAGILARIA	--	-	--	-	--	-	77	10	--	-
...SYNEDRA	--	-	--	-	--	-	52	3	--	-
...GOMPHONEMATACEAE										
...GOMPHONEMA	--	-	--	-	--	-	13	1	--	-
...NAVICULACEAE										
...NAVICULA	--	-	--	-	13	2	13	1	--	-
...NITZSCHACEAE										
...NITZSCHIA	--	-	--	-	100#	15	52	3	--	-
..CHRYSTOPHYCEAE										
...CHRYSONOMADALES										
...MALLOMONADACEAE										
....MALLOMONAS	*	0	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
...CRYPTOMONADACEAE										
....CRYPTOMONAS	--	-	--	-	--	-	--	-	13	2
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...HORMOGONALS										
...OSCILLATORIACEAE										
....OSCILLATORIA	--	-	--	-	--	-	--	-	440#	72
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...PERIDINIALES										
...GLENODINIACEAE										
....GLENODINIUM	--	-	--	-	--	-	13	1	13	2

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%

* - OBSERVED ORGANISM; MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%

OHIO RIVER MAIN STEM

295

03201500 OHIO RIVER AT POINT PLEASANT, WV

LOCATION.--Lat 38°50'25", long 82°08'30", Mason County, Hydrologic Unit 05030202, on left bank at Point Pleasant, 1,200 ft (366 m) upstream from Kanawha River, and at mile 265.4 (427.0 km) measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--52,760 mi² (136,650 km²), approximately, includes that of Kanawha River.

PERIOD OF RECORD.--March 1940 to September 1977, (since October 1952, no low-flow records), October 1977 to current year (gage heights only). Records of gage heights collected in this vicinity since 1889 are in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 514.10 ft (156.698 m) Sandy Hook datum. Prior to Oct. 1, 1951, water-stage recorder at site 0.3 mi (0.5 km) upstream at same datum.

REMARKS.--Corps of Engineers gage-height telemeters at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 55.00 ft (16.764 m) Apr. 16, 1948; minimum gage height recorded, 22.52 ft (6.864 m) Sept. 10, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1896, 62.8 ft (19.14 m) Mar. 30, 1913. Flood of Jan. 27, 1937, reached a stage of 62.7 ft (19.11 m).

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 48.06 ft (14.649 m) Feb. 27; minimum gage height, 23.45 ft (7.148 m) Sept. 9.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.49	24.49	24.55	26.32	25.12	43.38	26.79	24.31	25.23	23.96	24.31	24.55
2	24.55	24.75	24.32	32.15	25.06	38.26	27.23	24.67	25.15	24.11	24.23	24.47
3	24.44	24.30	24.91	38.48	24.58	35.99	27.69	24.73	24.92	23.97	24.25	24.28
4	24.34	24.98	27.50	40.13	24.64	34.96	29.05	25.96	24.73	24.26	24.28	24.05
5	24.41	24.89	29.63	35.42	24.44	35.19	29.35	26.48	25.10	24.32	23.97	24.39
6	24.26	24.41	28.88	28.35	24.43	38.49	28.27	26.11	24.70	24.19	24.11	23.86
7	24.44	24.20	26.74	27.39	24.70	40.46	27.11	24.64	25.09	24.15	24.04	24.30
8	24.32	24.41	28.02	29.09	24.98	41.00	26.32	24.44	24.49	24.09	24.47	24.11
9	24.42	24.75	40.10	29.75	24.63	38.47	26.44	24.18	25.11	24.23	24.08	23.66
10	24.39	24.90	46.03	28.55	24.71	33.95	28.69	24.12	24.56	24.20	23.89	24.23
11	24.76	24.80	45.25	27.37	25.15	31.17	30.33	24.29	25.00	24.49	24.24	24.02
12	24.65	24.61	39.54	26.89	25.45	29.40	29.72	24.09	25.09	24.64	24.48	23.92
13	24.26	24.66	29.10	26.29	25.23	28.43	28.12	25.15	24.47	24.42	24.39	24.20
14	24.42	24.70	26.69	26.08	25.75	27.73	27.63	25.88	24.29	24.33	24.32	24.34
15	24.35	24.93	26.48	27.23	26.06	27.54	27.23	25.50	24.41	24.27	24.46	24.07
16	24.44	24.79	25.65	26.55	26.28	27.22	26.60	24.96	24.45	24.72	24.18	24.33
17	24.44	24.77	25.52	25.77	26.54	27.20	26.46	24.54	24.11	24.43	24.02	25.34
18	24.29	24.92	25.26	25.91	27.17	26.09	26.59	24.45	24.56	24.25	24.10	24.62
19	24.87	24.65	25.06	25.71	26.69	26.09	26.25	24.48	24.44	24.14	24.36	24.77
20	24.66	24.11	25.51	25.62	26.26	25.26	25.75	24.29	24.38	24.30	24.27	24.44
21	24.51	24.14	26.98	29.25	26.33	24.66	25.17	24.53	24.48	24.33	25.02	24.46
22	24.59	24.54	28.70	35.40	26.66	24.60	25.06	24.50	24.86	24.72	24.79	25.98
23	24.33	24.79	28.36	33.77	28.24	24.12	24.72	24.52	25.14	24.39	24.43	27.52
24	24.43	24.55	26.57	29.71	33.63	24.37	24.57	24.93	24.63	23.95	24.38	26.93
25	24.30	24.42	26.23	31.93	40.94	26.55	25.04	26.07	24.16	23.61	24.58	25.35
26	24.40	24.41	27.13	31.03	45.37	27.60	25.10	27.41	24.43	23.85	24.70	24.89
27	24.74	24.54	26.81	27.87	47.61	27.21	24.98	28.42	24.30	24.45	25.68	24.45
28	24.34	24.80	25.63	27.20	47.18	26.43	25.91	28.98	24.17	24.62	25.90	24.71
29	24.30	24.95	25.25	26.37	---	25.89	26.10	28.08	24.24	24.45	25.24	26.08
30	24.25	24.79	25.10	25.79	---	25.14	24.94	26.78	24.45	24.93	25.45	26.55
31	24.33	---	25.39	25.57	---	25.84	---	25.72	---	24.55	24.53	---
MEAN	24.44	24.63	28.61	29.13	28.71	30.28	26.77	25.39	24.64	24.30	24.49	24.76
MAX	24.87	24.98	46.03	40.13	47.61	43.38	30.33	28.98	25.23	24.93	25.90	27.52
MIN	24.25	24.11	24.32	25.57	24.43	24.12	24.57	24.09	24.11	23.61	23.89	23.66

WTR YR 1979 MEAN 26.34 MAX 47.61 MIN 23.61

03202240 ALLEN CREEK AT ALLEN JUNCTION, WV

LOCATION.--Lat 37°35'33", long 81°20'48", Wyoming County, Hydrologic Unit 05070101, on right bank, 0.3 mi (0.5 km) upstream from mouth, on county road 0.4 mi (0.6 km) north of intersection with State Route 16, 0.4 mi (0.6 km) northeast of Allen Junction, and 1.5 mi (2.4 km) north of Corinne.

DRAINAGE AREA.--8.43 mi² (21.83 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage and rainfall recorders. Altitude of gage is 1,500 ft (457 m) from topographic map. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

REMARKS.--Water-discharge records fair, except those for period of no gage-height record Oct. 11 to Nov. 27, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 750 ft³/s (21.2 m³/s) Jan. 21, 1979, gage height 5.99 ft (1.826 m); minimum daily discharge, 0.35 ft³/s (0.010 m³/s) Sept. 30, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 100 ft³/s (2.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 2	0730	107 3.03	4.93 1.503	Jan. 21	1615	*750 21.2	5.99 1.826
Jan. 8	0315	107 3.03	4.93 1.503	Feb. 24	1845	140 3.96	5.09 1.551
Jan. 21	0100	334 9.46	5.53 1.686	June 21	1145	120 3.40	5.00 1.524

Minimum daily discharge, 0.50 ft³/s (0.014 m³/s) Nov. 4-6, 14.

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.87	.56	1.2	16	11	27	13	15	9.4	8.6	5.5	3.1
2	.96	.54	.96	70	10	22	13	13	11	7.5	4.9	2.5
3	.78	.52	1.7	29	9.0	20	25	12	13	7.1	4.3	2.3
4	.87	.50	5.2	16	7.7	19	44	14	14	14	4.1	2.3
5	.70	.50	3.7	14	4.4	64	39	16	12	14	4.1	2.9
6	.87	.50	2.9	12	3.6	42	29	14	12	10	3.9	3.5
7	.78	.80	3.5	24	3.0	29	24	13	9.4	9.4	3.7	2.9
8	1.1	1.3	5.2	70	2.7	24	20	12	7.5	8.6	3.4	2.9
9	.96	1.1	41	30	2.4	18	22	11	6.1	10	3.3	2.7
10	.87	1.0	18	21	2.2	18	22	9.4	5.5	13	3.3	2.5
11	.78	.90	12	16	2.1	19	19	9.4	6.1	11	4.3	2.7
12	.70	.78	7.1	12	2.0	18	17	14	5.2	9.4	6.4	2.7
13	.87	.62	4.9	10	2.0	15	17	41	4.1	11	5.5	2.3
14	.96	.50	4.1	8.7	2.0	14	16	38	3.5	11	4.6	2.2
15	1.1	.90	3.3	8.1	8.6	15	14	24	3.3	9.8	3.9	2.2
16	.96	1.2	3.1	7.7	12	12	13	19	3.3	8.2	3.6	2.2
17	.90	1.5	3.3	7.4	15	11	12	16	3.3	7.1	3.1	2.0
18	.82	1.3	2.9	7.2	13	10	11	13	3.5	6.1	2.7	1.9
19	.77	1.1	2.9	7.1	12	9.4	9.4	12	12	5.8	4.1	1.8
20	.71	.98	3.3	47	10	8.2	8.6	9.0	12	5.5	7.1	1.7
21	.66	.82	18	339	11	7.5	8.2	8.6	55	5.2	5.5	5.2
22	.62	.73	16	92	17	6.8	8.2	8.2	52	5.2	4.3	6.1
23	.59	.64	12	37	36	11	9.0	9.0	26	4.6	4.1	5.5
24	.56	.68	11	24	82	49	8.6	17	44	4.6	3.7	4.3
25	.75	.74	16	19	82	51	7.5	18	43	4.1	4.1	3.6
26	1.2	.80	15	17	59	29	13	15	25	11	3.9	4.3
27	.78	.88	12	15	42	22	32	16	18	20	3.7	4.1
28	.70	.96	8.6	14	32	18	30	17	14	14	3.9	5.5
29	.66	1.4	6.4	13	---	14	23	14	12	12	4.3	5.5
30	.62	2.0	5.8	13	---	12	18	12	9.4	9.0	3.9	5.5
31	.58	---	11	12	---	13	---	10	---	7.1	3.5	---
TOTAL	25.05	26.75	262.06	1028.2	495.7	647.9	545.5	469.6	454.6	283.9	130.7	98.9
MEAN	.81	.89	8.45	33.2	17.7	20.9	18.2	15.1	15.2	9.16	4.22	3.30
MAX	1.2	2.0	41	339	82	64	44	41	55	20	7.1	6.1
MIN	.56	.50	.96	7.1	2.0	6.8	7.5	8.2	3.3	4.1	2.7	1.7
CFSM	.10	.11	1.00	3.94	2.10	2.48	2.16	1.79	1.80	1.09	.50	.39
IN.†	.11	.12	1.46	4.54	2.19	2.86	2.41	2.07	2.01	1.25	.58	.44
IN.‡	---	2.43	---	---	---	---	4.35	5.64	5.54	5.92	5.08	---
CAL YR 1978	TOTAL	3153.81	MEAN	8.64	MAX	282	MIN	.35	CFSM	1.03	IN	13.92
WTR YR 1979	TOTAL	4468.86	MEAN	12.2	MAX	339	MIN	.50	CFSM	1.45	IN	19.72

† Runoff

‡ Rainfall

03202240 ALLEN CREEK AT ALLEN JUNCTION, WV--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to current year.

pH: March 1978 to current year.

WATER TEMPERATURES: November 1977 to current year.

TURBIDITY: March 1978 to current year.

SUSPENDED-SEDIMENT DISCHARGE: November 1977 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 602 micromhos Sept. 21, 1979; minimum daily, 104 micromhos Jan. 26, 1978.
pH: Maximum daily, 8.5 units on many days in September through December 1978; minimum daily, 6.3 units Dec. 20, 1978.

WATER TEMPERATURES: Maximum daily, 27.0°C Aug. 15, 1979; minimum daily, 0.0°C Jan. 10, 11, 1978.

TURBIDITY: Maximum daily, 100 NTU Apr. 26, 1978, Mar. 20, 1979; minimum daily, 1.9 NTU July 19, 22, 1979.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 902 mg/L Jan. 26, 1978; minimum daily mean, 1 mg/L Oct. 28, 29, 1978.

SEDIMENT LOADS: Maximum daily, 917 tons (832 tonnes) Jan. 26, 1978; minimum daily, 0 tons (0 tonnes) on several days in October through November 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 602 micromhos Sept. 21; minimum daily, 105 micromhos Jan. 9.

pH: Maximum daily, 8.5 units on several days during October through December; minimum daily, 6.3 units Dec. 20.

WATER TEMPERATURES: Maximum daily, 27.0°C Aug. 15; minimum daily, 1.0°C Feb. 6, 20.

TURBIDITY: Maximum daily, 100 NTU Mar. 20; minimum daily, 1.9 NTU July 19, 22.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 675 mg/L Jan. 21; minimum daily mean, 1 mg/L Oct. 28, 29.

SEDIMENT LOADS: Maximum daily, 611 tons (554 tonnes) Jan. 21; minimum daily, 0 tons (0 tonnes) on several days in October through November.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)
OCT								
19...	1200	.87	E670	7.8	--	11.0	4.0	10.6
19...	1450	.77	E670	8.0	23.5	14.5	5.0	10.3
NOV								
15...	1335	.90	E560	7.8	--	14.0	40	8.0
21...	1120	.81	530	7.9	11.0	9.0	5.0	--
DEC								
13...	0940	4.9	329	7.1	--	1.0	7.4	--
JAN								
09...	1600	27	105	6.9	--	3.0	14	--
24...	1630	24	286	6.8	--	5.0	20	13.1
31...	1400	12	300	7.6	-2.5	3.5	3.3	13.4
MAR								
05...	1545	72	201	7.0	--	9.0	35	11.0
07...	1630	25	230	--	11.0	9.0	7.0	11.6
21...	1530	6.1	434	7.4	--	16.0	2.0	9.3
APR								
05...	0955	40	208	6.8	--	9.0	3.0	10.4
11...	1545	17	260	7.9	26.5	14.0	13	9.7
MAY								
16...	1040	20	230	7.8	16.0	13.5	20	10.3
17...	1115	17	306	7.3	--	14.0	15	10.2
JUN								
07...	1025	12	372	8.0	--	17.0	.75	9.5
27...	1110	19	230	7.7	24.0	15.0	7.6	10.1
JUL								
12...	1115	9.4	397	8.9	--	18.0	1.0	9.1
AUG								
08...	1330	3.5	440	8.1	31.0	22.5	4.0	--
24...	1055	3.7	--	--	24.0	24.0	--	--
29...	1300	4.0	540	7.4	28.0	21.0	--	--
SEP								
25...	1115	3.5	447	7.5	--	15.5	--	--
25...	1240	4.0	590	7.7	19.5	16.0	--	--

GUYANDOTTE RIVER BASIN

03202240 ALLEN CREEK AT ALLEN JUNCTION, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)
OCT 19...	170	0	41	16	90	53	3.0	--	3.8	190
NOV 15...	130	0	32	12	76	55	2.9	--	4.6	160
DEC 13...	100	47	22	12	28	36	1.2	--	2.8	57
JAN 24...	99	67	20	12	15	24	.7	--	2.3	32
MAR 05...	66	37	13	8.1	9.6	24	.5	--	1.7	29
APR 21...	130	57	29	14	36	37	1.4	--	2.7	73
MAY 05...	48	15	18	.7	13	36	.8	--	1.7	33
JUN 17...	95	41	20	11	21	32	.9	--	2.4	54
JUL 07...	120	46	25	13	34	38	1.4	--	2.4	70
AUG 12...	130	28	27	14	42	42	1.6	45	2.7	97
SEP 29...	150	41	34	16	52	42	1.8	56	3.7	110
SEP 25...	110	14	26	12	46	59	1.9	49	3.2	100

DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT 19...	--	140	2.3	.1	9.0	421	417	.57	.99	30
NOV 15...	--	110	3.0	.1	7.0	346	341	.47	.84	50
DEC 13...	--	93	1.7	.1	8.5	212	203	.29	2.80	80
JAN 24...	--	97	1.1	.1	7.9	177	175	.24	11.5	60
MAR 05...	--	63	.9	.0	6.8	123	121	.17	23.9	60
APR 21...	--	130	1.4	.1	6.7	276	264	.38	4.55	130
MAY 05...	--	65	.8	.0	7.2	129	127	.18	13.9	110
JUN 17...	--	94	1.2	.0	8.4	190	191	.26	8.72	90
JUL 07...	--	100	1.3	.1	8.6	229	227	.31	7.42	90
AUG 12...	--	110	1.1	.1	8.4	249	264	.34	6.32	100
SEP 29...	8.5	140	1.6	.1	9.9	334	324	.45	3.61	170
SEP 25...	--	110	2.2	.1	9.5	281	270	.38	2.66	170

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDED TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDED RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
DEC 13...	1	0	1	2	0	8	20	19	1	1	0	1
APR 05...	3	2	1	0	0	0	10	0	10	6	4	2
AUG 29...	1	0	1	3	2	1	10	0	10	4	2	2

03202240 ALLEN CREEK AT ALLEN JUNCTION, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)
OCT							
19...	80	--	--	--	560	--	--
NOV							
15...	140	--	--	--	380	--	--
DEC							
13...	200	25	3	22	640	<.5	.0
JAN							
24...	40	--	--	--	370	--	--
MAR							
05...	10	--	--	--	140	--	--
21...	10	--	--	--	460	--	--
APR							
05...	30	1	0	1	250	<.5	.0
MAY							
17...	130	--	--	--	450	--	--
JUN							
07...	110	--	--	--	380	--	--
JUL							
12...	110	--	--	--	470	--	--
AUG							
29...	20	9	7	2	540	<.5	.0
SEP							
25...	50	--	--	--	550	--	--

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC							
13...	<.5	1	0	1	30	10	20
APR							
05...	<.5	0	0	0	60	40	20
AUG							
29...	<.5	0	0	0	50	40	10

DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT			APR		
19...	3	.01	05...	22	2.4
19...	4	.01	11...	7	.32
NOV			MAY		
15...	193	.47	16...	18	.97
21...	3	.01	17...	11	.50
DEC			JUN		
13...	16	.21	07...	8	.26
JAN			27...	19	.97
09...	27	2.0	JUL		
24...	49	3.2	12...	8	.20
31...	14	.45	AUG		
MAR			08...	17	.16
05...	132	26			
07...	18	1.2			
21...	8	.13			

03202240 ALLEN CREEK AT ALLEN JUNCTION, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	506	480	453	150	329	234	261	219	260	361	416	563
2	507	490	461	118	348	251	257	238	---	377	432	565
3	---	480	478	132	344	258	181	243	250	397	465	558
4	494	460	265	179	343	270	162	239	240	320	480	558
5	507	470	403	195	375	176	160	229	270	319	479	490
6	511	470	402	203	358	172	172	230	270	351	499	492
7	500	480	402	173	356	209	200	239	309	371	512	538
8	499	460	297	117	376	229	202	246	370	387	525	553
9	511	470	168	105	389	230	214	258	380	302	534	576
10	480	480	203	160	383	245	215	275	391	336	552	574
11	450	470	230	169	411	241	240	282	391	350	490	581
12	500	470	244	188	399	253	224	---	433	346	342	594
13	470	470	278	201	381	259	234	162	436	318	470	601
14	460	---	289	214	382	263	234	180	448	307	528	576
15	470	456	316	212	373	270	240	210	452	334	528	576
16	500	486	339	241	260	279	252	225	447	380	536	578
17	490	499	327	251	209	287	261	240	406	433	548	595
18	490	499	348	234	---	294	266	250	415	442	555	592
19	512	503	360	251	265	296	272	270	334	468	440	598
20	490	516	237	230	267	295	285	300	---	468	367	547
21	480	521	179	114	264	336	290	300	151	472	425	602
22	480	513	164	138	164	320	291	310	168	481	479	322
23	---	497	175	212	158	319	289	310	219	501	---	417
24	470	516	187	248	139	166	299	260	154	530	523	417
25	470	517	159	276	133	145	315	250	---	518	522	446
26	470	495	164	278	167	168	303	260	234	308	463	452
27	480	485	165	286	199	181	170	240	246	271	443	474
28	480	469	178	280	227	201	166	240	244	286	480	480
29	460	394	225	277	---	221	174	240	327	352	522	375
30	480	393	212	307	---	245	189	---	360	351	541	389
31	470	---	177	300	---	260	---	240	---	370	542	---
MEAN	486	480	274	208	296	244	234	248	319	381	488	523
WTR YR 1979	MEAN	348	MAX	602	MIN	105						

PH (STANDARD UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.4	8.5	8.2	7.2	7.6	7.6	7.6	7.0	7.5	7.5	7.5	8.3
2	8.4	8.5	8.3	7.2	7.5	7.6	7.7	6.9	---	7.6	7.6	8.3
3	---	8.4	8.5	7.2	7.6	7.6	7.7	7.0	7.6	7.7	7.8	8.3
4	8.4	8.5	8.4	7.1	7.7	7.7	6.5	7.1	7.7	7.4	7.9	8.3
5	8.4	8.5	8.3	7.2	7.7	7.5	6.7	7.1	7.7	7.6	8.2	8.2
6	8.4	8.5	8.3	7.2	7.8	7.0	6.9	7.1	7.8	7.6	7.7	8.2
7	8.4	8.5	8.4	7.3	7.8	7.0	7.0	6.7	7.8	7.7	8.0	8.3
8	8.4	8.3	8.3	7.3	7.8	7.0	6.8	7.1	7.1	7.8	8.2	8.3
9	8.4	8.4	8.2	6.9	7.9	7.1	7.0	7.2	7.2	7.1	8.1	8.3
10	8.3	8.5	7.8	7.2	7.9	7.2	7.1	7.2	7.4	7.4	8.1	8.4
11	8.3	8.5	7.9	7.2	7.9	7.2	7.7	7.3	7.5	7.5	8.0	8.4
12	8.4	8.4	7.9	7.3	7.8	7.2	6.9	---	7.6	---	7.9	8.3
13	8.4	8.5	7.8	7.3	7.9	7.3	7.0	6.7	7.7	7.5	8.0	8.4
14	8.4	---	8.3	7.3	7.9	7.3	7.0	6.7	7.4	7.6	8.1	8.3
15	8.4	8.1	8.1	7.3	8.0	7.2	7.0	6.7	7.7	7.7	8.1	8.3
16	8.4	8.3	8.2	7.5	8.0	7.4	7.1	7.6	7.8	7.7	8.2	8.2
17	8.4	8.4	8.2	7.5	7.9	7.4	6.8	7.1	7.8	7.5	8.1	8.3
18	8.4	8.4	8.3	7.5	---	7.5	7.1	7.2	7.9	7.9	8.1	8.4
19	8.1	8.4	8.2	7.6	7.8	7.6	7.1	7.6	7.4	8.0	8.0	8.3
20	8.4	8.5	6.3	7.6	7.8	7.6	7.1	7.7	---	8.1	7.9	8.3
21	8.5	8.3	6.8	7.5	7.8	7.6	7.1	7.8	7.6	8.1	8.0	8.4
22	8.4	8.4	6.9	7.3	7.9	7.7	6.6	7.7	7.5	8.1	8.0	8.0
23	---	8.4	6.9	7.1	7.9	7.7	6.9	7.7	7.4	8.1	---	8.2
24	8.4	8.4	7.0	7.0	7.8	7.6	7.2	7.8	7.5	8.2	8.0	8.1
25	8.4	8.4	7.0	7.2	7.7	7.6	7.3	7.8	---	8.3	8.0	8.1
26	8.5	8.5	7.0	7.2	7.6	7.6	7.3	7.7	7.4	7.9	8.0	8.2
27	8.4	8.5	7.1	7.3	7.6	7.5	7.1	7.7	7.5	7.9	8.2	8.2
28	8.5	8.5	7.2	7.4	7.6	7.5	7.1	7.7	7.6	7.1	8.1	7.8
29	8.5	8.3	7.2	7.4	---	7.5	7.0	7.7	7.0	7.4	8.0	8.0
30	8.5	8.3	7.0	7.5	---	7.5	7.0	---	7.3	7.5	8.2	8.1
31	8.4	---	7.1	7.6	---	7.6	---	7.3	---	7.6	8.2	---
MEAN	8.4	8.4	7.7	7.3	7.8	7.4	7.1	7.3	7.5	7.7	8.0	8.2
WTR YR 1979	MEAN	7.7	MAX	8.5	MIN	6.3						

03202240 ALLEN CREEK AT ALLEN JUNCTION, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	19.0	10.0	6.0	2.0	8.0	8.0	15.0	16.0	16.0	24.0	23.0
2	20.0	19.0	10.0	5.5	2.0	8.0	10.0	13.0	---	19.0	24.0	24.0
3	---	18.0	7.0	2.0	3.0	7.0	8.0	11.0	15.0	20.0	24.0	24.0
4	20.0	16.0	12.0	4.0	4.0	8.0	8.0	17.0	17.0	18.0	19.0	24.0
5	20.0	14.0	7.0	4.0	2.0	8.0	7.0	12.0	17.0	22.0	19.0	22.0
6	19.0	16.0	8.0	3.0	1.0	10.0	6.0	13.0	18.0	22.0	24.5	24.0
7	19.0	17.0	6.0	4.0	2.0	8.5	6.0	15.0	16.5	19.0	25.0	24.0
8	18.0	11.0	11.0	3.0	2.0	6.0	8.0	15.0	17.0	19.0	25.0	24.0
9	20.0	15.0	8.5	3.0	4.0	8.0	8.0	16.0	17.0	19.0	24.0	21.0
10	20.0	11.0	5.0	3.0	3.0	8.0	12.0	16.0	19.0	20.0	24.0	24.0
11	20.0	14.0	5.0	2.0	2.0	6.0	13.5	16.0	20.0	22.0	23.0	24.0
12	20.0	10.5	5.0	4.5	3.0	9.0	12.0	---	17.0	20.0	18.0	24.0
13	20.0	14.0	3.5	6.0	3.0	11.0	12.0	15.5	16.0	19.0	23.0	22.0
14	15.0	---	5.0	3.0	4.0	9.0	14.0	15.0	18.0	20.0	22.0	21.0
15	15.0	13.0	6.0	2.0	4.0	7.0	10.0	15.0	20.0	20.0	27.0	22.0
16	15.0	15.0	3.5	5.0	---	7.0	11.0	15.0	18.0	21.0	24.0	16.0
17	14.0	15.0	2.0	6.0	3.0	8.0	12.0	16.0	16.0	22.0	25.0	---
18	14.0	11.0	2.0	4.0	---	7.0	11.0	14.0	16.0	22.5	23.0	24.0
19	14.0	10.0	6.0	3.0	2.0	10.0	14.0	18.0	18.0	22.0	21.0	24.0
20	18.0	12.0	5.0	3.0	1.0	14.0	14.0	17.0	---	20.0	22.0	24.0
21	9.0	10.0	7.0	4.0	5.0	15.0	14.0	16.0	---	21.0	25.0	22.0
22	9.0	15.0	6.0	4.0	6.0	13.0	12.0	16.0	17.0	19.0	24.0	23.0
23	---	10.0	3.0	5.0	6.0	11.0	14.0	17.0	---	24.0	---	21.0
24	14.0	9.0	4.0	5.5	6.0	7.5	12.0	16.0	16.0	24.0	21.0	23.0
25	7.0	8.0	3.0	3.0	6.0	7.0	14.0	13.0	---	23.0	21.0	24.0
26	12.0	4.5	4.0	3.0	3.0	6.0	14.0	15.0	19.0	21.0	22.0	24.0
27	16.0	11.0	4.0	3.0	4.5	7.0	11.0	15.0	17.5	22.0	24.0	24.0
28	17.0	8.0	7.0	4.0	10.0	8.0	9.0	17.0	18.0	23.0	24.0	19.5
29	---	11.0	5.0	3.0	---	9.0	10.0	15.0	17.0	22.0	22.5	23.0
30	17.0	11.0	4.0	2.0	---	11.0	13.0	---	16.0	22.0	24.0	23.0
31	18.0	---	7.0	3.5	---	8.0	---	15.0	---	25.0	23.0	---
MEAN	16.5	12.5	6.0	3.5	3.5	8.5	11.0	15.0	17.5	21.0	23.0	23.0
WTR YR 1979	MEAN	13.5		MAX	27.0		MIN	1.0				

TURBIDITY (NTU), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3	5.0	4.3	18	2.7	5.3	2.7	13	3.4	6.1	3.0	5.2
2	3	4.0	3.3	55	3.0	3.3	4.0	13	---	3.5	2.9	5.4
3	---	6.0	3.8	23	2.6	3.6	75	17	3.2	3.1	2.7	3.8
4	3	3.0	40	13	3.5	5.0	24	21	6.6	26	2.2	3.7
5	4	4.0	8.6	3.6	3.4	38	20	15	4.5	18	3.0	50
6	4	4.0	9.8	5.2	4.8	9.6	17	14	3.5	14	2.5	5.7
7	4	3.0	8.3	13	2.5	6.7	14	14	2.8	8.2	3.1	4.0
8	5	4.0	21	35	13	4.0	13	14	2.8	6.0	2.0	3.5
9	5	3.0	50	14	4.0	3.2	19	13	3.0	40	3.0	4.0
10	4	4.0	34	18	3.7	20	18	12	2.9	6.5	3.4	4.5
11	5	4.0	20	6.4	3.7	5.5	14	14	5.2	4.7	45	4.2
12	4	4.0	18	4.7	2.7	3.8	12	---	3.9	2.2	19	3.8
13	4	3.0	7.2	5.2	2.3	4.0	14	50	4.6	23	4.9	3.7
14	4	---	9.8	7.9	7.0	4.6	14	13	3.6	20	3.4	4.0
15	5	30	5.6	3.8	10	3.4	13	11	3.6	9.2	3.6	3.9
16	3	15	4.7	12	40	2.8	13	13	3.9	4.7	3.5	3.4
17	5	3.0	4.9	10	8.0	2.8	14	9.6	8.9	3.5	3.7	3.8
18	5	3.2	5.8	4.4	---	2.8	14	4.5	7.1	3.0	3.5	3.2
19	4	3.3	4.5	5.8	5.5	2.7	12	3.8	40	1.9	40	3.6
20	6	3.4	18	50	5.3	100	11	4.1	---	2.2	85	4.0
21	4	3.8	50	45	5.4	4.0	13	3.2	65	2.1	9.9	7.0
22	4	2.7	18	50	30	3.2	30	2.6	31	1.9	5.4	36
23	---	3.4	12	12	55	2.4	13	40	17	2.1	---	7.5
24	4	3.9	11	16	85	85	12	13	45	2.4	4.0	7.1
25	5	3.3	19	3.0	30	18	12	7.0	---	4.5	4.0	4.6
26	3	3.5	12	4.2	30	10	13	6.0	12	20	4.6	3.0
27	4	4.3	6.7	2.7	6.5	6.5	50	3.5	7.3	30	6.3	2.9
28	4	3.6	3.8	2.9	7.4	5.6	25	6.7	11	15	4.7	39
29	4	21	4.5	3.8	---	3.6	20	5.1	4.9	5.5	3.2	5.7
30	3	12	8.3	3.3	---	4.0	25	---	5.9	6.5	5.6	4.2
31	4	---	16	3.3	---	2.8	---	2.9	---	5.3	5.3	---
MEAN	4	5.9	14	15	14	12	18	12	12	9.7	9.8	8.2
WTR YR 1979	MEAN	11		MAX	100		MIN	1.9				

03202245 MARSH FORK AT MABEN, WV

LOCATION.--Lat 37°38'19", long 81°23'38", Wyoming County, Hydrologic Unit 05070101, on left bank, 0.1 mi (0.2 km) upstream, 0.1 mi (0.2 km) west of Maben, and on State Secondary Route 97 0.2 mi (0.3 km) northwest of intersection with State Secondary Route 54.

DRAINAGE AREA.--4.85 mi² (12.56 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage and rainfall recorders. Altitude of gage is 1,600 ft (488 m), from topographic map.

REMARKS.--Water-discharge records good, except those for January, February, and March, which are fair. Rainfall records collected at site since November 1977 are contained in files of U.S. Geological Survey with only monthly totals published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 724 ft³/s (20.5 m³/s) Jan. 26, 1978, gage height, 6.72 ft (2.048 m); minimum daily discharge, 0.08 ft³/s (0.002 m³/s) Aug. 23-28, Oct. 10, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 150 ft³/s (4.2 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	0830	249	7.05	5.73	1.747	Jan. 21	1345	*510	14.4	6.45	1.966
Jan. 2	0545	172	4.87	5.45	1.661	June 21	1230	454	12.9	6.31	1.923
Jan. 7	2300	202	5.72	5.57	1.698	July 12	2400	288	8.16	5.86	1.786
Jan. 20	2330	422	12.0	6.23	1.899						

Minimum daily discharge, 0.08 ft³/s (0.002 m³/s) Oct. 10.

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.14	.14	.62	41	4.3	12	7.1	8.0	2.8	3.2	3.8	.57
2	.12	.12	.39	114	3.4	9.3	7.4	6.1	2.3	2.3	2.6	.57
3	.12	.12	.87	26	2.7	8.6	35	5.2	2.3	1.7	2.0	.67
4	.24	.12	19	11	2.3	46	52	6.4	3.6	13	1.4	.52
5	.20	.10	9.4	7.1	2.0	95	50	7.4	1.8	13	.96	1.4
6	.14	.10	4.4	6.1	1.8	36	22	8.3	1.3	6.4	.80	2.1
7	.14	.12	8.3	90	1.6	18	12	7.4	.96	4.2	.80	.96
8	.14	.18	19	105	1.4	11	8.6	5.8	.80	3.0	.73	.62
9	.10	.14	113	23	1.3	7.7	12	4.9	.73	5.8	.67	.52
10	.08	.14	19	11	1.3	7.4	14	3.8	2.4	7.1	.62	.36
11	.09	.12	7.1	7.7	1.2	10	13	3.2	2.1	6.1	2.0	.33
12	.09	.10	4.2	5.8	1.2	11	9.4	3.4	5.5	21	4.2	.30
13	.09	.10	3.0	4.9	1.2	9.0	8.0	16	3.9	99	2.0	.30
14	.16	.10	2.3	5.5	1.2	8.0	9.8	20	.98	18	1.2	.52
15	.18	.28	1.8	5.8	8.6	6.4	10	13	.63	7.4	.88	.52
16	.14	.39	1.4	4.4	43	4.9	8.6	8.3	.74	4.4	.67	.33
17	.14	.30	1.8	4.6	19	4.4	6.7	5.8	2.5	3.4	.52	.28
18	.12	.30	1.4	4.4	14	4.2	5.5	4.9	5.2	2.6	.52	.28
19	.10	.26	1.3	4.6	12	4.0	5.5	6.1	8.8	2.0	2.3	.26
20	.12	.20	3.8	110	10	3.8	5.5	6.4	5.1	1.5	3.4	.26
21	.12	.18	50	311	10	3.4	4.0	13	210	1.4	2.3	8.9
22	.12	.16	18	70	36	2.8	3.0	13	96	1.3	1.5	23
23	.10	.22	8.3	23	110	6.7	2.6	8.0	37	1.1	1.5	10
24	.10	.36	11	14	200	63	2.3	6.7	29	1.3	1.1	4.4
25	.09	.30	38	12	105	48	2.1	5.5	25	1.1	.87	2.8
26	.10	.33	16	9.4	54	20	9.4	4.6	13	9.4	1.2	2.0
27	.22	.87	8.6	8.3	38	13	37	6.1	7.2	41	1.4	1.5
28	.18	.67	5.8	7.5	21	9.4	24	7.4	4.9	23	1.1	6.7
29	.16	.87	4.2	6.7	---	8.0	15	6.4	3.8	13	.87	9.4
30	.14	1.5	4.2	6.0	---	7.1	11	4.4	3.8	8.0	.67	6.4
31	.14	---	30	5.3	---	6.4	---	3.4	---	5.5	.62	---
TOTAL	4.12	8.89	416.18	1065.1	707.5	504.5	412.5	228.9	484.14	331.2	45.20	86.77
MEAN	.13	.30	13.4	34.4	25.3	16.3	13.8	7.38	16.1	10.7	1.46	2.89
MAX	.24	1.5	113	311	200	95	52	20	210	99	4.2	23
MIN	.08	.10	.39	4.4	1.2	2.8	2.1	3.2	.63	1.1	.52	.26
CFSM	.03	.06	2.76	7.09	5.22	3.36	2.85	1.52	3.32	2.21	.30	.60
IN.†	.03	.07	3.19	8.17	5.43	3.87	3.16	1.76	3.71	2.54	.35	.67
IN.‡	0.98	2.81	---	---	3.45	3.77	5.16	5.61	6.10	6.93	3.33	4.86
CAL YR 1978 TOTAL	2353.38			MEAN 6.45	MAX 280	MIN .08	CFSM 1.33	IN 18.05				
WTR YR 1979 TOTAL	4295.00			MEAN 11.8	MAX 311	MIN .08	CFSM 2.43	IN 32.94				

† Runoff

‡ Rainfall

GUYANDOTTE RIVER BASIN

03202245 MARSH FORK AT MABEN, WV--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to current year.

pH: March 1978 to current year.

WATER TEMPERATURES: November 1977 to current year.

TURBIDITY: March 1978 to current year.

SUSPENDED-SEDIMENT DISCHARGE: November 1977 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 223 micromhos Aug. 22, 1978; minimum daily, 40 micromhos Jan. 21, 1979.

pH: Maximum observed, 8.1 units Aug. 22, 1978; minimum observed, 6.2 units Apr. 25, May 9, 1978, and on several days January through March 1979.

WATER TEMPERATURES: Maximum daily, 26.0°C June 27, 28, July 24, 1978; minimum daily, -1.0°C on several days December 1978 through February 1979.

TURBIDITY: Maximum daily, 150 NTU June 21, 1978; minimum daily, 1 NTU on several days in 1978 and 1979.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 348 mg/L July 4, 1979; minimum daily mean, 0 mg/L on many days during 1978 and 1979.

SEDIMENT LOADS: Maximum daily, 293 tons (266 tonnes) Jan. 26, 1978; minimum daily, 0 tons (0 tonnes) on many days during 1978 and 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 186 micromhos Aug. 28; minimum daily, 40 micromhos Jan. 21.

pH: Maximum observed, 7.9 units on several days in August through September; minimum observed, 6.2 units on several days January through March.

WATER TEMPERATURES: Maximum daily, 24.0°C Aug. 9; minimum daily, 0.0°C Feb. 8-11, 14.

TURBIDITY: Maximum daily, 85 NTU June 21; minimum daily, 1 NTU on several days in October, November, February, and March.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 348 mg/L July 4; minimum daily mean, 0 mg/L Nov. 13, 14, Jan. 5, 14.

SEDIMENT LOADS: Maximum daily, 150 tons (136 tonnes) June 21; minimum daily, 0 tons (0 tonnes) on many days during year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)
OCT								
19...	1630	.10	250	7.9	19.0	11.5	4.0	11.1
20...	1030	.10	185	7.5	--	8.0	2.0	11.1
NOV								
16...	1700	.36	155	7.4	--	13.0	1.0	9.9
21...	1450	.16	160	7.7	12.5	8.0	1.2	--
DEC								
15...	1030	1.6	96	6.2	--	1.0	2.0	--
JAN								
23...	1700	17	60	6.1	--	4.0	4.4	13.5
31...	1530	5.2	70	7.8	-3.0	1.0	2.2	14.2
MAR								
07...	1825	14	55	7.2	6.5	7.5	4.7	12.2
08...	1315	11	55	6.1	--	9.0	1.2	11.1
23...	1020	2.6	70	6.4	--	9.0	1.0	10.8
APR								
05...	0845	57	39	6.3	--	9.0	3.8	11.3
11...	1150	12	53	7.3	--	11.0	2.3	10.9
11...	1400	12	53	7.3	22.5	11.0	--	10.9
MAY								
16...	1320	7.7	58	7.6	20.0	15.0	3.6	10.1
18...	1025	4.9	65	7.2	--	11.0	2.4	10.7
JUN								
08...	1050	.80	75	7.3	--	15.5	1.9	10.1
27...	1315	7.1	65	7.5	28.5	15.5	4.2	9.5
JUL								
13...	1100	78	37	7.3	--	14.5	5.0	10.0
AUG								
08...	1050	.71	100	7.8	25.0	20.0	--	--
28...	1130	1.0	130	7.0	28.0	21.0	--	--
SEP								
25...	1015	3.0	120	7.0	--	14.0	--	--
25...	1505	2.6	87	7.4	23.0	17.0	--	--

03202245 MARSH FORK AT MABEN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)
OCT 20...	54	0	14	4.7	22	46	1.3	--	2.2	67
NOV 16...	46	0	12	4.0	19	45	1.2	--	2.6	55
DEC 15...	31	15	7.5	2.9	7.8	34	.6	--	1.4	16
JAN 23...	14	6	3.1	1.4	4.3	39	.5	--	1.1	8
MAR 08...	16	10	3.9	1.4	4.1	35	.5	--	1.0	6
23...	17	1	3.8	1.8	6.2	42	.7	--	1.1	16
APR 05...	9	1	2.1	.9	2.7	37	.4	--	.9	8
MAY 18...	18	2	4.2	1.9	4.7	34	.5	--	1.1	16
JUN 08...	22	5	5.1	2.3	6.3	37	.6	--	1.2	17
JUL 13...	12	0	2.6	1.3	1.9	24	.2	3.0	1.1	12
AUG 28...	33	0	8.4	3.0	9.5	37	.7	11	1.8	36
SEP 25...	22	4	5.5	2.1	5.1	42	.5	6.4	1.3	18

DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT 20...	--	7.1	18	.1	5.5	117	114	.16	.03	10
NOV 16...	--	8.9	15	.1	6.3	110	101	.15	.11	20
DEC 15...	--	11	10	.0	5.9	61	56	.08	.26	30
JAN 23...	--	10	6.8	.0	5.5	36	37	.05	1.65	40
MAR 08...	--	9.3	6.8	.0	5.6	38	36	.05	1.13	30
23...	--	9.1	8.5	.0	2.8	45	43	.06	.32	0
APR 05...	--	7.4	3.0	.0	5.5	30	27	.04	4.62	30
MAY 18...	--	8.7	5.7	.0	5.8	42	42	.06	.56	30
JUN 08...	--	8.2	7.0	.0	6.4	50	47	.07	.11	30
JUL 13...	--	8.1	1.6	.0	6.1	34	30	.05	7.16	60
AUG 28...	7.0	6.9	11	.0	6.5	71	69	.10	.19	10
SEP 25...	--	7.1	5.9	.1	6.9	48	45	.07	.39	70

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDED TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDED RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
DEC 15...	1	0	1	6	0	7	10	10	0	2	2	0
APR 05...	2	2	0	0	0	0	10	0	10	2	0	2
AUG 28...	0	0	0	0	0	2	10	0	10	2	0	2

GUYANDOTTE RIVER BASIN

03202245 MARSH FORK AT MABEN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)
OCT							
20...	400	--	--	--	30	--	--
NOV							
16...	150	--	--	--	20	--	--
DEC							
15...	140	150	40	110	50	<.5	.0
JAN							
23...	30	--	--	--	20	--	--
MAR							
08...	30	--	--	--	30	--	--
23...	60	--	--	--	20	--	--
APR							
05...	10	3	1	2	10	.5	.0
MAY							
18...	110	--	--	--	20	--	--
JUN							
08...	140	--	--	--	30	--	--
JUL							
13...	90	--	--	--	20	--	--
AUG							
28...	240	2	0	2	20	<.5	.0
SEP							
25...	200	--	--	--	20	--	--

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC							
15...	<.5	0	0	0	10	0	10
APR							
05...	.5	0	0	0	30	30	0
AUG							
28...	<.5	0	0	0	20	20	0

DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT			APR		
19...	3	.00	05...	21	3.2
20...	1	.00	11...	33	1.1
NOV			MAY		
16...	7	.01	16...	8	.17
21...	2	.00	18...	4	.05
DEC			JUN		
15...	0	.00	08...	3	.01
JAN			27...	8	.15
23...	13	.60	JUL		
31...	9	.13	13...	67	14
MAR			AUG		
07...	10	.38	08...	22	.04
08...	3	.09			
23...	1	.01			

03202245 MARSH FORK AT MABEN, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	100	100	119	75	78	54	---	46	57	---	112	137
2	130	130	119	140	79	55	70	49	77	78	112	136
3	130	130	113	55	78	50	66	49	58	76	114	136
4	120	130	70	76	78	50	68	49	53	62	113	154
5	130	130	84	78	78	41	66	50	52	77	134	153
6	130	130	81	77	77	50	68	50	72	75	111	153
7	140	130	62	52	79	52	66	45	88	76	113	153
8	130	140	70	49	94	53	67	53	82	75	106	152
9	130	130	52	56	94	51	54	53	88	79	122	150
10	140	155	67	58	93	50	44	52	88	78	113	152
11	130	145	67	61	93	50	48	55	98	71	113	153
12	130	153	68	63	92	49	46	67	103	74	104	152
13	130	154	103	75	94	51	46	67	106	50	106	157
14	130	158	87	77	95	53	45	44	110	108	114	156
15	130	159	80	76	94	---	46	46	115	108	123	160
16	130	148	92	67	61	60	58	48	111	74	137	160
17	130	138	88	69	92	63	50	52	109	80	114	162
18	140	122	81	58	70	63	50	54	110	91	106	170
19	140	139	85	58	71	59	50	58	109	105	105	169
20	140	154	82	52	90	60	52	58	108	104	117	169
21	140	155	52	40	103	61	63	58	62	105	113	72
22	140	140	63	75	77	64	64	67	107	106	---	110
23	140	148	63	57	55	67	65	72	107	103	117	68
24	140	150	63	---	54	48	60	68	---	106	114	67
25	140	145	62	75	52	48	66	59	61	105	116	86
26	140	117	64	75	51	48	51	60	110	103	117	116
27	110	132	61	76	51	52	50	59	68	60	156	102
28	140	121	65	75	50	50	---	59	88	105	186	86
29	140	118	86	82	---	52	---	47	82	104	150	80
30	140	119	63	74	---	53	45	49	---	103	164	111
31	140	---	63	72	---	---	---	57	---	106	154	---
MEAN	133	137	77	69	78	54	56	55	89	88	123	133
WTR YR 1979	MEAN	91	MAX	186	MIN	40						

PH (STANDARD UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	7.4	6.9	6.5	6.2	---	---	6.5	---	7.6	7.8
2	---	---	7.5	7.0	6.5	6.3	6.5	---	6.4	6.8	7.6	7.7
3	---	---	7.5	7.3	6.5	6.4	6.5	---	6.5	6.9	7.6	7.7
4	---	---	7.5	7.1	6.6	6.5	6.5	---	6.6	6.6	7.6	7.9
5	---	---	6.6	7.1	6.6	6.4	6.6	---	6.4	6.5	7.7	7.9
6	---	---	6.7	7.0	6.6	6.4	6.6	---	6.8	7.2	7.6	7.9
7	---	---	6.8	7.0	6.5	6.4	6.6	---	7.0	7.0	7.6	7.8
8	---	---	6.9	6.9	6.5	6.3	6.6	---	7.0	6.8	7.6	7.9
9	---	---	7.0	6.9	6.6	6.4	---	---	6.9	6.7	7.7	7.8
10	---	---	6.9	6.9	6.6	6.5	---	---	6.8	6.8	7.6	7.9
11	---	6.9	6.9	6.9	6.6	6.5	---	---	7.0	6.8	7.6	7.8
12	---	7.1	6.9	6.9	6.6	6.5	---	6.6	6.6	6.9	7.6	7.8
13	---	7.2	6.9	6.9	6.6	6.5	---	6.7	6.8	7.1	7.5	7.8
14	---	7.3	6.7	7.0	6.7	6.5	---	---	6.9	7.0	7.6	7.8
15	---	7.2	6.6	6.9	6.7	---	---	6.8	6.4	7.2	7.6	7.9
16	---	7.4	6.9	6.9	6.8	6.5	---	6.4	6.6	6.8	7.7	7.8
17	---	7.4	7.0	6.9	6.7	6.5	---	6.4	6.4	6.7	7.6	7.8
18	---	7.4	7.0	7.0	6.7	6.5	---	6.5	6.8	7.1	7.6	7.9
19	---	7.5	6.8	7.0	6.7	6.6	---	6.5	6.8	7.4	7.5	7.9
20	---	7.3	6.9	6.9	6.7	6.6	---	6.6	6.9	7.4	7.5	7.8
21	---	7.6	7.0	6.3	6.7	6.7	---	6.3	6.5	7.4	7.5	7.3
22	---	7.5	6.9	6.2	6.7	6.6	---	6.3	6.5	7.5	---	7.6
23	---	7.5	6.9	6.2	6.8	6.5	---	6.4	6.6	7.4	6.4	7.2
24	---	7.6	6.9	---	6.7	6.6	---	6.5	---	7.5	6.8	7.2
25	---	7.6	6.9	6.3	6.2	6.7	---	6.5	6.8	7.5	7.0	7.4
26	---	7.6	7.0	6.4	6.2	6.7	---	6.5	7.2	7.5	7.2	7.6
27	---	7.6	6.8	6.4	6.2	6.7	---	6.4	7.3	7.4	7.3	7.5
28	---	7.6	6.8	6.4	6.2	6.6	---	6.4	6.9	7.4	7.7	7.3
29	---	7.4	6.9	6.5	---	6.7	---	6.4	6.7	7.5	7.7	7.4
30	---	7.4	7.0	6.5	---	6.7	---	6.4	---	7.5	7.9	7.6
31	---	---	7.0	6.5	---	---	---	6.5	---	7.5	7.9	---
MEAN		7.4	7.0	6.8	6.6	6.5	6.6	6.5	6.7	7.1	7.5	7.7
WTR YR 1979	MEAN	7.0	MAX	7.9	MIN	6.2						

03202245 MARSH FORK AT MABEN, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	11.0	7.0	5.0	4.0	6.0	---	15.0	17.0	---	20.0	17.0
2	17.0	11.0	9.0	---	4.0	9.0	9.0	15.0	16.0	19.0	21.0	18.0
3	17.0	11.0	9.0	1.0	4.0	4.0	9.0	12.0	16.0	18.0	21.0	18.0
4	17.0	11.0	9.5	1.0	2.0	4.0	9.0	14.0	18.0	16.0	22.0	19.0
5	15.0	11.0	6.0	2.0	4.0	7.0	9.0	16.0	17.0	16.0	21.0	19.0
6	13.0	11.0	6.0	2.0	2.0	4.0	8.0	18.0	15.0	17.0	23.0	18.0
7	15.0	10.0	11.0	2.0	3.0	7.0	8.0	18.0	17.0	17.0	23.0	20.0
8	12.0	11.0	10.5	5.0	.0	6.0	8.0	18.0	17.0	17.0	22.0	20.0
9	12.0	12.0	8.0	2.0	.0	3.0	7.0	18.0	18.0	15.0	24.0	21.0
10	14.0	12.0	7.0	2.0	.0	7.0	10.0	19.0	19.0	19.0	20.0	20.0
11	15.0	12.0	6.0	2.0	.0	8.0	11.0	20.0	19.0	19.0	19.0	20.0
12	14.0	12.0	4.0	2.0	1.0	8.0	12.0	11.0	19.0	19.0	18.0	20.0
13	13.0	12.0	5.0	2.0	3.0	9.0	9.0	12.0	19.0	15.0	18.0	19.0
14	13.0	14.0	5.0	2.0	.0	5.0	9.0	13.0	20.0	19.0	18.0	20.0
15	13.0	11.0	2.5	6.0	2.0	---	9.0	16.0	20.0	20.0	20.0	18.0
16	12.0	13.0	3.0	6.0	2.0	7.0	12.0	15.0	19.0	20.0	13.0	18.0
17	11.0	15.0	4.0	4.0	4.0	12.0	12.0	16.0	20.0	20.0	19.0	18.0
18	11.0	13.0	5.0	3.0	4.0	13.0	14.0	17.0	16.0	20.0	16.0	17.0
19	12.0	14.0	6.0	4.0	4.0	9.0	15.0	12.0	18.0	20.0	18.0	17.0
20	11.5	13.0	6.0	3.5	2.0	13.0	16.0	12.0	17.0	21.0	18.0	17.0
21	15.0	10.5	6.0	6.5	6.0	13.0	12.0	12.0	16.0	20.0	19.0	17.0
22	15.0	12.0	7.0	2.0	8.0	13.0	15.0	14.0	14.0	20.0	---	16.0
23	14.0	11.0	7.0	4.0	8.0	9.5	14.0	16.0	14.0	23.0	18.0	16.0
24	14.0	11.0	6.0	---	8.5	4.0	17.0	16.0	---	18.0	18.0	17.0
25	15.0	12.0	6.0	4.0	7.0	4.0	16.0	12.0	15.0	19.0	17.0	17.0
26	13.0	11.0	5.0	3.0	6.0	5.0	16.0	11.0	16.0	18.0	20.0	17.0
27	14.0	9.0	4.0	3.0	4.0	7.0	16.0	11.0	16.0	18.0	20.0	17.0
28	13.0	10.0	2.0	3.0	4.0	10.0	---	11.0	---	19.0	21.0	17.0
29	11.0	10.0	2.0	2.0	---	10.0	---	15.0	17.0	19.0	22.0	16.0
30	12.0	10.0	4.0	3.0	---	13.0	14.0	16.0	---	19.0	19.0	16.0
31	12.0	---	5.0	2.0	---	---	---	16.0	---	20.0	19.0	---
MEAN	13.5	11.5	6.0	3.0	3.5	8.0	11.5	14.5	17.0	18.5	19.5	18.0
WTR YR 1979	MEAN	12.0		MAX	24.0		MIN	.0				

TURBIDITY (NTU), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3	3.0	9.8	2.0	1.7	4.3	---	3.1	5.0	---	20	14
2	2	1.0	3.8	2.0	1.5	3.9	40	2.3	4.5	7.2	1.4	3.1
3	2	2.0	3.7	4.4	1.6	2.8	25	2.8	4.7	7.7	1.6	18
4	2	2.0	19	3.6	1.5	4.4	38	2.6	6.4	65	1.5	4.9
5	2	2.0	2.5	4.9	1.9	14	29	2.4	3.7	34	1.7	3.3
6	1	2.0	2.7	5.0	1.9	4.3	40	2.0	3.5	6.8	2.4	2.2
7	2	2.0	13	38	2.1	4.3	33	2.0	3.8	8.3	2.1	2.0
8	3	2.0	12	12	2.0	2.4	40	1.5	3.5	7.6	1.6	2.4
9	6	1.0	33	3.8	2.7	3.3	7.4	1.8	5.6	8.0	1.4	2.1
10	7	1.1	5.3	2.6	2.3	2.8	4.0	2.0	4.9	7.5	1.4	2.0
11	2	1.6	3.9	2.9	2.1	2.5	2.8	1.9	3.8	6.4	1.8	2.0
12	2	1.5	5.2	3.0	2.7	3.3	4.9	40	4.7	6.0	45	2.3
13	2	1.3	2.3	3.1	2.5	2.7	2.4	29	3.3	12	40	2.2
14	2	1.6	2.3	2.6	1.3	3.4	2.5	5.9	31	3.3	4.2	2.1
15	1	2.3	2.5	2.6	1.6	---	2.6	6.2	3.9	3.0	3.4	1.5
16	2	1.8	2.1	2.6	12	1.8	1.1	4.4	27	3.4	2.5	1.5
17	20	2.5	2.2	2.7	1.5	1.6	2.6	3.7	55	3.1	3.5	2.9
18	2	2.4	7.2	2.4	1.0	1.3	3.8	3.0	55	3.0	20	2.6
19	3	2.8	8.3	1.9	1.7	1.7	1.4	5.0	50	2.1	50	1.4
20	2	1.4	9.4	50	3.2	1.5	1.6	4.9	31	2.0	8.5	5.7
21	2	1.4	19	55	5.3	1.4	2.5	5.2	85	2.3	3.6	6.8
22	2	1.5	3.1	4.0	10	1.0	1.9	2.7	70	2.4	---	6.2
23	1	1.9	3.3	5.6	31	1.0	1.6	4.0	70	2.2	4.3	5.4
24	2	2.4	2.9	---	23	3.8	1.8	45	---	2.1	3.2	5.6
25	2	1.9	3.2	2.0	15	3.4	3.2	4.5	19	2.4	3.7	3.4
26	2	2.7	2.8	1.5	4.6	3.5	3.0	5.0	35	2.5	3.2	2.4
27	2	7.9	2.6	1.8	4.3	1.8	2.2	3.8	5.2	15	3.4	3.5
28	2	3.4	2.1	2.0	4.2	2.9	---	4.4	5.9	3.2	2.6	11
29	2	2.9	6.6	1.5	---	2.0	---	6.0	5.0	2.7	2.6	2.0
30	1	3.0	18	1.7	---	2.4	3.7	4.5	---	3.5	1.9	2.4
31	2	---	24	2.2	---	---	---	4.4	---	5.7	3.1	---
MEAN	2	2.2	7.7	7.7	5.2	3.1	11	7.0	22	8.0	8.2	4.2
WTR YR 1979	MEAN	7.3		MAX	85		MIN	1.0				

03202245 MARSH FORK AT MABEN, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION	
	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16	.01	10	.00	43	.07	40	4.4	10	.12	9	.29
2	12	.00	5	.00	7	.01	85	30	11	.10	7	.18
3	9	.00	4	.00	17	.04	21	1.5	10	.07	6	.14
4	7	.00	7	.00	58	4.1	3	.09	11	.07	13	1.6
5	5	.00	6	.00	12	.30	0	.00	12	.06	71	18
6	3	.00	3	.00	9	.11	3	.05	10	.05	7	.68
7	7	.00	3	.00	21	.47	100	25	10	.04	6	.29
8	12	.00	4	.00	30	1.5	30	8.5	10	.04	5	.15
9	17	.00	2	.00	117	45	16	.99	17	.06	9	.19
10	18	.00	1	.00	10	.51	14	.42	15	.05	6	.12
11	7	.00	2	.00	12	.23	7	.15	10	.02	5	.14
12	3	.00	1	.00	19	.22	5	.08	10	.02	5	.15
13	3	.00	0	.00	58	.47	3	.04	8	.02	5	.12
14	3	.00	0	.00	10	.06	0	.00	4	.01	8	.17
15	5	.00	1	.00	3	.01	1	.02	11	.26	7	.12
16	10	.00	4	.00	67	.25	2	.02	92	12	3	.04
17	26	.01	5	.00	66	.32	2	.02	7	.36	1	.01
18	7	.00	2	.00	47	.18	2	.02	3	.11	1	.01
19	2	.00	1	.00	13	.05	2	.02	5	.16	4	.04
20	1	.00	1	.00	7	.07	170	69	8	.22	6	.06
21	2	.00	3	.00	75	10	162	136	13	.35	4	.04
22	2	.00	1	.00	13	.63	18	3.4	35	3.4	2	.02
23	5	.00	30	.02	10	.22	22	1.4	88	26	2	.04
24	5	.00	45	.04	23	.68	17	.64	88	48	45	7.6
25	3	.00	34	.03	27	2.8	12	.39	33	9.4	5	.65
26	3	.00	9	.01	15	.65	10	.25	12	1.7	5	.27
27	2	.00	3	.01	17	.39	10	.22	7	.72	4	.14
28	2	.00	2	.00	12	.19	10	.20	7	.40	6	.15
29	12	.01	11	.03	5	.06	12	.22	---	---	4	.09
30	10	.00	13	.05	36	.41	11	.18	---	---	3	.06
31	7	.00	---	---	48	3.9	12	.17	---	---	5	.09
TOTAL	---	0.02	---	0.19	---	73.90	---	283.39	---	103.81	---	31.65

DAY	MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION	
	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6	.12	13	.28	5	.04	12	.10	7	.07	24	.04
2	39	.78	10	.16	4	.02	10	.06	3	.02	36	.06
3	60	7.5	7	.10	6	.04	9	.04	2	.01	37	.07
4	52	7.3	5	.09	10	.10	348	14	2	.01	20	.03
5	35	4.7	5	.10	12	.06	7	.25	2	.01	7	.03
6	47	2.8	7	.16	3	.01	8	.14	5	.01	5	.03
7	40	1.3	10	.20	3	.01	12	.14	4	.01	4	.01
8	48	1.1	6	.09	4	.01	13	.11	7	.01	3	.01
9	28	.91	6	.08	5	.01	37	.58	2	.00	3	.00
10	15	.57	7	.07	7	.05	13	.25	3	.01	5	.00
11	22	.77	8	.07	3	.02	16	.26	18	.10	5	.00
12	23	.58	53	.49	6	.09	108	29	47	.53	4	.00
13	11	.24	60	2.6	7	.07	101	41	42	.23	4	.00
14	7	.19	30	1.6	17	.04	7	.34	12	.04	5	.01
15	7	.19	17	.60	13	.02	10	.20	8	.02	4	.01
16	10	.23	18	.40	35	.07	12	.14	6	.01	4	.00
17	10	.18	7	.11	110	.74	10	.09	5	.01	7	.01
18	18	.27	5	.07	147	2.1	4	.03	24	.03	5	.00
19	10	.15	4	.07	84	2.0	5	.03	47	.29	2	.00
20	7	.10	5	.09	27	.37	3	.01	29	.27	15	.01
21	11	.12	5	.18	265	150	4	.02	12	.07	26	.62
22	6	.05	6	.21	277	72	3	.01	6	.02	35	2.2
23	4	.03	13	.28	283	28	7	.02	5	.02	12	.32
24	5	.03	42	.76	192	15	5	.02	5	.01	12	.14
25	5	.03	12	.18	138	9.3	4	.01	7	.02	7	.05
26	5	.13	7	.09	113	4.0	20	.51	6	.02	7	.04
27	8	.80	5	.08	27	.52	64	7.2	6	.02	15	.06
28	11	.71	8	.16	15	.20	8	.50	6	.02	35	.63
29	15	.61	20	.35	22	.23	7	.25	6	.01	7	.18
30	17	.50	22	.26	12	.12	10	.22	5	.01	3	.05
31	---	---	10	.09	---	---	19	.28	5	.01	---	---
TOTAL	---	32.99	---	10.07	---	285.24	---	95.81	---	1.92	---	4.61

TOTAL LOAD FOR YEAR: 923.61 TONS.

GUYANDOTTE RIVER BASIN

03202255 STILL RUN AT ITMANN, WV

LOCATION.--Lat 37°34'51", long 81°25'42", Wyoming County, Hydrologic Unit 05070101, on right bank, on dirt road 0.2 mi (0.3 km) east of intersection with State Route 10/16, 0.3 mi (0.5 km) upstream from mouth, 0.9 mi (1.4 km) northwest of Itmann, and 2.7 mi (4.3 km) west of Mullens.

DRAINAGE AREA.--7.12 mi² (18.44 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage and rainfall recorders. Altitude of gage is 1,380 ft (421 m), from topographic map.

REMARKS.--Water-discharge records good, except those for January and February, which are fair. Rainfall records collected at site since November 1977 are contained in files of U.S. Geological Survey with only monthly totals published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,510 ft³/s (42.8 m³/s) Jan. 26, 1978, gage height 6.94 ft (2.115 m); minimum daily discharge, 0.08 ft³/s (0.002 m³/s) Oct. 12, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 100 ft³/s (2.8 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	0845	224	6.34	5.85	1.783	Feb. 23	1900	122	3.46	5.58	1.701
Jan. 2	0645	199	5.64	5.78	1.762	Feb. 24	1515	188	5.32	5.81	1.771
Jan. 20	2200	296	8.38	6.01	1.832	June 21	1500	*515	14.6	6.32	1.926
Jan. 21	1500	508	14.4	6.14	1.871	July 27	0730	145	4.11	5.37	1.637

Minimum daily discharge, 0.08 ft³/s (0.002 m³/s) Oct. 12.

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19	.27	2.7	27	8.0	21	11	14	8.8	5.2	6.9	1.5
2	.17	.19	1.9	115	7.0	18	11	10	7.8	4.4	4.0	1.5
3	.14	.17	3.3	55	6.0	15	41	8.8	12	3.5	3.3	1.4
4	.34	.19	15	28	4.7	15	55	11	18	27	2.8	1.4
5	.25	.22	11	18	3.0	51	51	13	15	27	2.4	2.0
6	.22	.19	6.0	13	2.4	34	32	14	10	12	2.1	2.9
7	.28	.31	6.3	40	2.0	23	20	12	6.9	7.8	2.1	2.0
8	.22	.83	15	103	1.8	17	15	9.2	5.2	5.7	3.0	1.8
9	.19	.76	81	28	1.6	12	20	7.8	3.7	8.8	2.8	1.6
10	.12	.48	16	15	1.5	11	24	6.0	3.3	11	2.7	1.4
11	.10	.31	6.0	9.2	1.5	15	21	6.6	4.9	9.2	5.4	1.3
12	.08	.31	3.7	7.2	1.4	14	17	13	2.4	10	13	1.3
13	.14	.12	3.0	7.2	1.4	13	15	71	1.8	13	6.6	1.2
14	.34	.10	2.5	6.9	1.4	12	15	45	1.4	11	3.5	1.3
15	.31	.83	1.9	5.4	3.3	8.8	14	26	1.1	7.5	2.8	1.5
16	.25	1.2	1.9	4.9	51	7.5	12	16	.97	6.0	2.1	1.2
17	.22	1.3	2.2	5.2	41	6.9	11	11	4.9	4.9	1.8	1.1
18	.20	1.2	1.8	5.2	27	6.3	8.5	8.2	2.4	4.2	1.9	1.1
19	.19	.97	1.6	4.9	22	5.7	6.9	6.6	13	3.5	2.6	1.2
20	.18	.63	2.8	103	16	5.4	6.0	5.2	11	3.1	5.5	1.1
21	.17	.28	45	235	20	4.7	5.2	4.4	222	3.1	3.6	7.3
22	.16	.12	18	35	51	4.0	5.4	4.7	155	3.1	2.8	11
23	.15	.57	8.5	15	92	7.2	5.2	3.7	47	2.7	2.6	7.1
24	.14	1.1	8.5	14	120	59	4.0	11	70	2.5	2.4	3.6
25	.13	.97	30	13	67	55	3.8	14	52	2.5	2.3	2.5
26	.19	1.2	17	12	53	31	5.8	17	24	21	2.3	2.2
27	.57	2.2	8.8	11	33	22	54	17	13	103	2.2	2.2
28	.43	1.9	6.3	10	23	17	53	20	8.2	42	2.2	6.1
29	.39	2.5	4.7	9.7	---	14	30	20	6.3	21	2.0	8.7
30	.39	4.0	4.2	9.3	---	11	20	13	5.7	14	1.9	6.9
31	.34	---	17	8.6	---	10	---	11	---	11	1.6	---
TOTAL	7.19	25.42	353.6	973.7	663.0	546.5	592.8	450.2	737.77	410.7	103.2	87.4
MEAN	.23	.85	11.4	31.4	23.7	19.8	19.8	14.5	24.6	13.2	3.33	2.91
MAX	.57	4.0	81	235	120	59	55	71	222	103	13	11
MIN	.08	.10	1.6	4.9	1.4	4.0	3.8	3.7	.97	2.5	1.6	1.1
CFSM	.03	.12	1.60	4.41	3.33	2.47	2.78	2.04	3.46	1.85	.47	.41
IN.†	.04	.13	1.85	5.09	3.46	2.85	3.10	2.35	3.85	2.15	.54	.46
IN.‡	0.94	2.94	---	---	2.94	3.58	4.82	5.46	6.76	6.06	4.06	4.22

CAL YR 1978 TOTAL 3356.31 MEAN 9.20 MAX 445 MIN .08 CFSM 1.29 IN 17.53
WTR YR 1979 TOTAL 4951.48 MEAN 13.6 MAX 235 MIN .08 CFSM 1.91 IN 25.87

† Runoff

‡ Rainfall

03202255 STILL RUN AT ITMANN, WV--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to current year.

pH: March 1978 to current year.

WATER TEMPERATURES: November 1977 to current year.

TURBIDITY: March 1978 to current year.

SUSPENDED-SEDIMENT DISCHARGE: November 1977 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1010 micromhos Sept. 17, 18, 1979; minimum daily, 40 micromhos Jan. 20, 21, 1979.

pH: Maximum daily, 8.6 units on several days during Sept. 1979; minimum daily, 6.1 units Apr. 27, May 3, 6, 1978.

WATER TEMPERATURES: Maximum daily, 28.0°C several days in 1978, June 15, 1979; minimum daily 0.0°C Feb. 10, 11, 1979.

TURBIDITY: Maximum daily, 200 NTU May 12, 1979; minimum daily, 1.1 NTU June 7, Aug. 2, 1979.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1350 mg/L Jan. 21, 1979; minimum daily mean, 1 mg/L Dec. 27, 1977, Jan. 2, 3, 1978.

SEDIMENT LOADS: Maximum daily, 1150 tons (1040 tonnes) Jan. 26, 1978; minimum daily, 0 tons (0 tonnes) on several days in 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1010 micromhos Sept. 17, 18; minimum daily, 40 micromhos Jan. 20, 21.

pH: Maximum daily, 8.6 units on several days during Sept.; minimum daily, 6.3 units Mar. 10.

WATER TEMPERATURES: Maximum daily, 28.0°C June 15; minimum daily, 0.0°C Feb. 10, 11.

TURBIDITY: Maximum daily, 200 NTU May 12; minimum daily, 1.1 NTU June 7, Aug. 2.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1350 mg/L Jan. 21; minimum daily mean, 2 mg/L July 22, 23.

SEDIMENT LOADS: Maximum daily, 880 tons (798 tonnes) Jan. 21; minimum daily, 0 tons (0 tonnes) Oct. 12, 16, Nov. 21, 22.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)
OCT								
19...	1215	.19	700	8.1	23.0	11.0	1.0	11.1
19...	1335	.17	--	8.2	--	12.5	1.0	--
NOV								
15...	1600	1.5	402	7.4	--	14.5	50	9.1
21...	1320	.25	460	7.6	12.0	9.5	3.0	--
DEC								
13...	1245	2.8	195	6.8	--	5.5	1.7	13.0
JAN								
09...	1715	23	70	6.8	--	3.0	5.0	--
22...	1400	26	80	6.5	--	5.0	22	13.2
31...	1130	9.0	180	7.3	-2.5	2.0	1.8	13.1
MAR								
05...	1430	55	55	6.8	--	8.0	2.8	11.2
07...	1500	22	160	7.6	11.0	9.0	8.5	11.6
22...	1000	3.5	200	7.0	--	8.0	1.1	11.3
APR								
05...	1225	51	55	6.2	--	9.0	9.0	10.5
07...	1420	19	160	7.6	--	9.0	3.0	11.6
11...	1010	22	85	7.5	17.0	8.0	3.1	11.8
MAY								
16...	0900	17	90	7.7	13.0	11.0	4.7	10.9
17...	1255	10	100	7.4	--	15.0	6.5	10.1
JUN								
07...	1220	6.0	135	7.7	--	16.5	.69	9.4
27...	0900	12	110	7.4	16.0	12.0	4.5	10.2
JUL								
12...	1330	8.8	165	8.0	--	17.5	7.0	9.4
AUG								
08...	1510	1.6	440	8.2	30.0	25.0	--	--
17...	1300	1.5	--	--	--	15.0	--	--
24...	0905	2.1	--	--	21.0	18.0	--	--
29...	0915	1.7	830	7.7	20.0	19.0	--	--
SEP								
25...	1025	2.2	530	8.3	16.5	14.5	--	--
25...	1430	2.1	310	7.6	--	19.0	--	--
28...	1035	5.8	--	--	18.0	14.5	--	--
28...	1045	5.8	376	7.5	--	15.5	27	--

GUYANDOTTE RIVER BASIN

03202255 STILL RUN AT ITMANN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CAC03)
OCT										
19...	130	44	29	13	90	60	3.5	--	2.8	82
NOV										
15...	110	50	29	10	56	51	2.3	--	3.7	64
DEC										
13...	56	36	13	5.7	17	39	1.0	--	1.6	20
JAN										
22...	24	16	5.2	2.6	4.0	26	.4	--	1.3	8
MAR										
05...	20	12	4.8	1.9	2.5	21	.2	--	1.0	8
22...	46	12	11	4.6	30	57	1.9	--	1.5	34
APR										
05...	14	8	3.3	1.4	3.1	31	.4	--	1.0	6
MAY										
17...	32	16	7.0	3.5	11	42	.8	--	1.3	16
JUN										
07...	37	14	8.7	3.8	17	49	1.2	--	1.3	23
JUL										
12...	49	26	12	4.6	13	36	.8	15	1.5	23
AUG										
29...	74	0	19	6.5	150	81	7.6	150	2.6	200
SEP										
25...	49	1	12	4.5	39	73	2.4	41	1.7	48

DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT										
19...	--	210	3.1	.1	5.2	397	403	.54	.18	30
NOV										
15...	--	160	2.9	.1	5.3	315	306	.43	1.28	20
DEC										
13...	--	64	2.3	.0	6.1	131	122	.18	.99	40
JAN										
22...	--	26	1.3	.0	5.4	46	51	.06	3.23	40
MAR										
05...	--	18	.9	.0	5.3	42	39	.06	6.24	60
22...	--	72	1.9	.0	4.1	155	146	.21	1.46	0
APR										
05...	--	16	.6	.0	5.4	39	34	.05	5.37	20
MAY										
17...	--	38	1.0	.0	6.3	78	78	.11	2.11	40
JUN										
07...	--	43	1.0	.0	6.7	96	96	.13	1.56	30
JUL										
12...	--	54	1.0	.0	6.7	90	107	.12	2.14	40
AUG										
29...	7.8	190	3.8	.1	7.8	538	500	.73	2.47	20
SEP										
25...	--	77	2.2	.1	6.9	177	173	.24	1.00	60

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
DEC												
13...	1	0	1	3	1	2	10	6	4	1	0	1
APR												
05...	2	1	1	0	0	0	10	0	10	2	1	1
AUG												
29...	1	0	1	0	0	0	10	0	10	1	0	1

03202255 STILL RUN AT ITMANN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)
OCT							
19...	110	--	--	--	100	--	--
NOV							
15...	0	--	--	--	60	--	--
DEC							
13...	130	29	3	26	240	<.5	.0
JAN							
22...	40	--	--	--	50	--	--
MAR							
05...	0	--	--	--	30	--	--
22...	60	--	--	--	90	--	--
APR							
05...	10	2	2	0	30	.5	.0
MAY							
17...	80	--	--	--	70	--	--
JUN							
07...	90	--	--	--	80	--	--
JUL							
12...	100	--	--	--	110	--	--
AUG							
29...	290	0	0	0	120	<.5	.0
SEP							
25...	300	--	--	--	120	--	--

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC							
13...	<.5	0	0	0	30	20	10
APR							
05...	.5	0	0	0	40	40	0
AUG							
29...	<.5	0	0	0	10	10	0

DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT			APR		
19...	4	.00	05...	19	2.6
19...	6	.00	07...	24	1.2
NOV			11...	1	.06
15...	96	.39	MAY		
21...	1	.00	16...	10	.46
DEC			17...	11	.30
13...	11	.08	JUN		
JAN			07...	5	.08
09...	4	.25	27...	19	.62
22...	104	7.3	JUL		
31...	7	.17	12...	31	.74
MAR			AUG		
05...	41	6.1	17...	1570	6.4
07...	12	.71	SEP		
22...	4	.04	28...	7	.11

DATE	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. FALL DIAM. % FINER THAN .008 MM	SED. SUSP. FALL DIAM. % FINER THAN .016 MM	SED. SUSP. FALL DIAM. % FINER THAN .031 MM	SED. SUSP. FALL DIAM. % FINER THAN .062 MM
AUG					
17...	68	87	93	98	100

03202255 STILL RUN AT ITMANN, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	740	500	257	60	191	101	96	92	115	258	166	845
2	790	480	292	56	204	108	94	121	125	279	207	452
3	750	500	294	86	215	107	119	116	70	420	241	835
4	680	480	150	145	214	61	47	114	70	199	382	719
5	450	480	113	100	200	56	52	92	70	100	383	831
6	500	470	172	42	192	93	70	82	118	131	593	435
7	540	490	150	41	---	128	160	84	148	175	586	631
8	500	430	98	76	217	111	83	94	207	235	490	634
9	510	500	43	67	215	124	76	110	208	239	641	739
10	530	470	51	76	195	130	75	220	293	148	643	737
11	440	460	74	89	193	107	86	224	208	203	223	750
12	430	430	104	99	202	103	90	87	308	170	221	750
13	440	440	195	113	198	285	98	55	313	142	373	885
14	340	511	205	125	205	105	100	55	488	140	376	891
15	420	393	219	125	183	321	94	67	445	179	758	957
16	420	369	254	127	49	160	95	100	631	232	722	959
17	410	391	233	120	62	171	103	108	319	233	760	1010
18	410	408	226	117	---	162	106	126	268	279	535	1010
19	465	421	221	42	101	164	115	156	173	304	493	997
20	470	443	158	40	135	187	126	156	139	413	260	996
21	500	466	60	40	129	179	158	201	50	416	501	184
22	500	502	70	79	55	218	155	241	57	514	506	159
23	490	437	82	97	54	203	173	231	79	552	541	206
24	480	364	96	101	47	60	197	121	56	567	539	206
25	490	356	67	145	75	51	199	198	68	565	642	445
26	500	363	66	151	84	75	154	94	92	322	641	455
27	410	268	80	147	85	93	94	91	120	61	721	563
28	430	265	100	151	100	94	71	108	148	83	726	316
29	440	292	118	149	---	268	70	70	183	100	781	167
30	440	200	121	---	---	108	90	110	222	116	835	164
31	440	---	74	178	---	103	---	110	---	141	722	---
MEAN	495	419	143	99	146	137	108	124	193	255	523	631
WTR YR 1979	MEAN	274	MAX	1010	MIN	40						

PH (STANDARD UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.2	---	7.7	6.8	7.0	7.1	7.1	6.7	7.1	7.2	7.5	8.5
2	8.2	---	7.7	6.8	7.0	6.4	7.1	6.8	6.9	6.9	7.5	8.2
3	8.3	---	7.8	6.7	7.1	6.5	6.8	6.8	6.9	7.4	7.6	8.5
4	8.3	---	7.7	6.7	7.1	6.7	6.9	6.9	7.0	7.0	7.7	8.4
5	---	---	7.6	7.0	7.2	6.8	6.8	7.0	7.1	6.6	7.8	8.2
6	---	---	7.6	7.1	7.2	6.6	6.7	6.7	7.1	6.7	8.0	8.3
7	---	---	7.5	7.0	---	7.3	6.8	6.8	7.6	6.5	7.4	8.3
8	---	---	7.3	6.9	7.2	6.7	7.6	6.8	7.5	7.0	8.1	8.4
9	---	---	7.4	6.9	7.3	6.7	6.9	6.8	7.5	7.0	8.1	8.4
10	---	---	7.3	6.9	7.3	6.3	7.0	6.9	7.7	6.7	8.2	8.4
11	---	---	7.2	6.9	7.4	6.5	7.3	6.6	7.7	7.1	8.0	8.4
12	---	---	7.3	6.9	7.2	6.5	6.7	7.2	7.8	7.7	7.8	8.4
13	---	---	7.0	7.0	7.3	6.8	6.7	---	7.6	6.6	7.9	8.6
14	---	7.8	7.3	7.0	7.3	6.9	6.7	---	7.9	6.7	7.9	8.5
15	---	7.4	7.3	7.0	7.3	7.1	6.8	---	7.9	6.8	8.2	8.6
16	---	7.8	7.4	7.0	7.5	6.8	6.6	7.7	8.3	6.8	8.2	8.6
17	---	7.9	7.4	7.0	7.4	6.9	6.7	7.0	7.8	7.0	8.2	8.6
18	---	7.9	7.5	6.9	---	7.0	6.8	---	7.7	7.2	8.2	8.6
19	---	7.8	7.6	7.2	7.4	7.1	6.8	---	7.4	7.1	8.1	8.6
20	---	7.9	6.8	7.1	7.3	6.8	6.9	---	7.3	7.7	7.9	8.6
21	---	7.9	7.0	7.1	7.2	6.9	6.7	6.5	6.9	7.8	8.1	7.5
22	---	8.0	6.9	6.9	7.4	7.0	6.7	6.6	6.9	8.0	8.0	7.3
23	---	8.0	6.8	7.1	7.3	7.1	6.8	6.7	6.7	8.1	8.1	7.7
24	---	7.9	6.8	6.9	7.3	7.2	6.9	6.8	6.8	8.1	8.1	7.7
25	---	8.0	6.9	6.8	7.2	7.1	7.0	6.6	6.8	8.2	8.2	8.2
26	---	8.0	6.9	6.9	7.2	7.1	6.8	6.6	6.6	8.1	8.2	8.2
27	---	8.0	6.8	6.9	7.2	7.1	7.1	6.6	7.2	7.4	8.4	8.4
28	---	7.9	6.8	6.9	7.1	7.1	7.1	6.6	6.8	7.4	8.5	7.7
29	---	7.8	6.9	7.0	---	6.9	7.0	6.5	6.7	7.4	8.5	7.6
30	---	7.7	6.8	---	---	7.1	7.0	6.8	7.0	7.4	8.5	7.6
31	---	---	6.7	7.2	---	7.0	---	6.9	---	7.5	8.5	---
MEAN	8.3	7.9	7.2	7.0	7.3	6.9	6.9	6.8	7.3	7.3	8.1	8.2
WTR YR 1979	MEAN	7.3	MAX	8.6	MIN	6.3						

03202255 STILL RUN AT ITMANN, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	11.0	8.0	8.0	2.0	7.0	14.0	12.0	15.0	16.0	22.0	20.0
2	19.0	13.0	8.0	6.0	3.0	11.0	13.0	17.0	16.0	18.0	20.0	20.0
3	20.0	14.0	7.0	3.0	3.0	10.0	11.0	15.0	16.0	18.0	22.0	21.0
4	20.0	12.0	10.0	1.0	4.0	9.0	9.0	16.0	16.0	17.0	22.0	23.0
5	19.0	13.0	8.0	2.0	2.0	8.5	10.0	18.0	16.0	18.0	22.0	20.0
6	16.0	13.0	8.0	4.0	3.0	10.0	10.0	16.0	19.0	18.0	22.0	20.0
7	---	11.0	7.0	5.0	---	9.5	9.0	16.0	17.0	19.0	22.0	20.0
8	14.0	10.0	10.0	3.0	3.0	9.0	16.0	19.0	20.0	19.0	24.0	19.0
9	---	12.0	6.0	3.0	2.0	11.0	8.0	18.0	20.0	16.0	23.0	19.0
10	16.0	13.0	5.0	3.0	.0	9.0	9.0	17.0	20.0	16.0	22.0	21.0
11	16.0	11.0	5.0	2.0	.0	6.0	10.0	17.0	18.0	17.0	20.0	21.0
12	18.0	11.0	3.5	3.0	3.0	9.0	13.0	19.0	21.0	17.0	17.0	22.0
13	17.0	15.0	5.0	6.0	3.0	12.0	13.0	14.0	22.0	17.0	19.0	21.0
14	14.0	14.0	4.0	5.0	2.0	8.0	14.0	16.0	24.0	17.0	21.0	18.0
15	12.0	14.0	5.0	3.0	3.0	6.0	14.0	14.0	28.0	20.0	19.0	17.0
16	12.0	14.0	5.0	3.0	4.0	9.0	14.0	12.0	14.0	21.0	16.0	16.0
17	13.0	11.0	6.0	5.0	3.0	12.0	11.0	12.0	18.0	21.0	19.0	17.0
18	14.0	12.0	5.0	4.0	---	11.0	14.0	14.0	23.0	19.0	19.0	16.0
19	12.5	11.0	5.0	2.0	2.0	13.0	16.0	18.0	18.0	25.0	20.0	18.0
20	15.0	10.0	7.0	5.0	4.0	12.0	19.0	18.0	16.0	21.0	21.0	17.0
21	16.0	10.0	7.0	6.5	5.0	10.0	15.0	16.0	13.0	21.0	19.0	17.0
22	14.0	12.0	5.0	5.0	6.0	10.0	14.0	17.0	12.0	21.0	19.0	16.0
23	16.0	10.0	6.0	5.0	7.0	13.0	15.0	17.0	15.0	24.0	19.0	16.0
24	16.0	11.0	5.0	4.0	7.5	9.0	16.0	17.0	10.0	26.0	20.0	15.0
25	16.0	7.0	5.0	2.0	8.0	8.0	20.0	13.0	14.0	21.0	21.0	16.0
26	15.0	5.0	6.0	3.0	5.0	7.0	17.0	12.0	15.0	18.5	22.0	17.0
27	14.0	10.0	4.0	5.0	5.0	7.0	12.0	13.0	14.5	17.0	21.0	16.0
28	16.0	9.0	3.0	2.0	7.0	8.0	11.0	14.0	17.0	19.0	21.0	16.0
29	14.0	6.0	4.0	1.0	---	13.0	11.0	17.0	18.0	18.0	21.5	17.0
30	12.0	6.0	4.0	---	---	15.0	12.0	15.0	17.0	20.0	19.0	17.0
31	16.0	---	7.0	2.0	---	16.0	---	15.0	---	23.0	20.0	---
MEAN	15.5	11.0	6.0	3.5	3.5	10.0	13.0	15.5	17.5	19.5	20.5	18.5
WTR YR 1979	MEAN	13.0		MAX	28.0	MIN	.0					

TURBIDITY (NTU), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3	4.0	3.5	6.9	2.3	2.6	3.4	8.6	20	4.6	2.7	3.4
2	6	2.0	4.0	2.9	4.0	2.5	2.8	9.8	3.0	3.4	1.1	2.7
3	4	4.0	20	2.7	1.8	2.2	40	3.5	5.5	2.8	1.2	3.0
4	4	5.0	90	7.6	1.5	13	6.9	100	6.3	80	1.7	2.8
5	3	3.0	15	4.3	1.7	7.9	8.6	6.7	3.2	8.9	1.5	3.4
6	4	3.0	45	28	5.0	3.5	6.9	4.4	3.0	6.5	3.3	2.6
7	5	6.0	23	27	---	6.2	3.0	3.3	1.1	2.0	1.5	2.8
8	6	3.0	10	3.3	20	3.4	1.7	4.1	1.3	4.1	1.4	2.5
9	3	7.0	40	4.2	1.6	3.0	3.3	3.9	2.1	4.0	2.4	2.5
10	4	7.0	6.7	3.2	1.8	2.6	3.9	5.4	1.4	5.4	2.2	2.7
11	3	3.0	3.8	3.4	1.2	1.9	2.8	6.0	6.7	8.9	26	2.7
12	2	2.0	2.8	2.4	2.8	2.6	1.5	200	2.6	5.3	24	2.3
13	5	20	2.4	3.8	1.5	5.5	2.5	7.3	2.5	4.4	2.6	4.7
14	4	2.9	2.9	3.5	13	2.6	3.2	8.4	3.3	4.6	3.0	5.5
15	2	50	1.7	4.1	55	9.0	2.6	6.6	3.0	4.2	1.7	2.6
16	2	10	1.7	2.7	12	2.6	2.4	3.9	4.3	3.3	1.7	2.2
17	2	10	1.3	3.2	7.0	5.0	1.7	4.4	37	3.1	1.7	2.4
18	2	2.9	1.6	2.6	---	1.7	1.5	2.9	4.9	2.8	2.1	2.0
19	3	14	1.7	27	2.4	4.6	2.1	2.3	24	3.5	60	2.7
20	3	3.6	4.5	55	40	1.7	2.1	1.6	9.4	3.0	20	3.2
21	2	2.6	12	60	80	2.0	1.9	2.1	65	3.6	4.8	90
22	2	2.3	4.7	13	55	2.2	1.4	2.7	36	2.5	3.2	95
23	2	12	3.3	4.0	45	2.5	1.7	4.4	14	1.7	2.3	4.9
24	3	1.7	7.1	7.0	75	6.3	1.4	16	23	3.0	3.5	2.9
25	3	28	4.1	5.3	15	7.5	1.6	13	9.0	6.7	3.8	4.9
26	4	25	3.5	1.5	5.4	4.2	3.4	10	3.9	12	4.7	2.4
27	3	5.0	3.0	5.7	3.0	2.2	20	8.9	4.0	26	2.2	2.5
28	3	3.4	2.1	1.5	3.8	4.0	2.0	13	2.8	10	2.7	19
29	4	150	3.2	2.1	---	10	4.3	6.9	3.1	5.8	2.8	2.6
30	30	6.4	2.4	---	---	2.0	7.1	2.7	11	3.4	2.5	1.6
31	7	---	9.5	1.9	---	1.5	---	18	---	3.8	1.8	---
MEAN	4	13	11	10	18	4.2	4.9	16	11	7.9	6.3	9.5
WTR YR 1979	MEAN	9.5		MAX	200	MIN	1.1					

03202310 BEARHOLE FORK AT PINEVILLE, WV

LOCATION.--Lat 37°35'16", long 81°31'12", Wyoming County, Hydrologic Unit 05070101, on left bank, 0.6 mi (1.0 km) upstream from mouth, on State Secondary Route 97 0.7 mi (1.1 km) east of intersection with State Route 10, and 1.0 mi (1.6 km) east of Pineville.

DRAINAGE AREA.--6.27 mi² (16.24 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage and rainfall recorders. Altitude of gage is 1,380 ft (421 m), from topographic map.

REMARKS.--Water-discharge records good, except those for January and February, which are fair. Rainfall records collected at site since November 1977 are contained in files of U.S. Geological Survey with only monthly totals published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,400 ft³/s (39.6 m³/s) June 21, 1979, gage height, 6.77 ft (2.063 m); minimum daily discharge, 0.06 ft³/s (0.002 m³/s), Nov. 13, 14, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 200 ft³/s (5.7 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	0830	592 16.8	5.99 1.826	Jan. 21	1500	936 26.5	6.36 1.939
Jan. 2	0500	340 9.63	5.60 1.707	Feb. 24	1545	414 11.7	5.74 1.750
Jan. 7	2200	325 9.20	5.57 1.698	June 21	1230	*1400 39.6	6.77 2.063
Jan. 21	0100	790 23.4	6.22 1.896	June 22	0400	250 7.08	5.41 1.649

Minimum daily discharge, 0.06 ft³/s (0.002 m³/s) Nov. 13, 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.21	.09	1.2	38	6.7	15	10	11	7.7	4.7	6.0	1.3
2	.20	.09	.73	172	5.2	13	11	8.8	7.2	4.1	4.4	1.3
3	.19	.08	4.1	30	4.0	11	57	8.0	9.6	2.7	3.3	1.3
4	.27	.07	29	16	3.4	13	60	9.9	13	47	2.6	1.0
5	.23	.07	16	10	3.0	55	56	11	10	38	2.2	2.3
6	.20	.07	8.5	9.0	2.7	30	25	12	7.0	13	1.9	3.0
7	.21	.09	12	99	2.5	19	15	11	4.7	7.7	1.6	1.7
8	.20	.10	28	119	2.4	13	12	9.0	3.6	5.3	1.3	1.2
9	.19	.09	196	27	2.3	9.9	15	7.5	2.9	9.9	1.1	.97
10	.17	.08	25	15	2.2	10	18	6.2	2.6	13	.91	.84
11	.16	.07	10	11	2.1	14	17	5.5	3.7	10	3.4	.73
12	.16	.07	7.0	9.0	2.1	14	13	7.5	2.1	8.0	7.0	.68
13	.15	.06	4.9	9.0	2.0	12	12	42	1.6	9.6	3.4	.58
14	.16	.06	4.1	10	2.0	11	15	32	1.3	7.0	2.3	.91
15	.13	.64	3.0	8.8	7.0	9.0	14	18	.97	5.1	1.7	.91
16	.13	.46	2.9	8.5	48	7.2	12	10	.91	4.1	1.3	.63
17	.12	.41	3.1	8.5	31	6.7	10	7.0	3.3	3.4	1.0	.58
18	.11	.35	2.5	8.0	20	6.2	8.5	5.3	1.7	2.9	.97	.50
19	.10	.25	2.6	7.5	15	6.0	7.5	4.4	18	2.5	2.7	.46
20	.09	.23	4.9	153	12	5.7	6.5	3.6	11	2.2	14	.43
21	.09	.21	59	565	16	5.3	5.7	3.1	416	2.2	10	11
22	.09	.21	22	66	42	4.5	5.1	3.1	161	2.0	7.0	22
23	.08	.33	11	25	109	9.6	4.7	3.3	62	1.7	6.0	14
24	.07	.43	13	21	231	90	4.4	7.7	29	1.5	4.4	6.5
25	.07	.33	40	18	103	53	4.1	9.0	23	1.6	3.6	4.1
26	.09	.58	20	14	56	24	10	11	15	15	3.4	3.0
27	.14	1.1	12	13	31	16	34	11	9.0	61	3.1	2.4
28	.12	.78	8.2	11	19	12	26	16	6.2	37	2.7	8.5
29	.10	1.3	6.5	10	---	11	17	15	4.7	18	2.4	12
30	.10	2.3	6.5	9.0	---	9.6	13	9.3	4.4	12	1.9	8.8
31	.10	---	26	8.0	---	8.8	---	8.0	---	8.2	1.5	---
TOTAL	4.43	11.00	589.73	1528.3	782.6	524.5	518.5	326.2	843.18	360.4	109.08	113.62
MEAN	.14	.37	19.0	49.3	28.0	16.9	17.3	10.5	28.1	11.6	3.52	3.79
MAX	.27	2.3	196	565	231	90	60	42	416	61	14	22
MIN	.07	.06	.73	7.5	2.0	4.5	4.1	3.1	.91	1.5	.91	.43
CFSM	.02	.06	3.03	7.86	4.47	2.70	2.76	1.68	4.48	1.85	.56	.60
IN. †	.03	.07	3.50	9.07	4.64	3.11	3.08	1.94	5.00	2.14	.65	.67
IN. ‡	1.06	2.95	---	---	3.22	3.56	4.42	5.03	8.65	6.41	4.51	4.40
CAL YR 1978	TOTAL	3034.42	MEAN	8.31	MAX	276	MIN	.06	CFSM	1.33	IN	18.00
WTR YR 1979	TOTAL	5711.54	MEAN	15.6	MAX	565	MIN	.06	CFSM	2.49	IN	33.88

† Runoff

‡ Rainfall

03202310 BEARHOLE FORK AT PINEVILLE, WV--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to current year.

pH: March 1978 to current year.

WATER TEMPERATURES: November 1977 to current year.

TURBIDITY: March 1978 to current year.

SUSPENDED-SEDIMENT DISCHARGE: November 1977 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 189 micromhos Nov. 20, 1978; minimum daily, 31 micromhos Apr. 5, 1979.

pH: Maximum daily 8.2 units July 20, Oct. 4, 1978; minimum daily, 5.9 units May 11, 1979.

WATER TEMPERATURES: Maximum daily, 28.0°C Sept. 4, 1978, June 14, 1979; minimum daily 0.0°C Jan. 10, 1978, Jan. 4, Feb. 1, 5, 6, 11, 18, 1979.

TURBIDITY: Maximum daily, 150 NTU Aug. 31, 1978; minimum daily, 0.5 NTU Apr. 25, 1979.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 379 mg/L June 21, 1979; minimum daily mean, 1 mg/L Jan. 21, Oct. 2, 1978, Apr. 24, 1979.

SEDIMENT LOADS: Maximum daily, 744 tons (675 tonnes) June 21, 1979; minimum daily, 0 tons (0 tonnes) on many days during 1978 and 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 189 micromhos Nov. 20; minimum daily, 31 micromhos Apr. 5.

pH: Maximum daily, 8.2 units Oct. 4; minimum daily, 5.9 units May 11.

WATER TEMPERATURES: Maximum daily, 28.0 June 14; minimum daily, 0.0°C Jan. 4, Feb. 1, 5, 6, 11, 18.

TURBIDITY: Maximum daily, 120 NTU Nov. 29; minimum daily, 0.5 NTU Apr. 25.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 379 mg/L June 21; minimum daily mean, 1 mg/L Oct. 2, Apr. 24.

SEDIMENT LOADS: Maximum daily, 744 tons (675 tonnes) June 21; minimum daily, 0 tons (0 tonnes) on many days during October, November, and September.

WATER QUALITY DATA. WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)
OCT								
19...	1005	.10	190	7.2	13.0	9.0	2.0	10.8
19...	1440	.10	155	6.7	--	13.0	2.0	--
NOV								
16...	0845	.46	120	7.1	--	11.0	4.0	9.2
21...	1720	.21	150	7.2	12.5	9.0	2.0	--
DEC								
13...	1440	4.5	70	5.8	--	3.0	2.4	--
JAN								
25...	1015	19	55	6.1	--	2.0	3.3	14.2
31...	0950	8.0	55	7.2	-2.0	.5	1.9	14.3
MAR								
07...	0815	19	46	7.1	.0	3.5	15	13.4
08...	1445	12	46	6.2	--	7.0	.70	11.8
23...	0930	4.3	78	6.6	--	9.0	.50	11.1
APR								
05...	1345	49	32	6.3	--	9.5	4.1	10.7
11...	0905	18	40	7.9	8.5	8.0	3.4	11.9
MAY								
17...	0930	7.1	50	7.3	18.5	10.0	3.0	10.8
17...	1430	6.7	50	6.7	--	15.5	2.5	10.0
JUN								
07...	1415	4.5	53	6.9	--	17.5	1.1	9.0
28...	1450	5.8	65	7.4	28.5	18.0	3.5	8.9
JUL								
12...	1530	7.4	50	7.9	--	19.0	1.0	9.6
AUG								
09...	1525	.95	85	7.6	30.5	26.0	--	--
31...	0945	1.5	100	6.5	21.5	19.0	--	--
SEP								
25...	1540	3.6	80	6.8	--	17.0	--	--
25...	1820	3.5	82	7.4	18.0	16.5	--	--

03202310 BEARHOLE FORK AT PINEVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)
OCT 19...	36	0	8.7	3.4	25	59	1.8	--	2.0	55
NOV 16...	36	0	9.1	3.2	18	50	1.3	--	2.4	50
DEC 13...	22	10	5.8	1.8	5.4	33	.5	--	1.5	12
JAN 25...	12	2	2.8	1.1	3.6	38	.5	--	1.1	10
MAR 08...	13	6	3.5	1.1	3.1	32	.4	--	1.0	7
23...	20	2	4.6	2.1	6.5	40	.6	--	1.1	18
APR 05...	7	0	1.8	.7	2.1	35	.3	--	1.0	7
MAY 17...	12	0	2.6	1.3	23	79	2.9	--	1.1	13
JUN 07...	15	0	3.6	1.5	4.4	36	.5	--	1.2	17
JUL 12...	16	1	3.9	1.5	3.6	31	.4	4.8	1.2	15
AUG 31...	25	0	6.5	2.2	7.8	38	.7	9.5	1.7	31
SEP 25...	18	4	4.5	1.6	5.1	46	.5	6.6	1.5	14

DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT 19...	--	15	10	.1	5.8	106	103	.14	.03	30
NOV 16...	--	10	8.4	.1	6.4	92	88	.13	.11	10
DEC 13...	--	8.5	5.8	.0	5.5	42	42	.06	.51	40
JAN 25...	--	7.5	5.2	.0	5.3	30	33	.04	1.54	130
MAR 08...	--	7.5	4.2	.0	5.5	30	30	.04	.97	30
23...	--	12	5.1	.0	3.0	50	45	.07	.58	0
APR 05...	--	5.7	1.9	.0	5.4	24	23	.03	3.18	30
MAY 17...	--	6.7	3.3	.0	5.8	32	52	.04	.58	30
JUN 07...	--	6.8	3.6	.0	6.1	40	38	.05	.49	40
JUL 12...	--	8.4	3.0	.0	6.4	38	37	.05	.76	30
AUG 31...	19	7.8	6.5	.0	5.9	60	57	.08	.24	0
SEP 25...	--	7.0	4.4	.1	6.7	40	40	.05	.39	60

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDED TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDED RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
DEC 13...	1	0	1	1	0	2	10	7	3	2	2	0
APR 05...	2	1	1	0	0	0	10	0	10	3	2	1
AUG 31...	0	0	0	0	0	0	10	0	10	1	0	1

GUYANDOTTE RIVER BASIN

03202310 BEARHOLE FORK AT PINEVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)
OCT							
19...	150	--	--	--	80	--	--
NOV							
16...	80	--	--	--	20	--	--
DEC							
13...	90	12	0	20	40	<.5	.0
JAN							
25...	50	--	--	--	20	--	--
MAR							
08...	0	--	--	--	30	--	--
23...	50	--	--	--	20	--	--
APR							
05...	30	4	2	2	10	.5	.0
MAY							
17...	100	--	--	--	10	--	--
JUN							
07...	140	--	--	--	40	--	--
JUL							
12...	160	--	--	--	40	--	--
AUG							
31...	160	0	0	0	60	<.5	.0
SEP							
25...	190	--	--	--	40	--	--

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC							
13...	<.5	0	0	0	30	20	10
APR							
05...	.5	0	0	0	40	10	30
AUG							
31...	<.5	0	0	0	20	20	3

DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT			APR		
19...	4	.00	05...	18	2.4
19...	2	.00	11...	1	.05
NOV			MAY		
16...	0	.00	17...	4	.08
21...	0	.00	17...	6	.11
DEC			JUN		
13...	6	.07	07...	4	.05
JAN			28...	4	.06
25...	5	.26	JUL		
31...	4	.09	12...	5	.10
MAR			AUG		
07...	467	.24	09...	2	.01
08...	14	.45			
23...	5	.06			

03202310 BEARHOLE FORK AT PINEVILLE, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	136	90	110	49	54	43	51	42	60	75	72	119
2	134	80	117	44	65	45	---	43	50	81	73	117
3	136	110	106	46	61	43	34	45	45	94	79	115
4	100	100	57	49	75	56	32	44	50	59	87	105
5	100	90	60	57	74	34	31	45	50	47	84	114
6	100	100	70	68	73	35	35	39	54	57	93	112
7	120	90	107	48	64	43	38	39	59	63	98	107
8	110	100	45	45	72	46	39	46	71	65	93	109
9	110	80	37	48	77	48	51	45	75	65	93	109
10	90	100	39	53	81	53	37	48	77	61	101	116
11	100	100	48	53	73	48	40	51	87	57	114	117
12	110	110	56	58	79	47	40	72	83	55	96	124
13	110	155	63	69	86	47	44	---	83	64	93	139
14	100	170	60	67	95	46	44	---	87	63	98	128
15	100	141	72	63	127	49	40	---	98	68	108	113
16	100	132	63	61	48	60	41	---	103	72	113	122
17	100	154	68	70	65	52	50	45	93	74	113	154
18	100	138	73	70	48	50	45	53	100	83	114	131
19	148	141	76	67	46	55	47	57	68	---	101	134
20	100	189	89	49	51	57	50	60	70	---	88	174
21	100	170	47	46	89	55	50	70	44	---	76	120
22	100	152	49	40	62	62	49	70	52	97	80	65
23	110	139	58	43	53	60	53	70	44	102	86	59
24	100	128	57	55	44	36	53	65	52	105	86	65
25	110	136	49	50	43	39	56	55	53	114	87	78
26	110	137	49	43	42	37	57	50	51	72	91	81
27	100	133	52	52	39	---	35	---	59	45	96	83
28	100	132	55	60	39	39	35	50	64	47	105	80
29	80	116	58	55	---	44	37	40	69	61	98	65
30	100	112	63	---	---	44	39	50	75	64	97	61
31	100	---	56	54	---	45	---	53	---	64	99	---
MEAN	107	124	65	54	65	47	43	52	68	71	94	107
WTR YR 1979	MEAN	75	MAX	189	MIN	31						

PH (STANDARD UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.7	7.8	7.6	6.9	6.5	6.2	6.7	6.2	6.5	6.6	---	7.7
2	7.7	7.9	7.6	6.9	6.5	6.2	---	6.3	6.7	6.6	---	7.6
3	7.5	7.9	7.6	6.9	6.5	6.3	7.0	6.3	6.7	6.2	---	7.6
4	8.2	7.9	7.6	6.9	6.5	6.3	6.8	6.4	6.7	6.5	---	7.6
5	8.1	7.9	7.5	6.8	6.6	6.4	6.8	6.4	6.5	6.6	---	7.7
6	8.1	7.9	7.4	6.8	6.6	6.3	6.7	6.3	6.4	6.1	---	7.6
7	8.0	7.9	7.4	6.9	6.7	6.3	6.7	6.3	6.5	6.4	---	7.6
8	8.0	7.6	7.5	6.9	6.6	6.4	6.6	6.4	6.5	6.5	---	7.6
9	8.0	7.7	7.4	6.8	6.6	6.4	6.5	6.5	6.6	6.5	7.6	7.6
10	8.0	7.7	7.3	6.8	6.7	6.4	6.7	6.5	6.1	6.6	---	7.7
11	7.8	7.7	7.3	6.8	6.6	6.5	6.5	5.9	6.3	6.1	---	7.7
12	7.8	7.8	7.2	6.8	6.6	6.4	6.5	6.0	6.5	6.8	---	7.6
13	7.9	7.6	6.9	6.8	6.6	6.4	6.5	6.4	6.6	6.7	---	7.5
14	7.9	7.7	7.0	6.8	6.6	6.5	6.5	6.4	6.7	6.8	---	7.6
15	7.9	7.7	7.0	6.9	6.7	6.4	6.6	6.4	6.0	6.3	---	7.6
16	7.9	7.8	7.1	6.9	6.8	6.5	6.4	6.1	6.4	6.5	---	7.7
17	7.9	7.7	7.1	6.9	6.7	6.3	7.3	6.3	6.6	6.6	---	7.7
18	7.8	7.7	7.1	6.9	6.8	6.4	6.6	6.3	6.7	6.7	---	7.7
19	7.7	7.7	7.2	7.0	6.8	6.5	6.6	6.5	6.8	---	---	7.7
20	7.7	7.7	6.9	7.0	6.8	6.5	6.5	6.6	6.2	---	---	7.7
21	7.8	7.6	7.1	6.9	6.6	6.6	6.1	6.7	6.6	---	---	7.7
22	7.8	7.6	7.0	6.2	6.8	6.6	6.1	6.7	6.5	---	---	7.1
23	7.8	7.6	7.0	6.3	6.7	6.6	6.1	6.7	6.6	---	---	7.1
24	7.8	7.7	7.0	6.3	6.8	6.7	6.2	6.5	6.2	---	---	7.2
25	7.9	7.7	7.0	6.3	6.7	6.6	6.3	6.6	6.4	---	---	7.2
26	7.9	7.7	7.0	6.3	6.7	6.6	6.2	6.6	6.4	---	7.4	7.3
27	7.7	7.7	6.8	6.3	6.2	---	6.3	6.5	6.4	---	7.6	7.4
28	7.8	7.7	6.8	6.4	6.2	6.6	6.3	6.1	6.2	---	7.6	7.3
29	7.8	7.6	6.8	6.4	---	6.6	6.4	6.3	6.3	---	7.6	7.3
30	7.8	7.6	6.8	---	---	6.7	6.4	6.4	6.5	---	7.5	7.3
31	7.8	---	6.9	6.5	---	6.7	---	6.6	---	---	7.6	---
MEAN	7.9	7.7	7.2	6.7	6.6	6.5	6.5	6.4	6.5	6.5	7.6	7.5
WTR YR 1979	MEAN	6.9	MAX	8.2	MIN	5.9						

03202310 BEARHOLE FORK AT PINEVILLE, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	13.0	7.0	8.0	.0	7.0	14.0	11.0	16.0	16.0	22.0	20.0
2	18.0	13.0	8.0	6.0	3.0	9.0	---	17.0	18.0	20.0	22.0	20.0
3	18.0	13.0	8.0	2.0	2.0	10.0	10.0	15.0	17.0	23.0	23.0	22.0
4	18.0	12.0	11.0	.0	4.0	10.0	10.0	13.0	18.0	18.0	22.0	23.0
5	18.0	12.0	8.0	4.0	.0	10.0	11.0	12.0	18.0	17.0	22.0	20.0
6	10.0	12.0	6.0	5.0	.0	10.0	9.0	14.0	18.5	16.0	23.0	21.0
7	10.0	10.0	9.0	3.0	1.0	6.0	10.0	16.0	18.0	19.0	24.0	22.0
8	13.0	10.0	8.0	2.0	4.0	8.0	13.0	19.0	---	20.0	25.0	19.0
9	11.0	11.0	10.0	2.0	3.0	11.0	8.0	16.0	20.0	17.0	26.0	16.0
10	14.0	12.0	5.0	3.0	2.0	11.0	11.0	21.0	19.0	17.0	24.0	19.0
11	15.0	13.0	5.0	2.0	.0	6.0	10.0	22.0	20.0	18.0	22.0	19.0
12	16.0	11.0	6.5	4.0	2.0	9.0	12.0	20.0	22.0	19.0	18.0	21.0
13	15.0	15.0	3.5	6.0	1.0	10.0	12.0	15.0	22.0	19.0	20.0	20.0
14	14.0	14.0	6.5	5.0	1.0	9.0	13.0	15.0	28.0	20.0	21.0	19.0
15	12.0	13.0	2.0	5.0	1.0	9.0	13.0	15.0	24.0	20.0	20.0	16.0
16	11.0	12.0	4.0	5.0	3.0	8.0	13.0	17.0	16.0	22.0	20.0	17.0
17	14.0	13.0	5.0	6.0	4.0	10.0	12.0	17.0	18.0	23.0	21.0	18.0
18	14.0	12.0	6.0	4.0	.0	10.0	13.5	17.0	20.0	22.0	19.0	18.0
19	12.0	11.0	4.0	2.0	1.0	11.0	13.0	19.0	18.0	---	19.0	19.0
20	14.0	12.0	6.0	6.0	1.0	13.0	15.0	20.0	16.0	---	17.0	18.0
21	13.0	9.0	7.0	6.0	5.0	14.0	14.0	18.0	14.0	---	20.0	16.5
22	14.0	12.0	6.0	4.0	6.0	13.0	14.0	16.0	10.0	23.0	19.0	15.5
23	13.0	10.0	5.0	4.0	7.0	10.5	14.0	17.0	15.0	24.0	19.0	16.0
24	14.0	12.0	4.0	4.0	6.5	10.5	15.0	18.0	18.0	24.0	21.0	15.0
25	14.0	9.0	5.0	1.5	7.0	7.0	19.0	13.0	15.0	24.0	20.0	16.0
26	13.0	7.0	6.0	2.0	5.0	7.0	18.0	14.0	18.0	21.0	20.0	17.0
27	12.0	9.0	3.0	4.0	5.0	---	14.0	15.0	18.0	18.0	21.0	15.0
28	13.0	9.0	2.0	1.0	7.0	7.0	12.0	14.0	18.5	18.0	22.0	---
29	12.0	7.0	2.0	1.0	---	7.0	12.0	17.0	18.0	19.0	21.0	17.0
30	13.0	9.0	3.0	---	---	9.0	14.0	16.0	17.0	20.0	22.0	16.0
31	13.0	---	6.0	.5	---	12.0	---	16.0	---	22.0	21.0	---
MEAN	14.0	11.0	5.5	3.5	3.0	9.5	12.5	16.5	18.0	20.0	21.0	18.5
WTR YR 1979	MEAN	13.0		MAX	28.0	MIN	.0					

TURBIDITY (NTU), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2	2.0	2.0	13	1.9	3.3	14	2.7	6.2	11	---	2.1
2	2	3.0	1.0	14	5.5	2.2	---	2.5	2.9	3.4	---	4.8
3	3	3.0	7.2	4.0	1.8	3.8	18	2.0	7.0	3.5	---	2.5
4	4	10	60	7.1	6.0	15	8.0	4.0	6.1	95	---	1.6
5	4	4.0	7.2	2.4	3.0	12	5.4	3.6	4.9	13	---	38
6	2	8.0	2.8	4.5	6.4	6.2	3.6	1.5	3.3	4.5	---	12
7	10	8.0	85	34	2.1	10	2.1	2.0	2.7	4.3	---	1.8
8	4	4.0	14	8.4	2.1	1.9	2.5	1.0	4.4	3.1	---	2.3
9	4	10	100	5.2	1.3	2.3	9.5	1.0	2.3	50	1.4	2.4
10	4	4.0	10	6.8	1.2	3.0	2.9	1.9	3.8	8.5	---	2.0
11	3	4.0	4.5	2.7	1.5	4.6	2.2	1.0	10	5.6	---	2.0
12	2	2.0	3.6	3.4	1.0	2.4	1.5	75	4.1	2.6	---	1.8
13	2	8.0	2.8	3.2	1.1	2.0	4.0	28	2.3	20	---	1.4
14	5	2.4	3.1	3.9	1.0	2.2	6.8	7.1	3.7	7.4	---	3.2
15	3	60	3.5	2.7	9.7	2.8	2.7	7.5	4.3	3.5	---	1.6
16	2	5.8	4.4	3.3	14	3.4	2.5	4.7	3.4	4.0	---	1.4
17	2	7.0	3.1	5.7	12	1.8	1.0	2.9	8.9	3.6	---	1.3
18	30	4.4	2.0	3.4	3.5	2.0	2.0	2.3	5.0	3.6	---	.6
19	2	1.0	4.4	2.7	2.7	2.2	2.0	18	45	---	---	1.0
20	2	1.8	12	30	9.9	3.4	1.2	2.4	9.5	---	---	1.2
21	20	2.1	14	30	25	2.6	1.0	1.7	60	---	---	55
22	3	2.5	6.0	7.5	15	3.9	1.0	2.2	22	---	---	39
23	2	6.5	6.5	5.7	32	1.6	1.0	2.9	10	---	---	7.8
24	2	2.3	9.8	5.0	33	30	1.5	14	4.9	---	---	3.7
25	2	8.6	4.0	2.8	10	10	.5	6.4	5.3	---	---	3.6
26	2	13	40	3.0	6.0	4.0	1.6	6.8	5.1	---	3.1	2.0
27	4	5.3	3.9	5.2	4.9	---	9.5	4.5	4.0	---	3.1	1.9
28	3	2.5	2.3	2.7	2.0	3.2	6.3	15	3.4	---	3.6	5.0
29	2	120	2.1	1.5	---	3.0	1.5	5.1	13	---	2.6	3.4
30	3	10	7.6	---	---	2.6	6.1	2.8	11	---	3.8	2.8
31	20	---	8.4	2.4	---	3.1	---	11	---	---	3.5	---
MEAN	5	11	14	7.5	7.7	5.0	4.2	7.9	9.3	14	3.0	7.0
WTR YR 1979	MEAN	8.1		MAX	120	MIN	.5					

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION		MEAN CONCEN- TRATION	
	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)	(MG/L)	LOADS (T/DAY)
APRIL MAY JUNE JULY AUGUST SEPTEMBER												
1	17	.46	5	.15	11	.23	10	.13	6	.10	12	.04
2	16	.48	4	.10	10	.19	5	.06	5	.06	77	.27
3	83	12	2	.04	15	.39	4	.03	4	.04	27	.09
4	71	13	7	.19	17	.60	301	52	5	.04	13	.04
5	45	6.8	10	.30	12	.32	73	7.5	5	.03	77	.48
6	8	.54	3	.10	6	.11	15	.53	5	.03	185	1.5
7	5	.20	3	.09	7	.09	7	.15	7	.03	13	.06
8	6	.19	2	.05	10	.10	4	.06	11	.04	7	.02
9	19	.77	2	.04	6	.05	40	1.1	10	.03	5	.01
10	7	.34	2	.03	40	.28	13	.46	7	.02	4	.01
11	5	.23	3	.04	42	.42	9	.24	34	.31	5	.01
12	4	.14	84	1.9	12	.07	17	.37	43	.81	5	.01
13	7	.23	68	7.7	6	.03	17	.44	13	.12	3	.00
14	12	.49	28	2.4	6	.02	14	.26	7	.04	7	.02
15	6	.23	22	1.1	8	.02	10	.14	6	.03	4	.01
16	7	.23	23	.62	8	.02	7	.08	5	.02	5	.01
17	5	.14	7	.13	10	.09	7	.06	17	.05	3	.00
18	5	.11	3	.04	10	.05	10	.08	10	.03	2	.00
19	4	.08	12	.14	89	4.7	10	.07	34	.25	2	.00
20	3	.05	22	.21	33	.98	10	.06	91	3.8	5	.01
21	2	.03	10	.08	379	744	10	.06	22	.59	104	7.6
22	4	.06	2	.02	130	57	8	.04	13	.25	89	5.2
23	2	.03	5	.04	33	5.5	7	.03	15	.24	30	1.1
24	1	.01	13	.27	9	.70	4	.02	8	.10	17	.30
25	5	.06	19	.46	7	.43	6	.03	6	.06	12	.13
26	40	1.1	17	.50	6	.24	139	11	5	.05	8	.06
27	63	5.8	12	.36	7	.17	100	16	6	.05	8	.05
28	20	1.4	62	2.5	6	.10	26	2.6	13	.09	72	1.7
29	9	.41	22	.89	13	.16	15	.73	9	.06	14	.45
30	7	.25	12	.30	13	.15	10	.32	7	.04	6	.14
31	---	---	16	.35	---	---	7	.15	14	.06	---	---
TOTAL	---	45.86	---	21.14	---	817.21	---	94.80	---	7.47	---	19.32

TOTAL LOAD FOR YEAR: 2215.39 TONS.

GUYANDOTTE RIVER BASIN

03202400 GUYANDOTTE RIVER NEAR BAILEYSVILLE, WV

LOCATION.--Lat 37°36'15", long 81°38'44", Wyoming County, Hydrologic Unit 05070101, on right bank 75 ft (23 m) upstream from Doublecamp Branch, and 3.1 mi (5.0 km) east of Baileysville.

DRAINAGE AREA.--308 mi² (798 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1968 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,140.00 ft (347.472 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 10, 1969, at site 25 ft (8 m) upstream at same datum.

REMARKS.--Water-discharge records good except those for winter periods, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--11 years, 466 ft³/s (13.20 m³/s), 20.55 in/yr (522 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,700 ft³/s (1,040 m³/s) Apr. 5, 1977, gage height, 26.89 ft (8.196 m), from rating curve extended above 14,000 ft³/s (400 m³/s) on basis of slope-area measurement of peak flow; minimum, 21 ft³/s (0.59 m³/s) Oct. 14, 1970, gage height, 2.44 ft (0.744 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 4,400 ft³/s (120 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 21	2000	9530 270	14.12 4.304	June 21	1915	*9980 283	14.53 4.429
Feb. 24	2345	4950 140	9.80 2.987				

Minimum discharge, 22 ft³/s (0.62 m³/s) Nov. 11; minimum gage height, 2.71 ft (0.826 m) Oct. 10, 11, Nov. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	28	84	1140	533	1260	621	594	451	441	384	146
2	52	29	54	2870	464	1190	643	502	443	398	299	125
3	44	27	52	1730	428	1070	1120	453	457	362	250	120
4	49	29	520	927	432	1040	2110	488	700	791	218	107
5	51	30	479	600	372	2120	1940	665	616	1500	185	116
6	44	29	297	540	320	1780	1400	714	484	710	164	235
7	48	28	220	1370	290	1290	1010	640	395	492	174	219
8	42	34	519	3310	250	1030	846	551	343	398	161	159
9	38	32	2130	1670	230	835	879	474	303	398	150	128
10	32	28	1320	1040	210	724	951	426	275	540	138	108
11	35	23	536	763	190	856	902	431	355	446	142	102
12	35	26	330	621	180	816	802	567	328	390	307	99
13	35	25	233	564	170	743	732	3120	260	900	274	98
14	35	24	186	585	185	687	749	2260	224	600	191	100
15	34	34	140	470	297	614	686	1350	205	475	158	101
16	30	43	130	420	1530	526	637	931	191	384	140	91
17	26	42	135	410	1680	483	574	690	267	338	123	80
18	27	35	120	448	1050	449	512	564	255	291	117	78
19	25	32	115	398	580	427	466	481	660	262	153	87
20	27	32	138	1280	520	414	435	432	708	238	395	79
21	26	25	1160	7170	580	389	397	388	4130	233	313	129
22	31	25	1090	4240	1320	361	365	369	5370	210	253	781
23	26	25	580	1790	2180	368	343	369	2820	232	257	598
24	29	28	442	1430	3400	1840	339	482	1690	222	198	337
25	31	31	1150	1270	3660	2510	325	540	1670	199	170	238
26	28	31	932	1020	2900	1540	357	600	1160	223	189	182
27	34	43	594	878	1950	1090	1340	584	810	1330	185	150
28	36	54	418	874	1420	884	1230	610	622	1070	170	197
29	35	52	320	716	---	763	902	612	513	661	192	373
30	34	91	280	625	---	674	704	505	462	488	187	334
31	28	---	602	575	---	615	---	444	---	407	151	---
TOTAL	1103	1015	15306	41744	27321	29388	24317	21836	27167	15629	6388	5697
MEAN	35.6	33.8	494	1347	976	948	811	704	906	504	206	190
MAX	56	91	2130	7170	3660	2510	2110	3120	5370	1500	395	781
MIN	25	23	52	398	170	361	325	369	191	199	117	78
CFSM	.12	.11	1.60	4.37	3.17	3.08	2.63	2.29	2.94	1.64	.67	.62
IN.	.13	.12	1.85	5.04	3.30	3.55	2.94	2.64	3.28	1.89	.77	.69

CAL YR 1978	TOTAL	150160	MEAN 411	MAX 8370	MIN 23	CFSM 1.33	IN 18.14
WTR YR 1979	TOTAL	216911	MEAN 594	MAX 7170	MIN 23	CFSM 1.93	IN 26.20

03202400 GUYANDOTTE RIVER NEAR BAILEYSVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1973 to October 1976, January 1977 to current year.

WATER TEMPERATURES: October 1973 to current year.

SUSPENDED-SEDIMENT DISCHARGE: July 1973 to current year.

INSTRUMENTATION.--Temperature recorder since June 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 764 micromhos Oct. 22, 1973, Oct. 14, 1974; minimum daily, 58 micromhos Mar. 30, 1975.

WATER TEMPERATURES: Maximum, 30.5°C June 28, 1978; minimum, 0.0°C many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,200 mg/L Jan. 26, 1978; minimum daily mean, 0 mg/L Nov. 12, 23, 1976.

SEDIMENT LOADS.--Maximum daily, 56,800 tons (51,500 tonnes) Jan. 26, 1978; minimum daily, 0 ton (0 tonne) Nov. 12, 23, 1976.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 700 micromhos Oct. 1; minimum daily, 80 micromhos Jan. 2.

WATER TEMPERATURES: Maximum 28.5°C Aug. 9, 10; minimum recorded, 0.0°C several days in December and January.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,530 mg/L June 21; minimum daily mean, 4 mg/L Apr. 17, 19.

SEDIMENT LOADS: Maximum daily, 24,400 tons (22,100 tonnes) June 21; minimum daily, 0.53 ton (0.48 tonne) Oct. 31.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
OCT											
17...	1510	25	>1000	8.6	16.0	14.0	10.2	--	--	--	--
MAR											
07...	1130	1290	180	7.5	10.0	7.5	12.6	--	--	--	--
APR											
10...	1740	963	220	8.3	--	9.5	11.3	--	--	--	--
MAY											
12...	1245	434	320	7.6	--	20.5	--	78	6	.0	.0
15...	1810	1210	170	7.5	30.0	14.5	10.1	--	--	--	--
JUN											
07...	0915	7068	260	7.0	--	18.5	--	74	3	.0	.0
28...	1220	639	285	7.8	24.5	17.5	9.1	85	18	.0	.0
JUL											
19...	0745	272	350	8.1	19.5	21.0	--	90	0	.0	.0
AUG											
09...	1200	146	460	8.5	31.0	26.0	--	100	0	.0	.0
SEP											
11...	0940	106	458	7.9	17.0	19.0	--	98	0	.0	.0
26...	1000	175	370	7.9	18.0	16.5	--	67	0	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
MAY										
12...	18	8.1	--	--	72	--	75	4.1	196	.27
JUN										
07...	17	7.7	--	--	71	--	69	3.5	190	.26
28...	19	9.0	31	1.5	67	--	79	3.1	203	.28
JUL										
19...	21	9.2	52	2.4	99	1.5	92	4.2	247	.34
AUG										
09...	25	10	67	2.9	140	.9	110	5.1	325	.44
SEP										
11...	23	9.8	59	2.6	120	2.9	100	5.8	285	.39
26...	16	6.6	34	1.8	76	--	65	4.1	189	.26

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECov. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECov. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECov. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECov. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECov- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECov- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECov. FM BOT- TOM MA- TERIAL (UG/G AS FE)
MAY										
12...	230	--	--	--	--	--	920	900	20	--
JUN										
07...	3630	--	--	--	--	--	760	700	60	--
28...	350	--	--	--	--	--	740	730	10	--
JUL										
19...	181	--	--	--	--	--	600	560	40	--
AUG										
09...	128	--	--	--	--	--	340	290	50	--
SEP										
11...	81.6	0	<10	<10	<10	<10	1100	--	40	11000
26...	89.3	--	--	--	--	--	1100	--	120	--

GUYANDOTTE RIVER BASIN

03202400 GUYANDOTTE RIVER NEAR BAILEYSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
MAR 07...	--	--	--	--	--	--	--	--	40	139
APR 10...	--	--	--	--	--	--	--	--	15	39
MAY 12...	--	100	30	70	--	--	--	--	--	--
JUN 07...	--	110	30	80	--	--	--	--	--	--
JUN 28...	--	120	0	120	--	--	--	--	--	--
JUL 19...	--	90	20	70	--	--	--	--	--	--
AUG 09...	--	20	10	10	--	--	--	--	--	--
SEP 11...	20	130	70	60	360	.00	0	30	--	--
SEP 26...	--	100	50	50	--	--	--	--	43	20

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	700	540	---	120	330	195	230	191	248	289	314	---
2	680	530	392	80	360	---	225	206	236	290	358	454
3	680	540	369	100	380	199	192	230	238	310	407	480
4	660	530	263	140	380	209	112	237	214	206	433	515
5	---	550	203	180	327	139	116	215	---	135	---	504
6	650	---	217	200	339	141	141	179	190	---	483	506
7	670	540	231	180	---	172	---	174	239	224	496	---
8	680	550	221	160	330	198	193	201	272	---	515	376
9	560	560	143	120	---	219	203	220	288	267	542	410
10	510	570	121	180	---	248	191	---	303	252	547	444
11	520	---	---	200	377	243	184	255	301	239	548	473
12	530	490	199	240	373	222	193	232	---	267	---	505
13	520	540	245	260	356	226	---	99	283	120	415	523
14	---	540	272	---	352	232	---	107	317	---	---	---
15	510	516	294	280	354	244	---	147	343	192	440	544
16	500	509	327	300	292	---	212	---	347	228	509	560
17	500	---	345	300	120	274	225	206	---	260	525	---
18	510	516	376	310	---	280	237	235	332	291	558	558
19	500	528	---	300	174	---	251	255	223	447	540	574
20	490	---	380	280	218	284	264	271	193	475	423	580
21	500	483	240	90	239	295	274	285	130	490	320	541
22	510	505	100	120	172	301	274	---	85	493	364	281
23	490	503	140	180	124	---	279	300	112	---	364	192
24	420	503	180	210	104	179	284	289	147	513	404	237
25	---	542	140	220	96	100	287	256	---	460	444	280
26	540	524	100	260	117	---	301	233	---	463	478	310
27	450	499	140	290	150	159	156	212	217	165	446	364
28	520	479	180	---	187	184	129	208	246	175	451	---
29	510	472	200	280	---	205	154	196	261	225	444	359
30	---	401	240	300	---	220	---	---	287	274	---	269
31	520	---	220	310	---	233	---	235	---	290	---	---
MEAN	549	518	231	213	260	215	212	218	242	298	453	434
WTR YR 1979	MEAN	320		MAX	700		MIN	80				

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	20.5	19.5	11.5	10.0	6.5	5.5	7.0	2.5	---	---	7.0	6.5
2	20.0	18.5	11.5	10.0	6.0	5.0	2.0	.0	---	---	9.5	7.0
3	18.5	17.5	11.5	10.0	6.5	5.5	.0	.0	---	---	10.0	9.0
4	19.0	18.5	10.5	9.5	9.5	6.5	.5	.0	---	---	9.5	9.0
5	18.5	17.0	11.0	9.5	9.0	7.5	2.0	.5	---	---	10.0	9.0
6	17.5	16.0	10.0	9.0	7.5	5.5	---	---	---	---	9.0	8.0
7	16.0	14.5	10.0	9.5	5.5	5.0	---	---	---	---	8.0	7.5
8	14.5	13.5	10.5	10.5	9.5	5.5	---	---	---	---	9.0	8.0
9	13.5	12.0	12.5	10.5	10.0	7.0	---	---	---	---	10.5	8.5
10	13.5	12.0	12.0	11.0	7.0	3.0	---	---	---	---	10.0	8.5
11	14.5	12.5	12.5	11.0	3.0	2.0	---	---	---	---	8.5	5.5
12	16.0	14.0	13.0	10.5	2.0	1.0	---	---	1.0	1.0	6.5	4.5
13	17.0	15.5	14.0	12.5	2.0	1.0	---	---	1.5	1.0	8.5	6.0
14	17.0	15.0	13.5	12.0	1.5	1.0	---	---	1.5	1.0	9.0	8.0
15	15.0	13.0	15.5	13.5	1.0	.0	---	---	3.5	1.5	8.0	6.0
16	13.5	12.5	19.0	15.0	1.5	.0	---	---	4.5	3.0	7.0	5.0
17	14.5	12.5	18.0	16.0	1.5	1.0	---	---	3.0	2.5	8.0	5.5
18	12.5	11.5	17.5	14.0	1.5	.5	---	---	2.5	1.0	8.5	7.5
19	12.5	11.5	14.0	12.5	5.5	2.5	---	---	1.5	1.0	10.5	8.0
20	13.0	12.0	12.5	10.5	6.0	4.5	---	---	3.0	1.0	13.0	10.5
21	12.5	11.5	11.0	10.0	4.0	2.5	---	---	5.0	2.5	15.0	12.5
22	13.5	11.5	11.0	10.5	3.0	2.0	---	---	6.0	4.5	14.5	12.5
23	13.5	12.0	11.5	11.0	3.0	2.0	---	---	7.5	6.0	13.5	12.0
24	13.5	12.0	12.5	9.5	4.0	3.0	---	---	7.5	7.0	12.0	9.0
25	12.5	11.0	9.5	7.5	3.5	2.5	---	---	7.5	7.0	8.5	6.5
26	14.5	12.5	7.5	6.5	2.5	1.0	---	---	7.5	5.0	6.5	5.5
27	14.5	12.5	8.0	6.5	1.0	.0	---	---	5.0	4.5	6.0	5.5
28	13.0	11.5	8.0	7.0	.5	.0	---	---	6.5	5.0	9.5	6.0
29	12.0	11.0	6.5	5.5	2.5	.5	---	---	---	---	12.0	9.5
30	11.5	10.5	6.5	6.0	5.5	2.5	---	---	---	---	13.5	11.5
31	11.5	10.0	---	---	7.5	6.0	---	---	---	---	14.5	12.5
MONTH	20.5	10.0	19.0	5.5	10.0	.0	7.0	.0	7.5	1.0	15.0	4.5
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.5	13.5	15.0	12.0	21.0	18.0	20.5	18.5	25.5	23.0	25.5	23.0
2	14.5	13.5	15.5	13.0	21.5	19.0	22.0	19.0	25.5	24.0	25.5	23.5
3	14.5	12.0	16.0	15.0	20.0	19.0	23.0	20.0	26.0	24.0	26.0	24.0
4	12.0	10.5	16.0	15.5	19.0	18.0	22.0	18.0	26.0	24.0	26.5	

03202400 GUYANDOTTE RIVER NEAR BAILEYSVILLE, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH		
1	13	2.0	10	.76	17	3.9	54	166	13	19	57	194
2	12	1.7	9	.70	5	.73	770	6650	14	18	45	145
3	15	1.8	9	.66	43	8.0	212	1120	12	14	40	116
4	14	1.9	10	.78	262	373	23	58	15	17	67	188
5	15	2.1	11	.89	102	132	12	19	23	23	360	2120
6	13	1.5	12	.94	35	28	26	38	17	15	114	548
7	15	1.9	11	.83	37	22	261	1240	15	12	42	146
8	15	1.7	23	2.1	72	101	300	2640	15	10	36	100
9	11	1.1	13	1.1	759	5150	92	415	17	11	27	61
10	8	.69	15	1.1	640	2280	40	112	19	11	26	51
11	15	1.4	14	.87	320	463	23	47	20	10	35	81
12	11	1.0	12	.84	141	126	26	44	14	6.8	20	44
13	9	.85	11	.74	46	29	31	47	13	6.0	18	36
14	10	.95	11	.71	10	5.0	25	39	13	6.5	20	37
15	17	1.6	53	4.9	12	4.5	18	23	23	18	18	30
16	12	.97	54	6.3	17	6.0	15	17	165	778	23	33
17	8	.56	55	6.2	30	11	21	23	78	354	34	44
18	9	.66	55	5.2	27	8.7	24	29	47	133	30	36
19	11	.74	57	4.9	20	6.2	23	25	16	25	27	31
20	9	.66	42	3.6	17	6.3	217	1140	27	38	17	19
21	11	.77	26	1.8	256	1020	1160	22600	83	130	5	5.3
22	13	1.1	30	2.0	292	859	475	5860	128	456	5	4.9
23	8	.56	48	3.2	59	92	141	681	245	1550	7	7.0
24	10	.78	37	2.8	34	41	76	293	373	3580	206	1460
25	10	.84	21	1.8	131	411	55	189	349	3520	220	1540
26	12	.91	13	1.1	47	118	37	102	210	1660	68	283
27	12	1.1	20	2.3	22	35	29	69	93	490	25	74
28	8	.78	28	4.1	9	10	22	52	77	295	181	419
29	10	.95	37	5.2	9	7.8	14	27	---	---	263	542
30	10	.92	58	14	11	8.3	12	20	---	---	238	433
31	7	.53	---	---	26	42	14	22	---	---	42	70
TOTAL	---	35.02	---	82.42	---	11408.43	---	43807	---	13206.3	---	8898.2
DAY	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)	MEAN CONCEN- TRATION (MG/L)	LOADS (T/DAY)
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER		
1	23	39	16	26	33	40	20	24	81	86	43	17
2	17	30	9	12	20	24	20	21	72	58	32	11
3	121	573	5	6.1	32	39	12	12	17	11	30	9.7
4	310	1740	10	13	92	174	184	693	8	4.7	20	5.8
5	163	854	25	45	36	60	269	1150	7	3.5	25	7.8
6	53	200	17	33	24	31	107	205	7	3.1	89	53
7	20	55	8	14	24	26	23	31	7	3.3	22	13
8	10	23	7	10	15	14	11	12	7	3.0	27	12
9	41	97	6	7.7	12	9.8	33	35	24	9.7	32	11
10	32	82	8	9.2	11	8.2	93	136	10	3.7	33	9.6
11	9	22	70	93	37	37	14	17	17	6.5	38	10
12	8	17	77	115	24	21	16	17	78	71	35	9.4
13	8	16	625	5420	19	13	293	826	58	43	23	6.1
14	20	40	204	1240	13	7.9	85	138	45	23	19	5.1
15	12	22	57	208	10	5.5	43	55	33	14	59	16
16	7	12	42	106	11	5.7	17	18	17	6.4	23	5.7
17	4	6.2	20	37	53	38	15	14	60	20	20	4.3
18	5	6.9	10	15	38	26	15	12	37	12	18	3.8
19	4	5.0	8	10	215	424	15	11	48	20	18	4.2
20	5	5.9	6	7.0	137	257	14	9.0	217	236	17	3.6
21	5	5.4	6	6.3	1530	24400	23	14	143	119	81	48
22	5	4.9	9	9.0	710	10300	16	9.1	90	64	329	703
23	5	4.6	14	14	215	1640	50	33	138	96	124	200
24	6	5.5	30	39	155	707	13	7.8	53	28	89	81
25	10	8.8	35	51	73	329	8	4.3	23	11	52	33
26	73	70	36	58	37	116	56	43	63	32	44	22
27	312	1100	23	36	20	44	282	954	98	49	22	8.9
28	74	246	21	35	15	25	123	383	47	22	53	28
29	15	37	20	33	13	18	43	77	61	32	339	353
30	11	21	24	33	13	16	30	40	32	16	104	94
31	---	---	27	32	---	---	36	41	22	9.0	---	---
TOTAL	---	5349.2	---	7773.3	---	38856.1	---	5042.2	---	1115.9	---	1789.0

TOTAL LOAD FOR YEAR: 137363.07 TONS.

GUYANDOTTE RIVER BASIN

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03202490 INDIAN CREEK AT FANROCK, WV

LOCATION.--Lat 37°34'00", long 81°39'10", Wyoming County, Hydrologic Unit 05070101, on left bank at Fanrock, 20 ft (6 m) downstream from Brier Creek, 1.8 mi (2.9 km) downstream from Stop Branch, and at mile 2.5 (4.0 km).

DRAINAGE AREA.--40.7 mi² (105.4 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1974 to current year.

GAGE.--Water-stage recorder. Altitude of gage is 1,210 ft (369 m), from topographic map. Prior to Oct. 22, 1974, nonrecording gage at same site and datum.

REMARKS.--Water-discharge records good except those for winter periods, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,300 ft³/s (178 m³/s) Apr. 4, 1977, gage height, 18.67 ft (5.691 m), from rating curve extended above 700 ft³/s (20 m³/s) on basis of slope-area measurement of peak flow; minimum, 1.1 ft³/s (0.03 m³/s) July 22, 23, 24, Aug. 12, 13, 14, 1976, gage height, 6.54 ft (1.993 m).

EXTREMES FOR CURRENT YEAR.--Peak discharge above base of 500 ft³/s (14 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	1045	734 20.8	11.16 3.402	Apr. 3	2230	580 16.4	10.46 3.188
Jan. 2	0745	734 20.8	11.16 3.402	May 11	2215	*1790 50.7	13.63 4.154
Jan. 8	---	Unknown	Unknown	May 13	0715	895 25.3	11.64 3.548
Jan. 21	---	Unknown	Unknown	June 21	1715	1200 34.0	12.47 3.801
Feb. 16	1345	535 15.2	10.27 3.130	June 22	0715	1720 48.7	13.54 4.127
Feb. 24	2130	679 19.2	10.87 3.313	July 4	2100	645 18.3	10.83 3.301

Minimum discharge, 1.3 ft³/s (0.04 m³/s) Oct. 12, 13; minimum gage height, 6.66 ft (2.030 m) Oct. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	2.2	8.2	220	42	125	85	59	29	30	25	9.2
2	2.0	2.1	5.2	573	32	106	127	48	25	19	19	7.9
3	2.0	2.1	9.6	218	29	85	320	40	43	13	15	8.2
4	2.0	1.9	98	130	26	92	426	53	83	183	12	6.7
5	2.0	1.9	61	70	21	312	330	104	71	358	9.6	11
6	1.7	1.9	25	54	19	220	202	115	44	125	9.6	20
7	1.7	2.0	25	50	17	140	119	86	28	66	7.9	11
8	1.7	2.1	71	520	15	100	88	62	21	43	7.0	8.2
9	1.6	2.0	428	250	13	71	96	47	16	56	6.4	6.4
10	1.4	2.0	148	100	12	63	95	35	13	66	5.8	5.2
11	1.4	2.1	52	54	12	84	90	215	16	50	6.7	4.6
12	1.4	2.2	27	44	11	86	79	528	11	39	27	4.2
13	1.4	2.0	17	36	11	77	72	734	8.6	44	14	3.8
14	1.6	2.2	12	38	15	72	88	360	7.2	30	8.2	4.4
15	1.7	3.0	8.0	39	27	57	87	175	5.8	97	6.4	5.0
16	1.9	7.6	7.0	37	428	43	77	100	5.4	95	5.4	4.2
17	1.9	8.2	7.4	35	266	38	63	65	30	65	4.6	3.5
18	1.8	6.9	6.4	32	146	35	50	48	23	43	4.2	3.3
19	1.7	5.8	6.1	45	90	33	41	37	135	31	15	3.2
20	1.6	4.7	10	250	75	31	35	28	152	26	33	3.2
21	1.6	4.3	156	750	100	27	31	23	595	21	43	36
22	1.6	4.0	111	520	160	24	26	22	1140	18	31	120
23	1.6	4.3	58	360	278	36	23	26	669	14	72	59
24	1.7	5.4	56	180	435	320	21	50	375	13	32	30
25	1.6	5.6	180	150	535	346	19	59	342	10	20	19
26	1.6	6.2	114	140	448	200	30	66	152	14	20	14
27	2.2	10	50	110	250	128	200	64	77	74	20	11
28	2.3	9.6	30	80	156	95	157	55	49	115	19	26
29	2.2	9.3	26	70	---	79	98	41	33	76	25	40
30	2.1	16	24	62	---	69	75	30	31	51	16	32
31	2.0	---	121	52	---	62	---	29	---	35	12	---
TOTAL	55.1	139.6	1957.9	5269	3669	3256	3250	3404	4230.0	1920	551.8	520.2
MEAN	1.78	4.65	63.2	170	131	105	108	110	141	61.9	17.8	17.3
MAX	2.3	16	428	750	535	346	426	734	1140	358	72	120
MIN	1.4	1.9	5.2	32	11	24	19	22	5.4	10	4.2	3.2
CFSM	.04	.11	1.55	4.18	3.22	2.58	2.65	2.70	3.46	1.52	.44	.43
IN.	.05	.13	1.79	4.82	3.35	2.98	2.97	3.11	3.87	1.75	.50	.48
CAL YR 1978	TOTAL	17009.6	MEAN 46.6	MAX 1660	MIN 1.4	CFSM 1.15	IN 15.55					
WTR YR 1979	TOTAL	28222.6	MEAN 77.3	MAX 1140	MIN 1.4	CFSM 1.90	IN 25.79					

03202490 INDIAN CREEK AT FANROCK, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1974 to September 1978.

WATER TEMPERATURES: November 1974 to March 1975, August 1975 to current year.

SUSPENDED-SEDIMENT DISCHARGE: June 1974 to September 1978.

INSTRUMENTATION.--Temperature recorder since Nov. 20, 1974.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 349 micromhos July 20, 1976; minimum daily, 42 micromhos Jan. 1, 1976.

WATER TEMPERATURES: Maximum, 26.0°C Aug. 24, 1975; minimum, -1.0°C Jan. 6, 1979.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,130 mg/L Mar. 10, 1978; minimum daily mean, 1 mg/L Oct. 8, 1974, several days during 1976, and April 17, 1978.

SEDIMENT LOADS: Maximum daily, 5,410 tons (4,910 tonnes) Apr. 4, 1977; minimum daily, 0 ton (0 tonne) Oct. 8, 1974.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 24.5°C July 24, Aug. 7-11; minimum recorded, -1.0°C.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

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TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

03202695 MILAM FORK AT MCGRAWS, WV

LOCATION.--Lat 37°40'48", long 81°28'27", Wyoming County, Hydrologic Unit 05070101, on left bank, 0.9 mi (1.4 km) upstream from mouth, and 0.9 mi (1.4 km) northwest of McGraws.

DRAINAGE AREA.--6.64 mi² (17.20 km²).

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage and rainfall recorders. Altitude of gage is 1,760 ft (536 m), from topographic map.

REMARKS.--Water-discharge records good, except those for October through February, which are fair. Rainfall records collected at site since December 1977 are contained in files of U.S. Geological Survey with only monthly totals published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 609 ft³/s (17.2 m³/s) Jan. 26, 1978, gage height, 10.29 ft (3.136 m); minimum daily discharge, 0.03 ft³/s (0.001 m³/s) Nov. 13, 14, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 115 ft³/s (3.3 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	----	Unknown	Unknown	Feb. 24	1930	277 7.84	8.01 2.441
Jan. 2	1100	218 6.17	7.52 2.292	Mar. 5	0945	166 4.70	7.06 2.152
Jan. 7	2215	286 8.10	8.08 2.463	June 21	2115	384 10.9	8.93 2.722
Jan. 21	0300	399 11.3	8.89 2.710	July 13	0500	392 11.1	8.98 2.737
Jan. 21	1815	*442 12.5	9.18 2.798				

Minimum daily discharge, 0.03 ft³/s (0.001 m³/s) Nov. 13, 14.

REVISIONS.--Revised daily discharge and revised monthly summaries, in cubic feet per second, for water year 1978 are given below. These figures supersede those published in WDR WV-78-1.

Jan. 26, 1978 336

JAN.

TOTAL	698.0
MEAN	22.5
MAX	336
MIN	3.9
CFSM	3.39
IN.	3.91

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.06	1.0	63	6.0	18	11	12	6.2	3.9	6.8	1.0
2	.12	.05	.40	154	4.4	14	11	9.3	4.9	3.3	4.9	.94
3	.12	.05	1.5	51	3.6	11	35	8.0	5.5	2.7	3.8	1.0
4	.14	.05	35	20	3.2	14	74	8.8	7.1	15	3.0	.94
5	.12	.04	20	13	2.9	121	89	10	6.2	23	2.4	1.3
6	.12	.04	10	10	2.6	51	36	11	4.9	10	2.1	2.7
7	.12	.04	15	110	2.4	26	20	11	3.6	6.4	2.0	1.6
8	.10	.06	30	159	2.3	17	14	8.8	2.8	4.5	1.8	1.2
9	.10	.05	200	43	2.2	12	17	6.8	2.4	6.2	1.8	1.0
10	.08	.05	30	22	2.1	11	19	5.5	2.1	7.0	1.6	.87
11	.08	.04	14	14	2.0	14	18	4.7	4.7	5.3	2.7	.80
12	.10	.04	10	11	2.0	14	15	4.3	2.5	17	5.9	.73
13	.10	.03	5.2	11	2.0	13	13	18	2.0	207	3.3	.73
14	.14	.03	3.6	13	2.0	11	15	30	1.6	34	2.3	.80
15	.10	.10	3.0	12	3.1	9.0	16	20	1.3	14	1.8	.87
16	.10	.12	2.7	11	61	6.8	14	12	1.1	9.9	1.5	.73
17	.08	.10	3.0	11	52	6.4	11	8.0	2.0	7.5	1.3	.66
18	.08	.14	2.4	9.5	24	5.9	8.8	5.9	1.8	5.5	1.2	.60
19	.07	.12	2.3	8.3	18	5.7	7.3	4.7	4.1	4.5	3.1	.60
20	.07	.07	5.1	99	12	5.5	6.2	3.8	3.6	3.9	3.1	.49
21	.06	.05	66	375	17	5.1	5.5	3.4	168	3.6	2.7	5.2
22	.06	.04	34	129	58	4.5	4.7	3.0	155	3.3	2.1	25
23	.06	.12	15	36	140	7.6	4.3	2.8	55	2.8	2.4	15
24	.05	.20	16	28	214	81	3.9	5.1	27	2.5	2.0	7.0
25	.05	.18	56	24	136	73	3.8	3.9	18	2.5	1.8	3.9
26	.05	.25	30	17	86	32	9.5	4.1	13	7.5	1.6	2.8
27	.10	.90	15	14	44	19	49	4.3	8.8	27	1.9	2.3
28	.08	.60	9.8	12	25	15	37	9.3	6.4	21	1.6	7.5
29	.07	1.0	7.1	10	---	13	21	11	4.9	15	1.4	9.7
30	.07	2.2	6.6	9.0	---	11	16	8.0	4.5	12	1.2	7.3
31	.06	---	41	8.0	---	10	---	7.1	---	9.7	1.1	---
TOTAL	2.77	6.82	690.70	1506.8	929.8	657.5	605.0	264.6	531.0	497.5	76.2	105.26
MEAN	.089	.23	22.3	48.6	33.2	21.2	20.2	8.54	17.7	16.0	2.46	3.51
MAX	.14	2.2	200	375	214	121	89	30	168	207	6.8	25
MIN	.05	.03	.40	8.0	2.0	4.5	3.8	2.8	1.1	2.5	1.1	.49
CFSM	.01	.04	3.36	7.32	5.00	3.19	3.04	1.29	2.67	2.41	.37	.53
IN. †	.02	.04	3.87	8.44	5.21	3.68	3.39	1.48	2.97	2.79	.43	.59
IN. ‡	1.24	2.75	---	---	3.08	4.11	5.13	4.89	---	---	3.58	5.24
CAL YR 1978 TOTAL	3891.89			MEAN 10.7	MAX 336	MIN .03	CFSM 1.61	IN 21.80				
WTR YR 1979 TOTAL	5873.95			MEAN 16.1	MAX 375	MIN .03	CFSM 2.43	IN 32.90				

† Runoff

‡ Rainfall

GUYANDOTTE RIVER BASIN

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03202695 MILAM FORK AT MCGRAWS, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February to September 1979

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February to September 1979.

pH: February to September 1979.

TURBIDITY: February to September 1979.

SUSPENDED-SEDIMENT DISCHARGE: February to September 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 502 micromhos Sept. 20; minimum daily, 42 micromhos Feb. 25, Apr. 5.

pH: Maximum daily, 8.4 units Aug. 11, 18; minimum daily, 5.9 units Apr. 12.

TURBIDITY: Maximum daily, 100 NTU Aug. 20, Sept. 22; minimum daily, 1.5 NTU Apr. 19, 20.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 234 mg/L July 13; minimum daily mean, 0 mg/L Mar. 15, 16.

SEDIMENT LOADS: Maximum daily, 176 tons (160 tonnes) July 13; minimum daily, 0 tons (0 tonnes) Mar. 15, 16.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)
OCT								
20...	0910	.08	--	8.0	--	7.5	3.0	9.9
20...	1050	.06	750	8.2	17.0	9.0	4.0	11.0
NOV								
16...	1000	.12	510	7.9	--	12.0	10	8.0
22...	0945	.04	440	8.0	13.0	7.5	5.0	--
DEC								
14...	1515	3.8	125	6.5	--	3.5	5.0	12.5
JAN								
25...	0900	24	70	6.6	--	2.0	17	14.1
31...	1710	8.4	100	7.5	-1.5	1.5	4.5	14.0
MAR								
08...	0830	21	75	7.2	3.5	6.0	5.0	12.4
09...	0930	12	97	6.0	--	6.5	3.4	11.4
22...	1345	4.3	150	6.5	--	11.0	1.0	--
APR								
05...	1445	82	<50	6.0	--	9.5	4.0	9.8
11...	1255	17	75	7.0	--	9.5	--	11.0
MAY								
16...	1450	11	86	7.4	21.0	14.0	5.5	10.0
18...	0900	6.2	123	7.2	--	10.0	1.5	9.8
JUN								
08...	0955	3.0	187	7.2	--	15.5	1.1	8.6
12...	1330	2.4	183	7.6	--	--	35	--
27...	1540	8.6	105	7.2	28.0	15.5	5.5	9.3
JUL								
13...	0915	280	40	7.1	--	15.0	45	8.7
AUG								
08...	0910	1.8	230	--	24.0	19.0	--	--
28...	1545	1.4	310	7.0	28.0	22.0	--	--
SEP								
25...	0915	4.3	145	6.9	--	14.0	--	--
25...	1700	3.5	156	7.2	23.5	16.0	--	--

GUYANDOTTE RIVER BASIN

03202695 MILAM FORK AT MCGRAWS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CAC03)
OCT										
20...	56	0	14	5.0	150	85	8.8	--	2.4	310
NOV										
16...	53	0	13	4.9	130	83	7.8	--	3.1	280
DEC										
14...	24	0	6.6	2.9	20	59	1.6	--	1.4	42
JAN										
25...	18	1	3.9	1.9	7.8	47	.8	--	1.0	17
MAR										
09...	21	0	5.1	2.0	11	52	1.0	--	1.0	26
22...	24	0	5.5	2.5	23	66	2.0	--	1.1	49
APR										
05...	11	2	2.6	1.1	3.7	40	.5	--	.9	9
MAY										
18...	22	0	4.7	2.5	16	60	1.5	--	1.1	45
JUN										
08...	30	0	6.9	3.0	31	68	2.5	--	1.3	65
JUL										
13...	10	1	2.0	1.1	1.6	24	.2	2.9	1.3	9
AUG										
28...	41	0	10	3.9	50	72	3.4	52	1.8	120
SEP										
25...	27	0	6.3	2.7	20	71	1.7	22	1.5	48

DATE	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT										
20...	--	2.4	35	.2	7.0	403	403	.55	.09	40
NOV										
16...	--	5.5	31	.2	6.5	367	363	.50	.12	20
DEC										
14...	--	13	6.9	.0	6.4	84	83	.11	.86	30
JAN										
25...	--	12	4.4	.0	6.0	40	47	.05	2.59	40
MAR										
09...	--	13	4.4	.1	6.3	55	59	.07	1.78	20
22...	--	14	6.9	.0	3.9	92	87	.13	1.07	0
APR										
05...	--	9.4	1.5	.0	5.8	32	31	.04	7.08	30
MAY										
18...	--	12	4.8	.0	6.8	64	75	.09	1.07	30
JUN										
08...	--	9.5	11	.1	7.4	111	110	.15	.90	30
JUL										
13...	--	10	.8	.0	3.9	34	26	.05	25.7	50
AUG										
28...	23	7.0	14	.1	7.7	173	167	.24	.65	20
SEP										
25...	--	10	6.8	.1	7.7	86	84	.12	1.00	50

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
DEC												
14...	1	0	1	2	0	7	10	10	0	2	1	1
APR												
05...	2	2	0	0	0	0	10	0	10	2	1	1
AUG												
28...	1	1	0	1	0	1	10	0	10	1	0	1

03202695 MILAM FORK AT MCGRAWS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)
OCT							
20...	140	--	--	--	20	--	--
NOV							
16...	80	--	--	--	10	--	--
DEC							
14...	150	28	0	130	100	<.5	.0
JAN							
25...	130	--	--	--	40	--	--
MAR							
09...	230	--	--	--	50	--	--
22...	210	--	--	--	90	--	--
APR							
05...	40	0	0	0	30	.5	.0
MAY							
18...	350	--	--	--	130	--	--
JUN							
08...	650	--	--	--	140	--	--
JUL							
13...	50	--	--	--	40	--	--
AUG							
28...	620	3	0	3	40	<.5	.0
SEP							
25...	380	--	--	--	100	--	--

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)
DEC							
14...	<.5	0	0	0	30	30	0
APR							
05...	.5	0	0	0	20	10	10
AUG							
28...	<.5	0	0	0	20	20	0

DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT			APR		
20...	4	.00	05...	23	5.1
20...	8	.00	MAY		
NOV			16...	11	.33
16...	21	.01	18...	5	.08
22...	7	.00	JUN		
DEC			08...	16	.13
14...	0	.00	12...	39	.25
JAN			27...	7	.16
25...	32	2.1	JUL		
31...	7	.16	13...	123	93
MAR			AUG		
08...	12	.68	08...	13	.06
09...	8	.26			
22...	2	.02			

GUYANDOTTE RIVER BASIN

03202695 MILAM FORK AT MCGRAWS--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)
OCT								
19...	1005	.10	190	7.2	13.0	9.0	2.0	10.8
19...	1440	.10	155	6.7	--	13.0	2.0	--
NOV								
16...	0845	.46	120	7.1	--	11.0	4.0	9.2
21...	1720	.21	150	7.2	12.5	9.0	2.0	--
DEC								
13...	1440	4.5	70	5.8	--	3.0	2.4	--
JAN								
25...	1015	19	55	6.1	--	2.0	3.3	14.2
31...	0950	8.0	55	7.2	-2.0	.5	1.9	14.3
MAR								
07...	0815	19	46	7.1	.0	3.5	15	13.4
08...	1445	12	46	6.2	--	7.0	.70	11.8
23...	0930	4.3	78	6.6	--	9.0	.50	11.1
APR								
05...	1345	49	32	6.3	--	9.5	4.1	10.7
11...	0905	18	40	7.9	8.5	8.0	3.4	11.9
MAY								
17...	0930	7.1	50	7.3	18.5	10.0	3.0	10.8
17...	1430	6.7	50	6.7	--	15.5	2.5	10.0
JUN								
07...	1415	4.5	53	6.9	--	17.5	1.1	9.0
28...	1450	5.8	65	7.4	28.5	18.0	3.5	8.9
JUL								
12...	1530	7.4	50	7.9	--	19.0	1.0	9.6
AUG								
09...	1525	.95	85	7.6	30.5	26.0	--	--
31...	0945	1.5	100	6.5	21.5	19.0	--	--
SEP								
25...	1540	3.6	80	6.8	--	17.0	--	--
25...	1820	3.5	82	7.4	18.0	16.5	--	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	42	112	71	85	71	106	174	148	373
2	---	---	---	36	117	79	85	80	109	192	157	400
3	---	---	---	---	134	86	83	90	120	219	180	391
4	---	---	72	---	121	97	45	93	105	244	208	355
5	---	---	---	---	125	48	42	83	100	78	231	401
6	---	---	---	---	155	49	52	74	105	101	252	211
7	---	---	96	54	136	62	64	74	160	133	270	257
8	---	---	63	40	130	73	73	79	167	159	256	305
9	---	---	47	---	142	76	78	89	197	178	306	346
10	---	---	---	---	167	87	67	99	213	138	326	389
11	---	---	---	78	169	78	64	105	144	145	344	414
12	---	---	---	---	157	73	72	112	190	134	182	438
13	---	---	---	---	147	82	79	85	220	50	187	457
14	---	---	125	---	152	78	76	55	242	70	242	463
15	---	---	---	---	150	84	71	58	271	90	279	395
16	---	510	---	---	62	96	71	78	289	110	320	375
17	---	---	---	---	46	101	76	85	296	130	343	429
18	---	---	---	---	62	105	85	96	245	144	370	466
19	---	---	---	---	66	108	94	107	234	162	355	---
20	535	---	---	52	85	110	102	120	170	198	223	502
21	---	---	44	40	85	114	112	127	92	202	221	404
22	---	400	---	---	52	124	106	136	54	221	255	100
23	---	---	---	---	48	125	118	137	62	237	238	94
24	---	---	66	---	44	54	128	128	76	254	267	123
25	---	---	---	70	42	44	129	124	84	254	289	166
26	---	---	---	---	48	53	133	127	89	237	303	186
27	---	---	---	---	53	62	51	118	107	85	313	215
28	---	---	---	---	62	70	52	102	137	84	300	210
29	---	---	---	---	---	74	59	74	151	96	330	117
30	---	---	---	---	---	---	68	81	168	105	321	124
31	---	---	52	100	---	80	---	95	---	111	354	---
MEAN	535	455	71	57	102	81	81	96	157	153	270	314
WTP YR 1979	MEAN	154	MAX	535	MIN	36						

03202695 MILAM FORK AT MCGRAWS--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	6.5	6.5	6.9	7.1	6.9	6.5	7.5	7.7	8.2
2	---	---	---	6.5	6.5	7.0	7.1	6.1	6.6	7.4	7.8	8.2
3	---	---	---	---	6.6	7.0	7.1	6.2	6.7	7.7	7.8	8.2
4	---	---	5.8	---	6.7	7.0	7.1	6.3	6.8	7.6	8.0	8.1
5	---	---	---	---	6.7	7.0	6.8	6.4	6.8	7.3	8.0	8.2
6	---	---	---	---	6.8	7.0	7.0	6.5	7.2	7.2	8.0	7.8
7	---	---	6.3	6.8	6.9	7.0	7.0	6.2	7.1	7.3	8.1	7.9
8	---	---	6.3	6.9	7.0	7.1	7.0	6.3	7.4	7.3	8.2	8.1
9	---	---	6.3	---	7.0	6.2	7.1	6.4	7.7	7.5	8.2	8.1
10	---	---	---	---	6.9	6.4	7.1	6.5	7.7	7.5	8.3	8.2
11	---	---	---	6.8	7.0	6.5	7.1	6.6	7.5	7.4	8.4	8.2
12	---	---	---	---	7.1	6.6	5.9	6.4	7.6	7.4	8.0	8.2
13	---	---	---	---	7.2	6.6	6.0	6.6	7.8	6.7	7.9	8.2
14	---	---	6.5	---	7.2	6.7	6.1	6.9	7.8	6.1	8.0	7.0
15	---	---	---	---	7.2	6.7	6.3	6.9	7.9	7.3	8.2	7.9
16	---	7.9	---	---	7.2	6.7	6.3	7.2	8.0	7.5	8.2	8.1
17	---	---	---	---	7.1	6.8	6.1	6.7	8.0	7.5	8.2	7.0
18	---	---	---	---	7.1	6.8	6.2	6.7	8.0	7.5	8.4	6.7
19	---	---	---	---	7.1	6.7	6.3	6.8	7.8	7.7	8.2	---
20	7.8	---	---	7.0	7.1	6.8	6.5	6.9	7.5	7.1	8.0	8.2
21	---	---	6.5	6.8	7.1	6.9	6.6	7.0	7.3	7.5	8.0	8.3
22	---	8.0	---	---	7.1	6.8	6.4	6.8	6.9	7.8	8.0	7.2
23	---	---	---	---	7.0	7.0	6.5	6.9	6.9	7.9	7.9	7.3
24	---	---	6.6	---	6.9	7.1	6.6	6.9	7.0	8.0	8.0	7.6
25	---	---	---	6.6	6.9	7.0	6.9	7.0	6.9	8.0	8.0	8.0
26	---	---	---	---	6.9	7.0	7.0	7.1	7.0	8.0	8.1	8.0
27	---	---	---	---	6.9	6.9	6.8	6.6	7.2	7.5	8.0	8.1
28	---	---	---	---	6.9	7.0	6.8	6.7	7.2	7.5	7.7	8.0
29	---	---	---	---	---	7.0	6.8	6.7	7.3	7.6	8.2	7.6
30	---	---	---	---	---	---	6.8	6.8	7.4	7.5	8.1	7.6
31	---	---	6.5	7.5	---	7.0	---	6.9	---	7.7	8.1	---
MEAN	7.8	8.0	6.4	6.8	7.0	6.8	6.7	6.7	7.3	7.5	8.1	7.9
WTR YR 1979	MEAN	7.2	MAX	8.4	MIN	5.8						

TURBIDITY (NTU), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	34	4.0	5.0	3.7	3.0	5.6	5.2	2.5	9.5
2	---	---	---	70	5.2	4.7	5.8	3.3	5.1	3.2	1.9	6.3
3	---	---	---	---	3.3	4.0	15	2.1	5.6	4.5	2.8	9.7
4	---	---	45	---	2.8	9.0	12	3.5	7.7	4.5	4.2	9.7
5	---	---	---	---	3.4	55	8.5	4.0	6.4	55	2.7	10
6	---	---	---	---	4.1	9.8	7.8	5.0	4.3	13	4.8	13
7	---	---	50	60	4.5	6.6	4.7	4.0	4.7	6.3	4.8	9.9
8	---	---	37	50	3.1	4.8	3.5	2.9	3.0	6.0	7.3	11
9	---	---	65	---	3.3	3.6	10	3.3	6.0	4.4	7.3	9.8
10	---	---	---	---	4.7	3.2	5.0	3.4	5.8	20	4.5	7.5
11	---	---	---	34	2.8	6.3	4.4	3.5	80	7.9	5.8	8.8
12	---	---	---	---	4.1	4.5	3.0	4.2	35	65	95	11
13	---	---	---	---	3.1	4.4	2.6	24	22	65	35	10
14	---	---	5	---	2.6	3.7	5.0	29	13	13	6.7	5.5
15	---	---	---	---	3.5	2.8	1.8	18	11	14	6.8	8.3
16	---	30	---	---	33	3.2	2.5	6.8	14	9.4	6.9	8.0
17	---	---	---	---	14	4.0	2.0	2.3	16	7.1	8.8	8.3
18	---	---	---	---	7.5	3.4	1.7	1.8	24	6.9	7.1	9.0
19	---	---	---	---	3.8	3.8	1.5	2.4	40	6.4	22	---
20	4	---	---	70	3.8	3.2	1.5	2.4	21	5.0	100	7.4
21	---	---	60	65	3.5	3.6	2.7	3.1	75	2.5	27	32
22	---	5	---	---	14	2.1	2.4	3.9	31	4.5	9.8	100
23	---	---	---	---	40	3.7	1.9	3.5	12	3.6	21	22
24	---	---	36	---	30	45	2.5	23	19	3.8	8.3	9.3
25	---	---	---	17	12	10	2.9	7.5	12	4.2	9.7	5.6
26	---	---	---	---	9.0	7.0	3.0	6.4	8.6	4.1	10	3.3
27	---	---	---	---	5.3	4.8	85	5.4	6.2	55	14	14
28	---	---	---	---	6.4	5.2	5.0	14	3.5	8.2	7.2	12
29	---	---	---	---	---	3.8	2.8	13	4.0	6.4	12	11
30	---	---	---	---	---	---	3.9	7.0	6.7	5.3	16	4.9
31	---	---	75	4.5	---	4.2	---	5.3	---	3.8	6.5	---
MEAN	4	18	45	45	8.5	7.8	7.1	7.1	17	14	15	13
WTR YR 1979	MEAN	14	MAX	100	MIN	1.5						

GUYANDOTTE RIVER BASIN

03202695 MILAM FORK AT MCGRAWS--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DAY	MEAN		MEAN		MEAN		MEAN		MEAN		MEAN	
	CONCENTRATION (MG/L)	LOADS (T/DAY)	CONCENTRATION (MG/L)	LOADS (T/DAY)	CONCENTRATION (MG/L)	LOADS (T/DAY)	CONCENTRATION (MG/L)	LOADS (T/DAY)	CONCENTRATION (MG/L)	LOADS (T/DAY)	CONCENTRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1							---	---	7	.11	11	.53
2							---	---	10	.12	12	.45
3							---	---	8	.08	11	.33
4							---	---	10	.09	28	1.1
5							---	---	10	.08	160	53
6							---	---	7	.05	23	3.2
7							---	---	7	.04	13	.91
8							---	---	6	.04	10	.46
9							---	---	5	.03	6	.19
10							---	---	9	.05	6	.18
11							---	---	6	.03	7	.26
12							---	---	7	.04	6	.23
13							---	---	7	.04	8	.28
14							---	---	5	.03	3	.09
15							---	---	7	.06	0	.00
16							---	---	91	15	0	.00
17							---	---	36	5.1	1	.02
18							---	---	23	1.5	2	.03
19							---	---	13	.63	3	.05
20							164	71	9	.29	4	.06
21							183	188	9	.41	4	.06
22							40	14	43	6.7	3	.04
23							35	3.4	148	67	10	.21
24							33	2.5	116	66	126	30
25							32	2.1	45	17	33	6.5
26							35	1.6	22	5.1	12	1.0
27							26	.98	16	1.9	5	.26
28							24	.78	12	.81	6	.24
29							18	.49	---	---	7	.25
30							12	.29	---	---	6	.18
31							7	.15	---	---	5	.14
TOTAL							---	285.29	---	188.33	---	100.25

DAY	MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)		MEAN CONCENTRATION (MG/L)						
	LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)		LOADS (T/DAY)						
APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER		
1	4	.12	8	.26	10	.17	10	.11	15	.28	17	.05					
2	8	.24	6	.15	10	.13	7	.06	11	.15	17	.04					
3	66	9.0	5	.11	13	.19	7	.05	12	.12	20	.05					
4	91	21	7	.17	22	.42	40	1.6	11	.09	21	.05					
5	48	13	7	.19	12	.20	78	4.8	12	.08	26	.09					
6	15	1.5	5	.15	8	.11	25	.69	15	.09	27	.20					
7	7	.38	5	.15	11	.11	12	.21	15	.08	20	.09					
8	7	.26	5	.12	15	.11	9	.11	16	.08	13	.04					
9	13	.60	5	.09	17	.11	23	.39	22	.11	10	.03					
10	7	.36	5	.07	12	.07	28	.53	13	.06	8	.02					
11	6	.29	4	.05	107	1.2	17	.24	24	.17	10	.02					
12	4	.16	9	.10	58	.39	202	.29	107	1.7	12	.02					
13	5	.18	51	2.5	29	.16	234	176	42	.37	13	.03					
14	10	.41	63	5.1	17	.07	47	4.3	17	.11	12	.03					
15	7	.30	32	1.7	18	.06	32	1.2	12	.06	12	.03					
16	5	.19	14	.45	22	.07	27	.72	10	.04	8	.02					
17	5	.15	7	.15	28	.15	17	.34	13	.05	10	.02					
18	4	.10	7	.11	38	.18	37	.55	23	.07	7	.01					
19	4	.08	7	.09	53	.59	13	.16	47	.39	7	.01					
20	4	.07	8	.08	36	.35	13	.14	89	.74	8	.01					
21	4	.06	10	.09	223	151	15	.15	32	.23	195	6.2					
22	3	.04	8	.06	82	44	13	.12	21	.12	188	13					
23	3	.03	13	.10	43	6.4	12	.09	24	.16	65	2.6					
24	4	.04	25	.34	33	2.4	14	.09	14	.08	25	.47					
25	4	.04	12	.13	21	1.0	14	.09	13	.06	8	.08					
26	7	.18	7	.08	13	.46	50	1.0	15	.06	9	.07					
27	86	12	11	.13	10	.24	97	7.1	17	.09	24	.15					
28	25	2.5	23	.58	9	.16	38	2.2	17	.07	31	.63					
29	15	.85	23	.68	11	.15	25	1.0	10	.04	23	.60					
30	9	.39	12	.26	11	.13	17	.55	12	.04	13	.26					
31	---	---	10	.19	---	---	16	.42	16	.05	---	---					
TOTAL	---	64.52	---	14.43	---	210.78	---	234.00	---	5.84	---	24.92					

TOTAL LOAD FOR YEAR: 1128.36 TONS.

GUYANDOTTE RIVER BASIN

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03202750 CLEAR FORK AT CLEAR FORK, WV

LOCATION.--Lat 37°37'26", long 81°42'13", Wyoming County, Hydrologic Unit 05070101, on right bank 1.2 mi (1.9 km) southwest of Clear Fork, 1.7 mi (2.7 km) downstream from Laurel Branch, 0.3 mi (0.5 km) upstream from Cedar Creek, and at mile 3.3 (5.3 km). Prior to Oct. 27, 1977, at site 0.7 mi (1.1 km) upstream.

DRAINAGE AREA.--124 mi² (321 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1974 to current year. Prior to October 22, 1974, partial record station.

GAGE.--Water-stage recorder. Altitude of gage is 1,150 ft (351 m), from topographic map. June 28, 1974 to Oct. 22, 1974, non-recording gage; Oct. 23, 1974 to Oct. 27, 1977, digital recorder at site 0.7 mi (1.1 km) upstream at different datum.

REMARKS.--Water-discharge records good except those for February, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,900 ft³/s (280 m³/s) Apr. 5, 1977, gage height, 18.64 ft (5.681 m), site and datum then in use, from rating curve extended above 3,000 ft³/s (85 m³/s) on basis of slope-area measurement of peak flow, minimum, 7.4 ft³/s (0.21 m³/s), Oct. 12, 13, 1978, gage height, 3.58 ft (1.091 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,600 ft³/s (45 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	0730	2060 58.3	7.33 2.234	Feb. 24	2030	4180 118	9.10 2.774
Dec. 9	1400	5400 153	10.04 3.060	Mar. 5	0900	3090 87.5	8.24 2.512
Jan. 2	1000	3430 97.1	8.52 2.600	Apr. 5	0500	1610 45.6	6.91 2.106
Jan. 8	0200	3880 110	8.87 2.704	June 22	0500	*6530 185	10.88 3.316
Jan. 21	2100	6310 179	10.72 3.267	June 23	0015	3330 94.3	8.44 2.573

Minimum discharge, 7.4 ft³/s (0.26 m³/s) Oct. 12, 13; gage height, 3.58 ft (1.091 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	8.4	66	928	171	386	189	195	243	126	271	66
2	11	8.1	45	2490	147	303	222	168	247	109	183	56
3	11	8.1	45	872	159	254	458	147	250	86	128	55
4	11	7.7	1190	446	139	342	1050	153	314	478	96	46
5	12	7.9	566	322	109	2280	1270	174	240	728	78	44
6	11	8.1	296	268	88	904	620	168	180	292	69	90
7	10	8.1	231	1460	80	500	368	168	139	186	55	73
8	9.5	8.4	1030	2550	70	354	282	150	111	131	48	51
9	9.0	9.0	3780	816	62	264	303	126	92	126	45	41
10	8.6	8.4	1010	494	56	231	381	111	82	183	39	37
11	8.1	8.1	422	342	52	289	350	109	201	134	41	31
12	7.9	8.4	275	275	49	282	292	264	165	111	145	26
13	7.5	8.4	201	243	47	257	254	840	116	494	109	24
14	8.4	8.1	156	275	52	234	264	920	90	363	61	24
15	10	8.4	123	278	100	201	254	608	71	292	47	28
16	11	19	105	264	919	162	237	292	59	261	38	27
17	10	21	100	247	816	142	210	210	76	198	33	23
18	9.5	19	88	231	458	131	183	162	69	145	30	20
19	8.6	16	80	198	310	123	156	131	299	114	111	18
20	8.1	14	98	927	240	114	134	109	247	114	231	15
21	8.1	12	996	5340	261	105	121	96	2580	98	195	84
22	8.1	10	728	2510	764	94	109	82	4510	86	221	566
23	8.4	9.9	381	764	1780	102	100	82	1840	69	359	395
24	8.1	14	296	710	3260	960	94	180	662	66	183	207
25	7.7	20	794	746	2400	1080	86	201	408	55	204	123
26	7.0	19	608	470	1770	584	90	254	289	121	177	86
27	8.6	35	368	350	848	372	247	285	225	746	518	62
28	13	55	261	326	536	292	322	413	180	662	292	94
29	13	45	201	268	---	243	282	440	139	560	180	136
30	11	71	180	222	---	213	237	285	131	572	116	128
31	9.0	---	512	198	---	189	---	228	---	363	84	---
TOTAL	295.2	503.5	15232	25830	15743	11987	9165	7751	14255	8069	4387	2676
MEAN	9.52	16.8	491	833	562	387	306	250	475	260	142	89.2
MAX	13	71	3780	5340	3260	2280	1270	920	4510	746	518	566
MIN	7.0	7.7	45	198	47	94	86	82	59	55	30	15
CFSM	.08	.14	3.96	6.72	4.53	3.12	2.47	2.02	3.83	2.10	1.15	.72
IN.	.09	.15	4.57	7.75	4.72	3.60	2.75	2.33	4.28	2.42	1.32	.80

CAL YR 1978	TOTAL	70920.6	MEAN 194	MAX 5440	MIN 7.0	CFSM 1.57	IN 21.28
WTR YR 1979	TOTAL	115893.7	MEAN 318	MAX 5340	MIN 7.0	CFSM 2.57	IN 34.77

03202750 CLEAR FORK AT CLEAR FORK, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1974 to October 1976, January 1977 to September 1978.

WATER TEMPERATURES: November 1974 to May 1975, October 1975 to October 1977, December 1977 to current year.

SUSPENDED-SEDIMENT DISCHARGE: June 1974 to September 1978.

INSTRUMENTATION.--Temperature recorder Nov. 20, 1974 to Oct. 25, 1977, and since Dec. 13, 1977.

REMARKS.--Prior to Oct. 27, 1977, sampling site was 0.7 mi (1.1 km) upstream.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 916 micromhos July 27, 1976; minimum daily, 54 micromhos May 19, 1975.

WATER TEMPERATURES: Maximum, 30.5°C July 20, 1977; minimum, 0.0°C on several days during most winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,670 mg/L Oct. 8, 1976; minimum daily mean, 0 mg/L May 27, 28, June 3, 1977.

SEDIMENT LOADS: Maximum daily, 16,900 tons (15,300 tonnes) Apr. 4, 1977; minimum daily, 0 ton (0 tonne) May 27, 28, June 3, 1977.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 26.5°C Aug. 9, 10; minimum recorded; 1.5°C Feb. 4, 20.

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

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

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TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

GUYANDOTTE RIVER BASIN

03202915 GUYANDOTTE RIVER BELOW R. D. BAILEY DAM, WV

LOCATION.--Lat 37°35'53", long 81°49'46", Mingo County, Hydrologic Unit 05070101, on right bank, 500 ft (152 m) upstream from Little Hull Creek, 1,000 ft (305 m) downstream from R. D. Bailey Dam and 0.5 mi (0.8 km) northeast of Justice, and at river mile 111.6 (179.6 km).

DRAINAGE AREA.--535 mi² (1,390 km²).

PERIOD OF RECORD.--November 1978 to September 1979.

GAGE.--Water-stage recorder. Datum of gage is 880.00 ft (268.224 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for periods of no gage-height record, August 28 to September 30, and January and February, which are poor. Dam not yet fully operational. Some regulation by R. D. Bailey Lake 1,000 ft (305 m) upstream.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period November to September, 16,800 ft³/s (476 m³/s) June 22, gage height, 13.90 ft (4.237 m); minimum discharge, 2.1 ft³/s (0.06 m³/s) Dec. 18, gage height, 2.05 ft (0.625 m); minimum daily, 38 ft³/s (1.08 m³/s) Nov. 22, 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	232	1430	900	1950	935	985	815	692	800	200
2		---	220	4740	720	1700	1110	840	845	638	597	180
3		---	190	3560	640	1510	1740	760	925	507	444	170
4		---	424	1650	580	1570	3980	770	1390	995	353	150
5		---	1110	1150	510	4800	3990	1010	1210	3340	290	200
6		---	692	905	460	3710	2800	1190	900	1460	258	340
7		---	512	2170	420	2380	1780	1130	669	900	220	260
8		---	1320	6030	370	1730	1340	945	557	669	217	190
9		---	4710	3180	350	1370	1290	785	460	575	188	160
10		---	3760	1750	330	1160	1530	696	396	810	168	140
11		---	1240	1260	310	1320	1460	620	503	714	157	125
12		---	617	990	300	1360	1300	1500	597	611	392	120
13		---	498	855	300	1260	1160	3870	412	1230	543	120
14		---	342	910	350	1140	1190	4320	330	1230	313	125
15		---	268	865	452	1020	1130	2500	277	1100	229	125
16		57	214	755	2220	840	1070	1510	248	1010	179	115
17		84	208	714	3840	750	910	1080	342	765	154	105
18		82	199	705	2300	692	795	845	408	593	138	98
19		63	154	628	1400	660	701	723	1020	468	194	95
20		55	160	1570	1160	633	638	629	1500	424	850	120
21		54	1440	7790	1200	593	584	539	3200	376	840	350
22		38	2200	9460	2380	539	534	489	9820	338	588	1500
23		38	1130	5720	4000	530	480	503	9020	290	931	1100
24		48	732	2970	5750	2790	476	714	3000	364	592	450
25		57	1790	3030	6850	4720	456	920	2600	287	479	350
26		63	1800	2140	6070	3070	456	995	2000	277	438	260
27		114	1140	1610	4000	1980	1360	1070	1400	1950	1060	220
28		162	741	1570	2600	1490	1940	1140	1000	2610	1200	290
29		143	570	1390	---	1240	1500	1310	830	1640	500	500
30		182	476	1190	---	1080	1220	1020	728	1400	320	470
31		---	1020	1000	---	970	---	785	---	960	240	---
TOTAL		---	30109	73687	50762	50557	39855	36193	47402	29223	13872	8628
MEAN		---	971	2377	1813	1631	1329	1168	1580	943	447	288
MAX		---	4710	9460	6850	4800	3990	4320	9820	3340	1200	1500
MIN		---	154	628	300	530	456	489	248	277	138	95

GUYANDOTTE RIVER BASIN

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03203600 GUYANDOTTE RIVER AT LOGAN, WV

LOCATION.--Lat 37°50'34", long 81°58'34", Logan County, Hydrologic Unit 05070101, on right bank 200 ft (61 m) downstream from Middelburg Bridge at Logan, 0.8 mi (1.3 km) downstream from Dingess Run, 1.1 mi (1.8 km) upstream from Island Creek, and at mile 80.5 (129.5 km).

DRAINAGE AREA.--836 mi² (2,165 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1960 to September 1962 (annual maximum only), October 1962 to current year. Gage-height records collected in this vicinity since November 1915 are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 640.00 ft (195.072 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1962, at datum 1.32 ft (0.402 m) lower.

REMARKS.--Water-discharge records good except those for February, which are poor. High flows affected since 1974 by R. D. Bailey Lake at mile 112 (180 km). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--17 years, 1,216 ft³/s (34.44 m³/s), 19.75 in/yr (502 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,000 ft³/s (1,560 m³/s) Mar. 12, 1963, gage height, 34.98 ft (10.662 m), from rating curve extended above 26,000 ft³/s (740 m³/s) on basis of slope-area measurements at gage heights 25.6 ft (7.80 m) and 34.98 ft (10.662 m); minimum, 33 ft³/s (0.93 m³/s) Sept. 17, 1964, gage height, 4.07 ft (1.241 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 33,300 ft³/s (943 m³/s) June 22, gage height, 26.06 ft (7.943 m), from rating curve extended as explained above; minimum, 77.0 ft³/s (2.18 m³/s) Nov. 3, 4, gage height, 4.22 ft (1.286 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109	86	360	3920	1300	3060	1430	1300	1490	1100	1250	580
2	107	84	324	9470	1100	2590	1790	1120	1550	980	1020	526
3	99	79	296	7300	960	2260	3500	1000	1840	818	800	502
4	113	81	3270	3210	820	2550	6800	1030	2710	2150	664	450
5	109	81	2640	2140	740	8490	6480	1290	2030	5490	574	420
6	98	80	1350	1690	690	6490	4530	1530	1450	2580	538	532
7	101	84	890	4770	610	3850	2900	1460	1070	1490	472	615
8	95	91	4930	12000	560	2780	2150	1260	872	1090	445	532
9	95	88	17100	6700	510	2150	2050	1070	768	944	420	435
10	92	86	8430	3340	480	1810	2290	935	728	1110	390	375
11	87	89	2670	2300	460	1990	2230	836	926	1060	375	340
12	85	85	1550	1790	430	2050	2000	1440	917	899	643	312
13	85	81	1210	1560	430	1880	1780	3900	720	1180	818	300
14	120	79	863	1590	664	1730	1780	6120	594	1780	601	320
15	116	88	744	1510	736	1530	1730	3550	514	1850	466	324
16	109	120	671	1340	4350	1270	1600	2110	478	1860	395	304
17	104	138	601	1260	6060	1110	1400	1490	671	1330	352	280
18	99	161	556	1220	3460	1030	1230	1150	671	1000	328	252
19	92	143	514	1100	2400	971	1080	962	2210	809	450	232
20	87	124	490	3310	1860	926	980	845	2650	899	1040	232
21	85	109	2030	19900	1840	872	908	760	9130	744	1290	420
22	85	106	4050	17600	3640	809	836	685	27000	664	1040	2280
23	85	99	2160	9940	6070	818	784	744	23200	580	1900	2320
24	85	116	1460	5670	11500	4510	736	1200	8690	615	1180	1340
25	84	120	2620	5540	12600	7660	699	1680	5170	594	1640	881
26	80	130	3210	3570	10600	4770	713	1960	3210	863	1110	664
27	91	197	2090	2670	6790	3030	1190	1960	2110	3140	3520	544
28	91	252	1400	2530	4120	2280	2360	3610	1560	4650	1900	562
29	86	268	1050	2150	---	1860	1960	2610	1250	2970	1180	699
30	91	320	908	1780	---	1600	1540	1790	1150	2460	881	809
31	87	---	1660	1540	---	1430	---	1400	---	1660	706	---
TOTAL	2952	3665	72097	144410	85780	80156	61456	52797	107329	49359	28388	18382
MEAN	95.2	122	2326	4658	3064	2586	2049	1703	3578	1592	916	613
MAX	120	320	17100	19900	12600	8490	6800	6120	27000	5490	3520	2320
MIN	80	79	296	1100	430	809	699	685	478	580	328	232
CFSM	.11	.15	2.78	5.57	3.67	3.09	2.45	2.04	4.28	1.90	1.10	.73
IN.	.13	.16	3.21	6.43	3.82	3.57	2.73	2.35	4.78	2.20	1.26	.82

CAL YR 1978 TOTAL 425019 MEAN 1164 MAX 22500 MIN 79 CFSM 1.39 IN 18.91
WTR YR 1979 TOTAL 706771 MEAN 1936 MAX 27000 MIN 79 CFSM 2.32 IN 31.45

GUYANDOTTE RIVER BASIN

03203600 GUYANDOTTE RIVER AT LOGAN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965, 1975, 1976, 1979.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to September 1976.

WATER TEMPERATURES: October 1975 to September 1976.

SUSPENDED-SEDIMENT DISCHARGE: August 1975 to September 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 682 micromhos July 26, 1976; minimum daily, 123 micromhos Feb. 18, 1976.

WATER TEMPERATURES: Maximum daily, 32.0°C July 15, Aug. 9, 1976; minimum daily, -1.0°C Dec. 23-25, 1975.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,750 mg/L Nov. 13, 1975; minimum daily mean, 5 mg/L Nov. 4, 1975, Mar. 8, June 6, 1976.

SEDIMENT LOADS: Maximum daily, 25,600 tons (23,200 tonnes) Nov. 13, 1975; minimum daily, 2.7 tons (2.4 tonnes) July 23, 27, 1976.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)		
OCT 23...	1230	83	--	--	21.0	15.0	--	--	--	--		
NOV 28...	1000	234	--	--	8.0	9.5	--	--	--	--		
FER 06...	1130	689	--	6.5	-1.0	1.0	--	--	--	--		
MAR 13...	1220	1850	--	7.9	22.0	8.0	--	--	--	--		
APR 17...	1100	1400	205	7.5	17.0	13.5	--	--	--	--		
MAY 11...	1600	836	280	7.9	--	24.0	89	31	.0	.0		
22...	1020	678	250	--	23.5	21.0	--	--	--	--		
JUN 27...	1030	2300	195	7.2	22.0	18.0	81	49	.0	.0		
JUL 19...	1420	768	265	8.1	30.0	24.0	100	49	.0	.0		
AUG 07...	1230	480	--	--	31.0	25.5	120	49	.0	.0		
SEP 13...	1130	300	440	8.5	--	23.0	140	59	.0	.0		
18...	1515	254	560	8.9	26.0	22.0	150	48	.0	.0		
DATE		CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS C02)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RINE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 120 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
MAY 11...	20		9.5	--	--	58	--	84	5.1	181	.25	409
JUN 27...	18		8.8	14	.7	32	--	72	3.5	159	.22	987
JUL 19...	22		11	25	1.1	51	.8	93	5.3	201	.27	417
AUG 07...	28		13	37	1.5	74	--	110	7.8	253	.34	328
SEP 13...	31		15	40	1.5	80	.5	130	11	287	.39	232
18...	32		16	53	1.9	98	.2	150	10	341	.46	234

GUYANDOTTE RIVER BASIN

03203600 GUYANDOTTE RIVER AT LOGAN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
MAY									
11...	--	--	--	--	--	320	250	70	--
JUN									
27...	--	--	--	--	--	870	860	10	--
JUL									
19...	--	--	--	--	--	680	650	30	--
AUG									
07...	--	--	--	--	--	280	260	20	--
SEP									
13...	0	<10	10	20	20	320	--	10	15000
18...	--	--	--	--	--	350	--	20	--

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
MAY								
11...	--	30	10	20	--	--	--	--
JUN								
27...	--	140	20	120	--	--	--	--
JUL								
19...	--	100	20	80	--	--	--	--
AUG								
07...	--	70	20	50	--	--	--	--
SEP								
13...	20	80	30	50	420	.00	0	60
18...	--	90	40	50	--	--	--	--

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV
(National stream-quality accounting network station)

LOCATION.--Lat 38°13'15", long 82°12'10", Lincoln County, Hydrologic Unit 05070102, on right bank at upstream side of highway bridge at Branchland, opposite mouth of Fourmile Creek, and at mile 34.4 (55.3 km). Records include flow of Fourmile Creek.

DRAINAGE AREA.--1,226 mi² (3,175 km²), includes that of Fourmile Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1915 to September 1917, October 1917 to September 1922 (gage heights only), December 1928 to current year. Prior to October 1959, published as Guyandot River at Branchland. Monthly discharge only for July to September 1916, published in WSP 1305.

REVISED RECORDS.--WSP 803: Drainage area. WSP 853: 1918(M). WSP 1335: 1916-17, 1929-30, 1932-35.

GAGE.--Water-stage recorder. Datum of gage is 547.91 ft (167.003 m) National Geodetic Vertical Datum, adjustment of 1912. Prior to June 20, 1932, nonrecording gage and June 20, 1932, to Oct. 24, 1968, water-stage recorder at site 20 ft (6 m) downstream at same datum. Oct. 1, 1942, to Jan. 23, 1969, auxiliary nonrecording gage and since Jan. 24, 1969, auxiliary water-stage recorder 4.0 mi (6.4 km) upstream from base gage at datum 4.99 ft (1.521 m) higher.

REMARKS.--Water-discharge records good except those for winter periods, which are poor. High flows affected since 1974 by R. D. Bailey Lake at mile 112 (180 km). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years (water years 1916-17, 1930-79), 1,649 ft³/s (46.70 m³/s), 18.27 in/yr (464 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,500 ft³/s (1,260 m³/s) Mar. 13, 1963, gage height, 43.83 ft (13.359 m); minimum, 3.6 ft³/s (0.10 m³/s) Oct. 25, 1930, gage height, 2.66 ft (0.811 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood, probably in 1907, reached a stage of about 44 ft (13.4 m), from flood-mark, discharge, 43,500 ft³/s (1,230 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 35,100 ft³/s (994 m³/s) June 24, gage height, 38.20 ft (11.643 m), backwater; minimum, 112 ft³/s (3.17 m³/s) Oct. 11, gage height, 3.11 ft (0.948 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	129	123	405	3850	1800	5470	2140	1950	2440	1620	2290	964
2	129	120	438	12100	1600	4230	2780	1670	2760	1430	1710	821
3	132	117	432	14800	1400	3550	5270	1470	2560	1230	1360	1070
4	132	115	3520	7730	1200	3180	9640	1640	3440	2000	1080	1180
5	132	112	5610	4100	1100	5680	9710	3330	3640	4500	925	827
6	144	112	3340	3010	1000	9700	7740	2830	2630	4260	873	788
7	132	115	2060	4960	920	6440	5160	2510	1880	2770	795	847
8	120	120	12000	14700	840	4450	3730	2110	1430	1780	704	847
9	117	126	12800	15200	800	3450	3580	1740	1190	1450	665	717
10	115	129	28200	7120	760	2820	4010	1460	1070	1580	613	606
11	112	120	25700	4250	720	2750	3710	1280	1170	1560	710	528
12	109	120	10300	3120	700	2890	3320	1150	1260	1590	1270	476
13	109	120	2340	2620	680	2790	2890	2070	1160	2430	1040	434
14	126	117	1800	3060	680	2620	2620	5160	951	2480	1040	464
15	174	120	1300	2660	1650	2430	2490	5330	821	2280	814	515
16	174	147	1100	2320	4980	2090	2290	3210	723	3510	665	452
17	150	190	1000	2100	8330	1800	2080	2140	710	2360	567	410
18	135	206	931	1970	6150	1620	1840	1570	905	1660	502	377
19	129	218	853	1800	4060	1500	1650	1270	1090	1260	593	349
20	120	202	821	3610	2990	1410	1500	1090	2030	1130	905	327
21	112	178	1500	16800	2840	1330	1360	990	2620	1090	1680	580
22	109	154	3840	25700	3590	1240	1240	925	18700	958	1510	3150
23	106	147	4240	24700	5800	1180	1180	899	29700	892	1650	5050
24	106	147	2630	14400	10400	2580	1130	1370	32400	964	1950	3430
25	109	150	2300	9870	18500	8490	1080	2000	16500	918	1720	1970
26	117	166	3410	6840	20000	8340	1060	2340	6490	905	2170	1300
27	141	218	3550	4690	15900	5330	1270	2670	3860	3470	3710	1060
28	141	325	2410	3890	8780	3830	2260	5260	2660	6220	4240	905
29	138	345	1750	3450	---	3190	2530	6080	1980	5730	2380	925
30	126	360	1450	2800	---	2430	2390	3750	1660	4120	1580	1000
31	120	---	1640	2360	---	2110	---	2530	---	3160	1180	---
TOTAL	3945	4939	143670	230580	128170	110920	94050	73794	150430	71307	42891	32369
MEAN	127	165	4635	7438	4578	3578	3135	2380	5014	2300	1384	1079
MAX	174	360	28200	25700	20000	9700	9710	6080	32400	6220	4240	5050
MIN	106	112	405	1800	680	1180	1060	899	710	892	502	327
CFSM	.10	.14	3.78	6.07	3.73	2.92	2.56	1.94	4.09	1.88	1.13	.88
IN.	.12	.15	4.36	7.00	3.89	3.37	2.85	2.24	4.56	2.16	1.30	.98

CAL YR 1978 TOTAL 692233 MEAN 1897 MAX 28200 MIN 106 CFSM 1.55 IN 21.00
WTR YR 1979 TOTAL 1087065 MEAN 2978 MAX 32400 MIN 106 CFSM 2.43 IN 32.98

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1965, 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to November 1976, February to September 1977.

WATER TEMPERATURES: March to December 1976, February to September 1977.

TURBIDITY: October 1975 to December 1976.

SUSPENDED SEDIMENT DISCHARGE: March 1976 to September 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 845 micromhos Aug. 27, 1976; minimum daily, 108 micromhos Feb. 11, 1977.

WATER TEMPERATURES: Maximum daily, 32.0°C July 14, 1977; minimum daily, 1.0°C several days in February 1977.

TURBIDITY: Maximum daily, 200 JTU Mar. 21, Aug. 15, 1976; minimum daily, 1 JTU on several days in 1976.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,250 mg/L Dec. 9, 1976; minimum daily mean, 5 mg/L Oct. 24, 1976 and July 17, 20, 1977.

SEDIMENT LOADS: Maximum daily, 205,000 tons (186,000 tonnes) Apr. 5, 1977; minimum daily, 2.3 tons (2.1 tonne) July 20, 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCUCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)
OCT												
12...	0845	139	610	8.2	16.5	1.0	--	160	110	200	59	--
NOV												
20...	1000	241	612	7.6	9.5	1.0	8.1	110	60	200	65	--
DEC												
06...	1020	3181	195	7.1	9.0	90	12.1	5000	6900	65	43	--
JAN												
17...	1030	1952	270	7.2	4.0	5.0	12.8	1100	310	91	61	--
MAR												
14...	1100	2615	240	6.6	7.5	5.0	11.4	630	220	87	56	--
APR												
11...	1000	3759	230	6.6	9.5	15	--	1600	200	75	46	--
18...	1115	1861	255	6.5	13.0	4.0	10.6	620	170	87	43	--
MAY												
08...	0950	2160	205	7.2	19.0	3.0	9.0	1400	320	72	32	--
10...	1930	1500	240	7.5	21.0	--	--	--	--	80	42	.0
JUN												
20...	1015	1972	260	8.4	21.0	150	7.5	12000	15000	100	55	--
JUL												
05...	1050	2206	220	8.2	19.0	150	7.6	38000	26000	82	51	--
06...	1345	4950	165	7.3	20.0	--	--	--	--	58	27	.0
11...	1100	1720	300	7.2	21.0	--	--	--	--	110	56	.0
AUG												
20...	1400	898	430	6.8	24.0	--	--	--	--	120	56	.0
SEP												
06...	1030	788	415	7.1	23.0	4.0	9.3	1400	380	110	42	--
12...	1155	463	520	7.7	23.0	--	--	--	--	140	76	.0
27...	1315	996	280	7.2	19.0	--	--	--	--	80	44	.0
DATE	ACIDITY (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM+ AD- SORP- TION RATIO	POTAS- SIUM DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT												
12...	--	45	21	110	54	3.4	--	5.0	140	--	250	34
NOV												
20...	--	45	20	95	51	3.0	--	4.9	130	--	220	25
DEC												
06...	--	14	7.3	14	31	.8	--	2.5	22	--	62	5.1
JAN												
17...	--	20	10	22	34	1.0	--	2.2	30	--	90	12
MAR												
14...	--	19	9.5	20	33	.9	--	2.0	31	--	83	7.1
APR												
11...	--	16	8.4	16	31	.8	--	2.0	29	--	73	4.7
18...	--	19	9.6	23	36	1.1	--	2.3	44	--	85	7.5
MAY												
08...	--	16	7.8	20	37	1.0	--	2.1	40	--	68	4.6
10...	.0	18	8.5	--	--	--	--	--	38	--	80	7.3
JUN												
20...	--	24	10	28	37	1.2	--	2.6	46	--	100	7.3
JUL												
05...	--	19	8.5	19	33	.9	21	2.3	31	--	81	7.0
06...	.0	13	6.3	15	--	.9	--	--	31	3.0	53	3.1
11...	.0	23	12	31	--	1.3	--	--	51	6.3	100	10
AUG												
20...	.0	27	12	36	--	1.5	--	--	61	19	110	13
SEP												
06...	--	25	12	37	55	1.5	41	3.5	70	--	100	14
12...	.0	31	14	47	--	1.8	--	--	59	2.3	140	22
27...	.0	18	8.6	20	--	1.0	--	--	36	4.4	74	6.4

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

[illegible]

GUYANDOTTE RIVER BASIN

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03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS)	ARSENIC DIS- SOLVED (UG/L AS AS)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, SUS- PENDE RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CADMIUM FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
NOV 20...	1	--	1	--	0	0	0	1	0	7	--	20
MAR 14...	2	--	1	--	0	0	0	0	0	0	--	10
MAY 08...	3	--	1	--	0	0	0	1	0	1	--	10
SEP 06...	1	0	1	--	200	100	70	0	0	2	--	20
12...	--	--	--	0	--	--	--	--	--	--	<10	--

DATE	CHRO- MIUM, SUS- PENDE RECOV. (UG/L AS CR)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, TOTAL RECOV- ERABLE (UG/L AS CO)	COBALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)
NOV 20...	20	0	--	1	0	1	--	2	2	0	--
MAR 14...	5	5	--	3	3	0	--	8	8	0	--
MAY 08...	0	10	--	1	1	0	--	3	0	3	--
SEP 06...	10	10	--	2	2	0	--	3	0	3	--
12...	--	--	<10	--	--	--	10	--	--	--	<10

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)
NOV 20...	440	410	30	--	86	0	--	80	30	50	--
MAR 14...	4400	4400	0	--	10	3	--	320	290	30	--
MAY 08...	1900	1900	20	--	7	0	--	130	130	0	--
10...	650	590	60	--	--	--	--	40	30	10	--
JUL 06...	14000	14000	80	--	--	--	--	440	430	9	--
11...	2100	2000	60	--	--	--	--	50	30	20	--
AUG 20...	3200	3200	30	--	--	--	--	150	140	7	--
SEP 06...	1200	1200	40	--	6	1	--	70	50	20	--
12...	5400	--	40	8000	--	--	10	90	40	50	220
27...	1500	--	50	--	--	--	--	80	70	10	--

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE D RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MERCURY FM BOT- TOM MA- TERIAL (UG/G AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE D RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE D TOTAL (UG/L AS SE)
NOV 20...	<.5	.0	<.5	--	--	--	--	0	0
MAR 14...	<.5	.0	<.5	--	--	--	--	1	0
MAY 08...	<.5	.0	<.5	--	--	--	--	0	0
SEP 06...	<.1	.0	<.1	--	2	0	2	0	0
12...	--	--	--	.00	--	--	--	--	--

DATE	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, SUS- PENDE D RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE D RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, FM BOT- TOM MA- TERIAL (UG/G AS ZN)
NOV 20...	0	--	0	0	0	20	20	0	--
MAR 14...	1	--	0	0	0	70	60	10	--
MAY 08...	0	--	0	0	0	30	10	20	--
SEP 06...	0	--	0	0	0	20	20	0	--
12...	--	0	--	--	--	--	--	--	30

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE D TOTAL (MG/L AS C)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)	BIOMASS CHLORO- PHYLL RATIO PERI- PHYTON (UNITS)	CHLOR-A PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	CHLOR-B PERI- PHYTON CHROMO- GRAPHIC FLUOROM (MG/M2)	SEDI- MENT, DIS- SUS- PENDE D (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE D (T/DAY)	SED. SUSP. SIEVE DIAM. FINER THAN .062 MM
OCT 12...	1.5	--	--	--	--	--	--	--	--	14	5.2	52
NOV 20...	--	3.0	.5	2.36	1.89	730	109	4.32	.000	9	5.9	34
DEC 06...	14	--	--	--	--	--	--	--	--	478	4100	89
JAN 17...	2.0	--	--	--	--	--	--	--	--	45	237	62
MAR 14...	--	1.2	.4	--	--	--	--	--	--	40	282	75
APR 11...	1.8	--	--	--	--	72	--	--	--	146	1480	18
18...	1.4	--	--	--	--	--	--	--	--	9	45	85
MAY 08...	--	1.9	.5	--	--	730	--	--	--	40	233	45
JUN 20...	15	--	--	--	--	520	--	--	--	2630	14000	92
JUL 05...	17	--	--	--	--	0	--	--	--	2080	12400	79
SEP 06...	--	2.2	.6	--	--	820	--	--	--	33	70	52

GUYANDOTTE RIVER BASIN

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03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1978 TO SEPTEMBER 1979

DATE TIME	NOV 20.78 1000		APR 11.79 1000		MAY 8.79 0950		JUN 20.79 1015		JUL 5.79 1050		SEP 6.79 1030	
TOTAL CELLS/ML	730		72		730		520		0		820	
DIVERSITY: DIVISION	1.0		0.0		1.3		0.8		0.0		1.1	
..CLASS	1.0		0.0		1.3		0.8		0.0		1.1	
...ORDER	1.6		0.0		1.3		1.5		0.0		1.9	
...FAMILY	1.8		1.9		1.6		1.5		0.0		2.1	
....GENUS	2.0		1.9		1.6		1.5		0.0		2.1	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)												
..CHLOROPHYCEAE												
...CHLOROCOCCALES												
....OOCYSTACEAE												
....ANKISTRODES MUS	29	4	--	-	--	-	130#	25	--	-	14	2
...SCENEDESMACEAE												
....SCENEDESMUS	130#	18	--	-	--	-	--	-	--	-	72	9
..TETRASPORALES												
...PALMELLACEAE												
....SPHAEROCYSTIS	--	-	--	-	150#	21	--	-	--	-	--	-
..VOLVOCELES												
...CHLAMYDOMONADACEAE												
....CHLAMYDOMONAS	14	2	--	-	--	-	--	-	--	-	--	-
..ZYGNEMATALES												
...DESMIDIACEAE												
....COSMARIUM	--	-	--	-	--	-	--	-	--	-	14	2
CHRYSOPHYTA												
..BACILLARIOPHYCEAE												
...CENTRALES												
....COSCINODISCEACEAE												
....CYCLOTELLA	430#	59	--	-	--	-	--	-	--	-	200#	25
....MELOSIRA	--	-	--	-	--	-	130#	25	--	-	--	-
..PENNALES												
...ACHNANTHACEAE												
....ACHNANTHES	14	2	--	-	--	-	--	-	--	-	--	-
...CYMBELLACEAE												
....CYMBELLA	--	-	--	-	26	4	--	-	--	-	--	-
...FRAGILARIACEAE												
....FRAGILARIA	72	10	--	-	--	-	--	-	--	-	--	-
....SYNEDRA	14	2	--	-	--	-	--	-	--	-	--	-
...MERIDIONACEAE												
....MERIDION	--	-	14#	20	--	-	--	-	--	-	--	-
...NAVICULACEAE												
....NAVICULA	--	-	29#	40	64	9	--	-	--	-	14	2
...NITZSCHACEAE												
....NITZSCHIA	--	-	14#	20	39	5	260#	50	--	-	400#	49
...SURIRELLACEAE												
....SURIRELLA	--	-	14#	20	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)												
..CYANOPHYCEAE												
...CHROOCOCCALES												
....CHROOCOCCACEAE												
....ANACYSTIS	--	-	--	-	--	-	--	-	--	-	86	11
...HORMOGONALES												
....OSCILLATORACEAE												
....OSCILLATORIA	--	-	--	-	450#	61	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)												
..EUGLENOPHYCEAE												
...EUGLENALES												
....EUGLENACEAE												
....EUGLENA	14	2	--	-	--	-	--	-	--	-	--	-
....TRACHELOMONAS	14	2	--	-	--	-	--	-	--	-	14	2

NOTE: # - DOMINANT ORGANISM; EQUAL TO OR GREATER THAN 15%.

* - OBSERVED ORGANISM, MAY NOT HAVE BEEN COUNTED; LESS THAN 1/2%.

GUYANDOTTE RIVER BASIN

03204500 MUD RIVER NEAR MILTON, WV

LOCATION.--Lat 38°23'15", long 82°06'46", Cabell County, Hydrologic Unit 05070102, on right bank 75 ft (23 m) downstream from highway bridge, 700 ft (213 m) downstream from Little Twomile Creek, 0.9 mi (1.4 km) upstream from Charley Creek, 3.4 mi (5.5 km) south of Milton, and at mile 25.3 (40.7 km).

DRAINAGE AREA.--256 mi² (663 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--February 1938 to current year.

REVISED RECORDS.--WSP 1555: 1953, drainage area.

GAGE.--Water-stage recorder. Datum of gage is 572.64 ft (174.541 m) National Geodetic Vertical datum, adjustment of 1912 (levels by Corps of Engineers). Prior to Nov. 21, 1957, nonrecording gage at site 75 ft (23 m) upstream at same datum.

REMARKS.--Water-discharge records good except those for January and February, which are poor.

AVERAGE DISCHARGE.--41 years, 289 ft³/s (8.184 m³/s), 15.33 in/yr (389 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,100 ft³/s (428 m³/s) Feb. 27, 1962, gage height, 28.60 ft (8.717 m); maximum gage height, 29.38 ft (8.955 m) Dec. 9, 1978; minimum discharge, 0.01 ft³/s (<0.001 m³/s) Sept. 8, 1957; minimum gage height, 0.06 ft (0.018 m) Sept. 21, 23, 1959.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 3,700 ft³/s (100 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Dec. 9	1700	*14600	413	29.38	8.955	Jan. 21	1800	5340	151	19.27	5.873
Jan. 2	2400	3900	110	15.89	4.843	June 23	2400	3820	108	15.66	4.773

Minimum discharge, 3.9 ft³/s (0.11 m³/s) Oct. 26, gage height 0.52 ft (0.158 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.8	14	81	1220	200	736	496	240	280	106	175	129
2	5.5	12	65	3280	175	532	762	202	244	93	144	100
3	5.3	10	70	2830	160	408	1530	180	228	78	105	83
4	5.8	9.2	1780	729	145	382	2470	248	262	73	79	133
5	6.7	8.2	1900	438	135	684	1610	1510	233	194	65	123
6	7.0	7.9	458	332	125	512	822	1400	174	145	62	114
7	7.6	8.5	340	514	120	392	494	554	137	87	56	92
8	7.0	8.2	3430	2910	115	328	368	352	107	64	49	72
9	6.4	6.7	11700	1850	110	275	688	255	89	60	149	58
10	5.8	6.7	9130	655	105	262	1480	205	76	146	99	47
11	5.5	6.9	2040	420	100	476	707	175	105	183	284	40
12	5.3	7.0	508	322	100	416	482	149	99	171	1280	34
13	4.9	7.2	346	276	150	324	374	177	60	484	478	30
14	6.1	6.9	264	1290	410	314	344	165	45	476	215	39
15	9.6	8.6	215	1220	392	412	314	136	37	294	134	69
16	14	24	180	548	2630	316	276	116	31	189	93	54
17	18	52	161	426	1950	267	231	98	28	216	68	36
18	16	54	145	528	626	242	202	81	27	156	54	27
19	12	51	130	352	400	221	180	69	35	111	170	23
20	11	42	140	1560	330	202	163	60	59	84	690	20
21	8.9	32	1610	4860	572	183	150	54	248	68	1170	434
22	7.9	26	1110	4130	1580	165	140	50	2140	58	746	2020
23	6.4	24	454	1600	1240	154	132	46	3490	50	330	2310
24	5.8	27	314	1580	1900	1130	125	315	3080	56	216	933
25	4.9	31	410	2400	3240	1470	119	384	1020	100		398
26	4.7	30	400	939	3330	648	130	404	448	119	528	246
27	19	84	284	552	2430	398	688	418	271	438	1190	172
28	37	206	220	464	1130	298	604	1750	186	1090	704	161
29	34	162	180	376	---	255	400	1680	141	564	8	181
30	23	105	170	288	---	220	298	516	114	364	251	138
31	17	---	580	230	---	199	---	280	---	242	172	---
TOTAL	333.9	1078.0	38815	39119	23900	12821	16779	12269	13494	6559	10081	8316
MEAN	10.8	35.9	1252	1262	854	414	559	396	450	212	325	277
MAX	37	206	11700	4860	3330	1470	2470	1750	3490	1090	1280	2310
MIN	4.7	6.7	65	230	100	154	119	46	27	50	49	20
CFSM	.04	.14	4.89	4.93	3.34	1.62	2.18	1.55	1.76	.83	1.27	1.08
IN.	.05	.16	5.64	5.68	3.47	1.86	2.44	1.78	1.96	.95	1.46	1.21

CAL YR 1978	TOTAL	142671.1	MEAN	391	MAX	11700	MIN	4.7	CFSM	1.53	IN	20.73
WTR YR 1979	TOTAL	183564.9	MEAN	503	MAX	11700	MIN	4.7	CFSM	1.97	IN	26.67

03204500 MUD RIVER NEAR MILTON, WV--Continued

PERIOD OF RECORD.--Water years 1975-1977, 1979.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to December 1976, February to September 1977.

WATER TEMPERATURES: October 1975 to December 1976, February to September 1977.

SUSPENDED-SEDIMENT DISCHARGE: October 1975 to September 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 245 micromhos July 21, 22, 1976; minimum daily, 60 micromhos Mar. 22, 1976.

WATER TEMPERATURES: Maximum daily, 30.0°C July 11, 1976, July 14, 16-21, 1977; minimum daily, 0.0°C on many days during winter periods.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,090 mg/L Apr. 5, 1977; minimum daily mean, 0 mg/L Nov. 7, 8, 1975.

SEDIMENT LOADS: Maximum daily, 17,600 tons (16,000 tonnes) Apr. 5, 1977; minimum daily mean, 0 ton (0 tonne) Nov. 7, 8, 1975.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)		
OCT												
05...	1435	6.8	--	--	18.0	16.0	--	--	--	--		
NOV												
09...	1045	6.2	--	--	11.0	8.5	--	--	--	--		
APR												
03...	1545	1830	--	--	12.0	10.5	--	--	--	--		
MAY												
11...	0715	198	80	6.9	--	19.0	38	12	.0	.0		
23...	1530	45	--	--	22.0	--	--	--	--	--		
JUL												
03...	1530	77	100	7.2	30.0	21.0	42	16	--	.0		
AUG												
21...	1415	1290	105	6.6	28.0	20.5	--	--	--	--		
SEP												
12...	1800	35	120	6.9	--	21.0	42	6	.0	.0		
26...	1230	238	105	7.2	--	17.5	35	18	.0	.0		
DATE		CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
MAY												
11...	10		3.2	--	--	26	--	20	3.8	66	.09	35.3
JUN												
03...	--	--	--	--	--	--	--	--	--	--	--	14.1
JUL												
03...	11		3.6	5.4	.4	26	3.2	16	6.3	68	.09	13.4
SEP												
12...	11		3.6	4.3	.3	34	8.8	13	5.9	70	.10	6.62
26...	9.2		2.8	2.9	.2	17	--	16	3.0	64	.09	41.1
DATE		ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)		
MAY												
11...	--	--	--	--	--	--	950	850	100	--		
JUL												
03...	--	--	--	--	--	--	890	790	100	--		
SEP												
12...	0	<10	<10	10	<10	1000	--	260	3400	--		
26...	--	--	--	--	--	1600	--	120	--	--		
DATE		LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)			
MAY												
11...	--	--	40	10	30	--	--	--	--			
JUL												
03...	--	--	60	0	60	--	--	--	--			
SEP												
12...	<10	120	10	110	380	.00	0	10	--			
26...	--	70	40	30	--	--	--	--	--			

OHIO RIVER MAIN STEM

03206000 OHIO RIVER AT HUNTINGTON, WV

LOCATION.--Lat 38°24'48", long 82°30'02", Lawrence County, Ohio, Hydrologic Unit 05090101, on right bank at lock 28 at Sybene, Ohio, 0.1 mi (0.2 km) upstream from Fourpole Creek, 3.0 mi (4.8 km) downstream from Symmes Creek, and at mile 311.6 (501.4 km), measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--55,900 mi² (144,800 km²), approximately.

PERIOD OF RECORD.--August 1934 to current year (since October 1968, no low-flow records). Gage-height records collected at same site since 1913 are in reports of National Weather Service.

REVISED RECORDS.--WSP 853: 1934, 1936. WSP 893: Drainage area. WSP 1305: 1935(M), 1939(M).

GAGE.--Water-stage recorder. Datum of gage is 490.263 ft (149.432 m) Sandy Hook datum. Prior to July 8, 1942, at datum 1.737 ft (0.529 m) higher. Auxiliary water-stage recorder 4.7 mi (7.6 km) upstream from base gage at datum 490.102 ft (149.383 m) Sandy Hook datum.

REMARKS.--Records good except those for April, which are poor. Discharges less than 50,000 ft³/s (1,420 m³/s) not published. Flow partly regulated by locks, dams, and reservoirs upstream. Corps of Engineers gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 654,000 ft³/s (18,500 m³/s) Jan. 28, 1937; maximum gage height, 69.45 ft (21.168 m) Jan. 27, 1937, present datum; minimum daily discharge determined, 3,200 ft³/s (90.6 m³/s) Sept. 6, 13, Nov. 2, 1934, Oct. 3, 1935, Oct. 1, 1937.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 454,000 ft³/s (12,900 m³/s) Feb. 27; maximum gage height, 54.24 ft (16.532 m) Dec. 11; minimum discharge, not determined; minimum gage height, 24.70 ft (7.529 m) Oct. 7.

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	61000	137000	90100	409000	125000	71800	107000	---	54200	67100
2	---	---	---	257000	78900	330000	150000	70500	97400	---	51200	58700
3	---	---	58900	327000	53800	296000	178000	58100	89500	---	---	---
4	---	---	174000	337000	61000	284000	215000	79500	78500	---	51200	---
5	---	---	243000	272000	---	273000	230000	133000	75300	---	---	---
6	---	---	220000	201000	---	294000	220000	144000	74800	---	---	53800
7	---	---	170000	169000	---	360000	185000	103000	65700	---	---	65600
8	---	---	176000	209000	---	380000	160000	78500	56400	---	---	85700
9	---	---	331000	231000	52000	350000	138000	73100	62900	---	---	59300
10	---	---	416000	206000	---	290000	170000	54500	59000	---	---	---
11	---	---	413000	161000	---	250000	230000	56600	61200	---	---	---
12	---	---	337000	138000	---	225000	235000	50000	71200	---	65100	---
13	---	---	211000	122000	---	210000	207000	89800	64200	---	74700	---
14	---	---	164000	126000	---	185000	178000	136000	53400	---	62500	---
15	54500	---	141000	164000	---	170000	162000	140000	---	---	57400	54800
16	---	---	121000	144000	76900	165000	152000	118000	---	---	---	82800
17	---	---	109000	122000	122000	160000	145000	91700	---	---	---	83200
18	---	57600	94500	120000	140000	145000	138000	67200	---	---	---	77700
19	---	50500	86400	118000	110000	120000	125000	59300	---	---	51400	62400
20	---	---	89600	114000	85100	110000	113000	54600	---	---	52200	65300
21	---	---	162000	221000	81200	101000	95000	---	---	---	93300	60900
22	---	---	205000	310000	120000	104000	90000	---	75400	---	96900	123000
23	---	---	200000	277000	192000	95100	80000	---	110000	---	70000	172000
24	---	---	158000	231000	277000	91600	70000	62400	93300	---	64800	181000
25	---	---	135000	261000	360000	131000	67000	100000	67900	---	79100	135000
26	---	---	161000	247000	413000	172000	64000	157000	---	---	79900	102000
27	58800	---	159000	184000	445000	172000	70000	188000	---	59500	132000	81400
28	60000	75500	120000	166000	446000	152000	103000	205000	---	83300	138000	71400
29	---	88900	99500	140000	---	130000	118000	207000	---	85600	114000	112000
30	---	76600	83000	121000	---	120000	106000	172000	---	88700	116000	147000
31	---	---	97600	104000	---	110000	---	136000	---	83000	89100	---
TOTAL	---	---	---	5937000	---	6384700	4319000	---	---	---	---	---
MEAN	---	---	---	191500	---	206000	144000	---	---	---	---	---
MAX	---	---	---	337000	---	409000	235000	---	---	---	---	---
MIN	---	---	---	104000	---	91600	64000	---	---	---	---	---

TWELVEPOLE CREEK BASIN

355

03206600 EAST FORK TWELVEPOLE CREEK NEAR DUNLOW, WV

LOCATION.--Lat 38°01'02", long 82°17'46", Wayne County, Hydrologic Unit 05090102, on left bank 0.2 mi (0.3 km) upstream from Maynard Branch, 0.9 mi (1.4 km) downstream from McComas Branch, 1.5 mi (2.4 km) upstream from Devilstrace Branch, and 7.5 mi (12.1 km) east of Dunlow.

DRAINAGE AREA.--38.2 mi² (98.9 km²).

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

GAGE.--Water-stage recorder. Datum of gage is 710.00 ft (216.408 m) National Geodetic Vertical Datum of 1929. Prior to Dec. 22, 1964, nonrecording gage at same site and datum.

REMARKS.--Records fair except those for January and February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--15 years 55.9 ft³/s (1.583 m³/s), 19.87 in/yr (505 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,040 ft³/s (143 m³/s) Dec. 9, 1978, gage height, 15.84 ft (4.828 m), from rating curve extended above 1,300 ft³/s (37 m³/s) on basis of slope area measurement of peak flow; minimum, 0.01 ft³/s (<0.001 m³/s) July 2-13, 1966, Sept. 18-28, 1967, Sept. 8, 9, 1973; minimum gage height, 4.44 ft (1.353 m) Sept. 26, 27, 1967.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 840 ft³/s (24 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 4	0800	1040 29.5	9.85 3.002	Jan. 21	0230	1360 38.5	10.66 3.249
Dec. 9	0630	*5040 143	15.84 4.828	May 28	0900	968 27.4	9.67 2.947
Jan. 2	0500	1090 30.9	9.97 3.039	June 21	2030	888 25.1	9.52 2.902
Jan. 7	2400	1010 28.6	9.78 2.981	June 23	0330	864 24.5	9.47 2.886

Minimum discharge, 0.19 ft³/s (0.005 m³/s) Oct. 10, 11, gage height, 4.88 ft (1.487 m).

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.4	9.0	256	44	145	55	35	142	22	54	20
2	1.3	1.3	6.9	775	38	112	139	31	135	16	36	16
3	.83	1.1	20	244	33	89	477	29	108	12	26	235
4	2.7	.99	543	137	30	100	482	49	123	90	19	154
5	2.4	.90	126	92	26	123	331	273	99	105	13	141
6	1.5	.89	49	74	23	109	223	162	75	48	16	79
7	.80	.94	147	351	22	93	162	106	54	31	9.0	53
8	.43	1.6	2960	616	20	89	129	77	47	24	6.4	35
9	.29	2.1	3110	223	19	71	190	61	40	44	4.8	26
10	.21	1.7	382	138	19	78	229	49	38	43	3.1	20
11	.19	1.3	154	92	18	102	151	42	36	35	84	16
12	.20	1.1	92	71	26	94	111	34	33	37	59	14
13	.51	.85	63	75	41	82	88	34	28	61	21	11
14	5.2	.76	45	100	42	88	77	31	24	48	12	22
15	7.7	2.4	36	72	187	76	64	25	20	35	6.9	18
16	4.2	9.1	30	66	397	66	54	22	17	28	3.7	9.0
17	2.1	11	27	63	192	60	43	18	16	22	2.2	5.8
18	1.3	9.5	22	51	128	55	39	15	16	18	1.7	4.8
19	1.2	6.8	21	41	93	47	33	13	124	14	2.8	3.7
20	1.5	3.9	23	444	83	43	31	12	166	12	24	2.8
21	1.6	2.4	135	1150	90	38	28	11	420	11	16	186
22	2.1	1.9	101	492	105	34	26	11	539	9.0	9.0	368
23	2.0	1.8	74	215	130	37	26	9.0	515	12	6.9	263
24	2.8	3.0	63	272	250	120	24	24	168	38	22	138
25	2.8	2.1	69	228	442	130	24	31	90	20	58	79
26	3.9	2.9	55	151	407	100	25	40	54	325	79	52
27	16	14	45	114	253	78	34	39	36	407	181	39
28	11	14	36	102	183	64	39	599	28	290	79	48
29	6.8	11	33	75	---	54	39	247	22	188	58	38
30	3.3	11	37	61	---	45	37	117	23	132	37	31
31	2.0	---	122	54	---	43	---	75	---	82	26	---
TOTAL	89.96	123.73	8635.9	6895	3341	2465	3410	2321.0	3236	2259.0	976.5	2128.1
MEAN	2.90	4.12	279	222	119	79.5	114	74.9	108	72.9	31.5	70.9
MAX	16	14	3110	1150	442	145	482	599	539	407	181	368
MIN	.19	.76	6.9	41	18	34	24	9.0	16	9.0	1.7	2.8
CFSM	.08	.11	7.30	5.81	3.12	2.08	2.98	1.96	2.83	1.91	.83	1.86
IN.	.09	.12	8.41	6.71	3.25	2.40	3.32	2.26	3.15	2.20	.95	2.07
CAL YR 1978	TOTAL	28335.38	MEAN	77.6	MAX	3110	MIN	.19	CFSM	2.03	IN	27.59
WTR YR 1979	TOTAL	35881.19	MEAN	98.3	MAX	3110	MIN	.19	CFSM	2.57	IN	34.94

TWELVEPOLE CREEK BASIN

03206780 EAST LYNN LAKE NEAR EAST LYNN, WV

LOCATION.--Lat 38°08'43", long 82°22'58", Wayne County, Hydrologic Unit 05090102, at East Lynn Dam on East Fork Twelvepole Creek, 0.1 mi (0.2 km) upstream from Laurel Creek, 1.5 mi (2.4 km) south of East Lynn, and at mile 42.0 (67.6 km).

DRAINAGE AREA.--133 mi² (344 km²).

PERIOD OF RECORD.--March 1972 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Reservoir is formed by rockfill dam with impervious core, completed in 1972; closure of dam was made and storage began in March 1972. Spillway is uncontrolled saddle spillway, crest elevation, 701.0 ft (213.66 m). Flow is controlled by one 2.5 ft (0.76 m) diameter bypass valve and three 5.67 ft (1.728 m) wide by 10.0 ft (3.05 m) high gates. Total level-pool capacity at elevation 701.0 ft (213.66 m), spillway crest, is 82,500 acre-ft (102 hm³) of which 70,790 acre-ft (87.3 hm³) is controlled storage above elevation 656.0 ft (199.95 m), minimum-pool elevation. This is a multipurpose reservoir.

COOPERATION.--Records were furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 48,230 acre-ft (59.5 hm³) Dec. 12, 1978, elevation, 684.32 ft (208.581 m); minimum since first filling, 10,050 acre-ft (12.4 hm³) Feb. 25, 1974, elevation, 653.90 ft (199.309 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 48,230 acre-ft (59.5 hm³) Dec. 12, elevation, 684.32 ft (208.581 m); minimum, 11,303 acre-ft (13.9 hm³) Mar. 16, elevation, 655.50 ft (199.796 m).

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)	Change in Contents (equivalent in cfs)
Sept. 30.....	662.31	17500	-	-
Oct. 31.....	662.14	17330	-170	-3
Nov. 30.....	656.42	12060	-5270	-89
Dec. 31.....	657.00	12540	+480	+8
CAL YR 1978	-	-	+560	+1
Jan. 31.....	656.64	12240	-300	-5
Feb. 28.....	664.81	20140	+7900	+142
Mar. 31.....	656.74	12330	-7810	-127
Apr. 30.....	662.68	17880	+5550	+93
May 31.....	662.75	17950	+70	+1
June 30.....	662.55	17750	-200	-3
July 31.....	662.29	17480	-270	-4
Aug. 31.....	662.37	17570	+90	+1
Sept. 30.....	662.56	17760	+190	+3
WTR YR 1979	-	-	+260	0

TWELVEPOLE CREEK BASIN

357

03206790 EAST FORK TWELVEPOLE CREEK BELOW EAST LYNN DAM, WV

LOCATION.--Lat 38°08'52", long 82°23'00", Wayne County, Hydrologic Unit 05090102, on left bank 800 ft (244 m) downstream from Laurel Creek, 1,700 ft (518 m) downstream from East Lynn Dam, 1.4 mi (2.3 km) south of East Lynn, and at mile 41.7 (67.1 km).

DRAINAGE AREA.--138 mi² (357 km²).

PERIOD OF RECORD.--June 1962 to current year. Prior to October 1967 published as "near East Lynn."

GAGE.--Water-stage recorder. Datum of gage is 600.00 ft (182.880 m) National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Oct. 1, 1967, water-stage recorder at site 0.7 mi (1.1 km) downstream at same datum.

REMARKS.--Records good except those for February, which are poor. Flow regulated since March 1972 by East Lynn Lake (station 03206780).

AVERAGE DISCHARGE.--17 years, 178 ft³/s (5.041 m³/s), 17.52 in/yr (445 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,960 ft³/s (140 m³/s) Mar. 12, 1968, gage height, 31.50 ft (9.601 m), from floodmarks; no flow Sept. 10-27, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge known since at least 1913, about 13,000 ft³/s (368 m³/s) Feb. 3, 1939, gage height, about 37 ft (11.3 m), from floodmarks, from rating curve based on conveyance-slope study. Flood of Feb. 28, 1962, reached a stage of 36.25 ft (11.049 m), from floodmarks, discharge, about 12,000 ft³/s (340 m³/s).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,350 ft³/s (66.6 m³/s) Dec. 16, gage height, *21.95 ft (6.690 m); minimum daily discharge, 9.6 ft³/s (0.27 m³/s) Oct. 3, June 16, 18.

*Gage height furnished by Corps of Engineers.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	69	51	464	111	871	139	115	342	36	169	46
2	11	109	35	1200	97	1660	74	93	516	35	88	42
3	9.6	115	39	1560	65	1350	321	95	436	35	32	48
4	11	112	505	1080	54	953	818	217	416	266	20	98
5	9.9	121	874	576	43	612	864	610	266	878	20	149
6	9.9	118	636	297	43	468	547	871	133	441	20	173
7	9.9	102	405	636	43	365	312	809	63	187	21	169
8	10	100	818	1340	43	255	238	514	43	38	20	155
9	10	95	367	1250	43	215	466	360	42	32	20	157
10	10	91	47	744	43	224	778	205	40	71	20	84
11	10	88	37	514	43	228	665	87	38	144	185	31
12	10	86	694	293	43	321	427	46	38	215	1280	21
13	11	82	1880	228	98	377	232	46	20	497	1140	21
14	11	79	2110	485	166	395	169	46	9.9	530	487	23
15	11	90	2130	514	312	277	167	45	9.9	317	127	22
16	11	97	2240	439	854	219	167	45	9.6	144	55	22
17	11	96	2260	293	1120	164	133	45	9.9	69	33	22
18	11	95	2180	224	842	108	118	34	9.6	41	33	21
19	11	90	2110	221	497	108	79	24	80	38	34	21
20	11	93	1900	756	288	108	63	23	268	36	70	22
21	12	92	1230	275	397	106	63	22	775	35	148	76
22	12	97	1240	833	464	106	63	20	1300	35	171	960
23	12	96	748	1020	464	108	63	19	1350	24	74	1150
24	12	115	394	1070	684	260	63	33	1300	30	39	775
25	12	114	273	1520	754	340	63	73	924	49	120	406
26	13	104	198	2030	78	335	66	160	374	151	429	236
27	15	151	188	1800	46	333	137	199	211	778	1010	63
28	13	166	219	1070	39	330	175	1120	82	1150	730	139
29	13	117	153	730	---	253	175	1260	45	1110	257	93
30	13	92	117	418	---	135	175	888	39	448	171	58
31	13	---	209	149	---	106	---	367	---	213	85	---
TOTAL	350.3	3072	26287	24029	7774	11690	7820	8491	9189.9	8073	7108	5303
MEAN	11.3	102	848	775	278	377	261	274	306	260	229	177
MAX	15	166	2260	2030	1120	1660	864	1260	1350	1150	1280	1150
MIN	9.6	69	35	149	39	106	63	19	9.6	24	20	21

CAL YR 1978 TOTAL 92669.3 MEAN 254 MAX 2260 MIN 9.6 MEAN‡ 255 CFSM‡ 1.85 IN‡ 25.11
WTR YR 1979 TOTAL 119187.2 MEAN 327 MAX 2260 MIN 9.6 MEAN‡ 327 CFSM‡ 2.37 IN‡ 32.17

‡ Adjusted for change in contents in East Lynn Lake.

03207020 TWELVEPOLE CREEK BELOW WAYNE, WV

LOCATION.--Lat 38°14'56", long 82°26'06", Wayne County, Hydrologic Unit 05090102, on left bank just downstream from highway bridge on Secondary State Route 52/43, 1.9 mi (3.1 km) northeast of Wayne, and at mile 29.2 (47.0 km).

DRAINAGE AREA.--300 mi² (777 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1915 to September 1917, October 1917 to September 1922 (gage heights only), February 1927 to September 1931, August 1946 to September 1954, October 1955 to current year. Prior to October 1966 published as "at Wayne." Gage-height records collected at site 2.0 mi (3.2 km) upstream from 1924 to March 1949 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1335: 1916-17, 1930.

CORRECTIONS.--The minimum discharge for water year 1978 is 13 ft³/s (0.37 m³/s) Sept. 28-30, gage height, 3.69 ft (1.125 m); the previously published figure was not the minimum.

GAGE.--Water-stage recorder. Datum of gage is 560.00 ft (170.688 m) National Geodetic Vertical Datum of 1929. Prior to Aug. 29, 1957, nonrecording gage, and Aug. 29, 1957, to Sept. 30, 1966, water-stage recorder at site 2.0 mi (3.2 km) upstream at datum 16.53 ft (5.038 m) higher. Oct. 1, 1966, to Dec. 15, 1966, non-recording gage at present site and datum.

REMARKS.--Water-discharge records good except those for January and February, which are poor. Flow regulated since March 1972 by East Lynn Lake (station 03206780). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--37 years (water years 1916-17, 1929-31, 1947-54, 1956-79), 349 ft³/s (9.884 m³/s), 15.80 in/yr (401 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,900 ft³/s (450 m³/s) Feb. 28, 1962, gage height, 29.46 ft (8.979 m) site and datum then in use, from rating curve extended above 9,500 ft³/s (270 m³/s) on basis of slope-area measurement of peak flow; no flow Oct. 21-27, Nov. 2, 1953, Nov. 4, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 30, 1928, reached a stage of 28.3 ft (8.63 m) former site and datum, discharge, 14,000 ft³/s (396 m³/s) and flood of Feb. 4, 1939, reached a stage of 31.03 ft (9.458 m) former site and datum, discharge, 22,000 ft³/s (623 m³/s), from readings by National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 10,500 ft³/s (297 m³/s) Dec. 9, gage height, 27.88 ft (8.498 m); minimum, 9.4 ft³/s (0.27 m³/s) Oct. 23, 24, gage height, 3.60 ft (1.097 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	19	106	1250	240	935	761	238	645	133	601	175
2	16	129	60	2800	160	2020	862	195	1030	123	374	139
3	14	120	76	2860	150	1770	1580	194	841	108	225	118
4	15	117	1350	1850	140	1370	2160	400	828	459	146	421
5	11	114	1650	1030	135	1020	1970	1450	628	1330	116	324
6	12	124	1060	657	130	813	1270	1460	373	849	101	318
7	12	114	802	1120	125	668	814	1230	254	392	90	287
8	12	105	3860	2790	120	518	547	846	189	200	82	256
9	11	100	9780	2540	120	422	960	592	162	259	92	227
10	11	96	6130	1370	115	465	1410	377	159	515	72	199
11	10	92	1080	979	115	510	1260	261	134	442	253	98
12	9.9	90	707	663	143	510	915	171	147	374	2030	63
13	11	87	1970	478	235	572	610	154	123	1120	1520	57
14	14	84	2160	1060	288	612	474	143	82	1070	869	99
15	15	91	2240	1040	742	542	418	128	66	706	308	85
16	15	123	2240	784	2100	394	368	112	56	360	179	67
17	15	112	2360	663	1970	360	322	100	52	262	102	56
18	16	110	2260	526	1430	277	272	90	47	164	88	49
19	14	106	2170	448	918	266	246	70	309	130	128	45
20	13	101	2080	2240	598	257	204	62	720	113	347	42
21	12	102	2050	3240	777	247	193	60	1420	103	458	571
22	12	100	1650	3130	1060	237	183	57	2690	97	358	1920
23	11	105	1300	2140	1030	234	178	57	2950	96	271	2360
24	11	108	704	2040	1490	485	169	144	2620	529	200	1530
25	11	122	713	2120	2540	728	162	189	1540	237	380	772
26	11	116	468	2520	1930	644	163	268	733	471	988	556
27	24	170	408	2000	1190	564	219	321	439	1960	1850	264
28	22	214	368	1300	777	510	275	1900	284	2630	1430	363
29	18	181	305	900	---	444	268	2440	175	2650	656	368
30	18	127	263	600	---	328	262	1530	149	1380	406	230
31	16	---	534	340	---	268	---	705	---	733	302	---
TOTAL	428.9	3379	52904	47478	20768	18990	19495	15944	19845	19995	15022	12059
MEAN	13.8	113	1707	1532	742	613	650	514	662	645	485	402
MAX	24	214	9780	3240	2540	2020	2160	2440	2950	2650	2030	2360
MIN	9.9	19	60	340	115	234	162	57	47	96	72	42

CAL YR 1978 TOTAL 182197.9 MEAN 499 MAX 9780 MIN 9.9 MEAN‡ 500 CFSM‡ 1.67 IN‡ 22.67
WTR YR 1979 TOTAL 246307.9 MEAN 675 MAX 9780 MIN 9.9 MEAN‡ 675 CFSM‡ 2.25 IN‡ 30.54

‡ Adjusted for contents of East Lynn Lake.

03207020 TWELVEPOLE CREEK BELOW WAYNE, WV--Continued

PERIOD OF RECORD.--October 1978 to September 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)
OCT											
04...	1440	14	--	--	20.0	17.0	--	--	--	--	--
10...	1030	15	150	7.2	--	11.5	7.2	--	--	--	--
NOV											
07...	1110	112	--	--	11.0	12.0	--	--	--	--	--
FEB											
14...	1200	267	--	--	5.0	2.0	--	--	--	--	--
MAR											
20...	1220	267	--	--	26.0	11.0	--	--	--	--	--
MAY											
11...	1015	293	75	6.6	--	19.0	--	27	11	.0	.0
22...	1200	57	--	--	21.0	18.0	--	--	--	--	--
JUL											
06...	2000	556	60	6.7	24.0	19.0	--	24	12	.0	.0
10...	1040	488	105	6.8	22.0	18.5	--	43	24	.0	.0
AUG											
16...	1430	189	100	6.3	23.0	20.0	--	32	18	.0	.0
SEP											
13...	1120	58	125	6.6	25.0	21.0	--	40	6	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINIT (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
MAY											
11...	6.0	3.0	--	--	16	--	20	2.6	60	.08	47.5
JUL											
06...	5.2	2.6	2.1	.2	12	4.7	15	1.5	46	.06	69.1
10...	11	3.7	4.8	.3	19	5.9	24	5.1	76	.10	100
AUG											
16...	7.5	3.2	2.9	.2	14	14	16	3.2	60	.08	30.6
SEP											
13...	9.1	4.2	4.7	.3	26	17	15	6.9	74	.10	11.6

DATE	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CR)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
MAY									
11...	--	--	--	--	--	700	630	70	--
JUL									
06...	--	--	--	--	--	2100	2000	100	--
10...	--	--	--	--	--	3700	3600	110	--
AUG									
16...	--	--	--	--	--	1800	1600	160	--
SEP									
13...	0	<10	<10	<10	<10	1200	--	350	4900

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)
MAY								
11...	--	80	0	80	--	--	--	--
JUL								
06...	--	90	30	60	--	--	--	--
10...	--	130	70	60	--	--	--	--
AUG								
16...	--	130	10	120	--	--	--	--
SEP								
13...	<10	310	30	280	440	.00	0	20

TWELVEPOLE CREEK BASIN

03207055 BEECH FORK LAKE NEAR LAVALETTE, WV

LOCATION.--Lat 38°18'14", long 82°24'58", Wayne County, Hydrologic Unit 05090102, 2.1 mi (3.4 km) southeast of Lavalette and at mile 3.4 (5.5 km).

DRAINAGE AREA.--78.0 mi² (202 km²).

PERIOD OF RECORD.--January 1978 to current year (monthend contents only).

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by random earth and rockfill dam with impervious core, completed in 1977. Closure of dam was made and storage began in January 1978. Spillway is uncontrolled, broad-crested, crest elevation 614.5 ft (187.30 m). Low flow is controlled by two 2.5 ft (0.76 m) wide by 3.0 ft (0.91 m) high gates and high flows are controlled by two 4.5 ft (1.37 m) wide by 10 ft (3.05 m) high gates. Total level - pool capacity at elevation 614.5 ft (187.30 m), spillway crest, is 37,500 acre-ft (46.2 hm³) of which 33,300 acre-ft (41.1 hm³) is controlled storage above elevation 583.5 ft (177.85 m), minimum - pool elevation. This is a multipurpose reservoir.

COOPERATION.--Records were furnished by Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 19,760 acre-ft (24.4 hm³) Dec. 12, 1978, elevation 602.94 ft (183.78 m), minimum since initial filling, 4,100 acre-ft (5.06 hm³), elevation 583.27 ft (177.78 m) Feb. 21, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum contents during period January to September, 19,760 acre-ft (24.4 hm³) Dec. 12, elevation 602.94 ft (183.78 m), minimum since initial filling, 4,100 acre-ft (5.06 hm³), elevation 583.27 ft (177.78 m) Feb. 21.

ELEVATION, IN FEET NGVD, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Change in contents (equivalent in cfs)
Sept. 30.....	591.65	8929	-	-
Oct. 31.....	591.37	8733	-196	-3
Nov. 30.....	583.52	4214	-4519	-76
Dec. 31.....	584.38	4621	+407	+7
CAL YR 1978			+4621	+6
Jan. 31.....	583.47	4191	-430	-7
Feb. 28.....	592.12	9266	+5075	+91
Mar. 31.....	583.70	4298	-4968	-81
Apr. 30.....	592.18	9309	+5011	+84
May 31.....	592.44	9499	+190	+3
June 30.....	592.34	9425	-74	-1
July 31.....	592.48	9528	+103	+2
Aug. 31.....	592.64	9646	+118	+2
Sept. 30.....	592.93	9863	+217	+4
WTR YR 1979			+934	+1

TWELVEPOLE CREEK BASIN

361

03207057 BEECH FORK BELOW BEECH FORK DAM, WV

LOCATION.--Lat 38°18'18", long 82°25'28", Wayne County, Hydrologic Unit 05090102, on left bank 2,500 ft (762 m) downstream from Beech Fork Dam, and 1.7 mi (2.7 km) southeast of Lavalette and at mile 3.0 (4.8 km).

DRAINAGE AREA.--80.4 mi² (208 km²).

PERIOD OF RECORD.--July 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 549.54 ft (167.500 m), National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to June 12, 1979, at datum 0.46 ft (0.140 m) higher.

REMARKS.--Records good except those for January, which are fair. Flow regulated since January 1978 by Beech Fork Lake (station 03207055).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,840 ft³/s (52.1 m³/s) Apr. 5, 1977, gage height, 10.29 ft (3.136 m); minimum, 0.02 ft³/s (0.001 m³/s) July 20, 1977, gage height, 0.15 ft (0.046 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,340 ft³/s (37.9 m³/s) Jan. 25, gage height, 8.14 ft (2.481 m); minimum discharge, 3.2 ft³/s (0.09 m³/s) Oct. 18, 19, 28-30; minimum gage height, 0.72 (0.219 m) May 23, June 14, 15.

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.5	42	30	312	41	726	56	14	27	32	29	25
2	5.3	96	21	464	31	1180	53	14	27	30	29	24
3	5.0	116	23	460	31	716	58	14	28	23	28	25
4	5.2	116	162	450	32	246	54	22	28	25	28	26
5	5.0	114	452	396	32	198	53	29	28	20	28	22
6	4.8	114	406	306	32	134	40	140	28	18	29	20
7	4.9	116	322	308	32	74	24	209	28	17	25	19
8	5.1	116	384	450	32	57	21	300	28	17	19	19
9	5.4	137	997	567	31	57	51	320	28	21	20	19
10	5.5	153	1020	348	30	58	115	83	28	19	21	19
11	5.7	153	39	54	31	59	284	14	28	51	23	19
12	6.0	153	544	57	31	133	320	14	29	195	22	18
13	6.4	158	1150	59	31	165	101	13	18	404	22	18
14	5.4	167	1000	65	31	165	77	13	14	348	22	18
15	5.3	197	829	360	170	121	89	13	9.8	128	22	18
16	5.3	220	762	386	452	59	88	13	13	59	22	18
17	5.3	195	728	159	502	60	56	13	13	35	27	18
18	4.4	108	726	126	492	59	41	12	13	25	22	17
19	3.2	33	689	126	382	60	29	11	14	25	27	17
20	3.3	21	719	153	248	60	11	12	13	23	26	16
21	3.4	14	760	86	168	59	11	13	83	21	217	100
22	3.5	14	739	35	268	41	11	13	682	21	402	418
23	3.4	14	654	33	464	30	11	10	1150	21	246	673
24	3.8	16	592	34	537	32	11	8.2	1110	23	55	805
25	3.4	19	320	693	412	31	11	11	918	22	74	364
26	4.2	20	104	1310	22	107	11	10	210	23	308	56
27	3.7	68	65	774	17	230	53	15	66	25	409	44
28	3.2	153	48	220	16	180	80	167	51	85	404	38
29	3.2	155	24	126	---	80	79	392	32	286	290	37
30	5.6	90	15	58	---	52	55	334	32	386	76	37
31	8.2	---	103	59	---	53	---	104	---	174	25	---
TOTAL	147.6	3088	14427	9034	4598	5282	1954	2350.2	4776.8	2602	2997	2967
MEAN	4.76	103	465	291	164	170	65.1	75.8	159	83.9	96.7	98.9
MAX	8.2	220	1150	1310	537	1180	320	392	1150	404	409	805
MIN	3.2	14	15	33	16	30	11	8.2	9.8	17	19	16

CAL YR 1978 TOTAL 42886.3 MEAN 117 MAX 1300 MIN 3.2 MEAN‡ 123 CFSM‡ 1.53 IN‡ 20.77
WTR YR 1979 TOTAL 54223.6 MEAN 149 MAX 1310 MIN 3.2 MEAN‡ 150 CFSM‡ 1.87 IN‡ 25.36

* Adjusted for change in contents in Beech Fork Lake near Lavalette.

BIG SANDY RIVER BASIN

03213000 TUG FORK AT LITWAR, WV

LOCATION.--Lat 37°29'05", long 81°50'40", McDowell County, Hydrologic Unit 05070201, on left bank 200 ft (61 m) downstream from War Branch, 0.5 mi (0.8 km) downstream from Litwar, 2.2 mi (3.5 km) northwest of Iaeger, 2.7 mi (4.3 km) downstream from Dry Fork, and at mile 105.6 (169.9 km).

DRAINAGE AREA.--505 mi² (1,308 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1930 to current year.

REVISED RECORDS.--WSP 728: 1931. WSP 1335: 1930, 1931-35(M), 1937, 1943-46, 1947(M), 1948, 1949(P), 1950, 1952-53.

GAGE.--Water-stage recorder. Datum of gage is 936.36 ft (285.403 m) National Geodetic Vertical Datum of 1929. Prior to Oct. 16, 1942, nonrecording gage at highway bridge 0.5 mi (0.8 km) upstream at same datum.

REMARKS.--Water-discharge records good except those for periods of no gage-height record, Jan. 26 to Feb. 28, June 27 to July 27, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--49 years, 556 ft³/s (15.75 m³/s), 14.95 in/yr (380 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 54,500 ft³/s (1,540 m³/s) Apr. 4, 1977, gage height, 27.37 ft (8.342 m); minimum observed, 11 ft³/s (0.31 m³/s) Oct. 3, 4, 7, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 6,000 ft³/s (170 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Jan. 21	1900	*13800 391	10.37 3.161	June 22	1100	8940 253	7.81 2.380
Feb. 25	---	Unknown	Unknown				

Minimum discharge, 80 ft³/s (2.27 m³/s) Nov. 4-8, gage height, 0.87 ft (0.265 m).

DISCHARGE IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	88	82	179	1080	880	2160	1080	852	523	940	467	182
2	90	82	138	3280	790	2000	1180	780	495	830	384	182
3	92	82	126	2110	700	1690	2410	735	1590	780	325	182
4	94	82	481	1090	640	1610	3700	1260	1620	760	290	172
5	101	80	502	744	610	2600	2580	2540	1010	880	262	189
6	101	80	368	605	540	2130	2290	2040	753	790	262	397
7	101	80	228	1460	450	1700	1740	1530	613	700	244	280
8	99	82	357	3670	400	1430	1460	1230	545	620	224	208
9	96	86	2290	2060	360	1190	1420	1010	552	540	220	186
10	96	84	1780	1280	335	1060	1390	890	567	500	212	168
11	94	84	656	910	320	1210	1260	798	639	540	204	157
12	92	84	379	726	310	1160	1160	1790	495	490	362	151
13	92	84	280	664	300	1080	1110	2250	425	470	320	149
14	101	84	228	673	375	1040	1170	2000	379	460	232	151
15	116	90	186	567	500	930	1160	1520	351	550	212	154
16	103	116	168	523	1100	807	1080	1210	613	1200	196	143
17	92	143	165	516	2100	735	960	1000	1070	880	189	133
18	90	124	149	495	1600	690	870	852	950	670	186	133
19	90	107	143	439	1200	656	798	771	2260	590	236	138
20	88	99	162	1800	920	622	735	699	1710	520	285	128
21	88	92	798	9620	900	590	690	639	4870	475	271	228
22	86	92	1130	5320	1200	552	647	613	6920	430	236	940
23	86	92	597	2530	1600	582	605	597	5110	400	432	425
24	84	92	439	2180	2500	2600	575	762	4920	375	258	271
25	84	92	852	2050	3600	3210	545	798	4710	350	220	216
26	84	92	870	1760	3900	2190	575	807	2640	620	340	189
27	84	103	605	1500	2700	1670	1280	744	1860	843	295	168
28	84	114	425	1400	1910	1390	1400	673	1500	900	258	204
29	82	121	330	1300	---	1230	1120	590	1250	699	253	228
30	82	182	310	1150	---	1100	960	509	1020	545	216	193
31	82	---	560	1000	---	1010	---	523	---	432	189	---
TOTAL	2842	2907	15881	54502	32740	42624	38350	33012	51960	19779	8280	6645
MEAN	91.7	96.9	512	1758	1169	1375	1278	1065	1732	638	267	222
MAX	116	182	2290	9620	3900	3210	3700	2540	6920	1200	467	940
MIN	82	80	126	439	300	552	545	509	351	350	186	128
CFSM	.18	.19	1.01	3.48	2.32	2.72	2.53	2.11	3.43	1.26	.53	.44
IN.	.21	.21	1.17	4.01	2.41	3.14	2.82	2.43	3.83	1.46	.61	.49

CAL YR 1978	TOTAL	217994	MEAN	597	MAX	15500	MIN	80	CFSM	1.18	IN	16.06
WTR YR 1979	TOTAL	309522	MEAN	848	MAX	9620	MIN	80	CFSM	1.68	IN	22.80

03213000 TUG FORK AT LITWAR, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1979.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
OCT											
11...	1500	100	865	8.2	--	15.0	12.2	--	--	--	--
24...	1130	82	--	--	17.0	14.0	--	--	--	--	--
NOV											
28...	1420	116	--	--	10.0	9.0	--	--	--	--	--
JAN											
18...	1420	470	--	--	.0	4.0	--	--	--	--	--
FEB											
28...	1530	2060	--	--	16.0	7.0	--	--	--	--	--
APR											
11...	1415	1210	--	--	26.0	9.5	--	--	--	--	--
MAY											
11...	1220	789	520	8.1	--	20.0	--	150	15	.0	.0
22...	1345	554	--	--	23.0	19.0	--	--	--	--	--
JUN											
27...	1220	2660	430	7.7	--	16.0	--	120	29	.0	.0
JUL											
06...	1440	1280	630	7.8	--	19.0	--	150	0	.0	.0
AUG											
16...	1430	209	760	8.4	23.0	21.0	--	160	0	.0	.0
SEP											
11...	1440	162	840	8.4	29.5	22.0	--	140	0	.0	.0
26...	1300	194	--	--	--	17.0	--	--	--	--	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
MAY										
11...	35	14	--	--	130	--	110	6.7	303	.41
JUN										
27...	29	12	32	1.3	93	--	88	7.4	259	.35
JUL										
06...	36	15	65	2.3	160	--	120	7.7	357	.49
AUG										
16...	38	16	97	3.3	240	1.9	140	14	479	.65
SEP										
11...	34	14	110	4.0	250	1.9	130	14	490	.67

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECov. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECov. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECov. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECov. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECov- FRABLE (UG/L AS FE)	IRON, SUS- PENDED RECov- FRABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECov. FM BOT- TOM MA- TERIAL (UG/G AS FE)
MAY										
11...	645	--	--	--	--	--	450	430	20	--
JUN										
27...	1860	--	--	--	--	--	1300	1300	20	--
JUL										
06...	1230	--	--	--	--	--	1400	1400	20	--
AUG										
16...	270	--	--	--	--	--	450	430	20	--
SEP										
11...	214	0	<10	10	20	30	610	--	20	19000

DATE	LEAD, RECov. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECov- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECov. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECov. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECov. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECov. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
MAY										
11...	--	30	10	20	--	--	--	--	--	--
JUN										
27...	--	70	40	30	--	--	--	--	--	--
JUL										
06...	--	80	60	20	--	--	--	--	104	359
AUG										
16...	--	40	20	20	--	--	--	--	--	--
SEP										
11...	50	10	0	20	610	.00	0	90	--	--

BIG SANDY RIVER BASIN

03213500 PANTHER CREEK NEAR PANTHER, WV

LOCATION.--Lat 37°26'45", long 81°52'15", McDowell County, Hydrologic Unit 05070201, on left bank 200 ft (61 m) downstream from Cub Branch, 2.1 mi (3.4 km) upstream from Trace Fork, 3.0 mi (4.8 km) southwest of Panther, and at mile 4.1 (6.6 km).

DRAINAGE AREA.--31.0 mi² (80.3 km²).

PERIOD OF RECORD.--July 1946 to current year.

REVISED RECORDS.--WSP 1505: 1955(P). WSP 1908: 1955(M), 1957(M).

GAGE.--Water-stage recorder. Altitude of gage is 1,050 ft (320 m), from topographic map.

REMARKS.--Records fair except those for winter periods and April to September, which are poor.

AVERAGE DISCHARGE.--33 years, 37.1 ft³/s (1.051 m³/s), 16.36 in/yr (416 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,600 ft³/s (187 m³/s) Apr. 4, 1977, gage height, 12.10 ft (3.688 m), from floodmarks, from rating curve extended above 2,800 ft³/s (79 m³/s) on basis of slope-area measurement at gage height, 10.67 ft (3.252 m); no flow at times during August and September 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 700 ft³/s (20 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Dec. 9	0845	1180 33.4	6.89 2.100	Mar. 5	0345	728 20.6	5.92 1.804
Jan. 2	0600	792 22.4	6.08 1.853	June 19	1330	890 25.2	6.30 1.920
Jan. 21	1630	1160 32.9	6.84 2.085	June 22	2245	*2630 74.5	8.85 2.697

Minimum discharge, 0.15 ft³/s (0.004 m³/s) Oct. 10, gage height, 1.40 ft (0.427 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.75	1.2	11	130	40	79	50	40	21	27	9.6	1.8
2	.33	.95	8.0	467	33	62	59	30	28	22	8.0	1.7
3	2.2	.95	12	142	29	51	315	26	60	18	6.6	1.7
4	3.1	1.1	102	91	25	135	300	41	106	19	6.1	1.4
5	1.8	1.0	67	60	22	485	225	101	59	20	5.8	3.1
6	1.0	1.0	35	37	20	184	128	90	37	13	6.1	11
7	1.0	1.0	27	225	19	110	82	61	30	11	5.8	4.3
8	.70	1.5	61	345	18	78	63	43	29	8.5	5.0	3.4
9	.24	1.2	524	127	17	56	69	36	25	9.2	4.9	2.0
10	.80	1.3	139	72	16	48	70	32	20	12	4.8	1.8
11	2.6	1.2	52	51	15	53	65	26	19	8.5	5.8	2.0
12	1.3	1.2	34	40	14	54	57	19	17	9.6	16	1.7
13	.90	1.1	25	32	14	49	49	18	13	14	9.2	1.3
14	1.5	1.1	20	38	15	46	47	20	10	8.9	5.0	1.7
15	1.4	2.2	15	39	28	38	43	20	8.5	20	4.3	1.9
16	1.1	8.5	13	37	231	33	40	16	7.5	17	3.1	1.8
17	2.9	8.9	13	37	287	30	37	14	293	17	3.4	1.3
18	3.1	4.5	11	32	131	29	34	12	130	12	2.6	1.2
19	1.4	2.9	10	29	86	26	32	11	375	9.2	3.3	1.2
20	.95	2.4	13	235	62	26	30	10	223	9.9	4.9	1.1
21	.90	3.6	133	955	53	24	27	10	121	8.5	5.2	30
22	.90	3.6	90	392	112	23	23	10	756	7.2	2.2	44
23	.85	7.2	51	151	139	43	21	15	660	6.3	2.0	17
24	.80	4.7	46	172	352	447	19	25	237	6.6	2.0	9.2
25	.90	3.6	104	229	420	273	18	50	250	5.8	3.1	6.1
26	.90	4.7	83	128	330	141	30	70	101	7.2	5.2	4.5
27	1.5	6.3	53	85	157	96	150	85	59	20	8.5	3.4
28	1.4	6.1	38	90	104	75	100	45	37	28	4.7	5.8
29	1.3	8.0	29	70	---	66	70	35	35	19	3.3	6.1
30	1.1	19	28	52	---	58	50	25	30	14	2.6	4.7
31	1.2	---	75	50	---	49	---	19	---	11	2.6	---
TOTAL	40.82	112.00	1922.0	4640	2789	2967	2303	1055	3797.0	419.4	161.7	178.2
MEAN	1.32	3.73	62.0	150	99.6	95.7	76.8	34.0	127	13.5	5.22	5.94
MAX	3.1	19	524	955	420	485	315	101	756	28	16	44
MIN	.24	.95	8.0	29	14	23	18	10	7.5	5.8	2.0	1.1
CFSM	.04	.12	2.00	4.84	3.21	3.09	2.48	1.10	4.10	.44	.17	.19
IN.	.05	.13	2.31	5.57	3.35	3.56	2.76	1.27	4.56	.50	.19	.21
CAL YR 1978	TOTAL	13248.87	MEAN	36.3	MAX	1100	MIN	.24	CFSM	1.17	IN	15.90
WTR YR 1979	TOTAL	20385.12	MEAN	55.8	MAX	955	MIN	.24	CFSM	1.80	IN	24.46

BIG SANDY RIVER BASIN

365

03213700 TUG FORK AT WILLIAMSON, WV

LOCATION.--Lat 37°40'21", long 82°16'50", Pike County, Ky., Hydrologic Unit 05070201, on left bank at Williamson, 100 ft (30 m) upstream from bridge on U.S. Highway 119, 0.8 mi (1.3 km) downstream from Pond Creek, and at mile 56.4 (90.7 km).

DRAINAGE AREA.--936 mi² (2,424 km²).

PERIOD OF RECORD.--October 1967 to current year. Gage-height records collected in this vicinity since 1926 are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 620.90 ft (189.250 m) National Geodetic Vertical Datum of 1929, (levels by Corps of Engineers). Prior to Jan. 21, 1969, at datum 0.92 ft (0.280 m) lower.

REMARKS.--Records good except those for January and February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--12 years, 1,240 ft³/s (35.12 m³/s), 17.99 in/yr (457 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,000 ft³/s (2660 m³/s) Apr. 5, 1977, gage height, 52.56 ft (16.020 m), from floodmarks, from rating curve extended above 18,000 ft³/s (510 m³/s); minimum, 59 ft³/s (1.67 m³/s) Oct. 18-20, 1969, gage height, 2.04 ft (0.622 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Jan. 30, 1957, Mar. 12, 1963, and Mar. 7, 1967, reached stages of 43.6 ft (13.29 m), 44.5 ft (13.56 m), and 40.7 ft (12.41 m) respectively, from readings by National Weather Service.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 9,000 ft³/s (250 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Dec. 9	1700	15900	450	24.98	7.614	Apr. 4	0500	9180	260	16.84	5.133
Jan. 2	1700	9230	261	16.91	5.154	June 22	1600	15400	436	24.51	7.471
Jan. 8	1000	9530	270	17.31	5.276	June 25	0500	9500	269	17.26	5.261
Jan. 22	0400	*21300	603	29.52	8.998	July 15	1500	11100	314	19.40	5.913
Feb. 25	0900	10000	283	17.96	5.474						

Minimum discharge, 115 ft³/s (3.26 m³/s) Oct. 25, gage height, 2.20 ft (0.671 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	125	370	2770	1400	3670	1860	1310	1260	1460	965	382
2	132	120	302	7360	1300	3400	1470	1420	1260	1240	846	385
3	129	118	317	5980	1230	2900	4490	1070	2530	1040	654	397
4	141	118	3480	2940	1190	2690	8260	1160	5150	1070	548	376
5	145	118	2520	1900	1090	6180	6130	2920	2940	1480	494	337
6	143	118	1430	1520	922	5090	4660	3290	1780	1230	462	510
7	141	120	926	3150	810	3580	3410	2480	1310	946	443	658
8	127	129	3070	8620	750	2830	2630	1900	1060	842	418	481
9	125	132	12200	5260	690	2270	2400	1560	1340	846	391	376
10	137	130	6950	3120	660	1930	2460	1330	1860	930	370	320
11	118	129	2410	2150	630	2220	2200	1160	1440	850	367	295
12	118	117	1450	1680	610	2290	1580	1480	1200	790	646	272
13	125	113	1030	1480	600	2010	1850	2600	918	934	774	253
14	170	113	814	1450	802	1900	1860	3200	758	826	385	260
15	176	113	662	1310	960	1740	1820	2360	682	5490	418	262
16	197	202	577	1160	5290	1490	1730	1780	606	2870	367	250
17	172	250	542	1110	5270	1340	1570	1440	1090	1630	337	230
18	148	262	494	1100	3220	1240	1410	1200	2140	1180	320	215
19	134	205	452	975	2370	1180	1270	1040	4470	698	317	200
20	127	162	462	2470	1840	1110	1170	930	5840	918	754	202
21	123	143	1460	15300	1890	1040	1070	862	3680	818	938	302
22	115	127	2840	15900	3760	955	995	802	12000	786	886	1730
23	120	130	1710	6110	4000	926	938	1000	12900	730	1630	1610
24	122	145	1210	4720	6220	3470	886	1520	7740	662	838	862
25	122	150	1680	5410	9530	6640	838	1940	8330	614	564	580
26	118	148	2080	3300	8900	4600	834	2100	5000	598	558	468
27	132	212	1610	2800	6430	3270	1230	1920	3070	994	1240	406
28	139	255	1160	2690	4500	2550	1890	1530	2140	2160	975	424
29	137	240	886	3190	---	2140	1740	1240	1750	1690	666	481
30	129	317	810	2000	---	1890	1480	975	1650	1410	532	462
31	123	---	1260	1700	---	1730	---	890	---	1040	446	---
TOTAL	4217	4778	57164	120625	76864	80271	66531	50409	97894	38972	19549	13986
MEAN	136	159	1944	3891	2745	2589	2218	1626	3263	1257	631	466
MAX	197	317	12200	15900	9530	6640	8260	3290	12900	5490	1630	1730
MIN	115	113	302	975	600	926	834	802	606	598	317	200
CFSM	.15	.17	1.97	4.16	2.93	2.77	2.37	1.74	3.49	1.34	.67	.50
IN.	.17	.19	2.27	4.79	3.05	3.19	2.64	2.00	3.89	1.55	.78	.56

CAL YR 1978	TOTAL	426525	MEAN	1169	MAX	22000	MIN	113	CFSM	1.25	IN	16.95
WTR YR 1979	TOTAL	631260	MEAN	1729	MAX	15900	MIN	113	CFSM	1.85	IN	25.09

03214000 TUG FORK NEAR KERMIT, WV

LOCATION.--Lat 37°49'05", long 82°23'20", Mingo County, Hydrologic Unit 05070201, on right bank 2.0 mi (3.2 km) upstream from Wolf Creek, 3.0 mi (4.8 km) upstream from Kermit, 3.0 mi (4.8 km) downstream from Pigeon Creek, and at mile 37.7 (60.7 km).

DRAINAGE AREA.--1,188 mi² (3,077 km²).

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

REVISED RECORDS.--WSP 953: 1934-41. WSP 1505: 1955.

GAGE.--Water-stage recorder. Datum of gage is 581.82 ft (177.339 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for period of no gage-height record, Feb. 10 to Mar. 14, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--45 years, 1,426 ft³/s (40.38 m³/s), 16.30 in/yr (414 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 104,000 ft³/s (2,950 m³/s) Apr. 6, 1977, gage height, 52.91 ft (16.127 m), from floodmarks, from rating curve extended above 29,000 ft³/s (820 m³/s) on basis of slope-area measurements at gage heights 45.65 ft (13.914 m) and 52.91 ft (16.127 m); minimum, 23 ft³/s (0.65 m³/s) Sept. 14, 1939, gage height, 1.13 ft (0.344 m).

EXTREMES OUTSIDE PERIOD OF RECORD.--Stage of about 43.3 ft (13.20 m) was reached on unknown date prior to 1915.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 10,000 ft³/s (280 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	1500	*39100	1110	38.09	11.610	Feb. 26	---	Unknown		Unknown	
Jan. 2	2200	12200	346	21.46	6.541	Apr. 4	0900	11600	329	20.80	6.340
Jan. 8	1600	12700	360	22.03	6.715	June 23	0300	23500	666	30.72	9.363
Jan. 22	0700	33500	949	36.13	11.012						

Minimum discharge, 126 ft³/s (3.57 m³/s) Oct. 12, 13, 22, 23, 26, Nov. 4-6, gage height, 1.61 ft (0.491 m).

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	153	135	472	3400	2250	5100	2200	1600	1580	1760	1340	544
2	153	135	435	9330	1900	4500	3910	1430	1970	1500	1290	560
3	144	129	365	9190	1700	3900	6670	1320	1930	1240	1010	536
4	159	129	4990	4160	1600	3600	11100	1380	5640	1510	808	528
5	171	126	4000	2240	1500	4300	7800	2730	4580	2140	692	439
6	162	129	2270	2180	1350	5400	5550	3640	2730	1810	640	560
7	156	132	1590	3480	1180	6600	4030	3000	1890	1280	580	796
8	147	138	8600	11500	1080	4300	3210	2390	1430	1060	524	644
9	138	150	33200	7970	970	3600	3030	1950	1290	1110	468	500
10	132	150	19500	4310	920	2900	3130	1650	2530	1260	432	404
11	129	153	4490	3100	860	2600	2880	1430	2430	1130	421	365
12	129	144	2330	2470	825	2900	2620	1320	1820	1020	608	341
13	132	135	1630	2170	790	3000	2400	2400	1400	1100	932	316
14	180	138	1290	2110	810	2600	2330	3300	1080	1060	748	313
15	203	144	1050	1950	1050	2300	2260	2690	908	4340	532	341
16	204	218	908	1740	2800	1980	2150	2080	792	4840	432	316
17	201	288	824	1650	6800	1750	1950	1650	868	2140	386	292
18	168	313	728	1630	5800	1610	1750	1370	2100	1550	358	274
19	153	274	660	1510	3800	1520	1580	1190	3550	1200	358	271
20	138	218	644	3300	2900	1440	1450	1070	7880	1090	952	257
21	135	183	1470	21300	2400	1340	1340	996	4890	1150	1090	383
22	129	168	3390	30300	3000	1260	1270	928	12900	984	1230	2380
23	129	162	2650	12500	5000	1230	1210	1020	22200	920	2510	2620
24	132	174	1860	6200	5400	3080	1140	1660	13100	852	1380	1490
25	129	187	1980	6900	8500	7100	1080	2490	8980	768	908	968
26	129	187	2630	5050	12000	5270	1080	2680	5950	1250	1010	728
27	153	268	2300	3910	10000	3780	1340	2590	3610	2680	2360	592
28	168	334	1710	3620	6300	3040	2090	4030	2550	4050	1780	628
29	156	323	1360	3450	---	2620	2110	2460	2030	2860	1130	688
30	147	341	1200	2800	---	2320	1810	1690	1940	2230	828	652
31	138	---	1610	2400	---	2110	---	1330	---	1640	676	---
TOTAL	4702	5705	112136	177820	93485	99050	86470	61464	126548	53524	28413	19726
MEAN	152	190	3617	5736	3339	3195	2882	1983	4218	1727	917	658
MAX	203	341	33200	30300	12000	7100	11100	4030	22200	4840	2510	2620
MIN	129	126	365	1510	790	1230	1080	928	792	768	358	257
CFSM	.13	.16	3.05	4.83	2.81	2.69	2.43	1.67	3.55	1.45	.77	.55
IN.	.15	.18	3.51	5.57	2.93	3.10	2.71	1.92	3.96	1.68	.89	.62
CAL YR 1978	TOTAL	634252	MEAN	1738	MAX	38100	MIN	126	CFSM	1.46	IN	19.86
WTR YR 1979	TOTAL	869043	MEAN	2381	MAX	33200	MIN	126	CFSM	2.00	IN	27.21

BIG SANDY RIVER BASIN

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03214500 TUG FORK AT KERMIT, WV

LOCATION.--Lat 37°50'17", long 82°24'35", Mingo County, Hydrologic Unit 05070201, at city water plant, at Kermit, 0.8 mi (1.3 km) downstream from Wolf Creek, and 3.0 mi (4.8 km) downstream from gaging station near Kermit, and at mile 34.7 (55.8 km).

DRAINAGE AREA.--1,274 mi² (3,300 km²) at water plant; 1,185 mi² (3,069 km²) at gaging station.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1946 to September 1977, January to June 1978, January to September 1979.

COOPERATION.--Temperature data is furnished by the Kermit Water Works.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum daily, 32.0°C July 29, 1949; minimum daily, -0.5°C Dec. 31, 1976, Jan. 1, 2, 8-13, 24, 1977.

EXTREMES FOR PERIOD OCTOBER 1977 TO SEPTEMBER 1979.--

Maximum daily observed, 26.5°C several days in June 1978; minimum daily observed, 1.0°C several days during January and February 1978.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1977 TO SEPTEMBER 1978
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				4.5	1.5	1.5	10.5	14.5	20.0			
2				4.5	1.5	2.0	11.0	14.5	20.0			
3				4.0	1.0	2.0	11.0	15.0	20.0			
4				4.0	1.0	3.0	11.5	15.0	20.0			
5				4.0	1.0	3.0	13.0	14.5	20.5			
6				4.5	1.0	3.0	13.5	14.0	20.5			
7				5.5	1.0	3.0	13.5	14.5	21.0			
8				3.5	1.5	3.0	13.5	15.0	21.0			
9				1.0	1.5	3.5	14.5	15.0	21.0			
10				1.0	1.5	3.5	14.5	15.5	21.5			
11				1.0	2.0	4.0	14.5	15.5	22.0			
12				2.0	2.0	4.0	15.0	16.0	23.0			
13				2.0	3.0	4.5	15.0	16.0	24.0			
14				---	3.0	4.5	14.0	16.5	24.0			
15				1.5	3.0	4.5	14.0	16.0	24.0			
16				1.5	2.0	5.5	14.5	16.0	24.5			
17				2.0	2.0	5.5	14.5	16.5	24.5			
18				2.0	2.0	5.5	14.5	16.5	24.5			
19				1.5	1.5	6.5	14.5	17.0	25.0			
20				1.5	2.0	6.5	14.5	17.0	25.5			
21				1.5	2.0	7.0	15.0	18.0	25.5			
22				1.0	1.5	7.0	15.0	18.0	25.5			
23				1.0	1.5	8.0	15.0	18.0	26.0			
24				1.0	1.0	8.5	15.0	18.0	26.5			
25				1.5	1.0	8.5	15.5	18.5	26.5			
26				3.5	1.0	9.5	15.5	18.5	26.5			
27				2.0	1.0	9.5	14.5	19.0	26.5			
28				2.0	1.5	9.5	14.5	19.0	26.5			
29				2.0	---	9.5	14.5	19.0	26.5			
30				1.5	---	10.0	14.0	19.5	26.5			
31				1.5	---	10.0	---	19.5	---			
MEAN				2.5	1.5	5.5	14.0	16.5	23.5			
WTR YR 1978	MEAN	11.0		MAX	26.5		MIN	1.0				

BIG SANDY RIVER BASIN

03214500 TUG FORK AT KERMIT, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1				4.5	3.5	5.0	9.5	14.5	17.0	20.5	23.0	23.0
2				4.5	3.5	5.5	9.5	14.5	17.0	20.5	23.0	22.0
3				4.5	3.0	5.0	9.5	15.0	17.0	21.0	23.5	22.0
4				4.5	4.0	5.5	10.0	15.0	18.0	21.0	23.5	22.0
5				4.5	3.5	6.0	10.0	15.5	18.5	21.0	23.5	21.5
6				5.0	3.5	6.5	10.5	15.5	18.5	20.5	23.5	21.5
7				5.0	4.0	8.5	11.0	16.5	18.5	20.5	23.5	21.5
8				4.5	4.0	9.5	11.5	16.5	18.5	20.5	23.5	21.0
9				4.5	4.0	9.5	11.5	16.5	18.5	20.5	23.5	21.0
10				4.5	4.0	9.0	13.0	16.5	19.0	21.0	24.0	21.0
11				4.0	3.5	9.0	13.5	16.5	19.0	21.0	24.0	21.0
12				4.0	3.5	8.5	14.0	16.5	19.0	21.0	24.0	20.5
13				4.0	4.0	8.5	14.5	16.0	19.5	21.0	24.0	20.5
14				4.5	4.0	8.0	14.5	16.0	19.5	21.0	24.0	20.0
15				4.5	4.0	8.5	15.0	16.0	20.0	21.0	24.5	20.0
16				4.0	4.5	8.5	14.5	16.0	20.0	21.0	24.5	20.0
17				4.5	4.5	9.0	14.5	16.5	19.5	21.0	24.0	20.0
18				4.0	4.5	9.5	15.0	16.5	20.0	21.5	24.0	19.5
19				4.0	4.0	9.5	15.0	16.5	20.0	21.5	24.0	19.5
20				4.0	4.0	9.5	15.0	16.5	20.0	21.5	24.5	19.0
21				4.5	3.5	9.5	15.0	17.0	20.5	21.5	25.0	19.0
22				4.5	3.5	9.5	14.5	16.5	20.5	22.0	25.0	18.5
23				4.5	4.0	9.0	14.5	16.5	21.0	22.0	24.5	18.5
24				4.5	4.5	8.0	14.5	16.5	21.0	22.0	24.5	18.5
25				4.5	4.5	7.0	15.0	16.5	21.5	22.0	24.5	18.5
26				4.0	4.5	6.5	14.5	16.5	22.0	22.0	24.0	18.5
27				4.0	4.5	6.5	14.0	16.5	22.0	23.0	23.5	18.5
28				4.0	5.0	7.0	14.0	16.0	23.0	23.0	23.5	18.5
29				4.0	---	8.5	14.0	16.5	23.5	23.0	23.0	18.5
30				3.5	---	9.5	14.0	17.0	23.5	23.0	23.0	18.5
31				3.5	---	10.0	---	17.0	---	23.0	23.0	---
MEAN				4.5	4.0	8.0	13.0	16.0	20.0	21.5	24.0	20.0
WTR YR 1979	MEAN	14.5		MAX	25.0		MIN	3.0				

03214900 TUG FORK AT GLENHAYES, WV

LOCATION.--Lat 38°00'20", long 82°30'53", Wayne County, Hydrologic Unit 05070201, on right bank 400 ft (122 m) upstream from Lost Creek, 0.2 mi (0.3 km) downstream from Rock Castle Creek, 0.9 mi (1.4 km) southeast of Glenhayes, and at mile 10.1 (16.3 km).

DRAINAGE AREA.--1,507 mi² (3,903 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1976 to current year.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 536.57 ft (163.547 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those for November, January, and February, which are poor. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,000 ft³/s (1,360 m³/s) Apr. 6, 1977, gage height, 44.00 ft (13.411 m); minimum discharge, 125 ft³/s (3.54 m³/s) Sept. 9, 1976; minimum gage height, 2.18 ft (0.664 m) Nov. 5, 6, 7, 1979.

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 11,000 ft³/s (310 m³/s) and maximum (*):

Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)	Date	Time	Discharge (ft ³ /s)	Discharge (m ³ /s)	Gage height (ft)	Gage height (m)
Dec. 9	2100	*38100	1080	39.82	12.137	Feb. 26	1600	13400	379	24.00	7.315
Jan. 3	0600	11400	323	21.47	6.544	Apr. 4	1900	11700	331	21.81	6.648
Jan. 8	2400	12000	340	22.27	6.788	June 23	1700	16200	459	26.56	8.095
Jan. 22	---	Unknown	Unknown	Unknown	Unknown						

Minimum discharge, 156 ft³/s (4.42 m³/s) Nov. 5, 6, 7, gage height, 2.18 ft (0.664 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	196	178	422	3520	2650	6030	2520	1880	2950	2310	2050	971
2	196	174	482	8740	2290	5000	4280	1690	2990	2020	1770	835
3	196	167	458	10900	2000	4390	7190	1560	2720	1700	1500	998
4	189	159	3570	6850	1800	3920	11200	1610	5760	1860	1150	910
5	213	159	6440	4040	1650	4910	10200	2870	5800	3020	940	745
6	220	156	3490	3030	1500	7060	7380	4230	3580	2520	890	685
7	220	156	2360	3650	1400	5460	5490	3800	2470	1890	780	895
8	213	160	11100	10600	1250	4350	4290	2970	1930	1500	695	945
9	200	170	32300	10600	1180	3680	3970	2440	1710	1540	630	745
10	189	180	32800	6490	1100	3130	4210	2070	3010	1830	547	596
11	181	185	15800	4260	1050	3270	3850	1820	3120	1680	775	474
12	178	190	6210	3230	1020	3550	3430	1600	2460	1630	1140	430
13	174	185	3130	2730	1000	3340	3070	2090	1890	1970	1090	402
14	174	175	2370	2720	1320	3060	2860	3090	1460	1690	955	414
15	239	160	1880	2490	1560	2870	2710	3030	1190	2090	675	458
16	259	178	1560	2190	5090	2540	2570	2380	998	6380	520	402
17	259	271	1340	2010	8020	2260	2380	1920	910	3030	450	366
18	246	332	1150	1930	5890	2070	2150	1600	1700	2170	410	342
19	220	339	998	1760	4180	1940	1950	1390	3160	1680	391	323
20	200	313	920	3040	3270	1830	1790	1230	7830	1400	835	303
21	181	271	1490	16000	3030	1720	1660	1130	6990	1420	1810	533
22	178	243	3450	29000	4020	1610	1560	1050	9520	1210	1660	3520
23	170	233	3610	15000	5230	1510	1490	965	15400	1200	2330	4210
24	167	226	2550	7100	6600	2190	1390	1410	13900	1340	2220	2750
25	167	226	2280	7500	11500	6460	1310	2370	9400	1060	1680	1820
26	163	226	2760	6200	13300	6680	1270	2700	7680	1590	1870	1330
27	167	265	2810	5100	11800	4880	1420	2870	4910	5560	3650	1070
28	189	387	2200	4600	8270	3880	1930	6540	3250	6540	3220	1100
29	200	394	1710	3900	---	3280	2370	4980	2690	4650	2090	1190
30	196	394	1460	3480	---	2860	2130	2850	2380	3400	1510	1140
31	189	---	1760	3010	---	2560	---	2140	---	2570	1190	---
TOTAL	6129	6852	154860	195670	112970	112290	104020	74275	133758	74450	41423	30902
MEAN	198	228	4995	6312	4035	3622	3467	2396	4459	2402	1336	1030
MAX	259	394	32800	29000	13300	7060	11200	6540	15400	6540	3650	4210
MIN	163	156	422	1760	1000	1510	1270	965	910	1060	391	303
CFSM	.13	.15	3.32	4.19	2.68	2.40	2.30	1.59	2.96	1.59	.89	.68
IN.†	.15	.17	3.82	4.83	2.79	2.77	2.57	1.83	3.30	1.84	1.02	.76
IN.‡	1.43	1.47	6.97	4.15	1.92	1.55	1.91	2.65	3.69	5.32	---	---

CAL YR 1978	TOTAL	772736	MEAN	2117	MAX	32800	MIN	156	CFSM	1.41	IN	19.07
WTR YR 1979	TOTAL	1047599	MEAN	2870	MAX	32800	MIN	156	CFSM	1.90	IN	25.86

† Runoff

‡ Rainfall

BIG SANDY RIVER BASIN

03214900 TUG FORK AT GLENHAYES, WV--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1977 to current year.

WATER TEMPERATURES: October 1978 to September 1979.

SUSPENDED SEDIMENT DISCHARGE: March 1977 to September 1978.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily observed, 800 micromhos Nov. 12, 14, 1978; minimum daily, 93 micromhos Dec. 9, 1978.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,020 mg/L Apr. 5, 1977; minimum daily mean, 4 mg/L Sept. 29, 30, 1978.

SEDIMENT LOADS: Maximum daily, 320,000 tons (290,000 tonnes) Apr. 5, 1977; minimum daily, 2.2 tons (2.0 tonnes) Sept. 29, 30, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily observed, 800 micromhos Nov. 12, 14; minimum daily, 93 micromhos Dec. 9.

WATER TEMPERATURES: Maximum daily observed, 29.0°C Aug. 9, 10; minimum daily observed, 0.0°C Feb. 6.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS) (00061)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS) (00095)	PH (UNITS) (00400)	TEMPER- ATURE, AIR (DEG C) (00020)	TEMPER- ATURE (DEG C) (00010)	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS, (MG/L AS CAC03) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03) (00902)	ACIDITY TOTAL HEATED (MG/L AS H) (71825)	ACIDITY (MG/L AS CAC03) (00435)
OCT											
10...	1422	115	760	8.2	--	14.0	10.2	--	--	--	--
27...	0900	163	--	--	6.0	12.0	--	--	--	--	--
NOV											
29...	1445	408	510	--	5.0	7.0	--	--	--	--	--
DEC											
09...	1500	34200	--	--	.0	9.5	--	--	--	--	--
JAN											
04...	1515	6250	120	--	1.0	2.0	--	--	--	--	--
FEB											
07...	1515	1510	318	7.8	3.0	.5	--	--	--	--	--
MAR											
15...	0940	2960	226	8.0	-3.5	6.0	--	--	--	--	--
APR											
18...	1425	2190	345	7.4	18.0	15.0	--	--	--	--	--
MAY											
24...	0755	1440	430	7.7	18.0	20.0	--	--	--	--	--
JUN											
28...	1335	3220	270	7.5	29.0	21.0	--	100	48	.0	.0
AUG											
08...	1230	669	523	7.8	31.0	28.0	--	150	32	.0	.0
SEP											
13...	1400	450	640	7.5	--	23.0	--	170	40	.0	.0
20...	1045	304	700	8.3	19.0	20.0	--	170	12	.0	.0

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
JUN										
28...	24	10	19	.8	53	--	77	5.5	201	.27
AUG										
08...	36	15	51	1.8	120	--	110	18	332	.45
SEP										
13...	40	17	66	2.2	130	8.0	130	25	350	.48
20...	39	18	80	2.7	160	1.6	150	27	437	.59

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	CADMIUM RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE- D RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	IRON, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS FE)
JUN										
28...	1750	--	--	--	--	--	2200	2200	10	--
AUG										
08...	600	--	--	--	--	--	390	380	10	--
SEP										
13...	425	0	<10	<10	20	<10	40	--	10	5600
20...	359	--	--	--	--	--	520	--	30	--

BIG SANDY RIVER BASIN

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03214900 TUG FORK AT GLENHAYES, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT										
27...	--	--	--	--	--	--	--	--	18	7.9
NOV										
29...	--	--	--	--	--	--	--	--	24	26
JAN										
04...	--	--	--	--	--	--	--	--	472	7960
FEB										
07...	--	--	--	--	--	--	--	--	147	599
MAR										
15...	--	--	--	--	--	--	--	--	131	1050
APR										
18...	--	--	--	--	--	--	--	--	53	313
MAY										
24...	--	--	--	--	--	--	--	--	62	241
JUN										
28...	--	80	70	10	--	--	--	--	325	2830
AUG										
08...	--	30	20	10	--	--	--	--	--	--
SEP										
13...	<10	20	10	10	720	.00	0	30	--	--
20...	--	50	40	10	--	--	--	--	--	--

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	460	730	372	186	---	177	---	242	235	297	240	390
2	450	750	456	---	266	200	189	254	275	317	277	430
3	446	---	---	---	---	204	152	265	259	330	298	435
4	435	760	454	128	292	208	131	272	250	249	319	436
5	438	770	254	---	314	214	127	230	228	248	353	481
6	445	790	194	---	300	144	146	250	187	309	358	500
7	436	750	201	---	318	163	186	172	228	329	364	540
8	431	750	122	---	---	186	168	187	258	311	399	555
9	450	790	93	---	---	207	199	203	291	330	551	554
10	420	770	114	---	---	224	205	228	293	331	569	557
11	460	760	126	---	---	227	218	250	247	352	578	554
12	469	800	161	---	---	220	221	264	246	---	443	546
13	489	760	177	---	---	228	229	292	298	334	548	---
14	462	800	209	---	---	226	---	245	344	364	545	---
15	466	780	210	---	314	231	242	191	359	360	524	---
16	448	750	233	---	192	242	253	213	376	172	554	---
17	438	730	242	258	---	252	258	233	395	220	589	---
18	447	680	297	---	---	261	260	268	421	253	575	---
19	461	680	311	265	---	272	263	292	252	276	542	---
20	470	670	272	---	184	287	276	319	176	322	539	700
21	459	650	276	137	187	296	290	335	161	348	417	---
22	462	650	234	---	198	303	---	352	150	345	384	---
23	473	660	188	120	181	308	309	362	123	375	443	---
24	476	680	181	---	163	269	315	440	---	323	244	---
25	480	630	164	---	120	178	326	384	184	388	257	---
26	720	---	189	175	---	138	320	303	174	---	362	---
27	700	590	164	193	156	153	317	265	217	116	260	---
28	710	550	185	---	166	175	313	170	243	153	279	---
29	690	481	196	228	---	202	318	171	274	222	311	---
30	680	---	211	241	---	222	242	230	297	198	325	---
31	700	---	222	---	---	242	---	275	---	223	333	---
MEAN	502	710	224	193	223	221	240	263	257	289	412	514
WTR YR 1979	MEAN	340		MAX	800		MIN	93				

BIG SANDY RIVER BASIN

03214900 TUG FORK AT GLENHAYES, WV--Continued

TEMPERATURE (DEG. C) OF WATER, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	14.0	8.0	8.0	---	7.0	---	16.0	18.0	21.0	26.0	26.0
2	---	14.0	7.0	---	1.0	12.0	14.0	18.0	20.0	21.0	25.0	26.0
3	---	---	---	---	---	12.0	12.0	19.0	19.0	23.0	23.0	25.0
4	---	14.0	7.0	2.0	2.0	13.0	12.0	18.0	20.0	22.0	16.0	26.0
5	---	14.0	10.0	---	1.0	11.0	12.0	15.0	18.0	21.0	26.0	25.0
6	---	13.0	10.0	---	.0	9.0	11.0	17.0	19.0	21.0	26.0	25.0
7	---	11.0	7.0	---	.5	9.0	10.0	19.0	22.0	24.0	26.0	25.0
8	---	12.0	10.0	---	---	8.0	11.0	21.0	21.0	22.0	26.0	24.0
9	---	10.0	12.0	---	---	9.0	10.0	20.0	22.0	22.0	29.0	24.0
10	---	12.0	8.0	---	---	9.0	11.0	22.0	23.0	21.0	29.0	24.0
11	---	13.0	6.0	---	---	7.0	15.0	22.0	21.0	23.0	28.0	26.0
12	---	13.0	6.0	---	---	8.0	9.0	27.0	21.0	---	24.0	26.0
13	---	15.0	6.0	---	---	8.0	15.0	18.0	21.0	22.0	24.0	---
14	---	15.0	5.0	---	---	7.0	16.0	20.0	23.0	23.0	24.0	---
15	---	13.0	5.0	---	3.0	7.0	14.0	19.0	22.0	24.0	24.0	---
16	---	12.0	6.0	---	2.0	8.0	15.0	19.0	23.0	21.0	23.0	---
17	---	14.0	4.0	4.0	---	9.0	15.0	19.0	22.0	23.0	25.0	---
18	---	12.0	4.0	---	---	10.0	15.0	21.0	25.0	23.0	25.0	---
19	---	11.0	4.0	3.0	---	11.0	16.0	18.0	20.0	24.0	28.0	---
20	---	12.0	6.0	---	2.0	13.0	17.0	22.0	25.0	24.0	26.0	20.0
21	---	9.0	6.0	5.0	9.0	16.0	17.0	22.0	20.0	24.0	28.0	---
22	---	11.0	6.0	---	6.0	15.0	---	21.0	19.0	24.0	25.0	---
23	21.0	11.0	5.0	6.0	8.0	15.0	18.0	20.0	18.0	24.0	24.0	---
24	17.0	10.0	4.0	---	9.0	11.0	20.0	20.0	---	24.0	24.0	---
25	16.0	10.0	5.0	---	8.0	9.0	20.0	16.0	18.0	26.0	23.0	---
26	16.0	7.0	4.0	2.0	---	7.0	18.0	14.0	17.0	---	23.0	---
27	16.0	9.0	4.0	3.0	6.0	6.0	18.0	15.0	20.0	22.0	23.0	---
28	14.0	9.0	3.0	---	6.0	8.0	16.0	15.0	20.0	21.0	23.0	---
29	13.0	7.0	2.0	2.0	---	11.0	15.0	16.0	20.0	23.0	23.0	---
30	14.0	---	3.0	2.0	---	13.0	16.0	19.0	20.0	22.0	25.0	---
31	14.0	---	5.0	---	---	13.0	---	19.0	---	24.0	25.0	---
MEAN	15.5	11.5	6.0	3.5	4.0	10.0	14.5	19.0	20.5	22.5	25.0	25.0
WTR YR 1979	MEAN	15.5		MAX	29.0		MIN	.0				

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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POTOMAC RIVER BASIN

01604500 - PATTERSON CREEK NEAR HEADSVILLE, W. VA. (LAT 39 26 35 LONG 078 49 20)

DEC , 1978							
13...	0900	121	155	7.0	4.5	.5	13.0
APR , 1979							
17...	1600	162	170	8.2	14.0	10.0	12.6
JUN							
06...	1420	119	150	7.8	--	18.0	9.8
JUL							
10...	1450	40	210	8.6	23.0	22.0	6.9
AUG							
21...	1700	39	275	8.5	--	22.0	7.6

01605500 - SOUTH BRANCH POTOMAC RIVER AT FRANKLIN, W. VA. (LAT 38 38 14 LONG 079 20 14)

OCT , 1978							
02...	1100	36	180	8.3	21.0	14.5	11.4
JAN , 1979							
10...	1140	366	140	8.5	4.0	2.0	14.1
APR							
02...	1050	228	130	9.0	18.0	12.0	12.4
MAY							
14...	1130	538	135	8.7	--	14.5	10.2
JUN							
19...	1145	173	160	9.2	--	17.0	10.8
JUL							
11...	1310	70	165	8.9	25.0	20.0	9.6

01606500 - SO. BRANCH POTOMAC RIVER NEAR PETERSBURG, W. VA (LAT 38 59 34 LONG 079 10 26)

OCT , 1978							
02...	1650	88	150	8.3	23.5	17.0	8.5
JAN , 1979							
09...	1515	1830	150	8.0	4.5	2.0	12.5
FEB							
15...	1050	319	160	7.9	-1.5	1.0	10.5
MAY							
14...	1635	1560	135	8.6	--	17.5	9.5
JUL							
11...	1510	236	170	8.7	30.0	22.5	8.3
AUG							
23...	0830	295	195	9.3	24.5	19.0	8.1

01607500 - SO FK SO BR POTOMAC R AT BRANDYWINE W VA (LAT 38 37 53 LONG 079 14 38)

OCT , 1978							
02...	1235	6.4	185	7.7	22.5	16.0	10.9
JAN , 1979							
10...	0950	186	85	8.4	-1.0	.5	14.0
APR							
02...	1300	113	125	7.9	18.0	13.0	12.0
MAY							
14...	1415	654	--	--	--	15.0	--
JUN							
19...	1400	51	125	9.0	--	23.0	9.4
JUL							
11...	1125	15	120	8.7	25.0	21.0	8.0
AUG							
22...	1345	17	220	8.3	25.0	20.5	8.7

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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POTOMAC RIVER BASIN--Continued

01608000 - 50 FK SOUTH BRANCH POTOMAC R NR MOOREFIELD W VA (LAT 39 00 44 LONG 078 57 23)

OCT , 1978							
02...	1450	28	195	7.7	22.0	18.0	9.4
JAN , 1979							
09...	1245	605	85	9.2	--	2.0	14.3
APR							
02...	1500	320	100	8.1	17.0	12.0	10.6
MAY							
15...	0910	1350	87	8.5	--	14.0	10.0
JUN							
19...	1600	144	--	--	--	25.5	--
JUL							
11...	0915	55	170	8.1	23.0	20.0	6.5
AUG							
22...	1100	44	230	8.2	22.0	20.0	7.8

01608500 - SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, W. (LAT 39 26 49 LONG 078 39 16)

OCT , 1978							
03...	1100	158	185	8.0	19.0	18.0	6.5
DEC							
12...	1600	1700	120	7.1	5.5	2.5	13.2
MAR , 1979							
08...	0950	6010	110	8.6	13.0	7.0	13.2
JUN							
06...	1040	3360	130	7.8	--	17.0	9.0
JUL							
10...	1310	374	195	8.6	23.5	23.0	7.0
AUG							
22...	0900	520	150	9.4	23.0	21.0	5.1

01611500 - CACAPON RIVER NEAR GREAT CACAPON, W. VA. (LAT 39 34 43 LONG 078 18 34)

MAR , 1979							
07...	0940	3280	75	8.0	--	--	12.0
APR							
16...	1700	731	95	8.7	12.0	10.0	11.1
JUN							
05...	1100	1450	90	8.3	--	20.0	7.6
JUL							
09...	1515	179	130	8.7	--	25.0	6.9
AUG							
21...	0930	127	170	9.5	23.0	22.5	7.0

01616500 - OPEQUON CREEK NEAR MARTINSBURG, W. VA. (LAT 39 25 25 LONG 077 56 20)

APR , 1979							
16...	1400	294	360	8.7	12.0	10.0	10.7
JUL							
09...	1300	151	400	8.1	--	20.0	9.0
AUG							
20...	1100	121	550	8.6	20.0	19.0	7.4

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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MONONGAHELA RIVER BASIN

03050500 - TYGART VALLEY RIVER NEAR ELKINS, W. VA. (LAT 38 55 30 LONG 079 52 45)

NOV , 1978							
01...	1715	23	--	7.0	12.0	12.0	--
DEC							
28...	1515	446	60	6.8	.0	1.0	--
JAN , 1979							
25...	1340	1680	--	--	-7.0	--	--
MAR							
06...	1700	1320	60	7.0	8.0	7.0	--
APR							
18...	1505	280	60	7.0	14.0	10.0	--
MAY							
22...	1620	185	70	7.6	21.5	21.0	--
JUN							
25...	1510	163	90	7.0	20.0	19.0	--
AUG							
15...	1700	251	90	7.0	--	--	--
SEP							
25...	1630	441	--	--	19.0	--	--

03051000 - TYGART VALLEY RIVER AT BELINGTON, W. VA. (LAT 39 01 45 LONG 079 56 10)

OCT , 1978							
31...	1410	82	--	7.0	13.0	12.0	--
DEC							
12...	1530	1270	90	7.0	8.0	4.0	--
JAN , 1979							
23...	1530	2660	70	7.0	7.0	3.5	--
MAR							
06...	1400	2430	70	6.8	9.0	8.0	--
APR							
17...	1420	525	100	7.0	10.5	9.0	--
MAY							
23...	1455	263	115	7.0	21.0	21.5	--
JUN							
26...	1310	174	130	7.0	24.0	20.5	--
AUG							
14...	1450	857	110	7.0	26.0	19.0	--
SEP							
25...	1345	754	140	6.8	26.0	17.0	--

03052000 - MIDDLE FORK RIVER AT AUDRA, W. VA. (LAT 39 02 25 LONG 080 04 10)

NOV , 1978							
01...	1235	32	--	6.3	14.0	10.0	--
JAN , 1979							
24...	1315	771	50	5.0	5.0	4.0	--
MAR							
07...	1530	687	50	5.0	13.0	7.0	--
APR							
17...	1235	251	55	5.0	9.0	8.0	--
MAY							
23...	1215	129	55	6.0	23.0	19.0	--
JUN							
27...	1110	56	90	6.0	20.0	19.5	--
AUG							
15...	1320	128	80	<6.0	15.5	17.5	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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MONONGAHELA RIVER BASIN--Continued

03053500 - BUCKHANNON RIVER AT HALL, W. VA. (LAT 39 03 05 LONG 080 06 50)

NOV , 1978							
01...	1015	101	--	6.8	12.0	10.0	--
DEC							
13...	1120	825	80	6.7	7.0	4.0	--
JAN , 1979							
24...	1100	1380	70	6.4	10.0	3.5	--
MAR							
07...	1205	1470	70	6.3	9.5	7.0	--
APR							
17...	1025	413	80	7.0	16.0	--	--
MAY							
23...	1015	182	95	7.0	23.0	19.5	--
JUN							
27...	0945	97	175	7.0	17.0	19.0	--
AUG							
15...	1050	335	90	7.0	17.0	19.0	--
SEP							
26...	1125	439	115	6.5	21.0	17.0	--

03058500 - W. F. RIVER AT BUTCHERVILLE, W. VA. (LAT 39 05 25 LONG 080 28 05)

DEC , 1978							
14...	0900	261	160	6.5	-0.5	4.0	--
JAN , 1979							
16...	0950	580	200	6.8	-2.5	4.0	8.2
APR							
02...	1340	563	185	7.0	13.0	4.5	8.6
MAY							
15...	1700	272	180	7.3	20.0	17.0	--
JUN							
28...	1600	16	180	7.3	27.0	21.0	--
AUG							
16...	1700	92	170	6.6	24.0	22.0	--

03059000 - WEST FORK RIVER AT CLARKSBURG, W. VA. (LAT 39 16 15 LONG 080 21 20)

MAR , 1979							
19...	1000	474	340	8.1	13.0	6.0	11.2
JUN							
11...	1230	201	440	7.7	--	21.5	7.8
JUL							
24...	0915	51	190	8.3	25.0	25.0	6.6
SEP							
05...	1045	258	250	8.0	27.0	23.0	7.0

03062400 - COHUN CREEK AT MORGANTOWN, W. VA. (LAT 39 36 30 LONG 079 57 20)

DEC , 1978							
19...	1025	14	120	7.5	--	--	12.5
FEB , 1979							
08...	1400	9.5	110	7.2	-6.0	.5	13.0
MAY							
01...	1700	18	95	7.0	17.0	15.5	9.6
JUN							
11...	1440	6.1	150	8.1	--	18.0	12.4
JUL							
23...	1335	3.4	120	8.4	30.0	24.5	7.5
SEP							
05...	0830	4.6	130	8.4	--	20.0	8.0

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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MONONGAHELA RIVER BASIN--Continued

03065000 - DRY FORK AT HENDRICKS, W. VA. (LAT 39 04 20 LONG 079 37 20)

OCT , 1978							
04...	1045	36	70	7.0	16.0	16.0	--
NOV							
15...	1255	37	--	7.0	11.0	11.0	--
DEC							
26...	1530	1740	50	7.0	5.0	3.5	--
FEB , 1979							
07...	1115	335	--	--	-2.0	1.0	--
MAR							
21...	1420	714	50	7.0	19.0	9.0	--
MAY							
10...	1305	348	55	7.0	30.0	--	--
JUN							
20...	1350	161	60	7.4	29.0	23.0	--
JUL							
24...	1315	180	65	8.0	28.0	23.0	--
SEP							
18...	1400	176	140	6.7	--	--	--

03066000 - BLACKWATER RIVER AT DAVIS, W. VA. (LAT 39 07 35 LONG 079 28 10)

OCT , 1978							
03...	1545	15	180	6.0	18.0	15.5	--
NOV							
14...	1355	16	--	6.3	17.0	11.0	--
DEC							
28...	1240	238	85	5.5	3.0	1.0	--
MAR , 1979							
20...	1550	141	90	5.0	15.0	10.0	--
MAY							
09...	1415	121	90	5.8	25.5	20.0	--
JUN							
21...	1015	41	95	<6.0	17.5	19.5	--
JUL							
25...	1440	44	90	6.0	28.0	25.0	--
SEP							
05...	1430	114	110	>6.0	20.0	21.0	--

03069000 - SHAVERS FORK AT PARSONS, W. VA. (LAT 39 05 45 LONG 079 40 40)

OCT , 1978							
04...	1230	39	50	7.0	18.0	18.0	--
NOV							
16...	1030	142	--	7.0	12.0	10.5	--
DEC							
28...	1010	516	50	6.8	.0	1.0	--
FEB , 1979							
07...	1400	184	50	7.0	2.0	1.0	--
MAR							
21...	1730	460	30	7.0	16.0	11.0	--
MAY							
10...	1410	329	42	7.0	29.0	23.0	--
JUN							
20...	0830	220	45	7.0	22.0	19.0	--
JUL							
24...	1615	230	45	7.0	27.5	24.5	--
SEP							
18...	1600	153	90	6.8	21.0	20.0	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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MONONGAHELA RIVER BASIN--Continued

03069500 - CHEAT RIVER NEAR PARSONS, W. VA. (LAT 39 07 20 LONG 079 40 50)

OCT , 1978							
04...	0920	95	130	6.3	16.0	16.0	--
NOV							
15...	1100	121	--	6.8	11.0	11.0	--
DEC							
26...	1215	3830	50	7.0	9.0	3.0	--
MAR , 1979							
21...	1025	1480	50	6.8	14.0	--	--
MAY							
10...	1045	880	55	--	26.5	2.0	--
JUN							
20...	1105	502	50	7.0	23.0	18.0	--
JUL							
24...	1050	480	70	7.0	25.5	23.5	--
SEP							
18...	1130	474	125	6.5	20.0	16.0	--

03070000 - CHEAT RIVER AT ROWLESBURG, W. VA. (LAT 39 20 50 LONG 079 40 00)

FER , 1979							
06...	1130	622	--	--	--	.0	--
MAR							
21...	1045	1880	55	6.4	15.0	9.0	10.2
MAY							
01...	1320	2020	52	7.6	20.0	12.5	9.4
JUN							
14...	1020	818	58	8.9	--	18.5	8.2
JUL							
25...	1120	632	65	8.7	26.0	25.0	4.8

03070500 - BIG SANDY CREEK AT ROCKVILLE, W. VA. (LAT 39 37 15 LONG 079 42 20)

MAR , 1979							
21...	1400	294	95	7.6	24.0	9.0	12.3
MAY							
01...	0930	346	85	8.3	8.0	8.0	11.5
JUN							
14...	1240	83	175	4.9	--	20.0	8.7
SEP							
07...	1110	686	150	7.5	26.0	21.0	8.0

LITTLE KANAWHA RIVER BASIN

03151520 - LITTLE KANAWHA RIVER BELOW BURNSVILLE DAM, WV (LAT 38 50 41 LONG 080 37 45)

DEC , 1978							
06...	1530	20	75	7.0	14.0	9.0	--
JAN , 1979							
30...	1230	367	50	7.2	1.0	.5	10.6
MAR							
01...	1200	2260	60	7.0	.0	3.0	10.4
APR							
10...	1130	808	50	7.0	10.0	10.0	--
MAY							
24...	0915	252	50	7.1	--	--	9.3
JUN							
27...	1650	34	80	6.8	30.0	25.5	--
AUG							
15...	1330	114	70	6.3	23.0	22.0	--
SEP							
17...	1700	50	75	6.5	--	18.5	--

03151600 - LITTLE KANAWHA RIVER AT BURNSVILLE, W. VA. (LAT 38 51 55 LONG 080 40 32)

OCT , 1978							
24...	1330	16	--	--	--	--	--
AUG , 1979							
15...	1130	145	80	6.5	23.0	21.0	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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LITTLE KANAWHA RIVER BASIN--Continued

03152000 - LITTLE KANAWHA RIVER AT GLENVILLE, W. VA. (LAT 38 56 00 LONG 080 50 20)

DEC , 1978							
07...	1530	330	120	7.1	10.0	8.5	--
JAN , 1979							
25...	1345	3180	100	7.3	-4.0	2.0	--
FEB							
28...	1540	822	140	7.1	19.0	3.0	8.3
APR							
11...	0815	2100	110	7.0	6.0	5.0	9.2
MAY							
23...	1330	145	120	7.2	22.0	20.5	9.6
23...	1440	135	--	--	22.0	20.5	--
JUN							
27...	1000	82	120	7.1	25.0	19.5	--
AUG							
15...	0930	180	150	6.2	21.0	21.0	--

KANAWHA RIVER BASIN

03180000 - NEW RIVER AT BLUESTONE DAM W VA (LAT 37 38 35 LONG 080 53 00)

OCT , 1978							
18...	1455	2350	230	8.3	23.0	--	10.0
JAN , 1979							
17...	1400	4440	140	--	4.5	2.5	15.0
MAR							
12...	1800	9440	110	7.1	12.0	7.0	13.1
MAY							
15...	1630	18400	110	--	20.0	17.0	--
JUN							
15...	1105	4350	--	--	--	--	--
JUL							
24...	1230	7200	120	7.8	25.0	24.0	--

03180500 - GREENBRIER RIVER AT DURBIN, W. VA. (LAT 38 32 35 LONG 079 50 00)

NOV , 1978							
03...	1120	12	--	--	7.5	5.0	--
JAN , 1979							
12...	0920	288	--	--	-4.0	1.0	--
FEB							
22...	1340	334	--	--	16.0	2.0	--
MAR							
28...	1245	345	60	8.3	12.0	6.0	--
MAY							
02...	1220	237	65	7.3	20.0	11.0	--
JUN							
15...	1215	139	80	7.8	22.0	18.0	--
JUL							
26...	1140	147	--	--	24.0	19.5	--

03182500 - GREENBRIER RIVER AT BUCKEYE, W. VA. (LAT 38 11 15 LONG 080 07 50)

NOV , 1978							
03...	0900	31	--	--	4.5	7.0	--
DEC							
06...	0850	1510	--	--	-1.0	7.0	--
JAN , 1979							
11...	1305	1300	--	--	-2.0	1.0	--
FEB							
22...	1030	1070	--	--	8.0	1.5	--
MAR							
28...	1010	1200	40	7.6	4.0	4.0	--
MAY							
02...	0955	765	70	7.6	13.0	12.0	--
JUN							
15...	0900	585	95	7.5	15.0	15.0	--
JUL							
26...	0900	230	--	--	25.0	20.0	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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KANAWHA RIVER BASIN--Continued

03182700 - ANTHONY CREEK NEAR ANTHONY, W. VA. (LAT 37 54 30 LONG 080 17 30)

OCT , 1978							
02...	1410	7.8	200	--	15.0	16.5	10.4
25...	1620	7.1	--	--	15.0	10.0	--
APR , 1979							
03...	1125	138	55	6.7	9.0	10.0	11.2
JUN							
25...	1450	275	50	7.4	17.0	16.0	10.1
AUG							
10...	0955	14	--	--	23.0	24.0	--

03183500 - GREENBRIER RIVER AT ALDERSON, W. VA. (LAT 37 43 30 LONG 080 38 30)

OCT , 1978							
23...	1650	106	--	--	24.0	13.5	--
JAN , 1979							
22...	1600	19500	70	7.2	-3.0	3.0	14.2
FEB							
27...	1500	12600	75	7.2	.5	3.0	13.4
APR							
03...	1520	1720	100	7.7	--	12.0	10.7
MAY							
14...	1940	13200	75	--	20.0	14.0	--
JUN							
13...	1305	3680	--	--	--	--	--
JUL							
23...	1750	473	145	8.4	26.0	25.0	9.1

03184500 - NEW RIVER AT HINTON, W. VA. (LAT 37 40 15 LONG 080 53 40)

OCT , 1978							
18...	1930	2200	250	8.9	13.5	14.5	10.4
DEC							
04...	1420	1730	220	--	16.5	8.0	11.8
MAR , 1979							
12...	1430	13600	85	7.3	15.0	6.0	12.5
JUN							
14...	1205	5990	95	7.5	21.0	17.0	8.8
JUL							
24...	1540	7720	135	8.4	27.5	27.0	--

03186500 - WILLIAMS RIVER AT DYER, W. VA. (LAT 38 22 45 LONG 080 29 05)

OCT , 1978							
02...	0945	6.9	100	--	14.5	15.0	--
NOV							
02...	0920	16	--	--	9.0	7.0	--
MAR , 1979							
27...	1205	438	40	8.4	2.5	4.0	--
MAY							
03...	0900	248	40	7.4	18.0	13.0	--
12...	1200	241	<50	5.8	24.0	15.5	--
JUN							
12...	1005	360	<20	7.3	16.5	13.0	--
JUL							
25...	1110	279	--	--	26.0	19.0	--
SEP							
05...	1300	89	20	6.3	21.0	20.0	--
13...	1030	98	40	6.4	29.0	17.0	--

03187300 - NORTH FORK CRANBERRY RIVER NEAR HILLSBORO, W. VA (LAT 38 15 27 LONG 080 19 25)

MAY , 1979							
12...	1035	19	<50	4.5	19.0	12.0	--
SEP							
06...	1020	168	22	3.6	19.0	15.0	--
12...	1400	15	25	5.1	23.0	15.0	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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KANAWHA RIVER BASIN--Continued

03189600 - GAULEY RIVER BELOW SUMMERSVILLE DAM, W. VA. (LAT 38 13 00 LONG 080 53 30)

JAN , 1979							
18...	1025	1780	55	--	-1.0	1.5	14.2
APR							
04...	1025	247	55	6.4	9.5	5.5	12.6
MAY							
01...	1350	2130	60	7.4	19.0	9.0	--
JUL							
05...	1250	3240	55	7.0	18.0	15.5	10.6
SEP							
19...	1045	169	65	7.0	17.5	18.5	9.8

03190400 - MEADOW RIVER NEAR MT. LOOKOUT, W. VA. (LAT 38 11 25 LONG 080 56 55)

OCT , 1978							
03...	1120	14	190	--	--	15.0	--
NOV							
02...	1115	18	--	--	9.5	9.0	--
JAN , 1979							
24...	1120	2570	55	6.6	5.0	2.0	14.1
FEB							
28...	1145	2960	60	6.6	1.5	1.5	14.4
MAR							
29...	1045	967	55	6.5	16.0	7.0	--
MAY							
24...	1120	543	--	--	17.0	16.0	10.0
SEP							
18...	1020	126	100	7.0	14.0	16.5	9.9

03193000 - KANAWHA RIVER AT KANAWHA FALLS, W. VA. (LAT 38 08 20 LONG 081 12 45)

NOV , 1978							
13...	1400	1590	--	--	22.0	12.0	--
FEB , 1979							
21...	0945	16700	--	--	--	2.0	--

03195100 - RIGHT FORK HOLLY RIVER AT GUARDIAN, W. VA. (LAT 38 38 08 LONG 080 27 58)

DEC , 1978							
09...	1305	2080	--	--	3.0	7.5	--
APR , 1979							
21...	1715	37	<50	6.7	25.5	16.5	--
JUN							
16...	1140	1734	45	6.4	--	16.5	--
JUL							
16...	1210	1870	45	6.4	27.5	16.5	--
SEP							
13...	1615	29	60	7.3	--	21.0	--

03195250 - LEFT FORK HOLLY RIVER NEAR REPLETE, W. VA. (LAT 38 41 19 LONG 080 25 59)

DEC , 1978							
09...	1435	2030	--	--	1.0	7.0	--
APR , 1979							
22...	0755	44	<50	6.4	15.0	13.0	--
SEP							
09...	1805	25	65	7.4	27.0	24.0	--
13...	1330	23	50	7.0	--	19.0	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
KANAWHA RIVER BASIN--Continued							
03195500 - ELK RIVER AT SUTTON, W. VA. (LAT 38 39 46 LONG 080 42 34)							
OCT , 1978							
31...	1040	615	--	--	21.0	18.0	--
DEC							
05...	1210	4020	--	--	9.0	9.0	--
FEB , 1979							
27...	1630	106	--	--	2.0	6.0	--
APR							
05...	1140	2770	65	7.6	13.0	7.0	--
MAY							
16...	1500	1420	--	--	26.0	14.5	--
JUN							
27...	1100	320	50	6.8	--	17.0	--
AUG							
09...	1155	234	80	7.1	34.5	21.0	--
03196600 - ELK RIVER NEAR FRAMETOWN, W. VA. (LAT 38 35 34 LONG 080 53 06)							
OCT , 1978							
30...	1015	646	--	--	14.0	15.0	--
DEC							
07...	1135	2140	--	--	5.0	8.5	--
JAN , 1979							
09...	1330	5650	--	--	-3.0	2.5	--
FEB							
27...	0950	1800	--	7.8	.5	5.0	--
APR							
04...	1255	1420	70	7.9	18.0	11.5	--
MAY							
18...	1000	1140	--	--	15.0	14.0	--
AUG							
08...	1530	296	110	7.4	31.0	26.0	--
SEP							
19...	1610	1100	70	--	23.0	21.0	--
03196800 - ELK RIVER AT CLAY, W. VA. (LAT 38 27 37 LONG 081 05 16)							
FEB , 1979							
26...	1115	5450	--	--	2.0	--	--
AUG							
10...	1135	366	105	6.7	34.0	26.0	--
03198000 - KANAWHA RIVER AT CHARLESTON, W. VA. (LAT 38 22 10 LONG 081 42 05)							
OCT , 1978							
24...	1335	3700	--	--	--	16.0	--
DEC							
06...	1410	24400	--	--	17.0	10.0	--
MAR , 1979							
19...	1430	14000	--	--	22.0	9.0	--
MAY							
01...	1405	20800	--	--	--	13.0	--
AUG							
31...	1400	6590	--	--	30.0	26.0	--
03198500 - BIG COAL RIVER AT ASHFORD, W. VA. (LAT 38 10 45 LONG 081 42 40)							
OCT , 1978							
04...	1100	38	650	7.7	--	17.0	8.3
05...	1330	39	750	8.3	25.0	17.0	9.2
NOV							
06...	1430	26	730	--	26.5	10.5	--
MAY , 1979							
10...	1445	436	250	7.4	26.0	21.0	9.0
JUN							
20...	1345	921	175	7.6	30.0	21.5	8.3
JUL							
31...	1630	361	260	7.4	--	24.5	8.0
SEP							
19...	1530	104	560	8.5	28.0	21.0	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

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DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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KANAWHA RIVER BASIN--Continued

03199000 - LITTLE COAL RIVER AT DANVILLE, W. VA. (LAT 38 03 45 LONG 081 50 15)

OCT , 1978							
02...	1000	28	>730	7.8	--	16.0	7.3
02...	1205	28	>800	7.8	16.0	16.0	7.3
NOV							
06...	1020	18	870	--	16.0	10.0	--
JAN , 1979							
09...	1230	1650	170	6.2	-5.0	2.0	13.7
APR							
05...	1300	1690	180	7.5	9.0	9.5	11.5
MAY							
03...	1400	310	430	8.5	22.0	17.0	--
JUN							
21...	1220	1090	240	7.0	22.0	18.5	8.7
JUL							
31...	1200	347	360	7.5	32.0	22.0	8.3
SEP							
18...	1300	96	>800	8.1	--	21.0	--
18...	1330	96	>800	8.1	26.5	21.0	--

03199700 - COAL RIVER AT ALUM CREEK, W. VA. (LAT 38 17 11 LONG 081 48 25)

OCT , 1978							
04...	1300	76	800	8.1	--	18.0	8.4
04...	1430	76	800	8.1	22.5	18.0	8.4
NOV							
13...	1445	54	--	--	25.0	16.0	--
MAY , 1979							
09...	1315	1260	200	7.3	27.0	19.0	8.6
JUN							
19...	1010	524	305	7.6	--	20.5	8.6
19...	1200	524	305	7.6	20.0	20.5	8.6
JUL							
30...	1735	1270	230	7.4	--	24.0	--
SEP							
20...	1440	219	650	8.1	--	20.0	--
20...	1615	219	650	8.1	26.0	20.0	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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GUYANDOTTE RIVER BASIN

03202490 - INDIAN CREEK AT FANROCK W. VA. (LAT 37 34 00 LONG 081 39 10)

OCT , 1978							
16...	1450	2.0	360	8.1	14.5	10.5	5.0
JAN , 1979							
30...	1400	66	66	7.3	-1.5	2.0	13.5
MAR							
06...	1630	216	58	7.2	11.0	8.5	11.9
APR							
10...	1520	93	65	8.3	13.0	10.0	11.2
MAY							
12...	1300	367	40	7.4	--	19.0	--
15...	1515	161	70	6.9	28.0	13.5	10.3
JUN							
26...	1700	127	75	7.1	25.5	16.5	9.8
AUG							
07...	1750	6.9	125	7.7	28.0	24.5	--
SEP							
11...	0900	4.9	190	7.3	--	16.0	--
24...	1700	26	100	7.4	16.5	16.0	--

03202750 - CLEAR FORK AT CLEAR FORK, W. VA. (LAT 37 37 26 LONG 081 42 13)

OCT , 1978							
16...	1320	11	>1000	8.1	14.0	10.5	10.8
NOV							
28...	1245	56	470	7.5	9.0	8.0	11.9
JAN , 1979							
23...	1350	693	--	6.7	8.5	4.5	12.7
30...	1320	220	--	7.2	-2.0	2.0	14.6
FEB							
26...	1330	1690	130	6.7	2.0	6.0	11.5
MAR							
06...	1345	835	140	7.0	10.0	8.0	12.7
APR							
10...	1330	420	200	7.3	12.0	8.0	11.6
MAY							
12...	1345	250	170	7.4	--	19.0	--
JUN							
26...	1415	266	220	7.2	26.5	16.5	9.7
AUG							
07...	1515	48	370	7.8	31.0	25.0	--
SEP							
11...	1630	39	540	8.3	--	23.0	--
24...	1320	180	270	7.3	18.0	16.5	--

03202915 - GUYANDOTTE RIVER BELOW R.D. BAILEY DAM (LAT 37 35 53 LONG 081 49 46)

NOV , 1978							
11...	1200	140	--	--	2.0	5.0	--
MAR , 1979							
01...	1115	2000	--	--	10.0	6.0	--
MAY							
22...	1045	502	--	--	19.0	13.0	--

03203000 - GUYANDOTTE RIVER AT MAN, W. VA. (LAT 37 44 30 LONG 081 52 45)

DEC , 1978							
09...	1440	11200	--	--	--	--	--
JUN , 1979							
26...	1135	2900	160	7.1	21.0	17.0	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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TWELVEPOLE CREEK BASIN

03206600 - EAST FORK TWELVEPOLE CREEK NEAR DUNLOW, W.VA. (LAT 38 01 02 LONG 082 17 46)

OCT , 1978							
04...	1155	2.9	--	--	22.0	17.0	--
NOV							
06...	1230	.90	--	--	24.0	10.0	--
27...	1415	14	--	--	16.0	9.0	--
FEB , 1979							
05...	1315	35	--	7.7	-1.0	1.5	--
MAR							
12...	1430	92	--	7.7	13.0	8.0	--
APR							
19...	0845	34	45	8.0	12.0	10.5	--
MAY							
12...	0705	33	51	6.3	--	19.0	--
21...	1400	11	50	7.3	28.0	22.5	--
JUN							
25...	1348	88	10	6.8	20.0	16.0	--
AUG							
06...	1525	17	--	--	31.0	26.0	--
SEP							
14...	0740	20	85	6.7	17.0	19.0	--
17...	1600	6.2	90	--	21.0	19.0	--

03206790 - EAST FORK TWELVEPOLE CREEK BELOW EAST LYNN DAM (LAT 38 08 52 LONG 082 23 00)

OCT , 1978							
03...	1145	8.5	--	--	25.0	19.0	--
09...	1110	11	74	7.4	--	17.0	8.8
NOV							
07...	1310	106	--	--	10.0	15.0	--
FEB , 1979							
13...	1245	122	--	--	5.0	2.0	--
MAR							
12...	1335	349	55	6.6	13.0	7.5	--
MAY							
22...	1430	15	--	--	28.5	17.0	--
JUL							
05...	1500	873	55	6.4	27.5	19.0	--
AUG							
17...	1430	34	75	6.4	32.0	23.0	--

03207057 - BEECH FK BELOW BEECH FK. DAM, W. VA. (LAT 38 18 18 LONG 082 25 28)

OCT , 1978							
05...	1100	5.1	--	--	16.0	16.0	--
NOV							
08...	1145	116	--	--	10.0	13.0	--
FEB , 1979							
12...	1220	30	--	--	.0	2.0	--
MAR							
20...	1540	58	--	--	26.0	9.0	--
MAY							
11...	0920	16	105	6.7	--	17.5	--
23...	1150	14	--	--	22.0	16.0	--
JUL							
05...	1820	16	90	6.9	29.0	21.0	--
AUG							
16...	1810	21	130	6.4	26.0	22.0	--
SEP							
13...	0720	17	140	6.7	--	21.0	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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BIG SANDY RIVER BASIN

03212600 - TUG FORK AT WELCH W VA (LAT 37 25 00 LONG 081 35 25)

OCT , 1978							
09...	1545	11	780	7.9	--	13.5	10.3
NOV							
09...	0850	7.8	--	--	6.0	9.0	--
28...	1550	13	--	--	10.0	9.0	--
JAN , 1979							
23...	1435	315	--	--	6.0	4.0	--
APR							
10...	1530	201	--	--	11.0	9.5	--
MAY							
10...	1915	161	620	7.8	31.0	20.0	--
21...	1350	101	--	--	25.0	17.0	--
AUG							
15...	1550	32	--	--	20.0	21.0	--
SEP							
11...	0930	15	660	7.8	--	17.5	--

03212700 - ELKHORN CR AT MAITLAND, W. VA. (LAT 37 25 47 LONG 081 33 08)

NOV , 1978							
09...	0820	19	--	--	5.0	10.0	--
17...	1440	21	--	--	20.0	14.0	--
29...	0845	19	--	--	1.0	7.0	--
JAN , 1979							
23...	1235	308	--	--	1.0	3.0	--
APR							
10...	1225	224	--	--	9.5	10.5	--
MAY							
10...	0945	217	600	7.6	22.0	16.0	--
21...	1225	168	--	--	23.0	14.0	--
AUG							
15...	1405	69	--	--	19.0	19.0	--
SEP							
11...	1015	38	800	8.1	--	16.0	--

03212985 - DRY FORK AT AVONDALE, WV. (LAT 37 25 32 LONG 081 47 22)

NOV , 1978							
09...	0945	244	--	--	8.0	9.0	--
29...	1555	51	--	--	5.0	5.0	--
JAN , 1979							
19...	0945	159	--	--	-2.0	1.0	--
APR							
12...	1015	435	--	--	22.0	14.0	--
MAY							
11...	1010	307	440	8.2	26.0	19.5	--
21...	1550	180	--	--	29.0	21.0	--
AUG							
17...	1000	64	--	--	22.0	19.0	--
SEP							
11...	1205	54	820	8.5	--	23.0	--
20...	1200	36	--	--	23.0	19.0	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)
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BIG SANDY RIVER BASIN--Continued

03213500 - PANTHER CREEK NEAR PANTHER, W. VA. (LAT 37 26 45 LONG 081 52 15)

OCT , 1978							
11...	1645	2.3	560	8.0	--	14.0	10.2
24...	1040	.80	--	--	14.0	11.0	--
NOV							
28...	1320	5.7	--	--	9.0	9.0	--
JAN , 1979							
18...	1305	33	--	--	--	4.0	--
FEB							
28...	1345	102	--	--	14.0	7.0	--
APR							
11...	1045	62	--	--	19.0	9.0	--
MAY							
11...	1315	28	120	8.2	--	20.0	--
22...	1310	10	--	--	21.0	16.0	--
AUG							
16...	1230	2.2	--	--	20.0	16.0	--
SEP							
11...	1545	.65	600	8.3	--	22.5	--

03213700 - TUG FORK AT WILLIAMSON, W. VA. (LAT 37 40 21 LONG 082 16 50)

OCT , 1978							
11...	1815	74	750	8.6	--	16.0	11.2
25...	1030	118	--	--	14.0	13.0	--
NOV							
29...	0950	233	--	--	5.0	7.0	--
FEB , 1979							
07...	1035	1000	--	--	2.0	--	--
MAR							
14...	0940	1870	--	8.5	7.0	10.0	--
APR							
18...	1030	1410	420	8.3	18.0	15.0	--
JUN							
27...	1240	2700	--	--	26.0	--	--
AUG							
08...	0940	393	--	--	26.0	27.0	--
SEP							
12...	1600	275	620	8.3	--	26.0	--
19...	0930	199	810	8.5	17.5	21.0	--

03213800 - PIGEON CREEK NR LENORE, W. VA. (LAT 37 47 13 LONG 082 15 44)

OCT , 1978							
23...	1320	8.7	410	--	25.0	16.0	--
NOV							
28...	1245	26	380	--	9.0	10.0	--
JAN , 1979							
04...	1150	89	529	--	--	5.0	--
FEB							
08...	1015	80	170	7.8	.0	3.0	--
MAR							
13...	1340	237	--	8.0	20.0	12.0	--
14...	1620	194	159	8.4	7.0	9.0	--
APR							
16...	1616	132	170	7.9	17.5	16.0	--
MAY							
11...	1715	73	560	8.6	30.0	24.0	--
23...	1420	41	380	7.8	21.0	20.0	--
JUN							
28...	0850	112	270	7.3	19.0	20.0	--
AUG							
09...	1030	38	--	--	24.0	24.0	--
SEP							
13...	1015	35	650	7.6	22.5	20.5	--
19...	1120	18	675	8.3	--	19.5	--

03214000 - TUG FORK NEAR KERMIT, W. VA. (LAT 37 49 05 LONG 082 23 20)

OCT , 1978							
11...	1315	156	750	8.4	--	16.0	11.6
25...	1220	127	--	--	24.5	14.0	--
NOV							
29...	1140	314	--	--	6.5	8.0	--
MAR , 1979							
14...	1300	2600	--	8.1	8.0	9.0	--
APR							
17...	1430	1960	320	7.5	20.0	--	--
JUN							
28...	1200	2620	290	7.4	29.0	20.0	--
SEP							
20...	0820	249	760	8.3	14.0	20.5	--

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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

Records collected at partial-record stations are presented in two tables. The first is a table of discharge measurements at low-flow partial-record stations and the second is a table of annual maximum stage and discharge at crest-stage stations. Discharge measurements made at miscellaneous sites for both low flow and high flow are given in a third table.

Low-flow partial-record stations

Measurements of streamflow in the area covered by this report made at low-flow partial-record stations are given in the following table. These measurements were made during periods of base flow when streamflow is primarily from ground-water storage. These measurements, when correlated with the simultaneous discharge of a nearby stream when continuous records are available, will give a picture of the low-flow potentiality of a stream. The column headed "Period of record" shows the water years in which measurements were made at the same, or practically the same, site.

Discharge measurements at low-flow partial-record stations during water year 1979

Discharge measurements at low-flow partial-record stations during water year 1996					Measurements	
Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Date	Discharge (ft ³ /s)
Monongahela River basin						
03070200	Salt Lick Creek at Rowlesburg, WV	Lat 39°21'00", long 79°39'50", Preston County, Hydrologic Unit 05020004, at timber railroad and highway bridge at Rowlesburg, and 0.2 mile upstream from mouth.	34.6	1942-69, 1973, 1975-76, 1978-79	2-6-79	24
					3-21-79	48
					4-17-79	55
					5-1-79	68
					6-14-79	11
					7-25-79	3.0
					9-13-79	9.2

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1979

						Annual maximum	
Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Date	Gage height (feet)	Dis-charge (ft ³ /s)
Monongahela River basin							
03057500	Skin Creek near Browns-ville, WV	Lat 38°58'30", long 80°26'40" Lewis County, Hydrologic Unit 05020002, 2.6 miles southeast of Brownsville, 4.7 miles south-east of Weston, and at mile 3.0.	25.7	1946-60‡, 1961-78a	12-9-78	6.78	1,390
Guyandotte River basin							
03203000	Guyandotte River at Man, WV	Lat 37°44'30", long 81°52'45", Logan County, Hydrologic Unit 05070101, on right bank at down-stream side of highway bridge at Man, 500 feet upstream from Buffalo Creek, and 0.7 mile down-stream from Huff Creek, and at mile 93.4.	762	1928-62‡, 1963-79a	6-22-79	17.33	25,600

‡ Not detected.

a Recorder chart on file in district office.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1979

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Measurements	
					Date	Discharge (ft ³ /s)
Ohio River basin						
Ohio River	Mississippi	Lat 39°53'42", long 80°48'10", Marshall County, Hydrologic Unit 05030106 at River Mile 106.7, 3.1 miles west-south- west of Moundsville, WV.	a25,300	1978	3-15-79	98,700
					3-16-79	103,000
					3-16-79	99,100
					3-16-79	101,000
					3-17-79	86,300
					3-17-79	84,600
					3-17-79	79,900
					3-18-79	70,000
					3-28-79	70,100
					3-29-79	68,400
					3-29-79	68,800
					3-29-79	68,100
Kanawha River basin						
Cranberry Creek	Piney Creek	Lat 37°48'53", long 81°11'10", Raleigh County, Hydrologic Unit 05050004, at Skelton, 10 feet upstream from culvert on private road, 20 feet from State Route 16, 2.1 miles upstream from mouth, 2.6 miles north of Beckley.	--	--	9-26-79	1.62
Cranberry Creek	Piney Creek	Lat 37°48'00", long 81°10'42", Raleigh County, Hydrologic Unit 05050004, at Sprague, 50 feet downstream from bridge on private road, 200 feet from U.S. Route 19, 1.0 miles upstream from mouth, 1.6 miles north of Beckley, and at mile 2.5.	--	--	9-26-79	3.20
Little Whitestick Creek	Cranberry Creek	Lat 37°47'14", long 81°10'51", Raleigh County, Hydrologic Unit 05050004, at Beckley, 20 feet upstream from culvert on Hancock Road, and at mile 1.0.	--	--	9-26-79	4.52

a Approximately.

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

Samples are collected at sites other than gaging stations and partial-record stations to give better areal coverage in a river basin. Such sites are referred to as miscellaneous sites.

MONONGAHELA RIVER BASIN

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CAC03)
385137079583900 - ROARING CREEK TRIB NR MABIE WV (RT 10-1) (LAT 38 51 37 LONG 079 58 39)									
APR , 1979									
20...	1025	2.8	50	5.9	8.3	6	5	--	--
385211079582900 - ROARING CREEK TRIB NR MABIE WV (RT 8B-1) (LAT 38 52 11 LONG 079 58 29)									
APR , 1979									
20...	1055	.21	240	6.3	14.0	100	97	--	--
385220079591800 - MINE DR TO ROARING CREEK TRIB NR MABIE WV (RM-3) (LAT 38 52 20 LONG 079 59 18)									
APR , 1979									
20...	1140	.03	450	4.1	10.0	210	210	--	--
385223079592700 - ROARING CREEK TRIB NR MABIE WV (RT 8F-7) (LAT 38 52 23 LONG 079 59 27)									
APR , 1979									
20...	1120	.04	190	6.2	12.0	43	25	--	--
385304079575700 - ROARING CREEK TRIB NR COALTON WV (RT 8-1) (LAT 38 53 04 LONG 079 57 57)									
APR , 1979									
20...	1000	1.6	85	6.7	6.7	32	12	--	--
385309080002400 - FLATBUSH FORK NR PUMPKINTOWN WV (2X) (LAT 38 53 09 LONG 080 00 24)									
APR , 1979									
20...	1315	2.6	130	3.7	8.0	220	220	--	--
385319080000800 - ROARING CREEK TRIB NR PUMPKINTOWN WV (RT 9-2) (LAT 38 53 19 LONG 080 00 08)									
APR , 1979									
20...	1210	.69	280	3.8	9.0	68	68	.6	30
385346079585000 - ROARING CREEK TRIB NR COALTON WV (RT 6-21) (LAT 38 53 46 LONG 079 58 50)									
APR , 1979									
20...	1521	.13	>1000	<4.0	12.0	220	220	--	--
385350079581200 - ROARING CREEK TRIB AT COALTON WV (RT 6-1) (LAT 38 53 50 LONG 079 58 12)									
APR , 1979									
20...	1315	2.7	>1000	<4.0	18.0	16	14	.5	25
385413079571800 - ROARING CREEK TRIB NR COALTON WV (RT 4-1) (LAT 38 54 13 LONG 079 57 18)									
APR , 1979									
20...	1210	.76	23	5.0	10.0	9	5	--	--

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

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MONONGAHELA RIVER BASIN--Continued

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
385137079583900 - ROARING CREEK TRIB NR MABIE WV (RT 10-1) (LAT 38 51 37 LONG 079 58 39)									
APR , 1979 20...	1.1	.8	.9	23	.2	.5	1	5.6	1.4
385211079582900 - ROARING CREEK TRIB NR MABIE WV (RT 8B-1) (LAT 38 52 11 LONG 079 58 29)									
APR , 1979 20...	22	12	.7	1	.0	1.5	7	97	.5
385220079591800 - MINE DR TO ROARING CREEK TRIB NR MABIE WV (RM-3) (LAT 38 52 20 LONG 079 59 18)									
APR , 1979 20...	47	22	1.0	1	.0	1.5	1	220	.6
385223079592700 - ROARING CREEK TRIB NR MABIE WV (RT 8F-7) (LAT 38 52 23 LONG 079 59 27)									
APR , 1979 20...	13	2.6	15	42	1.0	1.2	18	23	27
385304079575700 - ROARING CREEK TRIB NR COALTON WV (RT 8-1) (LAT 38 53 04 LONG 079 57 57)									
APR , 1979 20...	7.7	3.1	1.0	6	.1	1.0	20	18	.8
385309080002400 - FLATBUSH FORK NR PUMPKINTOWN WV (2X) (LAT 38 53 09 LONG 080 00 24)									
APR , 1979 20...	53	22	3.3	3	.1	1.3	0	400	4.7
385319080000800 - ROARING CREEK TRIB NR PUMPKINTOWN WV (RT 9-2) (LAT 38 53 19 LONG 080 00 08)									
APR , 1979 20...	14	8.1	5.7	15	.3	1.4	0	93	8.0
385346079585000 - ROARING CREEK TRIB NR COALTON WV (RT 6-21) (LAT 38 53 46 LONG 079 58 50)									
APR , 1979 20...	51	22	1.7	2	.1	.2	0	550	.6
385350079581200 - ROARING CREEK TRIB AT COALTON WV (RT 6-1) (LAT 38 53 50 LONG 079 58 12)									
APR , 1979 20...	3.2	1.9	1.2	14	.1	.6	2	36	1.5
385413079571800 - ROARING CREEK TRIB NR COALTON WV (RT 4-1) (LAT 38 54 13 LONG 079 57 18)									
APR , 1979 20...	2.5	.7	.4	8	.1	.4	4	4.7	.5

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

MONONGAHELA RIVER BASIN--Continued

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
385137079583900 - ROARING CREEK TRIB NR MABIE WV (RT 10-1) (LAT 38 51 37 LONG 079 58 39)									
APR , 1979 20...	.0	3.2	20	14	.03	.15	170	50	20
385211079582900 - ROARING CREEK TRIB NR MABIE WV (RT 8B-1) (LAT 38 52 11 LONG 079 58 29)									
APR , 1979 20...	.1	5.8	164	144	.22	.09	40	100	140
385220079591800 - MINE DR TO ROARING CREEK TRIB NR MABIE WV (RM-3) (LAT 38 52 20 LONG 079 59 18)									
APR , 1979 20...	.3	12	349	308	.47	.03	1500	40	1300
385223079592700 - ROARING CREEK TRIB NR MABIE WV (RT 8F-7) (LAT 38 52 23 LONG 079 59 27)									
APR , 1979 20...	.1	3.4	108	97	.15	.01	30	1000	20
385304079575700 - ROARING CREEK TRIB NR COALTON WV (RT 8-1) (LAT 38 53 04 LONG 079 57 57)									
APR , 1979 20...	.0	3.5	52	47	.07	.22	30	10	20
385309080002400 - FLATBUSH FORK NR PUMPKINTOWN WV (2X) (LAT 38 53 09 LONG 080 00 24)									
APR , 1979 20...	.3	17	696	523	.95	4.94	13000	6000	1900
385319080000800 - ROARING CREEK TRIB NR PUMPKINTOWN WV (RT 9-2) (LAT 38 53 19 LONG 080 00 08)									
APR , 1979 20...	.1	7.7	154	147	.21	.29	2200	780	5000
385346079585000 - ROARING CREEK TRIB NR COALTON WV (RT 6-21) (LAT 38 53 46 LONG 079 58 50)									
APR , 1979 20...	.6	23	928	680	1.26	.33	25000	5300	670
385350079581200 - ROARING CREEK TRIB AT COALTON WV (RT 6-1) (LAT 38 53 50 LONG 079 58 12)									
APR , 1979 20...	.1	3.8	57	53	.08	.42	2000	510	860
385413079571800 - ROARING CREEK TRIB NR COALTON WV (RT 4-1) (LAT 38 54 13 LONG 079 57 18)									
APR , 1979 20...	.0	3.5	18	15	.02	.04	170	100	40

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ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

MONONGAHELA RIVER BASIN--Continued

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	TEMPER- ATURE (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)	ACIDITY (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
385413079575800 - WHITES RUN AT COALTON WV (RT 5-1) (LAT 38 54 13 LONG 079 57 58)												
APR . 1979												
20...	1420	1.3	350	<4.0	17.0	56	56	--	--	14	5.1	15
385421079583700 - WHITES RUN NR COALTON WV (LAT 38 54 21 LONG 079 58 37)												
APR . 1979												
20...	1035	.64	51	6.7	10.0	11	7	--	--	2.8	.9	1.5
385505079592900 - GRASSY RUN TRIB NR NORTON WV (GT 7-2) (LAT 38 55 05 LONG 079 59 29)												
APR . 1979												
20...	1230	.14	<35	4.7	11.0	8	4	--	--	1.8	.8	.4
385513079584400 - GRASSY RUN TRIB NR NORTON WV (GT 8-5) (LAT 38 55 13 LONG 079 58 44)												
APR . 1979												
20...	1130	.67	475	2.9	13.4	88	88	--	--	22	8.0	1.6
385517079583300 - MINE DR TO GRASSY RUN TRIB NR NORTON WV (GT 6-1) (LAT 38 55 17 LONG 079 58 33)												
APR . 1979												
20...	1030	3.4	1520	2.6	11.8	340	340	--	--	90	27	2.9
385524079564700 - ROARING CREEK TRIB NR NORTON WV (RT 2-1) (LAT 38 55 24 LONG 079 56 47)												
APR . 1979												
20...	1630	1.6	<50	6.2	9.5	6	2	--	--	1.2	.8	.6
385535079574500 - GRASSY RUN TRIB NR NORTON WV (GT 1-1) (LAT 38 55 35 LONG 079 57 45)												
APR . 1979												
20...	1515	.28	1750	2.6	11.0	360	360	5.5	273	89	33	.8
385538079574800 - MINE DR TO GRASSY RUN TRIB NR NORTON WV (GT 1-3) (LAT 38 55 38 LONG 079 57 48)												
APR . 1979												
20...	1400	2.2	1700	2.7	12.0	340	340	7.2	358	90	27	1.7
385541079574400 - MINE DR TO GRASSY RN TRIB NR NORTON WV (GT 1-10) (LAT 38 55 41 LONG 079 57 44)												
APR . 1979												
20...	1600	1.2	1600	2.8	11.0	350	350	5.3	263	87	32	.9
385542079564700 - ROARING CREEK TRIB NR NORTON WV (RT 1-1) (LAT 38 55 42 LONG 079 56 47)												
APR . 1979												
20...	1050	.77	<50	6.1	7.0	13	8	--	--	4.2	.7	.5
385558079574800 - GRASSY RUN TRIB AT NORTON WV (GT 1-9) (LAT 38 55 58 LONG 079 57 48)												
APR . 1979												
20...	1305	3.7	1625	2.8	14.0	310	310	6.2	308	81	27	1.4
393050080153300 - LAUREL RUN NR FARMINGTON WV (LAT 39 30 50 LONG 080 15 33)												
DEC . 1978												
09...	1130	28	195	7.3	8.2	85	33	--	--	23	6.6	9.5

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

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MONONGAHELA RIVER BASIN--Continued

DATE	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
385413079575800 - WHITES RUN AT COALTON WV (RT 5-1) (LAT 38 54 13 LONG 079 57 58)												
APR . 1979 20...	36	.9	.8	0	92	22	.1	5.9	157	163	.21	.56
385421079583700 - WHITES RUN NR COALTON WV (LAT 38 54 21 LONG 079 58 37)												
APR . 1979 20...	22	.2	.6	4	5.7	2.2	.0	3.9	24	20	.03	.04
385505079592900 - GRASSY RUN TRIB NR NORTON WV (GT 7-2) (LAT 38 55 05 LONG 079 59 29)												
APR . 1979 20...	9	.1	.5	4	6.8	.6	.0	4.1	21	18	.03	.01
385513079584400 - GRASSY RUN TRIB NR NORTON WV (GT 8-5) (LAT 38 55 13 LONG 079 58 44)												
APR . 1979 20...	4	.1	.9	0	160	2.1	.2	8.0	268	217	.36	.48
385517079583300 - MINE DP TO GRASSY RUN TRIB NR NORTON WV (GT 6-1) (LAT 38 55 17 LONG 079 58 33)												
APR . 1979 20...	2	.1	.4	0	710	4.3	.7	28	1130	949	1.54	10.4
385524079564700 - ROARING CREEK TRIB NR NORTON WV (RT 2-1) (LAT 38 55 24 LONG 079 56 47)												
APR . 1979 20...	15	.1	.8	4	6.7	.7	.0	3.7	16	18	.02	.07
385535079574500 - GRASSY RUN TRIB NR NORTON WV (GT 1-1) (LAT 38 55 35 LONG 079 57 45)												
APR . 1979 20...	0	.0	.6	0	600	.6	.8	24	882	786	1.20	.68
385538079574800 - MINE DP TO GRASSY RUN TRIB NR NORTON WV (GT 1-3) (LAT 38 55 38 LONG 079 57 48)												
APR . 1979 20...	1	.0	.4	0	640	1.8	.8	24	985	857	1.34	5.85
385541079574400 - MINE DP TO GRASSY RN TRIB NR NORTON WV (GT 1-10) (LAT 38 55 41 LONG 079 57 44)												
APR . 1979 20...	1	.0	1.4	0	570	.6	.8	24	841	761	1.14	2.72
385542079564700 - ROARING CREEK TRIB NR NORTON WV (RT 1-1) (LAT 38 55 42 LONG 079 56 47)												
APR . 1979 20...	7	.1	.4	5	7.6	.6	.0	3.4	27	20	.04	.06
385558079574800 - GRASSY RUN TRIB AT NORTON WV (GT 1-9) (LAT 38 55 58 LONG 079 57 48)												
APR . 1979 20...	1	.0	.4	0	590	1.3	.7	25	913	785	1.24	9.19
393050030153300 - LAUREL RUN NR FARMINGTON WV (LAT 39 30 50 LONG 080 15 33)												
DEC . 1978 09...	19	.5	2.0	52	43	1.6	.1	6.4	128	124	.17	9.68

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

MONONGAHELA RIVER BASIN--Continued

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	ZINC, DIS- SOLVED (UG/L AS ZN)
385413079575800 - WHITES RUN AT COALTON WV (RT 5-1) (LAT 38 54 13 LONG 079 57 58)											
APR . 1979 20...	2400	0	10	<10	20	5300	100	440	<.5	0	130
385421079583700 - WHITES RUN NR COALTON WV (LAT 38 54 21 LONG 079 58 37)											
APR . 1979 20...	50	0	10	10	0	100	100	10	.5	0	20
385505079592900 - GRASSY RUN TRIB NR NORTON WV (GT 7-2) (LAT 38 55 05 LONG 079 59 29)											
APR . 1979 20...	50	--	--	--	--	150	--	10	--	--	--
385513079584400 - GRASSY RUN TRIB NR NORTON WV (GT 8-5) (LAT 38 55 13 LONG 079 58 44)											
APR . 1979 20...	3900	--	--	--	--	10000	--	370	--	--	--
385517079583300 - MINE DR TO GRASSY RUN TRIB NR NORTON WV (GT 6-1) (LAT 38 55 17 LONG 079 58 33)											
APR . 1979 20...	26000	--	--	--	--	59000	--	800	--	--	--
385524079564700 - ROARING CREEK TRIB NR NORTON WV (RT 2-1) (LAT 38 55 24 LONG 079 56 47)											
APR . 1979 20...	110	--	10	20	--	190	300	20	<.5	--	20
385535079574500 - GRASSY RUN TRIB NR NORTON WV (GT 1-1) (LAT 38 55 35 LONG 079 57 45)											
APR . 1979 20...	15000	--	0	20	--	14000	0	2200	<.5	--	550
385538079574800 - MINE DR TO GRASSY RUN TRIB NR NORTON WV (GT 1-3) (LAT 38 55 38 LONG 079 57 48)											
APR . 1979 20...	20000	--	--	--	--	43000	--	630	--	--	--
385541079574400 - MINE DR TO GRASSY RN TRIB NR NORTON WV (GT 1-10) (LAT 38 55 41 LONG 079 57 44)											
APR . 1979 20...	15000	--	10	20	--	23000	100	210	<.5	--	1100
385542079564700 - ROARING CREEK TRIB NR NORTON WV (RT 1-1) (LAT 38 55 42 LONG 079 56 47)											
APR . 1979 20...	40	--	--	--	--	10	--	0	--	--	--
385558079574800 - GRASSY RUN TRIB AT NORTON WV (GT 1-9) (LAT 38 55 58 LONG 079 57 48)											
APR . 1979 20...	18000	--	10	20	--	31000	0	1900	<.5	--	630
393050080157300 - LAUREL RUN NR FARMINGTON WV (LAT 39 30 50 LONG 080 15 33)											
DEC . 1978 09...	20	1	10	3	10	50	0	20	<.5	0	0

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES

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GRAVE CREEK BASIN

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
------	------	---	--	--	--

395259080373701 - MIDDLE GRAVE CR AB KNOXVILLE, WV (LAT 39 52 59 LONG 080 37 37.01)

JUN , 1979					
26...	1315	.39	1100	1200	2000
JUL					
17...	1345	.14	1100	1200	1100
AUG					
27...	1450	14	8100	15000	7000

395318080381701 - GOSNEY RN AT MOUTH AT KNOXVILLE, WV (LAT 39 53 18 LONG 080 38 17.01)

JUN , 1979					
26...	1230	.11	390	600	460
JUL					
17...	1300	.04	4000	8500	5500
AUG					
27...	1440	E.01	1100	7200	6000

395320080381001 - WHITNEY RN AT MOUTH AT KNOXVILLE, WV (LAT 39 53 20 LONG 080 38 10.01)

JUN , 1979					
26...	1245	.28	0	210	300
JUL					
17...	1320	.07	100	430	890
AUG					
27...	1445	E.01	970	1600	2800

GROUND-WATER RECORDS

GROUND-WATER LEVELS

BERKELEY COUNTY

392725077582401. Local number, 20-5-7.
 LOCATION.--Lat 39°27'35", long 77°58'24", Hydrologic Unit 02070004, at John Street and Porter Avenue, Martinsburg.
 Owner: Martinsburg Mills, Inc.
 AQUIFER.--Beekmantown Limestone of Lower Ordovician Age.
 WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in (0.20 m), depth 250 ft (76.2 m), cased with steel to 10 ft (3.05 m).
 DATUM.--Land-surface datum is about 445 ft (136 m) National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, 3.3 ft (1.01 m) above land-surface datum.
 REMARKS.--No water-level record Dec. 25 to Jan. 24, Feb. 28 to Mar. 5.
 PERIOD OF RECORD.--November 1956 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level, *23.00 ft (7.01 m) below land-surface datum, June 24, 1972; lowest, 68.45 ft (20.86 m) below land-surface datum, Dec. 7, 1969.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
 NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	45.77	51.06	50.84	*45.80	34.84	*28.80	33.23	37.89	35.45	37.51	40.51	41.55
10	46.95	51.56	47.84	*46.20	35.44	30.97	33.77	38.68	36.63	39.09	41.61	36.34
15	46.15	52.71	48.04	*47.00	35.83	32.13	34.82	37.89	36.38	40.09	40.08	38.52
20	47.75	51.36	48.65	*47.75	35.97	33.30	35.89	37.64	36.40	40.70	41.87	39.91
25	48.96	52.82	47.60	31.20	28.43	32.92	36.75	36.42	37.89	37.69	42.93	36.54
FOM	50.14	50.85	*46.50	33.64	*26.20	33.96	37.27	35.76	38.94	39.39	39.92	38.33
WTR YR 1979	HIGH	25.08	FEB 26	LOW	53.08	NOV 26						

BRAXTON COUNTY

384003080462601. Local number, 34-2-15.
 LOCATION.--Lat 38°40'03", long 80°46'26", Hydrologic Unit 05050007, at Kanawha Street, Gassaway.
 Owner: Claude Cunningham.
 AQUIFER.--Conemaugh Group of Upper Pennsylvanian Age.
 WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 100 ft (30.5 m), cased with steel.
 DATUM.--Land-surface datum is about 1,100 ft (335 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.92 ft (0.59 m) above land-surface datum.
 PERIOD OF RECORD.--August 1971 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 72.28 ft (22.03 m) below land-surface datum, Mar. 7, 1973; lowest measured, 74.88 ft (22.82 m) below land-surface datum, Aug. 11, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1978	73.73	JAN 03, 1979	73.33	APR 04, 1979	73.28	JUL 04, 1979	73.68
11	73.78	10	73.28	11	73.26	11	73.69
18	73.82	17	73.21	18	73.26	18	73.71
25	73.83	24	73.23	25	73.33	25	73.71
NOV 01	73.83	31	73.31	MAY 02	73.38	AUG 01	73.71
08	73.84	FEB 07	73.36	09	73.48	08	73.72
15	73.85	14	73.41	16	73.56	15	73.73
22	73.85	21	73.42	23	73.58	22	73.70
29	73.78	28	72.94	30	73.58	29	73.69
DEC 06	73.58	MAR 07	73.08	JUN 06	73.56	SEP 05	73.67
13	73.24	14	73.13	13	73.56	12	73.65
20	73.47	21	73.19	20	73.63	19	73.68
27	73.41	28	73.23	27	73.65	26	73.65

GILMER COUNTY

385604080495901. Local number, 33-3-1.
 LOCATION.--Lat 38°56'04", long 80°49'59", Hydrologic Unit 05030203, at Glenville State College Campus, Glenville.
 Owner: Glenville State College.
 AQUIFER.--Upper part of Conemaugh Formation of Upper Pennsylvanian Age.
 WELL CHARACTERISTICS.--Dug unused water-table well, diameter 3 ft (0.91 m), depth 25 ft (7.62 m), cased with concrete tile.
 DATUM.--Land-surface datum is about 820 ft (250 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of concrete cover at land-surface datum.
 REMARKS.--West Virginia index well.
 PERIOD OF RECORD.--October 1953 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.58 (414 m) below land-surface datum, Jan. 26, 1958; lowest measured, 18.75 ft (5.72 m) below land-surface datum, Nov. 30, 1953.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1978	16.80	JAN 02, 1979	14.48	APR 02, 1979	15.39	JUL 16, 1979	16.66
09	17.02	08	14.60	09	14.95	20	16.78
16	17.19	15	14.87	16	15.33	30	16.91
27	17.10	22	14.71	23	15.92	AUG 06	16.97
30	17.08	29	15.11	30	15.78	13	16.58
NOV 06	17.12	FEB 05	15.72	MAY 07	15.76	20	16.24
13	17.22	12	16.00	28	15.65	27	15.38
20	16.54	20	15.13	JUN 04	15.69	SEP 03	15.08
27	16.31	26	14.41	11	15.95	10	15.23
DEC 04	14.86	MAR 05	14.46	18	16.14	17	15.93
11	14.88	12	15.30	25	16.11	24	15.40
18	15.50	20	15.62	JUL 02	16.18		
22	14.84	26	15.51	09	16.42		

* Estimated.

GRANT COUNTY

391652079181401.

LOCATION.--Lat 39°16'52", long 79°18'14", Hydrologic Unit 02070002, about 200 ft (61.0 m) north of U.S. Route 50, about 3.5 miles (5.6 km) west of Mt. Storm.

Owner: Buffalo Coal Company.

AQUIFER.--Thin bed of coal in the Conemaugh Group of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 24 ft (7.32 m), cased with plastic to 23 ft (7.01 m).

DATUM.--Land-surface datum is about 2,890 ft (881 m) National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, 1.5 ft (0.46 m) above land-surface datum.

REMARKS.--Well is near active strip mine. No water-level record Jan. 24 to Mar. 8, Aug. 7-23.

PERIOD OF RECORD.--June 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.33 ft (1.93 m) below land-surface datum, Mar. 11-15, 1979; lowest, 13.18 ft (4.02 m) below land-surface datum, Nov. 16, 17, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.58	12.33	11.01	7.66	*8.55	*6.65	7.18	7.43	8.46	10.20	10.95	9.17
10	11.87	12.48	9.44	7.45	*8.75	6.45	6.87	7.48	8.57	10.42	*10.99	8.60
15	11.80	12.64	8.44	7.57	*8.90	6.33	6.90	7.55	8.88	10.57	*11.02	8.31
20	11.87	12.62	8.31	7.80	*7.65	6.38	7.20	7.69	9.28	10.68	*11.00	8.48
25	12.00	12.22	7.64	*7.66	*7.12	6.54	7.37	8.39	9.61	10.78	10.92	8.75
FOU	12.44	12.02	7.94	*8.25	*6.92	7.18	7.41	8.46	9.96	10.87	9.67	8.83

WTR YR 1979 HIGH 6.33 MAR 12 AND OTHERS LOW 12.64 NOV 15

GREENBRIER COUNTY

374804080174001. Local number, 45-8-2.

LOCATION.--Lat 37°48'04", long 80°17'40", Hydrologic Unit 05050003, at Fish Culture Station, U.S. Fish and Wildlife Service Hatchery, White Sulphur Springs.

Owner: U.S. Government.

AQUIFER.--Marcellus Formation and Hamilton Formation of Middle Devonian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 61 ft (18.6 m), cased with steel.

DATUM.--Land-surface datum is about 1,875 ft (572 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.9 ft (0.27 m) above land-surface datum.

PERIOD OF RECORD.--November 1953 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.80 ft (0.85 m) below land-surface datum, Mar. 16, 1955; lowest measured, 7.77 ft (2.37 m) below land-surface datum, Sept. 28, Oct. 5, 1968.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1978	5.94	JAN 06, 1979	5.50	APR 07, 1979	5.54	JUL 07, 1979	6.08
14	5.71	13	5.51	14	5.67	14	5.94
21	5.81	20	5.52	21	5.76	21	5.95
28	5.72	27	5.51	28	5.27	28	5.72
NOV 04	5.72	FEB 03	5.78	MAY 05	5.62	AUG 04	5.95
11	5.76	10	5.83	12	5.76	11	6.20
18	5.63	17	5.24	19	5.50	18	6.00
25	5.68	24	4.60	26	5.22	25	6.01
DEC 02	5.42	MAR 03	5.33	JUN 02	5.82	SEP 01	6.02
09	4.76	10	5.63	09	5.85	08	5.80
16	5.44	17	5.72	16	5.93	15	5.94
23	5.16	24	4.92	23	5.60	22	5.04
30	5.26	31	5.67	30	5.84	29	5.81

HAMPSHIRE COUNTY

391257078404601. Local number, 23-6-46.

LOCATION.--Lat 39°12'57", long 78°40'46", Hydrologic Unit 02070003, about 4 miles (6.4 km) south of Augusta on State Route 7.

Owner: Loring Hott.

AQUIFER.--Hampshire Formation of Upper Devonian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 37 ft (11.3 m), cased with tile. DATUM.--Land-surface datum is about 1,400 ft (427 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing at land-surface datum.

REMARKS.--No water-level record Jan. 22, 23, Feb. 13, 14, Mar. 6, 7, 28-31, Apr. 1-16, 29, 30, June 30, July 1, 2, 5-7, Aug. 13-15.

PERIOD OF RECORD.--February 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.30 ft (0.09 m) below land-surface datum. Sept. 25, 1975; lowest, *16.69 ft (5.09 m) below land surface datum, July 15, 1973.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
NOON VALUES FROM GRAPHIC RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	13.18	13.57	10.63	6.32	10.68	.76	*5.60	10.69	2.09	*9.60	10.93	12.47
10	13.20	13.71	1.93	10.31	11.87	3.36	*7.60	11.28	.71	10.92	11.52	7.40
15	12.99	13.78	10.33	11.75	12.26	7.59	*8.40	11.11	4.94	1.27	*9.20	10.99
20	13.05	13.52	11.75	11.31	7.06	10.59	10.44	11.37	10.18	9.73	11.48	11.74
25	13.27	13.41	1.52	.84	.89	.88	11.24	1.24	11.42	6.50	12.00	1.07
FOU	13.65	10.62	10.49	5.55	1.00	*3.40	*9.03	7.71	*12.00	8.73	12.34	8.88

WTR YR 1979 HIGH .71 JUN 10 LOW 13.80 NOV 16

* Estimated.

GROUND-WATER LEVELS

HARDY COUNTY

385714078441301. Local number, 25-4-5.
 LOCATION.--Lat 38°57'14", long 78°44'13", Hydrologic Unit 02070003, about 3 miles (4.8 km) east of Lost River near entrance to Trout Pond Recreation Area.
 Owner: U.S. Forest Service
 AQUIFER.--Helderberg Group of Early Devonian Age and Tonoloway Formation of Late Silurian Age.
 WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 460 ft (140 m), cased with steel to 190 ft (57.9 m).
 DATUM.--Land-surface datum is about 1,920 ft (585 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of well casing, 0.9 ft (0.27 m) above land-surface datum.
 REMARKS.--Crooked well bore causes drag on float tape.
 PERIOD OF RECORD.--March 1968 to November 1976 (water-level recorder), November 1976 to current year (periodic water-level measurements).
 EXTREMES FOR PERIOD OF RECORD.--Highest water level, *263.00 ft (80.16 m) below land-surface datum, July 15, 1972; lowest, *274.15 ft (83.56 m) below land-surface datum November 6, 1970.
 NOTE.--Water-level measurements Oct. 31, 1978 and Apr. 17, 1979, 270.10 ft below land-surface datum.

LEWIS COUNTY

390553080280802. Local number, 16-1-9.
 LOCATION.--Lat 39°05'53", long 80°28'08", Hydrologic Unit 05020002, at Jackson's Mill State 4-H Camp, Jackson's Mill.
 Owner: West Virginia University.
 AQUIFER.--Conemaugh and Allegheny Formations of Upper and Middle Pennsylvanian Age.
 WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 12 in (0.30 m), depth 122 ft (37.2 m), cased.
 DATUM.--Land-surface datum is about 1,020 ft (311 m) National Geodetic Vertical Datum of 1929. Measuring point: Drilled hole in steel plate covering casing at land-surface datum.
 REMARKS.--Water level affected by stage of West Fork River.
 PERIOD OF RECORD.--May 1961 to May 1976 (weekly water-level measurements), October 1977 to current year (periodic water-level measurements).
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.88 ft (2.71 m) below land-surface datum, Dec. 30, 1969; lowest measured, 24.80 ft (7.56 m) below land-surface datum, Oct. 6, 1977.
 NOTE.--Water-level measurement Oct. 30, 1978, 21.98 ft below land-surface datum. Water-level measurement Apr. 11, 1979, 19.30 ft below land-surface datum.

MARION COUNTY

393101080150501.
 LOCATION.--Lat 39°31'01", long 80°15'05", Hydrologic Unit 05020003, about 1,250 ft (381 m) north of State Route 91 and 100 ft (30.5 m) west of State Route 15 in Farmington.
 Owner: State of W. Va.
 AQUIFER.--Open to a mine in Pittsburgh Coal of Monongahela Group of Upper Pennsylvanian Age.
 WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 266 ft (81.1 m), cased with steel to 252 ft (76.8 m).
 DATUM.--Land-surface datum is about 970 ft (296 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of steel plate at land-surface datum.
 REMARKS.--Well formerly used by U.S. Bureau of Mines to back fill abandoned mine with shale slurry. Water level affected by mine pumpage. No water-level record Oct. 1 to Dec. 19, Jan. 25, Feb. 10, 25, Mar. 25, Apr. 15, May 20, June 10, July 15, 25, Aug. 5, Sept. 10, 15. Some unpublished daily values also missing.
 PERIOD OF RECORD.--Periodic water-level measurements April to December 1978, daily water-level record December 1978 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 192.20 ft (58.58 m) below land-surface datum, Sept. 15, 1979; lowest measured, 219.47 ft (66.89 m) below land-surface datum, May 12, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
 DAILY WATER-LEVEL MEASUREMENTS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5		---	---	214.11	213.05	209.74	202.55	200.00	198.00	196.48	*194.60	193.14
10		---	---	213.78	*213.20	207.45	202.09	199.65	*197.90	195.95	194.44	*193.25
15		---	---	213.61	212.32	206.80	*201.61	199.45	197.75	*195.77	194.17	*192.20
20		---	213.48	212.68	212.67	205.37	201.45	*198.97	197.28	195.43	193.97	192.68
25		---	*213.66	*213.00	*211.89	*204.46	200.70	198.40	197.13	*195.11	193.75	192.60
EOM		---	*213.80	212.60	212.29	203.35	200.52	198.43	196.30	194.81	193.35	192.43
WTR YR 1979	HIGH	192.20	SEP 15	LOW	215.86	NOV 13						

393057080161901.
 LOCATION.--Lat 39°30'57", long 80°16'19", Hydrologic Unit 05020003, on State Route 250/9, 1.2 miles (1.9 km) west of Farmington.
 Owner: Richard White.
 AQUIFER.--Dunkard Group of Permian Age.
 WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 74 ft (22.6 m), cased with steel to 6 ft (1.83 m).
 DATUM.--Land-surface datum is about 1,140 ft (347 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, flush with instrument shelf 0.3 ft (0.09 m) above land-surface datum.
 REMARKS.--No water-level record Dec. 21 to Feb. 5, Mar. 5-31, May 12 to June 11, June 13 to July 11 and Aug. 19 to Sept. 30.
 PERIOD OF RECORD.--June 1977 to December 1977 (periodic water-level measurements), December 1977 to current year (water-level recorder).
 EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.89 ft (3.93 m) below land-surface datum, Jan. 26, 1978; lowest, 51.95 ft (15.83 m) below land-surface datum, July 23, 1979.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 to SEPTEMBER 1979
 NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	49.69	46.61	25.80	*35.80	*41.34	*14.00	38.10	42.97	*42.60	*44.80	46.90	*39.20
10	50.97	48.63	24.88	*35.20	42.73	*40.10	27.36	43.02	*43.60	*50.00	49.46	*41.00
15	46.54	49.97	38.06	*31.60	45.05	*41.40	41.93	*39.80	*45.20	51.07	46.81	*43.75
20	49.57	39.91	41.00	*34.80	40.04	*41.80	44.73	*44.70	*46.50	51.72	*43.40	*44.60
25	51.02	42.79	*33.20	*30.80	23.75	*40.00	45.42	*37.00	*47.10	49.72	*42.15	*37.00
EOM	42.73	34.31	*37.20	*36.20	33.96	*39.00	43.20	*38.80	*48.20	39.58	*39.80	*33.80
WTR YR 1979	HIGH	14.00	MAR 5	LOW	51.89	JUL 22						

* Estimated.

MARSHALL COUNTY

395608080452301. Local number, 4-3-8.

LOCATION.--Lat 39°56'08", long 80°45'23", Hydrologic Unit 05030106, on U.S. Highway 250, Glendale.

Owner: Triangle PWC, Inc.

AQUIFER.--Gravel.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 10 in (0.25 m), depth 100 ft (30.5 m), cased.

DATUM.--Land-surface datum is about 650 ft (198 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 4 ft (1.22 m) below land-surface datum.

REMARKS.--Well depth 94 ft (28.7 m), Apr. 30, 1980.

PERIOD OF RECORD.--June 1950 to August 1965 (water-level recorder), January 1967 to August 1968 (water-level

recorder), August 1968 to current year (weekly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 54.68 ft (16.67 m) below land-surface datum, Jan. 31, 1952;

lowest, 73.80 ft (22.49 m) below land-surface datum, Nov. 8, Nov. 22, 1957.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1978	62.12	JAN 03, 1979	60.35	APR 04, 1979	59.12	JUL 05, 1979	61.17
11	62.20	10	60.30	11	58.86	12	61.35
18	62.30	17	60.52	18	59.14	19	61.14
25	62.17	24	60.20	25	59.33	24	60.70
NOV 01	62.08	31	60.12	MAY 02	59.55	31	60.75
08	61.95	FEB 06	60.32	09	59.92	AUG 05	60.79
15	61.58	13	60.80	16	60.29	15	60.89
22	61.35	20	60.17	23	60.51	23	60.69
29	61.25	27	59.80	30	60.36	29	60.31
DEC 06	61.27	MAR 07	58.56	JUN 06	60.65	SEP 05	60.51
13	60.70	14	58.00	13	60.78	12	60.66
20	60.60	21	58.82	20	60.87	18	60.48
27	60.55	28	59.36	27	60.98	25	60.47

MASON COUNTY

385450082064601. Local number, 38-3-53.

LOCATION.--Lat 38°54'50", long 82°06'46", Hydrologic Unit 05030202, 4 miles (6.4 km) north of Pt. Pleasant on State Route 62.

Owner: West Virginia University, Ohio Valley Agricultural Experiment Station.

AQUIFER.--Alluvial sand and gravel.

WELL CHARACTERISTICS.--Drilled water-table irrigation well, diameter 12 in (0.30 m), depth 73 ft (22.3 m), cased with steel to 61 ft (18.6 m), screened 61-73 ft (18.6 m-22.3 m).

DATUM.--Land-surface datum is about 600 ft (183 m) National Geodetic Vertical Datum of 1929. Measuring point:

Edge of pump housing above hole on east side of pump, 1.4 ft (0.43 m) above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.60 ft (10.85 m) below land-surface datum,

Apr. 27, 1979; lowest measured, 42.54 ft (12.97 m) below land-surface datum, Jan. 16, 1970.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06, 1978	39.89	JAN 05, 1979	39.50	APR 06, 1979	35.91	JUL 06, 1979	36.01
13	39.97	12	39.08	13	35.78	13	36.05
20	40.02	19	39.06	20	35.66	20	36.19
27	40.06	26	38.76	27	35.60	27	36.10
NOV 03	40.10	FEB 02	38.51	MAY 04	35.70	AUG 03	36.28
10	40.14	09	38.32	11	35.73	10	36.39
17	40.20	16	38.28	18	35.75	17	36.52
24	40.15	23	37.92	25	35.70	31	36.51
DEC 01	40.30	MAR 02	37.70	JUN 01	35.77	SEP 07	36.55
08	40.36	09	37.10	08	35.80	14	36.55
15	40.26	16	36.64	15	35.79	21	36.56
22	39.65	23	36.04	22	35.90	28	36.54
29	39.64	30	36.00	29	35.98		

385451082062001. Local number, 38-3-54.

LOCATION.--Lat 38°54'51", long 82°06'20", Hydrologic Unit 05030202, about 0.5 mile (0.8 km) east of intersection of State Route 62 and Secondary State Route 13.

Owner: West Virginia University, Ohio Valley Agricultural Experiment Station.

AQUIFER.--Conemaugh Formation of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 131 ft (39.9 m), cased with steel to 60 ft (18.3 m).

DATUM.--Land-surface datum is about 615 ft (187 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 3.0 ft (0.91 m) above land-surface datum.

REMARKS.--Water-level record doubtful May 2 to June 19.

PERIOD OF RECORD.--November 1959 to January 1960 (weekly water-level measurements), January 1960 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.28 ft (7.10 m) below land-surface datum, June 12-14, 1975;

lowest, 26.20 ft (7.99 m) below land surface datum, Jan. 1, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
NOON VALUES FROM GRAPHIC RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	25.10	25.18	25.05	24.29	23.87	23.60	23.54	23.73	23.64	23.76	23.90	23.77
10	25.15	25.19	24.84	24.16	23.85	23.53	23.55	23.79	23.66	23.80	23.94	23.82
15	25.11	25.23	24.75	24.10	23.84	23.51	23.56	23.74	23.75	23.80	23.90	23.83
20	25.12	25.17	24.65	24.05	23.87	23.53	23.65	23.75	23.80	23.88	23.87	23.87
25	25.15	25.17	24.47	23.91	23.82	23.48	23.69	23.65	23.69	23.90	23.80	23.72
FOM	25.15	25.13	24.39	23.88	23.72	23.54	23.72	23.65	23.73	23.83	23.76	23.69
WTR YR 1979	HIGH	23.48	MAR 25	LOW	25.23	NOV 15						

GROUND-WATER LEVELS

MERCER COUNTY

372149081055001. Local number, 48-5-1.

LOCATION.--Lat 37°21'49", long 81°05'50", Hydrologic Unit 05050002, at Princeton Water Service, Company No. 1 well, Princeton.

Owner: West Virginia Service Company

AQUIFER.--Sandstone and shale of Hinton Group of Upper Mississippian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 249 ft (75.9 m), cased.

DATUM.--Land-surface datum is about 2,387 ft (728 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing extension, 5.50 ft (1.68 m) above land-surface datum. Prior to Sept. 1975 measuring point was top of casing at land-surface datum.

REMARKS.--Water level affected by nearby pumping. Well flows at times.

PERIOD OF RECORD.--March 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.0 ft (0.00 m) flowing at land-surface datum, many days since 1968; lowest measured, 90.58 ft (27.61 m) below land-surface datum, Dec. 10, 1969.

CORRECTIONS.--Corrected figures of water level for water years 1977, 1978, superseding those published in WRD W. Va. 1977, 1978, are given herein.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEARS OCTOBER 1976 TO SEPTEMBER 1978

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
SEP 07, 1977	16.07	DEC 14, 1977	19.59	MAR 22, 1978	0.00	JUN 28, 1978	0.00
14	15.00	21	18.17	29	0.00	JUL 05	0.00
21	14.88	28	19.00	APR 05	0.00	12	0.00
28	13.66	JAN 04, 1978	20.02	12	0.00	19	0.00
OCT 05	14.21	11	21.90	19	0.00	26	0.00
12	11.58	18	22.98	26	0.00	AUG 02	0.00
19	11.10	25	21.11	MAY 03	0.00	09	0.00
26	14.02	FEB 01	19.86	10	0.00	16	0.00
NOV 02	15.84	08	16.93	17	0.00	23	0.00
09	19.78	15	15.19	24	0.00	30	0.00
16	21.86	22	11.95	31	0.00	SEP 06	0.00
23	25.98	MAR 01	7.89	JUN 07	0.00	13	0.00
30	22.89	08	4.07	14	0.00	20	0.00
DEC 07	21.07	15	2.02	21	0.00	27	0.18

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1978	0.16	JAN 03, 1979	0.00	APR 04, 1979	0.00	JUL 04, 1979	0.00
11	0.16	10	0.00	11	0.00	11	0.00
18	0.14	17	0.00	18	0.00	18	0.00
25	1.10	24	0.00	25	0.00	25	0.00
NOV 01	1.04	30	0.00	MAY 02	0.00	AUG 01	0.00
08	0.82	FEB 07	0.00	09	0.00	15	0.74
15	0.79	14	0.00	16	0.00	22	1.99
22	0.77	21	0.00	23	0.00	29	3.10
29	1.04	28	0.00	30	0.00	SEP 05	3.14
DEC 06	1.25	MAR 07	0.00	JUN 06	0.00	12	3.18
13	0.00	14	0.00	13	0.00	19	1.53
20	0.15	21	0.00	20	0.00		
27	0.17	28	0.00	27	0.00		

MINERAL COUNTY

392114079081101. Local number, 22-5-23.

LOCATION.--Lat 39°21'14", long 79°08'11", Hydrologic Unit 02070002, 2.2 miles (3.5 km) north of U.S. Route 50 on State Route 42 at Sulphur City near Elk Garden.

Owner: Gerald Whisner.

AQUIFER.--Conemaugh Formation of Late Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 37 ft (11.3 m), cased with steel.

DATUM.--Land-surface datum is about 2,480 ft (756 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 0.7 ft (0.21 m) above land-surface datum.

REMARKS.--Well flows at times. Water level affected by nearby pumpage at times.

PERIOD OF RECORD.--August 1968 to October 1976 (weekly water-level measurements), May 1977 to current year (periodic water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, +0.69 ft (0.21 m) above land-surface datum, many days since 1968; lowest measured, 10.81 ft (3.29 m) below land-surface datum, Oct. 29, 1968.

NOTE.--Water-level measurement Oct. 3, 1978, 3.82 ft below land-surface datum. Water-level measurement Apr. 18, 1979, 0.50 ft above land-surface datum.

MONONGALIA COUNTY

394006080194801. Local number, 9-1-47.

LOCATION.--Lat 39°40'06", long 80°19'48", Hydrologic Unit 05020005, 1 mile (1.6 km) east of Wadestown on State Route 7.

Owner: Howard Shriver.

AQUIFER.--Dunkard Group of Permian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 65 ft (19.8 m), cased with steel.

DATUM.--Land-surface datum is about 1,060 ft (323 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.2 ft (0.37 m) above land-surface datum.

PERIOD OF RECORD.--July 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.83 ft (1.78 m) below land-surface datum, Dec. 18, 1975; lowest measured, 11.35 ft (3.46 m) below land-surface datum, Aug. 6, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1978	7.91	JAN 02, 1979	7.14	APR 03, 1979	7.30	JUL 03, 1979	8.37
10	7.89	09	7.15	10	7.29	10	8.38
17	7.88	16	7.16	17	7.70	17	8.40
24	7.85	23	6.96	23	7.90	23	8.49
31	8.10	30	7.20	MAY 01	7.65	31	9.15
NOV 07	8.09	FEB 06	7.24	08	7.88	AUG 07	9.41
14	8.31	13	7.82	15	8.25	14	8.79
21	8.11	20	7.90	22	8.49	21	8.57
28	8.10	27	6.79	29	8.29	28	8.11
DEC 05	8.09	MAR 06	6.89	JUN 05	7.90	SEP 04	8.29
12	8.31	13	7.62	12	8.17	11	8.26
19	8.37	20	7.56	19	8.38	18	8.24
26	7.34	27	7.60	26	8.37	25	8.11

392923079571801. Local number, 9-7-33.

LOCATION.--Lat 39°29'23", long 79°57'18", Hydrologic Unit 05020003, 1 mile (1.6 km) northwest of Halleck on Secondary State Route 79.

Owner: Paul H. Price.

AQUIFER.--Buffalo-Mahoning Sandstone of Conemaugh Formation of Upper Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 141 ft (43.0 m), cased with steel to 21 ft (6.40 m).

DATUM.--Land-surface datum is about 1,850 ft (564 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, flush with shelter floor, 0.35 ft (0.11 m) above land-surface datum.

REMARKS.--No water-level record Dec. 4-21.

PERIOD OF RECORD.--March 1953 to May 1961 (monthly water-level measurements), May 1961 to May 1962 (water-level recorder), May 1962 to September 1978 (monthly water-level measurements), September 1978 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.95 ft (12.48 m) below land-surface datum, Jan. 4, 1960; lowest measured, 80.57 ft (24.56 m) below land-surface datum, Oct. 25, 1973.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	71.04	74.58	*56.40	49.38	58.48	49.74	50.23	51.25	57.48	62.66	64.79	70.99
10	72.12	73.51	*53.60	48.94	60.69	53.98	50.76	55.76	64.90	74.98	69.19	68.52
15	72.80	73.88	*61.85	48.03	56.28	53.00	53.36	60.70	68.01	76.03	72.92	73.35
20	72.16	67.47	*63.15	52.16	51.63	54.65	55.78	63.41	71.15	64.51	72.92	74.33
25	72.04	69.66	48.57	50.40	48.81	52.22	59.44	54.85	74.11	69.45	73.31	64.34
FORM	74.22	56.15	50.56	54.73	49.92	57.43	52.32	55.99	74.77	52.11	64.38	54.19

WTR YR 1979 HIGH 47.78 JAN 3 LOW 76.03 JUL 15

MONROE COUNTY

373435080323101. Local number, 47-3-3.

LOCATION.--Lat 37°34'35", long 80°32'31", Hydrologic Unit 05050002, 1.3 miles (2.1 km) south of Union on Secondary State Route 13.

Owner: Robert Riner.

AQUIFER.--Greenbrier Group of Middle Mississippian Age.

WELL CHARACTERISTICS.--Drilled water-table well, diameter 6 in (0.15 m), depth 133 ft (40.5 m), cased with steel to 12 ft (3.66 m).

DATUM.--Land-surface datum is about 2,050 ft (625 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of sanitary seal on casing, 0.6 ft (0.18 m) above land-surface datum.

PERIOD OF RECORD.--August 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.60 ft (15.12 m) below land-surface datum, Mar. 1, 1972; lowest measured, 53.36 ft (16.26 m) below land-surface datum, Oct. 20, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1978	52.20	JAN 03, 1979	52.00	APR 04, 1979	51.20	JUL 04, 1979	51.80
11	52.30	10	51.90	11	51.40	11	52.00
18	52.00	17	52.10	18	51.50	18	51.90
25	52.10	24	51.90	25	51.60	25	51.90
NOV 01	52.30	31	51.80	MAY 02	51.50	AUG 01	52.00
08	52.00	FEB 07	51.60	09	51.30	08	51.80
15	52.10	14	51.90	16	51.40	15	51.90
22	52.00	21	51.50	23	51.60	22	51.90
29	52.20	28	51.30	30	51.50	29	52.00
DEC 06	52.30	MAR 07	51.40	JUN 06	51.60	SEP 05	51.90
13	52.10	14	51.20	13	51.30	12	52.10
20	51.90	21	51.10	20	51.70	19	51.80
27	51.70	28	51.30	27	51.80	26	52.00

* Estimated.

GROUND-WATER LEVELS

MORGAN COUNTY

393043078174001. Local number, 19-5-14.

LOCATION.--Lat 39°30'43", long 78°17'40", Hydrologic Unit 02070004, on Cacapon State Park south of Berkeley Springs on U.S. Route 522.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Tonoloway Formation of Upper Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.20 m), reported depth 250 ft (76.2 m), cased with steel to 33 ft (10.1 m).

DATUM.--Land-surface datum is about 875 ft (267 m) National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, 1.1 ft (0.34 m) above land-surface datum. Prior to Aug. 16, 1977 measuring point was 1.2 ft (0.37 m) above land-surface datum.

REMARKS.--No water-level record Mar. 31 to Apr. 17.

PERIOD OF RECORD.--July 1971 to July 1973, November 1974 to March 1975 (weekly water-level measurements), July 1976 to August 1977 (monthly water-level measurements), August 1977 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.15 ft (8.88 m) below land-surface datum, June 17, 1979; lowest measured, 37.80 ft (11.52 m) below land-surface datum, Sept. 8, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	34.23	35.09	33.74	33.30	33.10	32.57	*32.55	33.31	33.56	33.16	33.78	33.69
10	35.08	35.20	33.13	33.07	33.35	32.96	*32.70	33.55	33.61	33.56	33.65	33.56
15	34.03	34.04	33.79	33.07	33.34	33.22	*33.20	33.56	33.66	33.61	33.55	33.52
20	34.70	34.44	33.79	33.38	33.36	33.19	33.44	33.58	33.48	33.65	33.61	33.69
25	35.21	34.05	32.25	32.62	32.52	32.68	33.45	33.02	33.63	33.53	33.53	33.46
FOU	35.05	33.38	33.18	32.18	32.72	*33.00	33.33	33.56	33.57	33.62	33.55	33.56

WTR YR 1979 HIGH 29.15 JUN 17 LOW 35.40 NOV 12

NICHOLAS COUNTY

381301080562201. Local number, 37-5-1.

LOCATION.--Lat 38°13'01", long 80°56'22", Hydrologic Unit 05050005, on Carnifex Ferry Battlefield State Park on Secondary State Route 23.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Pottsville Group of Lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 106 ft (32.3 m), cased with steel.

DATUM.--Land-surface datum is about 1,620 ft (494 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of concrete slab at land-surface datum.

PERIOD OF RECORD.--December 1970 to August 1976 (weekly water-level measurements), April 1978 to current year (periodic water level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.30 ft (15.94 m) below land-surface datum, Dec. 23, 1970; lowest measured, 59.95 ft (18.27 m) below land-surface datum, Mar. 10, 1976.

NOTE.--No water-level measurements this year.

POCAHONTAS COUNTY

380634080164801.

LOCATION.--Lat 38°06'53" (corrected), long 80°15'53" (corrected), Hydrologic Unit 05050003, on Droop Mountain State Park north of Droop on U.S. Route 219.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Mauch Chunk Group of Upper Mississippian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 86 ft (26.2 m) (corrected), cased with steel.

DATUM.--Land-surface datum is about 3,000 ft (914 m) (corrected) National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing at land-surface datum.

PERIOD OF RECORD.--December 1970 to January 1976 (weekly water-level measurements), April 1978 to current year (periodic water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 66.20 ft (20.18 m) below land-surface datum, Dec. 7, 1971; lowest measured, 79.23 ft (24.15 m) below land-surface datum, Oct. 1, 1970.

NOTE.--Water-level measurement May 30, 1979, 68.87 ft below land-surface datum.

CORRECTIONS.--Corrected values for well depth and land-surface datum were published incorrectly in WRD W. Va. 1973-1978. Local numbers and location latitude-longitude where published in WRD W. Va. 1973-1978 are incorrect.

380630080074401. Local number, 44-4-10.

LOCATION.--Lat 38°06'30", long 80°07'44", Hydrologic Unit 05050003, on Watoga State Park 7 mi (11.3 km) southwest of Huntersville on Secondary State Route 21.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Hampshire Formation of Upper Devonian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), reported depth 285 ft (86.9 m), cased with steel.

DATUM.--Land-surface datum is about 3,050 ft (930 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.85 ft (0.26 m) above land-surface datum.

REMARKS.--Well depth 48 ft (14.6 m), May 28, 1980.

PERIOD OF RECORD.--December 1970 to November 1975 (weekly water-level measurements), April 1978 to current year (periodic water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.35 ft (4.68 m) below land-surface datum, July 27, 1971; lowest measured, 22.87 ft (6.97 m) below land-surface datum, Oct. 30, 1973.

NOTE.--Water-level measurement May 6, 1979, 19.43 ft below land-surface datum.

* Estimated.

GROUND-WATER LEVELS

405

PRESTON COUNTY

393306079474501. Local number, 11-3-8.

LOCATION.--Lat 39°33'06", long 79°47'45", Hydrologic Unit 05020003, East Depot Street, Masontown.

Owner: G. E. Lemmons.

AQUIFER.--Sandstone of Pottsville Formation of Lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 8 in (0.20 m), depth 785 ft (239 m), cased to 350 ft (107 m), perforated at or near Upper Freeport Coal.

DATUM.--Land-surface datum is about 1,770 ft (539 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of extended casing, 3.53 ft (1.08 m) above land-surface datum. Prior to July 1978 measuring point was 3.0 ft (0.91 m) below land-surface datum.

PERIOD OF RECORD.--July 1941 to July 1946 (weekly water-level measurements), July 1946 to October 1948 (water-level recorder), October 1948 to October 1950 (weekly water-level measurements), October 1950 to current year (monthly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.15 ft (2.18 m) below land-surface datum, Jan. 20, 1947; lowest measured, 108 ft (32.9 m) below land-surface datum, Feb. 3, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 26, 1978	66.79	JAN 24, 1979	65.53	MAY 22, 1979	66.76	AUG 27, 1979	66.09
NOV 29	66.65	MAR 22	72.20	JUN 25	67.37	SEP 28	65.77
DEC 21	66.83	APR 16	66.12	JUL 30	67.00		

392053079400401. Local number, 11-7-14.

LOCATION.--Lat 39°20'53", long 79°40'04", Hydrologic Unit 05020004, on left bank of Cheat River downstream from Rowlesburg Water Plant.

Owner: U.S. Army Corps of Engineers.

AQUIFER.--Chemung Formation of Upper Devonian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in (0.20 m), depth 104 ft (31.7 m), cased with steel.

DATUM.--Land-surface datum is about 1,400 ft (427 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing under recorder shelter, 1.6 ft (0.49 m) above land-surface datum.

REMARKS.--Water level affected by stage of Cheat River. Well found plugged Aug. 28, 1978.

PERIOD OF RECORD.--April 1971 to January 1977 (water-level recorder), January 1977 to current year (monthly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.64 ft (1.41 m) below land-surface datum, Dec. 9, 1972; lowest, 14.84 ft (4.52 m) below land-surface datum, Aug. 16, 1975.

NOTE.--No water-level measurements this year.

RALEIGH COUNTY

374607081122201. Local number, 43-3-8.

LOCATION.--Lat 37°46'07", long 81°12'22", Hydrologic Unit 05050004, near State Route 16, Mabscott.

Owner: Beckley Water Company.

AQUIFER.--New River Series of Lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.20 m), depth 475 ft (145 m).

DATUM.--Land-surface datum is about 2,285 ft (696 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--August and September 1959 (weekly water-level measurements), November 1959 to July 1962 (water-level recorder), December 1962 to December 1976 (weekly water-level measurements), April 1978 to current year (periodic water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.03 ft (3.97 m) below land-surface datum, Dec. 27, 1972; lowest measured, 37.13 ft (11.32 m) below land-surface datum, Dec. 15, 1965.

NOTE.--Water-level measurement May 17, 1979, 15.00 ft below land-surface datum.

RANDOLPH COUNTY

385341079575401. Local number, 18-3-110.

LOCATION.--Lat 38°53'41", long 79°57'54", Hydrologic Unit 05020001, 0.2 mi (0.32 km) east of Coalton High School, Coalton.

Owner: Presbyterian Church.

AQUIFER.--Homewood Sandstone of Pottsville Group of Early Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled exploratory water-table well, diameter 6 in (0.15 m), depth 155 ft (47.2 m), cased to 18 ft (5.49 m).

DATUM.--Land-surface datum is 2,171 ft (662 m) National Geodetic Vertical Datum of 1929. Measuring point: Floor of shelter box, 2.45 ft (0.75 m) above land-surface datum.

REMARKS.--Water level affected by nearby pumping.

PERIOD OF RECORD.--December 1966 to October 1967 (monthly water-level measurements), July 1968 to January 1977 (water-level recorder), January 1977 to current year (periodic water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.85 ft (3.31 m) below land-surface datum, Dec. 12, 1966; lowest, 23.35 ft (7.12 m) below land-surface datum, Oct. 28, 1971.

NOTE.--Water-level measurement Sept. 28, 1978, 12.92 ft below land-surface datum. Water-level measurement Apr. 17, 1979, 11.57 ft below land-surface datum.

GROUND-WATER LEVELS

RANDOLPH COUNTY--Continued

385059079522901. Project number, H-62.

LOCATION.--Lat 38°50'59", long 79°52'29", Hydrologic Unit 05020001, 1,800 ft (549 m) west of U.S. Route 250 and 0.6 mile (1.0 km) north of intersection of State Route 33 and U.S. Route 250, at Beverly.

Owner: Edsel Lucas.

AQUIFER.--Shale of Upper-Middle Devonian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 96 ft (29.3 m), cased with plastic to 14 ft (4.27 m).

DATUM.--Land-surface datum is about 1,940 ft (591 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.0 ft (0.61 m) above land-surface datum.

REMARKS.--USGS Test Well No. 1. Geologic log, aquifer test data, and periodic water-quality data available.

PERIOD OF RECORD.--Intermittent water-levels November 1978 to current year.

NOTE.--Water-level measurements and water samples Nov. 14, 1978 at 1200 hrs. (total well depth 44.0 ft), Nov. 14, 1978 at 1700 hrs. (total well depth 90.0 ft) below land-surface datum.

WATER QUALITY DATA, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH (UNITS)	HARD- NESS (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM AD- SORP- TION RATIO	SULFATE DIS- SOLVED (MG/L AS SO4)
NOV									
14...	1200	372	7.2	130	35	10	44	1.7	28
14...	1700	480	7.2	120	35	9.0	60	2.3	15

RITCHIE COUNTY

391226081024901. Local number, 28-3-3.

LOCATION.--Lat 39°12'26", long 81°02'49", Hydrologic Unit 05030203, at Stout and East South Street, Harrisville.

Owner: Terry Stonestreet.

AQUIFER.--Dunkard Formation of Pennsylvanian or Permian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 118 ft (36.0 m), cased with steel.

DATUM.--Land-surface datum is about 840 ft (256 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.2 ft (0.37 m) above land-surface datum.

REMARKS.--Formerly public-supply well. No water-level record Feb. 6-26.

PERIOD OF RECORD.--August 1966 to October 1966 (weekly water-level measurements), April 1968 to September 1975 (water-level recorder), October 1975 to July 1976 (monthly water-level measurements), July 1976 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.46 ft (5.32 m) below land-surface datum, Jan. 25, 1978, lowest measured, 21.80 ft (6.64 m) below land-surface datum, Sept. 7, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	19.58	19.13	18.19	18.70	19.04	18.50	18.66	18.75	18.98	19.51	19.26	18.38
10	19.73	19.33	18.25	18.56	*19.00	18.82	18.71	19.05	19.38	19.47	19.14	18.94
15	19.33	19.42	18.53	18.81	*19.05	19.21	18.75	19.35	19.65	19.54	18.80	19.21
20	19.16	18.72	18.53	18.29	*18.95	19.04	19.16	19.43	19.82	19.34	18.77	19.24
25	19.21	18.89	18.49	18.33	*18.50	18.79	19.14	18.87	19.44	19.18	18.43	18.53
FOM	18.94	18.43	18.66	18.61	18.41	19.12	19.03	18.76	19.24	18.73	18.27	18.28

WTR YR 1979 HIGH 17.83 JAN 21 LOW 19.82 JUN 19 AND OTHERS

TUCKER COUNTY

390135079275601. Local number, 15-6-17.

LOCATION.--Lat 39°01'35", long 79°27'56", Hydrologic Unit 05020004, at Canaan Valley State Park off W. Va. State Route 32.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Pocono Formation of Lower Mississippian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in (0.20 m) depth 281 ft (85.6 m), cased with steel.

DATUM.--Land-surface datum is about 3,275 ft (998 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.55 ft (0.47 m) above land-surface datum.

PERIOD OF RECORD.--June 1971 to December 1975 (weekly water-level measurements), April 1978 to current year (periodic water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.05 ft (2.45 m) below land-surface datum, Dec. 11, 1972; lowest measured, 11.54 ft (3.52 m) below land-surface datum, July 19, 1971.

NOTE.--Water-level measurement Nov. 15, 1978, 10.76 ft below land-surface datum. Water-level measurement Apr. 16, 1979, 9.45 ft below land-surface datum.

WAYNE COUNTY

375827082211501. Local number, 50-6-5.

LOCATION.--Lat 37°58'27", long 82°21'15", Hydrologic Unit 05090102, on Cabwaylingo State Forest on Secondary State Route 35.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Pottsville Group of Lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 119 ft (36.3 m), cased with steel to 10 ft (3.05 m).

DATUM.--Land-surface datum is about 740 ft (226 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.30 ft (0.40 m) above land-surface datum.

PERIOD OF RECORD.--May 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.70 ft (8.44 m) below land-surface datum, Jan. 5 and Mar. 1, 1972; lowest measured, 30.62 ft (9.33 m) below land-surface datum, June 16, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

OCT 04, 1978	29.10*	OCT 11, 1978	29.10*	OCT 18, 1978	29.20*	OCT 25, 1978	29.20.
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* Estimated.

WEBSTER COUNTY

382254080271501. Local number, 36-3-12.

LOCATION.--Lat 38°22'54", long 80°27'15", Hydrologic Unit 05050005, on Secondary State Route 46/2 near Dyer.

Owner: Glen Dodrill.

AQUIFER.--Mauch Chunk Group of Upper Mississippian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in (0.15 m), depth 40 ft (12.2 m), cased with steel.

DATUM.--Land-surface datum is about 2,230 ft (680 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.5 ft (0.46 m) above land-surface datum.

PERIOD OF RECORD.--November 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.70 ft (1.43 m) below land-surface datum, July 5, 1972; lowest measured, 7.80 ft (2.38 m) below land-surface datum, June 16, 1976.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1978	7.60	JAN 03, 1979	6.10	APR 04, 1979	6.00	JUL 04, 1979	6.50
11	7.60	10	6.00	11	6.00	11	6.40
18	7.70	17	5.80	18	6.30	18	6.50
25	7.60	24	5.40	25	6.10	25	6.35
NOV 01	7.00	31	6.50	MAY 02	5.80	AUG 01	6.40
08	7.00	FEB 07	6.00	09	5.90	08	6.50
15	7.20	14	5.90	16	5.85	15	6.00
22	6.90	21	6.00	23	5.75	22	5.50
29	6.80	28	5.80	30	5.80	29	6.00
DEC 06	6.60	MAR 07	6.10	JUN 06	6.00	SEP 05	5.70
13	6.20	14	6.20	13	6.10	12	5.80
20	5.50	21	6.60	20	6.40	19	5.90
27	6.00	28	5.80	27	6.40	26	5.60

WETZEL COUNTY

392858080373401. Local number, 6-6-8.

LOCATION.--Lat 39°28'58", long 80°37'34", Hydrologic Unit 05030201, on Secondary State Route 82 in Lewis Wetzel

Public Hunting Area near Jacksonburg.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Dunkard Group of Permian Age.

WELL CHARACTERISTICS.--Drilled unused water-table, diameter 6 in (0.15 m) depth 76 ft (23.2 m), cased with steel.

DATUM.--Land-surface datum is about 890 ft (271 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 1.1 ft (0.34 m) above land-surface datum.

PERIOD OF RECORD.--September 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.10 ft (1.86 m) below land-surface datum, Nov. 28, 1973; lowest measured, 20.90 ft (6.37 m) below land-surface datum, Oct. 5, 1977.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1978	11.50	JAN 31, 1979	13.40	APR 25, 1979	13.50	JUL 25, 1979	11.60
11	12.30	FEB 07	14.60	MAY 02	10.80	AUG 01	20.50
18	12.20	14	13.80	09	9.90	08	8.90
NOV 29	12.70	21	17.40	16	14.70	15	11.10
DEC 06	15.00	28	12.50	24	13.60	22	13.80
13	7.90	MAR 07	13.30	30	9.90	29	13.60
20	19.30	14	13.40	JUN 06	13.90	SEP 05	17.10
27	12.90	21	13.80	13	13.50	12	18.00
JAN 03, 1979	13.90	28	13.70	27	11.30	19	11.90
10	16.60	APR 04	13.90	JUL 04	19.00	26	10.80
17	16.20	11	18.50	11	9.80		
24	9.70	18	14.30	18	11.60		

WOOD COUNTY

391712081333201. Local number, 27-3-22.

LOCATION.--Lat 39°17'12", long 81°33'32", Hydrologic Unit 05030202, near collector well at City of Parkersburg Water Works.

Owner: City of Parkersburg.

AQUIFER.--Gravel.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 5 in (0.13 m), depth 55 ft (16.8 m), cased with steel to 55 ft (16.8 m).

DATUM.--Land-surface datum is about 601 ft (183 m) National Geodetic Vertical Datum of 1929. Measuring point:

Top of casing, 2.94 ft (0.90 m) above land-surface datum.

REMARKS.--Water level affected by local pumping and by stage of the Ohio River.

PERIOD OF RECORD.--April 1943 to April 1945 (various intermittent water-level measurements), January 1946 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, *16.06 ft (4.90 m) below land-surface datum, Feb. 23, 1971; lowest, 37.75 ft (11.51 m) below land-surface datum, Feb. 12, 1948.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
NOON VALUES FROM GRAPHIC RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	26.51	26.78	26.14	22.57	26.19	23.39	23.74	25.27	25.28	26.02	26.27	26.28
10	26.62	26.85	23.95	24.13	26.38	22.42	23.83	26.26	25.83	26.15	26.66	26.62
15	26.57	27.04	24.61	25.20	26.83	22.85	23.18	26.47	26.49	26.10	26.63	26.56
20	26.63	27.32	24.92	25.80	26.93	23.41	23.78	26.45	26.37	26.12	26.60	26.28
25	26.69	27.33	24.50	25.55	24.90	23.82	24.53	26.12	26.20	26.08	26.22	26.06
FOM	26.75	27.04	24.94	26.09	21.60	24.94	25.00	24.95	26.11	25.78	25.83	25.79

WTR YR 1979 HIGH 21.60 FEB 28 LOW 27.43 NOV 22

* Estimated.

GROUND-WATER LEVELS

WYOMING COUNTY

373839081255201. Local number, 54-2-12.

LOCATION.--Lat 37°38'39", long 81°25'52", Hydrologic Unit 05070101, at Twin Falls State Park.

Owner: U. S. Geological Survey.

AQUIFER.--Pottsville Formation of Lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in (0.15 m), depth 80 ft (24.4 m), cased with steel to 28 ft (8.53 m).

DATUM.--Land-surface datum is about 2,015 ft (615 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of recorder shelter floor, 2.62 ft (0.80 m) above land-surface datum.

REMARKS.--Aquifer test data available. Water-level record doubtful Oct. 9, 10 and May 20-24.

PERIOD OF RECORD.--December 1976 to February 1977 (periodic water-level measurements), February 1977 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.77 ft (6.03 m) below land-surface datum, Apr. 2, 3, 1978; lowest, 41.12 ft (12.53 m) below land-surface datum, Nov. 14, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1978 TO SEPTEMBER 1979
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	38.75	38.47	39.55	28.43	23.87	22.57	21.98	22.45	23.17	27.25	24.74	25.80
10	37.36	38.96	36.77	26.77	23.64	22.15	21.68	22.43	23.45	26.30	27.78	25.74
15	37.63	40.12	34.95	26.17	23.20	22.27	21.81	23.49	25.99	24.65	25.93	26.72
20	38.04	39.98	33.10	24.61	23.68	22.03	21.81	*25.90	25.06	24.48	26.60	28.96
25	38.28	40.00	31.17	24.09	22.75	21.52	24.36	23.42	24.67	25.37	25.33	26.48
FORM	38.42	40.12	29.42	23.66	22.54	21.92	23.10	23.29	23.74	23.71	25.23	24.95

WTR YR 1979 HIGH 21.36 APR 8 AND OTHERS LOW 40.62 NOV 14

* Estimated.

REVISIONS IN TERMINOLOGY OF WATER-QUALITY PARAMETERS
(see NOTICE on page 2)

ALPHABETIC LISTING

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
39332	ALDRIN, SUSPENDED TOTAL (UG/L)
39332	ALDRIN, SUSPENDED (UG/L)
01505	ALPHA, SUSPENDED TOTAL (PCI/L)
01505	ALPHA, SUSPENDED (PCI/L)
01506	ALPHA, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
01506	ALPHA, SUSPENDED, COUNTING ERROR (PCI/L)
01105	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
01105	ALUMINUM, TOTAL (UG/L AS AL)
01107	ALUMINUM, SUSPENDED RECOVERABLE (UG/L AS AL)
01107	ALUMINUM, SUSPENDED (UG/L AS AL)
01108	ALUMINUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS AL)
01108	ALUMINUM, TOTAL IN BOTTOM MATERIAL (UG/G AS AL)
01096	ANTIMONY, SUSPENDED TOTAL (UG/L AS SB)
01096	ANTIMONY, SUSPENDED (UG/L AS SB)
39502	AROCLOR, SUSPENDED TOTAL, 1248 PCB SERIES (UG/L)
39502	AROCLOR, SUSPENDED, 1248 PCB SERIES (UG/L)
39506	AROCLOR, SUSPENDED TOTAL, 1254 PCB SERIES (UG/L)
39506	AROCLOR, SUSPENDED, 1254 PCB SERIES (UG/L)
39510	AROCLOR, SUSPENDED TOTAL, 1260 PCB SERIES (UG/L)
39510	AROCLOR, SUSPENDED, 1260 PCB SERIES (UG/L)
01001	ARSENIC, SUSPENDED TOTAL (UG/L AS AS)
01001	ARSENIC, SUSPENDED (UG/L AS AS)
01006	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)
01006	BARIUM, SUSPENDED (UG/L AS BA)
01007	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)
01007	BARIUM, TOTAL (UG/L AS BA)
01008	BARIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS BA)
01008	BARIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS BA)
01011	BERYLLIUM, SUSPENDED RECOVERABLE (UG/L AS BE)
01011	BERYLLIUM, SUSPENDED (UG/L AS BE)
01012	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE)
01012	BERYLLIUM, TOTAL (UG/L AS BE)
01013	BERYLLIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS BE)
01013	BERYLLIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS BE)
03505	BETA, SUSPENDED TOTAL (PCI/L)
03505	BETA, SUSPENDED (PCI/L)
03506	BETA, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
03506	BETA, SUSPENDED, COUNTING ERROR (PCI/L)
01016	BISMUTH, SUSPENDED TOTAL (UG/L AS BI)
01016	BISMUTH, SUSPENDED (UG/L AS BI)
01021	BORON, SUSPENDED RECOVERABLE (UG/L AS B)
01021	BORON, SUSPENDED (UG/L AS B)
01022	BORON, TOTAL RECOVERABLE (UG/L AS B)
01022	BORON, TOTAL (UG/L AS B)
01023	BORON, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS B)
01023	BORON, TOTAL IN BOTTOM MATERIAL (UG/G AS B)
01026	CADMIUM, SUSPENDED RECOVERABLE (UG/L AS CD)
01026	CADMIUM, SUSPENDED (UG/L AS CD)
01027	CADMIUM, TOTAL RECOVERABLE (UG/L AS CD)
01027	CADMIUM, TOTAL (UG/L AS CD)
01028	CADMIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CD)
01028	CADMIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS CD)

REVISIONS IN TERMINOLOGY OF WATER-QUALITY PARAMETERS--Continued
(see NOTICE on page 2)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
00916	CALCIUM, TOTAL RECOVERABLE (MG/L AS CA)
00916	CALCIUM, TOTAL (MG/L AS CA)
07052	CALCIUM 45, SUSPENDED TOTAL (PCI/L)
07052	CALCIUM 45, SUSPENDED (PCI/L)
07053	CALCIUM 45, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07053	CALCIUM 45, SUSPENDED, COUNTING ERROR (PCI/L)
00683	CARBON, ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00683	CARBON, ORGANIC, SUSPENDED (MG/L AS C)
00688	CARBON, INORGANIC, SUSPENDED TOTAL (MG/L AS C)
00688	CARBON, INORGANIC, SUSPENDED (MG/L AS C)
00689	CARBON, ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00689	CARBON, ORGANIC, SUSPENDED (MG/L AS C)
00694	CARBON, INORGANIC PLUS ORGANIC, SUSPENDED TOTAL (MG/L AS C)
00694	CARBON, INORGANIC PLUS ORGANIC, SUSPENDED (MG/L AS C)
01116	CESIUM, SUSPENDED TOTAL (UG/L AS CS)
01116	CESIUM, SUSPENDED (UG/L AS CS)
28404	CESIUM 137, SUSPENDED TOTAL (PCI/L)
28404	CESIUM 137, SUSPENDED (PCI/L)
28405	CESIUM 137, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
28405	CESIUM 137, SUSPENDED, COUNTING ERROR (PCI/L)
28412	CESIUM 134, SUSPENDED TOTAL (PCI/L)
28412	CESIUM 134, SUSPENDED (PCI/L)
28413	CESIUM 134, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
28413	CESIUM 134, SUSPENDED, COUNTING ERROR (PCI/L)
39353	CHLORDANE, SUSPENDED TOTAL (UG/L)
39353	CHLORDANE, SUSPENDED (UG/L)
01029	CHROMIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CR)
01029	CHROMIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS CR)
01031	CHROMIUM, SUSPENDED RECOVERABLE (UG/L AS CR)
01031	CHROMIUM, SUSPENDED (UG/L AS CR)
01034	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)
01034	CHROMIUM, TOTAL (UG/L AS CR)
01036	COBALT, SUSPENDED RECOVERABLE (UG/L AS CO)
01036	COBALT, SUSPENDED (UG/L AS CO)
01037	COBALT, TOTAL RECOVERABLE (UG/L AS CO)
01037	COBALT, TOTAL (UG/L AS CO)
01038	COBALT, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CO)
01038	COBALT, TOTAL IN BOTTOM MATERIAL (UG/G AS CO)
01041	COPPER, SUSPENDED RECOVERABLE (UG/L AS CU)
01041	COPPER, SUSPENDED (UG/L AS CU)
01042	COPPER, TOTAL RECOVERABLE (UG/L AS CU)
01042	COPPER, TOTAL (UG/L AS CU)
01043	COPPER, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS CU)
01043	COPPER, TOTAL IN BOTTOM MATERIAL (UG/G AS CU)
39362	DDD, SUSPENDED TOTAL (UG/L)
39362	DDD, SUSPENDED (UG/L)
39367	DDE, SUSPENDED TOTAL (UG/L)
39367	DDE, SUSPENDED (UG/L)
39372	DDT, SUSPENDED TOTAL (UG/L)
39372	DDT, SUSPENDED (UG/L)
39573	DIAZINON, SUSPENDED TOTAL (UG/L)
39573	DIAZINON, SUSPENDED (UG/L)
39382	DIELDRIN, SUSPENDED TOTAL (UG/L)
39382	DIELDRIN, SUSPENDED (UG/L)

REVISIONS IN TERMINOLOGY OF WATER-QUALITY PARAMETERS--Continued
(see NOTICE on page 2)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
39392	ENDRIN, SUSPENDED TOTAL (UG/L)
39392	ENDRIN, SUSPENDED (UG/L)
01121	GALLIUM, SUSPENDED TOTAL (UG/L AS GA)
01121	GALLIUM, SUSPENDED (UG/L AS GA)
01126	GERMANIUM, SUSPENDED TOTAL (UG/L AS GE)
01126	GERMANIUM, SUSPENDED (UG/L AS GE)
01516	GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL (PCI/L AS U NATURAL)
01516	GROSS ALPHA RADIOACTIVITY, SUSPENDED (PCI/L AS U NATURAL)
01517	GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL (PCI/G AS U NATURAL)
01517	GROSS ALPHA RADIOACTIVITY, SUSPENDED (PCI/G AS U NATURAL)
01518	GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL (UG/G AS U NATURAL)
01518	GROSS ALPHA RADIOACTIVITY, SUSPENDED (UG/G AS U NATURAL)
80040	GROSS ALPHA RADIOACTIVITY, SUSPENDED TOTAL (UG/L AS U NATURAL)
80040	GROSS ALPHA RADIOACTIVITY, SUSPENDED (UG/L AS U NATURAL)
80060	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/L AS SR/YT-90)
80060	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/L AS SR/YT-90)
03516	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/L AS CS-137)
03516	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/L AS CS-137)
03517	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/G AS SR/YT-90)
03517	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/G AS SR/YT-90)
03518	GROSS BETA RADIOACTIVITY, SUSPENDED TOTAL (PCI/G AS CS-137)
03518	GROSS BETA RADIOACTIVITY, SUSPENDED (PCI/G AS CS-137)
39412	HEPTACHLOR, SUSPENDED TOTAL (UG/L)
39412	HEPTACHLOR, SUSPENDED (UG/L)
39422	HEPTACHLOR EPOXIDE, SUSPENDED TOTAL (UG/L)
39422	HEPTACHLOR EPOXIDE, SUSPENDED (UG/L)
01044	IRON, SUSPENDED RECOVERABLE (UG/L AS FE)
01044	IRON, SUSPENDED (UG/L AS FE)
01045	IRON, TOTAL RECOVERABLE (UG/L AS FE)
01045	IRON, TOTAL (UG/L AS FE)
01170	IRON, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS FE)
01170	IRON, TOTAL IN BOTTOM MATERIAL (UG/G AS FE)
07062	IRON 59, SUSPENDED TOTAL (PCI/L)
07062	IRON 59, SUSPENDED (PCI/L)
07063	IRON 59, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07063	IRON 59, SUSPENDED, COUNTING ERROR (PCI/L)
39432	ISODRIN, SUSPENDED TOTAL (UG/L)
39432	ISODRIN, SUSPENDED (UG/L)
01050	LEAD, SUSPENDED RECOVERABLE (UG/L AS PB)
01050	LEAD, SUSPENDED (UG/L AS PB)
01051	LEAD, TOTAL RECOVERABLE (UG/L AS PB)
01051	LEAD, TOTAL (UG/L AS PB)
01052	LEAD, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS PB)
01052	LEAD, TOTAL IN BOTTOM MATERIAL (UG/G AS PB)

REVISIONS IN TERMINOLOGY OF WATER-QUALITY PARAMETERS--Continued
(see NOTICE on page 2)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
39342	LINDANE, SUSPENDED TOTAL (UG/L)
39342	LINDANE, SUSPENDED (UG/L)
01131	LITHIUM, SUSPENDED RECOVERABLE (UG/L AS LI)
01131	LITHIUM, SUSPENDED (UG/L AS LI)
01132	LITHIUM, TOTAL RECOVERABLE (UG/L AS LI)
01132	LITHIUM, TOTAL (UG/L AS LI)
00926	MAGNESIUM, SUSPENDED RECOVERABLE (MG/L AS MG)
00926	MAGNESIUM, SUSPENDED (MG/L AS MG)
00927	MAGNESIUM, TOTAL RECOVERABLE (MG/L AS MG)
00927	MAGNESIUM, TOTAL (MG/L AS MG)
39533	MALATHION, SUSPENDED TOTAL (UG/L)
39533	MALATHION, SUSPENDED (UG/L)
01053	MANGANESE, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS MN)
01053	MANGANESE, TOTAL IN BOTTOM MATERIAL (UG/G AS MN)
01054	MANGANESE, SUSPENDED RECOVERABLE (UG/L AS MN)
01054	MANGANESE, SUSPENDED (UG/L AS MN)
01055	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
01055	MANGANESE, TOTAL (UG/L AS MN)
71895	MERCURY, SUSPENDED RECOVERABLE (UG/L AS HG)
71895	MERCURY, SUSPENDED (UG/L AS HG)
71900	MERCURY, TOTAL RECOVERABLE (UG/L AS HG)
71900	MERCURY, TOTAL (UG/L AS HG)
71921	MERCURY, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS HG)
71921	MERCURY, TOTAL IN BOTTOM MATERIAL (UG/G AS HG)
39603	METHYL PARATHION, SUSPENDED TOTAL (UG/L)
39603	METHYL PARATHION, SUSPENDED (UG/L)
39757	MIREX, SUSPENDED TOTAL (UG/L)
39757	MIREX, SUSPENDED (UG/L)
01061	MOLYBDENUM, SUSPENDED RECOVERABLE (UG/L AS MO)
01061	MOLYBDENUM, SUSPENDED (UG/L AS MO)
01062	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO)
01062	MOLYBDENUM, TOTAL (UG/L AS MO)
01063	MOLYBDENUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS MO)
01063	MOLYBDENUM, TOTAL IN BOTTOM MATERIAL (UG/G AS MO)
01066	NICKEL, SUSPENDED RECOVERABLE (UG/L AS NI)
01066	NICKEL, SUSPENDED (UG/L AS NI)
01067	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)
01067	NICKEL, TOTAL (UG/L AS NI)
01068	NICKEL, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS NI)
01068	NICKEL, TOTAL IN BOTTOM MATERIAL (UG/G AS NI)
00623	NITROGEN, AMMONIA PLUS ORGANIC, DISSOLVED (MG/L AS N)
00623	NITROGEN, KJELDAHL, DISSOLVED (MG/L AS N)
00624	NITROGEN, AMMONIA PLUS ORGANIC, SUSPENDED TOTAL (MG/L AS N)
00624	NITROGEN, KJELDAHL, SUSPENDED (MG/L AS N)
00625	NITROGEN, AMMONIA PLUS ORGANIC, TOTAL (MG/L AS N)
00625	NITROGEN, KJELDAHL, TOTAL (MG/L AS N)
00626	NITROGEN, AMMONIA PLUS ORGANIC, TOTAL IN BOTTOM MATERIAL, DRY WT (MG/KG AS N)
00626	NITROGEN, KJELDAHL, TOTAL IN BOTTOM MATERIAL, DRY WT (MG/KG AS N)
39543	PARATHION, SUSPENDED TOTAL (UG/L)
39543	PARATHION, SUSPENDED (UG/L)
39518	PCB, SUSPENDED TOTAL (UG/L)
39518	PCB, SUSPENDED (UG/L)

REVISIONS IN TERMINOLOGY OF WATER-QUALITY PARAMETERS--Continued
(see NOTICE on page 2)

PARM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE
09505	RADIUM 226, SUSPENDED TOTAL (PCI/L)
09505	RADIUM 226, SUSPENDED (PCI/L)
07082	RHODAMINE WT, SUSPENDED TOTAL (UG/L)
07082	RHODAMINE WT, SUSPENDED (UG/L)
01136	RUBIDIUM, SUSPENDED TOTAL (UG/L AS RB)
01136	RUBIDIUM, SUSPENDED (UG/L AS RB)
29633	SCANDIUM 46, SUSPENDED TOTAL (PCI/L)
29633	SCANDIUM 46, SUSPENDED (PCI/L)
29634	SCANDIUM 46, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
29634	SCANDIUM 46, SUSPENDED, COUNTING ERROR (PCI/L)
01146	SELENIUM, SUSPENDED TOTAL (UG/L AS SE)
01146	SELENIUM, SUSPENDED (UG/L AS SE)
07102	SELENIUM 75, SUSPENDED TOTAL (PCI/L)
07102	SELENIUM 75, SUSPENDED (PCI/L)
07103	SELENIUM 75, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07103	SELENIUM 75, SUSPENDED, COUNTING ERROR (PCI/L)
01076	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)
01076	SILVER, SUSPENDED (UG/L AS AG)
01077	SILVER, TOTAL RECOVERABLE (UG/L AS AG)
01077	SILVER, TOTAL (UG/L AS AG)
01078	SILVER, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS AG)
01078	SILVER, TOTAL IN BOTTOM MATERIAL (UG/G AS AG)
07122	SILVER 110, SUSPENDED TOTAL (PCI/L)
07122	SILVER 110, SUSPENDED (PCI/L)
07123	SILVER 110, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07123	SILVER 110, SUSPENDED, COUNTING ERROR (PCI/L)
39763	SILVEX, SUSPENDED TOTAL (UG/L)
39763	SILVEX, SUSPENDED (UG/L)
70299	SOLIDS, RESIDUE AT 110 DEG. C, SUSPENDED TOTAL (MG/L)
70299	SOLIDS, RESIDUE AT 110 DEG. C, SUSPENDED (MG/L)
01081	STRONTIUM, SUSPENDED RECOVERABLE (UG/L AS SR)
01081	STRONTIUM, SUSPENDED (UG/L AS SR)
01082	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR)
01082	STRONTIUM, TOTAL (UG/L AS SR)
01083	STRONTIUM, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS SR)
01083	STRONTIUM, TOTAL IN BOTTOM MATERIAL (UG/G AS SR)
13505	STRONTIUM 90, SUSPENDED TOTAL (PCI/L)
13505	STRONTIUM 90, SUSPENDED (PCI/L)
13506	STRONTIUM 90, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
13506	STRONTIUM 90, SUSPENDED, COUNTING ERROR (PCI/L)
07142	SULFUR 35, SUSPENDED TOTAL (PCI/L)
07142	SULFUR 35, SUSPENDED (PCI/L)
07143	SULFUR 35, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07143	SULFUR 35, SUSPENDED, COUNTING ERROR (PCI/L)
01101	TIN, SUSPENDED RECOVERABLE (UG/L AS SN)
01101	TIN, SUSPENDED (UG/L AS SN)
01102	TIN, TOTAL RECOVERABLE (UG/L AS SN)
01102	TIN, TOTAL (UG/L AS SN)
01151	TITANIUM, SUSPENDED TOTAL (UG/L AS TI)
01151	TITANIUM, SUSPENDED (UG/L AS TI)
39402	TOXAPHENE, SUSPENDED TOTAL (UG/L)
39402	TOXAPHENE, SUSPENDED (UG/L)

REVISIONS IN TERMINOLOGY OF WATER-QUALITY PARAMETERS--Continued
(see NOTICE on page 2)

PARAM. CODE	NEW TERMINOLOGY -- FIRST LINE OLD TERMINOLOGY -- SECOND LINE

07010	TRITIUM, SUSPENDED TOTAL (PCI/L)
07010	TRITIUM, SUSPENDED (PCI/L)
07011	TRITIUM, SUSPENDED TOTAL, COUNTING ERROR (PCI/L)
07011	TRITIUM, SUSPENDED, COUNTING ERROR (PCI/L)
07014	TRITIUM, SUSPENDED TOTAL, COUNTING ERROR (TRITIUM UNITS)
07014	TRITIUM, SUSPENDED, COUNTING ERROR (TRITIUM UNITS)
07016	TRITIUM, SUSPENDED TOTAL (TRITIUM UNITS)
07016	TRITIUM, SUSPENDED (TRITIUM UNITS)
22705	URANIUM, NATURAL, SUSPENDED TOTAL (UG/L AS U NATURAL)
22705	URANIUM, NATURAL, SUSPENDED (UG/L AS U NATURAL)
01086	VANADIUM, SUSPENDED TOTAL (UG/L AS V)
01086	VANADIUM, SUSPENDED (UG/L AS V)
01091	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)
01091	ZINC, SUSPENDED (UG/L AS ZN)
01092	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)
01092	ZINC, TOTAL (UG/L AS ZN)
01093	ZINC, RECOVERABLE FROM BOTTOM MATERIAL (UG/G AS ZN)
01093	ZINC, TOTAL IN BOTTOM MATERIAL (UG/G AS ZN)
01161	ZIRCONIUM, SUSPENDED TOTAL (UG/L AS ZR)
01161	ZIRCONIUM, SUSPENDED (UG/L AS ZR)
39733	2,4-D, SUSPENDED TOTAL (UG/L)
39733	2,4-D, SUSPENDED (UG/L)
39743	2,4,5-T, SUSPENDED TOTAL (UG/L)
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FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1 2.54×10^{-2}	millimeters (mm) meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3 4.047×10^{-1} 4.047×10^{-3}	square meters (m ²) square hectometers (hm ²) square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0 3.785×10^0 3.785×10^{-3}	liters (L) cubic decimeters (dm ³) cubic meters (m ³)
million gallons	3.785×10^3 3.785×10^{-3}	cubic meters (m ³) cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1 2.832×10^{-2}	cubic decimeters (dm ³) cubic meters (m ³)
cfs-days	2.447×10^3 2.447×10^{-3}	cubic meters (m ³) cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3 1.233×10^{-3} 1.233×10^{-6}	cubic meters (m ³) cubic hectometers (hm ³) cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1 2.832×10^1 2.832×10^{-2}	liters per second (L/s) cubic decimeters per second (dm ³ /s) cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2} 6.309×10^{-2} 6.309×10^{-5}	liters per second (L/s) cubic decimeters per second (dm ³ /s) cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1 4.381×10^{-2}	cubic decimeters per second (dm ³ /s) cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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