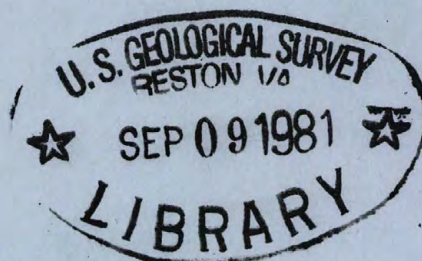


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Water Resources Data for West Virginia



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WV-80-1

WATER YEAR 1980

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

CALENDAR FOR WATER YEAR 1980

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Water Resources Data for West Virginia

U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WV-80-1

WATER YEAR 1980

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

UNITED STATES DEPARTMENT OF THE INTERIOR

JAMES G. WATT, Secretary

GEOLOGICAL SURVEY

Doyle G. Frederick, Acting Director

For information on the water program in West Virginia write to
District Chief, Water Resources Division
U.S. Geological Survey
3416 Federal Building
Charleston, West Virginia 25301

1981

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 R. J. Dingman, Assistant Chief Hydrologist for Scientific Publications and Data Management.

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INTRODUCTION

Water resources data for the 1980 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 8 lakes and reservoirs; contents for 1 reservoir; change in contents for 1 reservoir; water quality for 101 gaging stations; and water levels for 37 observation wells. Also included are 2 crest-stage partial-record stations and 1 low-flow partial record station. Locations of these sites are shown on figures 2 and 3. 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 1970, streamflow data were released by the Geological Survey in annual reports on a State-boundary basis. Water-quality records for water years 1964 through 1970 were similarly released either in separate reports or in conjunction with streamflow records.

Beginning with the 1971 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-80-1." 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.

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

Monthly and annual discharge data for four gaging stations was used to indicate hydrologic conditions throughout the state during the year. As shown graphically in figures 4 and 4a, streamflow was generally above normal in October, November, March through May, July and August, below normal during February, and about normal during the other months. On an annual basis, streamflow was generally 110-140% of normal in the northeastern panhandle of the State, 130-150% in the north, 110-140% in the central, and 110-130% in the south.

Ground-water levels were generally above normal throughout the State for the entire water year; however, water levels were below normal in some central, northern, and eastern counties, mainly during the fall and summer months. Graphical illustration of ground-water levels for three observation wells are shown in figure 5.

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.

Bottom material (continued)

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 values 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) means that 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.
Sand.....	.062 - 2.0	Sedimentation or sieve.
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 cell/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 [mg C/(m²·time) for periphyton and macrophytes and mg C/(m³·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 [mg O₂/(m²·time) for periphyton and macrophytes and mg O₂/(m³·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 causes 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 emersed or submersed solid surface, such as 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 planimetered. All areas shown are those for the stage when the planimetered 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:

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Kingdom.....Animal
Phylum.....Arthropoda
Class.....Insecta
Order.....Ephemeroptera
Family.....Ephemeridae
Genus.....Hexagenia
Species.....Hexagenia limbata
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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 constituents in the sample.)

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 in ft^3/s , times the mg/L of the constituent, times the factor 0.0027, times the number of days.

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.

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.

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State and annual basic-data reports published since 1975.

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

WSP is used as an abbreviation for "Water-Supply Paper" in reference 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.

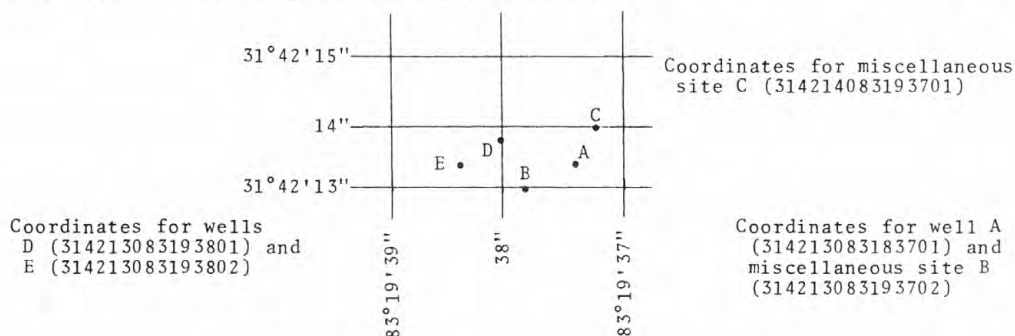


Figure 1. System for numbering wells and miscellaneous sites (latitude and longitude)

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. Greeson, 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.

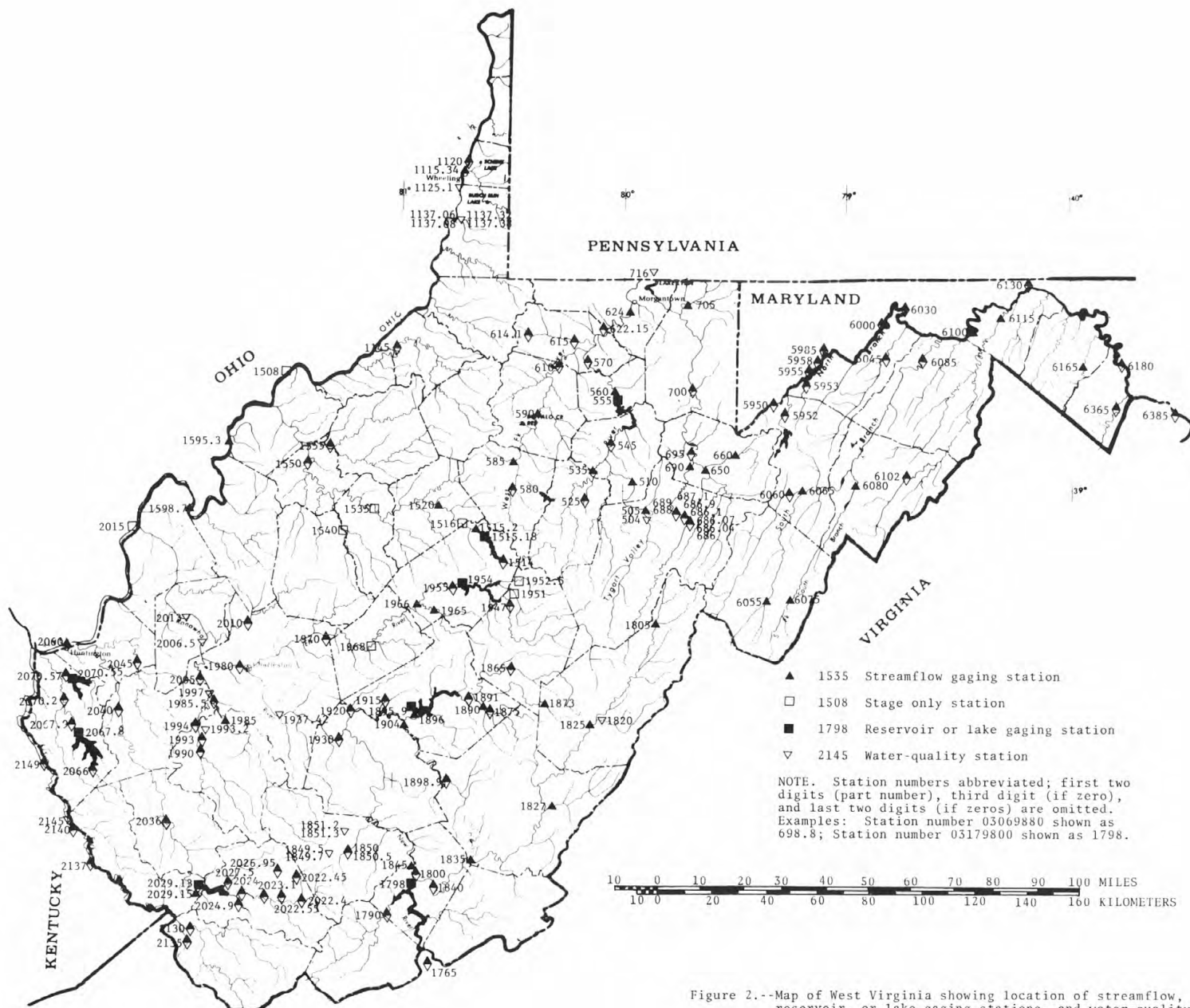


Figure 2.--Map of West Virginia showing location of streamflow, reservoir, or lake gaging stations, and water-quality stations.



Figure 3.--Map of West Virginia showing location of partial record stations and ground-water observation wells.

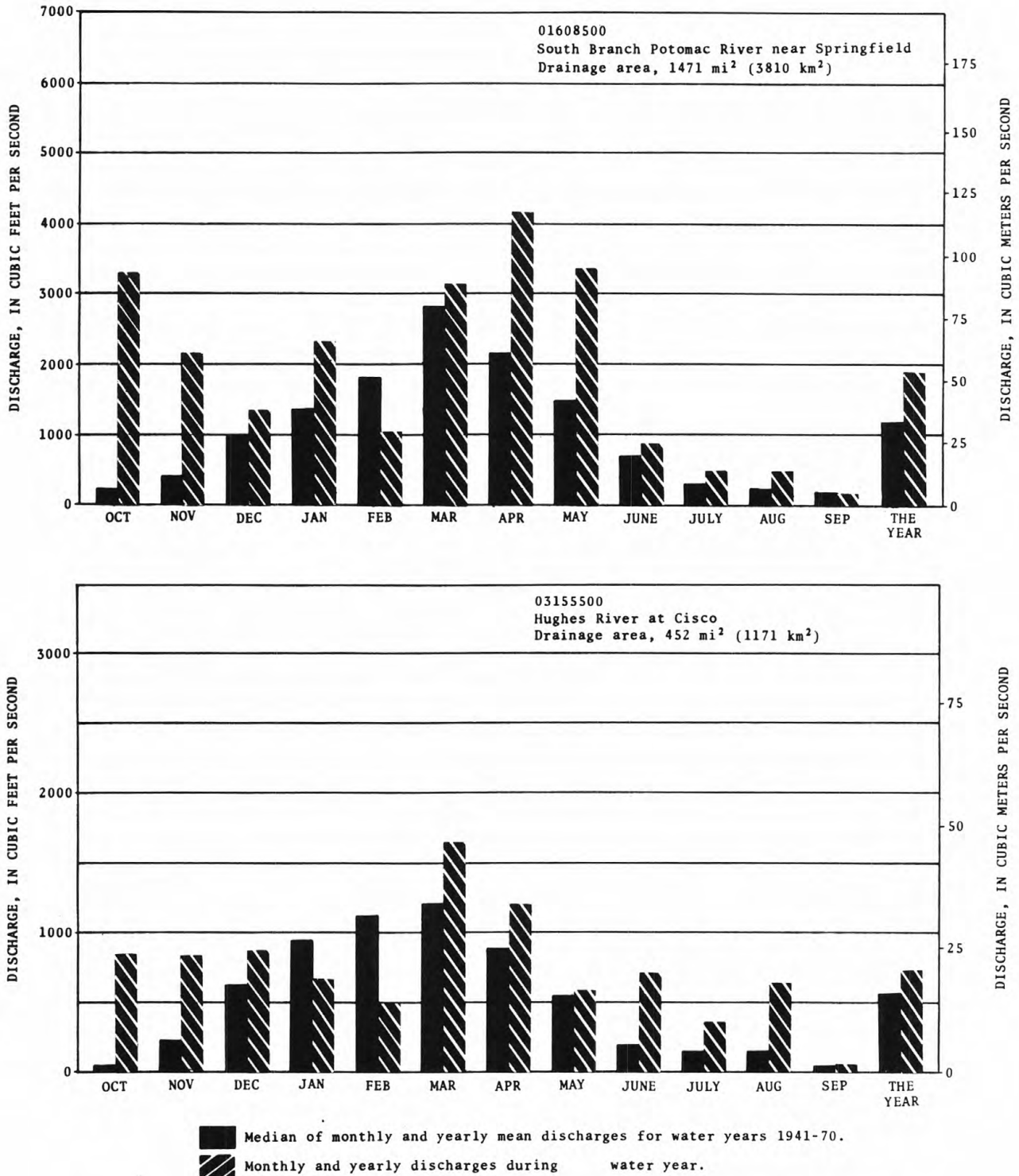


Figure 4.--Discharge at the South Branch Potomac River and the Hughes River index gaging stations during the 1980 water year compared to median discharge for the period 1941-70.

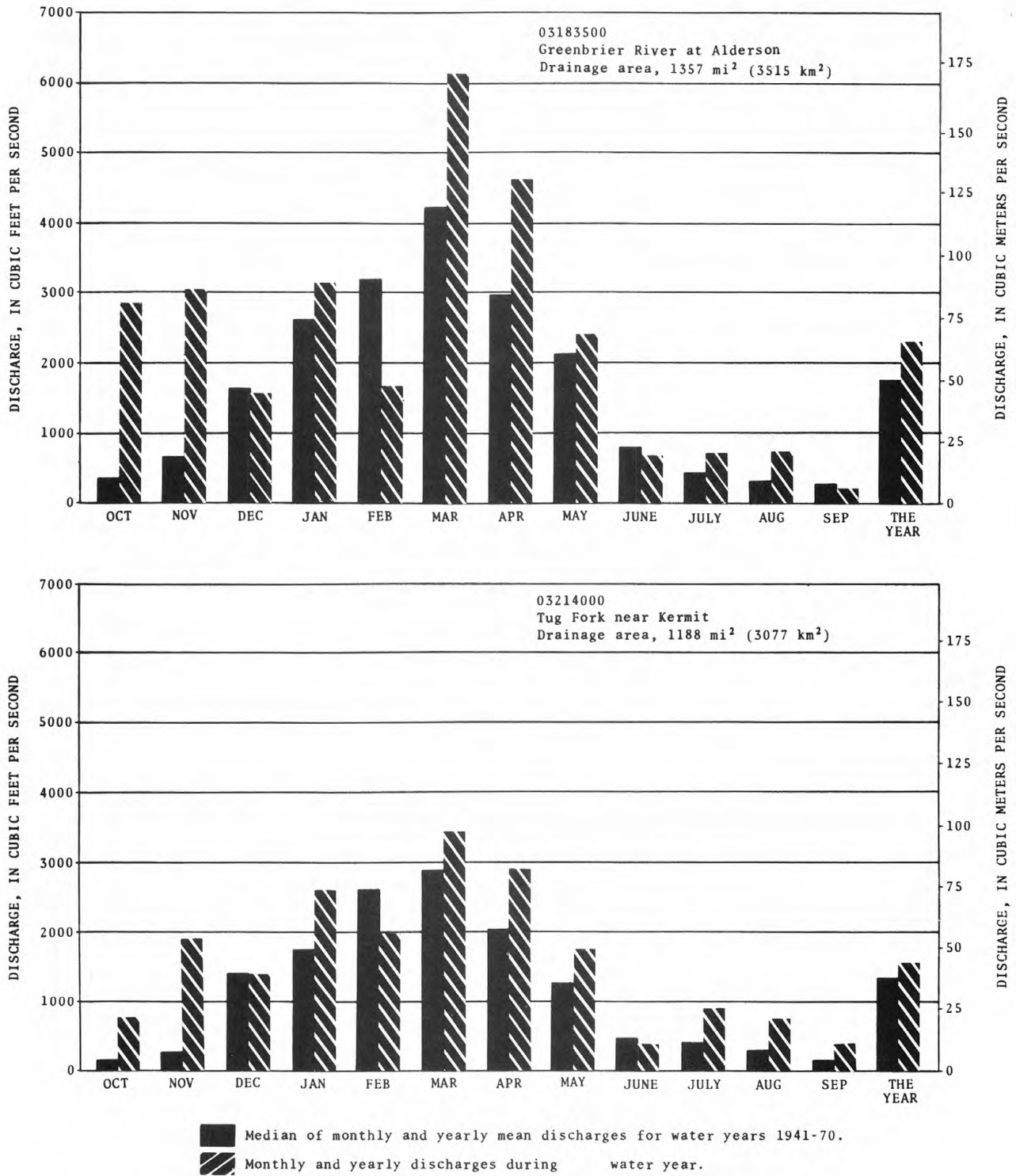


Figure 4a.--Discharge at the Greenbrier River and the Tug Fork River index gaging stations during the 1980 water year compared to median discharge for the period 1941-70.

POTOMAC RIVER BASIN

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

AVERAGE DISCHARGE.--24 years, 174 ft³/s (4.928 m³/s), 32.37 in/yr (822 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)
Feb. 22	0500	Unknown	*a6.64 2.024	Aug. 18	Unknown	*Unknown	Unknown

a Ice jam.

Minimum discharge, 20 ft³/s (0.57 m³/s) Sept. 29, gage height, 2.26 ft (0.689 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	90	86	123	66	150	530	591	140	58	120	55
2	77	389	81	118	64	120	357	394	164	48	170	57
3	185	350	81	123	62	170	280	298	459	120	110	72
4	115	220	81	98	66	180	376	238	467	98	90	58
5	297	177	86	98	62	240	301	201	245	73	95	168
6	314	156	98	97	60	500	246	177	284	143	70	74
7	221	153	115	96	56	400	214	166	234	75	60	58
8	196	139	90	94	54	450	194	142	383	444	52	50
9	1040	126	81	90	50	480	1110	127	257	317	60	44
10	1210	174	81	80	50	420	469	114	435	206	110	43
11	772	165	79	120	50	380	326	107	274	155	78	37
12	704	153	79	260	47	330	264	101	213	390	110	33
13	784	160	260	160	42	300	248	181	175	475	80	31
14	510	155	242	210	44	270	483	128	145	214	64	26
15	355	145	174	241	43	240	445	105	198	147	100	32
16	280	160	150	202	50	280	364	92	1140	113	220	29
17	270	128	140	183	70	330	311	83	473	133	100	29
18	260	115	125	185	62	809	281	117	291	117	1300	33
19	230	105	115	189	54	460	237	100	216	91	640	28
20	200	95	105	160	58	347	210	164	175	72	420	24
21	175	95	98	141	100	396	185	775	143	65	340	28
22	150	88	93	130	180	351	158	343	123	95	270	25
23	120	84	93	133	560	290	134	239	103	130	210	64
24	105	81	95	100	500	279	127	244	83	90	180	49
25	92	81	570	120	400	276	131	347	70	72	150	30
26	89	145	296	141	340	229	140	214	64	54	120	30
27	80	126	220	115	300	197	404	167	56	50	94	28
28	141	100	187	96	230	199	337	147	63	52	82	22
29	148	98	165	85	200	381	251	124	58	300	67	20
30	109	90	153	65	---	256	946	105	97	130	58	26
31	101	---	136	75	---	650	---	125	---	80	54	---
TOTAL	9397	4343	4455	4128	3920	10360	10059	6456	7228	4607	5674	1303
MEAN	303	145	144	133	135	334	335	208	241	149	183	43.4
MAX	1210	389	570	260	560	809	1110	775	1140	475	1300	168
MIN	67	81	79	65	42	120	127	83	56	48	52	20
CFSM	4.15	1.99	1.97	1.82	1.85	4.58	4.59	2.85	3.30	2.04	2.51	.60
IN.	4.79	2.21	2.27	2.10	2.00	5.28	5.13	3.29	3.68	2.35	2.89	.66

CAL YR 1979	TOTAL	75929	MEAN	208	MAX	1890	MIN	15	CFSM	2.85	IN	38.69
WTR YR 1980	TOTAL	71930	MEAN	197	MAX	1300	MIN	20	CFSM	2.70	IN	36.65

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1979 to current year.

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
OCT , 1979									
23...	1300	91	520	3.9	10.0	12.5	9.5	190	190
NOV									
16...	0830	151	285	4.4	2.0	3.5	12.2	120	120
DEC									
14...	1400	229	210	5.4	.0	3.0	12.5	80	80
JAN , 1980									
18...	0915	162	240	5.3	3.0	3.0	13.0	88	86
FEB									
15...	1000	148	750	6.4	3.5	.5	--	400	390
APR									
09...	1800	755	140	5.1	11.0	11.0	9.3	80	78
MAY									
07...	1400	171	285	4.1	23.0	14.0	9.9	120	120
JUN									
11...	1430	270	244	5.7	16.0	13.5	9.9	100	100
AUG									
27...	1230	103	380	4.5	23.0	15.0	8.7	180	180
SEP									
09...	1645	41	--	6.4	23.0	15.4	8.8	--	--

DATE	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)	ALKA- LITY (MG/L AS CACO3)
OCT , 1979									
23...	1.1	55	61	8.2	2.6	4	.1	1.4	0
NOV									
16...	.2	10	39	4.6	1.9	4	.1	1.1	0
DEC									
14...	.4	20	26	3.6	2.0	6	.1	1.0	0
JAN , 1980									
18...	.4	20	28	4.3	2.6	6	.1	.9	2
FEB									
15...	.0	.0	140	11	5.3	3	.1	1.7	9
APR									
09...	.2	10	27	3.1	1.7	4	.1	.8	2
MAY									
07...	.3	15	37	5.8	2.7	5	.1	1.0	1
JUN									
11...	.1	5.0	36	3.3	2.5	5	.1	.8	1
AUG									
27...	.2	10	61	6.4	2.8	3	.1	1.3	2
SEP									
09...	--	--	--	--	--	--	--	--	--

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)
OCT , 1979								
23...	200	2.4	.2	7.7	334	289	.45	82.1
NOV								
16...	120	2.8	.1	5.5	180	178	.24	73.4
DEC								
14...	78	2.7	.1	4.9	135	122	.18	83.5
JAN , 1980								
18...	86	3.6	.1	5.3	135	140	.18	59.0
FEB								
15...	370	4.7	.2	6.1	558	547	.76	223
APR								
09...	81	1.9	.1	4.0	151	125	.21	308
MAY								
07...	120	2.5	.1	5.4	205	179	.28	94.6
JUN								
11...	97	2.5	.1	4.8	180	151	.24	131
AUG								
27...	180	2.7	.2	7.7	283	266	.38	78.7
SEP								
09...	430	--	--	--	683	--	.93	76.9

POTOMAC RIVER BASIN

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

WATER QUALITY DATA

DATE	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)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE D RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	SEDI- MENT, SUS- PENDE D (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE D (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	COAL IN BOTTOM MATE- RIAL (GM/KG)
OCT , 1979										
23...	4900	3600	1300	710	30	680	18	4.4	93	--
NOV										
16...	3400	3080	320	470	0	470	30	12	--	--
DEC										
14...	2100	1500	610	390	10	380	25	15	--	--
JAN , 1980										
18...	10000	6800	3200	410	10	400	249	109	--	--
FEB										
15...	3100	2900	250	630	30	600	27	11	--	--
APR										
09...	4100	3100	1000	350	40	310	--	--	--	--
MAY										
07...	2200	1400	830	420	0	420	--	--	--	--
JUN										
11...	1600	1200	400	250	30	220	18	13	--	--
AUG										
27...	900	770	130	440	0	460	10	2.8	--	--
SEP										
09...	350	340	10	390	0	400	--	--	--	12.0

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 fair except those for January 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.--19 years, 99.4 ft³/s (2.815 m³/s), 27.66 in/yr (703 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, 2,020 ft³/s (57.2 m³/s) Feb. 24, gage height, 7.09 ft (2.161 m); minimum, 5.7 ft³/s (0.161 m³/s), Sept. 19, 21, 30, gage height, 2.00 ft (0.610 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	31	37	82	16	45	319	695	98	23	69	10
2	220	164	37	33	16	40	283	545	102	21	57	10
3	262	132	35	31	16	36	308	253	148	34	45	11
4	160	112	33	32	16	34	223	99	215	27	58	11
5	182	105	32	31	18	102	182	122	192	24	55	16
6	168	98	35	33	18	136	164	142	217	27	44	12
7	144	134	40	40	17	122	142	202	205	22	24	10
8	140	128	36	40	17	215	120	200	232	347	12	9.6
9	422	114	33	37	17	308	367	138	200	379	16	9.1
10	1010	118	32	55	17	268	256	99	226	280	16	8.6
11	761	105	32	98	17	148	217	81	175	223	14	7.9
12	391	101	35	107	17	107	200	35	150	134	15	7.2
13	417	101	71	87	20	112	195	42	116	84	12	7.2
14	359	95	73	105	20	122	274	35	38	40	11	7.2
15	335	91	67	107	17	379	253	31	78	29	30	7.2
16	304	91	77	104	28	440	215	28	467	24	40	7.0
17	271	81	84	105	28	187	192	29	150	23	15	6.8
18	241	76	77	114	24	274	168	107	192	21	462	6.4
19	212	68	72	229	19	343	148	43	200	18	395	6.2
20	182	64	67	154	22	565	132	81	170	17	327	6.0
21	162	31	64	34	58	417	99	535	144	16	259	6.0
22	136	20	60	34	226	217	124	440	120	17	212	6.2
23	41	19	61	37	200	126	105	408	49	23	122	12
24	37	21	66	33	1060	144	74	343	27	18	96	9.1
25	34	23	235	53	80	202	68	217	25	16	80	7.7
26	32	44	166	53	64	164	80	55	24	14	67	7.5
27	30	40	185	651	55	152	212	45	21	15	16	6.8
28	40	38	166	34	52	244	323	43	20	45	14	6.4
29	37	40	148	22	50	391	290	42	20	76	13	6.0
30	32	40	132	17	---	280	601	52	35	40	12	5.9
31	30	---	120	16	---	383	---	98	---	27	11	---
TOTAL	6890	2325	2408	2608	2225	6703	6334	5285	4056	2104	2619	250.0
MEAN	222	77.5	77.7	84.1	76.7	216	211	170	135	67.9	84.5	8.33
MAX	1010	164	235	651	1060	565	601	695	467	379	462	16
MIN	30	19	32	16	16	34	68	28	20	14	11	5.9
(†)	1208	1175	1175	1138	1274	1230	1405	1418	1375	1418	1357	1297

CAL YR 1979 TOTAL 48559.0 MEAN 133 MAX 1300 MIN 12 CFSM 2.73 IN 37.02
WTR YR 1980 TOTAL 43807.0 MEAN 120 MAX 1060 MIN 5.9 CFSM 2.46 IN 33.39

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

POTOMAC RIVER BASIN

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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 Nov. 3-7, Dec. 7-11.

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, 25.5°C July 11; minimum, 2.0°C Jan. 25-27, Feb. 5-23, Mar. 4-6, and 13.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT									
17...	1530	267	160	4.7	--	18.0	--	--	--
NOV									
16...	1000	92	200	5.3	2.5	7.0	11.1	56	56
DEC									
05...	1315	32	310	4.7	13.0	4.0	--	--	--
JAN									
16...	1330	103	180	4.1	8.0	6.0	--	--	--
FEB									
14...	1600	20	440	4.6	20.0	.5	--	150	150
MAR									
04...	1325	41	370	4.3	7.0	2.0	--	--	--
APR									
08...	1310	124	240	5.9	16.0	12.0	--	--	--
08...	1700	106	184	4.6	12.0	11.5	9.6	61	59
MAY									
06...	1830	146	173	4.0	19.0	17.0	8.5	53	53
20...	1322	48	360	3.9	15.0	15.0	--	--	--
JUN									
11...	1300	178	150	4.1	16.0	18.5	8.6	42	42
JUL									
01...	1345	22	500	3.5	20.0	20.0	--	--	--
AUG									
12...	1410	17	600	3.4	22.5	22.0	--	--	--
27...	1400	15	326	3.9	24.0	22.5	7.8	120	120
SEP									
09...	1400	9.1	804	2.8	22.5	19.0	8.5	--	--
23...	1320	14	690	3.4	18.0	19.0	--	--	--

POTOMAC RIVER BASIN

01595200 STONY RIVER NEAR MOUNT STORM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	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	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)
NOV 16...	.8	40	16	3.9	3.2	14	.2	4.2	1.0	0
FEB 14...	.9	45	43	11	7.9	10	.3	9.4	1.5	0
APR 08...	.3	15	18	4.0	3.2	10	.2	--	1.0	2
MAY 06...	.4	20	15	3.7	1.9	7	.1	--	1.0	0
JUN 11...	.4	20	12	2.8	2.9	13	.2	--	.8	0
AUG 27...	.5	25	35	9.0	4.4	7	.2	--	1.6	2
SEP 09...	1.5	75	--	--	--	--	--	--	--	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 CONSTITUENTS, 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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
NOV 16...	70	1.6	.1	4.3	108	107	.15	26.8	.28	5600
FEB 14...	200	4.8	.3	5.7	290	286	.39	15.7	.32	8500
APR 08...	65	1.7	.1	3.9	119	104	.16	34.1	.40	3900
MAY 06...	66	1.5	.1	3.8	118	100	.16	46.5	.40	5100
JUN 11...	55	1.3	.1	3.7	88	84	.12	42.3	.27	3500
AUG 27...	140	2.2	.2	6.1	228	206	.31	9.23	.44	4100
SEP 09...	320	--	--	--	490	--	.67	12.0	--	4500

DATE	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)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
NOV 16...	1300	4300	790	30	760	--	--	15	3.7
FEB 14...	900	7600	1400	0	1500	--	--	12	.65
APR 08...	800	3100	680	0	710	5.6	--	10	2.9
MAY 06...	1400	3700	630	0	630	--	--	--	--
JUN 11...	700	2800	700	0	700	--	--	12	5.8
AUG 27...	1200	2900	1000	0	1100	--	--	12	.49
SEP 09...	2600	1900	2000	0	2000	--	10.0	--	--

POTOMAC RIVER BASIN

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.--24 years, 68.1 ft³/s (1.929 m³/s), 21.71 in/yr (551 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)
Apr. 9	0415	805 22.8	5.79 1.765	June 16	0515	880 24.9	5.94 1.811
Apr. 30	1145	1020 28.9	6.21 1.893	Aug. 18	0830	*1280 36.2	6.67 2.033
May 21	0445	885 25.1	5.95 1.814				

Minimum discharge, 7.7 ft³/s (0.22 m³/s) Sept. 29, 30, gage height, 2.37 ft (0.722 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	34	37	52	30	51	250	372	77	22	44	18
2	46	213	36	47	28	49	183	247	82	20	46	17
3	140	187	34	43	27	46	149	185	113	45	25	18
4	72	112	33	40	25	45	171	146	132	31	20	33
5	184	85	32	38	27	127	142	119	74	23	22	53
6	176	75	37	36	27	181	112	102	78	22	17	25
7	124	73	35	40	25	124	95	91	75	17	16	19
8	108	67	31	37	23	156	87	75	134	171	14	16
9	372	61	27	34	22	136	447	66	88	120	18	15
10	501	71	27	30	21	102	213	58	162	57	20	14
11	309	62	27	65	20	89	160	54	105	43	22	13
12	274	61	27	102	19	70	136	52	78	70	21	12
13	244	62	65	58	18	64	127	78	67	115	16	11
14	180	58	67	95	20	60	245	54	59	52	14	11
15	147	52	47	100	25	65	228	46	88	38	22	13
16	122	55	44	79	40	83	173	40	539	30	55	12
17	102	51	40	75	31	282	148	37	219	30	21	10
18	87	46	38	75	27	369	125	60	144	28	527	10
19	76	43	36	76	25	217	105	48	119	22	206	9.8
20	69	41	35	64	38	173	91	67	89	19	113	9.2
21	62	38	34	56	146	231	81	503	72	17	78	9.8
22	56	37	33	52	360	199	70	219	60	25	66	10
23	54	36	38	48	260	154	64	156	52	34	54	18
24	54	36	41	41	191	137	61	160	46	26	45	16
25	48	37	226	61	139	129	66	193	41	18	38	12
26	45	59	119	52	112	103	67	124	36	16	32	11
27	40	55	87	45	88	85	272	89	32	15	29	9.8
28	47	45	74	40	78	119	213	76	30	18	26	8.3
29	47	42	66	36	64	310	162	66	27	112	24	7.7
30	39	38	63	34	---	183	710	63	30	33	21	7.7
31	36	---	56	32	---	307	---	81	---	23	20	---
TOTAL	3896	1932	1592	1683	1956	4446	5153	3727	2948	1312	1692	449.3
MEAN	126	64.4	51.4	54.3	67.4	143	172	120	98.3	42.3	54.6	15.0
MAX	501	213	226	102	360	369	710	503	539	171	527	53
MIN	35	34	27	30	18	45	61	37	27	15	14	7.7
CFSM	2.66	1.36	1.09	1.15	1.43	3.02	3.64	2.54	2.08	.89	1.15	.32
IN.	3.06	1.52	1.25	1.32	1.54	3.50	4.05	2.93	2.32	1.03	1.33	.35

CAL YR 1979	TOTAL	32879.4	MEAN 90.1	MAX 813	MIN 9.4	CFSM 1.91	IN 25.86
WTR YR 1980	TOTAL	30786.3	MEAN 84.1	MAX 710	MIN 7.7	CFSM 1.78	IN 24.21

POTOMAC RIVER BASIN

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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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (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)
OCT										
17...	1215	106	85	4.3	17.0	9.5	--	--	--	--
NOV										
16...	1115	57	320	4.6	6.0	3.5	13.0	110	100	.0
DEC										
05...	1110	32	400	5.3	6.5	1.0	--	--	--	--
JAN										
16...	1115	80	250	5.5	8.0	2.0	--	--	--	--
FEB										
14...	1445	20	435	5.1	3.0	1.0	--	170	160	.5
MAR										
04...	1140	55	295	5.6	5.0	.5	--	--	--	--
APR										
08...	1135	82	280	5.0	17.0	9.0	--	--	--	--
08...	1400	85	271	4.7	13.0	9.0	10.6	96	94	.3
MAY										
06...	1730	109	296	4.1	23.5	15.5	8.9	100	100	.5
20...	1150	63	300	4.3	18.0	14.0	--	--	--	--
JUN										
11...	1145	107	254	4.7	16.0	12.0	10.4	92	92	.2
JUL										
01...	1235	23	510	4.3	28.0	19.0	--	--	--	--
AUG										
12...	1130	20	460	4.8	28.0	22.0	--	--	--	--
27...	1500	29	406	4.0	29.0	21.0	8.3	170	170	.5
SEP										
09...	1015	15	--	4.0	18.5	17.0	9.1	--	--	.5
23...	1115	20	635	4.3	22.0	19.0	--	--	--	--

POTOMAC RIVER BASIN

01595300 ABRAM CREEK AT OAKMONT, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	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)	ALKA- LINITY (MG/L AS CaCO3)
NOV 16...	20	29	9.3	5.0	13	.2	6.2	1.2	9
FEB 14...	25	45	13	4.9	6	.2	6.1	1.2	2
APR 08...	15	25	8.2	3.7	8	.2	--	1.2	2
MAY 06...	25	26	9.2	4.4	8	.2	--	1.1	1
JUN 11...	10	24	7.7	5.1	11	.2	--	1.1	0
AUG 27...	25	43	14	5.8	7	.2	--	1.5	0
SEP 09...	24	--	--	--	--	--	--	--	--

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 DIS- SOLVED (MG/L AS N)
NOV 16...	120	4.1	.2	6.3	198	185	.27	30.5	.45
FEB 14...	190	5.2	.3	6.6	276	273	.38	14.9	.38
APR 08...	110	4.7	.2	5.3	180	163	.24	41.3	.36
MAY 06...	120	3.7	.2	5.9	222	177	.30	65.3	.64
JUN 11...	97	3.5	.1	5.8	182	148	.25	52.6	.44
AUG 27...	180	3.7	.3	8.4	286	262	.39	22.4	.42
SEP 09...	210	--	--	--	359	--	.49	14.5	--

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)	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)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
NOV 16...	780	560	200	1900	0	1900	--	10	1.5
FEB 14...	390	300	90	2800	0	3000	--	5	.27
APR 08...	650	450	200	1600	0	1600	1.4	6	1.4
MAY 06...	660	380	280	1800	0	1800	--	--	--
JUN 11...	930	790	140	1500	100	1400	--	17	4.9
AUG 27...	270	170	100	2900	0	3200	--	3	.23
SEP 09...	170	110	60	4100	0	4100	--	--	--

POTOMAC RIVER BASIN

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01595300 ABRAM CREEK AT OAKMONT, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
NOV					
02...	1107	351	270	77	73
02...	1216	348	245	116	109
02...	1330	348	220	189	178
02...	1435	455	194	177	217
02...	1530	519	184	165	231
02...	1635	547	189	140	207
02...	1735	710	189	119	228
02...	1836	890	186	110	264
02...	1945	815	182	82	180
02...	2055	775	180	70	147
02...	2150	735	176	67	133
02...	2253	697	175	54	102
02...	2345	665	174	50	90
03...	0045	283	172	43	33
16...	1115	57	320	10	1.5
FEB					
14...	1445	20	435	5	.27
22...	0700	235	169	94	60
22...	0800	354	166	420	401
22...	0900	357	168	394	380
22...	1000	327	169	280	247
22...	1100	333	169	203	183
22...	1200	336	174	239	217
22...	1300	357	169	245	236
22...	1400	345	153	182	170
22...	1500	383	150	178	184
22...	1600	403	149	186	202
MAR					
17...	0800	137	174	140	52
17...	1300	213	224	187	108
17...	1500	321	185	69	60
17...	1600	399	185	73	79
17...	1700	471	169	175	223
17...	1800	503	171	160	217
17...	1900	519	171	167	234
17...	2000	523	185	67	95
17...	2100	511	172	168	232
17...	2200	495	169	116	155
17...	2300	479	169	120	155
17...	2400	459	249	694	860
31...	1500	439	186	65	77
31...	1800	411	185	70	78
31...	1900	391	185	65	69
APR					
08...	1400	85	271	6	1.4
30...	0330	579	138	372	582
30...	0430	765	134	338	698
30...	0530	870	134	371	871
30...	0630	890	136	352	846
30...	0730	910	134	363	892
30...	0830	930	140	396	994
30...	0930	985	136	397	1060
30...	1030	990	134	335	895
30...	1130	1020	134	419	1150
30...	1230	1000	133	415	1120
30...	1330	940	132	284	721
30...	1430	875	132	222	524
30...	1530	845	133	208	475
30...	1630	790	136	155	331
30...	1730	730	138	127	250
30...	1830	687	140	120	223
MAY					
21...	0300	697	159	166	312
21...	0400	860	158	150	348
21...	0500	885	156	161	385
21...	0600	850	158	148	340
21...	0700	785	162	191	405
21...	0800	720	177	101	196
21...	0900	656	183	79	140
21...	1000	616	165	61	101
21...	1100	579	179	34	53
JUN					
11...	1145	107	254	17	4.9
AUG					
27...	1500	29	406	3	.23

POTOMAC RIVER BASIN

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.--31 years, 452 ft³/s (12.80 m³/s), 27.28 in/yr (693 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)
Oct. 10	0215	3940 112	7.02 2.140	May 21	0545	4280 121	7.18 2.188
Apr. 9	0430	4930 140	7.47 2.277	June 16	0730	4500 127	7.28 2.219
Apr. 30	1200	4520 128	7.29 2.222	Aug. 18	0900	*9280 263	8.89 2.710

Minimum discharge, 47 ft³/s (1.33 m³/s) Sept. 30, gage height, 2.49 ft (0.759 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	249	159	199	316	136	300	1560	2100	456	153	390	111
2	276	871	195	248	131	250	1110	1470	432	126	458	107
3	830	1080	180	217	131	350	986	1030	797	221	259	128
4	518	697	182	230	137	270	1020	674	1100	221	235	126
5	735	539	179	216	127	500	860	597	669	152	261	308
6	910	467	206	210	123	1210	716	557	703	220	198	155
7	657	445	238	209	116	844	617	580	684	153	161	118
8	598	400	203	203	111	1150	552	550	947	963	128	103
9	2170	371	175	195	104	1200	3300	453	749	1050	157	90
10	3620	440	173	170	103	965	1320	359	1000	670	294	86
11	2520	425	169	254	102	846	583	318	889	521	213	81
12	1790	387	168	558	95	643	820	272	616	606	306	72
13	1830	389	434	366	88	586	766	422	503	982	207	69
14	1340	360	519	430	91	560	1350	324	356	411	157	63
15	1060	327	363	510	91	527	1360	259	580	278	267	71
16	882	349	332	457	105	886	1060	225	3300	215	723	65
17	745	323	332	438	146	1060	916	205	1180	216	284	61
18	650	292	292	438	124	1850	806	361	811	216	4220	62
19	579	264	288	502	112	1270	685	286	705	168	1960	61
20	502	246	285	618	120	1300	597	344	579	141	1200	56
21	442	222	234	295	211	1330	520	2460	477	128	874	55
22	387	192	222	275	510	1120	469	1280	393	156	700	61
23	309	178	228	271	1100	886	423	1010	300	334	534	95
24	261	174	234	210	800	847	363	999	210	237	412	112
25	229	180	871	258	620	850	368	1190	189	165	328	72
26	205	276	646	246	520	743	353	622	167	139	278	64
27	179	298	554	514	430	595	1130	467	152	126	199	62
28	237	239	490	252	400	637	1140	392	149	141	159	54
29	306	227	433	173	390	1460	952	332	139	787	139	49
30	213	211	395	137	---	968	2960	293	188	302	126	48
31	182	---	354	152	---	1810	---	387	---	214	115	---
TOTAL	25411	11028	9773	9568	7274	27813	30062	20818	19420	10412	15942	2665
MEAN	820	368	315	309	251	897	1002	672	647	336	514	88.8
MAX	3620	1080	871	618	1100	1850	3300	2460	3300	1050	4220	308
MIN	179	159	168	137	88	250	353	205	139	126	115	48

CAL YR 1979 TOTAL 211404 MEAN 579 MAX 5130 MIN 48 CFSM 2.57 IN 34.95
WTR YR 1980 TOTAL 190186 MEAN 520 MAX 4220 MIN 48 CFSM 2.31 IN 31.44

POTOMAC RIVER BASIN

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

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: August 1961 to current year.

SUSPENDED-SEDIMENT DISCHARGE: February to September 1980.

INSTRUMENTATION.--Temperature recorder since August 1961.

REMARKS.--Period of missing record, Dec. 17 to Mar. 31, due to construction of new installation; Apr. 1 to July 22 and Aug. 8 to Sept. 30, due to equipment 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.

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
NOV , 1979									
16...	1200	431	280	5.6	7.0	5.0	11.5	100	100
APR , 1980									
09...	1000	3879	130	5.5	16.5	9.0	12.9	--	--
SEP									
09...	1030	90	650	4.3	24.0	19.7	8.5	280	280

DATE	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)	ALKA- LINITY (MG/L AS CACO3)
NOV , 1979									
16...	.0	.0	33	5.3	2.0	5	.1	1.0	0
APR , 1980									
09...	.1	5.0	--	--	--	--	--	--	1
SEP									
09...	.2	10	92	11	5.2	4	.1	2.0	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 CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
NOV , 1979								
16...	110	2.4	.1	4.9	--	160	.22	186
APR , 1980								
09...	43	--	--	--	85	--	.12	890
SEP								
09...	280	3.1	.2	7.0	483	402	.66	117

DATE	ARSENIC TOTAL (UG/L AS AS)	ARSENIC IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/G 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 AS CR)	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)
SEP , 1980										
09...	0	0	100	0	<10	80	5	<10	5	<10

POTOMAC RIVER BASIN

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

WATER QUALITY DATA

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)	LFAC, 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)		
NOV , 1979											
16...	2800	1870	930	--	--	--	740	0	760		
APR , 1980											
09...	12000	12000	270	--	--	--	530	120	410		
SFP											
09...	370	280	90	11000	1	<10	1200	0	1300		
DATE	MANGA- NESE, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, TOTAL RECOV- ERABLE (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, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	COAL IN BOTTOM MATE- RIAL (GM/KG)
NOV , 1979											
16...	--	--	--	--	--	--	--	--	14	16	--
APR , 1980											
09...	--	--	--	--	--	--	--	--	71	744	--
SFP											
09...	130	<.1	.00	0	0	0	100	20	--	--	3.00

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1							---	---	25.5	21.0		
2							---	---	31.0	25.5		
3							---	---	30.5	27.0		
4							---	---	32.0	27.0		
5							---	---	31.0	27.0		
6							---	---	29.5	27.5		
7							---	---	29.0	23.0		
8							---	---	---	---		
9							---	---	---	---		
10							---	---	---	---		
11							---	---	---	---		
12							---	---	---	---		
13							---	---	---	---		
14							---	---	---	---		
15							---	---	---	---		
16							---	---	---	---		
17							---	---	---	---		
18							---	---	---	---		
19							---	---	---	---		
20							---	---	---	---		
21							---	---	---	---		
22							---	---	---	---		
23							22.0	20.0	---	---		
24							23.5	19.0	---	---		
25							25.0	18.5	---	---		
26							26.0	19.0	---	---		
27							26.5	20.0	---	---		
28							22.5	20.0	---	---		
29							21.0	18.5	---	---		
30							22.5	18.5	---	---		
31							23.5	19.5	---	---		
MONTH							26.5	18.5	32.0	21.0		

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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									---	---	6	4.9
2									---	---	5	3.4
3									---	---	26	24
4									---	---	14	10
5									---	---	22	30
6									---	---	55	199
7									---	---	22	50
8									---	---	64	215
9									---	---	31	104
10									---	---	15	40
11									---	---	14	32
12									---	---	13	23
13									---	---	14	22
14									14	3.4	15	25
15									21	5.2	14	22
16									25	7.1	62	172
17									12	4.7	120	475
18									10	3.3	146	762
19									10	3.0	33	115
20									15	4.9	22	77
21									32	20	46	171
22									238	328	29	88
23									76	226	20	48
24									35	76	15	34
25									21	35	15	34
26									16	22	12	24
27									11	13	10	16
28									9	9.7	42	82
29									8	8.4	80	304
30									---	---	35	92
31									---	---	128	747
TOTAL									---	769.7	---	4045.3

POTOMAC RIVER BASIN

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

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	44	195	39	229	45	55	10	4.1	100	189	5	1.5
2	17	51	20	80	29	35	6	2.0	85	114	4	1.2
3	17	45	15	43	76	172	37	25	30	21	5	1.7
4	23	61	12	22	82	282	32	19	25	16	13	6.0
5	16	37	15	24	22	39	12	5.0	30	21	94	78
6	13	25	13	20	28	59	32	21	33	18	9	4.0
7	10	17	13	20	28	52	18	8.0	18	7.8	6	1.9
8	28	42	10	15	50	147	427	2050	10	3.5	6	1.7
9	284	3010	10	12	22	45	200	742	10	4.2	5	1.2
10	39	142	10	9.7	62	215	13	23	78	75	4	.93
11	18	48	9	7.7	22	53	90	129	46	27	3	.66
12	17	38	10	7.4	22	37	142	575	95	85	2	.39
13	15	31	29	34	22	30	239	981	30	17	2	.37
14	63	260	14	12	19	18	55	64	18	7.6	2	.34
15	30	113	9	6.3	37	65	21	16	59	111	2	.38
16	15	43	7	4.3	303	2730	6	4.0	188	492	2	.35
17	14	34	5	2.8	43	138	26	15	30	23	2	.33
18	13	28	16	15	29	64	24	14	1180	19100	2	.33
19	13	24	7	6.0	23	44	16	7.0	92	513	2	.33
20	12	19	36	51	16	25	13	4.9	39	128	2	.30
21	13	18	179	1460	11	14	11	3.8	21	50	2	.30
22	12	15	20	68	7	7.4	49	24	18	34	2	.33
23	11	13	16	42	5	4.1	140	124	14	20	26	9.0
24	12	12	39	139	4	2.3	30	20	12	13	8	3.0
25	13	13	46	151	6	3.1	14	6.0	9	8.0	3	.58
26	15	14	18	30	4	1.8	10	3.8	8	6.0	2	.35
27	79	277	14	18	5	2.1	10	3.4	8	4.3	1	.17
28	26	82	14	15	3	1.2	41	20	7	3.0	2	.29
29	17	43	14	13	9	3.4	208	561	6	2.3	2	.26
30	229	2170	14	11	14	7.1	28	23	8	2.7	1	.13
31	---	---	17	18	---	---	22	13	11	3.4	---	---
TOTAL	---	6920	---	2586.2	---	4351.5	---	5511.0	---	21119.8	---	116.32

POTOMAC RIVER BASIN

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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.--14 years, 542 ft³/s (15.35 m³/s), 27.67 in/yr (703 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)
Oct. 10	0615	4210 119	6.91 2.106	June 16	1245	4190 119	6.90 2.103
Apr. 9	1030	4370 124	7.00 2.134	Aug. 18	1715	*5860 166	7.75 2.362
Apr. 30	1700	4630 131	7.14 2.176				

Minimum discharge, 37 ft³/s (1.05 m³/s) Sept. 29, 30, gage height, 2.02 ft (0.616 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	338	219	242	415	188	415	2340	2930	546	215	214	117
2	306	599	230	334	180	366	1520	1940	478	142	578	115
3	1170	1460	216	279	177	586	1240	1420	769	180	288	124
4	711	801	218	264	174	425	1250	890	1310	270	238	124
5	756	614	217	258	174	616	1100	752	824	180	246	258
6	1360	534	231	247	175	1740	907	678	732	199	224	186
7	868	496	267	243	164	980	772	674	837	196	180	111
8	756	520	256	250	156	1300	684	667	1040	706	143	89
9	2140	466	219	235	147	1560	3030	570	932	1510	145	81
10	3920	460	202	194	145	1140	1870	456	1230	788	282	74
11	3370	515	203	237	145	968	1290	405	1030	598	223	71
12	2130	450	201	822	141	699	1010	356	747	450	281	65
13	2200	445	314	512	136	635	932	468	599	1220	258	59
14	1710	426	725	534	136	610	1370	434	459	521	179	58
15	1310	390	477	732	132	556	1830	336	386	335	148	54
16	1070	391	408	608	145	1160	1320	288	2900	257	760	57
17	905	395	400	562	201	1160	1130	265	1670	219	353	54
18	766	371	306	543	199	2780	986	386	992	257	3240	52
19	663	339	336	572	175	1740	849	394	867	196	3090	51
20	573	305	318	956	178	1680	730	367	706	162	1560	50
21	505	287	294	362	259	1680	634	2820	580	137	1030	47
22	449	250	273	335	600	1490	545	1830	482	145	809	47
23	369	237	273	344	1400	1050	510	1310	390	266	628	48
24	290	226	277	273	1000	962	452	1110	277	283	466	108
25	263	229	1250	326	820	968	438	1660	243	183	371	79
26	247	268	1050	390	654	882	401	895	219	144	309	58
27	227	414	780	666	562	739	1090	628	192	126	250	57
28	221	303	666	622	527	712	1470	512	186	121	183	54
29	346	279	568	248	488	1770	1190	437	177	722	156	43
30	272	270	518	179	---	1300	3080	381	192	379	137	38
31	231	---	465	215	---	1970	---	432	---	234	124	---
TOTAL	30442	12959	12400	12757	9578	34639	35570	26691	21992	11341	17093	2429
MEAN	982	432	400	412	330	1117	1199	861	733	366	551	81.0
MAX	3920	1460	1250	956	1400	2780	3080	2930	2900	1510	3240	258
MIN	221	219	201	179	132	366	401	265	177	121	124	38

CAL YR 1979 TOTAL 260453 MEAN 714 MAX 6230 MIN 57 CFSM 2.68 IN 36.42
WTR YR 1980 TOTAL 228291 MEAN 624 MAX 3920 MIN 38 CFSM 2.35 IN 31.93

POTOMAC RIVER BASIN

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

WATER-QUALITY RECORDS

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

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (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)	CALCIUM DIS- SOLVED (MG/L AS CA)
NOV , 1979												
16...	1000	426	270	4.8	5.5	6.5	11.7	--	--	.3	15	--
APR , 1980												
09...	1530	3790	124	5.5	19.0	10.0	11.3	51	44	.1	5.0	15
SEP												
12...	0930	74	652	4.0	16.0	18.6	8.9	--	--	.2	9.5	--
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 K)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV , 1979												
16...	--	--	--	--	--	8	110	--	--	--	174	--
APR , 1980												
09...	3.2	2.0	8	.1	1.2	7	52	2.8	.1	3.4	104	88
SEP												
12...	--	--	--	--	--	--	290	--	--	--	486	--
DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	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)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	COAL IN BOTTOM MATE- RIAL (GM/KG)
NOV , 1979												
16...	.24	200	2000	1630	370	780	20	760	--	--	--	--
APR , 1980												
09...	.14	1060	7600	7500	100	560	140	420	4.9	162	1660	--
SEP												
12...	.66	97.6	2500	2100	430	1800	100	1700	--	--	--	15.0

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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).

WATER-DISCHARGE RECORDS

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.--37 years (water years 1900-05, 1950-80), 715 ft³/s (20.25 m³/s), 24.03 in/yr (610 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, 7,000 ft³/s (198 m³/s) May 21, gage height, 8.41 ft (2.563 m); minimum, 134 ft³/s (3.79 m³/s) July 28, gage height, 1.50 ft (0.457 m).

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	431	348	365	713	320	680	4400	4130	712	250	234	244
2	421	620	372	632	340	600	2810	2780	649	187	566	238
3	1560	1680	435	475	350	660	1960	2040	955	196	360	243
4	1370	1020	534	388	370	640	1690	1370	1550	331	286	257
5	1400	1050	424	373	360	640	1350	1140	1060	229	285	400
6	2080	1210	359	366	300	1900	1110	1010	897	222	262	374
7	1530	1160	390	362	270	1160	567	947	1030	237	207	269
8	1410	893	383	366	240	1410	866	914	1220	835	167	233
9	2660	620	340	344	220	1720	3890	803	1170	2130	161	219
10	4680	620	324	304	210	1550	3850	669	1760	1060	296	209
11	4340	669	420	349	200	1550	2930	586	1710	770	266	201
12	3000	604	397	959	200	1280	1800	547	1190	587	408	194
13	3030	687	449	658	190	1210	1660	639	919	1240	364	185
14	2490	669	989	668	180	925	1890	624	705	636	230	183
15	1990	542	808	914	170	694	2260	497	567	412	207	178
16	1720	542	729	885	180	1280	1960	422	2850	316	764	181
17	1280	542	868	903	190	1320	1950	373	2100	269	699	176
18	944	500	878	877	210	3330	1480	488	1260	299	2590	175
19	821	467	667	922	230	2890	1090	574	1080	232	3280	173
20	720	439	458	1290	250	2830	958	652	888	191	1690	170
21	645	416	419	619	290	2530	846	5010	724	162	1160	167
22	590	379	400	498	800	2170	739	3320	606	166	984	170
23	519	351	402	578	2500	1660	687	2080	510	297	805	172
24	437	344	421	485	2300	1390	582	1620	371	344	629	237
25	394	344	1400	439	1800	1320	562	2430	314	224	535	211
26	497	379	1470	481	1600	1170	509	1390	278	262	462	182
27	569	624	1360	613	1300	889	1210	977	244	150	406	174
28	564	620	1100	787	1100	856	1740	777	223	145	328	172
29	583	588	892	369	900	2010	1440	652	212	617	297	160
30	418	687	831	290	---	1550	3420	571	215	477	273	153
31	369	---	766	310	---	3150	---	603	---	291	255	---
TOTAL	43462	19614	20050	18217	17570	46964	52606	40635	27969	13764	19456	6300
MEAN	1402	654	647	588	606	1515	1754	1311	932	444	628	210
MAX	4680	1680	1470	1290	2500	3330	4400	5010	2850	2130	3280	400
MIN	369	344	324	290	170	600	509	373	212	145	161	153
CAL YR 1979	TOTAL	362394	MEAN 993	MAX 8080	MIN 109	CFSM 2.46	IN 33.37					
WTR YR 1980	TOTAL	326607	MEAN 892</									

POTOMAC RIVER BASIN

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, Oct. 1 to Jan. 17, 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.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

POTOMAC RIVER BASIN

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	1.0	.5	.5	1.0	.5	1.0	---	---	---	11.5	9.5	10.5
2	.5	.5	.5	1.5	.5	1.0	---	---	---	12.0	11.0	11.5
3	.5	.5	.5	1.5	.5	1.0	10.0	9.5	10.0	13.5	12.0	12.5
4	.5	.5	.5	2.5	.5	1.5	11.5	10.0	10.5	14.5	12.5	13.5
5	.5	.5	.5	2.0	1.0	1.5	10.5	9.0	9.5	15.5	13.5	14.5
6	1.0	.5	.5	2.5	1.5	2.0	10.0	8.0	9.0	16.0	14.5	15.0
7	.5	.5	.5	4.5	2.5	3.0	10.5	9.0	10.0	15.5	14.5	15.0
8	1.0	.5	.5	7.0	4.5	6.0	10.5	10.5	10.5	14.5	13.0	14.0
9	1.0	.5	.5	7.5	6.0	6.5	11.0	10.0	10.5	13.0	12.0	12.5
10	1.0	.5	.5	6.0	4.5	5.5	10.5	9.0	10.0	14.0	11.0	12.5
11	1.0	.5	1.0	6.0	4.5	5.5	10.5	8.5	9.5	15.0	13.0	14.0
12	1.0	1.0	1.0	4.0	2.5	3.5	10.5	10.5	10.5	16.5	14.5	15.5
13	1.0	1.0	1.0	3.0	1.0	1.5	12.0	10.5	11.0	18.0	15.5	16.5
14	1.0	1.0	1.0	2.5	1.0	1.5	11.0	9.0	9.5	17.0	15.5	16.5
15	1.0	1.0	1.0	4.0	1.0	2.5	9.0	8.5	8.5	17.0	14.5	15.5
16	1.0	1.0	1.0	6.0	2.5	4.5	8.5	7.5	8.0	17.0	14.0	15.0
17	1.0	.5	1.0	6.5	5.5	6.0	8.5	6.0	7.5	15.5	14.5	15.0
18	1.0	.5	1.0	5.0	4.5	5.0	10.5	7.5	9.0	17.0	14.0	15.0
19	1.0	.5	1.0	5.5	4.0	5.0	12.0	9.5	10.5	17.0	15.5	16.0
20	1.0	1.0	1.0	7.0	5.5	6.0	13.0	10.5	12.0	16.0	15.5	16.0
21	1.0	1.0	1.0	8.0	7.0	7.5	14.5	12.0	13.0	15.0	14.0	14.5
22	1.5	1.0	1.0	7.0	5.0	5.5	14.0	12.0	13.0	16.5	13.5	15.0
23	3.5	1.5	3.0	6.0	4.5	5.5	15.0	12.0	13.5	16.5	15.5	16.0
24	5.5	3.5	4.5	6.5	6.0	6.0	14.0	13.0	13.5	18.0	16.0	17.0
25	5.5	4.5	5.0	6.5	6.0	6.5	14.0	12.5	13.0	17.5	16.0	16.5
26	4.5	2.0	3.5	6.5	5.0	6.0	12.0	11.0	11.5	17.5	15.5	16.5
27	2.5	1.0	2.0	---	---	---	11.0	9.5	10.0	16.5	14.5	15.5
28	1.5	1.0	1.0	---	---	---	10.0	9.5	9.5	17.5	14.5	16.0
29	1.5	.5	1.0	---	---	---	11.0	9.5	10.5	19.5	16.0	17.5
30	---	---	---	---	---	---	11.0	9.5	10.0	20.0	17.5	18.5
31	---	---	---	---	---	---	---	---	---	20.0	18.0	19.0
MONTH	5.5	.5	1.5	8.0	.5	4.0	15.0	6.0	10.5	20.0	9.5	15.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	21.0	18.5	19.5	23.0	20.0	21.5	23.0	22.0	22.5	24.5	21.5	23.0
2	20.5	19.5	20.0	22.5	20.5	21.5	23.0	21.0	22.0	24.5	22.0	23.5
3	21.0	19.0	19.5	22.5	21.5	22.0	23.5	22.0	22.5	25.0	22.0	23.5
4	20.0	18.0	18.5	24.0	21.5	22.5	24.0	22.0	23.0	24.0	22.0	23.0
5	19.0	16.0	17.5	23.5	22.0	22.5	25.0	22.5	23.5	23.5	22.0	22.5
6	19.0	17.0	18.0	24.5	22.0	23.0	24.5	23.0	23.5	23.5	22.0	22.5
7	20.5	18.5	19.5	23.5	21.5	22.5	25.0	22.5	23.5	23.5	21.0	22.5
8	20.5	19.0	20.0	22.5	19.0	21.0	25.5	23.0	24.0	23.5	20.5	22.0
9	18.5	16.5	17.5	20.0	18.5	19.0	25.5	23.5	24.5	22.5	20.5	21.5
10	17.0	15.5	16.0	21.5	19.5	20.5	25.5	23.5	24.5	22.5	20.5	21.5
11	16.0	14.0	15.0	23.0	20.0	21.5	25.5	23.0	24.0	22.0	18.5	20.5
12	16.5	14.0	15.5	23.5	22.0	22.5	25.0	23.0	24.0	21.5	18.5	20.0
13	18.0	15.0	16.5	22.0	20.0	21.0	24.0	22.0	23.0	22.0	19.0	20.5
14	19.5	16.0	17.5	22.5	19.5	21.0	24.5	21.5	23.0	22.5	20.0	21.0
15	20.0	18.0	19.0	23.5	20.5	22.0	23.5	22.5	22.5	21.5	20.5	21.0
16	19.0	15.5	17.0	25.0	21.5	23.0	22.5	20.0	21.0	20.5	19.5	20.0
17	16.0	14.5	15.0	24.5	22.5	23.5	20.5	19.0	19.5	21.0	19.0	20.0
18	16.5	15.0	15.5	24.5	22.0	23.5	19.5	17.0	18.0	21.0	19.5	20.5
19	18.0	16.0	17.0	24.5	22.0	23.0	19.5	17.5	18.5	21.5	18.5	20.0
20	19.0	17.5	18.0	25.5	22.5	24.0	20.0	19.0	19.5	21.0	18.5	20.0
21	18.5	17.0	17.5	25.0	23.5	24.5	20.0	19.5	20.0	21.5	19.5	20.5
22	19.5	16.5	18.0	24.5	23.0	24.0	20.0	19.0	19.5	22.5	19.5	21.0
23	20.5	18.0	19.0	24.0	22.5	23.5	21.0	19.0	20.0	22.0	20.0	21.0
24	21.0	19.0	20.0	24.0	21.5	22.5	22.0	20.0	21.0	20.0	18.5	19.5
25	21.0	18.5	19.5	24.0	21.5	22.5	23.0	20.5	21.5	19.5	18.0	19.0
26	22.0	18.5	20.5	24.5	21.5	23.0	23.0	20.5	21.5	19.5	18.0	18.5
27	22.5	19.5	21.0	24.5	22.0	23.5	23.5	21.0	22.0	18.0	15.5	16.5
28	23.0	20.5	22.0	23.5	22.0	22.5	23.5	21.0	22.0	17.5	15.0	16.0
29	23.0	21.5	22.5	22.0	20.5	21.0	24.0	21.0	22.5	18.0	15.0	16.0
30	22.5	21.0	21.5	22.5	20.5	21.5	23.5	22.0	23.0	17.0	15.0	15.5
31	---	---	---	23.5	21.5	22.5	23.5	21.5	22.5	---	---	---
MONTH	23.0	14.0	18.5	25.5	18.5	22.5	25.5	17.0	22.0	25.0	15.0	20.5

POTOMAC RIVER BASIN

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.--42 years, 892 ft³/s (25.26 m³/s), 20.32 in/yr (516 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, 9,400 ft³/s (266 m³/s) May 21, gage height, 11.13 ft (3.392 m); minimum, 156 ft³/s (4.42 m³/s) July 28, gage height, 2.01 ft (0.613 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	491	352	388	955	364	660	6210	5410	891	282	275	292
2	587	803	376	791	348	576	4180	3520	853	239	560	275
3	2050	2340	380	724	299	707	2810	2650	1070	216	425	266
4	1820	1520	598	538	302	666	2540	1900	1690	314	302	295
5	1730	1310	609	525	295	666	2070	1540	1340	282	275	404
6	2550	1510	356	493	310	1830	1700	1350	1050	227	289	480
7	2000	1410	512	489	302	1440	1480	1230	1210	262	230	325
8	1820	1270	609	491	282	1430	1330	1160	1280	1030	192	275
9	2700	834	506	458	282	2020	4890	1030	1460	2820	173	256
10	4930	815	340	408	275	1750	4920	872	1810	1350	233	246
11	4740	846	450	408	252	1840	3870	748	2140	942	302	233
12	3300	760	582	1010	262	1520	2460	678	1480	707	364	227
13	3140	785	538	929	224	1390	2220	815	1140	1200	420	219
14	2740	878	1170	948	230	1220	2560	809	910	846	272	216
15	2270	649	1080	1400	252	872	3290	632	713	496	219	210
16	2010	620	955	1320	262	1450	2650	538	2650	368	955	204
17	1660	638	994	1320	282	1720	2550	470	2710	314	962	201
18	1210	582	1090	1240	285	4060	2120	604	1570	306	2330	198
19	1070	522	981	1250	292	3660	1580	748	1290	272	3890	192
20	936	480	626	1590	292	3240	1380	872	1080	227	2040	192
21	828	451	560	1010	344	3190	1230	6940	878	227	1320	190
22	742	402	533	730	1280	2910	1080	4630	724	233	1110	187
23	683	364	522	754	3260	2250	1000	2820	609	246	942	201
24	554	344	549	766	2910	1900	853	2150	470	376	748	219
25	480	340	1780	598	2410	1730	809	2820	376	279	615	252
26	486	460	2120	707	1930	1600	742	1890	333	246	517	213
27	666	744	1850	598	1800	1200	1380	1320	299	242	460	192
28	643	793	1550	1190	1330	1100	2390	1050	272	166	380	190
29	719	701	1230	547	1220	3060	1990	884	252	754	333	184
30	480	620	1130	416	---	2510	3770	772	242	689	314	173
31	392	---	1050	384	---	4300	---	809	---	352	317	---
TOTAL	50427	24143	26014	24987	22176	58467	72054	53661	32792	16510	21764	7207
MEAN	1627	805	839	806	765	1886	2402	1731	1093	533	702	240
MAX	4930	2340	2120	1590	3860	4300	6210	6940	2710	2820	3890	480
MIN	392	340	340	384	224	576	742	470	242	166	173	173

CAL YR 1979 TOTAL 448540 MEAN 1225 MAX 11100 MIN 147 CF5M 2.06 IN 28.00
WTR YR 1980 TOTAL 410202 MEAN 1121 MAX 6940 MIN 166 CF5M 1.88 IN 25.60

POTOMAC RIVER BASIN

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

WATER QUALITY DATA

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)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)
OCT , 1979									
22...	120	22	.1	6.1	238	227	.32	810	770
NOV									
16...	130	33	.1	6.2	279	259	.38	851	1300
DEC									
13...	130	28	.1	5.8	275	262	.37	469	670
JAN , 1980									
17...	78	19	.1	5.4	182	184	.25	698	1400
FEB									
13...	220	89	.2	6.6	539	510	.73	425	1000
APR									
10...	50	7.7	.1	4.7	120	110	.16	1490	4200
MAY									
09...	110	25	.1	5.7	264	221	.36	681	890
JUN									
10...	97	14	.1	5.4	208	182	.28	1150	3200
AUG									
26...	140	51	.2	7.4	359	306	.49	564	920
SEP									
11...	200	--	--	--	490	--	.67	278	500

DATE	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)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	COAL IN BOTTOM MATE- RIAL (GM/KG)
OCT , 1979									
22...	750	20	750	30	720	33	112	82	--
NOV									
16...	1240	60	720	40	680	22	67	--	--
DEC									
13...	600	70	610	10	600	21	36	--	--
JAN , 1980									
17...	1200	160	410	0	420	20	77	--	--
FEB									
13...	760	240	1000	0	1100	26	20	--	--
APR									
10...	4100	70	380	110	270	--	--	--	--
MAY									
09...	850	40	630	0	640	16	41	--	--
JUN									
10...	3200	40	600	140	460	76	419	--	--
AUG									
26...	880	40	620	10	610	25	39	--	--
SEP									
11...	390	110	600	0	610	--	--	--	3.00

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.--51 years, 1,263 ft³/s (35.77 m³/s), 19.60 in/yr (498 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)
Apr. 1	0615	11300 320	10.77 3.283	May 21	1815	*13700 388	12.25 3.734
Apr. 9	1230	13300 377	12.04 3.670				

Minimum discharge, 201 ft³/s (5.69 m³/s) Sept. 30; minimum daily, 204 ft³/s (5.78 m³/s) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	699	613	987	1390	527	1070	10200	7120	1250	391	415	348
2	768	1560	902	1280	527	910	6730	4970	1220	375	570	322
3	2790	4050	815	1080	495	990	4440	3740	1380	342	633	303
4	3040	2820	940	868	442	1050	4040	2830	1910	409	437	331
5	2890	2130	933	839	442	1010	3280	2180	1720	452	409	593
6	4300	2230	767	748	480	2070	2690	1860	1330	353	401	629
7	3440	2020	770	759	473	1950	2270	1680	1430	352	346	442
8	2890	1860	756	759	442	1780	2120	1560	1480	1610	293	354
9	3690	1300	688	689	430	2690	10400	1430	1790	4030	291	311
10	6590	1250	628	617	420	2350	8430	1240	1830	1820	295	298
11	6990	1220	614	617	396	2480	5860	1110	2660	1180	452	277
12	5130	1120	774	1060	397	2090	3850	1080	1800	915	483	267
13	4530	1070	877	1230	357	1850	3280	1220	1400	1120	598	257
14	4000	1230	1610	1380	339	1760	4040	1240	1160	1060	428	250
15	3250	983	1680	2240	363	1320	5380	1040	941	621	337	250
16	2770	949	1470	2180	390	1740	4360	908	2100	461	638	242
17	2290	944	1390	2130	400	2690	3850	797	3780	390	1130	243
18	1620	895	1440	1990	397	6060	3210	935	2000	356	1730	237
19	1390	846	1410	1890	405	5750	2360	1090	1540	342	4980	229
20	1230	799	972	2120	405	4810	2000	1290	1320	278	2580	226
21	1090	761	859	1680	474	4900	1760	9310	1110	327	1500	225
22	986	715	808	1210	1480	4810	1550	8130	940	513	1210	231
23	942	666	785	1160	4330	3740	1430	4540	810	416	1040	241
24	863	645	817	1170	3780	3190	1280	3510	680	517	836	242
25	756	649	2770	998	3550	2970	1170	3990	552	455	694	298
26	681	1210	3310	1050	2660	2740	1100	2960	491	336	586	259
27	838	1760	2910	888	2460	2200	1730	1960	446	401	544	230
28	844	1720	2410	1310	1880	1900	3140	1530	403	280	451	220
29	929	1440	1870	888	1620	5100	2760	1300	382	847	388	216
30	748	1270	1660	642	---	4910	3910	1180	376	1010	361	204
31	645	---	1530	559	---	6920	---	1290	---	545	368	---
TOTAL	73619	40725	40152	37421	30761	89800	112620	79020	40231	22504	25424	8775
MEAN	2375	1358	1295	1207	1061	2897	3754	2549	1341	726	820	293
MAX	6990	4050	3310	2240	4330	6920	10400	9310	3780	4030	4980	629
MIN	645	613	614	559	339	910	1100	797	376	278	291	204

CAL YR 1979 TOTAL 702873 MEAN 1926 MAX 18000 MIN 217 CFM 2.20 IN 29.88
WTR YR 1980 TOTAL 601052 MEAN 1642 MAX 10400 MIN 204 CFM 1.88 IN 25.55

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. --

SPECIFIC CONDUCTANCE: October 1979 to September 1980.

WATER TEMPERATURES: October 1964 to current year.

SUSPENDED SEDIMENT DISCHARGE: October 1964 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1979.

REMARKS.--Prior to October 1979 water temperatures were measured in field at time of sampling.

EXTREMES FOR PERIOD OF DAILY RECORD. --

SPECIFIC CONDUCTANCE: Maximum, 954 micromhos Sept. 25, 1980; minimum, 152 micromhos May 23, 1980.

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. --

SPECIFIC CONDUCTANCE: Maximum, 954 micromhos Sept. 25; minimum, 152 micromhos May 23.

WATER TEMPERATURES: Maximum daily, 30.5°C Aug. 7, 8, 10; minimum daily, 0.0°C on many days during winter periods.

WATER QUALITY DATA

DATE	TIME	STREAM FLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (MICROMHOS)	PH FIELD (UNITS)	TEMPERATURE, AIR (DEG C)	TEMPERATURE, WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	HARDNESS (MG/L AS CaCO3)	HARDNESS, NONCARBONATE (MG/L CaCO3)	ACIDITY TOTAL HEATED (MG/L AS H)
OCT . 1979										
22...	1530	1060	350	7.4	21.0	17.0	9.2	120	99	.0
NOV										
14...	1315	1240	375	7.4	7.0	7.0	13.3	120	110	.0
DEC										
06...	1300	704	275	7.4	10.0	4.5	--	96	63	--
13...	1200	769	415	7.6	8.0	7.5	10.9	140	110	.0
JAN , 1980										
17...	1000	2130	261	7.2	6.0	3.0	13.4	95	50	.0
FEB										
13...	1545	354	730	7.5	3.5	.5	--	250	200	.0
APR										
04...	1500	4360	207	7.0	--	10.5	--	67	38	--
08...	1045	2020	294	6.9	17.0	11.5	11.0	110	78	.1
MAY										
12...	1200	1280	405	7.0	24.5	17.5	9.6	150	130	--
JUN										
10...	1230	1780	280	7.0	20.0	17.5	9.7	110	85	.2
JUL										
25...	1130	434	852	7.0	25.0	24.7	7.5	340	310	--
AUG										
26...	1100	600	467	6.9	26.0	23.0	8.0	160	150	.1
SEP										
12...	0900	260	665	7.0	16.0	19.4	7.8	--	--	--

[illegible]

POTOMAC RIVER BASIN

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

WATER QUALITY DATA

DATE	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 140 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)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT , 1979								
22...	.1	6.0	221	201	.30	633	--	--
NOV								
14...	.1	5.7	221	207	.30	740	--	--
DEC								
06...	.2	5.6	158	146	.21	300	.71	.030
13...	.1	5.2	248	229	.34	515	--	--
JAN , 1980								
17...	.1	5.7	149	153	.20	857	--	--
FEB								
13...	.2	6.4	466	433	.63	445	--	--
APR								
04...	.1	5.5	124	104	.17	1460	1.4	.070
08...	.1	5.7	209	179	.28	1140	--	--
MAY								
12...	.1	5.5	282	244	.38	975	--	--
JUN								
10...	.1	5.4	206	174	.28	990	--	--
JUL								
25...	.2	6.6	613	525	.83	718	.30	.110
AUG								
26...	.2	7.2	310	270	.42	502	--	--
SEP								
12...	--	--	461	--	.63	324	--	--

DATE	PHOS- PHORUS, TOTAL (MG/L AS P04)	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 , 1979							
22...	--	460	440	20	560	10	550
NOV							
14...	--	740	730	10	500	30	470
DEC							
06...	.09	350	300	50	230	10	220
13...	--	760	660	100	440	10	430
JAN , 1980							
17...	--	1100	1000	90	300	0	300
FEB							
13...	--	730	560	170	830	20	810
APR							
04...	.21	1400	1400	30	230	50	180
08...	--	1300	1300	40	410	20	390
MAY							
12...	--	770	730	40	490	10	480
JUN							
10...	--	1100	1100	50	420	80	340
JUL							
25...	.34	1200	1100	80	970	0	1100
AUG							
26...	--	880	810	70	500	40	460
SEP							
12...	--	750	600	150	440	0	440

POTOMAC RIVER BASIN

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WATER QUALITY DATA

DATE	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	COAL IN BOTTOM MATE- RIAL (GM/KG)
OCT , 1979				
22...	12	34	86	--
NOV				
14...	16	54	--	--
DEC				
13...	24	50	--	--
JAN , 1980				
17...	12	69	--	--
FEB				
13...	11	11	--	--
MAR				
29...	222	3560	54	--
APR				
01...	204	6170	66	--
08...	35	191	--	--
09...	242	8170	52	--
MAY				
12...	15	52	--	--
21...	530	16900	68	--
JUN				
10...	22	106	--	--
AUG				
26...	20	32	--	--
SEP				
12...	--	--	--	8.00

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (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
MAR , 1980							
29...	1130	5940	222	3560	31	39	45
APR							
01...	0810	11200	204	6170	40	50	56
09...	2100	12500	242	8170	35	41	44
MAY							
21...	1245	11800	530	16900	36	46	55

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
MAR , 1980							
29...	49	54	62	71	86	95	100
APR							
01...	61	66	76	86	96	98	100
09...	48	52	55	60	81	94	98
MAY							
21...	62	68	76	84	90	99	100

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	360	354	358	390	383	386	237	229	235	218	207	213
2	375	306	366	397	395	397	240	231	234	227	217	222
3	316	221	260	403	341	381	254	236	247	237	225	232
4	235	183	199	344	287	311	265	247	256	241	234	238
5	189	174	185	291	277	281	275	260	270	251	239	244
6	174	167	172	285	283	284	270	264	269	279	250	265
7	172	164	166	295	291	293	270	259	265	300	278	291
8	180	164	170	307	301	304	302	270	288	313	298	305
9	197	181	190	320	313	317	321	307	315	328	311	320
10	202	182	190	332	326	329	339	326	332	347	325	334
11	180	157	166	345	339	343	357	343	350	366	347	361
12	180	160	170	356	351	354	403	361	378	364	359	362
13	187	181	186	367	362	365	416	360	404	369	363	366
14	189	185	186	375	372	374	345	281	294	369	368	368
15	199	189	194	377	371	374	289	245	271	366	347	360
16	211	199	205	376	372	373	243	233	237	345	293	325
17	220	212	216	375	370	373	232	228	230	288	247	260
18	235	220	223	377	369	373	231	226	228	257	247	253
19	252	237	245	379	372	375	234	229	232	259	256	257
20	272	253	263	379	373	376	231	229	230	269	264	269
21	290	273	282	379	375	377	231	228	229	283	274	278
22	350	290	322	380	374	377	243	230	237	292	285	289
23	309	304	306	381	374	377	259	242	251	307	297	301
24	312	309	311	381	376	379	275	258	266	319	309	314
25	315	312	314	382	375	378	277	240	262	332	328	330
26	323	316	322	381	356	377	238	213	229	344	339	342
27	334	329	331	345	260	292	205	173	183	357	353	355
28	345	340	343	253	243	247	177	172	173	370	367	368
29	358	351	354	237	233	235	184	176	180	383	380	382
30	369	363	365	234	227	229	198	182	190	400	394	397
31	377	373	375	---	---	---	208	197	202	414	410	411
MONTH	377	157	256	403	227	341	416	172	257	414	207	310
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	426	423	425	314	287	298	218	102	175	273	235	246
2	439	436	438	348	316	332	267	211	237	254	236	243
3	455	450	453	378	351	367	276	208	242	277	254	266
4	469	466	468	384	350	356	212	184	201	296	277	285
5	484	480	482	347	335	340	262	248	254	321	296	308
6	500	495	497	353	317	340	273	256	264	338	322	329
7	511	509	510	309	273	284	276	260	266	372	334	351
8	546	533	539	285	259	275	294	267	275	397	374	386
9	575	569	572	253	220	237	312	253	281	397	381	390
10	610	598	604	216	202	206	264	201	217	411	394	401
11	648	634	642	203	187	193	225	202	212	405	378	393
12	688	672	681	193	182	187	243	215	230	413	397	405
13	730	712	722	197	188	192	260	243	253	436	379	431
14	719	701	710	240	199	215	268	260	263	435	426	430
15	709	691	699	267	210	230	263	230	248	431	406	420
16	693	681	688	278	250	262	228	210	216	408	403	405
17	680	665	674	249	179	206	263	226	240	418	407	411
18	667	652	660	200	166	182	291	264	273	453	418	435
19	660	639	649	213	152	180	280	257	267	470	452	457
20	510	488	498	147	141	145	298	277	287	476	378	430
21	528	464	507	146	135	140	304	285	296	394	316	353
22	455	307	382	138	130	134	322	299	310	316	274	289
23	357	267	294	195	126	160	331	311	324	290	278	283
24	269	261	265	162	145	148	340	325	333	413	289	335
25	260	245	249	143	132	136	362	334	346	415	413	414
26	255	243	248	128	123	125	372	356	365	421	415	417
27	248	244	246	137	115	122	372	357	366	426	421	423
28	271	244	254	146	135	141	363	340	354	438	426	430
29	289	268	278	149	111	131	353	316	336	450	438	443
30	---	---	---	107	99	104	321	277	289	467	450	457
31	---	---	---	213	104	149	---	---	---	477	467	471
MONTH	730	243	494	384	99	210	372	102	274	477	235	379

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

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	488	477	483	761	730	745	542	461	499	560	505	539
2	501	488	496	800	698	762	653	545	584	549	512	533
3	510	501	506	745	676	701	733	573	662	556	512	536
4	514	510	512	686	619	659	599	573	587	479	354	415
5	514	514	514	728	648	686	596	566	582	418	251	353
6	523	514	518	693	576	633	636	566	609	549	372	480
7	534	523	527	665	587	630	689	622	662	605	520	571
8	543	534	538	684	478	562	698	664	687	606	538	575
9	545	543	544	480	450	467	660	620	637	668	601	642
10	545	545	545	449	421	437	665	636	649	643	602	625
11	260	245	251	---	---	---	851	652	781	687	657	672
12	255	239	243	---	---	---	873	751	840	712	669	695
13	269	243	255	---	---	---	742	674	724	777	696	732
14	322	273	295	---	---	---	673	638	658	773	711	734
15	376	327	354	---	---	---	635	600	612	758	709	729
16	385	327	357	---	---	---	787	599	632	792	765	781
17	284	227	238	---	---	---	798	553	740	843	798	827
18	264	240	252	---	---	---	533	416	449	885	813	835
19	313	270	292	---	---	---	426	288	345	884	843	873
20	335	318	327	---	---	---	304	285	293	898	870	885
21	369	340	354	---	---	---	335	308	322	892	860	876
22	397	373	386	---	---	---	378	339	359	894	842	864
23	437	400	415	---	---	---	403	381	392	888	840	858
24	466	442	453	---	---	---	429	405	417	915	858	900
25	524	471	492	---	---	---	458	431	444	954	861	914
26	573	529	559	---	---	---	488	460	473	940	903	920
27	605	574	590	---	---	---	505	466	487	930	854	893
28	640	610	624	---	---	---	523	481	505	916	864	891
29	684	645	663	---	---	---	530	497	513	906	873	891
30	725	689	704	661	473	540	545	506	525	904	866	887
31	---	---	---	473	435	449	532	518	525	---	---	---
MONTH	725	227	443	800	421	606	873	285	555	954	251	731

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

POTOMAC RIVER BASIN

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TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1.0	.0	.5	.5	.0	.0	7.5	6.5	7.0	12.5	10.0	11.0
2	.5	.0	.5	2.0	.0	.5	9.0	6.5	7.5	13.5	11.5	12.5
3	1.0	.0	.5	2.5	.0	1.0	9.5	7.5	8.5	15.0	12.0	13.5
4	1.0	.0	.5	4.0	.5	2.5	10.0	9.5	9.5	17.0	13.5	15.0
5	2.5	.5	1.0	3.5	1.5	2.5	10.5	8.5	9.5	18.0	14.0	16.0
6	1.5	.5	1.0	5.0	2.0	3.5	11.5	8.5	10.0	18.0	15.0	16.5
7	1.0	.5	.5	3.5	3.0	3.0	11.5	9.5	11.0	17.0	15.0	16.0
8	3.0	.0	1.0	7.5	3.5	5.5	12.0	11.0	11.5	15.5	13.5	14.5
9	2.0	.0	1.0	8.0	7.0	7.5	12.5	10.5	11.5	13.5	11.5	12.5
10	2.5	.0	.5	7.0	5.0	6.0	11.5	10.0	10.5	15.5	10.5	12.5
11	1.5	.0	1.0	6.5	4.0	5.5	11.5	9.0	10.5	17.0	13.5	15.0
12	1.0	.0	.0	4.0	3.0	3.5	11.5	10.5	11.0	18.0	15.5	16.5
13	.5	.0	.0	3.5	1.0	2.0	12.0	10.5	11.5	21.0	16.5	20.5
14	.0	.0	.0	2.5	.0	1.0	11.5	10.0	10.5	20.0	17.5	19.0
15	.5	.0	.0	5.5	1.5	3.5	9.5	9.0	9.5	19.0	15.0	17.0
16	1.0	.0	.5	6.5	3.0	5.0	10.0	8.0	9.0	19.5	14.5	17.0
17	1.0	.0	.0	5.5	5.0	5.5	10.0	7.0	8.5	18.0	16.0	16.5
18	1.0	.0	.0	6.0	5.0	5.5	11.5	8.5	10.0	19.5	15.0	17.0
19	2.0	.0	.0	6.0	3.5	5.0	13.5	10.0	12.0	19.0	17.5	18.5
20	3.5	.0	1.5	6.5	5.5	6.0	15.0	11.5	13.0	18.5	17.0	17.5
21	4.0	2.0	3.0	7.5	6.5	7.0	17.0	13.0	15.0	16.5	15.0	15.5
22	2.5	.5	1.5	6.5	4.5	5.0	15.5	12.5	14.0	17.0	14.0	15.5
23	2.0	.5	1.0	7.0	4.0	5.5	17.0	13.0	14.5	17.5	15.5	16.5
24	4.0	2.0	3.0	6.5	6.5	6.5	15.5	13.0	14.5	19.0	17.0	18.0
25	5.0	3.5	4.0	6.5	6.0	6.5	16.0	13.0	14.5	19.0	19.0	19.0
26	4.5	2.5	3.5	6.5	5.0	5.5	14.0	12.0	12.5	19.5	19.0	19.5
27	2.5	1.5	1.5	8.0	4.5	6.0	11.5	10.5	11.0	20.0	19.5	19.5
28	2.0	.5	1.0	7.5	6.0	6.5	11.0	10.0	10.5	20.5	20.0	20.0
29	2.0	.0	.5	7.5	6.0	6.5	12.0	10.0	11.0	21.0	20.5	20.5
30	---	---	---	9.0	7.0	8.0	12.0	11.0	11.5	21.5	21.0	21.0
31	---	---	---	8.5	7.0	8.0	---	---	---	22.0	21.5	22.0
MONTH	5.0	.0	1.0	9.0	.0	4.5	17.0	6.5	11.0	22.0	10.0	17.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	22.5	22.0	22.5	26.0	21.5	23.5	24.5	23.0	23.5	28.0	23.5	25.5
2	23.0	22.5	23.0	26.0	22.0	23.5	26.5	23.0	24.5	28.5	23.5	26.0
3	23.5	23.0	23.5	24.5	23.0	23.5	27.0	24.0	25.0	28.5	24.5	26.0
4	23.5	23.5	23.5	27.0	22.0	24.5	29.0	24.5	26.5	27.0	23.5	25.0
5	23.5	23.5	23.5	26.0	23.5	25.0	29.5	25.0	27.0	24.5	23.0	23.5
6	24.0	23.5	24.0	27.5	23.5	25.0	29.0	25.5	27.0	25.5	23.0	24.0
7	24.5	24.0	24.0	27.5	22.0	24.5	30.5	25.0	27.5	25.5	22.5	24.0
8	25.0	24.5	24.5	24.0	21.5	22.0	30.5	25.5	28.0	25.5	22.0	23.5
9	25.0	25.0	25.0	21.0	20.0	20.5	29.0	25.0	27.0	25.0	21.5	23.0
10	25.0	25.0	25.0	20.0	18.5	19.5	30.5	25.5	27.5	24.5	21.5	23.0
11	20.0	16.0	17.0	---	---	---	30.0	26.0	27.5	24.5	20.0	22.0
12	18.5	15.5	17.0	---	---	---	29.0	26.0	27.0	24.0	19.5	21.5
13	20.0	15.5	17.5	---	---	---	28.0	25.0	26.0	24.5	20.0	22.0
14	21.5	17.0	19.0	---	---	---	28.5	24.5	26.0	24.5	21.0	22.5
15	21.0	18.5	20.0	---	---	---	25.5	24.0	25.0	23.5	22.0	22.5
16	20.5	18.0	19.5	---	---	---	25.5	23.0	24.0	23.0	21.0	22.0
17	18.0	16.0	17.0	---	---	---	23.5	19.0	21.0	24.0	21.0	22.0
18	19.0	16.0	17.5	---	---	---	19.5	17.0	19.0	24.0	21.0	22.5
19	20.5	16.5	18.5	---	---	---	21.0	18.5	19.5	24.0	20.0	22.0
20	21.0	18.0	19.5	---	---	---	21.5	21.0	21.0	24.0	20.5	22.0
21	21.0	18.0	19.5	---	---	---	21.5	21.5	21.5	24.0	21.0	22.0
22	22.0	18.0	20.0	---	---	---	22.0	21.0	21.5	25.0	21.5	23.0
23	23.5	19.5	21.0	---	---	---	23.0	20.5	21.5	23.5	22.5	23.0
24	23.5	21.0	22.0	---	---	---	24.5	21.0	22.5	23.5	21.0	22.0
25	24.5	21.0	22.5	---	---	---	25.5	22.0	23.5	22.0	20.5	21.0
26	26.0	21.0	23.5	---	---	---	26.0	22.5	24.0	21.5	19.5	20.5
27	26.0	22.0	24.0	---	---	---	26.5	23.0	24.5	21.0	17.5	19.0
28	27.5	22.5	24.5	---	---	---	27.0	23.0	24.5	20.5	16.0	18.0
29	26.5	24.0	25.0	---	---	---	27.5	23.5	25.0	20.5	16.0	18.0
30	24.5	23.5	24.0	22.5	20.5	21.5	27.0	24.0	25.0	19.0	16.5	17.5
31	---	---	---	25.0	21.0	22.5	27.0	23.5	25.0	---	---	---
MONTH	27.5	15.5	21.5	27.5	18.5	23.0	30.5	17.0	24.5	28.5	16.0	22.5

POTOMAC RIVER BASIN

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

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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			---	---	8	27	16	17	30	34	16	15
2			---	---	9	30	16	16	30	46	26	23
3			---	---	17	64	16	15	33	56	17	14
4			---	---	25	130	17	19	29	34	15	13
5			---	---	34	160	17	21	20	22	22	35
6			---	---	14	50	18	17	17	18	26	44
7			---	---	15	58	25	24	14	13	20	24
8			---	---	23	93	119	848	16	13	18	17
9			---	---	35	172	139	1630	14	11	15	13
10			16	54	18	90	74	368	14	11	15	12
11			13	39	35	252	43	138	20	24	15	11
12			12	35	29	143	36	90	26	34	15	11
13			14	46	14	53	48	146	35	57	14	9.7
14			14	46	20	63	49	140	34	39	14	9.5
15			11	31	12	31	25	42	43	39	15	10
16			12	30	48	445	20	25	55	95	15	9.8
17			9	20	67	691	21	22	80	244	15	9.8
18			9	23	22	121	17	16	177	1330	15	9.6
19			14	42	23	97	18	17	312	4400	17	11
20			25	87	18	65	17	13	95	662	16	9.8
21			502	11500	13	39	30	26	37	150	17	10
22			175	4160	22	56	76	105	26	85	16	10
23			52	640	11	24	53	60	22	62	15	9.8
24			22	210	12	22	39	54	17	38	19	12
25			70	758	16	24	31	38	21	39	17	14
26			25	201	15	20	29	26	21	33	15	10
27			9	48	14	17	35	38	20	29	14	8.7
28			6	25	15	16	22	17	16	19	14	8.3
29			4	14	16	16	58	133	15	16	13	7.6
30			9	29	16	16	60	164	13	13	13	7.2
31			27	95	---	---	42	62	15	15	---	---
TOTAL			---	18133	---	3085	---	4347	---	7681	---	408.8

POTOMAC RIVER BASIN

53

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).

WATER-DISCHARGE RECORDS

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.--Water-discharge 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.--42 years, 198 ft³/s (5.607 m³/s), 10.42 in/yr (265 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, 1,990 ft³/s (56.4 m³/s) Apr. 30, gage height, 8.20 ft (2.499 m); minimum discharge, 13 ft³/s (0.37 m³/s) Sept. 19-23, 27-30, minimum gage height 2.59 ft (0.789 m) Sept. 19, 20, 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	72	120	171	110	120	995	1580	145	47	41	27
2	77	460	111	149	100	100	711	941	134	44	43	25
3	234	821	100	131	91	90	556	641	125	55	43	25
4	200	457	92	119	86	100	544	514	126	59	38	23
5	368	341	90	114	83	130	459	438	112	51	38	24
6	539	274	89	100	87	184	382	378	105	47	45	24
7	337	226	86	95	80	190	331	335	106	41	39	22
8	250	186	81	101	77	195	292	283	104	335	33	20
9	474	162	76	95	75	193	876	242	100	326	30	19
10	1390	150	73	86	71	177	738	207	105	181	26	19
11	1020	133	71	78	68	168	544	177	96	125	29	16
12	731	128	69	125	65	154	451	156	86	87	27	16
13	596	124	91	132	63	147	388	145	77	76	24	15
14	484	119	126	542	66	147	426	121	71	68	22	15
15	410	112	118	973	70	152	538	102	67	58	23	15
16	351	108	111	629	73	264	434	89	178	51	29	14
17	301	104	106	492	75	484	354	79	193	46	29	14
18	251	100	98	423	69	705	308	97	163	42	152	14
19	213	93	92	415	66	507	267	92	143	38	281	13
20	180	89	89	349	68	417	231	93	126	34	226	13
21	156	85	85	306	77	500	200	904	108	35	174	13
22	135	82	82	270	142	499	171	568	93	101	133	13
23	123	80	81	244	213	397	151	385	80	95	96	13
24	116	80	82	190	228	346	134	313	70	73	71	15
25	104	81	743	180	216	309	121	337	63	55	57	14
26	94	128	574	192	200	255	111	379	59	45	48	14
27	88	185	416	175	174	215	432	278	55	38	42	13
28	86	168	334	165	163	197	574	233	53	34	37	13
29	83	150	279	154	148	792	426	199	50	88	33	13
30	79	133	237	137	---	601	1270	173	49	58	31	13
31	74	---	201	120	---	930	---	165	---	47	31	---
TOTAL	9623	5431	5003	7452	3104	9665	13415	10644	3042	2480	1973	507
MEAN	310	181	161	240	107	312	447	343	101	80.0	63.6	16.9
MAX	1390	821	743	973	228	930	1270	1580	193	335	281	27
MIN	74	72	69	78	63	90	111	79	49	34	22	13
CFSM	1.42	.83	.74	1.10	.49	1.43	2.04	1.57	.46	.37	.29	.08
IN.	1.63	.92	.85	1.27	.53	1.64	2.28	1.81	.52	.42	.34	.09
CAL YR 1979	TOTAL	101265	MEAN 277	MAX 4640	MIN 32	CFSM 1.27	IN 17.20					
WTR YR 1980	TOTAL	72339	MEAN 198	MAX 1580	MIN 13	CFSM .90	IN 12.29					

POTOMAC RIVER BASIN

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV--Continued

WATER QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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)
OCT											
02...	1430	74	235	8.4	24.0	19.0	--	--	--	--	--
NOV											
14...	1430	120	200	8.0	10.0	4.0	--	11.5	--	--	--
DEC											
18...	1320	88	235	9.1	--	.5	--	14.0	--	--	--
JAN											
29...	1315	155	220	8.2	--	3.0	--	12.8	89	31	.0
FEB											
13...	1000	35	280	8.2	--	1.0	--	12.3	120	41	.0
MAR											
18...	1300	716	285	7.0	--	8.0	--	11.0	60	28	--
APR											
30...	1600	1700	70	7.0	18.0	11.5	--	12.8	33	17	.1
JUN											
10...	1300	110	230	8.2	21.0	18.0	--	8.6	110	30	--
JUL											
22...	1515	104	240	7.6	30.0	26.0	--	6.9	110	27	.2
AUG											
18...	1300	50	255	7.7	23.0	21.0	18	7.5	110	34	.0
SEP											
10...	1230	19	275	7.6	24.0	23.0	--	7.8	140	62	--

POTOMAC RIVER BASIN

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01604500 PATTERSON CREEK NEAR HEADSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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 AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
JAN 29...	.0	26	5.9	4.1	.2	56	34	4.2	--	124	.17
FEB 13...	.0	35	7.1	4.3	.2	73	38	4.6	--	146	.20
MAR 18...	--	16	4.9	3.7	.2	29	27	3.9	--	98	.13
APR 30...	5.0	7.2	3.7	2.9	.2	15	21	1.3	--	65	.09
JUN 10...	--	33	6.3	3.8	.2	80	28	3.8	--	147	.20
JUL 22...	10	34	6.8	4.5	.2	73	25	5.1	--	160	.22
AUG 18...	.0	33	7.5	6.1	.3	80	36	7.2	6.5	160	.22
SEP 10...	--	39	9.2	4.5	.2	73	34	4.4	--	154	.21

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIUM, DIS- SOLVED (UG/L AS BA)	PERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (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, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)
JAN 29...	51.9	--	--	--	--	--	140	110	30	--	--
FEB 13...	13.8	--	--	--	--	--	140	110	30	--	--
MAR 18...	189	--	--	--	--	--	1900	1900	50	--	--
APR 30...	298	--	--	--	--	--	3800	3800	50	--	--
JUN 10...	43.7	--	--	--	--	--	350	330	20	--	--
JUL 22...	44.9	--	--	--	--	--	3500	3400	70	--	--
AUG 18...	21.6	60	<1	1	<3	<10	1600	1600	11	<10	<4
SEP 10...	7.90	--	--	--	--	--	760	670	90	--	--

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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
JAN 29...	20	0	20	--	--	--	--	--	--	--
FEB 13...	30	20	10	--	--	--	--	--	--	--
MAR 18...	110	110	0	--	--	--	--	--	--	--
APR 30...	170	150	20	--	--	--	--	--	--	--
JUN 10...	30	10	20	--	--	--	--	--	--	--
JUL 22...	100	90	10	--	--	--	--	--	--	--
AUG 18...	80	60	21	<10	280	<6.0	<4	4.2	39	5.3
SEP 10...	60	30	30	--	--	--	--	--	--	--

01605500 SOUTH BRANCH POTOMAC RIVER AT FRANKLIN, WV

LOCATION.--Lat 38°38'14", long 79°20'14", Pendleton County, Hydrologic Unit 02070001, on left bank 0.5 mi (0.8 km) southwest of Franklin, 2 mi (3.2 km) upstream from Friends Run, 2.5 mi (4.0 km) downstream from Thorn Creek, and at mile 109.5 (176.2 km).

DRAINAGE AREA.--182 mi² (471 km²).

PERIOD OF RECORD.--April 1940 to September 1969, October 1976 to current year.

GAGE.--Water-stage recorder and improved natural control. Datum of gage is 1,692.5 ft (515.874 m) National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Records good except those for Jan. 31 to Mar. 19, which are poor.

AVERAGE DISCHARGE.--33 years, 167 ft³/s (4.729 m³/s), 12.46 in/yr (316 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s (425 m³/s) June 17, 1949, gage height, 11.40 ft (3.475 m), from floodmarks, from rating curve extended above 6,400 ft³/s (180 m³/s) on basis of slope-area measurement of peak flow; minimum, 13 ft³/s (0.37) Jan. 17, 1966; minimum gage height, 1.31 ft (0.399 m) Sept. 25-29, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1936, reached a stage of about 13 ft (4.0 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 1,700 ft³/s (48 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)
Nov. 2	1645	2340	66.3	4.83	1.472	Apr. 9	0545	3690	105	5.73	1.747
Mar. 18	Unknown	2410	68.3	4.88	1.487	Apr. 14	1915	*4980	141	6.49	1.978

Minimum discharge, 31 ft³/s (0.88 m³/s) Sept. 13, 14, gage height, 1.56 ft (0.475 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	262	95	237	153	140	104	601	864	180	53	48	43
2	404	829	210	142	130	98	510	612	164	50	49	44
3	828	964	179	132	120	93	432	479	151	50	44	45
4	490	583	171	127	110	130	447	394	136	51	54	42
5	693	427	163	120	110	197	376	337	126	52	69	41
6	711	355	157	115	120	323	324	301	127	50	69	40
7	516	305	149	110	110	500	287	270	124	47	49	40
8	389	265	135	105	105	440	282	230	123	53	44	38
9	401	233	123	100	105	550	2010	206	110	119	51	37
10	641	241	118	95	100	430	1040	186	115	126	52	37
11	889	241	113	118	95	380	674	175	105	95	45	34
12	1030	301	110	309	91	320	526	164	93	75	42	33
13	853	296	126	292	86	280	465	153	86	66	41	33
14	618	283	128	524	81	260	1920	147	84	62	40	33
15	465	261	109	547	86	240	2130	135	81	59	40	38
16	374	253	100	439	93	300	1060	127	81	55	44	37
17	312	225	92	379	100	760	697	124	80	54	40	35
18	257	211	87	602	95	1600	540	160	74	57	114	43
19	218	193	101	787	90	744	441	133	73	51	116	35
20	193	181	95	582	98	570	374	192	69	50	80	34
21	175	166	89	455	113	1020	328	876	65	52	71	35
22	161	160	88	385	203	957	295	555	63	65	63	35
23	163	155	89	344	217	650	258	407	62	80	65	41
24	164	157	92	293	202	512	234	503	62	62	63	40
25	143	169	399	276	183	475	214	606	61	54	55	54
26	131	576	318	249	160	379	206	413	59	50	50	51
27	122	526	253	214	130	328	367	321	57	49	48	41
28	118	409	213	203	120	333	348	262	55	49	45	37
29	114	339	190	186	110	497	323	220	54	60	45	37
30	105	280	177	156	---	444	1160	207	55	52	43	37
31	99	---	164	145	---	561	---	215	---	48	43	---
TOTAL	12039	9679	4775	8684	3503	14475	18869	9974	2775	1896	1722	1170
MEAN	388	323	154	280	121	467	629	322	92.5	61.2	55.5	39.0
MAX	1030	964	399	787	217	1600	2130	876	180	126	116	54
MIN	99	95	87	95	81	93	206	124	54	47	40	33
CFSM	2.13	1.78	.85	1.54	.67	2.57	3.46	1.77	.51	.34	.31	.21
IN.	2.46	1.98	.98	1.77	.72	2.96	3.86	2.04	.57	.39	.35	.24

CAL YR 1979	TOTAL	106172	MEAN 291	MAX 2990	MIN 33	CFSM 1.60	IN 21.70
WTR YR 1980	TOTAL	89561	MEAN 245	MAX 2130	MIN 33	CFSM 1.35	IN 18.31

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 September 1980 (discontinued).

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 February, which are poor.

AVERAGE DISCHARGE.--23 years, 399 ft³/s (11.30 m³/s), 17.26 in/yr (438 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 (93 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)
Oct. 10	0600	4440 126	7.81 2.380	Apr. 15	0030	4820 137	8.06 2.457
Mar. 18	0400	3960 112	7.47 2.277	Apr. 30	1300	*7840 222	9.60 2.926
Apr. 9	1030	3900 110	7.43 2.265	May 21	0800	5610 159	8.53 2.600

Minimum discharge, 24 ft³/s (0.68 m³/s) Sept. 15, 20, 21, 22, gage height, 2.70 ft (0.823 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	226	145	381	327	190	247	2170	3580	411	70	103	70
2	233	504	325	286	170	200	1650	2070	325	63	105	63
3	849	1710	267	253	160	181	1230	1390	351	114	90	68
4	606	1120	244	235	150	227	1100	1020	365	125	80	68
5	776	785	240	228	143	434	935	775	263	95	143	70
6	1420	605	237	211	136	1130	770	626	253	86	112	67
7	1090	487	235	190	132	894	657	573	292	73	88	55
8	785	397	220	170	140	1120	579	448	278	108	73	48
9	2380	336	197	160	135	1460	2930	372	277	416	70	41
10	4030	311	183	145	130	1140	2410	317	596	380	93	36
11	3020	315	177	173	125	990	1510	282	627	310	99	33
12	2470	361	171	405	120	708	1070	260	385	218	79	31
13	2480	489	198	377	120	568	851	261	279	247	63	28
14	1770	518	290	640	120	477	1540	243	232	181	55	26
15	1210	479	259	1080	138	434	3650	224	211	141	51	24
16	862	450	250	966	167	603	2080	206	433	112	65	43
17	640	384	249	825	180	1880	1370	193	369	97	75	39
18	485	339	190	1020	150	3520	1070	236	254	125	659	33
19	383	302	228	2110	160	2170	847	237	213	99	862	28
20	319	275	226	1570	170	1450	690	391	181	93	452	25
21	277	254	201	1120	246	1780	573	4380	154	112	320	24
22	252	241	189	841	1210	2150	466	2580	135	212	257	25
23	240	232	186	689	1990	1470	400	1490	119	666	237	27
24	241	225	191	496	1600	1120	345	1030	109	340	227	31
25	218	231	1470	501	1140	1000	311	1030	103	221	183	36
26	198	451	1320	419	841	826	307	750	93	170	152	51
27	181	894	935	343	582	701	1670	536	84	136	132	55
28	175	740	699	316	410	651	2050	402	79	116	114	42
29	181	600	551	283	310	1450	1430	317	73	167	99	34
30	165	472	458	227	---	1430	4940	295	73	152	86	29
31	152	---	387	210	---	1730	---	603	---	116	75	---
TOTAL	28314	14652	11354	16816	11265	34141	41601	27117	7617	5561	5299	1250
MEAN	913	488	366	542	388	1101	1387	875	254	179	171	41.7
MAX	4030	1710	1470	2110	1990	3520	4940	4380	627	666	862	70
MIN	152	145	171	145	120	181	307	193	73	63	51	24
CFSM	2.91	1.55	1.17	1.73	1.24	3.51	4.42	2.79	.81	.57	.55	.13
IN.	3.35	1.74	1.35	1.99	1.33	4.04	4.93	3.21	.90	.66	.63	.15

CAL YR 1979	TOTAL	227454	MEAN 623	MAX 6720	MIN 49	CFSM 1.98	IN 26.95
WTR YR 1980	TOTAL	204987	MEAN 560	MAX 4940	MIN 24	CFSM 1.78	IN 24.29

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 September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)	
DATE	TIME										
OCT											
03...	1540	918	160	--	--	15.0	--	--	--	--	
03...	1645	906	160	8.4	--	15.0	--	81	12	--	
03...	1745	878	160	--	--	15.0	--	--	--	--	
04...	0730	680	--	--	--	13.0	--	--	--	--	
NOV											
15...	1610	488	165	8.2	12.0	7.0	--	59	16	.0	
DEC											
20...	0900	247	135	8.2	--	1.0	--	57	15	.0	
JAN											
30...	1445	219	175	8.6	--	2.5	--	68	16	.0	
FEB											
13...	1630	118	190	8.1	--	3.0	--	77	20	.0	
MAR											
18...	1635	3460	180	8.3	--	11.0	--	--	--	--	
25...	0730	1030	130	7.3	11.5	7.0	--	50	9	--	
APR											
29...	1800	1300	100	7.8	21.0	11.0	--	51	18	--	
JUN											
11...	1530	553	100	8.3	21.0	16.0	--	53	15	--	
JUL											
23...	1615	624	160	--	--	--	--	--	--	--	
23...	1700	582	160	7.7	26.5	20.0	--	89	22	.2	
AUG											
18...	1830	1700	100	7.6	26.0	20.5	91	52	12	.0	
SEP											
11...	1610	31	245	8.2	26.0	22.0	--	110	31	.1	
DATE	TIME	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)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT											
03...	1645	--	28	2.7	2.0	6	.1	3.4	1.4	69	12
NOV											
15...	1610	.0	20	2.2	1.6	--	.1	--	--	58	12
DEC											
20...	0900	.0	19	2.2	1.7	--	.1	--	--	55	12
JAN											
30...	1445	.0	23	2.5	2.2	--	.1	--	--	68	16
FEB											
13...	1630	.0	26	2.9	1.9	--	.1	--	--	57	16
MAR											
25...	0730	--	17	1.9	1.4	--	.1	--	--	36	9.2
APR											
29...	1800	--	17	2.0	1.7	--	.1	--	--	38	12
JUN											
11...	1530	--	18	2.0	1.5	--	.1	--	--	43	10
JUL											
23...	1700	10	31	2.8	2.0	--	.1	--	--	73	9.1
AUG											
18...	1830	.0	18	1.7	1.5	--	.1	--	--	40	9.6
SEP											
11...	1610	5.0	36	4.4	2.4	--	.1	--	--	77	23
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)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS PO4)
OCT											
03...	1.2	.0	5.3	109	94	.15	267	.52	.030	.09	
NOV											
15...	1.3	--	--	66	--	.09	87.0	--	--	--	
DEC											
20...	1.5	--	--	68	--	.09	45.3	--	--	--	
JAN											
30...	2.4	--	--	86	--	.12	50.9	--	--	--	
FEB											
13...	2.2	--	--	92	--	.13	29.3	--	--	--	
MAR											
25...	1.8	--	--	70	--	.10	195	--	--	--	
APR											
29...	1.2	--	--	71	--	.10	249	--	--	--	
JUN											
11...	1.3	--	--	72	--	.10	108	--	--	--	
JUL											
23...	1.6	--	--	109	--	.15	171	--	--	--	
AUG											
18...	1.3	--	4.4	80	--	.11	367	--	--	--	
SEP											
11...	2.1	--	--	134	--	.18	11.2	--	--	--	

POTOMAC RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 03...	1645	1	100	--	--	0	--	20	--	3	--
AUG 18...	1830	--	--	50	1	--	<1	--	<3	--	<10

DATE	TIME	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)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)
OCT 03...	1645	1100	1100	30	3	--	--	30	30	3	--
NOV 15...	1610	140	--	20	--	--	--	10	9	1	--
DEC 20...	0900	50	40	10	--	--	--	10	8	2	--
JAN 30...	1445	50	40	10	--	--	--	10	5	5	--
FEB 13...	1630	120	120	0	--	--	--	10	10	0	--
MAR 25...	0730	150	140	10	--	--	--	10	8	2	--
APR 29...	1800	260	240	20	--	--	--	20	20	3	--
JUN 11...	1530	240	220	20	--	--	--	10	6	4	--
JUL 23...	1700	1500	1500	30	--	--	--	60	50	10	--
AUG 18...	1830	9100	9100	34	--	<10	<4	380	380	2	<10
SEP 11...	1610	130	100	30	--	--	--	20	10	10	--

DATE	TIME	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)
OCT 03...	1645	0	0	--	--	10	--	--	--	.00
MAR 25...	0730	--	--	--	--	--	--	--	4.00	--
AUG 18...	1830	--	--	81	<6.0	--	<4	17	--	--

DATE	TIME	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	TIME	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 03...	1540	42	104	APR 29...	1800	16	55
03...	1645	35	853	JUN 11...	1530	5	7.5
03...	1745	19	45	JUL 23...	1615	47	79
NOV 15...	1610	1	1.3	AUG 18...	1830	328	1510
JAN 30...	1445	1	.60	SEP 11...	1610	2	.17
FEB 13...	1630	2	.50				
MAR 25...	0730	4	12				

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 fair. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years, 713 ft³/s (20.19 m³/s), 15.08 in/yr (383 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)
Oct. 10	0730	6140 174	7.22 2.201	Apr. 15	0215	9800 278	9.10 2.774
Mar. 18	0430	6930 196	7.66 2.335	Apr. 30	1315	*12900 365	10.36 3.158
Apr. 9	1245	7940 225	8.17 2.490	May 21	0830	7780 220	8.09 2.466

Minimum discharge, 93 ft³/s (2.63 m³/s) Sept. 15, gage height, 1.28 ft (0.390 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	514	323	856	660	520	450	3470	6310	839	183	190	144
2	781	875	760	590	480	380	2700	3700	715	173	193	138
3	1940	3440	639	520	450	350	2090	2580	714	233	177	144
4	1470	2090	597	490	420	450	1910	1960	705	241	161	146
5	1610	1510	563	460	400	775	1670	1560	559	207	229	145
6	2660	1210	542	440	445	1690	1400	1330	531	194	238	138
7	1980	1040	526	425	417	1400	1230	1220	598	177	198	126
8	1490	902	483	426	381	1560	1110	1040	560	238	164	118
9	3040	798	429	388	371	1920	4910	916	550	605	157	112
10	5630	742	393	349	350	1570	4310	819	799	606	176	107
11	4770	748	381	353	339	1410	2790	737	868	540	187	104
12	4140	848	368	766	320	1100	2020	681	625	373	162	101
13	3910	973	409	774	301	1000	1690	660	504	415	142	98
14	2880	986	565	1110	301	910	2690	606	428	309	132	96
15	2040	926	502	2040	313	858	7120	551	393	252	127	95
16	1550	893	472	1720	354	1040	3940	500	635	218	141	111
17	1240	809	410	1470	340	2840	2630	465	599	200	155	109
18	1030	732	373	1730	320	5950	2040	552	457	225	661	104
19	878	670	416	3550	330	3610	1660	577	383	202	1080	104
20	763	615	422	2640	369	2470	1400	713	337	187	644	98
21	671	565	376	1960	441	2900	1220	5850	297	202	482	96
22	601	530	358	1550	1240	3730	1060	3760	270	325	403	97
23	553	504	355	1350	2310	2590	956	2280	250	797	368	101
24	562	489	365	1090	1940	2010	871	1690	237	537	347	105
25	508	513	1820	1070	1470	1810	809	2000	232	355	294	112
26	459	897	1870	1000	1200	1510	775	1500	219	275	248	136
27	416	1750	1390	852	943	1300	2370	1150	207	231	218	136
28	394	1380	1120	788	750	1210	2920	949	197	207	197	115
29	394	1170	947	715	640	2240	2160	807	189	263	178	105
30	368	996	830	591	---	2190	7900	723	189	261	163	101
31	342	---	720	550	---	2640	---	1060	---	212	152	---
TOTAL	49584	29924	20257	32417	18455	55863	73821	49246	14086	9443	8364	3442
MEAN	1599	997	653	1046	636	1802	2461	1589	470	305	270	115
MAX	5630	3440	1870	3550	2310	5950	7900	6310	868	797	1080	146
MIN	342	323	355	349	301	350	775	465	189	173	127	95
CFSM	2.49	1.55	1.02	1.63	.99	2.81	3.83	2.48	.73	.48	.42	.18
IN.	2.87	1.73	1.17	1.88	1.07	3.24	4.28	2.85	.82	.55	.48	.20

CAL YR 1979	TOTAL	407283	MEAN	1116	MAX	11600	MIN	136	CFSM	1.74	IN	23.60
WTR YR 1980	TOTAL	364902	MEAN	997	MAX	7900	MIN	95	CFSM	1.55	IN	21.14

POTOMAC RIVER BASIN

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01607500 SOUTH FORK SOUTH BRANCH POTOMAC RIVER AT BRANDYWINE, WV

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).

DRAINAGE AREA.--102 mi² (264 km²).

PERIOD OF RECORD.--August 1943 to current year.

REVISED RECORDS.--WSP 1141: 1945(M), 1947(M).

GAGE.--Water-stage recorder. Datum of gage is 1,558.35 ft (474.985 m) National Geodetic Vertical Datum of 1929. Prior to Sept. 24, 1956, nonrecording gage at highway bridge 50 ft (15 m) downstream at same datum.

REMARKS.--Records fair except those for February and June, which are poor. The flow from 41.3 mi² (107.0 km²) upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 8,882 acre-ft (11.0 hm³).

AVERAGE DISCHARGE.--37 years, 101 ft³/s (2.860 m³/s), 13.45 in/yr (342 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,200 ft³/s (1,170 m³/s) June 17, 1949, gage height, 14.6 ft (4.45 m), from floodmarks, from rating curve extended above 5,300 ft³/s (150 m³/s) on basis of slope-area measurement of peak flow; minimum, 0.3 ft³/s (0.008 m³/s) Dec. 1, 10, 1958, result of freezeup; minimum gage height observed, 0.95 ft (0.290 m) Aug. 10, 14, 15, 1950.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,200 ft³/s (62.3 m³/s) Apr. 9, gage height, 6.33 ft (1.929 m); minimum, 5.2 ft³/s (0.15 m³/s) Sept. 30; minimum gage height, 1.61 ft (0.491 m) July 19-22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	293	35	132	78	59	29	333	788	84	14	19	9.4
2	612	453	114	72	55	28	254	361	72	14	19	9.4
3	630	1020	96	66	51	27	188	224	63	14	18	9.8
4	321	521	90	62	49	29	170	167	55	14	18	8.5
5	429	285	80	61	49	78	150	137	48	13	22	8.5
6	621	192	77	52	52	160	135	120	49	13	30	8.1
7	313	154	74	50	42	145	120	108	47	13	16	8.5
8	179	128	66	49	43	147	112	96	43	14	14	8.1
9	145	112	58	46	41	147	1200	86	36	33	13	7.3
10	349	108	52	36	39	132	698	77	35	30	13	6.8
11	752	109	48	49	37	118	341	72	30	23	12	6.8
12	782	182	45	114	35	102	215	67	25	21	11	6.8
13	573	215	49	130	34	92	173	61	23	21	11	6.0
14	333	193	48	485	31	85	878	56	22	20	10	6.0
15	200	165	42	621	33	90	1060	50	21	19	9.3	8.1
16	150	148	41	353	34	212	457	45	20	19	9.8	8.1
17	120	127	38	227	30	836	251	42	19	18	8.9	8.1
18	102	112	27	409	29	1000	176	53	18	19	28	12
19	86	100	36	824	27	453	142	48	17	18	42	11
20	75	89	33	429	28	273	122	82	16	17	25	9.4
21	69	79	31	254	30	254	110	1280	15	17	21	9.4
22	61	73	30	188	46	281	98	695	15	20	18	9.8
23	59	68	30	150	49	212	90	298	14	25	17	11
24	62	65	31	120	49	167	82	253	17	22	15	11
25	56	62	135	114	52	152	77	234	16	21	14	15
26	50	623	185	110	52	127	74	171	15	20	13	8.5
27	46	758	147	96	46	114	145	134	15	18	13	6.4
28	43	357	122	92	40	110	137	111	14	18	12	5.6
29	42	215	108	86	34	145	125	95	14	22	11	5.4
30	41	160	98	72	---	182	1160	110	14	21	11	5.4
31	36	---	88	66	---	212	---	107	---	19	9.4	---
TOTAL	7630	6908	2251	5561	1196	6139	9273	6228	892	590	503.4	254.2
MEAN	246	230	72.6	179	41.2	198	309	201	29.7	19.0	16.2	8.47
MAX	782	1020	185	824	59	1000	1200	1280	84	33	42	15
MIN	36	35	27	36	27	27	74	42	14	13	8.9	5.4
CFSM	2.41	2.26	.71	1.76	.40	1.94	3.03	1.97	.29	.19	.16	.08
IN.	2.78	2.52	.82	2.03	.44	2.24	3.38	2.27	.33	.22	.18	.09
CAL YR 1979	TOTAL	67407.2	MEAN 185	MAX 2490	MIN 6.4	CFSM 1.81	IN 24.58					
WTR YR 1980	TOTAL	47425.6	MEAN 130	MAX 1280	MIN 5.4	CFSM 1.28	IN 17.30					

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, 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.--49 years, 220 ft³/s (6.230 m³/s), 10.56 in/yr (268 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, 5,500 ft³/s (156 m³/s) Apr. 30, gage height, 7.15 ft (2.179 m); minimum, 21 ft³/s (0.60 m³/s) Sept. 14-18, 20, gage height, 1.03 ft (0.314 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155	105	389	240	190	110	706	3290	460	46	44	31
2	678	223	324	220	170	100	816	1590	314	43	43	30
3	1320	1880	270	200	160	92	798	965	248	46	39	33
4	996	1260	233	184	150	100	728	700	210	50	36	31
5	1000	799	212	170	140	140	673	550	166	43	44	34
6	1710	583	195	155	140	363	600	455	149	43	52	31
7	1040	457	183	148	130	582	545	395	149	39	63	29
8	655	372	169	144	120	519	495	327	142	52	57	26
9	579	320	147	130	115	510	792	282	126	80	53	26
10	1040	282	131	110	110	453	1750	248	115	100	48	25
11	1070	264	121	110	105	395	1070	222	109	78	46	24
12	1070	280	114	134	99	320	728	203	98	66	44	24
13	1080	386	119	226	95	280	595	192	90	62	39	22
14	929	416	125	565	86	250	575	172	84	58	34	22
15	657	394	116	1710	88	260	1950	156	82	56	34	21
16	502	362	108	1090	95	383	1450	142	95	55	37	21
17	395	318	100	772	89	947	966	129	87	54	34	21
18	321	280	96	750	81	1300	766	139	76	58	61	22
19	266	249	90	1790	74	1250	673	142	76	54	90	22
20	229	221	92	1250	76	834	628	149	71	52	109	24
21	201	197	93	853	83	744	611	1040	65	51	84	29
22	181	179	92	642	94	834	598	1230	61	63	71	30
23	171	165	90	535	123	700	581	786	59	90	63	30
24	172	158	90	440	145	580	555	540	57	82	57	30
25	168	151	469	382	152	515	528	560	55	69	52	33
26	155	654	688	341	172	440	495	480	55	57	48	38
27	142	1700	558	299	150	377	475	363	52	52	43	36
28	133	963	439	272	140	345	568	286	52	46	39	36
29	126	657	357	257	130	345	535	237	48	50	37	31
30	120	493	306	224	---	404	3120	252	48	46	34	30
31	112	---	270	206	---	455	---	900	---	46	33	---
TOTAL	17373	14768	6786	14549	3502	14927	25370	17122	3499	1787	1568	842
MEAN	560	492	219	469	121	482	846	552	117	57.6	50.6	28.1
MAX	1710	1880	688	1790	190	1300	3120	3290	460	100	109	38
MIN	112	105	90	110	74	92	475	129	48	39	33	21
CFSM	1.98	1.74	.77	1.66	.43	1.70	2.99	1.95	.41	.20	.18	.10
IN.	2.28	1.94	.89	1.91	.46	1.96	3.33	2.25	.46	.23	.21	.11

CAL YR 1979 TOTAL 142671 MEAN 391 MAX 5500 MIN 28 CFSM 1.38 IN 18.75
WTR YR 1980 TOTAL 122093 MEAN 334 MAX 3290 MIN 21 CFSM 1.18 IN 16.05

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).

WATER-DISCHARGE RECORDS

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.--Water-discharge records good except those for February, which are fair. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--56 years (water years 1900-01, 1904-05, 1929-80), 1,302 ft³/s (36.87 m³/s), 12.02 in/yr (305 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 10	1915	16000 453	12.70 3.871	Apr. 15	2045	10900 309	10.10 3.078
Mar. 18	1815	10600 300	9.92 3.024	May 1	0545	*24000 680	16.07 4.898
Apr. 10	0630	10500 297	9.85 3.002	May 21	2330	11800 334	10.60 3.231

Minimum discharge, 135 ft³/s (3.85 m³/s) Sept. 16, 17, gage height, 1.63 ft (0.497 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	966	619	1920	1450	1000	1110	6720	19200	2130	334	361	261
2	894	1120	1650	1290	870	770	5610	9620	1580	320	347	248
3	3490	6880	1440	1160	790	730	4370	6030	1360	366	333	239
4	4230	5740	1230	1060	770	940	3680	4400	1380	400	311	230
5	3750	3820	1140	1000	830	1220	3380	3460	1210	420	284	235
6	6930	2910	1080	950	840	2620	2870	2880	1000	361	347	243
7	5080	2350	1020	860	780	3210	2500	2560	990	338	405	235
8	3490	1970	950	835	730	2770	2210	2230	1000	430	361	216
9	4130	1710	853	844	730	2990	3650	1890	930	1110	315	198
10	11700	1530	766	758	670	2940	9180	1680	900	970	293	189
11	11500	1440	710	690	650	2560	6010	1510	1160	835	297	176
12	8020	1440	682	835	620	2270	4190	1380	1140	742	306	162
13	7020	1630	710	1360	590	1920	3370	1290	880	612	288	158
14	5670	1810	910	2290	540	1820	3000	1220	734	612	257	153
15	4150	1790	1010	7290	557	1690	7500	1090	654	499	248	149
16	3210	1680	890	5190	591	2110	8000	970	1380	420	275	140
17	2610	1590	835	3820	620	3820	5160	871	1430	371	266	135
18	2110	1440	782	3180	620	8690	3850	920	1020	338	531	158
19	1780	1320	696	6160	570	7820	3170	1050	774	338	1930	158
20	1530	1200	710	6180	591	5090	2710	1070	668	334	1590	149
21	1350	1090	718	4420	626	4180	2340	5830	584	306	1020	149
22	1200	1000	668	3460	835	5880	2040	8860	518	324	808	158
23	1090	930	640	2930	2450	4930	1810	5060	475	493	647	171
24	1030	890	640	2490	3010	3850	1650	3480	440	1110	570	167
25	1000	880	2810	2100	2610	3270	1520	3120	415	734	518	158
26	900	2060	4820	1900	2150	2930	1420	3240	400	550	457	162
27	817	4840	3480	1790	1790	2490	3000	2440	385	440	400	180
28	758	3950	2700	1680	1520	2170	6600	1900	366	385	361	207
29	718	2940	2160	1540	1370	3590	4700	1590	352	385	329	203
30	703	2350	1850	1370	---	4330	8700	1380	338	410	306	180
31	661	---	1620	1200	---	4140	---	2410	---	410	279	---
TOTAL	102487	64919	42090	72082	30320	98850	124910	104631	26593	15697	15040	5567
MEAN	3306	2164	1358	2325	1046	3189	4164	3375	886	506	485	186
MAX	11700	6880	4820	7290	3010	8690	9180	19200	2130	1110	1930	261
MIN	661	619	640	690	540	730	1420	871	338	306	248	135
CFSM	2.25	1.47	.92	1.58	.71	2.17	2.83	2.29	.60	.34	.33	.13
IN.	2.59	1.64	1.06	1.82	.77	2.50	3.16	2.65	.67	.40	.38	.14

CAL YR 1979 TOTAL 808707 MEAN 2216 MAX 29200 MIN 283 CFSM 1.51 IN 20.45
WTR YR 1980 TOTAL 703186 MEAN 1921 MAX 19200 MIN 135 CFSM 1.31 IN 17.78

POTOMAC RIVER BASIN

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1963, 1965, 1969, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)				
OCT 02...	1635	848	195	8.6	26.0	19.5	--	--				
DEC 18...	1525	749	215	9.1	--	2.0	--	14.0				
JAN 29...	1615	1470	210	8.1	--	3.0	--	12.8				
FEB 13...	1230	648	260	8.3	--	1.5	--	13.6				
MAR 18...	1030	7600	280	7.9	--	8.0	--	--				
APR 29...	1240	4720	130	7.8	24.0	12.0	--	--				
JUN 10...	1540	883	200	8.5	20.0	20.0	--	--				
JUL 23...	1030	403	220	7.8	23.0	26.0	--	--				
AUG 18...	1100	304	200	7.9	23.5	23.0	8.7	--				
SEP 10...	1510	190	230	8.1	24.0	25.0	--	--				

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 AD- SORP- TION RATIO	ALKA- LITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)
JAN 29...	88	24	.0	.0	28	4.3	2.7	.1	63	25	3.1	--
FEB 13...	110	32	.0	.0	35	5.0	2.9	.1	75	27	3.7	--
MAR 18...	64	27	--	--	19	3.9	2.7	.1	29	21	3.1	--
APR 29...	64	22	--	--	20	3.4	2.2	.1	44	18	1.8	--
JUN 10...	96	25	--	--	31	4.5	2.4	.1	73	20	2.6	--
JUL 23...	120	29	.2	10	37	5.7	3.1	.1	87	20	3.0	--
AUG 18...	110	28	.0	.0	34	5.4	3.1	.1	80	26	3.3	5.6
SEP 10...	120	32	--	--	36	7.1	3.3	.1	87	25	3.3	--

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)
JAN 29...	111	441	.15	--	--	--	--	--	70	50	20	--
FEB 13...	131	229	.18	--	--	--	--	--	100	80	20	--
MAR 18...	98	2010	.13	--	--	--	--	--	4300	4200	60	--
APR 29...	92	1170	.13	--	--	--	--	--	1000	970	30	--
JUN 10...	119	284	.16	--	--	--	--	--	370	350	20	--
JUL 23...	144	157	.20	--	--	--	--	--	500	480	20	--
AUG 18...	140	115	.19	70	<1	<1	<3	<10	730	720	6	<10
SEP 10...	133	68.2	.18	--	--	--	--	--	350	340	10	--

POTOMAC RIVER BASIN

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01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MU)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
JAN 29...	--	10	1	9	--	--	--	--	--	--	--
FEB 13...	--	10	6	4	--	--	--	--	--	--	--
MAR 18...	--	200	200	0	--	--	--	--	--	--	--
APR 29...	--	50	50	5	--	--	--	--	--	--	--
JUN 10...	--	20	10	7	--	--	--	--	--	--	--
JUL 23...	--	40	30	10	--	--	--	--	--	--	--
AUG 18...	<4	60	50	6	<10	310	<6.0	<4	3.2	19	16
SEP 10...	--	40	30	10	--	--	--	--	--	--	--

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.--42 years, 3,278 ft³/s (92.83 m³/s), 14.32 in/yr (364 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)
Oct. 11	0015	28700 813	18.58 5.663	Apr. 10	0715	25000 708	17.35 5.288
Mar. 18	2330	20000 566	15.54 4.737	May 1	1115	*37000 1050	21.26 6.480
Apr. 1	1115	24600 697	17.19 5.240	May 22	0100	30700 869	19.25 5.867

Minimum discharge, 470 ft³/s (13.3 m³/s) Sept. 21, 22, gage height, 3.54 ft (1.079 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 to SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2350	1800	4010	3740	1600	3100	23000	32300	4390	889	1200	791
2	2220	3250	3470	3410	1600	2490	17100	19300	3670	907	1010	737
3	5850	14200	3090	3070	1500	2260	11900	12400	3410	880	1300	715
4	9330	12100	2830	2730	1350	2620	9950	9260	3550	972	1080	668
5	8430	8020	2760	2540	1350	2790	8810	7250	3870	1120	918	807
6	14500	6450	2600	2350	1450	3980	7240	6090	3030	1020	863	1130
7	11200	5590	2420	2290	1400	6080	6210	5400	2870	862	1010	981
8	8130	4940	2320	2200	1350	5090	5540	4890	2990	1900	901	772
9	7920	4190	2170	2190	1300	5850	12600	4320	3270	7310	823	677
10	19500	3770	1980	1960	1250	6000	22100	3850	3140	4410	741	643
11	23800	3530	1860	1900	1200	5520	15000	3440	4030	3010	826	594
12	16100	3400	1860	2230	1200	5070	10500	3170	3690	2540	973	558
13	13600	3330	2040	3270	1100	4420	8380	3280	2920	2100	1050	538
14	11500	3610	3180	5010	1050	4220	8220	3220	2450	2570	984	520
15	8970	3530	3530	14100	1100	3840	14400	2910	2110	1810	836	508
16	7240	3280	3190	11100	1150	4300	15600	2560	2760	1410	856	502
17	6100	3160	2970	8420	1200	7160	11100	2300	6140	1190	1640	488
18	5010	2990	2830	7030	1200	15600	8810	2420	4000	1060	1950	487
19	4250	2780	2770	8520	1250	17100	7080	2790	3020	986	6280	495
20	3740	2590	2480	9890	1250	12000	5990	3200	2620	936	5200	482
21	3340	2430	2230	7970	1470	10900	5280	15800	2240	838	3470	473
22	3010	2280	2080	6080	2040	13400	4690	24000	1940	1470	2710	496
23	2750	2160	2000	5270	6070	11100	4220	12800	1700	1370	2270	508
24	2770	2070	1990	4680	7410	8860	3870	8880	1510	1820	1940	512
25	2520	2060	5860	4100	7080	7800	3570	8870	1310	1780	1640	516
26	2310	4200	11200	3980	5540	6940	3320	8130	1180	1330	1430	556
27	2220	9250	8270	3690	4950	5920	4840	5940	1100	1120	1240	511
28	2220	7720	6510	3640	4260	5180	11600	4700	1030	957	1110	495
29	2240	5820	5310	2800	3720	10000	9480	3960	966	1780	974	514
30	2200	4780	4610	2000	---	12600	11700	3440	939	2270	886	496
31	1940	---	4160	1700	---	13400	---	4060	---	1570	821	---
TOTAL	217260	139280	108580	143860	68390	225590	292100	234930	81845	54187	48932	18170
MEAN	7008	4464	3503	4641	2358	7277	9737	7578	2728	1748	1578	606
MAX	23800	14200	11200	14100	7410	17100	23000	32300	6140	7310	6280	1130
MIN	1940	1800	1860	1700	1050	2260	3320	2300	939	838	741	473

CAL YR 1979	TOTAL	1950166	MEAN	5343	MAX	59700	MIN	724	CFSM	1.72	IN	23.33
WTR YR 1980	TOTAL	1633124	MEAN	4462	MAX	32300	MIN	473	CFSM	1.44	IN	19.54

POTOMAC RIVER BASIN

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01610200 LOST RIVER AT MCAULEY 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 January 1980 (discontinued).

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, 1979, at site 350 ft (107 m) downstream at same datum.

REMARKS.--Water-discharge records good.

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 27, 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 3	0230	2320 65.7	5.80 1.768	Nov. 2	1830	*5160 146	7.71 2.350
Oct. 5	1530	3260 92.3	6.56 1.999	Nov. 26	1300	4810 136	7.52 2.292
Oct. 10	0545	3260 92.3	6.56 1.999	Jan. 14	2200	2700 76.5	6.16 1.878

Minimum discharge, 35 ft³/s (0.991 m³/s) Jan. 10, gage height, 1.20 ft (0.366 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	53	217	137								
2	84	1680	173	122								
3	1050	1930	134	105								
4	418	756	121	94								
5	1370	469	113	89								
6	1160	340	106	83								
7	542	263	98	79								
8	326	204	84	80								
9	612	167	73	76								
10	2440	149	68	57								
11	1530	137	65	72								
12	913	158	65	225								
13	640	147	78	197								
14	438	150	102	890								
15	311	142	84	1580								
16	231	136	77	698								
17	172	121	72	485								
18	135	111	64	576								
19	113	101	62	1010								
20	98	93	63	675								
21	87	86	66	489								
22	79	82	66	350								
23	80	79	64	290								
24	110	75	67	224								
25	84	77	741	200								
26	75	1800	622	186								
27	69	1130	406	150								
28	67	573	301	137								
29	66	389	237	120								
30	61	282	185	110								
31	56	---	159	100								
TOTAL	13483	11880	4833	9686								
MEAN	435	396	156	312								
MAX	2440	1930	741	1580								
MIN	56	53	62	57								
CFSM	2.81	2.56	1.01	2.01								
IN.	3.24	2.85	1.16	2.32								

CAL YR 1979 TOTAL 97933 MEAN 268 MAX 4160 MIN 10 CFSM 1.73 IN 23.50

POTOMAC RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968, 1974 to November 1979 (discontinued).

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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDEd (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDEd (T/DAY)
OCT 02...	1010	88	135	8.6	21.0	17.5	--	1	.24
NOV 14...	1100	157	150	8.8	10.0	7.0	11.0	3	1.3

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 period of no gage-height record, May 10 to June 9, which are poor, and those for February and July through September, which are fair.

AVERAGE DISCHARGE.--57 years (water years 1924-80), 590 ft³/s (16.71 m³/s), 11.83 in/yr (300 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 3	2100	6380 181	8.58 2.615	Nov. 27	1000	5700 161	8.13 2.478
Oct. 6	0900	9110 258	10.27 3.130	June 15	1600	6700 190	8.79 2.679
Oct. 10	2200	10000 283	10.74 3.274	May 1	0600	*11500 326	11.48 3.499
Nov. 3	1200	10600 300	11.06 3.371	May 21	Unknown	a7500 212	Unknown

a Estimated.

Minimum discharge, 71 ft³/s (2.01 m³/s) Sept. 20, 22; minimum gage height, 0.80 ft (0.244 m) Sept. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	338	321	974	693	403	320	2670	9810	410	133	137	98
2	545	440	815	611	390	290	2540	5280	430	133	124	96
3	3430	7370	705	549	380	271	1950	2900	450	131	130	96
4	3130	4400	595	495	370	280	1590	2100	500	150	130	96
5	1940	2300	550	466	370	442	1440	1660	440	230	117	96
6	7100	1630	525	440	407	815	1180	1370	390	179	109	91
7	3130	1320	495	413	374	1550	1000	1190	360	152	101	87
8	1840	1110	460	431	356	1240	876	1080	340	259	99	85
9	1450	938	412	429	340	1100	932	897	307	645	98	84
10	5130	836	368	390	332	961	2160	740	300	560	95	85
11	7260	780	342	354	307	798	1670	660	310	328	96	84
12	3600	750	328	482	300	706	1350	570	268	278	103	79
13	2530	770	338	848	294	612	1170	660	238	225	101	79
14	1870	730	432	832	285	592	1090	580	210	181	99	78
15	1440	700	525	4270	273	554	1750	520	199	190	112	77
16	1170	660	428	3570	285	695	2110	460	246	174	111	77
17	980	625	384	2130	270	1520	1630	420	896	137	116	77
18	815	580	350	1620	260	3250	1320	700	580	130	135	77
19	705	535	324	2330	253	2410	1140	520	380	125	215	78
20	610	490	329	2370	248	1710	989	620	290	115	408	75
21	540	452	348	1770	254	1530	868	5200	243	115	317	75
22	480	424	322	1430	302	2380	777	4100	210	146	223	72
23	448	400	311	1240	401	2020	702	2000	190	208	179	74
24	490	384	316	1080	482	1580	648	1000	177	220	168	72
25	595	376	829	876	495	1370	606	1200	166	187	146	81
26	480	530	3020	800	476	1180	587	920	158	152	130	77
27	428	3480	1910	730	420	973	715	710	148	131	119	75
28	396	2330	1360	682	390	839	2590	610	142	128	109	77
29	384	1580	1060	631	370	1160	2060	540	140	164	104	77
30	368	1220	887	564	---	1910	2680	480	137	183	99	75
31	346	---	779	477	---	1740	---	430	---	156	95	---
TOTAL	53968	38461	20821	34003	10087	36798	42790	49927	9255	6245	4325	2450
MEAN	1741	1282	672	1097	348	1187	1426	1611	309	201	140	81.7
MAX	7260	7370	3020	4270	495	3250	2680	9810	896	645	408	98
MIN	338	321	311	354	248	271	587	420	137	115	95	72
CFSM	2.57	1.89	.99	1.62	.51	1.75	2.11	2.38	.46	.30	.21	.12
IN.	2.97	2.11	1.14	1.87	.55	2.02	2.35	2.74	.51	.34	.24	.13

CAL YR 1979	TOTAL	378514	MEAN	1037	MAX	13700	MIN	114	CFSM	1.53	IN	20.80
WTR YR 1980	TOTAL	309130	MEAN	845	MAX	9810	MIN	72	CFSM	1.25	IN	16.99

POTOMAC RIVER BASIN

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.--48 years, 4,153 ft³/s (117.6 m³/s), 13.85 in/yr (352 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)
Oct. 6	1515	24100 683	13.46 4.103	Apr. 1	1830	29700 841	15.09 4.599
Oct. 11	0645	36200 1020	16.80 5.121	Apr. 10	1615	26400 748	14.15 4.313
Nov. 3	1900	25900 733	14.00 4.267	May 1	1745	*43800 1240	18.67 5.691
Mar. 19	0745	23200 657	13.17 4.014	May 22	0800	36900 1040	16.99 5.179

Minimum discharge, 543 ft³/s (15.4 m³/s) Sept. 22, gage height, 2.72 ft (0.829 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2970	2340	5920	4960	2400	3890	26600	35300	4890	1070	2030	1140
2	2870	2410	4940	4450	2400	3290	24000	29600	4780	1020	1630	1080
3	5900	16300	4310	4060	2250	2780	16800	18400	4210	1030	1370	1040
4	13800	21100	3810	3670	2050	2710	12800	13200	3930	1010	1340	990
5	11000	13000	3550	3320	2050	3200	11500	10100	4160	1160	1320	962
6	20600	9440	3440	3080	2200	3430	9550	8450	4080	1320	1210	935
7	17900	7960	3220	2880	2100	6070	8040	7230	3410	1220	1110	976
8	11900	6810	3020	2810	2000	6850	7050	6470	3310	1300	1090	1010
9	9530	5980	2850	2750	1950	6300	7980	5720	3380	3770	1070	959
10	16900	5070	2640	2670	1900	7130	23300	5030	3630	6690	1020	901
11	32900	4710	2430	2420	1800	6610	19500	4510	3600	4730	965	822
12	22900	4420	2290	2400	1800	6160	14000	4090	4280	3350	930	755
13	17400	4260	2360	3200	1650	5480	10600	4000	3920	2780	974	695
14	14900	4250	2910	4250	1550	4970	9410	4130	3270	2410	1030	652
15	11900	4480	4070	14900	1650	4760	13300	3860	2750	2580	1080	611
16	9450	4210	4200	18600	1750	4580	20100	3390	2470	1960	1030	583
17	7920	3990	3780	12800	1820	6400	14800	3020	3620	1560	1000	569
18	6730	3830	3470	10100	1770	15600	11400	2900	5760	1330	1390	566
19	5520	3600	3350	9620	1790	22000	9400	3250	4400	1180	2060	552
20	4790	3340	3260	13200	1710	16100	7800	3830	3400	1100	5070	552
21	4250	3120	2900	11100	1710	13500	6800	9630	2890	1050	5450	552
22	3820	2940	2670	8750	1910	17400	6010	32900	2480	1010	4320	545
23	3500	2800	2520	7240	3080	15900	5350	19700	2160	1560	3540	564
24	3380	2640	2450	6360	7270	12100	4870	12700	1890	1610	3050	586
25	3440	2580	3530	5590	7860	10200	4450	13300	1690	1940	2670	581
26	3130	2930	14000	5010	6990	9030	4150	11400	1490	2000	2280	586
27	2830	10900	12700	4840	5810	7890	4260	8970	1350	1630	1940	586
28	2750	12600	9390	4380	5220	6700	10900	6900	1250	1360	1680	586
29	2730	9200	7620	4200	4430	8150	13700	5560	1180	1300	1500	575
30	2740	7200	6290	3000	---	16600	11500	4690	1140	1870	1350	574
31	2600	---	5530	2600	---	15000	---	4170	---	2420	1230	---
TOTAL	282950	188410	139420	189210	82870	270780	349920	306400	94770	60320	57729	22085
MEAN	9127	6280	4497	6104	2858	8735	11660	9884	3159	1946	1862	736
MAX	32900	21100	14000	18600	7860	22000	26600	35300	5760	6690	5450	1140
MIN	2600	2340	2290	2400	1550	2710	4150	2900	1140	1010	930	545
CFSM	2.24	1.54	1.10	1.50	.70	2.15	2.86	2.43	.78	.48	.46	.18
IN.	2.58	1.72	1.27	1.73	.76	2.47	3.20	2.80	.87	.55	.53	.20

CAL YR 1979 TOTAL 2467072 MEAN 6759 MAX 71500 MIN 840 CFSM 1.66 IN 22.53
WTR YR 1980 TOTAL 2044864 MEAN 5587 MAX 35300 MIN 545 CFSM 1.37 IN 18.68

POTOMAC RIVER BASIN

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01613000 POTOMAC RIVER AT HANCOCK, MD--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1969-1972, 1976 to September 1980 (discontinued).

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	OXYGEN, DIS- SOLVED (MG/L)	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)
JUN , 1980												
13...	1500	3800	225	7.7	27.0	20.3	0	9.7	90	49	27	5.5
DATE		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)	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)
JUN , 1980												
13...		6.0	12	.3	1.4	41	45	7.7	.1	3.3	141	121
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 P04)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED 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- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN , 1980												
13...		.19	1450	.46	.020	.06	440	410	30	70	50	20

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 fair.

AVERAGE DISCHARGE.--33 years (water years 1947-80), 230 ft³/s (6.514 m³/s), 11.48 in/yr (292 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)
Oct. 6	0600	2200 62.3	9.00 2.743	May 22	0400	3560 101	10.90 3.322
Oct. 11	0700	*4490 127	11.58 3.530				

Minimum discharge, 64 ft³/s (1.81 m³/s) Sept. 29, 30, gage height, 1.88 ft (0.573 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	731	219	275	227	220	150	823	972	237	144	113	78
2	843	311	257	216	210	140	604	700	229	131	119	82
3	752	805	237	206	200	135	478	496	233	135	110	97
4	630	517	231	202	200	130	430	401	231	164	105	84
5	816	370	227	200	200	160	375	342	212	137	110	81
6	1570	320	223	190	202	349	330	315	205	129	105	81
7	652	297	217	185	197	270	304	301	203	121	102	78
8	461	277	206	185	195	245	290	281	203	178	97	74
9	645	266	197	180	191	231	399	264	194	324	95	73
10	2410	264	193	175	191	204	430	251	194	176	97	77
11	3230	266	191	170	180	198	337	243	191	147	95	73
12	1010	288	189	339	175	182	304	237	180	151	102	71
13	784	281	227	308	170	184	295	245	173	147	94	71
14	601	297	335	313	171	198	318	237	169	128	89	71
15	496	283	253	1180	173	243	1020	217	167	122	97	70
16	433	268	231	709	178	616	598	208	210	121	128	70
17	391	247	217	475	171	772	418	200	205	118	108	70
18	357	235	197	445	158	745	357	281	176	114	106	71
19	327	225	195	1160	150	457	325	272	167	113	133	71
20	313	219	195	664	150	357	299	264	160	110	119	70
21	297	212	187	493	166	490	281	1770	155	113	103	68
22	281	208	185	418	197	739	266	1860	151	126	102	67
23	281	202	184	370	210	466	255	600	146	266	103	73
24	320	200	187	330	210	380	245	449	144	200	94	71
25	283	198	688	310	202	357	239	389	144	142	89	70
26	260	460	670	299	191	308	237	338	140	129	88	77
27	245	968	388	281	176	283	424	296	138	121	85	67
28	243	454	311	272	169	272	559	274	135	114	84	67
29	239	349	275	266	164	796	520	259	135	124	84	66
30	229	304	255	249	---	703	784	247	164	129	79	66
31	221	---	239	239	---	571	---	243	---	116	81	---
TOTAL	20351	9810	8062	11256	5367	11331	12544	13452	5391	4490	3116	2205
MEAN	656	327	260	363	185	366	418	434	180	145	101	73.5
MAX	3230	968	688	1180	220	796	1020	1860	237	324	133	97
MIN	221	198	184	170	150	130	237	200	135	110	79	66
CFSM	2.41	1.20	.96	1.34	.68	1.35	1.54	1.60	.66	.53	.37	.27
IN.	2.78	1.34	1.10	1.54	.73	1.55	1.72	1.84	.74	.61	.43	.30

CAL YR 1979	TOTAL	151774	MEAN	416	MAX	5520	MIN	110	CFSM	1.53	IN	20.76
WTR YR 1980	TOTAL	107375	MEAN	293	MAX	3230	MIN	66	CFSM	1.08	IN	14.69

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.--Water-discharge 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.--41 years (water years 1929-53, 1965-80), 6,147 ft³/s (174.1 m³/s), 14.06 in/yr (357 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)
Oct. 4	1130	29600 838	10.33 3.149	Mar. 22	1830	31700 898	10.78 3.286
Oct. 6	2300	35800 1010	11.63 3.545	Apr. 1	2400	43200 1220	13.12 3.999
Oct. 11	1600	47200 1340	13.88 4.231	Apr. 11	0030	32600 923	10.96 3.341
Nov. 4	0430	36200 1020	11.71 3.569	Apr. 16	1600	29900 847	10.39 3.167
Nov. 28	0200	23600 668	8.98 2.737	May 2	0330	*50900 1440	14.57 4.441
Dec. 26	2230	25100 711	9.34 2.847	May 22	1600	47200 1340	13.89 4.234
Mar. 19	1630	29700 841	10.35 3.155				

Minimum discharge, 629 ft³/s (17.8 m³/s) Sept. 17, gage height, 1.59 ft (0.485 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4900	4020	9380	7750	3800	5010	35400	29900	5970	1920	3240	1330
2	5990	3890	7900	7030	3700	4350	38800	44900	6620	1780	2540	1280
3	10700	14000	6790	6410	3500	3810	27700	28200	5970	1700	2070	1250
4	26500	33500	6020	6010	3200	3600	20700	19900	5580	1680	1640	1330
5	19800	22500	5480	5710	3170	4240	17500	15200	5180	1660	1770	1190
6	27900	15300	5270	5420	3390	4700	15000	12300	5490	1750	1720	1250
7	30400	12200	5100	4650	3300	5740	12500	10400	4830	1870	1510	1260
8	20200	10400	4680	4370	3200	8930	10900	9100	4520	1800	1390	1550
9	15300	9020	4390	4260	3100	7930	10400	8190	4490	3170	1400	1540
10	18100	7980	4120	4040	3000	8380	23000	7260	4640	8940	1390	1340
11	41400	7240	3860	3810	2800	8530	28900	6540	4640	6470	1440	1280
12	35100	6800	3660	3840	2800	7710	21000	5960	4930	4460	1380	1040
13	25000	6460	3650	4280	2600	7280	16000	5830	5560	3660	1600	918
14	20800	6200	4440	7500	2500	6560	13700	7090	4260	3210	1630	858
15	17200	6270	5790	25000	2600	6240	19800	6230	3740	2980	1650	867
16	13900	6200	6190	30000	2700	6370	27700	5490	4170	2880	1690	801
17	11600	5760	5800	21000	2740	8270	23700	4830	3690	2360	1490	665
18	9890	5500	5500	16000	2660	17700	17800	4680	7620	2050	1500	877
19	8380	5270	5200	18000	2530	28300	14600	5000	5890	1830	2180	889
20	7150	4890	4910	21000	2670	24000	12100	5400	4580	1680	4890	855
21	6400	4630	4990	18000	2640	19100	10300	9180	3880	1690	6650	849
22	5790	4360	4300	14000	2890	28900	9180	39900	3410	1910	4880	846
23	5370	4140	4000	12000	3320	26700	8140	32900	3040	2870	3660	867
24	5850	3980	3900	9500	6920	19800	7360	20000	2770	3330	3120	859
25	6320	3870	5650	8030	9550	16200	6790	17800	2520	2440	2690	900
26	5580	4300	18800	7210	9080	14200	6280	18600	2310	2850	2370	960
27	4980	15500	21600	6690	7440	12200	6210	13800	2100	2440	2080	946
28	4630	21000	16000	6320	6590	10500	9640	10400	1950	2010	1860	822
29	4620	15400	12400	5830	5850	11900	19300	8190	1880	1860	1680	894
30	4520	11600	10200	5000	---	23000	17000	6910	1920	1940	1530	839
31	4340	---	8740	4200	---	22600	---	6020	---	3280	1400	---
TOTAL	428610	282180	218710	302860	114240	382750	507400	426100	128150	84470	70040	31152
MEAN	13830	9406	7055	9770	3939	12350	16910	13750	4272	2725	2259	1038
MAX	41400	33500	21600	30000	9550	28900	38800	44900	7620	8940	6650	1550
MIN	4340	3870	3650	3810	2500	3600	6210	4680	1880	1660	1380	665
CFSM	2.33	1.59	1.19	1.65	.66	2.08	2.85	2.32	.72	.46	.38	.18
IN.	2.69	1.77	1.37	1.90	.72	2.40	3.18	2.67	.80	.53	.44	.20

CAL YR 1979	TOTAL	3631720	MEAN	9950	MAX	103000	MIN	1470	CFSM	1.68	IN	22.76
WTR YR 1980	TOTAL	2976662	MEAN	8133	MAX	44900	MIN	665	CFSM	1.37	IN	18.65

POTOMAC RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water year 1979 to current year.

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (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)
OCT , 1979											
24...	1100	5690	280	8.0	8.0	16.0	1.0	9.4	140	230	150
NOV											
28...	1330	20700	160	7.4	12.0	14.5	30	7.5	3000	14000	67
DEC											
10...	1500	4100	280	7.9	11.0	5.0	2.0	13.4	180	K14	110
JAN , 1980											
21...	1400	15400	165	7.4	6.0	4.0	1.8	12.7	170	290	72
FEB											
20...	1300	2590	345	8.0	9.0	1.0	.80	--	K1	K3	140
MAR											
20...	1400	23000	150	7.7	16.0	7.5	.45	12.4	320	110	64
APR											
17...	1300	23300	160	7.2	12.0	9.5	10	11.4	1400	460	69
MAY											
14...	1330	7410	252	7.4	19.5	18.0	1.8	9.8	41	46	110
JUN											
17...	1315	3620	265	8.0	18.5	22.0	.20	9.5	56	K3	120
JUL											
16...	1145	2890	282	8.2	34.0	27.0	6.0	7.4	62	350	110
AUG											
12...	1230	1320	400	8.4	26.0	28.0	1.1	7.8	23	K10	170
SEP											
23...	1400	810	450	8.2	28.0	23.0	.50	9.4	280	52	180

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	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 , 1979											
24...	19	43	10	9.4	16	.3	2.0	130	27	7.9	.1
NOV											
28...	29	20	4.2	5.0	17	.3	2.2	38	27	6.4	.1
DEC											
10...	39	35	6.1	6.2	13	.3	1.4	74	36	10	.0
JAN , 1980											
21...	27	22	4.2	3.9	10	.2	1.2	45	24	5.8	.1
FEB											
20...	45	43	7.8	10	13	.4	1.6	95	48	15	.1
MAR											
20...	33	19	3.9	4.6	13	.3	1.4	31	25	6.4	.1
APR											
17...	28	21	4.0	3.4	9	.2	1.4	41	23	4.3	.1
MAY											
14...	41	34	6.7	6.1	10	.3	1.4	72	35	8.0	.1
JUN											
17...	43	35	6.8	6.2	10	.3	1.6	72	40	8.4	.1
JUL											
16...	44	35	6.4	6.0	10	.2	2.0	70	43	8.4	.1
AUG											
12...	72	54	9.0	11	12	.4	2.4	100	59	14	.2
SEP											
23...	76	54	10	15	15	.5	2.7	100	72	20	.2

K Results based on colony count outside the
acceptable range (non-ideal colony count).

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

WATER QUALITY DATA

DATE	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, 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 , 1979											
24...	6.6	208	191	.28	3200	1.5	1.5	.040	.000	.05	.00
NOV											
28...	5.6	100	96	.14	5590	.64	.60	.020	.000	.02	.00
DEC											
10...	4.8	163	149	.22	1800	1.3	1.2	.060	.000	.07	.00
JAN , 1980											
21...	5.6	111	98	.15	4620	--	.89	--	.020	--	.03
FEB											
20...	3.3	205	191	.28	1430	1.2	1.2	.050	.050	.06	.06
MAR											
20...	6.0	99	90	.13	6150	1.1	1.1	.050	.050	.06	.06
APR											
17...	6.0	107	92	.15	6730	.96	.96	.050	.060	.06	.08
MAY											
14...	4.6	149	144	.20	2980	1.0	1.0	.030	.000	.04	.00
JUN											
17...	1.4	167	147	.23	1630	.95	.95	.020	.020	.02	.03
JUL											
16...	5.7	175	154	.24	1370	1.2	1.1	.040	.040	.05	.05
AUG											
12...	5.0	271	218	.37	966	.76	.80	.050	.070	.06	.09
SEP											
23...	3.0	270	241	.37	590	.78	.80	.020	.010	.02	.01

DATE	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (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. (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- PHORUS, TOTAL (MG/L AS PO4)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT , 1979											
24...	.20	.20	.24	.04	.20	1.7	1.7	7.7	.070	.21	.060
NOV											
28...	.67	.38	.69	.31	.38	1.3	.98	5.9	.060	.18	.020
DEC											
10...	.11	.06	.17	.11	.06	1.5	1.3	6.5	.030	.09	.020
JAN , 1980											
21...	--	.20	--	--	.22	--	1.1	--	.020	.06	.020
FEB											
20...	.00	.00	.02	.01	.01	1.2	1.2	5.4	.030	.09	.030
MAR											
20...	.64	.21	.69	.43	.26	1.8	1.4	7.9	.090	.28	.010
APR											
17...	.52	.23	.57	.28	.29	1.5	1.3	6.8	.120	.37	.010
MAY											
14...	.25	.32	.28	.00	.32	1.3	1.3	5.7	.030	.09	.020
JUN											
17...	.26	.10	.28	.16	.12	1.2	1.1	5.4	.030	.09	.010
JUL											
16...	.25	.15	.29	.10	.19	1.5	1.3	6.6	.040	.12	.020
AUG											
12...	.32	.13	.37	.17	.20	1.1	1.0	5.0	.070	.21	.050
SEP											
23...	.28	--	.30	--	--	1.1	--	4.8	.050	.15	.020

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. (UG/L AS CR)
OCT , 1979											
24...	--	--	--	--	--	--	--	--	--	--	--
NOV											
28...	--	--	--	--	--	--	--	--	--	--	--
DEC											
10...	1	1	0	0	0	40	0	0	1	10	0
FEB , 1980											
20...	--	--	--	--	--	--	--	--	--	--	--
MAR											
20...	1	0	1	<50	<10	40	0	0	0	10	0
MAY											
14...	--	--	--	--	--	--	--	--	--	--	--
JUN											
17...	1	0	1	<50	--	50	0	0	5	20	10
AUG											
12...	--	--	--	--	--	--	--	--	--	--	--
SEP											
23...	1	0	1	200	200	0	1	1	0	40	30

POTOMAC RIVER BASIN

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

WATER QUALITY DATA

DATE	CHROMIUM, 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)
OCT , 1979										
24...	--	--	--	--	--	--	--	--	--	20
NOV										
28...	--	--	--	--	--	--	--	--	--	--
DEC										
10...	10	0	0	1	2	1	1	150	110	40
FEB , 1980										
20...	--	--	--	--	--	--	--	--	--	--
MAR										
20...	<10	3	3	0	11	9	2	1900	1900	20
MAY										
14...	--	--	--	--	--	--	--	--	--	--
JUN										
17...	10	0	0	0	3	0	3	400	390	10
AUG										
12...	--	--	--	--	--	--	--	--	--	--
SEP										
23...	10	2	2	0	5	3	2	180	170	10
DATE	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)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)
OCT , 1979										
24...	--	--	--	--	--	--	--	--	--	--
NOV										
28...	--	--	--	--	--	--	--	--	--	--
DEC										
10...	2	2	0	40	0	40	<.1	<.0	<.1	3
FEB , 1980										
20...	--	--	--	--	--	--	--	--	--	--
MAR										
20...	3	1	2	160	140	20	<.1	<.0	<.1	6
MAY										
14...	--	--	--	--	--	--	--	--	--	--
JUN										
17...	4	4	0	40	40	4	<.1	--	<.1	2
AUG										
12...	--	--	--	--	--	--	--	--	--	--
SEP										
23...	5	5	0	40	30	10	<.1	--	<.1	6
DATE	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, SUS- PENDE TOTAL (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)
OCT , 1979										
24...	--	--	--	--	--	--	--	--	--	--
NOV										
28...	--	--	--	--	0	--	--	--	--	--
DEC										
10...	2	1	0	0	0	0	0	10	0	20
FEB , 1980										
20...	--	--	--	--	0	--	--	--	--	--
MAR										
20...	5	1	0	0	0	0	0	20	10	8
MAY										
14...	--	--	--	--	0	--	--	--	--	--
JUN										
17...	2	0	0	0	0	0	0	20	10	10
AUG										
12...	--	--	--	--	0	--	--	--	--	--
SEP										
23...	4	2	0	0	0	0	0	30	30	0

POTOMAC RIVER BASIN

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01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

WATER QUALITY DATA

	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)		CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED (MG/L AS C)	PHYTO- PLANK- TON, TOTAL (CELLS PER ML)
NOV , 1979					MAY , 1980				
28...	5.5	--	--	4100	14...	3.0	--	--	3500
DEC					JUN				
10...	--	2.0	.4	--	17...	--	2.5	.7	2500
JAN , 1980					JUL				
21...	5.3	--	--	--	16...	4.8	--	--	--
FEB					AUG				
20...	1.5	--	--	--	12...	6.4	--	--	36000
MAR					SEP				
20...	--	2.8	1.9	1200	23...	--	7.7	.8	28000
APR									
17...	7.0	--	--	--					
		SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM		SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	
OCT , 1979					MAR , 1980				
24...		9	138	96	20...	81	5030	93	
NOV					APR				
28...		76	4250	97	17...	123	7740	97	
DEC					JUN				
10...		4	44	100	17...	28	274	43	
JAN , 1980					AUG				
21...		16	665	80	12...	10	36	73	
FEB					SEP				
20...		2	14	71	23...	5	11	100	

POTOMAC RIVER BASIN

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	NOV 28.79 1330	MAR 20.80 1400	MAY 14.80 1330	JUN 17.80 1315				
TOTAL CELLS/ML	4100	1200	3500	2500				
DIVERSITY: DIVISION	0.9	0.9	1.1	1.3				
..CLASS	0.9	0.9	1.1	1.3				
...ORDER	1.2	1.2	1.5	1.5				
...FAMILY	3.0	2.3	1.6	1.5				
....GENUS	3.3	2.4	1.6	1.6				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	--	-	--	-	--	-
...COELASTRACEAE								
...COELASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....GOLENKINIA	--	-	--	-	--	-	--	-
....MICRACTINIUM	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	88	2	--	-	--	-	120	5
....CHLORELLA	--	-	--	-	--	-	23	1
....CHODATELLA	--	-	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	--	-	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	--	-	--	-
....OOCYSTIS	--	-	--	-	--	-	--	-
....SELENASTRUM	--	-	--	-	--	-	23	1
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	--	-	--	-
...SCENEDESMUS	--	-	--	-	--	-	93	4
...TETRASPORALES								
...PALMELLACEAE								
...SPHAEROCYSTIS	--	-	--	-	--	-	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	150	4	47	2
...ZYGNEMATALES								
...DESMIDIACEAE								
....COSMARIUM	58	1	--	-	--	-	--	-
....STAUSTRUM	--	-	--	-	--	-	23	1
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	150	4	13	1	2400#	68	1700#	68
....MELOSIRA	58	1	52	4	--	-	--	-
...PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	29	1	--	-	--	-	--	-
....COCONEIS	88	2	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	290	7	90	8	--	-	--	-
...DIATOMACEAE								
....DIATOMA	290	7	--	-	--	-	--	-
...FRAGILARIACEAE								
....ASTERIONELLA	58	1	--	-	--	-	--	-
....FRAGILARIA	180	4	13	1	31	1	--	-
....SYNEDRA	180	4	26	2	--	-	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	260	6	26	2	--	-	--	-
...NAVICULACEAE								
....NAVICULA	1000#	25	440#	37	150	4	--	-
...NITZSCHIIACEAE								
....NITZSCHIA	560	13	140	12	93	3	--	-
...SURIRELLACEAE								
....SURIRELLA	--	-	13	1	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	190	5	420#	17
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....ARMENELLUM	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	500	14	70	3
...HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	360#	31	--	-	--	-
...SCHIZOTHRIX	820#	20	--	-	--	-	--	-

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

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

POTOMAC RIVER BASIN

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01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	JUL 16,80 1145	AUG 12,80 1230	SEP 23,80 1400
TOTAL CELLS/ML	3800	36000	28000
DIVERSITY: DIVISION	1.8	1.3	0.8
..CLASS	1.8	1.3	0.8
..ORDER	2.3	1.6	0.9
..FAMILY	2.9	2.0	1.1
....GENUS	3.3	2.3	1.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...CHARACIACEAE						
....SCHROEDERIA	--	-	1000	3	--	-
...COELASTRACEAE						
....COELASTRUM	--	-	2700	7	--	-
...MICRACTINIACEAE						
....GOLENKINIA	--	-	*	0	--	-
...MICRACTINIUM	90	2	--	-	--	-
...OOCYSTACEAE						
....ANKISTRODESMUS	660#	17	300	1	230	1
...CHLORELLA	--	-	--	-	--	-
...CHODATELLA	--	-	670	2	2300	8
...DICTYOSPHAERIUM	150	4	--	-	--	-
...KIRCHNERIELLA	150	4	*	0	--	-
...OOCYSTIS	--	-	300	1	--	-
...SELENASTRUM	--	-	370	1	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	240	6	--	-	--	-
...SCENEDESMUS	150	4	1200	3	2800	10
...TETRASPORALES						
...PALMELLACEAE						
...SPHAEROCYSTIS	--	-	3600	10	--	-
...VOLVOCELES						
...CHLAMYDOMONADACEAE						
...CHLAMYDOMONAS	210	5	--	-	--	-
...ZYGNEMATALES						
...DESMIDIACEAE						
...COSMARIUM	30	1	--	-	--	-
...STAUSTRUM	--	-	--	-	--	-
CHRYSPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCAEAE						
...CYCLOTELLA	840#	22	3500	10	21000#	76
...MELOSIRA	30	1	--	-	470	2
...PENNALES						
...ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
...COCCONEIS	--	-	--	-	--	-
...CYMBELLACEAE						
....CYMBELLA	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
...FRAGILARIA	--	-	--	-	--	-
...SYNEDRA	30	1	--	-	--	-
...GOMPHONEMATACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....NAVICULA	--	-	--	-	--	-
...NITZSCHIAEAE						
....NITZSCHIA	120	3	370	1	470	2
...SURIPELLACEAE						
....SURIPELLA	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	570	15	--	-	230	1
...CRYPTOMONADACEAE						
....CRYPTOMONAS	180	5	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	--	-	21000#	58	--	-
...ANACYSTIS	390	10	1200	3	--	-
...HORMOGONALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	--	-	--	-
...SCHIZOTHRIX	--	-	--	-	--	-

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

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

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.--65 years (water years 1896-1908, 1929-80), 2,705 ft³/s (76.61 m³/s), 12.08 in/yr (307 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)
Oct. 4	1100	24800 702	10.85 3.307	Apr. 10	2330	18800 532	9.44 2.877
Oct. 6	2045	*27400 776	11.38 3.469	Apr. 16	1100	20000 566	9.76 2.975
Oct. 12	0515	20600 583	9.91 3.020	May 2	0015	18100 513	9.25 2.819
Jan. 20	0545	18700 530	9.41 2.868				

Minimum discharge, 454 ft³/s (12.9 m³/s) Sept. 13, gage height, 1.38 ft (0.421 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980 MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4090	2640	5840	2710	3290	2000	6190	12800	2840	996	944	628
2	8370	2640	5060	2560	3030	1900	6460	15500	3200	996	969	648
3	16400	6040	4430	2440	3000	1900	6550	10600	3030	1030	880	656
4	22000	10800	4020	2280	2900	1800	6120	8160	2730	1020	864	604
5	15200	8950	3620	2300	2800	1900	5680	6720	2420	978	824	616
6	23300	7110	3350	2200	2700	2300	5920	5760	2170	969	824	628
7	20400	5920	3200	2200	2600	3600	5360	5080	2060	944	864	628
8	12600	5170	2990	2100	2450	5100	4850	4620	2010	1080	824	628
9	9700	4620	2780	2100	2370	4660	4790	4130	1870	1250	816	604
10	12500	4210	2600	2000	2280	4510	11200	3750	1820	1230	776	592
11	18400	4000	2450	2000	2220	4300	15600	3450	1750	1020	744	586
12	20100	4030	2310	2280	2300	3840	10300	3220	1620	1310	848	610
13	19400	4390	2350	3080	2200	3580	7840	3070	1540	1210	952	532
14	15200	5020	2470	5190	2100	3450	6720	2840	1530	1100	1080	544
15	11700	4950	2440	6900	2000	3350	8110	2640	1430	1060	978	556
16	9270	4740	2340	11700	1960	4070	18300	2440	1570	996	928	550
17	7650	4450	2230	9620	2000	5760	13300	2250	1580	912	808	568
18	6620	4190	2120	7720	1900	9910	9450	2340	1530	824	808	580
19	5790	3880	2020	11400	1900	12600	7550	2420	1370	840	856	568
20	5210	3580	2010	17000	1800	10400	6440	2910	1370	784	1030	616
21	4750	3330	1950	12100	1900	8420	5740	9000	1270	800	987	616
22	4380	3120	1920	9170	1840	9340	5120	10000	1250	856	1110	672
23	4100	2930	1880	7530	1970	11000	4620	9060	1220	960	1000	712
24	4000	2780	1840	6530	2040	8500	4210	6830	1150	1050	872	680
25	3860	2620	2230	5860	2050	7150	3980	5700	1140	1040	808	610
26	3770	3120	3750	5250	2020	6310	3860	6380	1110	1060	760	720
27	3450	6570	4070	4850	1960	5700	4150	5170	1090	1210	752	760
28	3220	12800	3920	4470	2050	5060	5420	4320	1080	978	736	680
29	3010	9200	3450	4090	2000	5080	6420	3620	1060	864	712	604
30	2930	7060	3140	3790	---	5920	6420	3160	1090	864	610	634
31	2820	---	2910	3560	---	6210	---	2880	---	904	648	---
TOTAL	304190	154860	91690	166980	65630	169620	216670	170820	50900	31135	26612	18630
MEAN	9813	5162	2958	5386	2263	5472	7222	5510	1697	1004	858	621
MAX	23300	12800	5840	17000	3290	12600	18300	15500	3200	1310	1110	760
MIN	2820	2620	1840	2000	1800	1800	3860	2250	1060	784	610	532
CFSM	3.23	1.70	.97	1.77	.74	1.80	2.38	1.81	.56	.33	.28	.20
IN.	3.72	1.89	1.12	2.04	.80	2.08	2.65	2.09	.62	.38	.33	.23

CAL YR 1979	TOTAL	1841962	MEAN	5046	MAX	50600	MIN	771	CFSM	1.66	IN	22.54
WTR YR 1980	TOTAL	1467737	MEAN	4010	MAX	23300	MIN	532	CFSM	1.32	IN	17.96

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, 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	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												
24...	1400	3880	340	8.4	9.0	16.0	1.0	8.6	--	K180	600	120
NOV												
28...	1100	13500	290	7.9	13.5	11.0	30	--	2.1	2900	3300	130
DEC												
10...	1145	2670	325	8.7	12.0	5.0	1.0	14.4	--	K5	K4	130
JAN												
21...	1200	12200	206	7.4	4.0	5.0	18	11.8	1.7	1900	K17000	83
FEB												
20...	1030	1810	450	8.5	7.0	3.0	.60	14.4	3.1	K1	<1	170
MAR												
20...	1030	10600	195	8.0	16.0	8.5	10	11.0	1.8	240	70	84
APR												
17...	1030	13600	151	7.4	12.0	10.0	8.0	10.2	1.1	K4700	4400	68
MAY												
14...	1045	2840	310	7.8	20.5	19.6	1.9	9.0	1.2	77	56	130
JUN												
17...	1030	1580	374	8.2	17.5	20.5	.30	9.5	1.1	52	45	140
JUL												
16...	1000	996	370	8.6	30.0	28.5	5.5	9.6	.40	41	3300	120
AUG												
12...	1015	768	458	8.5	26.0	28.0	4.0	8.1	.74	K110	66	170
SEP												
09...	1650	589	505	8.4	32.0	26.0	--	--	--	--	--	--
24...	1200	744	578	8.5	21.5	23.5	.40	8.8	1.3	32	100	200

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)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT											
24...	38	36	6.6	5.6	12	.2	7.3	1.7	79	35	7.9
NOV											
28...	6	35	9.4	7.1	15	.3	9.0	1.9	120	20	6.8
DEC											
10...	24	39	8.9	11	19	.4	13	1.5	110	31	7.8
JAN											
21...	17	25	5.0	5.3	12	.3	7.1	1.8	66	19	5.9
FEB											
20...	27	47	12	22	22	.7	24	1.5	140	53	12
MAR											
20...	23	25	5.3	6.7	14	.3	8.4	1.7	61	19	6.5
APR											
17...	11	20	4.3	4.3	12	.2	--	1.7	57	13	4.2
MAY											
14...	23	37	9.8	16	21	.6	--	1.5	110	38	8.5
JUN											
17...	29	36	12	26	28	1.0	--	2.2	110	60	11
JUL											
16...	8	26	13	22	28	.9	--	2.6	110	51	16
AUG											
12...	35	43	14	27	26	.9	--	5.3	130	67	16
SEP											
09...	--	--	--	--	--	--	--	--	--	--	--
24...	41	54	16	43	31	1.3	--	3.3	160	100	22

K Results based on colony count outside the acceptable range (non-ideal colony count).

POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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 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)	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)
OCT 24...	.1	5.9	172	152	.23	1800	1.2	1.2	.110	.000	.13
NOV 28...	.1	3.6	154	162	.21	5610	1.3	1.3	.080	.000	.10
DEC 10...	.0	2.2	194	173	.26	1400	1.3	1.2	.020	.000	.02
JAN 21...	.1	6.1	131	113	.18	4320	--	1.1	--	.070	--
FEB 20...	.1	2.9	254	243	.35	1240	1.8	1.8	.020	.020	.02
MAR 20...	.1	6.1	121	113	.16	3460	1.2	1.2	.130	.150	.16
APR 17...	.1	6.0	99	91	.13	3640	.88	.81	.040	.050	.05
MAY 14...	.1	2.7	185	184	.25	1420	1.0	1.0	.040	.000	.05
JUN 17...	.1	.7	224	217	.30	956	.64	.67	.100	.030	.12
JUL 16...	.1	5.2	221	202	.30	594	.02	.02	.100	.030	.12
AUG 12...	.2	4.3	275	256	.37	570	.24	.25	.060	.050	.07
SEP 09...	--	--	--	--	--	--	--	--	--	--	--
24...	.2	4.8	370	344	.50	743	1.0	1.1	.030	.030	.04

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (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. (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 P04)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT 24...	.00	.15	--	.26	--	--	1.5	6.5	.040	.12	.020
NOV 28...	.00	1.1	.83	1.2	.37	.83	2.5	11	.120	.37	.040
DEC 10...	.00	.20	--	.22	.00	--	1.5	6.7	.040	.12	.030
JAN 21...	.09	--	.50	--	--	.57	--	--	.150	.46	.120
FEB 20...	.03	.98	1.3	1.0	.00	1.3	2.8	12	.110	.34	.110
MAR 20...	.19	.72	.44	.85	.26	.59	2.1	9.1	.180	.55	.090
APR 17...	.06	.67	.19	.71	.47	.24	1.6	7.0	.240	.74	.070
MAY 14...	.00	.19	.15	.23	.08	.15	1.2	5.4	.000	.00	.020
JUN 17...	.04	.60	.39	.70	.28	.42	1.3	5.9	.060	.18	.010
JUL 16...	.04	1.3	.35	1.4	1.0	.38	1.4	6.3	.140	.43	.010
AUG 12...	.06	.67	.44	.73	.24	.49	.97	4.3	.120	.37	.040
SEP 09...	--	--	--	--	--	--	--	--	--	--	--
24...	.04	.23	.12	.26	.11	.15	1.3	5.6	.160	.49	.110

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. (UG/L AS CR)
OCT 24...	--	--	--	--	--	--	--	--	--	--	--
DEC 10...	0	0	0	0	0	30	0	0	0	10	0
MAR 20...	1	0	1	<50	<20	30	0	0	0	10	0
JUN 17...	1	0	1	<50	--	50	0	0	4	10	0
SEP 24...	1	0	1	100	100	0	0	0	0	10	0

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHROMIUM, DIS- SOLVED (UG/L AS CR)	CORALT, TOTAL RECOV- ERABLE (UG/L AS CO)	CORALT, SUS- PENDE RECOV- ERABLE (UG/L AS CO)	CORALT, 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 24...	--	--	--	--	--	--	--	--	--	20	--
DEC 10...	<10	0	0	3	2	0	2	100	80	20	70
MAR 20...	<10	1	0	1	5	3	2	1400	1400	20	8
JUN 17...	10	0	0	0	2	0	2	210	200	10	3
SEP 24...	10	0	0	0	4	1	3	320	320	0	3

DATE	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)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, SUS- PENDE RECOV- ERABLE (UG/L AS NI)
OCT 24...	--	--	--	--	--	--	--	--	--	--
DEC 10...	70	0	10	5	5	<.1	<.0	<.1	2	2
MAR 20...	8	0	90	90	3	.1	.0	.1	4	4
JUN 17...	3	0	40	30	8	<.1	--	<.1	0	0
SEP 24...	3	0	40	30	10	<.1	--	<.1	4	2

DATE	NICKEL, DIS- SOLVED (UG/L AS NI)	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)
NOV 28...	--	--	--	--	0	--	--	--	--	--
DEC 10...	0	0	0	0	0	0	0	10	0	20
FEB 20...	--	--	--	--	0	--	--	--	--	--
MAR 20...	0	0	0	0	0	0	0	270	120	150
MAY 14...	--	--	--	--	0	--	--	--	--	--
JUN 17...	0	0	0	0	0	0	0	10	8	2
AUG 12...	--	--	--	--	0	--	--	--	--	--
SEP 24...	2	0	0	0	0	0	0	60	60	0

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE (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...	--	--	--	--	10	105	88
NOV 28...	4.9	--	--	11000	107	3900	83
DEC 10...	--	2.2	.5	--	4	29	55
JAN 21...	7.0	--	--	--	138	4550	96
FEB 20...	.5	--	--	--	2	9.8	64
MAR 20...	--	2.9	2.5	1600	74	2120	93
APR 17...	5.2	--	--	--	164	6020	94
MAY 14...	1.5	--	--	23000	--	--	--
JUN 17...	--	4.6	1.2	57000	13	55	93
JUL 16...	6.5	--	--	--	--	--	--
AUG 12...	5.8	--	--	91000	62	129	72
SEP 24...	--	3.5	1.3	34000	21	42	97

POTOMAC RIVER BASIN

01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	NOV 28,79 1100	MAR 20,80 1030	MAY 14,80 1045	JUN 17,80 1030				
TOTAL CELLS/ML	11000	1600	23000	57000				
DIVERSITY: DIVISION	0.2	1.0	1.1	1.3				
..CLASS	0.2	1.0	1.1	1.3				
...ORDER	0.7	1.1	1.4	1.4				
...FAMILY	2.3	1.6	1.5	1.7				
....GENUS	2.4	1.6	1.5	2.4				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	--	-
...HYDRODICTYACEAE								
....PEDIASTRUM	--	-	--	-	--	-	--	-
...MICRACTINIACEAE								
....MICRACTINIUM	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODESMUS	90	1	--	-	--	-	3000	5
....CHODATELLA	--	-	--	-	160	1	740	1
....KIRCHNERIELLA	90	1	--	-	--	-	370	1
....OOCYSTIS	--	-	--	-	--	-	370	1
....SELENASTRUM	--	-	--	-	490	2	*	0
....TETRAEDRON	--	-	--	-	--	-	--	-
....TREUBARIA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	--	-	7400	13
....SCENEDESMUS	--	-	--	-	1300	6	24000#	42
....TETRASTRUM	--	-	--	-	--	-	740	1
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	39	2	490	2	740	1
...ZYGNEATALES								
...DESMIDIACEAE								
...STAUPASTRUM	--	-	--	-	--	-	--	-
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	810	8	26	2	16000#	69	8100	14
....MELOSIRA	270	3	--	-	--	-	--	-
...PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	13	1	--	-	--	-
....COCCONEIS	180	2	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	180	2	13	1	--	-	--	-
...DIATOMACEAE								
....DIATOMA	4700#	44	--	-	--	-	--	-
...FRAGILARIACEAE								
....SYNEDRA	90	1	39	2	--	-	--	-
...GOMPHONEMATACEAE								
....GOMPHONEMA	450	4	26	2	--	-	--	-
...NAVICULACEAE								
....NAVICULA	2200#	20	170	11	160	1	--	-
...NITZSCHIACEAE								
....NITZSCHIA	1600#	15	64	4	330	1	--	-
...SURIRELLACEAE								
....SURIRELLA	--	-	26	2	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	--	-
....ANACYSTIS	--	-	--	-	4400#	19	11000#	20
....COCCOCHLORIS	--	-	--	-	--	-	--	-
....GOMPHOSPHAERIA	--	-	--	-	--	-	--	-
...HORMOGONALES								
...OSCILLATORIA								
....OSCILLATORIA	--	-	1200#	73	--	-	--	-

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

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

POTOMAC RIVER BASIN

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01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	NOV 28,79 1100		MAR 20,80 1030		MAY 14,80 1045		JUN 17,80 1030	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
.....EUGLENA	--	-	13	1	--	-	--	-
.....EUTREPTIA	90	1	--	-	--	-	--	-
.....TRACHELOMONAS	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
...GYMNODINIALES								
....GYMNODINIACEAE								
.....GYMNODINIUM	--	-	--	-	--	-	--	-

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--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	JUL 16,80 1000	AUG 12,80 1015	SEP 24,80 1200			
TOTAL CELLS/ML	330000	91000	34000			
DIVERSITY: DIVISION	1.5	1.3	1.1			
..CLASS	1.5	1.3	1.1			
...ORDER	1.8	1.3	1.2			
...FAMILY	2.4	2.0	1.6			
...GENUS	3.4	3.0	2.0			
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...COELASTRACEAE						
....COELASTRUM	* 0	--	-	--	-	--
...HYDRODICTYACEAE						
....PEDIASTRUM	10000	3	4300	5	--	-
...MIRACETINACEAE						
....MIRACETINIUM	* 0	--	-	--	-	--
...OOCYSTACEAE						
....ANKISTRODESMUS	20000	6	7500	8	2200	7
....CHODATELLA	* 0	--	* 0	--	2400	7
....KIRCHNERIELLA	30000	9	2700	3	280	1
....OOCYSTIS	--	-	--	-	--	-
....SELENASTRUM	--	-	5900	6	2700	8
....TETRAEDRON	* 0	--	800	1	--	-
....TREUBARIA	7800	2	* 0	--	--	-
...SCENEDESMACEAE						
....ACTINASTRUM	9100	3	--	-	--	-
....SCENEDESMUS	63000#	19	19000#	21	8900#	26
....TETRASTRUM	--	-	--	-	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	3900	1	* 0	--	--	-
..ZYGNEMATALES						
...DESMIDIACEAE						
....STAUROSTRUM	5200	2	--	-	--	-
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCACEAE						
....CYCLOTELLA	42000	13	4300	5	560	2
....MFLOSIRA	--	-	--	-	--	-
...PENNALES						
....ACHNANTHACEAE						
....ACHNANTHES	--	-	--	-	--	-
....COCCONEIS	--	-	--	-	--	-
...CYMBELLACEAE						
....CYMBELLA	--	-	--	-	--	-
...DIATOMACEAE						
....DIATOMA	--	-	--	-	--	-
...FRAGILARIACEAE						
....SYNEDRA	--	-	--	-	--	-
...GOMPHONEMACEAE						
....GOMPHONEMA	--	-	--	-	--	-
...NAVICULACEAE						
....NAVICULA	--	-	* 0	--	--	-
...NITZSCHACEAE						
....NITZSCHIA	5200	2	* 0	--	280	1
...SUPRILELLACEAE						
....SUPRILELLA	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOCHRYSIDACEAE						
....CHROOMONAS	--	-	540	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....AGMENELLUM	18000	6	17000#	19	--	-
....ANACYSTIS	39000	12	24000#	26	17000#	49
....COCCOCHLORIS	--	-	4000	4	--	-
...GOMPHOSPHAERIA	65000#	20	--	-	--	-
..HORMOGONALES						
...OSCILLATORACEAE						
....OSCILLATORIA	--	-	--	-	--	-

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

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

POTOMAC RIVER BASIN

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01636500 SHENANDOAH RIVER AT MILLVILLE, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	JUL 16,80 1000		AUG 12,80 1015		SEP 24,80 1200	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
....EUGLENACEAE						
.....EUGLENA	--	-	--	-	--	-
.....EUTREPIA	--	-	--	-	--	-
.....TRACHELOMONAS	*	0	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)						
..DINOPHYCEAE						
...GYMNODINIALES						
....GYMNODINIACEAE						
.....GYMNODINIUM	*	0	--	-	--	-

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 Catoctin 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 Oct. 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.--85 years, 9,402 ft³/s (266.3 m³/s), 13.23 in/yr (336 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)
Oct. 4	1700	53700 1520	11.67 3.557	Mar. 22	2200	45000 1270	10.32 3.146
Oct. 7	0330	62900 1780	12.98 3.956	Apr. 2	0500	50800 1440	11.21 3.417
Oct. 11	2300	*69500 1970	13.87 4.228	Apr. 11	0600	50400 1430	11.14 3.395
Nov. 4	1030	44500 1260	10.27 3.130	Apr. 16	2000	48000 1360	10.78 3.286
Nov. 28	0930	36600 1040	8.94 2.725	May 2	0730	68600 1940	13.72 4.182
Jan. 16	1600	39600 1120	9.44 2.877	May 22	2100	56400 1600	12.02 3.664
Mar. 19	2130	42000 1190	9.83 2.996				

Minimum discharge, 1,310 ft³/s (37.1 m³/s) Sept. 18, gage height, 0.78 ft (0.238 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13300	7720	16700	11500	8440	7910	37800	36100	9420	3410	4350	2130
2	14500	7440	14200	10500	7470	7240	48800	63100	10500	3230	3820	2070
3	25900	12900	12300	9700	7130	6570	38500	42400	10100	3140	3250	2100
4	46900	41100	11000	9030	7020	5890	30100	30600	9510	3110	2910	2150
5	40000	34700	10000	8590	6880	6280	30700	23900	8540	3050	2740	2020
6	46700	25100	9440	8040	6660	7310	22900	19400	8310	2990	2850	1990
7	55700	19800	9070	7540	6600	8450	19600	16800	8090	3080	2660	2050
8	37300	16900	8580	7300	6590	13800	17100	14700	7390	3450	2540	2130
9	28000	14700	8050	7090	6510	13400	16700	13300	7180	3830	2370	2350
10	33100	13300	7590	6860	6370	12900	26800	12000	7170	8410	2390	2250
11	57600	12200	7190	6600	6250	13600	46800	11000	7170	9350	2310	2020
12	61800	11800	6800	6830	5960	12300	34600	10200	6890	6740	2430	1920
13	48400	11500	6770	7530	5740	11600	26600	9830	7370	5670	2700	1700
14	39200	11900	7130	10100	5510	11000	22100	10500	6790	4930	2860	1500
15	31900	11800	8400	13900	5360	10400	25300	10100	6010	4390	2950	1530
16	25800	11200	9170	34600	5440	10900	42800	9090	6020	4410	2950	1500
17	21300	10600	8850	32600	5300	13500	40200	8140	5780	3870	2620	1420
18	18300	10000	8130	25300	5200	24300	30000	8110	7810	3390	2510	1420
19	15900	9600	7600	25400	5070	39200	24200	8200	8890	3100	2700	1570
20	13800	9100	7400	32400	5040	37800	20300	8920	6940	2840	3880	1570
21	12400	8700	7210	30200	5160	33200	17500	16100	5890	2660	8290	1580
22	11300	8330	6830	24400	5300	39100	15400	44300	5310	3300	6810	1610
23	10600	7920	6450	20000	5720	41900	13900	47600	4930	3790	5410	1710
24	10800	7640	6320	17000	7380	32100	12600	31600	4520	4020	4490	1630
25	11200	7340	7450	15100	12200	26000	11700	24400	4210	4050	3910	1630
26	10600	7650	16700	13600	11900	22700	11100	26500	3950	3810	3490	1650
27	9600	16700	27600	12400	10600	19700	11500	21100	3730	4150	3150	1810
28	8890	33500	21600	11700	9520	17200	13900	16400	3490	3540	2870	1660
29	8550	27200	17100	10800	8880	17400	25400	13200	3380	3060	2650	1570
30	8390	20600	14500	10400	---	26700	25000	11300	3530	2940	2390	1520
31	8090	---	12700	9420	---	31300	---	10100	---	3560	2230	---
TOTAL	785820	448940	328830	456430	201200	581650	759900	628990	198820	125270	103480	53760
MEAN	25350	14960	10610	14720	6938	18760	25330	20290	6627	4041	3338	1792
MAX	61800	41100	27600	34600	12200	41900	48800	63100	10500	9350	8290	2350
MIN	8090	7340	6320	6600	5040	5890	11100	8110	3380	2660	2230	1420
CFSM	2.63	1.55	1.10	1.53	.72	1.94	2.63	2.10	.69	.42	.35	.19
IN.	3.03	1.73	1.27	1.76	.78	2.24	2.93	2.42	.77	.48	.40	.21

CAL YR 1979 TOTAL 5853140 MEAN 16040 MAX 172000 MIN 2730 CFSM 1.66 IN 22.56
WTR YR 1980 TOTAL 4673090 MEAN 12770 MAX 63100 MIN 1420 CFSM 1.32 IN 18.01

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, 32.0°C July 20; minimum daily, 1.0°C Jan. 31, Feb. 1.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 288 mg/L May 2; minimum daily mean, 3 mg/L on many days during winter.

SEDIMENT LOADS: Maximum daily, 50,000 tons (45,400 tonnes) May 2; minimum daily, 45 tons (41 tonnes) Sep. 14.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	COLOR (PLAT- INUM COBALT UNITS)	OXYGEN, DIS- SOLVED (MG/L)	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)
NOV , 1979												
08...	1200	17100	166	8.2	11.0	9.0	10	11.4	90	27	26	6.0
DEC												
19...	1015	7620	320	8.4	1.0	2.0	2	13.0	130	40	38	7.8
MAR , 1980												
06...	1045	7270	295	8.6	7.5	3.0	5	--	120	30	34	7.6
MAY												
01...	1115	31000	220	7.7	19.5	12.0	5	--	84	25	25	5.3
JUN												
06...	1315	8270	260	8.4	21.0	19.0	5	--	120	36	35	7.1
JUL												
22...	1100	2690	345	8.2	32.0	28.0	11	--	130	39	35	10
AUG												
19...	1200	2610	420	8.2	--	23.0	5	--	170	--	48	12

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINEITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITU- ENTS, DIS- SOLVED (MG/L)
NOV , 1979.											
08...	6.0	12	.3	2.0	63	27	5.4	.1	7.3	126	118
DEC											
19...	11	20	.4	1.9	87	39	11	.1	3.0	226	164
MAR , 1980											
06...	11	17	.4	1.5	86	40	12	.1	2.0	170	160
MAY											
01...	5.3	12	.3	2.0	59	31	6.0	.1	6.5	137	117
JUN											
06...	6.8	11	.3	1.6	81	33	7.7	.1	3.4	185	143
JUL											
22...	18	23	.7	2.5	90	54	14	.2	6.7	230	195
AUG											
19...	18	18	.6	3.0	--	60	17	.0	.0	--	21

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- PENDED 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- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV , 1979											
08...	.17	5820	1.1	.030	.09	300	260	40	30	20	7
DEC											
19...	.31	4650	1.1	.030	.09	180	20	160	20	0	20
MAR , 1980											
06...	.23	3340	1.3	.070	.21	150	110	40	30	0	30
MAY											
01...	.19	11500	1.2	.120	.37	1900	1900	50	100	100	5
JUN											
06...	.25	4130	1.3	.050	.15	540	530	10	40	40	4
JUL											
22...	.31	1670	.56	.070	.21	570	560	10	60	60	5
AUG											
19...	.03	148	.01	.070	.21	340	330	10	60	60	0

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

WATER QUALITY DATA

DATE	TRITIUM IN WATER MOLE- CULES (TU)	TRITIUM WATER MOLE- CULES COUNT ERROR (TU)
OCT , 1978		
01-31	43.0	1.5
NOV		
01-30	39.7	1.4
DEC		
01-31	49.0	1.7
JAN , 1979		
01-31	87.8	2.8
FEB		
01-28	46.3	2.2
MAR		
01-31	42.4	3.8
APR		
01-30	47.4	4.3
MAY		
01-31	40.5	4.2
JUN		
01-30	34.8	4.2
JUL		
01-15	42.6	4.1
16-31	44.1	4.2
AUG		
01-18	37.8	4.1
19-31	42.3	4.1
SEP		
01-18	40.8	4.0
19-30	41.1	4.1
OCT		
01-07	36.5	2.6
NOV		
22-30	35.9	2.7
DEC		
01-31	41.8	3.4
JAN , 1980		
01-17	34.3	2.8
18-31	38.0	1.7
AUG		
13-31	31.8	1.3
SEP		
01-18	31.7	1.3
19-30	31.5	1.5

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	---	7.0	5.0	.0	1.0	10.0	12.0	24.0	23.0	27.0	26.0
2	20.0	---	6.0	3.0	1.0	1.0	10.0	13.0	22.0	25.0	26.0	27.0
3	20.0	---	6.0	2.0	1.0	2.0	10.0	13.0	22.0	27.0	27.0	27.0
4	19.0	---	6.0	4.0	1.0	2.0	10.0	16.0	21.0	25.0	27.0	25.0
5	17.0	---	5.0	4.0	1.0	3.0	10.0	15.0	21.0	26.0	28.0	26.0
6	16.0	---	4.0	4.0	1.0	5.0	12.0	16.0	20.0	27.0	27.0	27.0
7	15.0	---	---	2.0	2.0	6.0	12.0	19.0	21.0	24.0	30.0	26.0
8	---	---	---	4.0	3.0	7.0	13.0	17.0	24.0	23.0	30.0	24.0
9	---	---	---	4.0	2.0	7.0	13.0	17.0	20.0	23.0	30.0	26.0
10	---	---	---	3.0	2.0	7.0	13.0	18.0	19.0	24.0	30.0	24.0
11	---	---	---	2.0	2.0	7.0	13.0	16.0	19.0	25.0	28.0	21.0
12	---	---	---	2.0	1.0	7.0	12.0	16.0	19.0	24.0	26.0	22.0
13	---	---	---	1.0	2.0	5.0	13.0	17.0	19.0	25.0	25.0	22.0
14	---	---	---	2.0	2.0	5.0	11.0	18.0	20.0	24.0	26.0	25.0
15	---	---	---	3.0	2.0	7.0	12.0	16.0	20.0	25.0	27.0	23.0
16	---	---	---	3.0	3.0	7.0	10.0	17.0	20.0	27.0	24.0	21.0
17	---	---	---	3.0	2.0	6.0	9.0	17.0	20.0	27.0	25.0	21.0
18	---	---	---	4.0	1.0	7.0	11.0	18.0	20.0	27.0	22.0	23.0
19	---	---	---	5.0	2.0	7.0	13.0	19.0	20.0	27.0	23.0	24.0
20	---	---	---	5.0	3.0	8.0	13.0	19.0	20.0	32.0	24.0	22.0
21	---	---	---	4.0	6.0	7.0	14.0	18.0	20.0	30.0	24.0	25.0
22	---	10.0	---	4.0	5.0	6.0	16.0	18.0	24.0	28.0	23.0	24.0
23	---	11.0	---	4.0	5.0	7.0	17.0	17.0	22.0	26.0	22.0	25.0
24	---	12.0	---	2.0	6.0	6.0	17.0	17.0	25.0	26.0	22.0	22.0
25	---	15.0	---	2.0	4.0	8.0	17.0	19.0	24.0	25.0	23.0	21.0
26	---	14.0	---	3.0	3.0	7.0	15.0	19.0	23.0	27.0	24.0	21.0
27	---	14.0	5.0	2.0	4.0	7.0	14.0	18.0	24.0	28.0	24.0	21.0
28	---	12.0	5.0	2.0	3.0	8.0	14.0	19.0	25.0	26.0	25.0	21.0
29	---	10.0	5.0	2.0	1.0	9.0	13.0	21.0	27.0	25.0	26.0	21.0
30	---	9.0	5.0	1.0	---	8.0	12.0	22.0	24.0	26.0	29.0	21.0
31	---	---	4.0	.0	---	---	---	21.0	---	26.0	29.0	---
MEAN	18.0	12.0	5.5	3.0	2.5	6.0	12.5	17.5	21.5	26.0	26.0	23.5

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SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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)						
OCTOBER			NOVEMBER			DECEMBER			JANUARY			FEBRUARY			MARCH		
1	35	1260	3	63	14	631	4	124	3	68	7	149					
2	40	1570	3	60	14	537	4	113	4	81	9	176					
3	80	5640	50	1740	16	531	5	131	8	154	11	195					
4	79	9430	125	14000	9	267	7	171	8	152	6	95					
5	86	9290	70	7000	7	189	17	394	8	149	7	119					
6	148	19100	30	2000	15	382	13	282	6	108	7	138					
7	225	31000	25	1340	10	245	4	81	7	135	12	274					
8	90	10000	20	913	5	116	3	59	8	142	9	335					
9	40	3020	18	714	5	109	3	57	8	141	4	145					
10	60	5360	16	575	5	102	3	56	8	138	12	418					
11	180	28000	14	461	4	78	5	89	7	118	12	441					
12	220	37000	12	382	4	73	9	166	7	113	11	365					
13	160	22000	10	310	4	73	5	102	5	77	8	251					
14	110	12000	8	257	4	77	10	273	5	74	8	238					
15	60	5000	6	191	6	136	12	450	6	87	7	197					
16	30	2000	5	151	8	198	69	6880	5	73	8	235					
17	25	1440	5	143	10	239	87	7660	6	86	26	948					
18	20	988	5	135	5	110	32	2190	5	70	33	2230					
19	18	773	5	130	5	103	26	1780	7	96	83	8930					
20	16	596	5	123	5	100	62	5420	8	109	95	9700					
21	14	469	5	117	5	97	48	3910	8	111	69	6190					
22	12	366	5	112	5	92	30	1980	8	114	104	11300					
23	10	286	5	107	5	87	18	972	9	139	173	19600					
24	10	292	4	83	5	85	15	688	12	239	83	7190					
25	10	302	4	79	5	101	12	489	13	428	42	2950					
26	8	229	3	62	20	902	5	184	22	707	23	1410					
27	6	156	23	1300	90	6710	4	134	12	343	17	904					
28	5	120	90	8140	40	2330	3	95	8	206	12	557					
29	5	115	53	3890	27	1250	3	87	8	192	13	611					
30	4	91	27	1500	12	470	3	84	---	---	32	2310					
31	4	87	---	---	7	240	3	76	---	---	58	4900					
TOTAL	---	207980	---	46078	---	16660	---	35177	---	4650	---	83501					
APRIL			MAY			JUNE			JULY			AUGUST			SEPTEMBER		
1	109	12000	80	8280	16	407	16	147	18	211	9	52					
2	276	36200	288	50000	18	510	16	140	17	175	10	56					
3	147	15300	129	15500	15	409	14	119	12	105	12	68					
4	67	5450	87	7190	15	385	17	143	9	71	13	75					
5	38	3150	50	3230	14	323	18	148	8	59	11	60					
6	26	1610	35	1830	15	337	15	121	11	85	9	48					
7	28	1480	28	1270	16	349	17	141	11	79	11	61					
8	25	1150	22	873	15	299	17	158	11	75	16	92					
9	24	1080	18	646	14	271	24	248	10	64	25	159					
10	43	3110	24	778	17	329	33	749	9	58	21	128					
11	223	26900	16	475	18	348	30	757	8	50	19	104					
12	168	15600	10	275	19	353	27	491	12	79	17	88					
13	85	6100	9	239	12	239	31	475	19	139	14	64					
14	47	2800	9	255	10	183	33	439	20	154	11	45					
15	42	2870	9	245	12	195	30	356	21	167	13	54					
16	115	13300	9	221	16	260	28	333	19	151	13	53					
17	120	13000	10	220	16	250	21	219	13	92	19	73					
18	95	7690	10	219	24	506	17	156	15	102	16	61					
19	43	2810	12	266	26	624	13	109	17	124	11	47					
20	26	1430	16	385	16	300	8	61	26	272	11	47					
21	22	1040	44	2080	11	175	7	50	42	940	12	51					
22	17	707	228	29000	10	143	10	89	34	625	14	61					
23	13	488	270	35500	9	120	27	276	28	409	13	60					
24	14	476	112	9560	8	98	25	271	29	352	15	66					
25	14	442	67	4410	9	102	24	262	23	243	15	66					
26	16	480	73	5220	10	107	21	216	21	198	19	85					
27	14	435	70	3990	11	111	18	202	17	145	17	83					
28	15	563	50	2210	11	104	16	153	16	124	14	63					
29	42	2880	30	1070	14	128	14	116	14	100	14	59					
30	55	3710	20	610	18	172	14	111	8	52	15	62					
31	---	---	19	518	---	---	15	144	5	30	---	---					
TOTAL	---	184251	---	186565	---	8137	---	7400	---	5530	---	2091					
TOTAL LOAD FOR YEAR:			788020 TONS.														

MONONGAHELA RIVER BASIN

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.

COOPERATION.--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, 26.5°C July 19; minimum daily, 0.0°C Feb. 13.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	9.0	3.5	2.0	1.0	.5	9.5	11.0	20.0	22.0	22.0	20.0
2	18.0	10.0	3.5	1.5	1.0	2.0	10.0	11.0	20.0	22.0	23.0	23.5
3	16.5	10.5	3.5	2.0	1.0	1.5	11.0	11.5	20.5	22.0	24.0	23.5
4	15.5	9.5	3.5	1.5	1.0	2.0	11.5	13.5	19.5	23.5	24.5	23.5
5	14.5	8.0	3.5	1.5	1.5	2.0	9.5	15.5	20.0	22.0	25.5	22.0
6	13.5	8.0	3.5	1.0	1.0	3.5	10.0	14.5	19.0	21.5	25.5	23.0
7	11.0	8.0	4.5	1.5	1.0	2.0	11.0	16.5	20.0	22.0	25.5	22.0
8	11.0	7.0	2.0	1.0	1.0	4.5	10.0	15.5	18.5	21.5	25.0	23.5
9	12.0	8.0	4.0	2.0	1.5	8.0	12.0	14.5	19.0	22.0	25.0	23.5
10	10.5	8.5	3.5	1.5	3.5	6.5	13.0	15.5	18.0	21.0	25.5	23.5
11	11.0	9.0	4.0	1.5	1.0	5.5	11.0	16.5	17.0	21.0	25.5	21.0
12	10.5	8.0	4.5	2.0	3.5	4.5	11.0	18.0	16.0	20.0	25.5	21.0
13	12.0	8.0	3.5	3.0	.0	3.5	11.0	18.0	16.5	21.0	25.5	21.0
14	9.5	6.5	3.5	3.5	1.0	2.0	12.0	16.5	18.5	22.0	25.5	21.0
15	9.0	6.5	3.0	4.5	.5	3.5	10.0	16.5	19.5	22.0	24.5	20.0
16	10.0	5.5	4.5	3.5	.5	5.5	9.0	18.0	20.0	24.5	21.5	20.0
17	10.0	6.0	3.5	5.5	3.5	8.0	9.0	17.0	19.0	25.5	19.5	20.5
18	11.0	6.5	2.0	6.0	1.0	8.0	9.5	18.0	18.5	25.5	19.0	20.0
19	13.5	6.5	3.5	5.5	1.0	7.0	11.0	18.0	20.0	26.5	20.0	20.0
20	13.5	6.5	.5	4.5	3.5	6.5	13.5	18.0	19.5	25.5	19.0	20.0
21	14.5	6.5	2.0	4.5	2.0	7.0	14.5	16.5	19.5	25.5	20.0	20.0
22	15.5	8.0	3.0	4.0	1.5	6.0	15.0	16.5	20.0	25.0	19.0	20.5
23	15.0	8.0	4.0	3.5	2.0	6.5	15.0	16.5	20.5	25.5	19.5	20.0
24	13.5	9.5	4.5	2.0	2.0	7.0	15.5	16.0	20.0	23.0	21.0	20.0
25	11.0	6.5	6.5	1.0	2.0	6.5	15.5	16.5	21.0	22.0	22.0	20.0
26	9.5	8.0	5.5	1.0	3.5	6.5	13.5	16.0	22.0	22.0	23.0	19.0
27	8.0	6.5	4.5	2.0	3.5	6.5	12.0	16.5	22.0	23.5	23.5	19.0
28	9.0	6.5	4.5	3.0	2.0	8.5	11.5	16.5	22.0	23.5	24.5	16.5
29	8.0	4.5	3.5	2.0	.5	9.5	13.5	17.0	21.5	24.0	24.5	16.0
30	9.0	4.5	3.5	1.0	---	9.0	10.0	19.0	21.5	23.5	24.5	15.5
31	9.0	---	2.0	1.0	---	10.0	---	18.5	---	23.5	20.0	---
MEAN	12.0	7.5	3.5	2.5	1.5	5.5	11.5	16.0	19.5	23.0	23.0	20.5
WTR YR 1980		MEAN	12.5	MAX	26.5	MIN	.0					

MONONGAHELA RIVER BASIN

93

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.--36 years, 538 ft³/s (15.24 m³/s), 26.86 in/yr (682 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)
Oct. 10	1930	*6440 182	12.64 3.853	May 21	2215	5840 165	12.04 3.670
May 1	0700	5180 147	11.35 3.459	Aug. 18	2030	5980 169	12.18 3.712

Minimum discharge, 16 ft³/s (0.45 m³/s) June 30, gage height, 1.30 ft (0.396).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161	90	388	311	200	211	1780	4430	286	38	236	99
2	204	629	334	272	190	190	1150	2090	248	50	240	80
3	813	2650	274	236	180	180	787	1160	287	175	191	98
4	643	1160	243	209	170	200	675	749	314	184	159	69
5	896	656	237	200	160	1080	693	538	268	133	134	413
6	1530	442	238	186	150	4090	590	423	329	165	91	173
7	1020	357	265	175	160	1910	513	391	440	132	68	99
8	676	299	263	180	150	1650	441	317	392	633	65	81
9	2090	254	226	170	140	1650	2850	249	403	1760	87	72
10	6000	318	204	150	135	1030	2470	226	1370	3320	177	54
11	4880	632	195	182	130	910	1060	206	1280	1820	91	34
12	2300	664	191	596	120	730	692	211	616	621	508	42
13	2370	903	395	655	110	611	558	431	377	395	183	38
14	1820	822	1170	611	100	876	760	318	266	299	82	57
15	1040	595	901	806	117	834	1730	265	222	195	135	380
16	652	501	632	730	316	951	1520	214	565	142	975	103
17	439	417	450	605	660	1220	1060	182	547	115	273	67
18	316	368	310	630	550	2490	840	209	304	122	3040	71
19	245	326	318	1970	470	1810	645	231	222	105	4040	23
20	199	276	280	1370	500	1120	497	277	175	88	1670	29
21	171	236	227	844	866	1010	397	4130	150	68	1270	49
22	146	208	200	605	2900	1460	329	3190	126	75	583	45
23	135	189	193	520	4230	1080	278	1110	86	395	439	64
24	125	181	206	450	2030	808	246	727	63	529	297	88
25	150	201	2000	520	1210	861	228	892	74	261	203	117
26	99	1270	1870	657	847	1020	260	776	71	163	150	157
27	93	2060	1030	516	490	805	2090	530	75	130	128	165
28	94	1030	685	436	370	653	2770	380	68	151	102	99
29	84	685	503	361	280	982	1310	290	61	1410	65	69
30	100	501	400	240	---	1030	2720	244	22	708	76	54
31	90	---	350	220	---	1100	---	297	---	357	110	---
TOTAL	29581	18920	15178	15613	17931	34552	31939	25683	9707	14739	15868	2989
MEAN	954	631	490	504	618	1115	1065	828	324	475	512	99.6
MAX	6000	2650	2000	1970	4230	4090	2850	4430	1370	3320	4040	413
MIN	84	90	191	150	100	180	228	182	22	38	65	23
CFSM	3.51	2.32	1.80	1.85	2.27	4.10	3.92	3.04	1.19	1.75	1.88	.37
IN.	4.05	2.59	2.08	2.14	2.45	4.73	4.37	3.51	1.33	2.02	2.17	.41

CAL YR 1979	TOTAL	249966	MEAN 685	MAX 6070	MIN 67	CFSM 2.52	IN 34.19
WTR YR 1980	TOTAL	232700	MEAN 636	MAX 6000	MIN 22	CFSM 2.34	IN 31.83

MONONGAHELA RIVER BASIN

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.--73 years, 810 ft³/s (22.94 m³/s), 26.96 in/yr (685 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)
Oct. 10	1800	*9640 273	13.53 4.124	May 1	1000	7200 204	11.67 3.557
Feb. 23	0400	6600 187	11.17 3.405	May 22	0300	7490 212	11.89 3.624
Mar. 6	0800	6580 186	11.15 3.399	Aug. 18	2300	9540 270	13.46 4.103
Apr. 9	2200	6480 184	11.07 3.374				

Minimum discharge, 45 ft³/s (1.27 m³/s) July 1, 2, gage height, 2.49 ft (0.759 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	395	218	708	540	330	340	3250	6540	966	50	355	163
2	365	756	614	480	300	290	2080	3460	717	56	370	137
3	1220	3880	500	450	280	270	1370	1940	795	232	320	178
4	1220	2070	445	395	270	300	1170	1260	939	335	355	174
5	1740	1170	435	375	250	1540	1180	907	664	206	470	862
6	2700	822	440	345	240	6210	1030	711	651	246	241	526
7	1760	657	485	335	250	3320	873	736	1180	186	127	237
8	1150	571	485	360	230	2450	757	607	875	517	99	182
9	3290	496	440	340	210	2450	4420	496	765	2940	269	133
10	9200	561	395	300	200	1650	4400	412	2190	4670	526	117
11	7740	945	370	390	190	1360	1870	380	2370	3020	385	83
12	3790	1070	370	1470	180	1170	1200	363	1150	1260	1240	65
13	3640	1360	939	1420	170	1010	973	540	680	1090	801	63
14	2990	1370	2110	1210	160	1550	1380	566	472	708	345	58
15	1830	1040	1690	1440	178	1490	2470	440	398	425	287	581
16	1160	893	1170	1320	360	1690	2480	357	1870	278	1990	278
17	816	768	800	1090	1100	2000	1770	305	1830	206	933	155
18	611	675	610	992	930	3540	1410	324	815	186	4270	123
19	484	602	530	2170	800	3090	1080	355	498	167	7500	83
20	402	526	480	2030	850	1920	839	433	351	130	3300	53
21	349	460	420	1330	1440	1510	678	4570	276	99	2440	59
22	305	411	375	1000	4440	2080	557	5360	218	88	1230	88
23	283	378	350	850	6230	1690	468	1930	174	214	818	96
24	274	378	350	720	3280	1320	415	1200	114	911	554	155
25	260	429	2540	818	1960	1320	385	1150	104	425	390	182
26	270	2140	3180	998	1370	1540	424	1180	102	251	292	214
27	198	3550	1810	862	850	1270	2910	822	94	170	227	260
28	218	1830	1240	752	700	1010	4590	592	99	148	190	190
29	265	1230	939	625	520	1420	2320	451	88	1380	133	110
30	242	911	730	450	---	1640	3830	364	76	1100	107	96
31	218	---	630	380	---	1830	---	767	---	559	151	---
TOTAL	49385	32167	26580	26237	28268	54270	52579	39518	21521	22253	30715	5701
MEAN	1593	1072	857	846	975	1751	1753	1275	717	718	991	190
MAX	9200	3880	3180	2170	6230	6210	4590	6540	2370	4670	7500	862
MIN	198	218	350	300	160	270	385	305	76	50	99	53
CFSM	3.90	2.63	2.10	2.07	2.39	4.29	4.30	3.13	1.76	1.76	2.43	.47
IN.	4.50	2.93	2.42	2.39	2.58	4.95	4.79	3.60	1.96	2.03	2.80	.52

CAL YR 1979	TOTAL	405609	MEAN	1111	MAX	9200	MIN	87	CFSM	2.72	IN	36.98
WTR YR 1980	TOTAL	389194	MEAN	1063	MAX	9200	MIN	50	CFSM	2.61	IN	35.49

MONONGAHELA RIVER BASIN

95

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 except those for February, which are poor.

AVERAGE DISCHARGE.--34 years, 26.9 ft³/s (0.762 m³/s), 25.19 in/yr (640 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)
Oct. 10	0130	555 15.7	4.16 1.268	Apr. 30	1100	450 12.7	3.76 1.146
Apr. 9	0230	*1120 31.7	6.04 1.841	Aug. 18	1430	1080 30.6	5.93 1.807

Minimum discharge, 1.5 ft³/s (0.042 m³/s) Aug. 1, Sept. 30; gage height, 0.51 ft (0.155 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33	5.9	21	16	13	11	137	188	23	2.3	2.2	2.9
2	49	92	18	14	12	10	63	75	26	1.9	3.8	4.4
3	94	95	15	13	11	9.5	40	43	50	15	3.0	6.4
4	50	45	14	12	10	13	50	29	48	8.5	15	44
5	84	28	14	12	9.5	120	43	23	28	6.1	7.8	138
6	64	22	14	11	9.0	167	35	19	36	5.3	11	28
7	44	18	16	17	9.8	67	28	20	33	3.0	4.8	16
8	31	15	14	15	7.9	46	59	16	44	9.5	3.2	11
9	183	13	12	13	7.0	34	482	13	33	31	29	8.1
10	395	25	12	12	6.5	27	99	12	194	103	30	7.3
11	151	29	12	49	6.0	23	48	12	74	38	22	5.6
12	80	30	22	100	5.6	20	35	11	34	19	40	4.5
13	92	31	124	56	5.1	37	34	13	21	14	19	3.7
14	66	29	110	58	4.8	91	84	10	15	9.1	12	3.8
15	40	24	56	50	5.2	66	77	8.1	13	6.6	25	5.1
16	28	24	37	40	43	51	56	7.1	86	5.3	86	3.3
17	20	20	26	34	29	44	40	6.8	51	4.5	25	2.5
18	15	17	20	31	21	94	33	9.5	29	4.1	473	2.2
19	12	15	17	31	17	71	26	8.5	19	3.0	230	2.0
20	9.8	13	15	28	27	47	21	17	14	2.2	86	1.9
21	8.6	12	13	24	77	49	19	135	11	1.9	55	3.2
22	7.8	10	11	22	174	48	16	59	8.8	5.3	34	4.7
23	7.8	9.2	11	19	85	39	14	33	6.8	15	22	5.3
24	7.6	14	14	17	50	35	13	26	5.8	8.1	15	5.4
25	6.5	14	107	22	36	44	12	27	5.3	3.6	12	3.9
26	6.1	105	80	24	30	39	21	19	4.1	2.3	8.8	3.1
27	5.4	68	50	22	24	31	142	15	3.8	1.9	6.8	2.1
28	10	43	35	20	19	32	117	12	4.5	2.5	5.5	1.9
29	9.4	32	28	17	15	36	57	9.8	3.4	5.5	4.5	1.7
30	7.1	25	23	16	---	34	320	11	3.8	2.3	3.8	1.5
31	6.3	---	19	14	---	148	---	26	---	1.9	3.4	---
TOTAL	1623.4	923.1	980	829	769.4	1583.5	2221	913.8	928.3	341.7	1298.6	333.5
MEAN	52.4	30.8	31.6	26.7	26.5	51.1	74.0	29.5	30.9	11.0	41.9	11.1
MAX	395	105	124	100	174	167	482	188	194	103	473	138
MIN	5.4	5.9	11	11	4.8	9.5	12	6.8	3.4	1.9	2.2	1.5
CFSM	3.61	2.12	2.18	1.84	1.83	3.52	5.10	2.03	2.13	.76	2.89	.77
IN.	4.16	2.37	2.51	2.13	1.97	4.06	5.70	2.34	2.38	.88	3.33	.86
CAL YR 1979	TOTAL	12779.5	MEAN	35.0	MAX	395	MIN	1.6	CFSM	2.41	IN	32.78
WTR YR 1980	TOTAL	12745.3	MEAN	34.8	MAX	482	MIN	1.5	CFSM	2.40	IN	32.70

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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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...	1645	76	120	6.8	--	18.0	--	--	--	--	--
10...	1830	313	118	5.5	5.0	9.5	--	--	--	--	--
DEC											
06...	1600	13	150	6.1	--	--	--	--	--	--	--
MAR											
08...	1430	46	160	6.0	10.0	4.0	--	--	--	--	--
26...	1720	36	105	6.5	9.0	8.5	--	35	33	.1	5.0
AUG											
22...	1110	34	170	7.0	28.5	20.5	5.5	58	48	.0	.0
29...	1200	4.6	180	6.8	26.0	22.0	--	--	--	--	--

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)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
DEC											
06...	--	--	--	--	--	--	--	--	--	--	--
MAR											
08...	--	--	--	--	--	--	--	--	--	--	--
26...	8.1	3.7	3.2	.2	5	33	4.0	--	69	.09	6.71
AUG											
22...	13	6.2	4.3	.3	10	51	3.4	6.1	124	.17	11.4
29...	--	--	--	--	--	--	--	--	--	--	--

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L 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)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	LITHIUM DIS- SOLVED (UG/L AS LI)
OCT											
03...	--	--	--	--	--	--	--	--	--	--	--
10...	--	--	--	--	--	--	--	--	--	--	--
MAR											
26...	--	--	--	--	--	550	510	40	--	760	--
AUG											
22...	60	1	3	17	<10	570	520	55	<10	1300	<4

DATE	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT										
03...	--	--	--	--	--	--	--	--	33	6.8
10...	--	--	--	--	--	--	--	--	62	52
MAR										
26...	0	820	--	--	--	--	--	.60	--	--
AUG										
22...	100	1200	13	30	<6.0	36	2.1	--	28	2.6

MONONGAHELA RIVER BASIN

97

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 Feb. 1 to Mar. 12, which are poor. Some regulation at low flow from mine pumpage above station.

AVERAGE DISCHARGE.--65 years, 596 ft³/s (16.88 m³/s), 29.22 in/yr (742 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)	(m ³ /s)	Gage height (ft)	(m)	Date	Time	Discharge (ft ³ /s)	(m ³ /s)	Gage height (ft)	(m)
Oct. 10	1430	*7930	225	11.48	3.499	May 1	0415	5130	145	9.48	2.890
Mar. 6	Unknown	4770	135	9.22	2.810	Aug. 19	0200	5090	144	9.45	2.880
Apr. 9	*1630	6130	174	10.19	3.106						

Minimum discharge, 32 ft³/s (0.91 m³/s) Sept. 21, 22, gage height, 3.95 ft (1.204 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	498	209	575	420	240	220	2470	4640	511	58	74	70
2	471	569	493	380	220	190	1690	2500	433	51	83	67
3	890	2200	416	342	210	180	1110	1390	532	67	117	75
4	868	1390	365	306	190	210	1050	944	683	175	175	82
5	1040	875	342	280	180	1200	1090	697	497	288	176	388
6	1350	646	332	270	170	3800	849	543	412	254	141	341
7	1130	515	365	270	180	2400	694	490	659	256	114	173
8	845	460	385	320	160	1600	601	441	858	179	74	113
9	1720	395	337	290	150	1600	5310	349	875	341	180	85
10	6990	454	319	260	140	1200	3520	307	1270	1410	802	73
11	5450	803	310	320	135	900	1470	275	1710	1680	423	68
12	2490	803	310	1260	130	700	961	255	931	828	624	60
13	2330	831	1280	1250	120	701	820	264	587	536	596	56
14	2150	782	2440	1070	110	1470	1260	389	408	403	275	48
15	1370	672	1550	1080	130	1400	1610	334	326	270	221	55
16	928	614	1020	905	394	1150	1360	290	1210	199	670	56
17	660	575	761	782	1100	1040	1090	262	1140	151	549	46
18	493	504	557	747	670	1720	877	266	575	127	2240	48
19	390	454	460	890	540	1980	720	265	373	116	4570	42
20	319	400	416	875	580	1390	588	283	274	90	2380	35
21	278	355	342	761	1100	1130	492	2540	210	73	1270	32
22	242	319	302	634	2400	1470	417	2670	167	72	818	34
23	220	290	282	570	3400	1190	350	1330	137	149	588	42
24	216	294	278	480	2200	968	309	888	113	312	400	64
25	209	438	1080	520	1300	1070	281	881	99	183	281	110
26	192	1300	2010	640	970	1150	296	710	88	112	210	120
27	170	2240	1370	582	700	955	1360	523	76	83	163	100
28	178	1290	976	533	500	792	2600	395	77	69	128	79
29	254	936	740	471	340	923	1610	313	69	71	104	60
30	274	719	608	370	---	821	2850	258	65	100	88	45
31	223	---	490	278	---	1290	---	474	---	86	77	---
TOTAL	34838	22332	21511	18156	18659	36810	39705	26166	15365	8789	18611	2667
MEAN	1124	744	694	586	643	1187	1324	844	512	284	600	88.9
MAX	6990	2240	2440	1260	3400	3800	5310	4640	1710	1680	4570	388
MIN	170	209	278	260	110	180	281	255	65	51	74	32
CFSM	4.06	2.69	2.51	2.12	2.32	4.29	4.78	3.05	1.85	1.03	2.17	.32
IN.	4.68	3.00	2.89	2.44	2.51	4.94	5.33	3.51	2.06	1.18	2.50	.36

CAL YR 1979	TOTAL	283898	MEAN 778	MAX 6990	MIN 62	CFSM 2.81	IN 38.13
WTR YR 1980	TOTAL	263609	MEAN 720	MAX 6990	MIN 32	CFSM 2.60	IN 35.40

MONONGAHELA RIVER BASIN

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 February, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--40 years, 1,862 ft³/s (52.73 m³/s), 27.60 in/yr (701 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)
Oct. 10	1200	*21100	598	17.62	5.371	May 1	0800	14500	411	13.98	4.261
Mar. 6	1000	13400	379	13.32	4.060	Aug. 18	2400	19400	549	16.76	5.108
Apr. 9	2200	13800	391	13.55	4.130						

Minimum discharge, 130 ft³/s (3.68 m³/s) Sept. 21, gage height, 1.90 ft (0.579 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1160	563	1790	1420	780	730	7310	13600	2090	189	565	358
2	1020	1240	1540	1250	720	650	5180	8180	1860	153	516	297
3	2510	7060	1290	1080	670	600	3460	4630	2100	196	552	335
4	2830	4890	1120	960	620	680	3030	3080	2170	643	636	353
5	3240	2870	1060	913	580	3000	3040	2270	1740	638	775	1360
6	5090	2100	1040	851	540	12400	2560	1790	1530	601	518	1460
7	3900	1690	1140	800	550	7970	2160	1650	2390	583	372	743
8	2680	1480	1210	1000	520	5280	1860	1470	2370	547	260	469
9	5200	1280	1090	950	500	5170	11200	1180	2310	3560	416	345
10	19300	1340	997	820	460	3760	10400	992	3820	6750	2020	293
11	15900	2160	944	900	430	2950	4750	892	5590	6400	1330	257
12	8380	2430	908	3180	410	2570	3030	813	3060	2960	2380	204
13	7490	2700	2510	3690	390	2300	2480	922	1920	1980	2230	184
14	6840	2770	5770	3040	370	3800	3330	1330	1330	1450	1040	183
15	4400	2330	4530	3290	390	3940	5050	1060	996	922	664	460
16	2830	2040	3050	2940	737	3630	5050	908	3180	643	3450	530
17	2020	1880	2330	2500	2400	3760	3840	784	4220	487	2320	288
18	1510	1650	1720	2260	2100	6190	3090	777	2110	410	6880	227
19	1170	1480	1420	3230	1800	6730	2500	823	1310	388	15600	208
20	942	1300	1320	3670	1900	4550	2030	910	927	315	8110	152
21	789	1140	1090	2690	3000	3520	1690	7780	690	261	5470	132
22	684	1010	933	2130	8370	4360	1400	10200	549	244	3230	152
23	606	917	860	1800	11500	3790	1170	4620	443	388	2210	184
24	585	885	841	1600	7260	3060	1020	2910	360	1200	1550	221
25	557	1110	3510	1680	4490	3060	922	2590	293	832	1070	305
26	550	3300	6810	1980	3230	3410	908	2510	274	482	777	360
27	468	7210	4350	1820	2380	2940	4260	1850	253	338	590	379
28	500	4250	3010	1630	1600	2420	9050	1370	241	282	468	356
29	659	2950	2280	1410	1200	2820	5400	1060	241	948	382	268
30	689	2240	1890	1000	---	3090	7790	845	220	1490	299	201
31	619	---	1640	860	---	3940	---	1290	---	752	298	---
TOTAL	105118	70265	63993	57344	59897	117070	118960	85086	50587	37032	66978	11264
MEAN	3391	2342	2064	1850	2065	3776	3965	2745	1686	1195	2161	375
MAX	19300	7210	6810	3690	11500	12400	11200	13600	5590	6750	15600	1460
MIN	468	563	841	800	370	600	908	777	220	153	260	132
CFSM	3.70	2.56	2.25	2.02	2.25	4.12	4.33	3.00	1.84	1.31	2.36	.41
IN.	4.27	2.85	2.60	2.33	2.43	4.75	4.83	3.46	2.05	1.50	2.72	.46

CAL YR 1979	TOTAL	896147	MEAN	2455	MAX	19300	MIN	207	CFSM	2.68	IN	36.39
WTR YR 1980	TOTAL	843594	MEAN	2305	MAX	19300	MIN	132	CFSM	2.52	IN	34.26

MONONGAHELA RIVER BASIN

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03054500 TYGART VALLEY RIVER AT PHILIPPI, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-1961, 1963, 1965, 1968-74, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)
OCT										
23...	0900	676	115	7.9	--	16.0	--	40	35	--
NOV										
05...	1130	2910	80	6.4	12.0	8.0	--	--	--	--
27...	1205	7730	80	6.2	--	10.0	--	24	16	.0
DEC										
19...	1100	1440	90	6.3	5.0	.5	--	28	17	.0
JAN										
29...	1200	1450	100	5.8	-3.0	1.0	--	30	24	.0
FEB										
28...	0900	1990	100	6.0	--	1.0	--	26	22	.0
MAR										
12...	0900	2650	95	7.0	--	4.0	--	27	16	.0
27...	0900	3000	80	6.5	11.0	7.5	--	26	8	.1
APR										
28...	1300	10200	78	--	18.0	12.0	--	23	19	.1
MAY										
22...	1305	10500	65	6.9	--	17.0	--	21	14	.1
JUN										
03...	1145	2190	105	6.6	27.0	21.0	--	35	23	.1
JUL										
14...	1150	1530	70	6.5	33.0	24.0	--	28	16	.2
AUG										
22...	1700	2920	60	6.8	23.0	20.0	10	30	21	.0
SEP										
02...	1130	280	170	7.3	31.0	26.0	--	60	44	--

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 AC- 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									
23...	--	11	3.1	3.7	22	.3	5.0	1.3	8
NOV									
05...	--	--	--	--	--	--	--	--	--
27...	.0	7.0	1.7	3.3	--	.3	--	--	9
DEC									
19...	.0	7.6	2.1	3.0	--	.2	--	--	8
JAN									
29...	.0	8.3	2.2	4.3	--	.3	--	--	11
FEB									
28...	.0	7.1	1.9	3.2	--	.3	--	--	11
MAR									
12...	.0	7.5	2.0	3.0	--	.3	--	--	11
27...	5.0	7.1	1.9	2.5	--	.2	--	--	10
APR									
28...	5.0	6.2	1.8	2.6	--	.2	--	--	4
MAY									
22...	5.0	5.9	1.5	2.0	--	.2	--	--	12
JUN									
03...	5.0	10	2.5	3.4	--	.3	--	--	15
JUL									
14...	10	7.8	2.0	3.0	--	.2	--	--	22
AUG									
22...	.0	8.6	2.1	2.3	--	.2	--	--	9
SEP									
02...	--	17	4.2	4.3	--	.2	--	--	16

03054500 TYGART VALLEY RIVER AT PHILIPPI, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	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 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)
OCT 23...	41	2.1	.1	5.3	82	71	.11	150	.36
NOV 05...	--	--	--	--	--	--	--	--	--
27...	17	3.4	--	--	44	--	.06	918	--
DEC 19...	23	3.2	--	--	33	--	.04	128	--
JAN 29...	25	5.1	--	--	57	--	.08	223	--
FEB 28...	21	3.8	--	--	53	--	.07	285	--
MAR 12...	19	3.3	--	--	52	--	.07	372	--
27...	19	2.7	--	--	46	--	.06	373	--
APR 28...	18	2.0	--	--	46	--	.06	1270	--
MAY 22...	12	1.9	--	--	40	--	.05	1130	--
JUN 03...	27	2.9	--	--	65	--	.09	384	--
JUL 14...	18	2.5	--	--	61	--	.08	252	--
AUG 22...	24	2.3	--	5.9	52	--	.07	410	--
SEP 02...	47	3.1	--	--	97	--	.13	73.3	--

DATE	PHOS- PHORUS, TOTAL (UG/L AS P)	PHOS- PHORUS, TOTAL (UG/L AS P04)	ARSENIC TOTAL (UG/L AS AS)	BARIIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 23...	.010	.03	0	200	--	--	0	--	20	--	3	--
AUG 22...	--	--	--	--	50	0	--	1	--	2	--	0

DATE	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)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE- D RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
OCT 23...	530	500	30	2	--	--	250	0	250	.1
NOV 27...	60	--	80	--	--	--	90	0	100	--
DEC 19...	460	400	60	--	--	--	170	0	170	--
JAN 29...	520	480	40	--	--	--	210	10	200	--
FEB 28...	430	370	60	--	--	--	160	10	150	--
MAR 12...	520	480	40	--	--	--	140	0	150	--
27...	730	700	30	--	--	--	150	10	140	--
APR 28...	1500	1500	40	--	--	--	160	30	130	--
MAY 22...	1700	1600	60	--	--	--	120	50	70	--
JUN 03...	1600	1600	50	--	--	--	150	20	130	--
JUL 14...	940	720	220	--	--	--	120	10	110	--
AUG 22...	1300	1300	22	--	0	2	190	60	130	--
SEP 02...	180	140	40	--	--	--	70	10	60	--

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDE- D (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE- D (T/DAY)
OCT 23...	--	0	0	--	--	30	--	--	--	.00	--	--
MAR 27...	--	--	--	--	--	--	--	--	10.0	--	--	--
AUG 22...	11	--	--	31	.0	--	2	2.4	--	--	36	284

MONONGAHELA RIVER BASIN

101

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, 182,100 acre-ft (225 hm³) Aug. 20, elevation 1,129.21 ft (344.183 m); minimum, 24,110 acre-ft (29.7 hm³) Dec. 24, elevation, 1,026.75 ft (312.953 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet) (equivalent in cfs)	
Sept. 30.....	1080.40	88930	-	-
Oct. 31.....	1028.91	26020	-62910	-1023
Nov. 30.....	1055.10	53770	+27750	+466
Dec. 31.....	1039.40	36080	-17690	-288
CAL YR 1979			-9955	-14
Jan. 31.....	1033.77	30500	-5580	-91
Feb. 29.....	1048.32	45770	+15270	+265
Mar. 31.....	1046.20	43380	-2391	-39
Apr. 30.....	1098.81	119900	+76470	+1285
May 31.....	1094.14	111500	-8357	-136
June 30.....	1091.65	107200	-4276	-72
July 31.....	1096.29	115300	+8071	+131
Aug. 31.....	1092.48	108600	-6658	-108
Sept. 30.....	1081.99	91430	-17200	-289
WTR YR 1980			+2506	+3

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.--42 years, 2,358 ft³/s (66.78 m³/s), 27.05 in/yr (687 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, 16,000 ft³/s (453 m³/s) Mar. 12; minimum daily, 340 ft³/s (9.63 m³/s) July 1-6.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3300	770	5680	1930	880	1600	3100	8700	2160	340	1200	610
2	3860	1060	3940	1910	880	1060	3760	11600	3100	340	1200	610
3	3810	1490	2120	1880	880	1060	3840	11400	3150	340	1200	610
4	3790	4340	2080	1840	880	1070	3870	8870	4780	340	1200	610
5	3770	6870	2060	1800	880	1120	3890	5020	6300	340	1200	610
6	3840	6320	2010	1320	880	2660	3890	2120	4660	340	1050	1060
7	3910	3650	1460	880	880	4300	3840	1540	3100	341	900	1520
8	3910	1620	963	886	878	4420	3800	1550	3100	346	755	1520
9	3920	1620	973	903	870	4480	3160	1550	3100	1060	615	1510
10	3390	1620	983	913	680	7300	4650	1550	3100	3370	1900	1190
11	4860	1620	990	928	490	13000	6990	1240	4700	5840	3180	880
12	11100	2040	990	1460	490	14700	7450	940	5450	6420	3180	740
13	14800	2150	1010	2580	490	10900	7280	940	4050	6320	4980	600
14	14200	1650	2110	3160	490	7770	6580	940	2300	4470	5690	600
15	13500	1670	4140	3860	490	7420	5690	940	1230	1720	2900	600
16	12900	1220	4740	4870	500	6990	5730	940	1240	900	3120	600
17	12200	947	4630	5090	717	5940	5730	940	2960	760	4690	600
18	11400	957	4460	4850	1800	3240	5680	940	4730	620	3400	600
19	10500	967	4250	4140	2880	5340	5590	940	3900	620	1700	598
20	9270	977	4020	3670	2830	7210	4460	1090	2320	620	8310	590
21	6670	987	3770	3660	3210	5630	1870	1460	1540	620	14300	590
22	2890	997	3520	3120	4130	5540	1370	6620	1370	620	14000	588
23	1220	1000	2640	2180	4820	5500	955	9980	902	542	11900	580
24	810	1000	1140	1760	6390	5360	540	4080	594	755	6710	580
25	807	1000	788	1780	7820	5800	545	6520	620	890	2130	577
26	795	1040	953	1790	7550	5870	550	8000	615	750	1520	570
27	785	1160	3010	1810	7170	4780	553	6260	610	610	1990	570
28	775	4010	5400	1820	5640	3640	2360	3100	610	610	1410	570
29	770	6070	5170	1810	3250	2490	4560	1560	605	905	610	570
30	770	5900	3950	1790	---	1930	4960	1380	470	1200	610	570
31	673	---	2420	1210	---	2060	---	1200	---	1200	610	---
TOTAL	169195	66722	86370	71600	69745	160180	117243	113910	77366	44149	108160	22023
MEAN	5458	2224	2786	2310	2405	5167	3908	3675	2579	1424	3489	734
MAX	14800	6870	5680	5090	7820	14700	7450	11600	6300	6420	14300	1520
MIN	673	770	788	880	490	1060	540	940	470	340	610	570

CAL YR 1979 TOTAL 1143489 MEAN 3133 MAX 14800 MIN 220 MEAN# 3119 CFSM# 2.63 IN# 35.70
WTR YR 1980 TOTAL 1106663 MEAN 3024 MAX 14800 MIN 340 MEAN# 3027 CFSM# 2.56 IN# 34.85

* Adjusted for change in contents in Tygart Lake.

MONONGAHELA RIVER BASIN

103

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.--41 years, 2,654 ft³/s (75.16 m³/s), 26.38 in/yr (670 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, 19,100 ft³/s (541 m³/s) Aug. 18, gage height, 15.17 ft (4.624 m), backwater from West Fork River; minimum discharge, 372 ft³/s (10.5 m³/s) July 2, 3, gage height, 3.76 ft (1.146 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3370	934	5810	2170	1060	2090	4900	8730	4130	393	1350	673
2	4540	1470	4720	2130	1050	1280	4460	11600	5010	375	1320	687
3	5630	2450	2250	2090	1050	1260	4210	11100	6630	400	1330	750
4	4590	3570	2200	2050	1040	1280	4550	9360	6390	394	1360	706
5	4500	7400	2170	2020	1030	2380	4500	5570	6770	397	1330	709
6	4720	6730	2140	1780	1010	4080	4250	2660	5730	401	1290	837
7	4560	4900	1920	1080	1000	4990	4080	1710	3600	389	1010	1560
8	4430	1850	1150	1050	1010	5050	4030	1680	3730	462	943	1550
9	5560	1810	1130	1030	1010	5130	6630	1660	3500	1010	1220	1540
10	6890	1850	1130	1020	945	6450	5100	1640	3450	2720	2580	1420
11	5850	1910	1130	1000	629	12000	6990	1500	4260	5340	5250	935
12	10400	2100	1150	2210	600	14600	7520	1040	5750	6190	9260	882
13	15500	2640	2920	2910	590	11300	7290	1080	4370	6420	5220	632
14	14400	1960	3350	3670	580	8040	7330	1070	2740	5070	6180	625
15	13600	1980	4560	4120	570	7580	6440	1040	1540	2360	4140	666
16	12900	1730	5130	5070	560	7350	6180	1020	1690	988	3700	635
17	12100	1110	4920	5490	878	6900	5980	1010	2700	924	4950	626
18	11200	1120	4670	5230	1630	5620	5810	1040	4780	676	12700	623
19	10300	1120	4500	4650	3080	5070	5650	1080	4230	664	5870	620
20	9280	1120	4270	3920	3100	7780	5040	1300	2760	657	7270	616
21	7250	1120	4010	3890	3680	5900	2450	3760	1640	653	15100	619
22	3710	1120	3750	3550	5900	5840	1580	5590	1550	687	14200	621
23	1700	1120	3290	2650	5970	5670	1420	11100	1200	665	12400	669
24	989	1160	1670	1980	6560	5530	732	4450	670	828	7860	673
25	972	1230	1700	2050	8130	5890	700	7210	660	988	2680	639
26	959	2520	1800	2090	7810	6080	697	8230	651	923	1550	620
27	943	2250	2580	2060	7390	5340	816	6890	645	668	1840	612
28	965	3470	5810	2070	6320	3880	1900	3890	642	708	2020	607
29	1000	6460	5540	2040	3960	3600	4710	1720	636	1220	715	604
30	978	6140	4680	1980	---	2510	5520	1610	635	1450	691	601
31	869	---	2900	1690	---	4840	---	1600	---	1510	681	---
TOTAL	184655	76344	98950	80740	78142	175310	131465	122940	92689	46530	138010	23557
MEAN	5957	2545	3192	2605	2695	5655	4382	3966	3090	1501	4452	785
MAX	15500	7400	5810	5490	8130	14600	7520	11600	6770	6420	15100	1560
MIN	869	934	1130	1000	560	1260	697	1010	635	375	681	601

CAL YR 1979 TOTAL 1312635 MEAN 3596 MAX 15500 MIN 254 MEAN# 3582 CFSM# 2.62 IN# 35.56
WTR YR 1980 TOTAL 1249332 MEAN 3413 MAX 15500 MIN 375 MEAN# 3416 CFSM# 2.50 IN# 34.03

* 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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW+ INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)
OCT 23...	1115	1880	105	7.3	--	14.0	--	39	31	--
NOV 07...	1030	6010	90	6.7	--	9.0	--	33	17	.0
DEC 07...	1015	2060	110	6.5	--	7.0	--	32	22	.0
JAN 17...	1215	5310	120	7.5	--	4.0	--	34	27	.0
FEB 19...	0830	3070	150	8.0	--	.5	--	40	33	.0
MAR 13...	1250	12200	85	4.3	--	4.0	--	26	20	.0
24...	1530	5460	90	6.2	--	7.5	--	26	22	.1
APR 09...	1230	7710	80	6.9	--	12.0	--	33	27	--
MAY 23...	0900	11500	60	7.5	20.0	13.0	--	28	23	--
JUL 18...	0845	675	90	6.9	24.0	22.0	--	44	34	.1
AUG 20...	1715	11100	110	5.1	--	21.0	66	32	31	.3
SEP 18...	1230	620	115	7.0	20.0	21.0	--	45	32	.1

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)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 23...	--	11	2.8	3.4	20	.2	4.8	1.4	10	30
NOV 07...	.0	9.3	2.4	2.8	--	.2	--	--	10	27
DEC 07...	.0	9.1	2.3	2.4	--	.2	--	--	8	25
JAN 17...	.0	9.7	2.4	3.6	--	.3	--	--	7	28
FEB 19...	.0	11	3.1	4.9	--	.3	--	--	8	38
MAR 13...	.0	7.4	1.9	2.8	--	.2	--	--	0	20
24...	5.0	6.6	2.2	2.7	--	.2	--	--	7	23
APR 09...	--	9.6	2.3	2.1	--	.2	--	--	7	28
MAY 23...	--	7.8	2.1	2.6	--	.2	--	--	8	24
JUL 18...	5.0	13	2.8	3.9	--	.3	--	--	9	30
AUG 20...	14	9.1	2.2	2.5	--	.2	--	--	1	31
SEP 18...	5.0	13	3.0	4.1	--	.3	--	--	13	34

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 CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+N03 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P04)
OCT 23...	2.5	.1	4.9	72	61	.10	365	.39	.010	.03
NOV 07...	2.2	--	--	58	--	.08	941	--	--	--
DEC 07...	2.6	--	--	66	--	.09	367	--	--	--
JAN 17...	4.1	--	--	56	--	.08	803	--	--	--
FEB 19...	4.6	--	--	76	--	.10	630	--	--	--
MAR 13...	3.5	--	--	53	--	.07	1750	--	--	--
24...	2.9	--	--	59	--	.08	870	--	--	--
APR 09...	2.7	--	--	56	--	.08	1170	--	--	--
MAY 23...	2.2	--	--	63	--	.09	1960	--	--	--
JUL 18...	3.1	--	--	66	--	.09	120	--	--	--
AUG 20...	2.4	--	5.2	66	--	.09	1980	--	--	--
SEP 18...	3.4	--	--	76	--	.10	127	--	--	--

MONONGAHELA RIVER BASIN

105

03057000 TYGART VALLEY RIVER AT COLFAX, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ARSENIC TOTAL (UG/L AS AS)	BARIIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 23...	1	100	--	--	0	--	20	--	3	--
AUG 20...	--	--	50	1	--	8	--	4	--	<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)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)
OCT 23...	360	350	10	2	--	--	120	10	110	.2
NOV 07...	900	--	40	--	--	--	230	0	230	--
DEC 07...	600	--	30	--	--	--	150	0	150	--
JAN 17...	480	440	40	--	--	--	210	20	190	--
FEB 19...	440	330	110	--	--	--	280	0	280	--
MAR 13...	900	880	20	--	--	--	140	10	130	--
MAR 24...	540	500	40	--	--	--	150	20	130	--
APR 09...	6900	6900	40	--	--	--	310	150	160	--
MAY 23...	1200	1200	20	--	--	--	150	30	120	--
JUL 18...	360	350	10	--	--	--	80	40	40	--
AUG 20...	4500	4400	56	--	<10	<4	340	110	230	--
SEP 18...	150	110	40	--	--	--	90	10	80	--

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	COAL IN BOTTOM MATE- RIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 23...	--	0	0	--	--	20	--	--	.00	--	--
MAR 24...	--	--	--	--	--	--	--	210	--	--	--
AUG 20...	<10	--	--	36	<6.0	--	28	--	--	195	5840

MONONGAHELA RIVER BASIN

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 February, which are poor.

AVERAGE DISCHARGE.--34 years, 166 ft³/s (4.701 m³/s), 22.10 in/yr (561 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)
Oct. 10	0900	3360 95.2	12.07 3.679	Apr. 9	0800	3220 91.2	11.84 3.609
Mar. 6	0100	2430 68.8	10.51 3.203	May 21	0500	*3940 112	13.04 3.975

Minimum discharge, 2.8 ft³/s (0.079 m³/s) July 18, gage height, 5.00 ft (1.524 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	157	38	113	88	72	62	755	1460	116	6.6	16	7.4
2	119	576	102	75	61	55	404	540	65	5.4	20	7.1
3	119	1040	83	65	54	53	239	271	55	33	22	11
4	105	359	75	60	49	58	403	173	50	28	110	85
5	105	164	73	62	45	1250	432	124	38	32	88	312
6	122	110	70	60	42	1850	266	98	68	23	135	192
7	125	88	75	70	44	560	186	89	209	23	52	56
8	108	75	73	164	43	288	175	75	669	101	32	33
9	636	65	60	150	42	202	2690	61	368	256	25	20
10	3130	138	55	116	41	145	991	52	497	671	35	15
11	1720	266	55	169	40	127	305	46	354	479	40	13
12	448	188	65	451	39	101	192	42	142	128	58	11
13	524	144	1140	309	38	233	165	41	82	78	60	8.7
14	409	125	1260	302	37	912	506	44	57	55	40	7.3
15	220	99	428	334	42	537	526	39	45	38	32	40
16	138	94	226	243	285	344	331	31	247	25	128	26
17	99	85	150	226	400	300	212	27	201	18	58	18
18	75	75	102	271	200	748	156	34	99	12	375	13
19	58	68	95	218	150	639	123	34	66	10	699	10
20	50	62	78	175	120	314	100	203	47	8.5	277	8.1
21	42	58	65	141	322	276	86	3070	33	5.8	131	8.3
22	38	52	58	120	568	470	75	863	25	7.0	123	14
23	35	50	55	112	486	295	67	220	20	50	72	23
24	32	83	62	94	273	207	59	138	16	60	48	41
25	32	255	724	118	190	244	55	184	14	35	32	48
26	30	1220	788	251	130	287	68	161	12	16	23	33
27	28	899	432	248	100	193	811	94	9.1	10	18	23
28	32	306	240	198	82	175	856	65	8.7	7.0	14	18
29	50	195	161	152	70	397	355	48	8.5	62	11	15
30	55	141	128	114	---	289	1440	38	8.1	32	8.5	12
31	42	---	105	90	---	351	---	144	---	20	7.8	---
TOTAL	8883	7118	7196	5246	4065	11962	13029	8509	3629.4	2335.3	2790.3	1128.9
MEAN	287	237	232	169	140	386	434	274	121	75.3	90.0	37.6
MAX	3130	1220	1260	451	568	1850	2690	3070	669	671	699	312
MIN	28	38	55	60	37	53	55	27	8.1	5.4	7.8	7.1
CFSM	2.81	2.32	2.28	1.66	1.37	3.78	4.26	2.69	1.19	.74	.88	.37
IN.	3.24	2.60	2.62	1.91	1.48	4.36	4.75	3.10	1.32	.85	1.02	.41

CAL YR 1979 TOTAL 92454.4 MEAN 253 MAX 3130 MIN 4.8 CFSM 2.48 IN 33.72
WTR YR 1980 TOTAL 75891.9 MEAN 207 MAX 3130 MIN 5.1 CFSM 2.03 IN 27.68

MONONGAHELA RIVER BASIN

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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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
OCT												
03...	1230	120	110	7.0	--	17.5	--	--	--	--	54	28
NOV												
06...	1145	97	110	7.6	--	8.5	--	11.0	25	--	43	15
08...	0845	75	130	7.1	12.0	12.0	--	--	--	--	--	--
DEC												
04...	1215	73	150	6.7	--	3.0	--	10.5	1	--	51	23
05...	1140	71	110	7.1	5.0	3.0	--	--	--	--	--	--
JAN												
10...	0915	105	105	8.4	--	.5	--	--	--	--	--	--
10...	1300	113	120	8.0	.0	3.0	--	--	--	--	--	--
FEB												
06...	1445	46	150	7.3	--	--	--	--	--	--	--	--
07...	1300	53	180	7.6	--	.0	--	11.1	4	37	58	28
MAR												
06...	1345	1860	100	7.2	--	3.0	--	11.7	27	470	26	15
07...	1845	391	--	--	6.0	2.5	--	--	--	--	--	--
25...	1135	220	130	6.2	7.0	8.0	--	--	--	--	47	24
APR												
22...	1150	75	120	7.2	23.0	16.0	--	7.6	22	--	52	31
MAY												
20...	1200	38	180	7.6	21.0	21.0	--	6.7	--	--	--	--
27...	1115	99	100	7.4	20.0	16.5	--	7.7	17	--	44	24
JUN												
17...	1215	212	165	7.4	20.0	17.5	--	7.8	14	--	65	44
JUL												
15...	1220	38	140	7.2	27.0	25.0	--	4.8	10	150	63	34
17...	1130	18	--	--	30.0	25.0	--	--	--	--	--	--
AUG												
13...	1300	58	155	7.3	--	25.0	--	5.0	15	--	--	--
20...	1200	248	130	6.0	26.5	22.5	20	--	--	--	47	18
SEP												
18...	0850	12	150	7.0	20.0	21.0	--	5.0	22	--	63	33

DATE	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)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT											
03...	--	.0	15	4.0	3.6	16	.2	5.4	1.8	26	29
NOV											
06...	.0	.0	12	3.1	2.5	--	.2	--	--	21	27
DEC											
04...	.0	.0	14	3.8	3.5	--	.2	--	--	22	29
JAN											
10...	--	--	--	--	--	--	--	--	--	26	--
FEB											
07...	.0	.0	16	4.3	4.1	--	.2	--	--	23	36
MAR											
06...	.0	.0	7.3	2.0	2.0	--	.2	--	--	9	18
25...	.1	5.0	13	3.5	3.2	--	.2	--	--	19	30
APR											
22...	--	.0	14	4.1	3.8	--	.2	--	--	21	32
MAY											
20...	--	.0	--	--	--	--	--	--	--	35	--
27...	--	.0	12	3.4	3.8	--	.3	--	--	23	23
JUN											
17...	--	.0	18	4.8	4.7	--	.3	--	--	28	41
JUL											
15...	.1	5.0	18	4.4	4.3	--	.2	--	--	27	29
AUG											
13...	--	.0	--	--	--	--	--	--	--	35	--
20...	.3	13	13	3.5	3.4	--	.2	--	--	29	27
SEP											
18...	.1	5.0	18	4.4	5.8	--	.3	--	--	32	28

MONONGAHELA RIVER BASIN

03058000 WEST FORK RIVER AT BROWNSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO ₂)	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)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO ₂ -N+NO ₃ -N TOTAL (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO ₃)
OCT 03...	3.1	.0	6.7	91	79	.12	29.5	--	.22	--	--	--
NOV 06...	2.8	--	--	79	--	.11	20.7	13	.30	.19	.49	2.2
DEC 04...	3.4	--	--	79	--	.11	15.6	28	.27	.12	.39	1.7
FEB 07...	4.9	--	--	79	--	.11	11.3	1	.20	.14	.34	1.5
MAR 06...	2.5	--	--	56	--	.08	281	105	.55	.54	1.1	4.8
25...	3.6	--	--	76	--	.10	45.1	--	--	--	--	--
APR 22...	3.4	--	--	86	--	.12	17.4	20	.14	--	--	--
MAY 27...	3.1	--	--	84	--	.11	22.5	10	.20	.47	.67	3.0
JUN 17...	5.0	--	--	108	--	.15	61.8	38	.19	3.8	4.0	18
JUL 15...	4.3	--	--	114	--	.16	11.7	18	.26	.01	.27	1.2
AUG 13...	--	--	--	--	--	--	--	45	.32	.30	.62	2.7
20...	3.3	--	6.9	87	--	.12	58.3	--	--	--	--	--
SEP 18...	7.3	--	--	112	--	.15	3.63	15	.33	.44	.77	3.4

DATE	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P04)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 03...	.030	.09	3	200	--	--	0	--	20	--	5	--
NOV 06...	.000	.00	--	--	--	--	--	--	--	--	--	--
DEC 04...	.030	.09	--	--	--	--	--	--	--	--	--	--
FEB 07...	.010	.03	--	--	--	--	--	--	--	--	--	--
MAR 06...	.110	.34	--	--	--	--	--	--	--	--	--	--
APR 22...	.010	.03	--	--	--	--	--	--	--	--	--	--
MAY 27...	.030	.09	--	--	--	--	--	--	--	--	--	--
JUN 17...	.040	.12	--	--	--	--	--	--	--	--	--	--
JUL 15...	.060	.18	--	--	--	--	--	--	--	--	--	--
AUG 13...	.040	.12	--	--	--	1	--	5	--	<3	--	--
20...	--	--	--	--	50	--	--	--	--	--	--	<10
SEP 18...	.060	.18	--	--	--	--	--	--	--	--	--	--

DATE	IRON, TOTAL RECOV- ERABLE (UG/L AS FE) (01045)	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE) (01044)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN) (01055)	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN) (01054)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)
OCT 03...	1000	870	130	3	--	--	100	20	80	.2	--
NOV 06...	310	--	60	--	--	--	60	0	70	--	--
DEC 04...	390	--	70	--	--	--	130	0	130	--	--
FEB 07...	300	220	80	--	--	--	160	0	170	--	--
MAR 06...	3400	3300	120	--	--	--	170	120	50	--	--
25...	640	590	50	--	--	--	100	20	80	--	--
APR 22...	540	470	70	--	--	--	80	0	80	--	--
MAY 27...	780	690	90	--	--	--	70	20	50	--	--
JUN 17...	2000	1900	70	--	--	--	140	30	110	--	--
JUL 15...	1100	1000	70	--	--	--	160	10	150	--	--
AUG 20...	1900	1800	150	--	<10	<4	120	50	69	--	<10
SEP 18...	870	740	130	--	--	--	190	10	180	--	--

MONONGAHELA RIVER BASIN

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03058000 WEST FORK RIVER AT BROWNSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 03...	--	0	0	--	--	20	--	--	--	.00	--	--
NOV 06...	3	--	0	--	--	10	--	--	--	.00	--	--
DEC 04...	3	--	0	--	--	10	--	--	--	.00	--	--
FEB 07...	2	--	0	--	--	20	--	--	--	.00	--	--
MAR 06...	6	--	0	--	--	20	--	--	--	.01	--	--
25...	--	--	--	--	--	--	--	--	4.00	--	--	--
APR 22...	2	--	0	--	--	30	--	--	--	--	--	--
MAY 27...	4	--	0	--	--	10	--	--	--	.00	--	--
JUN 17...	5	--	0	--	--	20	--	--	--	.00	--	--
JUL 15...	2	--	0	--	--	20	--	--	--	.00	--	--
AUG 13...	5	--	0	--	--	20	--	--	--	.00	--	--
20...	--	--	--	54	<6.0	--	37	4.3	--	--	61	41
SEP 18...	2	--	0	--	--	40	--	--	--	.00	--	--

MONONGAHELA RIVER BASIN

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 period of doubtful-or-no gage-height record, Nov. 1 to Dec. 2, and 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.--65 years, 302 ft³/s (8.553 m³/s), 22.66 in/yr (576 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, 7,730 ft³/s (219 m³/s) May 21, gage height, 11.18 ft (3.408 m); minimum discharge, 12 ft³/s (0.34 m³/s) Sept. 20, minimum gage height, 0.87 ft (0.265 m) July 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	192	48	250	231	170	105	1060	2140	419	31	41	28
2	192	700	215	209	140	97	629	878	341	29	46	26
3	198	1800	170	193	120	90	409	491	407	95	54	25
4	182	500	136	187	110	100	790	335	419	68	223	196
5	182	270	129	191	120	2040	736	248	121	65	193	890
6	188	180	127	182	122	2740	489	179	249	58	290	334
7	200	140	136	227	121	944	362	158	587	49	109	121
8	168	115	125	345	115	491	335	133	1260	357	61	82
9	1100	104	108	318	100	352	3590	111	619	623	53	65
10	4440	237	100	269	90	261	1700	96	807	1100	94	59
11	2610	352	98	393	83	231	602	87	559	724	77	52
12	860	249	116	807	73	185	420	81	250	242	111	48
13	855	185	1700	563	67	511	359	85	153	157	95	45
14	710	160	1880	559	61	1610	853	77	110	103	61	44
15	459	140	753	595	74	841	947	70	104	74	62	65
16	334	130	437	458	342	546	610	60	728	58	192	64
17	252	120	305	464	616	524	470	57	448	49	99	54
18	208	110	229	536	347	1230	338	71	213	35	874	46
19	202	97	200	438	240	917	283	65	132	29	1740	43
20	264	87	180	356	220	494	246	305	97	26	806	18
21	249	80	168	301	461	453	222	5720	73	23	445	46
22	240	75	152	275	828	650	189	1690	62	63	378	55
23	231	71	140	245	766	446	145	579	55	546	228	58
24	178	200	160	220	448	332	133	375	49	201	148	46
25	52	500	1160	295	317	367	124	423	47	98	104	57
26	45	2100	1170	435	240	400	170	375	41	56	76	45
27	40	1600	716	454	170	285	1130	231	37	39	60	37
28	55	600	470	382	140	304	1160	276	35	39	51	32
29	69	400	344	300	120	638	549	273	35	114	42	29
30	66	310	292	230	---	469	2230	282	34	64	35	27
31	65	---	259	190	---	628	---	379	---	42	31	---
TOTAL	15086	11660	12425	10848	6821	19281	21280	16330	8491	5257	6879	2737
MEAN	487	389	401	350	235	622	709	527	283	170	222	91.2
MAX	4440	2100	1880	807	828	2740	3590	5720	1260	1100	1740	890
MIN	40	48	98	182	61	90	124	57	34	23	31	18
CFSM	2.69	2.15	2.22	1.93	1.30	3.44	3.92	2.91	1.56	.94	1.23	.50
IN.	3.10	2.40	2.55	2.23	1.40	3.96	4.37	3.36	1.75	1.08	1.41	.56
CAL YR 1979	TOTAL	155185	MEAN 425	MAX 4440	MIN 16	CFSM 2.35	IN 31.89					
WTR YR 1980	TOTAL	137095	MEAN 375	MAX 5720	MIN 18	CFSM 2.07	IN 28.18					

MONONGAHELA RIVER BASIN

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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 periods Feb. 3 to Mar. 4, June 4 to July 17, 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 km²) 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.--57 years, 594 ft³/s (16.82 m³/s), 21.01 in/yr (534 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)
Oct. 10	1815	7870 223	12.72 3.877	May 21	1645	*8780 249	13.52 4.121

Minimum discharge, 42 ft³/s (1.19 m³/s) July 21, gage height, 3.25 ft (0.991 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	554	102	398	407	327	240	2500	4540	1100	72	168	82
2	380	1570	346	359	293	220	1580	2080	936	66	362	75
3	523	2400	291	321	270	200	935	1030	1720	210	176	119
4	445	1070	250	303	250	230	1230	672	780	150	600	91
5	361	546	239	314	260	2510	1630	500	490	140	750	1050
6	344	384	239	305	240	5560	1040	380	1000	130	756	768
7	342	303	253	330	230	2370	742	303	1300	110	520	353
8	326	255	234	636	220	1460	621	259	2700	500	223	196
9	1700	224	198	588	210	1200	4400	217	1300	1200	595	142
10	6410	326	177	491	190	773	3870	182	1700	2400	3180	130
11	5190	594	171	541	180	621	1360	159	1200	1600	1490	130
12	1870	540	212	1520	160	490	816	147	690	750	1030	94
13	1370	420	3770	1150	150	673	678	165	410	410	570	87
14	1190	352	3550	948	140	3410	1190	157	280	270	307	86
15	810	294	1500	1090	150	2260	2110	128	240	180	450	86
16	590	267	847	881	430	1240	1350	109	1000	140	1300	104
17	453	246	599	811	983	1010	906	98	1600	105	720	102
18	349	210	440	1100	817	2590	666	126	790	79	1990	89
19	290	185	382	878	619	2310	550	135	370	65	4700	81
20	306	165	345	682	492	1260	470	162	250	54	2920	73
21	326	149	299	586	796	903	435	6320	200	48	1790	60
22	308	137	270	510	1860	1190	357	4200	170	102	1120	73
23	291	130	263	440	1800	993	303	1120	140	1140	792	159
24	282	230	341	380	1160	722	255	636	120	1020	500	130
25	177	649	2020	483	784	721	227	1070	110	344	344	100
26	100	3240	2120	860	530	687	223	1050	100	168	259	94
27	84	2520	1370	830	390	598	846	585	90	107	199	75
28	101	1080	872	710	320	522	2090	405	81	119	154	66
29	151	652	638	560	270	1180	1130	380	86	348	133	64
30	139	497	533	452	---	1080	2760	366	78	287	107	58
31	116	---	469	383	---	1530	---	390	---	137	93	---
TOTAL	25878	19737	23636	19849	14521	40753	37270	28071	21031	12451	28298	4817
MEAN	835	658	762	640	501	1315	1242	906	701	402	913	161
MAX	6410	3240	3770	1520	1860	5560	4400	6320	2700	2400	4700	1050
MIN	84	102	171	303	140	200	223	98	78	48	93	58
MEAN#	844	667	771	648	509	1323	1250	914	710	411	922	170
CFSM#	2.20	1.74	2.01	1.69	1.33	3.45	3.26	2.38	1.85	1.07	2.40	.44
IN.#	2.54	1.94	2.32	1.94	1.43	3.98	3.64	2.74	2.06	1.23	2.77	.49

CAL YR 1979 TOTAL 291232 MEAN 798 MAX 8000 MIN 26 MEAN# 807 CFSM# 2.10 IN.# 28.51
WTR YR 1980 TOTAL 276312 MEAN 755 MAX 6410 MIN 48 MEAN# 764 CFSM# 1.99 IN.# 27.09

* Adjusted for diversion by City of Clarksburg; records furnished by Clarksburg Water Board.

MONONGAHELA RIVER BASIN

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 Bingamon 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 February and those for period of doubtful-or-no gage-height record, June 21 to July 21, 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.--56 years (water years 1908-1916, 1934-80), 1,154 ft³/s (32.68 m³/s), 20.65 in/yr (525 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)
Oct. 10	2400	12000 340	13.70 4.176	Mar. 6	0200	*12300 348	13.90 4.237

Minimum daily discharge, 100 ft³/s (2.83 m) July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1120	278	811	785	626	480	4990	7470	4470	150	361	220
2	775	1480	694	691	570	430	3160	3880	3260	140	844	203
3	1380	4590	591	611	520	390	2000	2230	6150	350	533	242
4	1080	2520	510	562	483	460	2500	1520	3480	300	555	304
5	885	1270	486	576	449	4300	3230	1140	1780	290	1200	779
6	809	828	479	569	427	10000	2230	916	2540	260	973	1090
7	760	651	496	559	422	4510	1580	754	3780	230	877	588
8	712	543	484	1060	400	3080	1260	660	5380	890	447	370
9	3040	483	420	1050	386	3060	7410	568	3430	2000	307	276
10	9300	580	381	859	357	1900	6960	502	2100	4000	4360	249
11	9490	934	359	900	340	1300	2920	455	2170	3500	3440	242
12	4130	949	366	3090	310	1000	1870	436	1340	1800	4290	216
13	3170	769	4630	2310	290	1150	1570	498	861	850	1670	185
14	2300	645	7790	1890	270	5340	2440	467	653	620	781	184
15	1590	549	3390	2110	290	4430	4200	386	570	420	668	203
16	1110	513	1870	1730	480	2720	2960	332	2110	299	3050	205
17	857	478	1300	1610	1420	2390	2080	317	3440	261	1490	204
18	683	424	904	2140	1150	4770	1600	385	1530	210	4310	184
19	563	386	767	1760	894	4460	1310	453	902	160	8180	172
20	498	354	692	1340	905	2640	1100	996	656	120	5040	161
21	521	329	601	1100	1650	1930	973	8730	500	100	3910	152
22	487	308	536	953	3620	2440	864	7470	400	322	2340	148
23	467	295	515	810	3760	2050	751	2330	330	740	1580	291
24	461	473	564	731	2700	1530	648	1320	280	2360	993	344
25	426	1170	3140	832	1850	1470	586	2200	240	688	685	244
26	307	5060	3880	1600	1200	1330	558	1980	220	384	525	193
27	256	5470	2710	1560	890	1160	1080	1250	200	303	414	174
28	283	2430	1800	1340	750	986	3090	785	170	422	345	154
29	412	1430	1300	1100	600	2320	2130	685	180	1060	297	144
30	382	1010	1050	841	---	2330	3730	609	170	754	267	140
31	313	---	901	720	---	2930	---	706	---	518	239	---
TOTAL	48567	37199	44417	37789	28009	79286	71780	52430	53292	24501	54971	8261
MEAN	1567	1240	1433	1219	966	2558	2393	1691	1776	790	1773	275
MAX	9490	5470	7790	3090	3760	10000	7410	8730	6150	4000	8180	1090
MIN	256	278	359	559	270	390	558	317	170	100	239	140
CFSM	2.07	1.63	1.89	1.61	1.27	3.37	3.15	2.23	2.34	1.04	2.34	.36
IN.	2.38	1.82	2.18	1.85	1.37	3.89	3.52	2.57	2.61	1.20	2.69	.40

CAL YR 1979	TOTAL	580888	MEAN	1591	MAX	16000	MIN	67	CFSM	2.10	IN	28.47
WTR YR 1980	TOTAL	540502	MEAN	1477	MAX	10000	MIN	100	CFSM	1.95	IN	26.49

MONONGAHELA RIVER BASIN

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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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)
OCT 22...	1345	502	600	7.7	--	18.0	--	200	240	--
NOV 07...	1230	642	410	7.3	--	9.0	--	220	190	.0
DEC 05...	1320	458	600	6.8	--	5.0	--	270	230	.0
JAN 17...	0900	1430	500	7.5	--	6.0	--	190	150	.0
FEB 20...	1300	898	645	7.8	--	3.5	--	220	190	.0
MAR 13...	1010	1060	600	6.0	--	5.0	--	250	210	.0
MAR 24...	1640	1560	570	6.2	--	8.0	--	220	190	.0
APR 07...	1315	1560	600	7.4	21.0	13.0	--	210	170	--
MAY 28...	1310	813	640	7.3	25.0	19.0	--	240	190	--
JUL 17...	1320	274	900	7.2	34.0	28.0	--	390	350	.2
AUG 20...	1610	4220	330	6.2	--	21.0	76	120	86	.2
SEP 16...	1230	229	1170	7.4	23.0	22.5	--	540	500	--

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)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT 22...	--	79	21	28	23	.7	31	3.0	45	280
NOV 07...	.0	61	16	18	--	.5	--	--	37	210
DEC 05...	.0	77	20	24	--	.6	--	--	37	250
JAN 17...	.0	53	13	16	--	.5	--	--	38	170
FEB 20...	.0	62	17	26	--	.8	--	--	43	220
MAR 13...	.0	68	19	24	--	.7	--	--	45	230
MAR 24...	.0	61	17	21	--	.6	--	--	41	210
APR 07...	--	58	16	18	--	.5	--	--	40	190
MAY 28...	--	66	18	26	--	.7	--	--	45	230
JUL 17...	10	110	29	45	--	1.0	--	--	54	390
AUG 20...	11	35	8.9	7.8	--	.3	--	--	38	97
SEP 16...	--	140	46	68	--	1.3	--	--	41	570

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)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS PO4)
OCT 22...	7.5	.2	7.7	488	453	.66	661	.49	.040	.12
NOV 07...	6.5	--	--	355	--	.48	615	--	--	--
DEC 05...	7.7	--	--	480	--	.65	594	--	--	--
JAN 17...	9.1	--	--	297	--	.40	1150	--	--	--
FEB 20...	12	--	--	389	--	.53	943	--	--	--
MAR 13...	8.2	--	--	416	--	.57	1190	--	--	--
MAR 24...	7.0	--	--	370	--	.50	1560	--	--	--
APR 07...	5.1	--	--	368	--	.50	1550	--	--	--
MAY 28...	5.6	--	--	435	--	.59	955	--	--	--
JUL 17...	8.9	--	--	716	--	.97	530	--	--	--
AUG 20...	3.7	--	7.4	227	--	.31	590	--	--	--
SEP 16...	15	--	--	940	--	1.28	581	--	--	--

MONONGAHELA RIVER BASIN

03061000 WEST FORK RIVER AT ENTERPRISE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS RE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 22...	1	200	--	--	0	--	20	--	7	--
AUG 20...	--	--	50	<1	--	15	--	<3	--	12

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)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)
OCT 22...	2200	2100	130	2	--	--	700	0	710	.1	--
NOV 07...	2500	--	440	--	--	--	610	0	610	--	--
DEC 05...	5200	--	1000	--	--	--	830	0	880	--	--
JAN 17...	2300	1900	410	--	--	--	500	40	460	--	--
FEB 20...	3200	2600	560	--	--	--	590	10	580	--	--
MAR 13...	2800	2200	630	--	--	--	630	10	620	--	--
MAR 24...	3300	2800	510	--	--	--	530	0	540	--	--
APR 07...	5700	5400	310	--	--	--	530	20	510	--	--
MAY 28...	3400	3300	130	--	--	--	590	0	600	--	--
JUL 17...	950	920	30	--	--	--	840	0	970	--	--
AUG 20...	2700	2600	75	--	<10	4	230	60	170	--	<10
SEP 16...	1300	1300	40	--	--	--	1100	0	1200	--	--

DATE	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 22...	0	0	--	--	750	--	--	--	.00	--	--
MAR 24...	--	--	--	--	--	--	--	42.0	--	--	--
AUG 20...	--	--	180	<6.0	--	93	5.1	--	--	195	2220

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 September 1980 (discontinued).

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 February and those below 0.25 ft³/s (0.007 m³/s), 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, 6.78 ft (2.067 m) Aug. 18, 1980, backwater from Owen Davy Fork, discharge not determined; minimum discharge, 0.01 ft³/s (<0.001 m³/s) July 21, 1980, gage height, 3.85 ft (1.173 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 100 ft³/s (2.83 m³/s) Aug. 18, gage height, 6.78 ft (2.067 m), backwater from Owen Davy Fork; minimum, 0.01 ft³/s (<0.001 m³/s) July 21, gage height, 3.85 ft (1.173 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	.35	1.2	.89	.50	.66	5.4	3.6	16	.23	.19	.10
2	.95	4.5	.97	.74	.46	.59	3.0	2.7	20	.27	.14	.09
3	.96	2.4	.74	.60	.43	.52	2.0	1.9	13	.31	.16	.09
4	.91	1.3	.74	.60	.41	.63	7.5	1.4	6.3	.20	.12	.14
5	1.3	.93	.74	.60	.43	18	4.5	1.1	2.5	.20	.13	.26
6	1.2	.75	.81	.45	.45	8.6	2.7	.81	2.7	.23	.19	.13
7	1.2	.65	.81	.81	.34	4.0	1.9	.67	2.7	.16	.10	.10
8	1.1	.60	.67	.89	.21	6.3	7.5	.52	5.2	.27	.07	.07
9	4.0	.60	.60	.69	.20	4.7	15	.38	2.5	.35	.12	.06
10	5.1	1.5	.60	.60	.19	2.9	4.9	.34	1.6	.42	.49	.11
11	3.4	1.4	.60	7.5	.17	1.9	2.7	.34	.92	.50	7.0	.06
12	5.3	1.1	.97	8.0	.15	1.4	1.9	.67	.57	.27	8.8	.05
13	4.5	.93	16	3.6	.13	1.6	1.5	.67	.42	.20	1.7	.08
14	2.1	.75	6.9	3.4	.13	4.7	3.6	.45	.39	.16	.71	.09
15	1.3	.70	3.4	2.9	.15	6.1	4.0	.34	.50	.10	.59	.08
16	1.0	.80	2.3	2.1	.52	6.6	2.7	.25	2.5	.08	.42	.08
17	.78	.70	1.4	2.5	.45	10	1.9	.30	.92	.08	.24	.06
18	.67	.65	1.1	2.5	.40	10	1.5	.60	.46	.10	35	.08
19	.58	.60	.90	1.9	.45	5.2	1.3	1.3	.39	.03	4.5	.06
20	.53	.55	.74	1.5	2.3	2.9	.97	7.8	.35	.02	1.7	.03
21	.47	.50	.60	1.2	5.2	3.6	.81	19	.27	.02	1.1	.04
22	.42	.50	.60	1.1	15	4.0	.67	5.1	.20	6.9	1.5	.12
23	.46	.50	.60	.89	8.0	2.3	.60	2.7	.20	2.5	.95	.20
24	.48	4.3	1.3	.74	4.5	1.9	.52	7.6	.27	.80	.50	.10
25	.43	3.2	9.2	1.1	2.9	1.4	.38	14	.27	.32	.29	.08
26	.38	19	5.4	1.0	1.9	1.1	.38	4.0	.20	.18	.18	.08
27	.32	5.4	3.4	.90	1.5	.89	2.1	1.8	.23	.14	.12	.06
28	.49	3.2	2.1	.80	1.3	4.5	2.7	1.1	.23	1.1	.10	.06
29	.43	2.0	1.8	.68	.89	8.9	1.9	.71	.27	1.0	.07	.06
30	.37	1.5	1.4	.61	---	4.2	2.7	.71	.31	.49	.18	.05
31	.35	---	1.1	.56	---	8.0	---	5.7	---	.30	.14	---
TOTAL	42.58	61.86	69.69	52.35	49.66	138.09	89.23	88.56	82.37	17.93	67.50	2.67
MEAN	1.37	2.06	2.25	1.69	1.71	4.45	2.97	2.86	2.75	.58	2.18	.089
MAX	5.3	19	16	8.0	15	18	15	19	20	6.9	35	.26
MIN	.32	.35	.60	.45	.13	.52	.38	.25	.20	.02	.07	.03
CFSM	1.23	1.86	2.03	1.52	1.54	4.01	2.68	2.58	2.48	.52	1.96	.08
IN.	1.43	2.07	2.33	1.75	1.66	4.62	2.99	2.97	2.76	.60	2.26	.09

CAL YR 1979 TOTAL 773.27 MEAN 2.12 MAX 28 MIN .05 CFSM 1.91 IN 25.89
WTR YR 1980 TOTAL 762.49 MEAN 2.08 MAX 35 MIN .02 CFSM 1.87 IN 25.53

MONONGAHELA RIVER BASIN

03061410 LAUREL RUN AT CURTISVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to July 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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...	1200	.81	100	6.8	20.0	17.0	--	--	--	--	--
JAN 03...	0930	.66	90	7.5	4.0	1.0	--	--	--	--	--
14...	1115	2.5	100	7.6	--	5.0	--	32	19	.0	.0
FEB 08...	0945	.25	200	7.7	1.0	.0	--	36	9	.0	.0
MAR 07...	0900	3.7	100	7.5	--	4.0	--	27	15	.0	.0
22...	0755	4.2	80	5.4	.0	3.0	--	24	6	.1	5.0
APR 08...	0930	1.4	70	7.3	21.0	11.0	--	29	15	--	--
MAY 22...	0950	5.0	<50	7.5	20.0	13.0	--	27	11	--	--
JUL 18...	1145	.04	140	7.2	28.0	24.0	--	52	16	.1	5.0
AUG 21...	0835	.92	100	6.3	--	20.0	3.4	34	14	.1	7.0
SEP 04...	1025	.07	120	7.1	22.0	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)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
JAN 14...	8.6	2.5	3.0	.2	14	19	1.7	--	53	.07	.36
FEB 08...	10	2.7	5.9	.4	20	20	8.0	--	73	.10	.05
MAR 07...	7.2	2.1	2.5	.2	10	18	2.2	--	50	.07	.50
22...	5.9	2.3	1.9	.2	12	18	1.3	--	50	.07	.57
APR 08...	7.9	2.3	2.4	.2	15	20	1.8	--	28	.04	.11
MAY 22...	7.4	2.1	2.1	.2	14	17	1.3	--	59	.08	.80
JUL 18...	15	3.5	9.7	.6	31	15	14	--	94	.13	.01
AUG 21...	9.4	2.5	3.2	.3	20	17	2.4	9.2	83	.11	.21

MONONGAHELA RIVER BASIN

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03061410 LAUREL RUN AT CURTISVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS RE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)
JAN 14...	--	--	--	--	--	300	250	50	--	--
FEB 08...	--	--	--	--	--	90	70	20	--	--
MAR 07...	--	--	--	--	--	630	610	20	--	--
22...	--	--	--	--	--	310	280	30	--	--
APR 08...	--	--	--	--	--	280	260	20	--	--
MAY 22...	--	--	--	--	--	1500	1500	30	--	--
JUL 18...	--	--	--	--	--	630	610	20	--	--
AUG 21...	50	2	1	<3	<10	320	280	38	<10	<4

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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
JAN 14...	30	10	20	--	--	--	--	--	--	--
FEB 08...	20	0	20	--	--	--	--	--	--	--
MAR 07...	30	10	20	--	--	--	--	--	--	--
22...	30	10	20	--	--	--	--	4.00	--	--
APR 08...	20	0	20	--	--	--	--	--	--	--
MAY 22...	80	60	20	--	--	--	--	--	--	--
JUL 18...	50	20	30	--	--	--	--	--	--	--
AUG 21...	30	20	14	<10	47	<6.0	<4	--	4	.01

MONONGAHELA RIVER BASIN

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 February, which are poor. Flow from 5.20 mi² (13.5 km²) is partially controlled, but not diverted, by three floodwater-detention reservoirs. Some additional regulation at low flow from mine pumpage above station.

AVERAGE DISCHARGE.--57 years (water years 1908, 1916-23, 1933-80), 170 ft³/s (4.814 m³/s), 20.07 in/yr (510 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)
May 21	0800	5290 150	11.93 3.636	Aug. 18	0800	*9150 259	15.68 4.779

Minimum discharge, 11 ft³/s (0.31 m³/s) Sept. 30, gage height, 2.00 ft (0.610 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	170	32	128	99	49	54	655	297	734	27	77	36
2	123	330	109	90	46	43	360	240	1170	25	56	29
3	128	407	87	82	45	42	247	180	1690	24	54	28
4	101	192	81	76	46	44	446	142	1230	21	49	26
5	134	124	79	77	47	750	398	117	375	28	37	42
6	138	99	78	71	47	1060	283	99	271	36	28	39
7	172	87	79	72	47	452	215	88	230	26	26	40
8	159	76	72	94	42	628	250	78	326	151	25	36
9	451	70	63	74	40	580	1840	67	221	485	27	26
10	737	135	58	66	35	350	570	62	162	274	49	24
11	570	203	58	168	33	250	324	60	118	126	1250	22
12	524	148	60	951	29	180	234	69	87	74	1050	20
13	720	122	1300	352	27	170	193	104	71	59	278	18
14	322	102	823	313	27	330	381	77	61	43	135	20
15	199	85	351	284	32	362	584	68	59	33	98	56
16	140	88	235	225	52	708	356	58	388	28	118	42
17	108	78	168	235	44	1150	247	53	215	25	74	30
18	88	71	110	267	42	1300	198	73	114	23	5250	25
19	75	66	106	214	46	603	160	76	81	18	983	22
20	65	63	93	170	64	356	133	478	62	19	375	18
21	58	57	80	143	185	322	118	3630	50	16	225	16
22	53	53	77	127	769	412	98	742	44	237	201	17
23	51	52	74	113	662	280	91	346	38	238	148	40
24	51	232	84	86	403	225	82	241	32	101	104	51
25	49	444	731	106	269	216	75	1040	30	54	78	37
26	44	1800	464	107	190	168	70	372	27	37	64	27
27	42	613	304	93	135	145	91	194	27	32	53	23
28	42	323	211	99	110	182	191	134	57	422	44	20
29	45	219	163	89	80	1020	151	102	36	513	38	17
30	42	159	139	56	---	453	176	82	31	167	34	14
31	35	---	118	50	---	802	---	89	---	137	40	---
TOTAL	5636	6530	6583	5049	3643	13637	9217	9458	8037	3499	11068	861
MEAN	182	218	212	163	126	440	307	305	268	113	357	28.7
MAX	737	1800	1300	951	769	1300	1840	3630	1690	513	5250	56
MIN	35	32	58	50	27	42	70	53	27	16	25	14
CFSM	1.58	1.90	1.84	1.42	1.10	3.83	2.67	2.65	2.33	.98	3.10	.25
IN.	1.82	2.11	2.13	1.63	1.18	4.41	2.98	3.06	2.60	1.13	3.58	.28
CAL YR 1979	TOTAL	94760	MEAN 260	MAX 3090	MIN 10	CFSM 2.26	IN 30.65					
WTR YR 1980	TOTAL	83218	MEAN 227	MAX 5250	MIN 14	CFSM 1.97	IN 26.92					

MONONGAHELA RIVER BASIN

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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 1979 to current year.

WATER TEMPERATURES: June 1979 to current year.

SUSPENDED SEDIMENT DISCHARGE: June 1979 to current year.

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, 5,000 micromhos July 21, 1980; minimum daily, 128 micromhos May 21, 1980.

WATER TEMPERATURES: Maximum daily, 25.0°C July 17, 21, Aug. 10, 1980; minimum daily, 1.0°C Feb. 5, 29, 1980.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,540 mg/L Aug. 18, 1980; minimum daily mean, 0 mg/L Dec. 11, 20, 30, 1979.

SEDIMENT LOADS: Maximum daily, 28,600 tons (25,900 tonnes) Aug. 18, 1980; minimum daily, 0 tons (0 tonnes) Dec. 11, 20, 30, 1979.

EXTREMES FOR CURRENT PERIOD.--

SPECIFIC CONDUCTANCE: Maximum daily, 5,000 micromhos July 21; minimum daily, 128 micromhos May 21.

WATER TEMPERATURES: Maximum daily, 25.0°C July 17, 21, Aug. 10; minimum daily, 1.0°C Feb. 5, 29.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,540 mg/L Aug. 18; minimum daily mean, 0 mg/L Dec. 11, 20, 30.

SEDIMENT LOADS: Maximum daily, 28,600 tons (25,900 tonnes) Aug. 18; minimum daily, 0 tons (0 tonnes) Dec. 11, 20, 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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											
04...	0940	111	1200	7.3	18.0	16.0	--	270	210	--	--
NOV											
08...	0930	82	430	7.5	10.0	7.5	--	120	57	.0	.0
DEC											
11...	1130	60	1200	7.1	12.0	5.0	--	310	240	.0	.0
JAN											
03...	1100	80	550	6.7	4.0	3.0	--	140	71	.0	.0
MAR											
07...	1210	442	620	6.9	--	5.5	--	110	70	.0	.0
22...	1210	420	260	6.2	--	5.0	--	75	42	.0	.0
APR											
09...	0900	2960	130	7.8	--	12.0	--	--	--	--	--
MAY											
22...	1315	698	310	7.4	25.0	16.0	--	76	46	--	--
JUL											
18...	1400	24	2400	8.2	28.0	26.0	--	410	310	.2	10
AUG											
21...	1145	225	260	6.2	--	21.5	16	90	38	.2	11
SEP											
04...	1330	26	1400	7.9	30.0	23.0	--	--	--	--	--

DATE	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM 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											
04...	77	20	190	68	5.0	190	4.3	60	540	44	.2
NOV											
08...	34	8.3	45	--	1.8	--	--	62	130	11	--
DEC											
11...	82	26	180	--	4.4	--	--	115	550	42	--
JAN											
03...	39	10	58	--	2.1	--	--	75	160	14	--
MAR											
07...	29	8.2	67	--	2.8	--	--	34	190	18	--
22...	21	5.5	17	--	.9	--	--	38	57	6.6	--
MAY											
22...	21	5.6	28	--	1.4	--	--	35	84	6.8	--
JUL											
18...	110	32	460	--	9.9	--	--	95	1100	92	--
AUG											
21...	26	5.9	21	--	1.0	--	--	52	68	6.5	--

03061500 BUFFALO CREEK AT BARRACKVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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)	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 P04)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)
OCT 04...	8.3	998	921	1.36	299	.47	.050	.15	1	--
NOV 08...	--	281	--	.38	61.8	--	--	--	--	--
DEC 11...	--	948	--	1.29	154	--	--	--	--	--
JAN 03...	--	333	--	.45	71.9	--	--	--	--	--
MAR 07...	--	351	--	.48	419	--	--	--	--	--
22...	--	148	--	.20	168	--	--	--	--	--
MAY 22...	--	199	--	.27	375	--	--	--	--	--
JUL 18...	--	1950	--	2.65	126	--	--	--	--	--
AUG 21...	8.5	180	--	.24	109	--	--	--	--	0

DATE	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	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, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)
OCT 04...	200	--	--	3	--	--	20	--	--	--
AUG 21...	--	50	<1	--	1	<10	--	20	<3	20

DATE	COPPER, TOTAL 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- 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 PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)
OCT 04...	6	--	--	840	830	10	--	5	--	--
NOV 08...	--	--	--	480	--	40	--	--	--	--
DEC 11...	--	--	--	550	420	130	--	--	--	--
JAN 03...	--	--	--	640	560	80	--	--	--	--
MAR 07...	--	--	--	2900	2100	850	--	--	--	--
22...	--	--	--	1100	1100	20	--	--	--	--
MAY 22...	--	--	--	3000	3000	50	--	--	--	--
JUL 18...	--	--	--	510	480	30	--	--	--	--
AUG 21...	--	<10	10	1300	1200	54	7900	--	11	20

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	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 TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)
OCT 04...	--	630	0	660	--	.5	--	--	0	--
NOV 08...	--	130	10	120	--	--	--	--	--	--
DEC 11...	--	1000	0	1100	--	--	--	--	--	--
JAN 03...	--	250	0	250	--	--	--	--	--	--
MAR 07...	--	250	30	220	--	--	--	--	--	--
22...	--	100	30	70	--	--	--	--	--	--
MAY 22...	--	190	80	110	--	--	--	--	--	--
JUL 18...	--	680	0	680	--	--	--	--	--	--
AUG 21...	<4	100	40	60	460	--	.00	<10	--	0

MONONGAHELA RIVER BASIN

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03061500 BUFFALO CREEK AT BARRACKVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	COAL IN BOTTOM MATE- RIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 04...	0	--	--	40	--	--	--	.00	--	--
NOV 08...	--	--	--	--	--	--	--	--	4	.89
MAR 07...	--	--	--	--	--	--	--	--	65	78
22...	--	--	--	--	--	--	50.0	--	27	31
APR 09...	--	--	--	--	--	--	--	--	1080	8630
MAY 22...	--	--	--	--	--	--	--	--	131	247
AUG 21...	--	200	<6.0	--	11	60	--	--	31	19
SEP 04...	--	--	--	--	--	--	--	--	5	.35

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	281	764	318	405	624	614	186	332	278	2150	322	993
2	330	638	358	372	650	421	248	268	189	2600	400	890
3	360	197	375	402	---	452	268	296	142	810	442	725
4	380	237	409	436	806	418	263	313	147	840	505	792
5	385	281	426	491	772	428	222	348	242	905	700	795
6	379	319	489	539	653	132	248	370	315	1180	524	910
7	344	362	462	559	558	213	252	419	378	1200	582	980
8	306	396	530	590	848	265	333	500	392	2700	910	965
9	326	410	480	520	499	190	222	525	258	168	1570	1140
10	196	404	465	502	770	204	209	596	351	252	765	1010
11	185	270	475	521	888	255	267	596	339	293	338	880
12	217	244	469	174	408	242	327	622	430	445	178	980
13	159	291	413	206	938	267	359	632	505	588	230	810
14	207	328	139	292	468	293	380	500	580	685	310	950
15	254	336	217	263	613	240	213	482	612	770	371	900
16	232	364	286	282	601	167	234	517	472	1140	550	1340
17	375	379	276	281	711	151	270	618	242	1650	495	763
18	395	385	291	297	629	140	288	640	348	2900	241	857
19	426	422	338	309	510	156	317	678	435	1160	176	918
20	431	438	332	327	529	238	435	410	488	4200	234	937
21	405	442	391	358	473	279	418	128	549	5000	290	1110
22	545	460	402	420	255	280	422	182	574	1140	350	1200
23	487	483	505	454	157	280	435	236	530	257	335	1080
24	444	356	423	556	189	319	595	275	679	275	389	1220
25	457	168	329	553	220	334	653	200	1900	365	341	1160
26	527	195	203	473	263	340	636	239	806	1750	368	1160
27	635	166	200	582	298	359	595	300	1900	2200	395	890
28	846	215	241	606	353	388	482	359	910	495	565	1060
29	702	241	250	629	347	163	300	439	2150	200	660	1900
30	691	279	290	589	---	194	343	505	2300	242	765	1700
31	764	---	298	647	---	263	---	639	---	378	835	---
MEAN WTR YR 1980	409	349	357	440	537	280	347	425	648	1260	488	1030
		MEAN	547	MAX	5000	MIN	128					

MONONGAHELA RIVER BASIN

03061500 BUFFALO CREEK AT BARRACKVILLE, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.0	11.0	5.0	4.0	4.0	2.0	9.0	12.0	18.0	20.0	22.0	22.0
2	17.0	12.0	4.0	4.0	2.0	3.0	8.0	13.0	18.0	21.0	22.0	23.0
3	10.0	10.0	3.0	4.0	2.0	2.0	9.0	13.0	16.0	23.0	23.0	23.0
4	15.0	8.0	3.0	6.0	3.0	2.0	8.0	14.0	15.0	21.0	23.0	21.0
5	15.0	8.0	3.0	4.0	1.0	4.0	8.0	14.0	15.0	22.0	23.0	22.0
6	13.0	7.0	4.0	3.0	7.0	4.0	9.0	15.0	15.0	21.0	23.0	22.0
7	12.0	10.0	7.0	4.0	8.0	5.0	12.0	15.0	18.0	20.0	23.0	22.0
8	11.0	8.0	11.0	2.0	4.0	6.0	11.0	13.0	19.0	21.0	23.0	21.0
9	13.0	9.0	4.0	3.0	4.0	7.0	12.0	12.0	16.0	19.0	24.0	20.0
10	12.0	11.0	5.0	3.0	2.0	5.0	10.0	14.0	15.0	19.0	25.0	20.0
11	11.0	9.0	4.0	4.0	2.0	5.0	9.0	15.0	14.0	20.0	23.0	19.0
12	12.0	9.0	12.0	4.0	2.0	4.0	12.0	17.0	14.0	21.0	21.0	18.0
13	12.0	9.0	10.0	3.0	2.0	4.0	11.0	18.0	15.0	22.0	20.0	18.0
14	10.0	8.0	8.0	5.0	2.0	4.0	10.0	18.0	16.0	21.0	20.0	20.0
15	9.0	8.0	8.0	6.0	2.0	3.0	10.0	15.0	19.0	21.0	21.0	20.0
16	14.0	8.0	4.0	5.0	2.0	5.0	8.0	15.0	18.0	24.0	20.0	18.0
17	11.0	6.0	4.0	9.0	2.0	7.0	7.0	16.0	16.0	25.0	19.0	19.0
18	12.0	6.0	3.0	11.0	2.0	6.0	9.0	16.0	15.0	24.0	19.0	19.0
19	12.0	7.0	4.0	6.0	4.0	6.0	11.0	17.0	17.0	24.0	19.0	18.0
20	13.0	8.0	4.0	5.0	4.0	8.0	11.0	18.0	18.0	24.0	20.0	18.0
21	16.0	9.0	3.0	5.0	4.0	9.0	13.0	15.0	16.0	25.0	20.0	19.0
22	15.0	9.0	4.0	6.0	3.0	6.0	12.0	14.0	17.0	24.0	20.0	21.0
23	15.5	10.0	7.0	5.0	6.0	6.0	14.0	16.0	18.0	21.0	20.0	21.0
24	12.0	15.0	11.0	2.0	6.0	8.0	13.0	16.0	20.0	20.0	20.0	18.0
25	12.0	11.0	8.0	4.0	5.0	9.0	13.0	17.0	19.0	20.0	20.0	19.0
26	12.0	12.0	8.0	6.0	4.0	6.0	12.0	16.0	19.0	21.0	21.0	19.0
27	7.0	10.0	6.0	3.0	3.0	6.0	11.0	14.0	21.0	23.0	21.0	15.0
28	10.0	10.0	5.0	3.0	3.0	7.0	10.0	14.0	22.0	22.0	21.0	14.0
29	9.0	8.0	4.0	2.0	1.0	7.0	11.0	16.0	23.0	20.0	22.0	15.0
30	9.0	6.0	4.0	3.0	---	7.0	12.0	18.0	23.0	20.0	22.0	15.0
31	10.0	---	6.0	2.0	---	10.0	---	19.0	---	21.0	22.0	---
MEAN	12.0	9.0	5.5	4.5	3.5	5.5	10.5	15.5	17.5	21.5	21.5	19.5
WTR YR 1980		MEAN	12.0	MAX	25.0	MIN	1.0					

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	10	4.6	4	.35	4	1.4	3	.80	3	.40	10	1.5
2	11	3.7	90	157	3	.88	1	.24	3	.50	12	1.4
3	12	4.1	50	55	2	.47	2	.44	5	.61	5	.57
4	9	2.5	9	4.7	1	.22	2	.41	5	.62	6	.71
5	16	5.8	4	1.3	2	.43	3	.62	3	.38	523	2140
6	16	6.0	3	.80	4	.84	2	.38	25	3.2	398	1400
7	15	7.0	2	.47	5	1.1	3	.58	4	.51	57	70
8	15	6.4	2	.41	5	.97	2	.51	6	.68	97	191
9	120	146	4	.76	1	.17	3	.60	8	.86	78	122
10	88	175	17	6.2	1	.16	3	.53	15	1.4	21	20
11	40	62	10	5.5	0	.00	101	135	20	1.8	12	8.1
12	94	189	4	1.6	10	1.6	292	888	12	.94	8	3.9
13	100	194	3	.99	477	2440	21	20	20	1.5	7	3.2
14	20	17	3	.83	88	196	17	14	8	.58	20	18
15	6	3.2	4	.92	30	28	12	9.2	10	.86	43	58
16	5	1.9	3	.71	7	4.4	7	4.3	11	1.5	112	220
17	7	2.0	3	.63	4	1.8	18	11	12	1.4	305	1190
18	7	1.7	2	.38	2	.59	20	14	12	1.4	238	880
19	5	1.0	2	.36	1	.29	4	2.3	6	.75	62	101
20	3	.53	2	.34	0	.00	3	1.4	9	1.6	23	22
21	2	.31	2	.31	1	.22	3	1.2	43	21	21	18
22	2	.29	3	.43	2	.42	3	1.0	237	544	35	39
23	3	.41	2	.28	4	.80	10	3.1	155	277	12	9.1
24	2	.28	118	163	15	3.4	4	.93	45	49	11	6.7
25	2	.26	67	88	147	309	1	.29	17	12	11	6.4
26	2	.24	857	5690	30	38	2	.58	9	4.6	7	3.2
27	3	.34	77	127	10	8.2	2	.50	8	2.9	5	2.0
28	5	.57	22	19	2	1.1	1	.27	7	2.1	14	6.9
29	2	.24	8	4.7	1	.44	2	.48	6	1.3	129	383
30	2	.23	5	2.1	0	.00	3	.45	---	---	39	48
31	2	.19	---	---	2	.64	4	.54	---	---	112	296
TOTAL	---	836.79	---	6334.07	---	3041.54	---	1113.65	---	935.39	---	7269.68

MONONGAHELA RIVER BASIN

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03061500 BUFFALO CREEK AT BARRACKVILLE, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	64	113	31	25	915	2180	11	.80	115	24	7	.68
2	22	21	17	11	553	2590	9	.61	78	12	7	.55
3	12	8.0	9	4.4	311	1490	7	.45	84	12	8	.60
4	97	124	8	3.1	205	964	9	.51	80	11	7	.49
5	34	37	9	2.8	36	36	11	.83	68	6.8	10	1.1
6	15	11	8	2.1	35	26	12	1.2	67	5.1	8	.84
7	7	4.1	7	1.7	28	17	10	.70	64	4.5	9	.97
8	105	165	6	1.3	51	45	292	426	57	3.8	6	.58
9	856	5030	7	1.3	38	23	453	922	64	4.7	4	.28
10	80	123	7	1.2	23	10	145	107	92	12	4	.26
11	50	44	6	.97	11	3.5	50	17	1300	4760	3	.18
12	12	7.6	15	2.8	11	2.6	32	6.4	298	926	3	.16
13	9	4.7	25	7.0	9	1.7	23	3.7	105	79	2	.10
14	92	150	16	3.3	9	1.5	20	2.3	70	26	5	.27
15	110	173	11	2.0	17	2.7	16	1.4	65	17	10	1.5
16	22	21	9	1.4	160	188	9	.68	67	21	4	.45
17	10	6.7	8	1.1	50	29	9	.61	70	14	2	.16
18	8	4.3	10	2.0	18	5.5	10	.62	1540	28600	2	.14
19	7	3.0	17	3.5	12	2.6	7	.34	143	420	3	.18
20	6	2.2	824	1880	9	1.5	10	.51	54	55	3	.15
21	7	2.2	1000	11100	8	1.1	13	.56	30	18	2	.09
22	7	1.9	135	270	7	.83	203	165	37	20	4	.18
23	7	1.7	38	35	7	.72	109	72	30	12	10	1.1
24	6	1.3	27	18	8	.69	48	13	18	5.1	7	.96
25	6	1.2	415	1310	10	.81	31	4.5	14	2.9	7	.70
26	6	1.1	48	48	10	.73	25	2.5	12	2.1	9	.66
27	13	3.2	18	9.4	12	.87	18	1.6	9	1.3	10	.62
28	23	12	13	4.7	15	2.3	541	817	6	.71	8	.43
29	16	6.5	11	3.0	10	.97	406	658	6	.62	13	.60
30	16	7.6	10	2.2	13	1.1	142	66	7	.64	20	.76
31	---	---	20	4.8	---	---	120	44	10	1.1	---	---
TOTAL	---	6091.3	---	14763.07	---	7629.72	---	3337.82	---	35078.37	---	15.74
TOTAL LOAD FOR YEAR:		86447.14		TONS.								

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 September, 1980 (discontinued).

GAGE.--Water-stage recorder. Altitude of gage is 955 ft (291 m), from topographic map.

REMARKS.--Water-discharge records good except those for periods of no gage-height record Jan. 14 to Feb. 19 and Aug. 18-21, which are poor. Some regulation at low flow from mine pumpage above station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,500 ft³/s (127 m³/s) Aug. 18, 1980, gage height, 12.40 ft (3.780 m), from rating curve extended above 500 ft³/s (14 m³/s) on basis of slope-area measurement of peak flow; minimum, 0.90 ft³/s (0.025 m³/s) Aug. 6, gage height, 1.76 ft (0.536 m).

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)
Nov. 26	0745	465 13.2	6.68 2.036	May 24	2400	212 6.00	4.59 1.399
Dec. 13	1300	219 6.20	4.66 1.420	June 2	1515	546 15.5	7.26 2.213
Mar. 31	1330	238 6.74	4.85 1.478	June 3	1900	525 14.9	7.09 2.161
Apr. 9	0130	503 14.2	6.95 2.118	July 12	1915	320 9.06	5.56 1.695
May 21	0415	800 22.7	8.75 2.667	Aug. 18	Unknown	*4500 127	a12.40 3.780

a From floodmarks.

Minimum discharge, 0.90 ft³/s (0.025 m³/s) Aug. 6, gage height, 1.76 ft (0.536 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	4.6	16	12	5.2	7.0	75	24	60	3.3	2.3	3.2
2	17	32	13	11	4.9	6.2	42	19	180	2.8	1.8	3.1
3	29	29	9.9	10	4.7	6.3	29	16	187	2.8	3.1	3.1
4	20	18	9.1	9.2	4.6	6.5	54	14	95	3.3	2.1	3.8
5	26	13	8.7	9.2	4.8	47	40	12	34	5.3	1.4	5.3
6	26	11	8.3	7.8	5.0	56	28	11	35	4.1	1.3	4.2
7	28	9.2	7.8	11	4.6	31	22	9.6	29	2.6	1.8	4.0
8	22	8.1	6.4	12	4.0	58	32	8.5	39	35	1.4	3.1
9	61	7.9	5.4	10	4.1	48	194	7.3	26	17	2.1	2.9
10	67	13	5.2	7.5	3.9	30	56	6.6	63	8.9	5.3	3.2
11	50	11	5.1	33	3.7	22	34	6.9	34	5.1	8.1	2.7
12	61	10	6.9	63	3.4	18	26	10	22	62	9.3	2.4
13	59	9.1	125	37	3.1	19	21	10	16	43	9.9	2.3
14	35	8.0	67	25	2.8	19	68	6.7	12	16	8.1	3.4
15	24	7.5	39	24	3.5	26	76	5.7	14	8.9	7.3	3.8
16	18	8.2	29	22	4.7	48	44	6.0	58	5.3	8.9	2.7
17	14	6.6	22	21	6.0	99	31	5.9	26	3.6	8.1	2.4
18	11	6.0	17	20	4.7	95	23	7.9	17	2.8	1700	2.3
19	9.0	5.4	15	19	4.3	54	19	13	13	2.3	240	2.3
20	8.0	5.0	13	16	7.8	37	15	75	9.9	2.1	120	2.2
21	7.3	4.8	10	14	16	40	13	389	8.1	2.0	69	2.2
22	6.8	4.7	9.8	13	79	39	10	63	6.5	6.5	30	6.8
23	6.8	4.4	9.4	11	59	27	9.3	30	5.7	6.1	18	7.4
24	6.7	12	13	9.1	35	25	8.1	32	5.1	4.1	11	4.6
25	6.0	16	83	10	24	23	7.5	83	4.8	2.8	8.2	3.3
26	5.7	178	47	9.6	17	20	7.7	32	4.1	2.1	7.4	2.8
27	5.3	57	34	8.4	14	16	12	20	4.1	2.1	6.3	2.4
28	6.6	36	26	7.3	13	27	11	15	4.8	3.6	4.0	2.3
29	5.9	26	20	6.8	10	92	9.1	12	4.3	6.9	3.6	2.2
30	5.1	20	16	6.0	---	48	19	10	3.8	3.8	4.0	2.2
31	4.8	---	14	5.5	---	130	---	15	---	2.8	3.6	---
TOTAL	667.0	581.5	711.0	480.4	356.8	1220.0	1035.7	976.1	1021.2	279.0	2307.4	98.6
MEAN	21.5	19.4	22.9	15.5	12.3	39.4	34.5	31.5	34.0	9.00	74.4	3.29
MAX	67	178	125	63	79	130	194	389	187	62	1700	7.4
MIN	4.8	4.4	5.1	5.5	2.8	6.2	7.5	5.7	3.8	2.0	1.3	2.2
CFSM	1.82	1.64	1.94	1.31	1.04	3.34	2.92	2.67	2.88	.76	6.31	.28
IN.	2.10	1.83	2.24	1.51	1.12	3.85	3.26	3.08	3.22	.88	7.27	.31

CAL YR 1979 TOTAL 8739.3 MEAN 23.9 MAX 344 MIN 1.4 CFSM 2.03 IN 27.55
WTR YR 1980 TOTAL 9734.7 MEAN 26.6 MAX 1700 MIN 1.3 CFSM 2.25 IN 30.69

MONONGAHELA RIVER BASIN

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03062215 INDIAN CREEK AT CROWN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1978 to July 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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	27	740	7.3	--	14.0	--	--	--	--	--
JAN 03...	1330	10	1700	7.7	3.5	4.0	--	--	--	--	--
14...	0845	43	780	8.0	--	4.5	--	190	130	.0	.0
FEB 19...	1100	4.3	1875	7.8	--	1.0	--	420	320	.0	.0
MAR 07...	1415	29	350	7.3	--	6.0	--	100	51	.0	.0
22...	1520	34	560	6.4	--	8.0	--	180	130	.0	.0
APR 09...	1505	110	360	7.2	18.0	13.5	--	96	65	--	.0
MAY 19...	0915	6.3	2000	8.0	21.5	16.5	--	440	350	--	.0
JUL 18...	1500	2.8	900	7.9	28.0	25.0	--	380	270	.2	10
AUG 21...	1455	53	260	6.0	--	23.0	2.0	88	42	.3	15
SEP 04...	1450	3.0	300	6.8	30.0	23.0	--	--	--	--	--

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)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
JAN 14...	53	13	84	2.7	55	260	6.5	--	482	.66	56.0
FEB 19...	120	28	260	5.6	100	830	12	--	1400	1.90	16.3
MAR 07...	28	7.6	19	.8	50	76	4.2	--	188	.26	14.7
22...	52	11	66	2.2	51	230	4.7	--	448	.61	41.1
APR 09...	28	6.4	27	1.2	37	110	2.6	--	222	.30	65.9
MAY 19...	130	29	280	5.8	90	910	11	--	1480	2.01	25.2
JUL 18...	110	25	190	4.3	99	610	9.1	--	90	.12	.68
AUG 21...	25	6.2	14	.7	46	63	2.7	9.7	169	.23	24.2

MONONGAHELA RIVER BASIN

03062215 INDIAN CREEK AT CROWN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	PERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CN)	COPPER, DIS- SOLVED (UG/L 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)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
JAN 14...	--	--	--	--	--	940	500	40	--	--	230
FEB 19...	--	--	--	--	--	350	310	40	--	--	360
MAR 07...	--	--	--	--	--	730	700	30	--	--	120
22...	--	--	--	--	--	400	350	50	--	--	120
APR 09...	--	--	--	--	--	5300	5300	50	--	--	270
MAY 19...	--	--	--	--	--	320	310	10	--	--	120
JUL 18...	--	--	--	--	--	420	400	20	--	--	50
AUG 21...	50	<1	<1	<3	<10	750	710	38	<10	<4	90

DATE	MANGA- NESE, SUS- PENDED RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
JAN 14...	20	210	--	--	--	--	--	--	--	--
FEB 19...	0	370	--	--	--	--	--	--	--	--
MAR 07...	10	110	--	--	--	--	--	--	--	--
22...	10	110	--	--	--	--	--	13.0	--	--
APR 09...	170	100	--	--	--	--	--	--	--	--
MAY 19...	20	100	--	--	--	--	--	--	--	--
JUL 18...	0	50	--	--	--	--	--	--	--	--
AUG 21...	20	73	<10	170	<6.0	7	1.9	--	15	2.1

MONONGAHELA RIVER BASIN

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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 February and those for period of no gage-height record or indefinite stage-discharge relation, Aug. 10-25, which are poor.

AVERAGE DISCHARGE.--15 years, 17.0 ft³/s (0.481 m³/s), 21.18 in/yr (538 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,100 ft³/s (87.8 m³/s) Aug. 18, 1980, gage height, 19.94 ft (6.078 m), from floodmarks, from rating curve extended above 800 ft³/s (23 m³/s) on basis of culvert rating computation and flow-over-road measurement of peak flow; 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)
Mar. 31	1315	486 13.8	6.47 1.972	June 2	1400	292 8.27	4.82 1.469
Apr. 9	0115	415 11.8	5.96 1.817	Aug. 18	Unknown	*3100 87.8	a19.94 6.078

a From floodmarks.

Minimum discharge, 0.37 ft³/s (0.010 m³/s) Sept. 30, gage height, 0.78 ft (0.238 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	4.5	16	11	4.9	9.8	92	45	115	2.0	4.0	2.2
2	49	24	13	10	4.6	8.0	48	31	124	1.8	3.5	4.1
3	94	26	11	8.6	4.5	7.3	33	25	126	2.2	8.6	4.8
4	49	18	10	8.1	4.3	8.2	61	20	87	2.0	6.0	2.9
5	64	14	9.5	8.1	4.4	42	43	16	44	2.2	4.0	3.3
6	57	13	9.5	6.8	4.5	45	31	14	50	4.5	3.0	2.2
7	46	12	10	9.5	4.0	30	26	12	38	2.2	2.8	1.9
8	32	10	9.0	10	3.7	45	37	10	33	15	4.5	1.6
9	75	9.5	7.7	7.3	3.7	38	181	9.0	24	9.5	12	1.5
10	101	14	7.7	6.4	3.7	28	56	7.7	61	4.8	9.2	1.6
11	67	13	7.3	13	3.5	23	36	6.8	39	3.5	110	1.3
12	63	12	9.5	29	3.2	18	28	10	24	5.6	90	1.2
13	55	12	94	22	2.9	19	24	18	17	9.0	40	1.1
14	37	10	63	22	2.6	26	36	14	12	4.0	16	1.1
15	27	9.0	37	21	3.3	24	38	11	12	3.0	8.9	1.5
16	20	9.0	26	19	10	29	31	9.0	41	2.6	12	1.3
17	16	7.7	20	19	7.2	49	26	7.7	22	2.2	9.5	.96
18	14	7.3	16	18	5.6	75	23	9.0	16	1.8	1200	.96
19	10	6.4	14	15	11	46	19	9.5	12	1.8	160	.85
20	8.1	6.0	12	13	15	32	17	42	8.6	1.7	61	.66
21	7.3	5.2	10	12	23	32	15	118	6.0	1.6	42	.58
22	6.5	5.2	9.0	12	110	27	12	55	4.5	4.5	26	.96
23	6.1	4.8	8.1	10	78	23	12	33	4.0	4.5	14	1.9
24	6.1	13	12	8.2	55	22	10	30	3.5	4.2	8.2	1.9
25	5.5	16	41	8.7	42	22	9.0	46	3.0	2.8	11	1.3
26	5.2	98	30	9.5	32	19	8.6	31	2.8	2.2	7.4	.96
27	4.5	53	22	8.0	23	17	14	23	3.0	5.6	5.4	.75
28	6.4	36	19	6.8	17	20	15	17	2.6	10	4.1	.66
29	6.4	24	16	6.4	14	36	13	14	2.2	18	3.3	.58
30	4.8	19	14	5.7	---	27	34	13	2.2	7.7	2.9	.44
31	4.5	---	13	5.2	---	221	---	31	---	5.2	2.5	---
TOTAL	965.4	511.6	596.3	369.3	500.6	1068.3	1028.6	737.7	939.4	147.7	1891.8	47.06
MEAN	31.1	17.1	19.2	11.9	17.3	34.5	34.3	23.8	31.3	4.76	61.0	1.57
MAX	101	98	94	29	110	221	181	118	126	18	1200	4.8
MIN	4.5	4.5	7.3	5.2	2.6	7.3	8.6	6.8	2.2	1.6	2.5	.44
CFSM	2.85	1.57	1.76	1.09	1.59	3.17	3.15	2.18	2.87	.44	5.60	.14
IN.	3.29	1.75	2.03	1.26	1.71	3.65	3.51	2.52	3.21	.50	6.46	.16

CAL YR	1979	TOTAL	8401.20	MEAN	23.0	MAX	231	MIN	1.3	CFSM	2.11	IN	28.67
WTR YR	1980	TOTAL	8803.76	MEAN	24.1	MAX	1200	MIN	.44	CFSM	2.21	IN	30.04

MONONGAHELA RIVER BASIN

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 December and February, which are poor.

AVERAGE DISCHARGE.--40 years, 761 ft³/s (21.55 m³/s), 29.95 in/yr (761 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)
Oct. 10	0130	10100 286	7.81 2.380	Aug. 18	1300	*10500 297	7.94 2.420
Apr. 30	1330	7800 221	6.60 2.012				

Minimum discharge, 52 ft³/s (1.47 m³/s) Sept. 14, gage height, 1.34 ft (0.408 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	346	266	547	460	271	462	2790	4190	1180	130	314	137
2	339	1170	470	410	250	372	1890	2420	1030	103	476	117
3	1200	2320	416	364	240	330	1400	1610	1740	448	276	146
4	791	1440	360	327	230	372	1500	1180	2620	555	211	137
5	1330	1070	409	300	220	1210	1330	903	1220	287	224	263
6	2180	858	462	291	210	2860	1140	744	1180	271	162	198
7	1510	752	600	300	200	1810	957	966	1290	206	134	194
8	1130	672	525	280	190	2960	832	744	1190	824	111	122
9	5650	592	416	250	178	3260	4020	616	1120	2340	185	95
10	7250	736	370	240	173	1930	2550	532	3100	2830	266	83
11	3810	832	330	323	164	1640	1600	469	2360	1880	276	75
12	3790	840	390	1270	147	1180	1170	435	1380	1170	540	66
13	4020	984	948	821	145	993	1060	532	921	1460	378	59
14	2520	921	1390	1020	140	858	1310	532	672	768	224	54
15	1650	808	1040	1210	223	696	1970	462	577	504	219	281
16	1230	776	876	1010	347	776	1610	403	3410	360	784	203
17	966	696	600	915	300	2490	1340	354	2270	330	462	122
18	792	672	500	1130	260	5000	1350	608	1200	455	5830	95
19	672	632	460	1910	240	2680	1150	577	800	271	4050	77
20	570	555	410	1410	270	1830	939	768	585	202	2000	66
21	490	490	380	1050	607	2500	776	5280	448	162	1270	62
22	422	442	350	840	3840	2270	640	3130	348	174	891	76
23	384	403	340	640	4920	1610	540	1800	281	1480	736	144
24	384	390	390	513	3480	1460	476	1360	228	930	587	167
25	342	422	3240	544	2080	1640	455	2480	202	532	441	129
26	308	728	2220	509	1450	1380	585	1630	174	360	339	166
27	271	984	1410	431	993	1160	3100	1130	147	266	271	160
28	330	824	1020	370	867	1130	2760	824	134	287	222	118
29	483	752	750	341	672	2890	1740	632	140	760	187	92
30	354	664	630	312	---	2170	5080	608	140	422	161	76
31	287	---	530	280	---	2680	---	1560	---	271	155	---
TOTAL	45801	23691	22779	20071	23307	54599	48060	39479	32087	21038	22382	3780
MEAN	1477	790	735	647	804	1761	1602	1274	1070	679	722	126
MAX	7250	2320	3240	1910	4920	5000	5080	5280	3410	2830	5830	281
MIN	271	266	330	240	140	330	455	354	134	103	111	54
CFSM	4.28	2.29	2.13	1.88	2.33	5.10	4.64	3.69	3.10	1.97	2.09	.37
IN.	4.94	2.55	2.46	2.16	2.51	5.89	5.18	4.26	3.46	2.27	2.41	.41

CAL YR 1979	TOTAL	350465	MEAN	960	MAX	8250	MIN	89	CFSM	2.78	IN	37.79
WTR YR 1980	TOTAL	357074	MEAN	976	MAX	7250	MIN	54	CFSM	2.83	IN	38.50

MONONGAHELA RIVER BASIN

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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 January and February, which are poor.

AVERAGE DISCHARGE.--59 years, 198 ft³/s (5.607 m³/s), 31.19 in/yr (792 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 9	2300	2130 60.3	7.18 2.188	Apr. 30	1900	1890 53.5	6.72 2.048
Feb. 22	1600	1670 47.3	6.44 1.963	Aug. 18	1100	*2190 62.0	7.27 2.216
Mar. 18	0600	1680 47.6	6.36 1.939				

Minimum discharge, 18 ft³/s (0.51 m³/s) Sept. 30, gage height, 1.45 ft (0.442 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	86	100	120	66	120	708	1120	370	85	125	44
2	106	371	100	105	61	100	431	499	384	59	258	43
3	464	712	93	95	58	86	293	313	846	58	122	44
4	247	317	86	88	54	140	392	231	953	90	88	43
5	356	202	88	81	56	364	353	186	506	81	73	110
6	524	168	116	77	59	841	272	161	385	89	63	92
7	332	162	165	83	55	582	214	207	360	72	53	56
8	275	156	123	79	50	692	194	159	443	279	48	45
9	1630	138	100	73	48	682	932	125	265	552	94	38
10	1860	240	91	67	46	432	572	113	566	307	77	37
11	1250	226	85	130	43	270	329	108	361	175	73	36
12	1090	196	104	419	42	190	250	103	217	157	118	34
13	1090	188	304	200	39	160	282	110	168	354	119	29
14	732	168	354	250	38	140	422	104	136	153	77	29
15	422	140	196	314	54	150	506	86	128	96	92	29
16	290	144	149	219	82	203	368	75	853	78	260	29
17	230	150	137	191	73	756	332	68	617	73	133	27
18	196	162	130	214	64	1530	323	123	294	90	1440	26
19	166	132	120	289	56	892	240	108	189	71	1360	25
20	142	114	110	204	79	485	202	179	153	55	637	22
21	124	105	102	152	205	620	174	957	124	47	262	24
22	111	99	98	130	1030	692	150	465	107	52	176	26
23	105	93	108	120	1470	476	138	235	93	74	146	39
24	108	94	129	100	1100	370	124	268	83	79	116	42
25	102	108	849	140	524	422	130	517	75	60	94	48
26	99	176	571	120	327	338	182	253	68	46	80	38
27	91	194	272	100	229	255	696	166	60	43	69	28
28	124	130	190	92	200	240	652	135	60	47	61	25
29	168	114	160	84	160	680	362	113	67	155	54	24
30	115	98	140	76	---	431	1340	107	127	108	49	32
31	94	---	130	70	---	608	---	384	---	67	48	---
TOTAL	12740	5383	5500	4482	6368	13947	11563	7778	9058	3752	6465	1164
MEAN	411	179	177	145	220	450	385	251	302	121	209	38.8
MAX	1860	712	849	419	1470	1530	1340	1120	953	552	1440	110
MIN	91	86	85	67	38	86	124	68	60	43	48	22
CFSM	4.77	2.08	2.05	1.68	2.55	5.22	4.47	2.91	3.50	1.40	2.43	.45
IN.	5.50	2.32	2.37	1.93	2.75	6.02	4.99	3.36	3.91	1.62	2.79	.50

CAL YR 1979	TOTAL	94949	MEAN 260	MAX 2550	MIN 34	CFSM 3.02	IN 40.98
WTR YR 1980	TOTAL	88200	MEAN 241	MAX 1860	MIN 22	CFSM 2.80	IN 38.06

MONONGAHELA RIVER BASIN

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 September 1980 (discontinued).

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.

AVERAGE DISCHARGE.--5 years, 384 ft³/s (10.87 m³/s), 37.79 in/yr (960 mm/yr).

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)
Oct. 9	2400	4470 127	5.33 1.625	May 21	0530	5150 146	5.44 1.658
Feb. 23	0130	3660 104	5.00 1.524	July 10	1400	3920 111	5.01 1.527
Mar. 18	0300	3280 92.9	4.82 1.469	Aug. 18	1200	3790 107	4.96 1.512
Mar. 21	1800	3430 97.1	4.88 1.487	Aug. 18	1930	3630 103	4.90 1.494
Apr. 9	0730	*8300 235	6.33 1.929				

Minimum discharge, 23 ft³/s (0.65 m³/s) Sept. 14; minimum gage height, 2.24 ft (0.683 m) July 3, Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	201	108	266	196	150	273	1370	1890	436	53	213	64
2	218	528	234	190	145	240	854	1010	332	50	219	53
3	547	929	206	156	140	218	660	660	311	120	166	69
4	398	441	190	138	140	206	759	502	318	225	134	59
5	584	330	185	134	135	330	682	390	277	120	125	116
6	818	280	196	125	125	1430	529	337	258	134	101	77
7	603	259	233	117	120	529	441	352	332	109	82	51
8	529	240	206	121	115	1020	375	287	368	525	74	42
9	1660	212	171	104	115	1680	3630	245	368	1270	82	34
10	2480	294	147	100	113	830	1070	218	812	2210	93	33
11	1140	441	152	125	113	726	671	190	685	992	72	32
12	1360	390	152	492	100	502	511	180	428	521	93	30
13	1950	441	338	280	90	432	493	252	318	386	74	26
14	1080	352	693	252	95	424	1110	223	258	318	64	51
15	693	301	398	398	87	308	1720	196	219	232	77	166
16	529	273	301	338	117	273	878	171	325	178	304	72
17	407	240	259	322	150	833	641	156	386	166	157	59
18	330	232	228	1030	150	2260	622	201	244	196	2130	45
19	273	218	218	1630	145	942	520	259	190	138	1660	35
20	228	196	206	660	134	671	416	338	157	109	776	31
21	201	180	180	441	152	1640	352	2620	134	93	590	28
22	180	176	166	368	704	1250	294	1000	116	86	420	31
23	171	156	171	320	1880	704	266	630	101	1150	360	54
24	166	152	180	310	1510	612	234	496	90	488	284	116
25	161	196	1520	315	770	1210	223	836	82	297	207	120
26	152	879	748	270	547	818	228	530	77	184	166	244
27	138	770	475	220	390	612	1330	402	69	143	134	134
28	129	458	352	200	330	622	1020	325	64	143	112	77
29	142	368	280	170	300	1440	622	264	59	1400	101	56
30	134	315	245	160	---	1140	1710	318	54	445	82	48
31	121	---	218	155	---	1320	---	642	---	290	72	---
TOTAL	17723	10355	9514	9837	9062	25495	24231	16120	7868	12771	9224	2053
MEAN	572	345	307	317	312	822	808	520	262	412	298	68.4
MAX	2480	929	1520	1630	1880	2260	3630	2620	812	2210	2130	244
MIN	121	108	147	100	87	206	223	156	54	50	64	26
CFSM	4.15	2.50	2.23	2.30	2.26	5.96	5.86	3.77	1.90	2.99	2.16	.50
IN.	4.78	2.79	2.56	2.65	2.44	6.87	6.53	4.35	2.12	3.44	2.49	.55

CAL YR 1979 TOTAL 175747 MEAN 481 MAX 5670 MIN 63 CFSM 3.49 IN 47.37
WTR YR 1980 TOTAL 154253 MEAN 421 MAX 3630 MIN 26 CFSM 3.05 IN 41.58

MONONGAHELA RIVER BASIN

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03068600 SHAVERS FORK ABOVE BOWDEN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to September 1980 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: September 1975 to September 1980 (discontinued).

WATER TEMPERATURES: August 1975 to May 1979 (discontinued).

TURBIDITY: July 1975 to September 1980 (discontinued).

SUSPENDED SEDIMENT DISCHARGE: July 1975 to September 1980 (discontinued).

REMARKS.--Sediment samples are taken once daily and more frequently during rises.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 94 micromhos May 22, 1980; minimum daily, 20 micromhos Oct 7, 17-19, 1978.

WATER TEMPERATURES: Maximum daily, 25.0°C June 14, 1976; minimum daily, 0.0°C on many days during winter periods.

TURBIDITY: Maximum daily, 100 NTU July 14, 1978; minimum daily, 0.2 NTU Mar. 1, 1980 (minimum previously determined to nearest 1 JTU).

SEDIMENT CONCENTRATIONS: Maximum daily mean, 43.8 mg/L Apr. 15, 1980; 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, 94 micromhos May 22; minimum daily, 30 micromhos Oct. 17-21, Nov. 18, 25.

TURBIDITY: Maximum daily, 36 NTU Mar. 18; minimum daily, 0.2 NTU Mar. 1.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 438 mg/L Apr. 15; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 4,050 tons (3,670 tonnes) Apr. 9; minimum daily, 0 tons (0 tonnes) on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)
OCT							
02...	1515	207	40	6.8	19.5	16.5	2.0
11...	1230	1110	48	6.8	>.0	7.0	2.2
NOV							
06...	1345	265	40	6.4	14.5	7.0	1.0
DEC							
12...	1415	154	40	6.9	16.0	4.5	1.6
JAN							
04...	1210	142	80	6.9	.0	2.0	--
09...	1300	124	40	7.0	2.0	.0	.70
FEB							
22...	1500	1260	43	6.4	--	--	10
23...	0845	1660	40	6.4	--	--	21
24...	1200	1550	42	6.8	--	--	4.8
26...	1530	508	40	6.6	<5.0	2.0	2.2
MAR							
08...	1130	750	<50	6.4	--	4.0	--
09...	1300	1910	37	6.8	--	5.0	6.5
28...	0930	586	60	6.3	5.5	3.5	--
APR							
02...	1130	958	45	6.9	16.0	7.0	5.0
14...	1730	1400	32	6.8	--	12.5	12
15...	0615	2070	32	5.9	--	12.0	14
30...	1415	2570	38	5.9	13.0	8.0	9.0
MAY							
01...	0700	2240	34	6.0	--	--	2.5
JUN							
05...	1005	279	45	6.5	14.0	14.0	4.3
19...	1225	184	<50	7.2	--	15.5	--
JUL							
16...	1100	173	65	6.4	25.0	21.0	3.0
AUG							
13...	1100	72	50	6.7	--	20.0	2.4
SEP							
04...	1020	56	42	6.8	21.0	20.0	.90
17...	0955	63	42	6.9	20.0	17.5	--
25...	1110	115	42	7.0	20.0	18.0	--

MONONGAHELA RIVER BASIN

03068600 SHAVERS FORK ABOVE BOWDEN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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)	SULFATE DIS- SOLVED (MG/L AS S04)
MAR 08...	11	8	3.1	.8	.6	10	.1	1.2	.6	3	6.0
JUN 19...	10	5	2.8	.7	.5	9	.1	--	.5	5	5.6
SEP 17...	19	5	5.7	1.2	.9	9	.1	--	.6	14	6.1

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)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR 08...	.9	.0	3.0	28	17	.04	56.7	150	30	40
JUN 19...	.6	.0	3.1	25	17	.03	12.4	80	40	5
SEP 17...	.6	.1	3.7	28	27	.04	4.76	10	60	0

DATE	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT CHARGE, DIS- SUS- PENDE (T/DAY)	DATE	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT CHARGE, DIS- SUS- PENDE (T/DAY)
OCT 02...	0	.00	APR 02...	5	13
11...	3	9.0	14...	208	786
NOV 06...	0	.00	15...	768	4290
DEC 12...	1	.42	30...	60	416
JAN 09...	2	.67	MAY 01...	15	91
FEB 22...	48	163	JUN 05...	9	6.8
23...	99	444	JUL 16...	0	.00
24...	11	46	AUG 13...	2	.39
26...	4	5.5	SEP 04...	0	.00
MAR 09...	25	129			

03068600 SHAVERS FORK ABOVE BOWDEN, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	33	32	33	40	39	34	33	42	44	33	37
2	32	36	33	38	41	63	34	33	40	45	33	35
3	31	36	33	40	41	64	35	33	41	45	34	37
4	33	35	33	39	51	63	33	35	45	46	34	37
5	34	33	32	40	42	41	31	34	45	46	36	37
6	33	41	32	40	40	41	32	35	43	40	35	40
7	32	32	32	40	39	41	32	38	39	38	35	43
8	38	32	32	44	52	36	33	38	38	36	35	39
9	37	32	32	44	52	37	33	35	40	36	36	40
10	33	32	32	44	52	37	34	36	42	36	37	44
11	33	39	32	45	40	37	34	36	34	35	37	44
12	33	32	34	43	42	37	33	37	33	35	41	45
13	32	32	33	44	41	36	33	33	34	34	41	45
14	33	41	34	41	44	35	33	33	34	38	40	46
15	31	33	32	40	46	35	31	34	35	37	42	46
16	31	31	32	41	46	34	34	35	35	35	38	45
17	30	35	32	59	45	36	35	37	34	36	40	45
18	30	30	32	46	46	75	34	33	35	37	39	46
19	30	32	32	39	47	33	33	34	34	35	38	45
20	30	31	32	40	47	33	33	33	38	37	43	45
21	30	33	36	74	39	34	34	36	34	32	63	44
22	32	34	35	35	42	33	33	94	35	33	42	44
23	32	31	34	35	46	33	35	37	34	34	33	47
24	31	31	33	35	40	35	35	34	34	33	36	44
25	32	30	33	38	37	35	34	31	35	33	35	44
26	32	36	33	36	37	---	33	33	36	33	37	44
27	33	38	31	36	38	35	34	35	48	34	35	43
28	32	35	32	39	38	35	31	35	37	31	50	43
29	33	34	31	39	38	36	31	39	42	31	34	42
30	37	32	32	39	---	34	32	39	38	31	39	44
31	33	---	33	41	---	39	---	39	---	34	35	---
MEAN WTR YR 1980	32	34	33	42	43	40	33	37	38	36	38	43
		MEAN	37	MAX	94	MIN	30					

TURBIDITY (NTU), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.1	1.0	1.8	1.3	.3	.2	2.9	1.5	5.7	10	1.1	1.5
2	4.2	6.0	1.8	.5	.8	.8	1.1	1.8	6.8	10	.9	.9
3	4.1	7.0	1.7	.4	.7	.8	1.3	1.6	7.9	4.2	.9	1.4
4	2.8	.9	1.3	.6	.8	.6	.9	1.9	10	1.5	1.0	1.5
5	2.8	1.5	1.6	.9	.9	2.6	.9	1.5	9.2	9.4	.8	1.6
6	1.4	1.5	2.2	1.0	.8	4.4	1.1	2.0	7.4	2.3	1.0	1.0
7	1.3	.8	2.2	.7	.6	4.1	1.4	3.0	8.1	2.1	1.0	1.4
8	14	1.0	2.9	1.0	.9	5.3	1.2	2.4	6.6	10	.8	.9
9	13	1.0	2.1	1.0	.5	4.6	10	2.0	7.6	10	1.6	.7
10	2.9	1.0	1.8	.9	.9	1.4	3.3	2.0	5.0	10	1.1	1.5
11	2.4	1.6	1.9	1.1	.5	1.0	1.5	2.0	9.9	4.3	.8	1.2
12	2.3	1.6	9.4	1.9	.7	.9	.8	2.6	1.0	1.0	1.0	1.3
13	1.3	1.4	10	2.3	.8	.5	1.6	2.8	9.0	1.2	.8	1.1
14	1.4	1.8	9.9	1.3	.9	.4	11	2.3	1.2	.8	.9	1.3
15	.5	1.9	1.8	1.5	.9	.6	10	1.9	8.0	2.1	.9	1.5
16	.5	1.6	1.9	1.4	.9	2.8	.9	2.8	8.0	1.4	1.5	1.8
17	.9	1.7	2.0	1.1	.5	6.4	.9	2.2	1.0	1.8	1.7	1.6
18	1.0	1.1	1.8	.9	.5	36	.4	1.8	1.9	1.1	1.3	3.6
19	1.0	4.9	1.8	.9	.3	2.9	.6	1.6	1.2	1.8	1.3	1.7
20	1.0	1.6	8.9	.7	.6	3.1	1.0	1.4	3.5	1.5	4.1	1.4
21	1.0	2.0	1.2	1.1	4.8	9.8	.5	26	1.4	1.4	2.3	4.0
22	1.0	2.0	2.3	.6	24	3.3	.6	28	1.3	2.2	1.9	2.6
23	1.0	2.5	2.7	1.7	8.0	5.7	1.2	2.5	1.0	10	1.1	3.4
24	.9	2.2	2.4	1.1	3.6	8.0	1.4	3.2	1.0	8.0	1.3	4.8
25	1.1	2.3	2.3	.6	2.0	5.5	1.8	24	1.0	7.7	1.6	5.9
26	1.0	3.6	2.1	1.1	1.2	---	10	1.9	8.0	1.3	1.0	4.5
27	.8	4.7	1.4	.6	.4	8.3	8.0	2.5	1.2	1.9	1.2	5.1
28	.8	2.0	1.3	.5	.4	4.9	7.5	3.4	1.0	1.8	1.3	1.1
29	1.0	2.0	1.4	.6	.3	5.7	8.5	10	1.6	9.7	1.2	1.4
30	.7	2.1	1.1	.5	---	1.0	8.8	11	1.3	7.6	1.0	1.1
31	1.0	---	1.2	.3	---	2.5	---	10	---	2.0	1.0	---
MEAN WTR YR 1980	2.3	2.2	2.9	.9	2.0	4.5	3.4	5.3	4.6	4.5	1.3	2.1
		MEAN	3.0	MAX	36	MIN	.2					

MONONGAHELA RIVER BASIN

03068600 SHAVERS FORK ABOVE BOWDEN, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	1	.54	3	.87	4	2.9	2	1.1	1	.41	1	.74
2	11	6.5	38	149	5	3.2	0	.00	1	.39	1	.65
3	22	32	24	60	5	2.8	1	.42	2	.76	1	.59
4	8	8.6	2	2.4	4	2.1	1	.37	1	.38	2	1.1
5	10	16	0	.00	5	2.5	2	.72	2	.73	30	27
6	8	18	1	.76	5	2.6	2	.68	1	.34	27	104
7	2	3.3	0	.00	5	3.1	1	.32	3	.97	15	21
8	16	23	0	.00	5	2.8	1	.33	15	4.7	87	289
9	118	700	0	.00	9	4.2	2	.56	10	3.1	38	172
10	32	214	15	12	6	2.4	1	.27	6	1.8	3	6.7
11	6	18	15	18	5	2.1	3	1.0	2	.61	0	.00
12	22	81	7	7.4	2	.82	2	2.7	1	.27	0	.00
13	20	105	9	11	12	11	3	2.3	1	.24	0	.00
14	3	8.7	5	4.8	33	62	2	1.4	2	.51	1	1.1
15	1	1.9	7	5.7	4	4.3	1	1.1	1	.23	2	1.7
16	0	.00	7	5.2	2	1.6	1	.91	2	.63	5	3.7
17	1	1.1	6	3.9	1	.70	4	3.5	2	.81	46	204
18	0	.00	1	.63	2	1.2	95	264	1	.41	71	501
19	1	.74	2	1.2	1	.59	80	352	1	.39	12	31
20	1	.62	5	2.6	1	.56	4	7.1	1	.36	6	11
21	1	.54	5	2.4	2	.97	2	2.4	12	4.9	67	429
22	1	.49	6	2.9	4	1.8	1	.99	90	171	22	74
23	4	1.8	8	3.4	4	1.8	2	1.7	98	497	15	29
24	3	1.3	5	2.1	5	2.4	10	8.4	17	69	22	36
25	2	.87	7	3.7	88	414	3	2.6	3	6.2	30	98
26	3	1.2	99	349	24	48	4	2.9	2	3.0	20	44
27	3	1.1	16	33	4	5.1	4	2.4	1	1.1	17	28
28	1	.35	6	7.4	1	.95	2	1.1	0	.00	23	39
29	2	.77	5	5.0	1	.76	2	.92	1	.81	35	136
30	1	.36	6	5.1	1	.66	2	.86	---	---	4	12
31	3	.98	---	---	2	1.2	2	.84	---	---	20	101
TOTAL	---	1248.76	---	699.46	---	591.11	---	665.89	---	771.05	---	2402.28

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	16	59	18	92	2	2.4	1	.14	2	1.2	1	.17
2	4	9.2	7	19	2	1.8	2	.27	1	.59	2	.29
3	2	3.6	3	5.3	2	1.7	30	9.7	1	.45	4	.75
4	17	35	3	4.1	7	6.0	27	16	1	.36	1	.16
5	6	11	3	3.2	10	7.5	15	4.9	1	.34	3	.94
6	1	1.4	5	4.5	5	3.5	2	.72	1	.27	1	.21
7	3	3.6	2	1.9	4	3.6	0	.00	2	.44	2	.28
8	5	5.1	0	.00	7	7.0	17	80	1	.20	1	.11
9	348	4050	0	.00	5	5.0	50	171	20	4.4	3	.28
10	15	43	0	.00	145	402	93	627	15	3.8	4	.36
11	5	9.1	0	.00	36	67	55	147	5	.97	3	.26
12	2	2.8	0	.00	5	5.8	17	24	10	2.5	4	.32
13	15	20	10	6.8	1	.86	7	7.3	2	.40	3	.21
14	240	1090	6	3.6	1	.70	4	3.4	2	.35	18	8.6
15	438	2270	4	2.1	7	4.1	2	1.3	11	2.3	13	5.8
16	4	9.5	6	2.8	18	16	1	.48	8	6.6	1	.19
17	1	1.7	7	2.9	5	5.2	12	5.4	4	1.7	2	.32
18	0	.00	3	1.6	5	3.3	4	2.1	155	1290	8	.97
19	0	.00	6	4.2	4	2.1	2	.75	44	197	2	.19
20	1	1.1	11	10	2	.85	1	.29	14	29	2	.17
21	0	.00	161	1260	4	1.4	1	.25	4	6.4	7	.53
22	0	.00	85	229	2	.63	8	1.9	2	2.3	9	.75
23	2	1.4	20	34	0	.00	69	271	1	.97	4	.58
24	1	.63	9	12	1	.24	30	40	2	1.5	3	.94
25	2	1.2	57	129	1	.22	19	15	2	1.1	4	1.3
26	37	23	10	14	0	.00	5	2.5	1	.45	3	2.0
27	103	373	2	2.2	0	.00	2	.77	0	.00	3	1.1
28	40	110	6	5.3	1	.17	12	4.6	1	.30	1	.21
29	32	54	12	8.6	0	.00	60	280	1	.27	1	.15
30	67	314	15	13	0	.00	15	18	2	.44	0	.00
31	---	---	27	51	---	---	5	3.9	1	.19	---	---
TOTAL	---	8502.33	---	1922.10	---	549.07	---	1739.67	---	1556.79	---	28.14
TOTAL LOAD FOR YEAR:	20676.65		TONS.									

MONONGAHELA RIVER BASIN

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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 1980 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 2,750 ft (838 m), from topographic map.

REMARKS.--Water-discharge records good except those for Jan. 20 to Mar. 16, 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
July 3	0315	*75 2.12	2.77 0.844	Aug. 18	0730	47 1.33	2.54 0.774

Minimum discharge, 0.24 ft³/s (0.007 m³/s) Sept. 14, gage height, 1.36 ft (0.415 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.3	1.2	1.5	1.6	.82	1.4	8.9	10	5.0	.50	1.1	.55
2	2.1	6.5	1.4	1.4	.77	1.4	6.7	7.5	5.5	.46	.92	.63
3	3.1	5.2	1.3	1.3	.72	1.3	5.3	6.3	5.4	11	.81	.60
4	2.8	4.2	1.2	1.3	.68	1.2	5.5	5.1	4.7	8.1	1.6	.67
5	4.9	3.5	1.2	1.3	.66	11	4.8	4.5	3.8	5.1	1.1	1.7
6	4.9	3.0	1.6	1.1	.69	9.1	4.3	4.7	4.8	3.9	.76	1.0
7	4.5	2.9	1.6	1.2	.64	7.8	3.8	6.0	3.5	3.1	.71	.89
8	4.3	2.4	1.4	1.0	.63	10	3.8	4.1	4.7	8.9	.71	.54
9	13	2.1	1.2	.82	.60	9.4	9.8	3.6	3.6	14	1.7	.44
10	12	3.6	1.2	1.0	.58	6.6	6.3	3.1	14	13	.86	.44
11	8.5	3.1	1.2	2.5	.56	5.4	5.0	2.8	6.5	10	1.1	.36
12	10	3.3	1.8	3.9	.54	4.2	4.4	2.4	4.5	8.5	7.3	.30
13	9.7	3.2	4.9	2.9	.50	3.1	4.4	4.7	2.8	7.5	3.2	.27
14	7.2	2.9	4.4	4.0	.54	2.5	4.9	3.3	1.9	5.4	1.9	1.4
15	5.1	2.6	3.3	4.0	.57	2.2	5.3	2.9	3.0	4.3	3.7	2.0
16	4.3	2.5	2.5	3.9	2.4	3.3	4.9	2.6	14	3.5	5.6	.73
17	3.5	2.3	1.9	3.9	1.4	7.3	4.6	2.4	7.5	4.9	3.5	.57
18	2.9	2.1	1.6	4.9	1.2	9.3	4.4	3.4	4.7	3.3	25	.48
19	2.4	1.8	1.4	5.0	1.1	5.7	4.0	2.9	3.5	2.6	15	.42
20	2.1	1.6	1.3	4.3	1.3	4.7	3.6	4.9	2.8	1.4	9.3	.37
21	1.9	1.4	1.2	3.7	3.0	6.6	3.1	11	2.1	1.1	7.0	.81
22	1.7	1.3	1.1	3.0	20	5.1	2.7	7.5	1.6	1.6	5.0	1.0
23	1.6	1.2	1.2	2.6	15	4.3	2.3	5.8	1.2	2.8	3.5	2.5
24	1.6	1.4	2.7	2.1	8.9	4.1	2.0	5.6	1.0	1.4	2.4	1.6
25	1.3	1.3	9.9	1.8	5.7	4.7	1.7	6.5	.86	1.0	2.0	2.2
26	1.2	3.0	5.6	1.6	4.7	3.9	3.5	3.5	.71	.86	1.5	1.8
27	1.0	2.3	4.4	1.4	3.5	3.5	11	2.5	.66	.76	1.3	1.3
28	2.1	2.1	3.0	1.2	2.5	4.5	9.3	2.0	.62	2.4	1.1	1.1
29	1.7	1.9	2.5	1.0	1.6	5.4	7.2	1.6	.62	2.4	.86	.97
30	1.4	1.7	2.1	.95	---	4.5	12	4.3	.62	1.2	.76	.86
31	1.2	---	1.8	.88	---	9.5	---	5.0	---	1.0	.73	---
TOTAL	125.3	77.6	73.4	71.55	81.80	163.0	159.5	142.5	116.19	135.98	112.02	28.50
MEAN	4.04	2.59	2.37	2.31	2.82	5.26	5.32	4.60	3.87	4.39	3.61	.95
MAX	13	6.5	9.9	5.0	20	11	12	11	14	14	25	2.5
MIN	1.0	1.2	1.1	.82	.50	1.2	1.7	1.6	.62	.46	.71	.27
CFSM	3.81	2.44	2.24	2.18	2.66	4.96	5.02	4.34	3.65	4.14	3.41	.90
IN.	4.39	2.72	2.57	2.51	2.87	5.71	5.59	5.00	4.07	4.77	3.93	1.00

CAL YR 1979	TOTAL	1167.78	MEAN	3.20	MAX	28	MIN	.39	CFSM	3.02	IN	40.94
WTR YR 1980	TOTAL	1287.34	MEAN	3.52	MAX	25	MIN	.27	CFSM	3.32	IN	45.14

MONONGAHELA RIVER BASIN

03068604 TAYLOR RUN NEAR ALPENA, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT 19...	0900	2.6	<50	6.8	8.0	9.0	--	--	--	--
DEC 07...	0750	1.5	<50	7.1	5.0	7.0	--	--	--	--
JAN 04...	0840	1.4	<50	7.2	.0	3.0	--	--	--	--
FEB 22...	1230	12	41	7.8	--	--	6.0	--	--	--
22...	1245	12	37	7.5	--	--	6.0	--	--	--
22...	1300	12	36	7.1	--	--	7.0	--	--	--
23...	1130	11	35	6.8	--	--	1.4	--	--	--
MAR 08...	0800	10	<50	6.9	--	3.5	--	11	9	3.1
27...	1200	3.5	<50	7.1	6.0	3.5	--	--	--	--
JUN 19...	0930	3.7	<50	7.3	--	10.5	--	11	5	3.1
SEP 17...	1045	.55	42	6.5	21.5	15.5	--	25	13	7.3

DATE	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)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
FEB 22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--
MAR 08...	.9	.3	5	.0	.9	.6	2	5.9	.5	.0
JUN 19...	.9	.3	5	.0	--	.5	6	5.9	.5	.0
SEP 17...	1.6	.6	5	.1	--	.6	12	7.1	.6	.1

DATE	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)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
FEB 22...	--	--	--	--	--	--	--	--	53	1.7
22...	--	--	--	--	--	--	--	--	56	1.8
22...	--	--	--	--	--	--	--	--	47	1.5
23...	--	--	--	--	--	--	--	--	6	.18
MAR 08...	2.7	26	15	.04	.70	70	10	20	--	--
JUN 19...	3.1	25	18	.03	.25	40	10	6	--	--
SEP 17...	3.9	31	29	.04	.05	40	10	0	--	--

MONONGAHELA RIVER BASIN

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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 1980 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Altitude of gage is 2,420 ft (738 m), from topographic map.

REMARKS.--Water-discharge records good except those for October and August, 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, 362 ft³/s (10.3 m³/s) July 3, 1980, gage height, 4.18 ft (1.274 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)
July 3	0345	*362 10.3	4.18 1.274	Aug. 18	Unknown	298 8.44	4.01 1.222
Aug. 15	0730	61 1.73	2.93 0.893				

Minimum discharge, 0.04 ft³/s (0.001 m³/s) Sept. 14; minimum gage height, 1.21 ft (0.369 m) July 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.8	1.6	2.2	2.2	1.2	2.1	13	14	7.3	.68	1.6	.43
2	3.9	12	2.0	1.9	1.1	2.0	9.0	9.8	7.7	.60	1.2	.46
3	4.3	9.7	1.8	1.8	1.1	1.8	6.5	6.7	7.3	52	.82	.52
4	4.3	6.4	1.8	1.7	1.0	1.9	6.3	4.6	5.3	15	1.7	.46
5	8.5	5.0	1.8	1.6	.99	17	5.2	3.4	3.7	8.5	1.1	1.4
6	7.5	4.1	2.2	1.4	1.0	14	4.5	4.1	7.0	6.0	.70	.74
7	6.7	3.5	2.3	1.5	.94	12	3.7	8.7	5.5	3.5	.55	.82
8	6.1	3.1	2.1	1.3	.90	17	3.9	5.4	7.1	17	1.4	.46
9	11	2.8	1.8	1.1	.90	15	18	4.1	5.5	21	1.6	.31
10	11	4.8	1.8	1.2	.86	9.2	9.5	3.2	20	26	1.1	.43
11	9.0	4.3	1.6	5.4	.83	8.0	6.3	2.7	10	13	7.7	.23
12	10	4.6	2.8	7.2	.79	5.7	4.8	2.3	6.5	9.7	6.5	.14
13	8.1	4.4	8.1	4.7	.75	4.3	4.6	6.5	4.1	8.1	3.0	.08
14	6.0	3.9	6.9	6.3	.78	3.4	6.0	3.9	2.7	4.6	1.9	1.2
15	5.0	3.5	4.9	5.5	.82	3.1	8.7	3.1	4.1	3.0	12	2.0
16	4.0	3.4	3.7	4.6	4.2	6.5	7.4	2.6	20	2.1	5.7	.90
17	3.3	2.9	2.7	4.3	1.9	18	6.6	2.3	11	4.7	4.0	.62
18	2.9	2.7	2.1	6.2	1.5	26	5.7	3.1	6.8	2.4	45	.52
19	2.6	2.3	1.9	6.5	1.5	14	4.5	2.7	4.1	1.7	25	.40
20	2.2	2.1	1.7	5.1	1.8	8.5	3.6	6.2	2.8	1.3	14	.31
21	2.1	2.0	1.6	3.9	4.5	11	2.9	18	2.1	1.0	10	.74
22	1.8	1.8	1.5	3.6	30	9.4	2.4	11	1.7	1.7	7.3	1.1
23	1.8	1.7	1.5	3.0	23	8.1	2.1	7.3	1.3	3.7	5.0	2.2
24	1.8	2.0	8.7	2.7	16	7.2	2.0	5.5	1.1	2.2	3.9	1.8
25	1.6	1.8	19	2.3	11	9.5	1.8	5.7	.97	1.5	3.0	2.1
26	1.5	5.0	10	1.9	7.3	7.1	4.3	3.8	.84	1.0	2.3	1.7
27	1.4	3.6	6.7	1.7	5.5	5.3	18	2.8	.76	.74	1.9	1.4
28	2.6	3.3	4.4	1.6	3.6	7.1	12	2.3	.75	2.5	1.6	1.1
29	2.3	2.9	3.5	1.4	2.5	9.3	8.4	1.9	.71	3.6	1.2	.86
30	1.9	2.4	2.9	1.3	---	7.1	18	5.9	.80	2.0	.90	.78
31	1.7	---	2.5	1.3	---	13	---	8.2	---	1.5	.60	---
TOTAL	138.7	113.6	118.5	96.2	128.26	283.6	209.7	171.8	159.53	222.32	174.27	26.21
MEAN	4.47	3.79	3.82	3.10	4.42	9.15	6.99	5.54	5.32	7.17	5.62	.87
MAX	11	12	19	7.2	30	26	18	18	20	52	45	2.2
MIN	1.4	1.6	1.5	1.1	.75	1.8	1.8	1.9	.71	.60	.55	.08
CFSM	2.88	2.45	2.47	2.00	2.85	5.90	4.51	3.57	3.43	4.63	3.63	.56
IN.†	3.33	2.72	2.84	2.31	3.08	6.80	5.03	4.12	3.83	5.33	4.18	.63
IN.‡	6.73	3.48	2.92	2.18	1.35	6.23	5.89	5.96	5.67	10.02	7.24	4.49

CAL YR 1979 TOTAL 1820.87 MEAN 4.99 MAX 46 MIN .61 CFMS 3.22 IN 43.67
WTR YR 1980 TOTAL 1842.69 MEAN 5.03 MAX 52 MIN .08 CFMS 3.25 IN 44.20

† Runoff

‡ Rainfall.

MONONGAHELA RIVER BASIN

03068607 STALNAKER RUN NEAR BOWDEN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1976, 1979 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)
OCT 19...	1030	2.6	<50	6.9	10.0	8.0	--
DEC 07...	0915	2.3	<50	7.0	5.0	7.5	--
JAN 04...	0955	1.7	<50	7.0	.0	4.0	--
FEB 22...	1030	26	42	6.6	--	--	8.0
22...	1100	27	36	6.7	--	--	12
23...	0915	22	32	6.6	--	--	3.0
MAR 08...	0900	15	33	6.7	--	3.5	2.4
27...	1330	5.4	<50	7.0	8.5	3.5	--
MAY 01...	1045	15	32	6.2	--	--	3.1
JUN 19...	1040	4.6	<50	7.6	--	11.5	--
JUL 03...	0340	247	46	--	--	--	--
SEP 17...	1225	.60	30	6.9	21.5	16.5	--

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 AC- 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)	SULFATE DIS- SOLVED (MG/L AS SO4)
MAR 08...	12	5	3.0	1.0	.5	8	.1	1.1	.6	7	5.3
JUN 19...	8	2	1.9	.8	.4	9	.1	--	.4	6	4.3
SEP 17...	14	4	3.7	1.1	.6	8	.1	--	.5	10	4.8

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 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)
MAR 08...	.5	.0	2.7	24	18	.03	.97	70	20	10
JUN 19...	.5	.0	3.2	17	15	.02	.21	50	10	6
SEP 17...	.5	.1	4.4	22	22	.03	.04	30	10	10

DATE	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	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
FEB 22...	38	2.7	--	--	--	--	--	--	--	--	--
22...	57	4.2	--	--	--	--	--	--	--	--	--
23...	8	.48	--	--	--	--	--	--	--	--	--
MAR 08...	9	.36	--	--	--	--	--	--	--	--	--
MAY 01...	10	.40	--	--	--	--	--	--	--	--	--
JUL 03...	5460	3640	33	45	59	66	79	88	93	96	99

MONONGAHELA RIVER BASIN

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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 January and February, which are fair.

AVERAGE DISCHARGE.--7 years, 15.5 ft³/s (0.439 m³/s), 41.60 in/yr (1057 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 9	2045	198 5.61	5.89 1.795	Aug. 18	0630	270 7.65	6.31 1.923
July 3	0430	*302 8.55	6.49 1.978				

Minimum discharge, 0.93 ft³/s (0.026 m³/s) Sept. 13, 14, gage height, 3.95 ft (1.204 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.0	5.5	7.4	8.0	4.0	6.5	43	44	27	2.5	4.7	2.9
2	10	46	6.8	7.1	3.9	6.5	30	30	26	2.1	4.0	3.3
3	15	35	6.2	6.5	3.7	6.3	21	21	26	94	3.3	3.4
4	11	23	6.0	6.2	3.4	5.8	21	15	19	36	4.7	2.7
5	33	16	6.1	5.9	3.3	47	17	12	13	20	3.8	7.7
6	31	13	7.0	5.5	3.4	45	15	14	23	13	3.1	3.6
7	24	11	7.7	6.1	3.2	34	12	26	19	9.3	2.9	4.2
8	20	9.0	6.6	5.1	3.0	48	12	17	21	48	3.3	2.5
9	124	8.3	6.0	3.6	3.0	39	56	13	16	59	6.5	1.9
10	114	15	5.9	4.4	3.0	27	30	11	66	75	4.2	2.2
11	69	13	5.6	15	2.8	26	21	9.3	34	39	4.4	1.7
12	76	14	7.7	24	2.7	17	16	8.1	21	29	39	1.3
13	75	14	25	15	2.6	14	15	16	14	23	12	1.0
14	46	12	24	20	2.7	12	20	11	10	14	7.1	11
15	30	10	17	19	2.8	11	27	9.0	13	11	31	14
16	21	11	14	16	9.8	17	23	7.7	69	7.7	31	4.7
17	15	9.2	11	15	6.5	45	21	7.4	39	14	15	3.3
18	11	8.6	8.0	20	5.8	67	19	11	23	7.1	147	2.5
19	9.0	7.9	7.1	21	5.6	38	15	9.3	16	5.6	84	2.1
20	7.9	7.2	6.8	17	6.3	28	12	21	11	4.4	47	1.8
21	7.0	6.7	6.5	14	15	36	11	62	8.4	4.0	29	3.8
22	6.5	6.3	6.2	12	94	29	8.7	36	7.1	6.0	21	4.7
23	7.0	6.0	6.1	10	75	24	7.7	23	5.8	10	14	11
24	6.6	6.7	12	8.7	51	22	7.1	21	5.1	6.0	11	7.7
25	5.9	6.2	71	8.0	32	30	6.5	25	4.4	4.4	8.4	11
26	5.6	15	34	6.3	22	23	14	17	3.8	3.8	6.8	12
27	5.3	11	22	5.7	16	17	57	12	3.4	3.3	5.8	8.4
28	6.4	10	16	5.2	13	21	38	9.6	3.3	7.4	4.9	6.5
29	7.0	9.1	12	4.9	7.7	28	26	7.7	3.1	9.0	3.8	5.6
30	5.9	8.1	10	4.0	---	22	56	26	3.6	5.4	3.8	4.9
31	5.6	---	9.0	4.2	---	42	---	32	---	4.2	3.6	---
TOTAL	816.7	373.8	396.7	323.4	407.2	834.1	678.0	584.1	554.0	577.2	570.1	153.4
MEAN	26.3	12.5	12.8	10.4	14.0	26.9	22.6	18.8	18.5	18.6	18.4	5.11
MAX	124	46	71	24	94	67	57	62	69	94	147	14
MIN	5.3	5.5	5.6	3.6	2.6	5.8	6.5	7.4	3.1	2.1	2.9	1.0
CFSM	5.20	2.47	2.53	2.06	2.77	5.32	4.47	3.72	3.66	3.68	3.64	1.01
IN.	6.00	2.75	2.92	2.38	2.99	6.13	4.98	4.29	4.07	4.24	4.19	1.13

CAL YR 1979	TOTAL	6111.3	MEAN 16.7	MAX 148	MIN 1.5	CFSM 3.30	IN 44.92
WTR YR 1980	TOTAL	6268.7	MEAN 17.1	MAX 147	MIN 1.0	CFSM 3.38	IN 46.08

MONONGAHELA RIVER BASIN

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 September 1980 (discontinued).

WATER TEMPERATURES: June 1975 to May 1979 (discontinued).

TURBIDITY: June 1975 to September 1980 (discontinued).

SUSPENDED SEDIMENT DISCHARGE: October 1974 to September 1980 (discontinued).

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: Maximum daily, 22.5°C Aug. 17, 1978; minimum daily 0.0°C on many days during January 1977.

TURBIDITY: Maximum daily, 85 NTU June 27, 1975; minimum daily, 0.3 NTU Jan. 21, 29, Feb. 20, 27, 1980 (minimum previously determined to nearest 1 JTU).

SEDIMENT CONCENTRATIONS: Maximum daily mean, 484 mg/L July 3, 1980; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 162 tons (147 tonnes) July 3, 1980; 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, July 30, 1974 and Aug. 8, 1979. A turbidity of 40 NTU was observed Apr. 24, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 122 micromhos Aug. 28; minimum daily, 31 micromhos Dec. 11.

TURBIDITY: Maximum daily, 34 NTU Apr. 9; minimum daily, 0.3 NTU Jan. 21, 29, Feb. 20, 27.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 484 mg/L July 3; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 162 tons (147 tonnes) July 3; minimum daily, 0 tons (0 tonnes) on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)
OCT							
02...	1610	5.7	70	6.8	17.0	16.5	1.7
11...	1315	63	52	6.8	--	8.0	2.2
NOV							
07...	1230	11	60	6.4	3.0	7.0	.50
DEC							
12...	1530	5.7	65	6.9	13.0	7.0	1.4
JAN							
10...	1210	7.9	75	6.8	2.0	.5	.60
FEB							
06...	1445	3.4	82	6.3	--	1.5	1.0
16...	1445	3.4	82	6.3	-3.0	1.5	--
22...	1340	111	71	6.4	--	--	26
23...	0900	74	59	6.6	--	--	4.1
24...	1130	50	63	6.6	--	--	2.9
27...	1450	18	60	6.7	-2.0	1.0	.70
MAR							
08...	1030	43	60	6.6	--	4.0	--
APR							
01...	1400	40	80	6.7	--	8.0	1.0
MAY							
01...	1036	45	50	7.0	11.0	9.0	2.6
JUN							
04...	1420	17	78	6.7	19.0	14.0	4.9
19...	1155	17	50	7.1	--	12.5	--
JUL							
16...	1400	6.8	65	6.4	34.0	19.5	4.5
AUG							
13...	1145	9.0	65	6.7	--	18.0	3.9
SEP							
04...	1355	2.2	70	6.8	28.0	20.0	1.3
17...	0935	3.5	70	7.0	--	17.0	1.0

MONONGAHELA RIVER BASIN

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03068610 TAYLOR RUN AT BOWDEN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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 AC- 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)	SULFATE DIS- SOLVED (MG/L AS SO4)
MAR 08...	16	10	4.5	1.1	2.1	22	.2	2.7	.6	6	6.7
JUN 19...	16	5	4.6	1.1	1.2	14	.1	--	.5	11	6.5
SEP 17...	38	16	12	2.0	2.0	10	.1	--	.7	22	7.8

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)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR 08...	3.2	.0	3.0	38	25	.05	4.41	100	10	8
JUN 19...	1.5	.0	3.4	37	25	.05	1.70	40	10	5
SEP 17...	2.3	.1	4.6	46	45	.06	.43	70	30	10

DATE	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT CHARGE, SUS- PENDE (T/DAY)
OCT 02...	7	.11
11...	13	2.2
NOV 07...	0	.00
DEC 12...	2	.03
JAN 10...	4	.09
FEB 06...	2	.02
22...	150	45

DATE	SEDI- MENT, DIS- SUS- PENDE (MG/L)	SEDI- MENT CHARGE, SUS- PENDE (T/DAY)
FEB 23...	18	3.6
24...	9	1.2
27...	4	.19
APR 01...	8	.86
AUG 13...	12	.29

MONONGAHELA RIVER BASIN

03068610 TAYLOR RUN AT BOWDEN, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	67	57	52	76	38	52	50	59	73	84	91
2	66	51	58	65	75	39	52	51	57	68	80	93
3	64	52	58	66	78	64	57	60	57	53	83	78
4	60	94	59	66	77	63	55	58	57	110	85	77
5	60	62	58	78	77	100	58	59	54	121	92	78
6	53	59	59	81	77	61	54	63	55	69	92	95
7	53	105	58	80	81	61	58	55	55	68	94	96
8	50	55	61	84	81	51	59	73	58	53	91	94
9	51	60	58	85	102	52	102	112	58	53	90	96
10	50	52	58	85	103	55	53	110	85	53	89	80
11	50	54	31	67	83	54	55	63	56	58	90	80
12	53	53	52	60	85	56	58	62	56	57	73	80
13	48	54	53	65	85	80	57	59	54	55	72	79
14	48	54	54	69	96	81	55	59	55	69	71	79
15	56	61	51	68	97	80	58	60	53	63	72	82
16	54	61	50	69	97	54	56	59	53	63	63	81
17	53	56	51	109	96	58	54	60	53	63	61	95
18	54	67	54	68	91	57	56	64	52	74	51	95
19	56	50	55	108	85	53	56	63	53	73	48	94
20	60	47	55	64	87	53	56	64	60	74	51	93
21	59	57	55	67	63	60	57	52	59	78	85	73
22	62	60	35	63	63	52	62	54	59	77	88	72
23	62	60	48	62	65	58	64	90	69	68	70	72
24	64	62	48	81	64	56	64	59	69	69	71	67
25	66	60	48	82	59	56	65	56	68	77	79	66
26	62	58	48	81	59	---	56	58	78	78	72	66
27	63	56	47	81	38	55	56	58	77	72	83	66
28	67	59	53	76	38	54	53	56	77	71	122	80
29	64	60	53	74	38	57	53	59	86	72	80	45
30	64	57	55	75	---	51	54	57	87	71	92	76
31	66	---	55	83	---	53	---	63	---	83	91	---
MEAN	58	60	53	75	76	59	58	63	62	71	80	81
WTR YR 1980		MEAN	66	MAX	122	MIN	31					

TURBIDITY (NTU), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	.6	1.4	.6	1.0	.4	1.9	3.9	9.9	2.6	7.0	1.2
2	2.1	1.9	1.4	.6	.7	.5	1.8	3.4	8.0	2.3	4.1	1.1
3	2.9	1.4	1.3	.7	.9	.6	1.4	2.9	6.3	32	2.7	1.7
4	16	.9	1.4	.8	.7	.6	1.2	2.2	5.0	16	2.4	1.5
5	17	.5	1.2	.9	.7	18	1.1	3.5	2.9	18	12	1.6
6	2.1	1.2	1.4	.7	.6	1.9	1.3	3.9	2.3	3.4	13	.9
7	1.9	2.1	1.2	.7	.6	1.7	1.2	2.5	2.8	3.4	13	1.6
8	23	1.2	1.3	.6	.6	1.8	1.5	4.0	5.0	7.0	14	1.3
9	27	1.1	1.5	.9	1.4	1.4	34	3.8	4.5	8.2	4.4	.9
10	3.8	1.3	1.2	.6	1.0	1.0	2.4	2.8	2.8	8.1	5.0	1.2
11	2.5	1.2	2.0	1.0	.7	.9	1.5	1.5	2.7	9.0	4.2	1.2
12	10	1.0	2.4	.6	.7	1.1	1.5	2.5	2.2	5.2	2.8	1.5
13	1.9	1.0	2.2	.9	.7	1.3	1.4	2.2	2.1	3.4	3.0	1.4
14	2.3	1.1	2.5	.6	.4	1.3	1.6	3.4	1.6	2.7	2.6	1.3
15	1.0	1.0	1.3	.7	.6	1.5	2.2	2.4	1.5	6.9	3.1	2.1
16	1.0	1.1	1.5	.7	.5	1.6	1.3	2.8	2.5	7.0	3.6	3.3
17	1.1	1.2	1.4	1.9	.6	4.0	1.6	2.9	1.3	7.5	3.5	1.4
18	.8	1.1	1.1	.5	.5	2.9	1.1	3.8	2.2	2.4	2.4	1.4
19	.9	1.5	1.3	.9	.7	1.3	1.9	3.6	1.2	2.2	1.6	1.9
20	.6	1.4	1.3	.6	.3	1.8	2.0	3.9	1.2	2.4	4.5	1.4
21	.7	1.2	1.4	.3	5.3	5.4	1.7	5.8	2.0	1.8	2.9	5.6
22	.6	1.6	3.5	.6	5.2	1.4	1.5	5.3	2.5	1.5	2.3	4.7
23	.4	1.7	3.1	.4	4.7	1.8	2.2	5.7	2.2	3.9	2.2	5.0
24	.6	1.6	3.6	.5	4.1	1.8	2.4	4.5	1.5	4.4	3.9	2.0
25	1.1	1.4	2.9	.8	.8	1.1	1.9	3.5	1.5	2.0	1.6	1.8
26	.7	1.6	3.1	.7	.9	---	7.8	3.7	1.2	2.4	2.5	1.7
27	.6	1.6	1.0	.8	.3	1.6	6.1	2.0	9.0	2.9	2.4	2.2
28	.7	1.4	.5	.6	.4	1.4	5.9	3.2	1.6	3.1	2.4	2.5
29	.6	1.7	.8	.3	.7	1.2	3.4	3.5	3.1	3.4	2.4	1.0
30	.4	1.2	.6	.8	---	1.8	4.8	5.2	3.0	3.5	1.4	1.9
31	.5	---	.6	.9	---	1.5	---	4.8	---	7.0	1.8	---
MEAN	4.1	1.3	1.7	.7	1.3	2.2	3.4	3.5	3.2	6.0	4.4	1.9
WTR YR 1980		MEAN	2.8	MAX	34	MIN	.3					

03068610 TAYLOR RUN AT BOWDEN, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	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)
1	1	.02	3	.04	1	.02	1	.02	1	.01	0	.00
2	26	1.6	97	15	0	.00	1	.02	2	.02	0	.00
3	14	.57	8	.76	1	.02	2	.04	3	.03	2	.03
4	6	.18	1	.06	1	.02	2	.03	2	.02	1	.02
5	60	5.3	0	.00	0	.00	2	.03	2	.02	49	8.7
6	21	1.8	0	.00	1	.02	4	.06	1	.00	13	1.6
7	6	.39	1	.03	0	.00	6	.10	1	.00	6	.55
8	27	2.0	1	.02	0	.00	6	.08	2	.02	6	.78
9	185	60	1	.02	1	.02	4	.04	14	.11	3	.32
10	37	13	5	.20	0	.00	4	.05	5	.04	2	.15
11	14	2.6	3	.11	2	.03	15	1.1	2	.02	1	.07
12	33	7.8	3	.11	10	.21	8	.52	1	.00	0	.00
13	12	2.4	3	.11	35	2.7	3	.12	2	.01	3	.11
14	5	.62	4	.13	5	.32	5	.27	3	.02	4	.13
15	5	.41	2	.05	1	.05	3	.15	3	.02	5	.15
16	5	.28	3	.09	1	.04	3	.13	10	.26	10	.46
17	5	.20	3	.07	1	.03	4	.16	3	.05	11	1.3
18	7	.21	3	.07	0	.00	6	.32	2	.03	15	2.7
19	6	.15	1	.02	1	.02	2	.11	0	.00	3	.31
20	5	.11	2	.04	0	.00	3	.14	1	.02	2	.15
21	5	.09	1	.02	1	.02	3	.11	10	.41	23	2.2
22	4	.07	1	.02	7	.12	2	.06	157	37	5	.39
23	3	.06	2	.03	4	.07	2	.05	22	4.5	4	.26
24	3	.05	1	.02	57	4.9	2	.05	8	1.1	5	.30
25	6	.10	1	.02	125	26	2	.04	2	.17	8	.65
26	4	.06	11	.59	11	1.0	2	.03	2	.12	2	.12
27	3	.04	2	.06	5	.30	2	.03	3	.13	2	.09
28	5	.09	1	.03	2	.09	3	.04	0	.00	4	.23
29	7	.13	3	.07	1	.03	3	.04	0	.00	2	.15
30	3	.05	0	.00	0	.00	2	.02	---	---	5	.30
31	2	.03	---	---	1	.02	2	.02	---	---	33	4.4
TOTAL	---	100.41	---	17.79	---	36.05	---	3.98	---	44.13	---	26.62

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	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)
1	13	1.5	10	1.2	30	2.2	0	.00	16	.20	5	.04
2	5	.41	8	.65	29	2.0	0	.00	12	.13	8	.07
3	5	.28	8	.45	38	2.7	484	162	5	.04	5	.05
4	5	.28	5	.20	20	1.0	61	5.9	6	.08	7	.05
5	3	.14	6	.19	22	.77	45	2.4	25	.26	6	.12
6	3	.12	14	.99	32	2.1	11	.39	31	.26	3	.03
7	4	.13	17	1.2	10	.51	6	.15	34	.27	4	.05
8	48	3.3	7	.32	14	.79	218	47	34	.30	2	.01
9	423	86	7	.25	10	.43	49	8.2	25	.44	0	.00
10	10	.81	6	.18	65	13	25	5.1	13	.15	2	.01
11	4	.23	5	.13	15	1.4	15	1.6	16	.31	1	.00
12	3	.13	5	.11	13	.74	18	1.4	56	8.6	0	.00
13	4	.16	10	.43	13	.49	9	.56	10	.32	0	.00
14	5	.27	5	.15	12	.32	7	.26	5	.10	12	1.6
15	6	.44	5	.12	19	.78	15	.45	33	7.2	7	.26
16	2	.12	5	.10	26	5.4	12	.25	21	1.8	2	.03
17	3	.17	7	.14	13	1.4	31	1.7	11	.45	1	.00
18	2	.10	10	.30	14	.87	7	.13	43	20	1	.00
19	4	.16	7	.18	14	.60	5	.08	7	1.6	1	.00
20	4	.13	50	7.0	12	.36	6	.07	10	1.3	0	.00
21	3	.09	69	12	11	.25	5	.05	8	.63	6	.06
22	3	.07	13	1.3	11	.21	11	.18	8	.45	10	.13
23	7	.15	10	.62	11	.17	20	.54	15	.57	12	.36
24	6	.12	12	.68	10	.14	12	.19	22	.65	3	.06
25	5	.09	13	.88	10	.12	7	.08	10	.23	5	.15
26	11	.42	7	.32	9	.09	5	.05	7	.13	3	.10
27	38	6.1	5	.16	8	.07	5	.04	8	.13	2	.05
28	21	2.2	6	.16	10	.09	18	.47	6	.08	7	.12
29	18	1.3	11	.23	3	.03	12	.29	8	.08	3	.05
30	24	3.6	45	5.8	1	.00	4	.06	6	.06	5	.07
31	---	---	27	2.3	---	---	16	.18	5	.05	---	---
TOTAL	---	109.02	---	38.74	---	39.03	---	239.77	---	46.87	---	3.47
TOTAL LOAD FOR YEAR:			705.88	TONS.								

MONONGAHELA RIVER BASIN

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.

AVERAGE DISCHARGE.--5 years, 3.32 ft³/s (0.094 m³/s).

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, 1.12 ft (0.341 m) Sept. 8, 1980, when water tower valve was open.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 5.5 ft³/s (0.16 m³/s) Oct. 10; maximum gage height, 6.90 ft (2.103 m) Apr. 9, backwater from Shavers Fork over springbox; minimum daily discharge, 2.6 ft³/s (0.074 m³/s) July 2; minimum gage height, 1.12 ft (0.341 m) Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	3.0	3.2	3.6	3.3	3.1	4.1	4.4	4.0	2.7	3.4	3.2
2	3.2	3.4	3.1	3.5	3.3	3.1	4.1	4.1	4.0	2.6	3.4	3.2
3	3.4	4.0	3.1	3.4	2.9	3.1	3.9	3.9	4.0	3.5	3.3	3.2
4	3.5	3.8	3.1	3.2	2.9	3.1	3.8	3.7	3.9	3.5	3.3	3.2
5	3.6	3.7	3.0	3.1	2.9	3.7	3.8	3.7	3.7	3.1	3.2	3.2
6	3.9	3.5	3.0	3.0	2.9	4.1	3.7	3.6	3.9	3.0	3.2	3.2
7	3.8	3.5	2.9	2.9	2.9	3.9	3.7	3.7	3.9	2.9	3.2	3.2
8	3.7	3.4	2.9	3.0	3.3	3.8	3.6	3.6	3.9	2.9	3.2	3.0
9	4.8	3.4	2.9	3.0	3.2	3.8	4.8	3.5	3.8	3.8	3.2	2.8
10	5.5	3.4	2.9	3.0	2.9	3.7	4.1	3.3	4.2	4.6	3.2	2.8
11	5.0	3.6	2.9	3.1	3.3	3.7	3.9	3.3	4.0	4.2	3.2	2.8
12	4.9	4.0	3.0	3.5	3.3	3.6	3.8	3.2	3.7	3.8	3.6	2.8
13	4.9	4.0	3.4	3.6	3.2	3.6	3.8	3.3	3.5	3.6	3.6	2.8
14	4.4	4.0	3.9	3.6	3.2	3.5	3.8	3.1	3.4	3.4	3.5	2.8
15	4.2	3.6	3.8	3.7	3.2	3.5	4.1	3.1	3.3	3.7	3.8	3.1
16	4.1	3.4	3.8	3.7	3.0	3.5	4.1	3.2	3.7	3.5	3.8	3.1
17	4.0	3.3	3.7	3.7	2.8	4.0	4.0	3.0	3.8	3.5	3.7	2.9
18	3.8	3.2	3.6	3.8	2.8	4.5	3.8	3.0	3.6	3.5	3.9	2.9
19	3.8	3.2	3.5	4.1	2.8	3.8	3.8	3.1	3.5	3.6	4.5	2.9
20	3.7	3.5	3.5	3.9	2.8	3.6	3.7	3.3	3.4	3.5	4.4	2.9
21	3.6	3.1	3.3	3.9	3.1	4.3	3.7	4.3	3.2	3.4	4.1	2.9
22	3.6	3.0	3.2	3.8	4.0	3.8	3.8	4.2	3.1	3.2	3.9	2.9
23	3.4	3.0	3.1	3.7	4.4	3.7	3.8	3.9	2.9	3.5	3.8	2.9
24	3.3	2.9	3.2	3.6	4.0	3.4	3.6	3.8	2.9	3.6	3.7	2.9
25	3.2	3.0	4.4	3.5	3.8	3.6	3.4	3.8	2.9	3.5	3.7	2.9
26	3.2	3.1	4.3	3.4	3.7	3.6	3.3	3.7	2.8	3.4	3.6	3.1
27	3.2	3.4	4.1	3.4	3.6	3.4	4.2	3.6	2.8	3.3	3.5	3.1
28	3.1	3.5	3.9	3.4	3.4	3.6	4.3	3.6	2.7	3.3	3.4	3.1
29	3.1	3.4	3.8	3.4	3.3	3.8	4.0	3.5	2.7	3.6	3.3	2.9
30	3.0	3.3	3.7	3.4	---	3.7	4.3	3.6	2.7	3.6	3.2	2.9
31	3.0	---	3.6	3.4	---	3.9	---	3.9	---	3.5	3.2	---
TOTAL	117.0	102.6	105.8	107.3	94.2	113.5	116.8	111.0	103.9	106.8	110.0	89.6
MEAN	3.77	3.42	3.41	3.46	3.25	3.66	3.89	3.58	3.46	3.45	3.55	2.99
MAX	5.5	4.0	4.4	4.1	4.4	4.5	4.8	4.4	4.2	4.6	4.5	3.2
MIN	3.0	2.9	2.9	2.9	2.8	3.1	3.3	3.0	2.7	2.6	3.2	2.8
CAL YR 1979	TOTAL	1313.3	MEAN	3.60	MAX	5.6	MIN	2.9				
WTR YR 1980	TOTAL	1278.5	MEAN	3.49	MAX	5.5	MIN	2.6				

MONONGAHELA RIVER BASIN

145

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 September 1980 (discontinued).

INSTRUMENTATION.--Temperature recorder since October 29, 1976. Automatic pumping turbidity sampler.

REMARKS.--Turbidity values listed as 100 NTU represent values of 100 NTU 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 NTU on many days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 11.0°C Oct. 1-16, July 31, Aug. 1-13, 18-20; minimum, 8.5°C Feb. 22-24, Mar. 5-31, Apr. 1-30, May, 4, 5.

TURBIDITY: Maximum, 25 NTU Aug. 11; minimum, 1 NTU on many days.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX OCTOBER	MIN OCTOBER	MAX NOVEMBER	MIN NOVEMBER	MAX DECEMBER	MIN DECEMBER	MAX JANUARY	MIN JANUARY	MAX FEBRUARY	MIN FEBRUARY	MAX MARCH	MIN MARCH
1	11.0	11.0	10.5	10.5	10.5	10.5	9.5	9.5	9.5	9.5	9.0	9.0
2	11.0	11.0	10.5	10.5	10.5	10.5	10.0	9.5	9.5	9.5	9.0	9.0
3	11.0	11.0	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0
4	11.0	11.0	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0
5	11.0	11.0	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	8.5
6	11.0	11.0	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5
7	11.0	11.0	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5
8	11.0	11.0	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5
9	11.0	11.0	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5
10	11.0	11.0	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5
11	11.0	11.0	10.5	10.5	10.5	10.0	10.0	10.0	9.5	9.5	8.5	8.5
12	11.0	11.0	10.5	10.5	10.0	10.0	10.0	10.0	9.5	9.5	8.5	8.5
13	11.0	11.0	10.5	10.5	10.0	10.0	10.0	9.5	9.5	9.5	8.5	8.5
14	11.0	11.0	10.5	10.5	10.0	10.0	9.5	9.5	9.5	9.5	8.5	8.5
15	11.0	11.0	10.5	10.5	10.0	10.0	9.5	9.5	9.5	9.5	8.5	8.5
16	11.0	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.5	9.5	8.5	8.5
17	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.5	9.5	8.5	8.5
18	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.5	9.0	8.5	8.5
19	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0	8.5	8.5
20	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0	8.5	8.5
21	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0	8.5	8.5
22	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	8.5	8.5	8.5
23	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	8.5	8.5	8.5	8.5
24	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	8.5	8.5	8.5
25	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0	8.5	8.5
26	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0	8.5	8.5
27	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0	8.5	8.5
28	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0	8.5	8.5
29	10.5	10.5	10.5	10.5	10.0	10.0	9.5	9.5	9.0	9.0	8.5	8.5
30	10.5	10.5	10.5	10.5	10.0	9.5	9.5	9.5	---	---	8.5	8.5
31	10.5	10.5	---	---	9.5	9.5	9.5	9.5	---	---	8.5	8.5
MONTH	11.0	10.5	10.5	10.5	10.5	9.5	10.0	9.5	9.5	8.5	9.0	8.5

MONONGAHELA RIVER BASIN

03068690 NORTH SPRING AT BOWDEN, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX APRIL	MIN	MAX MAY	MIN	MAX JUNE	MIN	MAX JULY	MIN	MAX AUGUST	MIN	MAX SEPTEMBER	MIN
1	8.5	8.5	9.0	9.0	9.0	9.0	9.5	9.5	11.0	11.0	10.5	10.5
2	8.5	8.5	9.0	9.0	9.0	9.0	9.5	9.5	11.0	11.0	10.5	10.5
3	8.5	8.5	9.0	9.0	9.0	9.0	10.0	9.5	11.0	11.0	10.5	10.5
4	8.5	8.5	9.0	8.5	9.5	9.0	10.0	10.0	11.0	11.0	10.5	10.5
5	8.5	8.5	9.0	8.5	9.5	9.5	10.0	9.5	11.0	11.0	10.5	10.5
6	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	11.0	11.0	10.5	10.5
7	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	11.0	11.0	10.5	10.5
8	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	11.0	11.0	10.5	10.5
9	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	11.0	11.0	10.5	10.5
10	8.5	8.5	9.0	9.0	9.5	9.5	10.5	10.5	11.0	11.0	10.5	10.5
11	8.5	8.5	9.0	9.0	9.5	9.5	10.5	10.5	11.0	11.0	10.5	10.5
12	8.5	8.5	9.0	9.0	9.5	9.5	10.5	10.0	11.0	11.0	10.5	10.5
13	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	11.0	10.5	10.5	10.5
14	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	10.5	10.5
15	8.5	8.5	9.0	9.0	9.5	9.5	9.5	9.5	10.5	10.5	10.5	10.5
16	8.5	8.5	9.0	9.0	9.5	9.5	10.0	9.5	10.5	10.5	10.5	10.5
17	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.5	10.5	10.5	10.5
18	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	11.0	10.5	10.5	10.5
19	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	11.0	11.0	10.5	10.5
20	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	11.0	10.5	10.5	10.5
21	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.5	10.5	10.5	10.5
22	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.5	10.5	10.5	10.5
23	8.5	8.5	9.0	9.0	9.5	9.5	10.0	10.0	10.5	10.5	10.5	10.5
24	8.5	8.5	9.0	9.0	9.5	9.5	10.5	10.5	10.5	10.5	10.5	10.5
25	8.5	8.5	9.0	9.0	9.5	9.5	10.5	10.5	10.5	10.5	10.5	10.5
26	8.5	8.5	9.0	9.0	9.5	9.5	10.5	10.5	10.5	10.5	10.5	10.5
27	8.5	8.5	9.0	9.0	9.5	9.5	10.5	10.5	10.5	10.5	10.5	10.5
28	8.5	8.5	9.0	9.0	9.5	9.5	10.5	10.5	10.5	10.5	10.5	10.5
29	8.5	8.5	9.0	9.0	9.5	9.5	10.5	10.5	10.5	10.5	10.5	10.5
30	9.0	8.5	9.0	9.0	9.5	9.5	10.5	10.5	10.5	10.5	10.5	10.5
31	---	---	9.0	9.0	---	---	11.0	11.0	10.5	10.5	---	---
MONTH	9.0	8.5	9.0	8.5	9.5	9.0	11.0	9.5	11.0	10.5	10.5	10.5
YEAR	11.0	8.5										

TURBIDITY (NTU), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX OCTOBER	MIN	MAX NOVEMBER	MIN	MAX DECEMBER	MIN	MAX JANUARY	MIN	MAX FEBRUARY	MIN	MAX MARCH	MIN
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	2.0	1.0	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
3	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
5	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5.0	1.0
6	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	3.0	1.0
7	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0
8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0
9	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
10	3.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
11	---	---	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	3.0	1.0
12	1.0	1.0	1.0	1.0	1.0	1.0	5.0	1.0	1.0	1.0	1.0	1.0
13	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
14	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
15	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0
16	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	3.0	1.0
17	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	6.0	1.0
18	1.0	1.0	1.0	1.0	1.0	1.0	3.0	1.0	1.0	1.0	6.0	2.0
19	1.0	1.0	1.0	1.0	1.0	1.0	4.0	1.0	1.0	1.0	2.0	1.0
20	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0
21	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5.0	2.0	3.0	1.0
22	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	7.0	3.0	4.0	1.0
23	2.0	1.0	1.0	1.0	1.0	1.0	4.0	1.0	3.0	2.0	1.0	1.0
24	1.0	1.0	1.0	1.0	6.0	1.0	1.0	1.0	3.0	1.0	1.0	1.0
25	1.0	1.0	1.0	1.0	7.0	2.0	1.0	1.0	1.0	1.0	3.0	1.0
26	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0
27	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0
28	1.0	1.0	1.0	1.0	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	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	---	---	4.0	1.0
31	1.0	1.0	---	---	1.0	1.0	1.0	1.0	---	---	2.0	1.0
MONTH	4.0	1.0	4.0	1.0	7.0	1.0	5.0	1.0	7.0	1.0	6.0	1.0

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TURBIDITY (NTU), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	---	---	2.0	1.0	2.0	1.0	---	---	1.0	1.0	---	---
2	---	---	1.0	1.0	1.0	1.0	---	---	1.0	1.0	---	---
3	---	---	1.0	1.0	2.0	1.0	---	---	1.0	1.0	---	---
4	---	---	1.0	1.0	---	---	---	---	3.0	1.0	---	---
5	---	---	1.0	1.0	1.0	1.0	---	---	3.0	1.0	---	---
6	---	---	3.0	1.0	1.0	1.0	---	---	3.0	1.0	---	---
7	---	---	3.0	1.0	1.0	1.0	---	---	1.0	1.0	---	---
8	---	---	1.0	1.0	1.0	1.0	---	---	4.0	1.0	---	---
9	---	---	1.0	1.0	1.0	1.0	---	---	2.0	1.0	---	---
10	---	---	1.0	1.0	2.0	1.0	---	---	3.0	1.0	---	---
11	3.0	1.0	1.0	1.0	1.0	1.0	---	---	25	1.0	---	---
12	1.0	1.0	1.0	1.0	1.0	1.0	---	---	10	1.0	---	---
13	1.0	1.0	1.0	1.0	1.0	1.0	---	---	1.0	1.0	---	---
14	4.0	1.0	1.0	1.0	1.0	1.0	---	---	1.0	1.0	---	---
15	1.0	1.0	1.0	1.0	1.0	1.0	---	---	20	1.0	---	---
16	1.0	1.0	1.0	1.0	5.0	1.0	---	---	2.0	1.0	---	---
17	3.0	1.0	1.0	1.0	2.0	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	9.0	1.0	1.0	1.0
19	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0
20	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
21	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
22	4.0	1.0	1.0	1.0	1.0	1.0	15	1.0	1.0	1.0	1.0	1.0
23	4.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
24	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
25	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
26	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
27	7.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	1.0	1.0
28	2.0	1.0	1.0	1.0	1.0	1.0	10	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	---	---	1.0	1.0
30	2.0	1.0	3.0	1.0	1.0	1.0	1.0	1.0	---	---	1.0	1.0
31	---	---	3.0	1.0	---	---	1.0	1.0	---	---	---	---
MONTH YEAR	7.0 25	1.0 1.0	3.0	1.0	5.0	1.0	15	1.0	25	1.0	1.0	1.0

MONONGAHELA RIVER BASIN

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 September 1980 (discontinued).

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 and annual totals published in this report.

AVERAGE DISCHARGE.--5 years, 2.22 ft³/s (0.063 m³/s).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21.3 ft³/s (0.60 m³/s) Oct. 9, 1976, gage height, 3.18 ft (0.969 m); minimum, 0.68 ft³/s (0.019 m³/s) Feb. 14, 15, 1980, gage height, 1.76 ft (0.536 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 15 ft³/s (0.42 m³/s) Aug. 18, gage height, 3.09 ft (0.942 m); minimum, 0.68 ft³/s (0.019 m³/s) Feb. 14, 15, gage height, 1.76 ft (0.536 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.7	1.2	1.5	1.3	.94	1.3	4.8	4.5	3.2	1.2	1.6	1.2
2	1.9	3.0	1.4	1.2	.88	1.2	3.2	3.3	2.8	1.2	1.6	1.2
3	2.9	4.2	1.3	1.0	.88	1.2	2.5	2.5	3.2	4.9	1.5	1.4
4	2.6	2.7	1.2	1.0	.88	1.2	2.3	2.0	2.8	4.0	1.4	1.3
5	3.2	2.0	1.2	.94	.88	2.8	2.2	1.8	2.3	2.6	1.4	2.0
6	3.8	1.9	1.2	.88	.88	5.7	2.0	1.7	2.6	2.3	1.4	1.7
7	3.0	1.7	1.4	.97	.82	3.4	1.8	2.2	2.8	2.0	1.2	1.4
8	2.7	1.7	1.2	.94	.77	3.8	1.7	2.0	2.5	3.1	1.2	1.2
9	6.8	1.5	1.2	.88	.77	3.5	5.6	1.7	2.2	4.8	1.5	1.2
10	10	2.0	1.1	.88	.72	2.7	3.7	1.5	4.3	7.0	1.7	1.2
11	5.6	2.4	1.1	1.3	.72	2.6	2.5	1.5	3.7	4.3	1.5	1.2
12	4.5	2.2	1.2	3.4	.72	2.1	2.0	1.4	2.7	2.9	4.0	1.2
13	5.3	2.4	2.7	2.5	.77	1.8	2.0	1.7	2.2	2.5	2.6	1.2
14	3.7	2.2	3.5	2.2	.68	1.7	2.2	1.5	1.9	2.1	1.9	1.4
15	2.8	2.0	2.5	2.6	.68	1.4	3.4	1.5	1.9	1.9	2.0	4.2
16	2.2	1.9	2.0	2.4	1.4	1.6	3.0	1.4	4.0	1.7	5.6	2.4
17	1.9	1.8	1.7	2.1	1.4	3.4	2.5	1.4	3.8	1.8	3.3	2.0
18	1.8	1.7	1.4	2.2	1.3	7.6	2.3	1.5	2.7	1.9	8.1	1.7
19	1.7	1.6	1.4	3.2	1.2	4.0	2.1	1.7	2.1	1.6	7.3	1.5
20	1.6	1.5	1.3	2.4	1.2	2.9	1.9	2.0	1.9	1.4	4.4	1.4
21	1.5	1.5	1.2	1.9	1.5	3.2	1.8	5.3	1.7	1.4	3.2	1.4
22	1.4	1.4	1.2	1.7	6.0	3.1	1.7	3.7	1.5	1.4	2.5	1.7
23	1.4	1.4	1.2	1.7	6.7	2.5	1.5	2.7	1.4	2.3	2.2	2.4
24	1.4	1.4	1.4	1.5	4.5	2.2	1.5	2.0	1.4	2.0	2.0	2.8
25	1.3	1.7	7.0	1.4	3.3	3.0	1.4	2.1	1.4	1.6	2.0	3.0
26	1.2	2.8	4.2	1.3	2.3	2.8	1.7	1.9	1.4	1.4	1.8	3.6
27	1.2	2.9	2.7	1.2	1.8	2.2	4.5	1.7	1.3	1.4	1.7	3.2
28	1.2	2.2	2.0	1.2	1.7	2.1	5.0	1.6	1.3	1.6	1.5	2.7
29	1.2	1.9	1.7	1.0	1.4	3.0	3.0	1.5	1.3	2.8	1.4	2.1
30	1.2	1.7	1.5	1.0	---	2.8	4.0	2.0	1.3	2.0	1.3	1.9
31	1.2	---	1.4	.99	---	3.6	---	4.2	---	1.7	1.3	---
TOTAL	83.9	60.5	57.0	49.18	47.69	86.4	79.8	67.5	69.6	74.8	76.1	56.8
MEAN	2.71	2.02	1.84	1.59	1.64	2.79	2.66	2.18	2.32	2.41	2.45	1.89
MAX	10	4.2	7.0	3.4	6.7	7.6	5.6	5.3	4.3	7.0	8.1	4.2
MIN	1.2	1.2	1.1	.88	.68	1.2	1.4	1.4	1.3	1.2	1.2	1.2
IN*	6.53	3.19	3.23	2.23	1.49	5.97	6.03	5.31	5.34	9.61	8.14	5.46
CAL YR 1979	TOTAL 847.30	MEAN 2.32	MAX 10	MIN .94	IN *58.15							
WTR YR 1980	TOTAL 809.27	MEAN 2.21	MAX 10	MIN .68	IN *62.53							

* Rainfall.

MONONGAHELA RIVER BASIN

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03068710 SOUTH SPRING AT BOWDEN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1976 to September 1980 (discontinued).

TURBIDITY: June 1975 to January 1980 (discontinued).

INSTRUMENTATION.--Temperature recorder since October 28, 1976. Automatic pumping turbidity sampler.

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 NTU on many days.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 14.5°C Aug. 6-12, Sept. 3-10; minimum, 5.5°C Mar. 6.

TURBIDITY: Maximum, 200 NTU Oct. 9; minimum, 1 NTU on many days.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

MONONGAHELA RIVER BASIN

03068710 SOUTH SPRING AT BOWDEN, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX APRIL	MIN	MAX MAY	MIN	MAX JUNE	MIN	MAX JULY	MIN	MAX AUGUST	MIN	MAX SEPTEMBER	MIN
1	7.0	7.0	7.5	7.5	10.5	10.5	12.5	12.5	13.5	13.5	14.0	14.0
2	7.0	7.0	7.5	7.5	11.0	10.5	12.5	12.5	13.5	13.5	14.0	14.0
3	7.5	7.0	7.5	7.5	11.0	11.0	13.0	11.5	13.5	13.5	14.5	14.0
4	7.5	7.5	8.0	7.5	11.0	11.0	12.0	12.0	13.5	13.5	14.5	14.5
5	7.5	7.5	8.0	8.0	11.0	11.0	12.0	12.0	14.0	13.5	14.5	14.5
6	7.5	7.5	8.0	8.0	11.0	11.0	12.5	12.0	14.5	14.0	14.5	14.5
7	7.5	7.5	8.0	8.0	11.0	11.0	12.5	12.5	14.5	14.5	14.5	14.5
8	8.0	7.5	8.5	8.5	11.0	11.0	12.5	12.5	14.5	14.5	14.5	14.5
9	8.0	7.5	9.0	9.0	11.0	11.0	12.5	12.5	14.5	14.5	14.5	14.5
10	7.5	7.5	9.0	8.5	11.0	11.0	12.5	12.5	14.5	14.5	14.5	14.0
11	7.5	7.5	9.0	8.5	11.0	10.5	12.5	12.5	14.5	14.5	14.0	14.0
12	8.0	7.5	9.0	9.0	10.5	10.5	12.5	12.5	14.5	13.5	14.0	14.0
13	8.0	8.0	9.5	9.0	10.5	10.5	12.5	12.5	14.0	14.0	14.0	14.0
14	8.0	8.0	9.5	9.5	10.5	10.5	12.5	12.5	14.0	14.0	14.0	13.0
15	8.0	8.0	9.5	9.5	11.0	10.5	12.5	12.5	14.0	13.0	13.5	13.0
16	8.0	7.5	9.5	9.5	11.0	11.0	12.5	12.5	13.5	13.0	13.5	13.5
17	7.0	7.0	9.5	9.5	11.0	11.0	12.5	12.5	13.5	13.5	13.5	13.5
18	7.0	7.0	9.5	9.5	11.0	11.0	12.5	12.5	13.5	13.5	13.5	13.5
19	7.5	7.0	10.0	9.5	11.0	11.0	13.0	12.5	13.5	13.5	14.0	13.5
20	7.5	7.0	10.0	10.0	11.0	11.0	13.0	13.0	13.5	13.5	14.0	14.0
21	7.5	7.5	10.0	9.5	11.0	11.0	13.0	13.0	13.5	13.5	14.0	14.0
22	8.0	7.5	9.5	9.5	11.0	11.0	13.0	13.0	13.5	13.5	14.0	14.0
23	8.0	8.0	9.5	9.5	11.5	11.0	13.0	13.0	13.5	13.5	14.0	14.0
24	8.0	8.0	9.5	9.5	11.5	11.5	13.0	13.0	14.0	14.0	14.0	14.0
25	8.0	8.0	9.5	9.5	11.5	11.5	13.0	13.0	14.0	14.0	14.0	14.0
26	8.0	8.0	9.5	9.5	12.0	11.5	13.0	13.0	14.0	14.0	14.0	14.0
27	8.0	7.5	9.5	9.5	12.0	12.0	13.0	13.0	14.0	14.0	14.0	13.5
28	7.5	7.5	9.5	9.5	12.5	12.0	13.0	13.0	14.0	14.0	13.5	13.0
29	7.5	7.5	10.0	10.0	12.5	12.0	13.0	13.0	14.0	14.0	13.0	13.0
30	7.5	7.5	10.5	10.0	12.5	12.5	13.0	13.0	14.0	14.0	13.0	13.0
31	---	---	10.5	10.5	---	---	13.5	13.5	14.0	14.0	---	---
MONTH	8.0	7.0	10.5	7.5	12.5	10.5	13.5	11.5	14.5	13.0	14.5	13.0
YEAR	14.5	5.5										

TURBIDITY (NTU), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX OCTOBER	MIN	MAX NOVEMBER	MIN	MAX DECEMBER	MIN	MAX JANUARY	MIN	MAX FEBRUARY	MIN	MAX MARCH	MIN
1	4.0	2.0	4.0	1.0	6.0	1.0	3.0	1.0				
2	20	2.0	50	1.0	4.0	1.0	8.0	1.0				
3	15	3.0	9.0	1.0	2.0	1.0	9.0	1.0				
4	10	1.0	5.0	1.0	5.0	1.0	10	1.0				
5	30	1.0	5.0	1.0	4.0	1.0	2.0	1.0				
6	9.0	1.0	4.0	1.0	6.0	1.0	3.0	2.0				
7	8.0	1.0	7.0	1.0	8.0	1.0	5.0	1.0				
8	6.0	1.0	5.0	1.0	4.0	1.0	6.0	1.0				
9	200	6.0	8.0	1.0	3.0	1.0	4.0	1.0				
10	140	1.0	5.0	1.0	5.0	1.0	3.0	1.0				
11	8.0	1.0	10	1.0	4.0	1.0	2.0	1.0				
12	10	1.0	10	1.0	10	1.0	2.0	1.0				
13	6.0	1.0	5.0	1.0	15	1.0	2.0	1.0				
14	8.0	3.0	5.0	1.0	60	1.0	1.0	1.0				
15	4.0	1.0	6.0	1.0	8.0	1.0	1.0	1.0				
16	6.0	1.0	5.0	1.0	3.0	1.0	1.0	1.0				
17	3.0	2.0	5.0	1.0	10	1.0	1.0	1.0				
18	3.0	1.0	4.0	1.0	6.0	1.0	1.0	1.0				
19	3.0	1.0	4.0	1.0	5.0	1.0	2.0	1.0				
20	3.0	1.0	3.0	1.0	10	1.0	1.0	1.0				
21	3.0	1.0	6.0	1.0	4.0	1.0	1.0	1.0				
22	4.0	1.0	4.0	1.0	3.0	1.0	1.0	1.0				
23	5.0	1.0	2.0	1.0	3.0	1.0	2.0	1.0				
24	5.0	1.0	6.0	1.0	60	1.0	2.0	1.0				
25	7.0	1.0	4.0	1.0	110	1.0	---	---				
26	9.0	1.0	15	1.0	10	1.0	---	---				
27	7.0	1.0	15	1.0	8.0	1.0	---	---				
28	6.0	1.0	4.0	1.0	4.0	2.0	---	---				
29	10	1.0	8.0	1.0	3.0	1.0	---	---				
30	4.0	1.0	4.0	1.0	5.0	2.0	---	---				
31	4.0	1.0	---	---	3.0	1.0	---	---				
MONTH	200	1.0	50	1.0	110	1.0	10	1.0				

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 January and February, which are poor.

AVERAGE DISCHARGE.--7 years, 441 ft³/s (12.49 m³/s), 39.66 in/yr (1007 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)
Oct. 9	2245	5000 142	8.83 2.691	July 10	1430	3940 112	8.30 2.530
Apr. 9	0815	*7740 219	9.84 2.999	Aug. 18	1215	4800 136	8.73 2.661
May 21	0545	5000 142	8.83 2.691				

Minimum discharge, 33 ft³/s (0.93 m³/s) Sept. 14, gage height, 3.91 ft (1.192 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	219	126	275	220	170	300	1510	1950	490	55	247	85
2	235	638	250	200	160	270	884	1040	371	51	253	73
3	536	1140	230	170	160	250	686	668	381	417	200	86
4	403	515	210	156	155	230	780	505	344	336	161	79
5	644	389	200	150	150	350	698	403	316	171	146	134
6	868	326	210	140	140	932	530	340	311	175	121	101
7	608	308	251	135	135	554	445	394	381	136	98	76
8	505	291	227	140	130	1070	394	304	403	589	84	63
9	2040	259	180	130	125	1740	3420	259	411	1490	103	52
10	2760	358	159	110	125	844	1140	223	946	2400	126	49
11	1380	515	168	140	120	745	686	201	792	1110	100	45
12	1680	445	162	520	110	510	520	183	461	549	240	42
13	2120	520	398	360	100	421	490	279	351	414	123	38
14	1240	400	745	300	105	385	1020	235	280	339	91	65
15	780	340	430	480	97	340	1730	211	246	237	150	308
16	578	300	335	421	120	326	900	187	476	182	434	110
17	460	270	280	398	150	804	650	171	479	186	226	91
18	389	250	250	949	170	2400	614	227	299	211	2420	72
19	331	240	240	1700	150	1030	510	279	224	147	2060	60
20	291	220	220	738	120	698	425	331	183	109	943	51
21	259	210	194	515	180	1690	367	2650	151	95	676	51
22	231	190	177	425	1070	1360	313	1120	127	89	455	58
23	215	170	180	350	1960	717	275	656	107	1140	399	95
24	204	165	208	340	1530	620	243	505	91	543	312	165
25	190	247	1560	370	836	1240	235	860	82	296	243	165
26	171	994	836	310	578	876	263	542	75	213	192	295
27	156	828	505	247	440	632	1310	416	67	165	158	180
28	153	470	385	210	400	608	1110	335	67	164	130	118
29	177	389	320	190	350	1490	632	283	60	1450	108	87
30	165	326	270	180	---	1140	1660	353	58	502	93	74
31	141	---	240	170	---	1370	---	680	---	314	89	---
TOTAL	20129	11839	10295	10864	10036	25942	24440	16790	9030	14275	11181	2968
MEAN	649	395	332	350	346	837	815	542	301	460	361	98.9
MAX	2760	1140	1560	1700	1960	2400	3420	2650	946	2400	2420	308
MIN	141	126	159	110	97	230	235	171	58	51	84	38
CFSM	4.30	2.62	2.20	2.32	2.29	5.54	5.40	3.59	1.99	3.05	2.39	.66
IN.	4.96	2.92	2.54	2.68	2.47	6.39	6.02	4.14	2.22	3.52	2.75	.73
CAL YR 1979	TOTAL	182558	MEAN	500	MAX	5510	MIN	69	CFSM	3.31	IN	44.97
WTR YR 1980	TOTAL	167789	MEAN	458	MAX	3420	MIN	38	CFSM	3.03	IN	41.34

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 (discontinued).
 TURBIDITY: June 1975 to current year.
 SUSPENDED SEDIMENT DISCHARGE: June 1975 to current year.

REMARKS.--Sediment samples taken daily and more frequently during 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: Maximum daily, 26.0°C June 23, July 31, Aug. 26, 1975; minimum daily, 0.0°C on many days during winter months.
 TURBIDITY: Maximum daily, 140 NTU Aug. 15, 1975; minimum daily, 0.1 NTU Dec. 5, 1979 (minimum previously determined to nearest 1 JTU).
 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 NTU was observed Mar. 19, 1975.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 115 micromhos July 4; minimum daily, 32 micromhos May 20.
 TURBIDITY: Maximum daily, 45 NTU July 16; minimum daily, 0.1 NTU Dec. 5.
 SEDIMENT CONCENTRATIONS: Maximum daily mean, 438 mg/L Apr. 15; minimum daily mean, 0 mg/L on many days.
 SEDIMENT LOADS: Maximum daily, 3,840 tons (3,480 tonnes) Apr. 9; minimum daily, 0 tons (0 tonnes) on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)
OCT							
04...	1507	386	50	6.9	--	13.5	5.1
11...	1500	1230	50	6.7	--	7.0	3.6
NOV							
06...	1120	328	40	6.4	9.0	6.0	.80
DEC							
12...	1005	146	48	6.7	10.0	--	.30
JAN							
09...	1530	141	55	6.9	.0	8.0	.80
FEB							
22...	1545	1120	60	--	--	--	20
23...	0830	1990	41	--	--	--	28
24...	1115	1610	44	--	--	--	5.2
26...	1150	584	50	6.7	-6.0	.5	1.3
APR							
02...	1245	888	75	6.7	15.5	8.0	1.7
MAY							
01...	1320	1730	40	--	--	8.0	9.4
JUN							
02...	1510	371	46	6.4	21.0	17.0	6.5
19...	1300	194	<50	7.1	--	18.0	--
JUL							
15...	1600	223	42	6.4	31.0	24.5	2.2
AUG							
13...	1315	118	80	6.5	--	21.0	3.1
SEP							
03...	1700	86	40	7.0	28.0	25.5	3.4
17...	1340	85	42	7.4	25.0	19.5	--

MONONGAHELA RIVER BASIN

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03068800 SHAVERS FORK BELOW BOWDEN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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- LITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS S04)
JUN 19...	15	7	4.7	.8	.8	10	.1	.6	8	5.9
SEP 17...	34	20	11	1.5	1.3	8	.1	.7	14	6.9

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 SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
JUN 19...	1.1	.0	3.1	37	22	.05	19.4	40	8
SEP 17...	1.1	.1	3.7	40	35	.05	9.18	30	10

DATE	SEDI- MENT, DIS- SOLVED (MG/L)	SEDI- MENT CHARGE, SUS- PENDED (T/DAY)	DATE	SEDI- MENT, DIS- SOLVED (MG/L)	SEDI- MENT CHARGE, SUS- PENDED (T/DAY)
OCT 04...	4	4.2	APR 02...	7	17
11...	8	27	MAY 01...	15	70
NOV 06...	1	.89	JUN 02...	9	9.0
DEC 12...	2	.79	JUL 15...	2	1.2
JAN 09...	1	.38	AUG 13...	3	.96
FEB 22...	80	242	SEP 03...	13	3.0
23...	123	661			
24...	17	74			
26...	3	4.7			

MONONGAHELA RIVER BASIN

03068800 SHAVERS FORK BELOW BOWDEN, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	43	57	41	54	39	40	57	57	41	45	51
2	36	48	46	47	54	39	37	38	59	40	42	50
3	65	40	45	50	54	64	40	33	58	101	40	51
4	46	38	43	50	52	64	37	40	59	115	41	51
5	47	38	39	55	52	74	38	40	76	81	50	50
6	36	42	40	55	52	51	37	36	58	38	50	58
7	36	40	41	55	53	49	37	34	47	39	53	58
8	50	41	40	57	52	37	100	40	43	42	51	58
9	53	40	35	56	68	37	37	44	45	41	53	58
10	39	44	41	57	68	42	40	48	59	48	53	70
11	39	41	42	52	50	41	38	45	42	46	53	70
12	69	40	42	50	50	42	39	44	41	43	84	71
13	35	40	42	52	50	37	38	43	43	42	68	78
14	36	40	40	48	62	37	35	44	45	38	68	72
15	43	38	40	48	62	36	35	45	49	39	67	71
16	37	77	40	50	63	38	39	45	49	60	60	72
17	36	47	40	60	62	40	38	34	48	60	58	69
18	36	69	42	59	55	40	37	42	49	51	49	72
19	37	46	41	46	56	37	39	39	55	51	48	69
20	42	41	41	45	67	38	38	32	48	50	44	73
21	51	44	42	45	44	33	39	33	49	41	48	81
22	40	44	42	44	46	36	41	38	49	42	44	82
23	39	43	42	45	45	36	44	38	50	37	48	82
24	40	42	39	47	45	33	45	38	53	39	48	69
25	42	40	41	47	42	35	41	38	52	41	49	57
26	41	43	41	47	42	---	39	39	54	43	47	58
27	44	42	41	46	37	39	40	40	54	45	56	58
28	43	39	40	52	37	38	34	40	55	41	49	78
29	61	41	36	52	36	36	35	43	68	38	48	61
30	41	38	40	51	---	37	34	43	61	37	50	65
31	49	---	41	54	---	37	---	43	---	44	50	---
MEAN	43	44	41	50	52	41	40	41	53	49	52	65
WTR YR 1980		MEAN	48	MAX	115	MIN	32					

TURBIDITY (NTU), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.9	.6	5.7	.2	.8	.4	3.8	3.2	5.5	1.5	3.5	2.4
2	7.9	8.9	.5	.6	.9	.6	2.1	2.3	8.7	1.9	2.2	1.0
3	30	8.2	.4	.7	.9	.9	2.2	1.2	2.2	32	2.1	3.1
4	8.4	1.0	.3	.8	.8	.7	.6	1.6	5.3	16	1.9	3.1
5	5.5	.8	.1	1.0	.9	4.8	1.0	1.4	9.9	14	1.4	2.9
6	1.4	.8	.5	.3	.8	4.9	1.2	1.2	5.2	2.7	1.5	.8
7	2.8	.6	.5	.8	.8	4.1	1.3	1.4	1.8	2.0	1.5	.8
8	20	1.1	.2	.3	.8	2.9	7.0	1.5	2.2	20	1.3	1.0
9	17	1.0	.4	.8	1.4	4.6	27	5.0	2.4	22	1.6	.8
10	4.3	1.0	.2	.8	1.5	.8	3.8	4.0	2.0	21	1.0	2.5
11	3.4	1.0	.3	3.0	.5	.9	1.1	1.5	5.0	8.2	.8	2.6
12	6.3	.7	9.0	2.9	.4	.6	1.5	1.0	9.0	2.1	1.0	3.8
13	1.1	.4	9.0	3.4	.5	.3	1.2	1.9	9.0	1.6	.9	3.2
14	1.9	1.0	8.5	1.4	1.0	.6	8.2	2.3	1.0	.7	1.0	3.3
15	1.5	.7	.6	1.3	1.1	.2	7.8	2.2	1.7	.8	1.0	3.1
16	1.5	.7	.4	1.1	1.1	2.4	1.5	1.9	1.5	45	2.3	1.6
17	1.0	1.2	.4	1.4	1.2	6.9	1.3	1.6	1.0	37	2.0	1.8
18	1.2	1.5	.2	1.4	.6	8.2	1.0	3.5	1.0	1.0	1.6	1.2
19	1.4	1.1	.4	1.2	.9	2.4	1.2	1.9	6.0	1.4	1.2	1.3
20	2.0	.8	.2	1.5	1.1	2.5	1.3	2.0	7.0	1.0	4.8	1.0
21	.9	.8	.2	.5	7.2	2.7	1.1	10	4.0	1.9	2.0	5.7
22	.6	1.4	.6	.9	8.0	3.8	1.7	4.2	1.2	2.6	1.3	4.0
23	.6	.6	1.0	.9	7.0	6.2	1.5	8.0	9.0	14	1.0	4.0
24	1.0	.6	1.9	.9	6.6	6.3	2.1	10	1.0	17	1.2	7.5
25	1.0	.3	1.2	.6	1.8	2.9	2.8	9.0	1.0	9.5	1.1	8.2
26	.8	2.6	3.9	.8	1.5	---	2.5	1.2	1.0	3.4	1.3	7.4
27	1.0	4.6	.4	1.0	.7	3.7	14	1.0	9.0	3.4	1.6	7.9
28	1.0	.6	.4	.9	1.1	2.9	6.5	7.0	7.0	2.7	2.0	1.4
29	1.0	.3	.5	.9	1.3	8.4	7.0	1.8	2.3	14	1.1	1.4
30	.7	.4	.3	.8	---	3.4	7.0	4.3	2.0	8.6	.9	1.2
31	.7	---	.3	1.0	---	3.7	---	4.2	---	3.4	1.1	---
MEAN	4.2	1.5	1.6	1.1	1.8	3.1	4.1	3.3	4.2	10	1.6	3.0
WTR YR 1980		MEAN	3.3	MAX	45	MIN	.1					

03068800 SHAVERS FORK BELOW BOWDEN, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	5	3.0	1	.34	3	2.2	1	.59	1	.46	4	3.2
2	20	13	66	305	3	2.0	1	.54	1	.43	2	1.5
3	70	101	39	167	2	1.2	1	.46	1	.43	3	2.0
4	15	16	2	2.8	2	1.1	2	.84	2	.84	2	1.2
5	29	76	1	1.1	1	.54	3	1.2	0	.00	17	16
6	17	40	1	.88	2	1.1	3	1.1	1	.38	22	55
7	6	9.8	1	.83	3	2.0	7	2.6	1	.36	18	27
8	18	25	0	.00	3	1.8	1	.38	1	.35	93	329
9	157	1130	1	.70	4	1.9	1	.35	2	.68	43	230
10	35	261	23	22	3	1.3	1	.30	3	1.0	7	16
11	9	34	16	22	2	.91	7	2.6	1	.32	9	18
12	58	329	5	6.0	5	2.2	10	14	0	.00	4	5.5
13	110	630	9	13	25	27	3	2.9	0	.00	2	2.3
14	25	84	2	2.2	35	70	2	1.6	0	.00	3	3.1
15	6	13	2	1.8	3	3.5	4	5.2	0	.00	6	5.5
16	3	4.7	3	2.4	1	.90	1	1.1	0	.00	16	14
17	1	1.2	3	2.2	1	.76	3	3.2	0	.00	78	224
18	2	2.1	4	2.7	0	.00	101	363	1	.46	91	679
19	2	1.8	2	1.3	1	.65	75	344	0	.00	15	42
20	2	1.6	3	1.8	0	.00	10	20	0	.00	15	28
21	1	.70	3	1.7	2	1.0	1	1.4	17	8.3	88	528
22	4	2.5	2	1.0	5	2.4	1	1.1	95	274	26	95
23	4	2.3	2	.92	5	2.4	1	.95	115	609	9	17
24	1	.55	2	.89	17	9.5	9	8.3	20	83	15	25
25	5	2.6	5	3.3	151	652	7	7.0	5	11	26	89
26	2	.92	134	505	38	86	2	1.7	2	3.1	15	35
27	2	.84	21	47	5	6.8	2	1.3	1	1.2	13	22
28	1	.41	4	5.1	0	.00	1	.57	1	1.1	15	25
29	1	.48	2	2.1	1	.86	1	.51	1	.95	50	199
30	0	.00	3	2.6	0	.00	1	.49	---	---	10	31
31	1	.38	---	---	1	.65	1	.46	---	---	20	106
TOTAL	---	2787.88	---	1125.66	---	882.67	---	789.74	---	997.36	---	2874.3

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	20	82	30	158	12	16	2	.30	4	2.7	4	.92
2	8	19	6	17	14	14	2	.28	3	2.0	2	.39
3	11	20	2	3.6	19	20	102	150	3	1.6	13	3.0
4	33	69	3	4.1	19	18	53	48	2	.87	5	1.1
5	10	19	2	2.2	20	17	35	16	1	.39	9	3.3
6	2	2.9	6	5.5	13	11	10	4.7	1	.33	3	.82
7	1	1.2	9	9.6	29	30	3	1.1	2	.53	2	.41
8	4	4.3	6	4.9	20	22	55	239	1	.23	2	.34
9	378	3840	3	2.1	7	7.8	98	394	2	.56	3	.42
10	14	43	2	1.2	128	352	137	974	1	.34	8	1.1
11	2	3.7	2	1.1	21	45	60	180	6	1.6	7	.85
12	2	2.8	2	.99	7	8.7	13	19	19	12	7	.79
13	2	2.6	26	20	5	4.7	2	2.2	2	.66	7	.72
14	283	1100	5	3.2	8	6.0	1	.92	2	.49	26	11
15	438	2310	1	.57	11	7.3	2	1.3	18	18	40	52
16	5	12	1	.50	40	51	4	2.0	20	23	4	1.2
17	0	.00	1	.46	5	6.5	23	12	5	3.1	3	.74
18	0	.00	6	3.7	4	3.2	3	1.7	211	1700	1	.19
19	1	1.4	3	2.3	7	4.2	1	.40	101	562	3	.49
20	0	.00	11	14	10	4.9	2	.59	28	71	2	.28
21	1	.99	167	1260	5	2.0	5	1.3	8	15	6	.83
22	0	.00	80	242	2	.69	10	2.4	2	2.5	3	.47
23	1	.74	25	44	2	.58	124	447	3	3.2	4	1.0
24	2	1.3	15	20	2	.49	76	111	3	2.5	7	3.1
25	12	7.6	47	113	3	.66	35	28	3	2.0	6	2.7
26	7	5.0	4	5.9	3	.61	15	8.6	2	1.0	10	8.0
27	103	434	2	2.2	2	.36	6	2.7	6	2.6	6	2.9
28	55	165	2	1.8	2	.36	7	3.1	8	2.8	2	.64
29	45	77	6	4.6	3	.49	103	453	4	1.2	1	.23
30	74	309	20	28	3	.47	50	68	2	.50	0	.00
31	---	---	34	70	---	---	12	10	3	.72	---	---
TOTAL	---	8533.53	---	2046.52	---	656.01	---	3182.59	---	2435.42	---	99.93
TOTAL LOAD FOR YEAR:	26411.61		TONS.									

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 September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT									
03...	1030	560	50	6.2	--	13.0	9.1	--	--
11...	1600	1320	50	6.7	8.0	8.0	4.3	--	--
NOV									
06...	1215	360	40	6.4	--	7.0	.80	--	--
08...	1400	321	40	6.4	6.0	6.5	--	--	--
DEC									
12...	1100	172	55	6.8	--	4.0	.30	--	--
JAN									
09...	0910	172	53	6.8	--	.0	.80	--	--
FEB									
22...	1630	1260	67	--	--	--	12	--	--
23...	1230	1790	44	--	--	--	21	--	--
26...	1305	633	50	6.8	--	1.0	1.2	--	--
MAR									
08...	1300	920	<50	6.6	--	4.0	4.1	15	3
APR									
01...	1600	1390	48	6.8	--	7.0	2.6	--	--
29...	1600	698	45	--	--	10.0	2.2	--	--
JUN									
04...	1500	371	52	6.2	--	18.0	2.8	--	--
19...	1335	263	60	7.2	--	19.5	--	16	8
JUL									
16...	1205	195	45	6.3	--	23.5	2.3	--	--
AUG									
13...	1230	140	75	6.4	--	21.0	3.4	--	--
SEP									
03...	1630	94	75	7.0	--	27.0	2.2	--	--
17...	1410	87	70	7.0	26.0	20.0	1.0	34	15

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)
MAR										
08...	4.5	1.0	.9	11	.1	1.5	.6	12	.1	1.3
JUN										
19...	5.0	.9	.9	10	.1	--	.6	8	6.2	1.0
SEP										
17...	11	1.7	1.4	8	.1	--	.8	19	8.2	1.2

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)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
MAR									
08...	.1	3.0	37	19	.05	91.9	110	30	20
JUN									
19...	.0	3.1	38	23	.05	27.0	70	30	8
SEP									
17...	.1	3.8	45	40	.06	10.6	100	40	10

MONONGAHELA RIVER BASIN

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03068900 SHAVERS FORK NEAR ELKINS, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)	DATE	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT			APR		
03...	12	18	01...	13	49
11...	9	32	29...	2	3.8
NOV			JUN		
06...	3	2.9	04...	4	4.0
DEC			JUL		
12...	2	.93	16...	2	1.1
JAN			AUG		
09...	1	.46	13...	3	1.1
FEB			SEP		
22...	64	217	03...	1	.25
23...	93	449	17...	3	.70
26...	2	3.4			
MAR					
08...	10	25			

MONONGAHELA RIVER BASIN

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. 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.--56 years, 552 ft³/s (15.63 m³/s), 35.03 in/yr (890 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 10	0300	6890 195	7.33 2.234	May 21	1000	5690 161	6.56 1.999
Apr. 9	1230	*8290 235	8.16 2.487	Aug. 18	1645	6730 191	7.23 2.204

Minimum discharge, 39 ft³/s (1.10 m³/s) Sept. 14, gage height, 0.51 ft (0.155 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	267	180	344	295	173	290	2420	3060	876	79	316	113
2	259	453	295	275	156	260	1370	1680	660	74	303	106
3	586	1930	259	241	150	250	980	1030	676	453	271	109
4	593	852	238	219	140	291	956	732	660	527	259	108
5	785	555	249	207	150	1010	1060	555	513	279	241	211
6	1360	431	256	186	150	2020	772	447	486	256	195	168
7	827	374	296	180	145	1040	625	548	676	208	151	151
8	645	354	296	189	140	1260	534	442	548	414	128	104
9	2330	316	253	177	140	2300	4140	363	590	2030	171	86
10	4880	342	220	163	140	1260	1930	312	1120	2830	186	79
11	2410	625	220	212	130	1020	1050	283	1330	1770	189	71
12	2020	548	219	740	120	772	748	259	676	860	398	63
13	2900	668	431	653	110	632	653	312	460	788	287	58
14	1870	597	1190	507	110	548	1020	321	353	480	189	55
15	1120	480	708	653	120	453	2410	275	312	321	160	330
16	788	435	493	625	150	562	1420	238	1280	245	618	186
17	597	388	383	527	170	1100	998	214	1070	211	373	124
18	473	358	287	639	160	3360	884	238	541	249	3400	106
19	392	340	267	2170	150	1780	724	307	348	201	3390	86
20	340	312	267	1030	160	1090	576	368	271	151	1620	73
21	301	283	256	700	320	1610	473	3210	221	126	964	70
22	271	263	233	541	1900	2110	398	1870	186	117	611	78
23	251	245	224	450	2820	1080	348	989	158	900	486	104
24	237	237	238	370	2070	876	307	700	137	756	378	165
25	224	244	1960	335	1240	1340	291	1120	121	358	299	192
26	204	998	1500	328	836	1300	330	820	109	249	241	241
27	187	1520	804	316	583	868	1920	562	98	198	205	227
28	193	724	555	301	460	772	2080	420	94	205	171	147
29	218	534	420	250	350	1740	1060	343	92	1560	147	109
30	220	420	353	209	---	1610	2280	295	90	732	135	89
31	200	---	316	202	---	1700	---	1010	---	388	126	---
TOTAL	27948	16006	14030	13890	13443	36304	34757	23323	14752	18015	16608	3809
MEAN	902	534	453	448	464	1171	1159	752	492	581	536	127
MAX	4880	1930	1960	2170	2820	3360	4140	3210	1330	2830	3400	330
MIN	187	180	219	163	110	250	291	214	90	74	126	55
CFSM	4.22	2.50	2.12	2.09	2.17	5.47	5.42	3.51	2.30	2.72	2.51	.59
IN.	4.86	2.78	2.44	2.41	2.34	6.31	6.04	4.05	2.56	3.13	2.89	.66
CAL YR 1979	TOTAL	243194	MEAN	666	MAX	5620	MIN	117	CFSM	3.11	IN	42.27
WTR YR 1980	TOTAL	232885	MEAN	636	MAX	4880	MIN	55	CFSM	2.97	IN	40.48

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).

WATER-DISCHARGE RECORDS

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.--Water-discharge records good except those for February and those for period of no gage-height record, Aug. 16 to Sept. 24, which are poor. Monongahela Power Company gage-height telemeter at station.

AVERAGE DISCHARGE.--67 years, 1,691 ft³/s (47.89 m³/s), 31.98 in/yr (812 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Oct. 10	0300	*22800 646	11.38 3.469	Aug. 18	Unknown	22700 643	11.36 3.463
Apr. 9	1200	16000 453	9.78 2.981				

Minimum daily discharge, 140 ft³/s (3.96 m³/s) Sept. 14.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	814	537	1000	960	470	1000	6670	8960	2770	292	952	320
2	764	2010	955	820	428	810	4120	4910	2440	215	1400	290
3	2580	5770	806	763	410	740	3020	3190	3820	865	831	330
4	2010	3060	710	689	400	830	3140	2360	5230	1310	713	300
5	2900	2080	743	630	390	2950	3090	1830	2710	640	692	820
6	4980	1620	808	587	420	6680	2480	1490	2310	556	493	700
7	3210	1360	1070	594	410	3870	2050	1860	2720	441	385	480
8	2460	1250	974	560	390	5470	1770	1480	2430	1180	314	390
9	11500	1070	757	520	370	7000	10200	1190	2280	5420	612	250
10	16900	1390	692	478	350	4070	5560	1020	4820	6270	580	220
11	8950	1930	668	652	340	3370	3330	908	4450	4150	597	190
12	8100	1750	679	2910	320	2490	2440	833	2530	2240	1070	170
13	9570	2030	1860	2030	300	2100	2270	969	1730	2940	937	150
14	6040	1860	3430	2050	290	1800	3020	1010	1270	1600	556	140
15	3820	1560	2240	2590	330	1520	5350	843	1090	995	476	780
16	2700	1450	1690	2210	554	1730	3750	718	6070	711	2300	500
17	2090	1300	1200	1920	1030	4550	2980	649	4560	605	1400	330
18	1670	1250	996	2190	800	11200	2890	1040	2390	812	14000	220
19	1360	1150	920	4750	770	6010	2410	1030	1550	565	11000	160
20	1130	1000	850	2970	740	3860	1960	2660	1100	414	5000	170
21	974	883	770	2150	1080	5070	1620	10900	831	338	3000	150
22	840	806	711	1740	7230	5600	1330	5850	648	319	2100	160
23	756	740	708	1300	10600	3520	1130	3260	512	2420	1800	300
24	740	708	774	1080	7550	3100	988	2380	424	2010	1400	410
25	685	764	6710	1090	4370	3690	948	4450	367	1020	1100	375
26	618	1880	4980	1070	2990	3340	1160	3010	324	665	820	435
27	556	3010	2920	947	2060	2550	6150	2050	274	495	680	444
28	618	1840	2080	884	1750	2310	6090	1520	245	494	540	304
29	928	1490	1630	734	1390	5730	3520	1170	249	2980	460	235
30	732	1220	1300	579	---	4600	8760	964	348	1540	400	202
31	604	---	1100	531	---	5560	---	3190	---	865	370	---
TOTAL	101599	48768	46731	42978	48532	117120	104196	77694	62492	45367	56978	9925
MEAN	3277	1626	1507	1386	1674	3778	3473	2506	2083	1463	1838	331
MAX	16900	5770	6710	4750	10600	11200	10200	10900	6070	6270	14000	820
MIN	556	537	668	478	290	740	948	649	245	215	314	140
CFSM	4.56	2.27	2.10	1.93	2.33	5.26	4.84	3.49	2.90	2.04	2.56	.46
IN.	5.26	2.53	2.42	2.23	2.51	6.07	5.40	4.03	3.24	2.35	2.95	.51

CAL YR 1979	TOTAL	794815	MEAN	2178	MAX	18200	MIN	287	CFSM	3.03	IN	41.18
WTR YR 1980	TOTAL	762380	MEAN	2083	MAX	16900	MIN	140	CFSM	2.90	IN	39.50

03069500 CHEAT RIVER NEAR PARSONS, WV--Continued

WATER-QUALITY RECORDS

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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											
16...	1149	2620	100	6.5	--	9.0	--	--	--	--	--
DEC											
04...	1110	717	80	6.7	3.0	1.5	--	--	--	--	--
JAN											
15...	1125	2510	80	6.4	4.0	4.0	--	21	7	.0	.0
FEB											
06...	0900	550	92	6.1	--	1.0	--	30	18	.0	.0
MAR											
05...	1215	1660	70	--	--	1.0	--	22	17	.0	.0
26...	1800	3000	<50	6.2	9.0	8.0	--	17	6	.1	5.0
APR											
10...	1105	5550	55	6.6	14.0	9.5	--	17	7	.1	5.0
MAY											
21...	1230	13500	52	6.4	20.0	14.0	--	15	5	.2	10
JUL											
02...	1150	213	102	6.7	29.0	23.5	--	41	30	.1	5.0
AUG											
21...	1400	3020	<50	6.7	22.0	26.0	5.7	24	15	.0	.0
SEP											
24...	1205	408	70	7.5	25.0	20.0	--	30	15	.1	5.0

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)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
JAN											
15...	6.2	1.4	1.9	.2	10	12	3.3	--	35	.05	237
FEB											
06...	9.3	1.7	1.3	.1	9	19	1.7	--	45	.06	66.8
MAR											
05...	6.3	1.5	2.6	.2	5	13	4.0	--	44	.06	197
26...	4.8	1.3	.9	.1	6	12	1.0	--	42	.06	340
APR											
10...	5.4	.9	.8	.1	13	8.9	1.0	--	36	.05	539
MAY											
21...	4.7	.8	.8	.1	13	7.8	1.0	--	38	.05	1390
JUL											
02...	12	2.6	1.5	.1	17	29	1.4	--	70	.10	40.3
AUG											
21...	7.5	1.3	.9	.1	10	14	.9	4.7	52	.07	424
SEP											
24...	9.0	1.9	1.5	.1	17	17	1.5	--	52	.07	57.3

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L 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)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
JAN											
15...	--	--	--	--	--	330	270	60	--	--	50
FEB											
06...	--	--	--	--	--	140	100	40	--	--	150
MAR											
05...	--	--	--	--	--	1100	1000	60	--	--	110
26...	--	--	--	--	--	380	280	100	--	--	90
APR											
10...	--	--	--	--	--	740	690	50	--	--	90
MAY											
21...	--	--	--	--	--	2000	1900	120	--	--	160
JUL											
02...	--	--	--	--	--	160	150	10	--	--	230
AUG											
21...	40	<1	1	3	<10	650	630	24	<10	<4	130
SEP											
24...	--	--	--	--	--	130	90	40	--	--	80

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03069500 CHEAT RIVER NEAR PARSONS, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

[illegible]

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.

WATER-DISCHARGE RECORDS

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

AVERAGE DISCHARGE.--57 years, 2,278 ft³/s (64.51 m³/s), 31.83 in/yr (808 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)
Oct. 10	0800	30500 864	10.16 3.097	Aug. 18	2000	*33200 940	10.57 3.222
Apr. 9	1700	21300 603	8.56 2.609				

Minimum discharge, 203 ft³/s (5.75 m³/s) Sept. 21, 22, gage height, 1.06 ft (0.323 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1330	935	1560	1400	650	1300	10600	12700	3830	570	1480	492
2	1180	1420	1420	1300	600	1100	5960	7070	3520	430	2940	436
3	2370	7990	1220	1200	560	980	4160	4480	6810	390	1760	452
4	3030	4700	970	1060	530	1100	3930	3240	9400	1640	1310	452
5	3340	3060	990	974	540	3620	4490	2510	4520	1160	1230	864
6	7490	2350	1110	919	580	11200	3530	2070	3000	854	1000	1060
7	4620	1960	1360	870	560	5980	2890	2060	3670	737	725	690
8	3350	1770	1510	909	530	6910	2470	2050	3250	929	566	550
9	11900	1570	1270	800	500	9410	15300	1620	3310	5960	1050	373
10	24100	1580	1090	700	480	5930	8880	1380	4510	5820	1430	317
11	13600	2360	1020	950	460	3600	4820	1230	6110	5730	1600	284
12	9480	2330	999	4660	430	2700	3420	1170	3570	3020	3010	251
13	12300	2470	2040	3630	410	2200	2930	1310	2430	3360	2290	227
14	8680	2490	5220	2870	400	1900	3760	1540	1820	2300	1320	215
15	5270	2160	3700	3610	450	2000	7020	1250	1480	1480	1450	227
16	3670	1970	2650	3270	540	2510	5580	1070	6250	1030	4230	840
17	2790	1820	1900	2740	810	5190	4330	928	7400	825	2670	468
18	2250	1690	1500	2560	690	14900	3880	971	3820	916	16800	324
19	1860	1620	1300	4820	590	9160	3320	1390	2440	843	18400	277
20	1580	1440	1200	3870	840	5470	2710	1550	1790	595	8780	238
21	1360	1280	1100	2860	2350	4960	2250	9470	1380	459	4950	215
22	1190	1160	1070	2290	9530	7300	1880	8520	1100	466	3360	215
23	1060	1080	1000	1800	15500	4680	1610	4600	903	1640	2580	331
24	1010	1030	1040	1600	10200	3990	1410	3760	748	3040	2030	500
25	958	1060	6140	1500	6310	4150	1290	7260	640	1670	1620	580
26	874	3160	7620	1400	4230	4520	1220	4790	570	1030	1260	540
27	792	5030	4340	1300	2920	3380	5360	3080	506	734	1020	690
28	833	3060	3040	1200	2420	2870	9150	2240	446	628	820	560
29	1320	2330	2200	1000	1900	5920	5170	1720	422	3570	690	412
30	1310	1910	1900	880	---	6190	8430	1380	488	2820	590	331
31	1080	---	1600	730	---	8050	---	2640	---	1530	532	---
TOTAL	135977	68785	65079	59672	66510	153170	141750	101049	90133	56176	93493	13411
MEAN	4386	2293	2099	1925	2293	4941	4725	3260	3004	1812	3016	447
MAX	24100	7990	7620	4820	15500	14900	15300	12700	9400	5960	18400	1060
MIN	792	935	970	700	400	980	1220	928	422	390	532	215
CFSM	4.51	2.36	2.16	1.98	2.36	5.08	4.86	3.35	3.09	1.86	3.10	.46
IN.	5.20	2.63	2.49	2.28	2.55	5.86	5.42	3.87	3.45	2.15	3.58	.51

CAL YR 1979	TOTAL	1076315	MEAN	2949	MAX	28400	MIN	352	CFSM	3.03	IN	41.19
WTR YR 1980	TOTAL	1045205	MEAN	2856	MAX	24100	MIN	215	CFSM	2.94	IN	40.00

MONONGAHELA RIVER BASIN

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03070000 CHEAT RIVER AT ROWLESBURG, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965, 1968-74, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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...	1210	998	60	7.7	--	2.5	--	8.6	--	--	--	--
DEC 06...	1145	1030	65	6.5	--	2.5	--	11.4	--	--	--	--
JAN 16...	1345	3050	65	8.0	--	5.0	--	--	22	4	.0	.0
FEB 21...	1010	2230	85	8.0	--	1.0	--	--	24	10	.0	.0
MAR 05...	1100	1940	70	--	--	.0	--	--	23	13	.0	.0
23...	1345	4560	60	5.9	--	5.0	--	--	15	0	.2	10
APR 11...	1010	4970	<50	7.1	9.0	14.0	--	--	19	2	--	--
MAY 29...	1140	1750	<50	7.5	20.0	17.0	--	--	21	14	--	--
JUL 16...	1000	1060	50	7.4	25.0	22.0	--	--	27	11	.2	10
AUG 19...	1645	14700	60	5.5	--	18.5	18	--	20	15	.0	.0
SEP 19...	1315	278	50	7.0	--	21.0	--	--	33	15	.1	5.0
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)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIUM, DIS- SOLVED (UG/L AS BA)
JAN 16...	6.7	1.2	1.4	.1	10	11	1.5	--	31	.04	255	--
FEB 21...	7.1	1.4	1.9	.2	12	13	2.3	--	44	.06	265	--
MAR 05...	6.9	1.5	1.7	.2	10	16	2.3	--	42	.06	220	--
23...	4.1	1.2	1.1	.1	6	11	1.5	--	35	.05	431	--
APR 11...	5.6	1.1	.9	.1	8	9.8	1.0	--	40	.05	537	--
MAY 29...	6.4	1.2	1.1	.1	11	15	1.1	--	42	.06	198	--
JUL 16...	8.5	1.5	1.1	.1	12	13	1.0	--	56	.08	160	--
AUG 19...	6.0	1.1	.9	.1	4	11	1.0	4.4	48	.07	1910	40
SEP 19...	9.9	1.9	1.6	.1	18	15	1.8	--	54	.07	40.5	--
DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L 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)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)
JAN 16...	--	--	--	--	230	200	30	--	--	50	10	40
FEB 21...	--	--	--	--	200	190	10	--	--	50	10	40
MAR 05...	--	--	--	--	240	230	10	--	--	90	0	90
23...	--	--	--	--	360	50	310	--	--	80	10	70
APR 11...	--	--	--	--	560	530	30	--	--	60	20	40
MAY 29...	--	--	--	--	310	280	30	--	--	30	10	20
JUL 16...	--	--	--	--	290	230	60	--	--	20	0	20
AUG 19...	1	2	<3	<10	3800	3700	100	<10	<4	260	220	43
SEP 19...	--	--	--	--	180	120	60	--	--	10	0	10
DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)				
MAR 23...	--	--	--	--	--	7.00	--	--				
AUG 19...	<10	21	<6.0	6	6.7	--	72	2860				

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 February, which are poor.

AVERAGE DISCHARGE.--67 years (water years 1910-17, 1922-80), 424 ft³/s (12.01 m³/s), 28.79 in/yr (731 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)	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)
Mar. 31	1800	*5340	151	10.74	3.274	Aug. 18	1400	4840	137	10.41	3.175

Minimum discharge, 22 ft³/s (0.62 m³/s) Sept. 21, 22, gage height, 3.46 ft (1.055 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	514	185	331	247	94	193	2490	424	960	55	157	77
2	744	462	292	227	89	170	1210	368	911	49	123	71
3	2030	757	225	193	86	150	776	319	1340	61	256	89
4	976	522	210	178	82	170	1210	277	1420	80	195	66
5	1220	402	205	160	89	842	1020	240	776	59	128	77
6	1550	332	227	142	92	1580	735	212	690	61	100	64
7	1100	290	310	160	90	866	575	189	598	47	101	54
8	1090	247	298	150	83	1220	498	173	570	193	87	50
9	1620	221	247	130	80	1260	3060	157	507	325	177	43
10	2380	287	200	120	75	824	1360	137	2300	132	232	45
11	1640	302	190	227	69	560	806	132	1380	92	1690	54
12	1370	257	215	725	67	430	606	144	776	144	2290	40
13	1440	245	1310	516	64	340	503	227	530	200	932	35
14	911	231	1290	503	62	300	740	189	392	100	525	31
15	625	213	755	469	65	325	1140	173	331	69	552	37
16	490	219	579	434	113	417	866	151	1140	54	705	38
17	386	201	461	413	130	1230	680	135	685	46	417	32
18	311	185	328	424	110	2240	557	184	465	41	3060	28
19	252	169	290	375	94	1380	461	205	350	38	2530	26
20	219	157	250	328	150	918	382	806	274	30	1410	24
21	193	143	220	289	414	878	325	1560	210	31	848	23
22	167	157	205	268	2250	946	274	946	173	417	579	36
23	155	153	196	220	2070	765	245	606	141	322	424	160
24	151	157	202	166	1130	750	212	685	120	189	319	135
25	137	213	818	235	745	1130	191	735	105	113	245	63
26	127	1550	730	195	566	824	173	410	89	80	193	45
27	114	1120	552	153	424	630	237	292	78	168	159	36
28	205	695	449	159	371	530	274	227	69	283	130	31
29	335	521	360	128	268	1060	227	189	60	788	112	27
30	242	403	310	104	---	824	322	166	56	357	95	24
31	205	---	280	98	---	3160	---	337	---	217	88	---
TOTAL	22899	10996	12535	8136	10022	26912	22155	10995	17496	4841	18859	1561
MEAN	739	367	404	262	346	868	739	355	583	156	608	52.0
MAX	2380	1550	1310	725	2250	3160	3060	1560	2300	788	3060	160
MIN	114	143	190	98	62	150	173	132	56	30	87	23
CFSM	3.70	1.84	2.02	1.31	1.73	4.34	3.70	1.78	2.92	.78	3.04	.26
IN.	4.26	2.05	2.33	1.51	1.86	5.01	4.12	2.05	3.25	.90	3.51	.29

CAL YR 1979	TOTAL	193301	MEAN	530	MAX	6090	MIN	18	CFSM	2.65	IN	35.95
WTR YR 1980	TOTAL	167407	MEAN	457	MAX	3160	MIN	23	CFSM	2.29	IN	31.14

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, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	12.0	---	4.5	1.5	---	---	12.0	---	24.5	20.0	---
2	20.0	12.0	---	4.5	---	---	---	12.0	23.0	23.5	---	---
3	19.5	---	10.0	4.5	---	1.0	---	---	23.0	22.0	---	21.5
4	19.5	---	8.5	4.5	1.0	1.0	---	---	21.0	---	23.5	21.5
5	19.0	12.0	8.5	---	1.0	1.0	---	15.5	22.0	---	---	19.5
6	---	11.0	8.0	---	1.0	1.5	---	15.5	22.0	---	23.0	---
7	---	11.0	8.0	3.5	1.0	2.0	10.5	14.5	---	24.0	---	---
8	16.5	10.5	---	3.5	1.0	---	11.0	14.5	---	24.5	23.5	17.0
9	15.5	10.5	---	2.0	---	---	10.0	14.5	4.5	23.5	---	17.0
10	12.0	---	8.5	2.0	---	4.0	10.5	---	16.5	23.0	---	16.5
11	10.0	---	8.5	2.0	1.0	5.5	11.0	---	18.0	22.0	23.5	16.5
12	8.0	10.0	8.0	---	1.0	5.5	---	18.0	19.0	22.0	21.5	---
13	---	10.0	6.5	---	1.0	5.5	---	18.0	20.0	---	20.5	---
14	---	10.0	6.5	3.5	1.0	5.5	10.5	16.5	---	20.5	---	---
15	11.0	10.0	---	3.5	1.0	---	10.0	16.5	---	20.5	---	14.5
16	10.0	10.0	---	3.5	---	---	10.0	18.0	20.0	22.0	---	14.0
17	10.0	---	5.5	3.5	---	5.5	11.0	---	20.0	23.0	---	14.0
18	11.0	---	5.5	3.5	3.5	4.5	12.0	---	20.0	---	20.0	13.0
19	13.0	10.0	5.5	---	3.5	4.5	---	19.0	22.0	---	19.0	---
20	---	10.0	5.5	---	3.5	4.5	---	19.0	21.0	27.0	---	---
21	---	10.0	5.5	4.0	3.5	4.5	12.0	19.0	---	27.0	20.0	---
22	14.5	10.0	---	3.5	4.0	---	12.0	19.5	---	25.5	19.0	---
23	13.5	10.5	---	3.5	---	---	11.0	19.5	25.5	24.5	---	---
24	12.0	---	5.0	3.5	---	6.5	11.0	---	25.5	---	---	24.0
25	11.0	---	5.0	3.5	4.5	6.5	11.0	---	25.5	---	---	---
26	11.0	10.5	5.0	---	4.5	6.5	---	20.0	25.5	---	---	---
27	---	10.5	5.5	---	3.5	6.5	---	20.0	26.5	---	---	---
28	---	11.0	5.5	3.0	4.0	6.5	12.0	20.5	---	20.0	---	---
29	12.0	10.0	---	2.0	4.0	---	13.5	22.0	---	20.0	24.0	---
30	12.0	9.5	---	2.0	---	---	12.0	24.5	24.5	---	---	16.5
31	12.0	---	5.5	1.5	---	7.0	---	---	---	21.0	---	---
MEAN WTR YR 1980	13.5	10.5	6.5	3.5	2.5	4.5	11.0	17.5	21.0	23.0	21.5	17.5
		MEAN	12.0	MAX	27.0		MIN	1.0				

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 Glens 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 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 FOR CURRENT YEAR.--Maximum gage height, 27.28 ft (8.315 m) Apr. 10, discharge not determined; minimum gage height, 12.04 ft (3.670 m) Sept. 28, discharge not determined.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39000	25900	58100	47000	17000	24600	160000	55000	39000	17600	34000	18000
2	38000	30000	46000	43000	15000	21200	140000	62000	50000	14700	30000	16500
3	54000	44000	42100	41000	14000	18700	120000	50100	70000	14500	52000	18900
4	50000	41000	36000	39000	14000	20700	110000	38400	80000	13600	79000	20600
5	48000	37900	36500	36000	14000	50000	110000	34200	74000	17100	74700	24800
6	62000	38000	36400	34000	16000	43300	110000	28000	58000	15100	56100	24600
7	69000	35400	35000	29000	16000	56400	99000	20900	56000	15000	44100	22400
8	68000	29400	33300	31000	15000	66700	90000	21000	70000	26100	35700	18600
9	77000	25100	31700	29000	14000	108000	140000	18700	79000	46800	44600	19300
10	110000	30600	30000	28000	14000	108000	160000	17800	70000	46500	40800	19300
11	116000	40000	32200	30000	13000	84300	130000	20000	73000	40000	76800	17700
12	95500	39000	33000	58000	12000	79800	120000	30300	67000	33900	118000	16000
13	86800	35600	55000	70000	11000	74700	100000	71100	54000	30000	95900	16300
14	94600	32400	58900	60000	10000	63700	94000	59100	41000	24500	58600	22400
15	78400	31400	62700	56000	11000	57600	120000	54000	37000	20400	68700	30000
16	70900	28900	46300	54000	12000	54000	130000	49000	42000	14300	71500	21600
17	60900	29600	41000	53000	12000	59000	110000	43000	56000	21800	51400	18900
18	53400	28800	40000	52000	13000	110000	96000	38000	49000	25000	70000	17900
19	51000	28600	36300	51000	14000	120000	88000	35000	42000	22000	140000	15400
20	44900	28200	30000	50000	16000	110000	76000	44000	39000	15000	100000	15900
21	41300	25400	33400	45000	19000	91000	65000	70000	29000	12000	75000	15000
22	37000	24400	31000	41000	40000	95000	55000	85000	24000	40000	60000	15600
23	31000	25400	28800	36700	80000	90000	43100	71000	23000	54000	51000	14300
24	30000	24100	28100	29800	71000	80000	33600	57000	22000	50000	43000	15900
25	27000	31200	50000	32800	64000	74000	29000	50000	16000	39000	31000	14100
26	26400	66000	114000	30100	56000	77000	22600	58000	16000	27000	26000	14200
27	21600	92600	114000	27200	47300	76000	22900	45000	15400	21000	23100	13800
28	22400	84700	85000	23600	37900	72000	31500	35000	14200	25000	23800	13700
29	21700	65600	80000	27600	34100	84000	38000	29000	16800	38000	20200	12700
30	23100	65200	64000	24000	---	95000	40000	23000	15400	44000	18900	14700
31	25400	---	54000	20600	---	100000	---	25000	---	39200	19800	---
TOTAL	1674300	1164400	1502800	1229400	722300	2264700	2683700	1337600	1337800	863100	1733700	539100
MEAN	54010	38810	48480	39660	24910	73050	89460	43150	44590	27840	55930	17970
MAX	116000	92600	114000	70000	80000	120000	160000	85000	80000	54000	140000	30000
MIN	21600	24100	28100	20600	10000	18700	22600	17800	14200	12000	18900	12700
CAL YR 1979	TOTAL	18270850	MEAN	50060	MAX	228000	MIN	8000				
WTR YR 1980	TOTAL	17052900	MEAN	46590	MAX	160000	MIN	10000				

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 Feb. 1 to Mar. 13, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--40 years, 335 ft³/s (9.487 m³/s), 16.13 in/yr (410 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Aug. 12	0945	6190 175	6.18 1.884	Aug. 18	1645	*18700 530	12.32 3.755

Minimum discharge, 55 ft³/s (1.56 m³/s) June 27, minimum gage height, 1.43 ft (0.436 m) Sept. 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	214	78	272	264	98	131	1110	200	1410	72	208	182
2	179	163	240	233	96	110	804	182	2050	66	272	170
3	197	339	185	205	95	100	627	167	3500	66	3690	168
4	169	224	186	187	94	110	730	156	2640	69	1410	278
5	208	173	178	186	93	2000	718	147	1020	69	932	619
6	258	148	180	149	100	2500	559	143	689	74	537	289
7	560	137	186	176	109	1000	463	141	860	72	383	187
8	443	124	171	170	100	1200	493	136	1090	365	311	142
9	525	132	154	160	80	1700	2210	129	990	1380	659	128
10	888	370	145	144	72	810	1130	123	960	633	432	144
11	733	454	146	303	69	590	763	121	870	309	3840	126
12	557	324	148	976	65	390	607	210	582	199	4640	103
13	671	262	460	587	62	410	544	1320	414	290	1550	93
14	493	222	858	515	65	467	947	811	313	204	737	114
15	343	190	552	435	87	427	1300	497	245	143	506	139
16	266	191	427	357	117	791	895	335	421	117	416	116
17	233	172	333	326	110	1700	667	269	421	104	307	98
18	210	154	223	308	100	3140	546	274	289	98	10900	86
19	175	142	210	268	112	1460	456	274	220	91	4100	77
20	152	133	190	239	139	948	389	490	169	85	2090	71
21	137	123	180	214	243	950	337	1600	140	134	1380	69
22	124	117	179	216	917	1020	290	991	121	2850	1440	86
23	115	114	169	207	930	721	267	605	106	2190	887	172
24	108	162	196	147	589	626	240	534	100	878	590	138
25	105	416	1060	216	437	918	219	1460	96	408	430	104
26	101	1820	996	210	334	696	199	781	66	244	337	102
27	94	1110	707	163	230	550	219	434	55	233	281	91
28	96	646	520	187	240	499	265	318	58	630	244	75
29	95	459	414	155	170	1560	215	255	58	1350	216	67
30	91	338	353	108	---	1060	196	224	66	447	209	62
31	82	---	304	100	---	1250	---	324	---	276	209	---
TOTAL	8622	9437	10522	8111	5953	29834	18405	13651	20019	14146	44143	4296
MEAN	278	315	339	262	205	962	614	440	667	456	1424	143
MAX	888	1820	1060	976	930	3140	2210	1600	3500	2850	10900	619
MIN	82	78	145	100	62	100	196	121	55	66	208	62
CFSM	.99	1.12	1.20	.93	.73	3.41	2.18	1.56	2.37	1.62	5.05	.51
IN.	1.14	1.24	1.39	1.07	.79	3.94	2.43	1.80	2.64	1.87	5.82	.57

CAL YR 1979	TOTAL	159362	MEAN 437	MAX 7000	MIN 11	CFSM 1.55	IN 21.02
WTR YR 1980	TOTAL	187139	MEAN 511	MAX 10900	MIN 55	CFSM 1.81	IN 24.69

WHEELING CREEK BASIN

03112000 WHEELING CREEK AT ELM GROVE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965, 1976 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)
OCT										
17...	1430	222	250	8.6	20.0	12.5	--	120	33	--
NOV										
28...	1315	600	240	8.0	--	9.5	--	100	40	.0
DEC										
13...	0830	246	320	8.3	--	5.0	--	140	46	.0
JAN										
23...	1545	205	380	8.9	--	2.0	--	150	46	.0
FEB										
28...	0815	259	280	8.3	--	.5	--	110	42	.0
MAR										
13...	1235	414	300	8.0	--	3.0	--	120	44	.0
25...	0915	1060	400	7.8	--	5.5	--	180	79	--
APR										
17...	0830	680	225	8.0	2.0	5.0	--	100	38	--
MAY										
15...	0930	547	300	8.3	26.0	13.0	--	130	44	--
JUN										
26...	0820	78	400	8.0	19.0	19.0	--	190	66	--
JUL										
31...	0750	299	290	7.9	20.0	20.0	--	140	48	.2
AUG										
21...	0800	1450	260	8.1	--	19.0	57	120	37	.0
27...	1530	255	275	8.3	30.0	25.0	--	--	--	--
SEP										
23...	1500	158	300	8.0	21.0	20.5	--	140	44	.2

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)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT										
17...	--	40	5.9	5.8	11	.2	7.7	1.9	85	38
NOV										
28...	.0	34	4.8	3.7	--	.2	--	--	77	36
DEC										
13...	.0	45	6.7	9.2	--	.3	--	--	91	49
JAN										
23...	.0	47	6.9	8.4	--	.3	--	--	96	50
FEB										
28...	.0	36	5.4	4.8	--	.2	--	--	72	43
MAR										
13...	.0	38	5.8	7.9	--	.3	--	--	77	43
25...	--	58	8.3	10	--	.3	--	--	105	60
APR										
17...	--	33	5.1	4.7	--	.2	--	--	68	39
MAY										
15...	--	41	6.2	7.1	--	.3	--	--	85	44
JUN										
26...	--	58	9.9	13	--	.4	--	--	128	64
JUL										
31...	10	46	6.3	6.8	--	.3	--	--	87	38
AUG										
21...	.0	38	5.2	5.2	--	.2	--	--	80	43
27...	--	--	--	--	--	--	--	--	--	--
SEP										
23...	10	47	6.5	7.6	--	.3	--	--	100	36

WHEELING CREEK BASIN

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03112000 WHEELING CREEK AT ELM GROVE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 140 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)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	PHOSPHORUS, TOTAL (MG/L AS P)	PHOSPHORUS, TOTAL (MG/L AS P04)		
OCT 17...	4.7	.1	5.5	150	157	.20	89.9	.22	.020	.06		
NOV 28...	3.9	--	--	143	--	.19	232	--	--	--		
DEC 13...	11	--	--	91	--	.12	60.4	--	--	--		
JAN 23...	8.3	--	--	195	--	.27	108	--	--	--		
FEB 28...	4.4	--	--	152	--	.21	106	--	--	--		
MAR 13...	9.4	--	--	167	--	.23	187	--	--	--		
MAR 25...	14	--	--	242	--	.33	693	--	--	--		
APR 17...	3.9	--	--	197	--	.27	362	--	--	--		
MAY 15...	5.3	--	--	184	--	.25	272	--	--	--		
JUN 26...	9.8	--	--	261	--	.36	55.0	--	--	--		
JUL 31...	5.2	--	--	188	--	.26	152	--	--	--		
AUG 21...	3.9	--	9.5	178	--	.24	697	--	--	--		
AUG 27...	--	--	--	--	--	--	--	--	--	--		
SEP 23...	5.5	--	--	185	--	.25	78.9	--	--	--		
DATE	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYLLIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS GD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)		
OCT 17...	1	300	--	--	0	--	10	--	3	--		
AUG 21...	--	--	60	<1	--	2	--	<3	--	<10		
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)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGANESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGANESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN)	MANGANESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)		
OCT 17...	170	150	20	0	--	--	20	10	10	<.1		
NOV 28...	870	--	30	--	--	--	60	50	10	--		
DEC 13...	1600	1600	20	--	--	--	70	40	30	--		
JAN 23...	500	480	20	--	--	--	40	10	30	--		
FEB 28...	200	180	20	--	--	--	30	10	20	--		
MAR 13...	450	440	10	--	--	--	30	10	20	--		
MAR 25...	1700	1700	20	--	--	--	110	70	40	--		
APR 17...	510	490	20	--	--	--	30	20	10	--		
MAY 15...	1300	1300	20	--	--	--	80	70	10	--		
JUN 26...	430	420	10	--	--	--	50	10	40	--		
JUL 31...	1200	1200	10	--	--	--	60	50	10	--		
AUG 21...	3100	3100	31	--	<10	<4	130	110	19	--		
SEP 23...	1600	1600	40	--	--	--	90	70	20	--		
DATE	MOLYBDENUM, DIS- SOLVED (UG/L AS MO)	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRONTIUM, DIS- SOLVED (UG/L AS SR)	VANADIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATERIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)	SEDIMENT, SUS- PENDED (MG/L)	SEDIMENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 17...	--	0	0	--	--	10	--	--	--	.00	--	--
MAR 25...	--	--	--	--	--	--	--	--	3.00	--	--	--
AUG 21...	<10	--	--	140	<6.0	--	<4	4.3	--	--	104	407

OHIO RIVER MAIN STEM

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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
OCT 18...	1000	53400	205	8.9	12.0	20	10.8	1.0	1400	210	91
NOV 28...	1000	105000	345	8.2	10.0	5.0	10.8	1.6	4400	1430	120
DEC 12...	1000	29200	335	7.1	7.5	3.0	13.8	1.3	1270	130	52
JAN 23...	1100	25500	330	7.5	2.5	.00	13.2	1.2	667	183	110
FEB 27...	1500	53000	345	7.2	3.0	.55	13.6	1.5	4300	356	110
MAR 12...	0900	77800	290	7.3	3.0	.45	13.2	1.6	2900	900	94
APR 16...	1000	124000	280	7.3	8.0	6.0	11.4	1.4	13300	1470	93
MAY 14...	1000	58600	400	7.5	16.0	18	9.3	1.5	1850	513	130
JUN 25...	0900	15400	390	7.8	21.0	4.0	9.2	1.2	1200	25	140
JUL 30...	0745	44800	340	7.4	23.5	32	5.3	.81	1800	1100	140
AUG 27...	1000	26900	400	6.7	23.5	2.1	7.0	1.2	1620	104	150
SEP 24...	0900	13200	494	6.8	21.0	.40	6.4	1.5	3320	327	160

DATE	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- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT 18...	66	26	6.3	9.5	24	.4	11	1.9	25	65	11
NOV 28...	88	34	8.1	16	28	.6	18	2.3	30	88	19
DEC 12...	23	15	3.6	6.4	21	.4	7.6	1.2	29	21	7.2
JAN 23...	71	30	7.7	16	31	.7	18	1.7	36	75	16
FEB 27...	82	30	7.9	17	25	.7	19	1.9	25	87	19
MAR 12...	71	26	7.0	14	24	.6	16	2.0	23	68	18
APR 16...	62	26	6.9	11	20	.5	--	1.7	31	65	13
MAY 14...	97	36	10	18	23	.7	--	2.0	34	100	16
JUN 25...	110	37	11	17	21	.6	--	2.1	28	100	14
JUL 30...	95	39	9.5	15	19	.6	--	2.8	42	89	14
AUG 27...	100	41	11	13	16	.5	--	2.6	46	99	12
SEP 24...	120	45	12	21	22	.7	--	3.6	45	130	21

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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)
OCT 18...	.1	6.1	144	144	.20	20800	1.1	.72	.000	.130	.00
NOV 28...	.2	5.1	200	195	.27	56700	1.5	.87	.000	.410	.00
DEC 12...	.0	5.9	86	82	.12	6780	.90	.81	.340	.280	.41
JAN 23...	.2	5.6	185	0	.00	12700	.86	.01	.400	.000	.48
FEB 27...	.2	5.1	197	188	.27	28200	1.0	1.0	.210	.200	.25
MAR 12...	.2	5.1	175	160	.24	36800	1.1	1.2	.120	.130	.15
APR 16...	.1	5.4	168	152	.23	56200	1.0	.95	.130	.120	.16
MAY 14...	.2	4.6	250	213	.34	39600	.96	1.2	.320	.200	.39
JUN 25...	.2	5.6	234	208	.32	9730	.99	.99	.090	.100	.11
JUL 30...	.2	7.4	224	204	.30	27100	.38	.32	.130	.060	.16
AUG 27...	.2	7.9	240	219	.33	17400	1.1	.98	.000	.080	.00
SEP 24...	.3	5.8	307	271	.42	10900	.31	1.2	.030	.210	.04

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (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. (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)
OCT 18...	.17	.29	.15	.29	.01	.28	1.4	6.2	.120	.37	.010
NOV 28...	.53	.73	.93	.73	.00	.74	2.2	9.9	.460	1.4	.010
DEC 12...	.36	.19	.16	.53	.09	.44	1.4	6.3	.070	.21	.020
JAN 23...	.00	.70	1.2	1.1	.00	1.2	2.0	8.7	.070	.21	.010
FEB 27...	.26	.49	.26	.70	.24	.46	1.7	7.5	.110	.34	.010
MAR 12...	.17	.70	.22	.82	.47	.35	1.9	8.5	.240	.74	.010
APR 16...	.15	.40	.93	.53	.08	.45	1.5	6.8	.170	.52	.010
MAY 14...	.26	.40	.14	.72	.38	.34	1.7	7.4	.170	.52	.000
JUN 25...	.13	.22	.15	.31	.06	.25	1.3	5.8	.040	.12	.030
JUL 30...	.08	.37	.43	.50	.01	.49	.88	3.9	.340	1.0	.030
AUG 27...	.10	.54	.10	.54	.36	.18	1.6	7.3	.030	.09	.000
SEP 24...	.27	.33	.11	.36	.04	.32	.67	3.0	.030	.09	.030

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)	CHRO- MIUM, SUS- PENDED RECOV- ERABLE (UG/L AS CR)
OCT 18...	--	--	--	--	--	--	--	--	--	--	--
DEC 12...	0	0	0	0	0	50	1	0	1	20	10
JAN 23...	--	--	--	--	--	--	--	--	--	--	--
MAR 12...	5	3	2	100	40	60	0	0	8	30	20
APR 16...	--	--	--	--	--	--	--	--	--	--	--
JUL 30...	--	--	--	--	--	--	--	--	--	--	--
SEP 24...	1	0	1	100	0	100	0	0	0	10	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

[illegible]

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED (MG/L AS C)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS ASH 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- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. & FINER THAN .062 MM
OCT 18...	2.8	--	--	--	--	--	--	--	--	18	2600	89
NOV 28...	4.5	--	--	--	--	--	--	--	--	123	34900	37
DEC 12...	--	--	--	--	--	--	--	--	--	4	315	16
JAN 23...	3.1	2.5	.6	--	--	--	--	--	--	23	1580	63
FEB 27...	2.6	--	--	--	--	--	--	--	--	60	8590	65
MAR 12...	--	2.3	--	--	--	--	800	--	--	130	27300	69
APR 16...	2.2	--	--	--	--	--	1300	--	--	59	19800	50
MAY 14...	2.4	--	--	--	--	--	7700	--	--	54	8540	17
JUN 25...	.6	--	--	803	800	64.2	25000	46.7	2.41	21	873	46
JUL 30...	16	--	--	10.2	7.80	56.6	990	42.4	20.4	58	7020	54
AUG 27...	3.5	--	--	--	--	--	--	--	--	60	4360	71
SEP 24...	--	3.3	.4	8.82	6.93	84.4	3800	22.4	3.21	54	1930	86

OHIO RIVER MAIN STEM

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	MAR 12.80 0900	APR 16.80 1000	MAY 14.80 1000	JUN 25.80 0900
TOTAL CELLS/ML	800	1300	7700	25000
DIVERSITY: DIVISION	0.9	0.7	0.9	1.0
..CLASS	0.9	0.7	1.1	1.0
...ORDER	1.4	1.4	1.9	1.1
....FAMILY	2.9	2.9	3.2	1.3
....GENUS	3.2	3.3	3.6	1.7

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....MICRACTINIACEAE								
.....MICRACTINIUM	--	-	63	5	690	9	3400	13
....OOCYSTACEAE								
.....ANKISTRODESMUS	22	3	39	3	440	6	460	2
.....CHODATELLA	--	-	--	-	98	1	--	-
.....DICTYOSPHAERIUM	--	-	--	-	200	3	--	-
.....KIRCHNERIELLA	--	-	--	-	--	-	--	-
.....OOCYSTIS	--	-	--	-	--	-	460	2
.....POLYEDRIOPSIS	--	-	--	-	--	-	150	1
.....SELENASTRUM	--	-	--	-	--	-	150	1
.....TREURARIA	--	-	--	-	--	-	150	1
.....WESTELLA	--	-	--	-	--	-	--	-
....SCENEDESMACEAE								
.....CRUCIGENIA	--	-	--	-	--	-	--	-
....SCENEDESMUS	--	-	--	-	540	7	--	-
.....TETRASTRUM	--	-	31	2	--	-	620	2
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	490	6	460	2
...PHACOTACEAE								
...COCCOMONAS	--	-	--	-	--	-	--	-
..ZYGNEMATALES								
...DESMIDIACEAE								
....EUASTRUM	--	-	--	-	--	-	--	-
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCACEAE								
.....CYCLOTELLA	33	4	220#	17	1100	14	18000#	70
.....MELOSIRA	45	6	120	9	250	3	930	4
...PENNALES								
....ACHNANTHACEAE								
.....ACHNANTHES	28	3	--	-	49	1	--	-
....CYMBELLACEAE								
.....CYMBELLA	--	-	23	2	98	1	--	-
....DIATOMACEAE								
.....DIATOMA	39	5	47	4	590	8	--	-
....FRAGILARIACEAE								
.....ASTERIONELLA	78	10	240#	19	1500#	19	--	-
....SYNEDRA	72	9	23	2	540	7	--	-
....GOMPHONEMATACEAE								
.....GOMPHONEMA	22	3	55	4	--	-	--	-
....NAVICULACEAE								
.....NAVICULA	170#	21	210#	16	98	1	--	-
....NITZSCHACEAE								
.....NITZSCHIA	120	15	180	14	690	9	--	-
....SURIRELLACEAE								
.....SURIRELLA	17	2	--	-	--	-	--	-
..CHRYSTOPHYCEAE								
...CHRYSOMONADALES								
....CHROMULINACEAE								
.....CHRYSOCOCCLUS	--	-	--	-	150	2	--	-
....OCHROMONADACEAE								
.....OCHROMONAS	--	-	--	-	200	3	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOCHRYSIDACEAE								
.....CHROOMONAS	--	-	--	-	--	-	--	-
....CRYPTOMONADACEAE								
.....CRYPTOMONAS	--	-	--	-	--	-	--	-

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 1979 TO SEPTEMBER 1980

DATE TIME	MAR 12,80 0900		APR 16,80 1000		MAY 14,80 1000		JUN 25,80 0900	
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	--	-	--	-	--	-	770	3
....GOMPHOSPHAERIA	--	-	--	-	--	-	--	-
...HORMOGONALES								
...OSCILLATORIACEAE								
...OSCILLATORIA	160#	19	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
....EUGLENA	6	1	--	-	--	-	--	-
....TRACHELOMONAS	--	-	39	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

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	JUL 30,80 0745	AUG 27,80 1000	SEP 24,80 0900
TOTAL CELLS/ML	990	840	3800
DIVERSITY: DIVISION	0.6	1.2	1.6
..CLASS	0.6	1.2	1.6
..ORDER	0.9	1.6	1.7
...FAMILY	1.0	2.1	1.8
....GENUS	1.7	3.1	2.2

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
....MICRACTINIACEAE						
.....MICRACTINIUM	--	-	--	-	--	-
....OOCYSTACEAE						
.....ANKISTRODESMUS	13	1	26	3	--	-
.....CHODATELLA	--	-	--	-	--	-
.....DICTYOSPHAERIUM	--	-	39	5	--	-
.....KIRCHNERIELLA	--	-	26	3	--	-
.....OOCYSTIS	--	-	64	8	--	-
.....POLYEDRIOPSIS	--	-	--	-	--	-
.....SELENASTRUM	--	-	--	-	33	1
.....TREUBARIA	39	4	--	-	--	-
.....WESTELLA	--	-	52	6	--	-
...SCENEDESMACEAE						
....CRUCIGENIA	--	-	52	6	--	-
....SCENEDESMUS	100	10	100	12	840#	22
....TETRASTRUM	--	-	--	-	--	-
..VOLVOCELES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	-	13	2	*	0
...PHACOTACEAE						
....COCCOMONAS	--	-	13	2	--	-
..ZYGNEMALES						
...DESMIDIACEAE						
....EUASTRUM	--	-	--	-	*	0
CHRYSOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
....COSCINODISCACEAE						
.....CYCLOTELLA	190#	19	77	9	250	6
.....MELOSIRA	610#	61	300#	35	210	6
...PENNALES						
....ACHNANTHACEAE						
.....ACHNANTHES	--	-	--	-	--	-
....CYMBELLACEAE						
.....CYMBELLA	--	-	--	-	--	-
....DIATOMACEAE						
.....DIATOMA	--	-	--	-	--	-
....FRAGILARIACEAE						
.....ASTERIONELLA	--	-	--	-	--	-
....SYNEDRA	--	-	--	-	--	-
...GOMPHONEMACEAE						
....GOMPHONEMA	--	-	--	-	--	-
....NAVICULACEAE						
.....NAVICULA	13	1	--	-	--	-
....NITZSCHACEAE						
.....NITZSCHIA	26	3	39	5	*	0
....SURIRELLACEAE						
.....SURIRELLA	--	-	--	-	--	-
..CHRYSOPHYCEAE						
...CHRYSOMONADALES						
....CHROMULINACEAE						
.....CHRYSOCCUS	--	-	--	-	--	-
...OCHROMONADACEAE						
....OCHROMONAS	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
....CRYPTOCHRYSIDACEAE						
.....CHROOMONAS	--	-	--	-	*	0
....CRYPTOMONADACEAE						
.....CRYPTOMONAS	--	-	--	-	170	4

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 1979 TO SEPTEMBER 1980

DATE TIME	JUL 30,80 0745		AUG 27,80 1000		SEP 24,80 0900	
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCGALES						
...CHROOCOCCEAE						
....ANACYSTIS	--	-	39	5	300	8
....GOMPHOSPHAERIA	--	-	--	-	1900*	50
..HORMOGONALES						
...OSCILLATORIACEAE						
....OSCILLATORIA	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
..EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	33	1

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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
02...	1655	20	244	--	--	--	147	7.9
03...	1030	19	391	--	--	--	13	.67
09...	0905	32	371	--	--	--	48	4.1
09...	1730	33	371	--	--	--	27	2.4
10...	0855	42	369	--	--	--	41	4.6
16...	1415	8.6	385	8.7	12.0	10.6	4	.09
NOV								
24...	1055	14	337	--	--	--	26	.98
26...	0855	145	295	--	--	--	561	220
26...	1505	63	320	--	--	--	73	12
27...	1410	24	405	8.4	10.5	10.4	11	.71
DEC								
11...	1345	4.6	465	8.3	7.5	12.6	1	.01
13...	0850	30	360	--	--	--	84	6.8
13...	1630	56	354	--	--	--	79	12
24...	0855	85	429	--	--	--	17	3.9
25...	0825	70	329	--	--	--	105	20
25...	1530	56	354	--	--	--	24	3.6
JAN								
07...	1105	8.3	485	--	--	--	14	.31
11...	1304	14	471	--	--	--	143	5.4
11...	1610	32	400	--	--	--	168	15
14...	0858	22	407	--	--	--	6	.36
22...	1325	8.1	500	8.9	3.5	12.6	3	.07
FEB								
21...	0850	7.7	356	--	--	--	4	.08
22...	0855	50	298	--	--	--	99	13
22...	1430	22	297	--	--	--	150	8.9
26...	1205	13	485	8.6	1.0	12.2	5	.18
29...	1500	21	480	--	--	--	44	2.5
MAR								
05...	1100	27	410	--	--	--	79	5.8
05...	1720	32	402	--	--	--	113	9.8
08...	1000	105	370	--	--	--	1020	289
08...	1650	115	335	--	--	--	443	138
13...	1030	17	500	7.1	1.5	--	12	.55
14...	1440	37	455	--	--	--	13	1.3
17...	1135	57	370	--	--	--	135	21
17...	1620	160	329	--	--	--	995	430
18...	0900	170	303	--	--	--	362	166
18...	1830	88	330	--	--	--	92	22
21...	0840	43	378	--	--	--	71	8.2
21...	1545	60	349	--	--	--	70	11
24...	1630	33	385	--	--	--	62	5.5

LITTLE GRAVE CREEK BASIN

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03113706 LITTLE GRAVE CREEK AT MOUNDSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
MAR								
29...	0830	90	334	--	--	--	92	22
31...	0755	58	361	--	--	--	45	7.0
APR								
09...	0820	70	330	--	--	--	88	17
14...	0820	43	372	--	--	--	57	6.6
14...	1800	360	270	--	--	--	1980	1930
15...	1010	70	336	7.5	7.0	10.9	51	9.6
15...	1355	64	344	--	--	--	28	4.8
MAY								
12...	1700	13	409	--	--	--	57	2.0
13...	0825	25	373	--	--	--	78	5.3
13...	1110	22	380	8.1	16.0	8.7	32	1.9
14...	0820	13	420	--	--	--	13	.46
19...	0925	16	436	--	--	--	50	2.2
19...	1720	34	365	--	--	--	182	17
21...	0820	70	359	--	--	--	194	37
21...	1455	45	378	--	--	--	56	6.8
24...	2000	18	424	--	--	--	25	1.2
25...	0740	23	400	--	--	--	56	3.5
JUN								
02...	1259	135	350	--	--	--	2730	995
02...	1720	220	275	--	--	--	453	269
03...	0810	74	360	--	--	--	50	10
03...	1630	67	355	--	--	--	78	14
06...	1100	33	370	--	--	--	68	6.1
07...	1655	35	410	--	--	--	38	3.6
16...	0745	20	420	--	--	--	40	2.2
26...	1030	1.2	530	7.4	17.5	7.8	10	.03
JUL								
08...	0745	595	310	--	--	--	1860	2990
08...	1720	2650	290	--	--	--	9440	67500
09...	0755	105	380	--	--	--	39	11
09...	1655	55	400	--	--	--	406	60
12...	1920	39	420	--	--	--	247	26
22...	0715	780	280	--	--	--	574	1210
22...	1355	155	340	--	--	--	88	37
22...	1915	550	300	--	--	--	1080	1600
23...	0805	7.8	360	--	--	--	46	.97
31...	0910	7.8	470	7.9	19.0	8.5	5	.11
AUG								
03...	0800	860	290	--	--	--	1690	3920
03...	1601	440	328	--	--	--	289	343
04...	0915	130	385	--	--	--	68	24
11...	0735	500	310	--	--	--	1460	1970
11...	1705	160	358	--	--	--	123	53
12...	0750	285	310	--	--	--	386	297
18...	0820	1350	277	--	--	--	5020	18300
18...	1405	440	284	--	--	--	1540	1830
18...	1945	220	311	--	--	--	587	349
19...	0820	120	347	--	--	--	139	45
26...	1430	9.0	460	7.9	23.0	8.5	7	.17
SEP								
22...	1900	14	382	--	--	--	447	17
23...	0840	9.0	418	--	--	--	49	1.2
23...	1300	5.4	410	7.5	20.0	7.6	33	.48

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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
02...	1630	30	220	--	--	--	364	29
09...	0835	1.9	556	--	--	--	13	.07
09...	1710	9.1	301	--	--	--	250	6.1
10...	0830	3.2	513	--	--	--	34	.29
16...	1325	1.6	525	8.2	15.0	10.0	4	.02
NOV								
24...	1025	2.2	464	--	--	--	41	.24
26...	1450	4.3	474	--	--	--	48	.56
27...	1215	1.9	525	8.0	12.0	9.6	8	.04
DEC								
11...	1300	.80	630	7.8	13.0	10.3	2	.00
13...	0825	6.8	406	--	--	--	162	3.0
13...	1600	4.3	537	--	--	--	21	.24
24...	0830	1.6	542	--	--	--	18	.08
25...	0800	6.1	508	--	--	--	72	1.2
25...	1600	4.3	469	--	--	--	34	.39
JAN								
07...	1035	2.2	806	--	--	--	108	.64
11...	1320	2.2	577	--	--	--	144	.86
11...	1630	18	385	--	--	--	687	33
14...	0830	1.6	575	--	--	--	14	.06
22...	1240	1.1	635	8.6	7.5	11.4	7	.02
FEB								
21...	0825	1.2	683	--	--	--	32	.10
22...	0825	2.5	592	--	--	--	53	.36
26...	1115	1.2	750	7.7	4.0	11.6	27	.09
29...	1430	1.2	740	--	--	--	16	.05
MAR								
05...	1028	2.2	650	--	--	--	78	.46
05...	1655	3.2	648	--	--	--	128	1.1
08...	0930	16	535	--	--	--	697	30
08...	1615	15	505	--	--	--	997	40
13...	0945	2.6	1050	6.6	4.5	11.8	81	.57
14...	1410	3.7	605	--	--	--	84	.84
17...	1110	23	402	--	--	--	749	47
17...	1550	17	499	--	--	--	544	25
18...	0835	16	478	--	--	--	258	11
18...	1810	8.5	525	--	--	--	95	2.2
21...	0815	8.5	402	--	--	--	347	8.0
21...	1520	8.0	481	--	--	--	129	2.8
24...	1610	13	376	--	--	--	345	12
29...	0810	8.5	505	--	--	--	93	2.1
31...	0730	5.0	550	--	--	--	53	.72
APR								
08...	1630	2.2	515	--	--	--	179	1.1

LITTLE GRAVE CREEK BASIN

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03113708 PAR RUN AT MOUNDSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
APR								
09...	1950	8.5	500	--	--	--	133	3.1
14...	0740	4.3	562	--	--	--	56	.65
14...	1825	32	398	--	--	--	747	65
15...	0920	6.6	490	7.6	9.0	11.0	72	1.3
15...	1330	4.3	1930	--	--	--	61	.71
MAY								
12...	1640	2.6	383	--	--	--	219	1.5
13...	0800	2.8	424	--	--	--	55	.42
13...	1000	1.7	630	8.2	16.5	8.9	26	.12
14...	0755	2.4	620	--	--	--	34	.22
19...	0855	10	310	--	--	--	279	7.5
19...	1655	7.4	455	--	--	--	147	2.9
21...	0755	10	480	--	--	--	121	3.3
21...	1425	6.5	500	--	--	--	53	.93
24...	1935	2.8	560	--	--	--	55	.42
25...	0720	5.0	570	--	--	--	34	.46
JUN								
02...	1235	90	350	--	--	--	7990	1940
02...	1659	11	420	--	--	--	350	10
03...	0745	4.6	565	--	--	--	77	.96
03...	1610	2.1	440	--	--	--	475	2.7
06...	1045	3.2	510	--	--	--	198	1.7
07...	1630	2.1	564	--	--	--	110	.62
16...	0715	2.1	572	--	--	--	65	.37
26...	1115	.56	650	7.4	22.0	8.4	12	.02
JUL								
08...	1655	65	380	--	--	--	4730	830
08...	2010	24	420	--	--	--	899	58
09...	0725	4.6	580	--	--	--	59	.73
09...	1625	13	410	--	--	--	288	10
12...	1845	5.8	540	--	--	--	124	1.9
21...	1600	5.0	420	--	--	--	396	5.3
22...	0655	20	420	--	--	--	567	31
22...	1330	17	420	--	--	--	121	5.6
22...	1845	21	440	--	--	--	621	35
23...	0740	7.5	580	--	--	--	45	.91
31...	1000	1.2	670	7.6	20.5	7.2	8	.03
AUG								
03...	0735	37	384	--	--	--	1470	147
03...	1530	14	448	--	--	--	242	9.1
04...	0850	4.2	570	--	--	--	71	.81
11...	0715	62	340	--	--	--	2380	398
11...	1640	10	492	--	--	--	135	3.6
12...	0730	20	446	--	--	--	315	17
18...	0740	70	347	--	--	--	2360	446
18...	1345	24	432	--	--	--	411	27
18...	1925	15	500	--	--	--	207	8.4
19...	0755	10	545	--	--	--	89	2.4
26...	1330	1.4	700	7.4	23.0	7.4	8	.03
SEP								
23...	1205	.97	610	7.4	20.0	7.7	11	.03

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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (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									
16...	1100	9.8	260	8.7	11.0	10.8	830	2400	470
NOV									
27...	1210	21	285	8.5	9.5	10.5	1800	4000	1600
DEC									
11...	1140	4.9	330	8.6	5.5	12.8	370	1900	220
JAN									
22...	1040	6.1	340	8.6	3.0	14.2	350	4200	500
FEB									
26...	1005	4.2	320	8.5	.5	13.5	170	2600	140
MAR									
11...	1535	12	300	7.4	5.5	12.2	42	2900	200
APR									
15...	1305	34	220	7.7	9.0	11.2	200	830	420
MAY									
13...	1345	14	280	8.1	19.0	9.3	2900	6500	1300
JUN									
24...	1240	2.1	330	8.8	19.5	9.9	2600	11000	510
JUL									
29...	1100	6.1	295	8.1	20.0	8.1	2200	7100	1000
AUG									
26...	1150	6.4	300	7.9	20.0	8.9	1100	4200	540
SEP									
23...	1000	3.9	310	7.8	19.5	8.5	9000	33000	19000

GRAVE CREEK BASIN

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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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT 16...	1245	33	315	8.7	11.5	--	12.3	--	--
NOV 27...	1045	82	335	8.7	8.0	--	11.2	--	--
DEC 11...	1030	15	395	7.6	3.0	--	14.9	--	--
JAN 22...	1150	22	415	8.9	2.5	--	15.0	--	--
FEB 28...	0925	35	370	8.7	1.0	--	13.2	--	--
MAR 13...	0900	37	385	7.4	1.0	--	13.5	--	--
25...	1645	88	320	7.9	5.0	--	--	140	62
APR 15...	1030	143	285	7.6	7.0	--	11.7	--	--
MAY 13...	1230	87	300	8.1	16.5	--	9.8	--	--
JUN 24...	1120	7.6	420	8.3	19.0	--	10.9	--	--
JUL 31...	1045	15	370	8.2	21.5	--	9.8	--	--
AUG 21...	1630	57	335	7.6	24.0	9.6	--	140	44

DATE	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)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
MAR 25...	--	--	46	6.8	6.2	.2	81	49	7.2	--	196
AUG 21...	.0	.0	47	6.5	7.7	.3	100	49	5.5	8.8	217

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM, DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)
MAR 25...	.27	46.6	--	--	--	--	--	260	250	10	--
AUG 21...	.30	33.4	60	2	3	<3	<10	600	--	<3	<10

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)
MAR 25...	--	20	10	10	--	--	--	--	--	7.00
AUG 21...	<4	30	20	11	<10	180	<6.0	<4	3.3	--

GRAVE CREEK BASIN

03113738 MIDDLE GRAVE CREEK AT MOUNDSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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						MAR					
02...	1605	36	326	84	8.2	31...	1900	166	298	60	27
03...	1005	67	313	91	16	APR					
09...	0815	117	310	56	18	09...	1930	230	269	124	77
09...	1645	99	306	38	10	14...	0720	120	304	85	28
10...	0800	167	304	44	20	14...	1850	510	243	999	1380
16...	1245	33	315	7	.62	15...	1030	143	285	27	10
NOV						15...	1300	142	295	32	12
24...	1000	40	334	38	4.1	MAY					
26...	0810	620	228	881	1480	12...	1610	40	340	465	50
26...	1420	235	249	102	65	13...	0735	127	302	136	47
27...	1045	82	335	12	2.7	13...	1230	87	300	58	14
DEC						14...	0730	71	330	59	11
11...	1030	15	395	4	.16	19...	0825	60	288	299	48
13...	0755	65	334	61	11	19...	1630	123	329	361	120
24...	0805	29	367	7	.55	21...	0725	280	290	242	183
25...	0730	210	274	99	56	21...	1400	165	310	84	37
25...	1625	160	297	28	12	24...	1915	44	373	49	5.8
JAN						25...	0640	61	384	41	6.8
07...	1015	34	450	78	7.2	JUN					
11...	1300	34	392	35	3.2	02...	1210	470	344	44	56
11...	1700	29	321	444	35	02...	1630	450	236	889	1080
14...	0805	84	341	9	2.0	03...	0715	325	322	84	74
22...	1150	22	415	0	.00	03...	1540	180	321	265	129
FEB						06...	1015	59	361	77	12
21...	0800	29	284	18	1.4	07...	1600	52	370	78	11
22...	0800	890	264	727	1750	10...	0645	155	317	411	172
22...	1500	350	233	136	129	16...	0645	100	320	270	73
28...	0925	35	370	3	.28	24...	1120	7.6	420	2	.04
29...	1400	94	415	25	6.3	JUL					
MAR						08...	1630	3100	248	14000	117000
05...	1005	94	348	63	16	08...	2030	560	230	1120	1690
05...	1630	120	321	232	75	09...	0700	165	310	66	29
08...	0905	345	319	759	707	09...	1600	133	340	478	172
08...	1600	425	291	172	197	09...	1825	100	350	408	110
13...	0900	37	385	4	.40	21...	1530	59	350	677	108
14...	1345	80	359	27	5.8	22...	0630	900	220	2670	6490
17...	1045	162	304	298	130	22...	1300	335	245	297	269
17...	1530	430	282	1250	1450	22...	1820	940	220	2790	7080
18...	0815	430	259	257	298	23...	1915	285	250	163	125
18...	1745	240	280	76	49	31...	1045	15	370	5	.20
21...	0750	135	305	701	256	AUG					
21...	1500	150	308	57	23	03...	0705	450	234	816	991
24...	1545	87	316	152	36	03...	1500	205	277	131	73
29...	1945	250	274	104	70	04...	0820	110	326	35	10

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)
AUG					
11...	0645	1000	225	2010	5430
11...	1615	270	262	172	125
12...	0702	360	247	308	299
18...	0700	2650	186	4530	32400
18...	1325	700	233	668	1260
18...	1900	410	259	242	268
19...	0730	255	282	112	77
21...	1630	57	335	15	2.3
27...	1350	20	370	6	.32
SEP					
22...	1830	17	400	186	8.5
23...	0815	19	390	38	1.9
23...	1120	18	380	27	1.3

MIDDLE ISLAND CREEK BASIN

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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 and those for period of no gage-height record, June 24 to July 29, which are poor.

AVERAGE DISCHARGE.--53 years (water years 1916, 1929-80), 643 ft³/s (18.21 m³/s), 19.07 in/yr (484 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Nov. 26	2100	9560 271	12.88 3.926	Mar. 6	0400	*10300 292	13.48 4.109
Dec. 14	0200	9690 274	12.99 3.959	May 27	1500	9410 266	12.76 3.889

Minimum daily discharge, 49 ft³/s (1.39 m³/s) July 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	658	102	455	365	250	280	3580	2600	742	56	144	89
2	1010	532	380	312	220	220	1550	1240	1320	49	133	78
3	3210	3050	308	276	200	210	964	778	5200	100	179	75
4	1150	1000	264	240	170	240	2000	550	2230	260	161	86
5	1160	532	252	210	160	4320	2230	430	958	180	158	133
6	994	370	256	220	160	7640	1120	360	2830	220	137	144
7	994	288	276	230	175	1890	790	312	3480	160	172	119
8	778	240	292	312	140	1970	682	272	6590	480	175	95
9	2350	224	264	465	116	2820	6160	240	2040	2200	130	72
10	4640	766	224	390	109	1280	2270	204	940	1500	144	435
11	3670	1010	208	495	100	880	1070	189	808	600	1390	161
12	1850	706	212	3980	97	610	748	193	538	350	3050	126
13	2760	490	4730	1620	96	694	640	252	385	470	982	130
14	1310	385	6520	994	100	5330	1600	196	308	350	430	126
15	748	308	1540	1050	130	2630	3030	144	276	230	268	133
16	500	276	898	838	168	1270	1370	116	622	160	586	130
17	360	276	646	700	200	1400	892	119	1360	110	470	119
18	276	256	435	1060	170	4380	676	133	586	87	1460	109
19	216	220	370	934	180	2490	544	292	345	70	2860	102
20	175	193	320	676	420	1240	455	1190	256	58	1480	105
21	137	165	284	520	1050	982	400	7980	196	52	898	105
22	119	165	264	445	3680	1450	355	2600	140	160	1290	116
23	102	154	252	380	2660	1070	316	874	106	500	1140	360
24	98	410	296	290	1740	790	296	568	76	380	610	312
25	105	3060	3790	292	1150	760	272	3900	70	150	330	144
26	98	6620	3380	592	820	604	252	1880	71	100	236	137
27	72	4650	1710	778	598	475	252	754	81	78	175	119
28	69	1270	976	628	505	556	1180	435	100	260	95	105
29	69	838	676	485	350	3610	868	304	78	1650	86	83
30	83	598	515	360	---	1670	610	276	67	425	89	72
31	98	---	435	290	---	1960	---	400	---	189	105	---
TOTAL	29859	29154	31428	20427	15914	55721	37172	29781	32799	11634	19563	4120
MEAN	963	972	1014	659	549	1797	1239	961	1093	375	631	137
MAX	4640	6620	6520	3980	3680	7640	6160	7980	6590	2200	3050	435
MIN	69	102	208	210	96	210	252	116	67	49	86	72
CFSM	2.10	2.12	2.21	1.44	1.20	3.92	2.71	2.10	2.39	.82	1.38	.30
IN.	2.43	2.37	2.55	1.66	1.29	4.53	3.02	2.42	2.66	.94	1.59	.33

CAL YR 1979	TOTAL	366930	MEAN	1005	MAX	12200	MIN	18	CFSM	2.19	IN	29.80
WTR YR 1980	TOTAL	317572	MEAN	868	MAX	7980	MIN	49	CFSM	1.90	IN	25.79

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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
OCT 17...	1035	366	125	8.7	18.0	11.0	--	--	50	23
NOV 29...	1015	949	145	7.6	--	7.5	--	--	44	16
DEC 13...	1135	4030	165	7.6	--	6.5	--	--	54	17
JAN 24...	1050	306	170	8.3	--	1.0	--	--	--	--
FEB 28...	1200	502	160	8.0	--	2.0	--	--	48	23
MAR 11...	1120	932	140	8.0	--	5.0	--	--	41	22
22...	1835	1590	120	7.4	5.0	7.0	--	--	44	14
APR 17...	1145	933	80	7.2	10.0	9.0	--	--	41	6
MAY 15...	1345	155	210	7.7	24.0	13.0	--	--	62	24
JUN 24...	0910	76	120	7.7	24.0	22.0	--	--	56	24
JUL 29...	0845	1720	150	7.4	22.5	24.0	--	--	63	9
AUG 20...	1800	1190	101	7.1	--	22.0	95	7.9	42	16
28...	1000	119	140	7.1	25.0	25.0	--	--	--	--
SEP 25...	1020	140	165	7.1	22.0	20.0	--	--	--	--

[illegible]

MIDDLE ISLAND CREEK BASIN

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03114500 MIDDLE ISLAND CREEK AT LITTLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALKA- LITY (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 PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT 17...	35	22	5.3	.1	7.4	77	76	.10	76.1
NOV 29...	25	21	5.2	--	--	87	--	.12	223
DEC 13...	29	26	6.8	--	--	187	--	.25	2040
JAN 24...	38	--	--	--	--	--	--	--	--
FEB 28...	29	26	5.7	--	--	79	--	.11	107
MAR 11...	33	22	4.4	--	--	76	--	.10	191
MAR 22...	30	21	5.0	--	--	69	--	.09	296
APR 17...	25	23	3.8	--	--	64	--	.09	161
MAY 15...	42	25	9.7	--	--	112	--	.15	46.9
JUN 24...	36	19	6.2	--	--	84	--	.11	17.2
JUL 29...	45	18	9.7	--	--	98	--	.13	455
AUG 20...	26	16	3.8	--	7.7	66	--	.09	212
SEP 28...	--	--	--	--	--	--	--	--	--
SEP 25...	44	--	--	--	--	--	--	--	--

DATE	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, TOTAL (MG/L AS P04)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)
OCT 17...	.30	.020	.06	1	300	--	--	0	--	10	--	3
AUG 20...	--	--	--	--	--	50	1	--	4	--	<3	--

DATE	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)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)
OCT 17...	--	610	540	70	1	--	--	50	0	50	.1
NOV 29...	--	680	--	50	--	--	--	50	20	30	--
DEC 13...	--	5700	5600	90	--	--	--	350	320	30	--
FEB 28...	--	350	300	50	--	--	--	30	0	30	--
MAR 11...	--	1800	1800	40	--	--	--	50	30	20	--
MAR 22...	--	1400	1300	60	--	--	--	50	30	20	--
APR 17...	--	930	890	40	--	--	--	40	20	20	--
MAY 15...	--	560	520	40	--	--	--	60	20	40	--
JUN 24...	--	670	580	90	--	--	--	60	10	50	--
JUL 29...	--	7600	7500	70	--	--	--	350	350	0	--
AUG 20...	<10	7800	7600	170	--	<10	<4	220	210	7	--

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 17...	--	0	0	--	--	10	--	--	--	.01	--	--
MAR 22...	--	--	--	--	--	--	--	--	6.00	--	--	--
AUG 20...	15	--	--	68	<6.0	--	17	5.4	--	--	263	845

OHIO RIVER MAIN STEM

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, 26.58 ft (8.102 m) Aug. 12; minimum, 15.09 ft (4.599 m) Feb. 2.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.86	15.99	18.60	17.48	15.34	15.99	24.67	17.18	16.50	15.49	16.90	16.08
2	17.50	16.33	17.81	17.29	15.23	15.28	25.96	17.61	16.61	15.69	16.70	15.68
3	19.00	16.99	17.05	16.92	15.36	15.50	24.49	17.28	20.15	15.77	16.74	15.76
4	18.46	16.99	16.78	16.87	15.58	16.18	23.39	16.73	21.62	15.76	19.01	16.38
5	17.67	17.17	17.00	16.52	15.98	17.41	23.22	16.48	20.87	15.89	20.22	17.02
6	18.20	17.17	16.95	16.53	16.13	19.23	22.87	16.24	19.70	15.90	19.07	16.35
7	19.40	16.48	16.31	16.20	15.84	18.84	22.05	15.86	19.69	15.65	17.70	16.11
8	18.98	16.08	16.43	16.11	15.66	18.73	20.99	16.30	20.39	15.91	17.03	15.73
9	19.11	15.92	16.60	16.18	15.31	20.93	22.38	16.12	20.35	17.21	16.98	15.99
10	20.65	16.70	16.20	16.35	15.54	21.72	25.17	15.64	20.24	17.80	17.26	16.29
11	22.22	16.83	16.25	16.40	15.67	21.08	25.09	15.86	20.24	17.38	19.26	16.25
12	21.73	16.93	16.52	19.64	15.34	20.46	23.16	16.28	19.97	16.92	25.53	15.69
13	20.61	16.63	17.40	20.23	15.44	20.41	22.16	18.08	18.98	16.40	24.69	15.63
14	20.64	16.40	19.48	19.56	15.79	20.99	22.39	18.82	17.85	16.20	19.78	15.81
15	20.00	16.08	18.84	18.72	15.97	19.80	25.13	18.53	17.03	16.06	19.03	15.97
16	18.89	16.36	17.66	18.51	16.13	18.82	24.54	17.80	16.96	15.83	20.43	15.65
17	18.31	15.92	16.63	18.38	16.35	18.51	23.46	16.87	17.62	15.72	18.88	16.15
18	18.06	16.23	16.86	18.03	16.08	22.77	22.28	16.92	17.86	15.85	20.09	15.72
19	17.55	16.18	16.87	18.24	15.72	24.70	21.69	17.22	17.39	15.57	24.33	15.74
20	17.01	15.73	16.50	17.64	15.99	23.45	20.73	17.89	16.64	15.53	24.93	15.85
21	17.20	15.90	16.20	17.35	16.32	21.95	19.48	18.92	16.15	15.54	20.63	15.92
22	16.71	15.92	16.23	16.83	16.81	23.46	18.34	20.66	15.78	16.09	22.43	15.96
23	16.03	16.16	15.80	16.90	19.24	23.66	17.47	20.52	15.51	17.51	20.68	15.64
24	15.93	16.21	15.68	16.46	20.46	21.86	16.88	18.71	15.53	17.83	19.12	15.75
25	16.30	17.10	17.90	16.07	19.54	21.04	16.26	18.38	15.67	17.09	17.93	15.81
26	15.86	18.54	20.96	16.51	18.45	20.42	15.61	18.82	15.76	16.15	17.37	15.63
27	15.74	21.15	21.94	16.83	17.52	20.70	16.09	18.09	16.01	15.88	17.10	15.78
28	15.48	21.07	21.00	15.77	16.84	20.49	16.40	16.91	16.12	16.15	16.96	15.81
29	15.76	19.53	19.97	16.08	16.29	21.71	16.52	16.31	16.07	16.68	16.73	15.63
30	15.70	19.21	18.96	15.88	---	22.20	16.79	16.37	15.81	16.90	16.16	15.67
31	16.09	---	18.08	15.39	---	22.77	---	16.25	---	16.96	16.67	---
MEAN	18.02	17.00	17.60	17.16	16.41	20.36	21.19	17.41	17.84	16.30	19.24	15.92
MAX	22.22	21.15	21.94	20.23	20.46	24.70	25.96	20.66	21.62	17.83	25.53	17.02
MIN	15.48	15.73	15.68	15.39	15.23	15.28	15.61	15.64	15.51	15.49	16.16	15.63

WTR YR 1980 MEAN 17.88 MAX 25.96 MIN 15.23

LITTLE KANAWHA RIVER BASIN

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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.--6 years, 236 ft³/s (6.684 m³/s), 28.62 in/yr (727 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)
Oct. 10	0500	4700 133	10.92 3.328	Apr. 30	1400	2520 71.4	8.78 2.676
Mar. 6	0100	3140 88.9	9.44 2.877	May 21	0500	3600 102	9.90 3.018
Apr. 9	0700	*6840 194	12.46 3.798				

Minimum discharge, 7.4 ft³/s (0.21 m³/s) Sept. 21, gage height, 3.83 ft (1.167 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	180	57	213	166	100	73	1150	1670	201	14	18	12
2	178	736	180	142	98	61	682	802	145	12	28	12
3	230	1120	144	121	100	58	430	472	111	54	23	21
4	212	532	133	108	90	66	372	309	120	235	17	20
5	354	328	126	108	82	1240	300	223	85	138	16	162
6	436	230	124	96	83	1970	241	177	86	220	15	68
7	334	175	144	92	78	826	207	172	111	118	16	36
8	226	147	133	156	67	637	258	133	136	85	13	25
9	654	131	119	151	62	450	3730	111	116	340	10	18
10	3580	213	117	140	53	316	1050	97	261	1360	9.5	20
11	1630	328	108	168	37	250	543	88	301	700	11	20
12	874	356	126	576	34	198	352	80	180	290	85	15
13	1120	405	1170	472	39	217	293	182	116	209	56	13
14	844	364	1210	415	52	554	571	177	83	120	29	10
15	483	288	637	380	55	521	688	140	64	80	20	23
16	304	269	400	344	262	450	543	114	118	60	122	21
17	201	224	280	304	400	400	372	100	138	45	77	15
18	147	201	180	328	300	923	282	102	88	38	107	12
19	112	173	160	435	290	808	220	86	67	30	384	9.5
20	90	149	140	392	255	532	174	316	54	25	212	8.3
21	75	126	112	312	384	488	150	2470	41	20	241	8.0
22	65	112	100	255	1080	565	125	936	34	18	142	9.5
23	59	100	92	250	850	445	109	472	29	54	93	14
24	61	161	94	210	521	356	97	328	25	63	61	29
25	55	308	1150	292	372	609	88	466	22	34	44	32
26	48	1310	1000	364	280	571	104	309	20	23	33	32
27	42	898	604	324	220	410	1100	201	17	18	26	22
28	48	521	396	273	200	324	1210	142	15	15	20	16
29	90	364	292	220	140	328	631	105	18	17	17	13
30	67	266	241	140	---	276	1920	85	15	22	14	11
31	59	---	198	110	---	593	---	264	---	17	13	---
TOTAL	12858	10592	10123	7844	6584	15515	17992	11329	2817	4474	1972.5	727.3
MEAN	415	353	327	253	227	500	600	365	93.9	144	63.6	24.2
MAX	3580	1310	1210	576	1080	1970	3730	2470	301	1360	384	162
MIN	42	57	92	92	34	58	88	80	15	12	9.5	8.0
CFSM	3.71	3.15	2.92	2.26	2.03	4.46	5.36	3.26	.84	1.29	.57	.22
IN.	4.27	3.52	3.36	2.61	2.19	5.15	5.98	3.76	.94	1.49	.66	.24
CAL YR 1979	TOTAL	119988.0	MEAN 329	MAX 3580	MIN 18	CFSM 2.94	IN 39.85					
WTR YR 1980	TOTAL	102827.8	MEAN 281	MAX 3730	MIN 8.0	CFSM 2.51	IN 34.15					

LITTLE KANAWHA RIVER BASIN

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 1979 to current year.

WATER TEMPERATURES: June to December 1979 (discontinued).

SUSPENDED SEDIMENT DISCHARGE: June 1979 to current year.

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, 118 micromhos July 27, 1980; minimum, 35 micromhos Apr. 28, 1980.

WATER TEMPERATURES: Maximum daily, 25.0°C July 14, 17, 23, 25, Aug. 3, 7, 1979; minimum daily, 4.5°C Nov. 30, 1979

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,180 mg/L Nov. 2, 1979; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 14,900 tons (13,500 tonnes) Apr. 9, 1980; minimum daily, 0 tons (0 tonnes) on many days.

EXTREMES FOR CURRENT PERIOD.--

SPECIFIC CONDUCTANCE: Maximum, 118 micromhos July 27; minimum, 35 micromhos Apr. 28.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,180 mg/L Nov. 2; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 14,900 tons (13,500 tonnes) Apr. 9; minimum daily, 0 tons (0 tonnes) on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)
OCT									
03...	1045	232	52	6.9	--	16.0	--	--	--
18...	1000	149	<50	6.6	8.0	7.0	--	--	--
NOV									
06...	0945	230	20	7.8	--	7.0	--	12.2	24
07...	1705	175	<50	7.0	14.0	11.0	--	--	--
DEC									
04...	0945	135	55	7.6	--	2.0	--	12.3	1
06...	1220	126	<50	7.0	7.5	3.5	--	--	--
JAN									
09...	1700	152	<50	6.8	.0	3.0	--	--	--
10...	1115	138	65	8.2	--	2.0	--	12.4	3
FEB									
07...	1015	82	58	6.7	2.0	.0	--	13.4	2
MAR									
06...	1045	1860	50	7.9	--	3.5	--	12.3	17
06...	1220	1810	41	--	--	3.5	--	--	--
24...	1230	352	28	6.3	15.5	7.3	--	--	--
APR									
09...	1700	2670	36	6.9	10.0	9.0	--	--	--
22...	0930	119	43	8.1	25.0	13.5	--	9.4	9
MAY									
07...	1700	171	<50	6.8	15.0	12.0	--	--	--
20...	0930	92	<50	7.2	20.5	17.0	--	8.5	--
27...	0930	201	<50	7.8	17.0	13.5	--	9.6	6
JUN									
04...	1015	87	65	--	20.0	18.0	--	--	--
17...	1020	135	49	7.8	18.0	16.0	--	9.2	12
JUL									
15...	0950	72	45	7.0	25.0	22.0	--	7.5	8
AUG									
13...	1045	45	66	7.0	35.0	22.5	--	7.4	17
19...	1010	204	53	7.1	--	20.0	10	--	--
SEP									
17...	1115	16	60	6.8	30.0	21.0	--	7.4	5

LITTLE KANAWHA RIVER BASIN

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03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	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	SODIUM AD- SORP- TION RATIO
OCT 03...	--	16	9	--	--	3.9	1.4	1.9	26	.2
NOV 06...	--	11	0	.0	.0	2.9	1.0	1.1	--	.1
DEC 04...	--	13	12	.0	.0	3.2	1.2	1.5	--	.2
JAN 10...	--	48	18	.0	.0	13	3.7	4.5	--	.3
FEB 07...	--	13	8	.0	.0	3.2	1.2	1.9	--	.2
MAR 06...	--	11	9	.0	.0	2.7	1.0	1.1	--	.1
MAR 24...	--	11	9	.1	5.0	2.7	1.0	1.2	--	.2
APR 22...	--	13	9	--	--	3.1	1.2	1.5	--	.2
MAY 27...	--	11	6	--	--	2.6	1.1	1.4	--	.2
JUN 17...	1800	15	7	--	--	4.0	1.2	1.9	--	.2
JUL 15...	--	15	14	.1	5.0	4.2	1.2	1.7	--	.2
AUG 19...	--	14	6	.0	.0	3.7	1.2	1.7	--	.2
SEP 17...	--	28	12	.1	5.0	7.9	2.0	3.1	--	.3

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 CO2)	SULFATE DIS- SOLVED (MG/L AS SC4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 03...	3.3	1.4	--	7	--	10	2.8	.0	5.1
NOV 06...	--	--	--	7	--	7.9	1.8	--	--
DEC 04...	--	--	--	8	--	9.3	2.1	--	--
JAN 10...	--	--	--	5	--	27	5.4	--	--
FEB 07...	--	--	--	5	--	8.8	2.8	--	--
MAR 06...	--	--	--	5	--	8.3	1.7	--	--
MAR 24...	--	--	--	3	--	7.7	1.9	--	--
APR 22...	--	--	5	4	.1	8.4	1.9	--	--
MAY 20...	--	--	--	6	--	--	--	--	--
MAY 27...	--	--	--	6	--	7.8	1.5	--	--
JUN 17...	--	--	--	10	--	7.8	2.9	--	--
JUL 15...	--	--	--	1	--	9.0	2.3	--	--
AUG 13...	--	--	--	12	--	--	--	--	--
AUG 19...	--	--	--	9	--	7.6	3.2	--	5.0
SEP 17...	--	--	--	16	--	11	5.5	--	--

LITTLE KANAWHA RIVER BASIN

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDEO (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS N)	NITRO- GEN, TOTAL (MG/L AS NO3)	PHOS- PHORUS, TOTAL (MG/L AS P04)	PHOS- PHORUS, TOTAL (MG/L AS P)
OCT 03...	28	31	.04	17.5	--	.21	--	--	--	.03	.010
NOV 06...	30	--	.04	18.6	6	.27	.24	.51	2.3	.00	.000
DEC 04...	26	--	.04	9.48	18	.28	.08	.36	1.6	.00	.000
JAN 10...	74	--	.10	27.6	14	.31	.39	.70	3.1	.06	.020
FEB 07...	21	--	.03	4.65	0	.24	.18	.42	1.9	.00	.000
MAR 06...	28	--	.04	141	555	.59	.13	.72	3.2	.09	.030
24...	30	--	.04	28.5	--	--	--	--	--	--	--
APR 22...	28	--	.04	9.00	14	.29	--	--	--	.00	.000
MAY 27...	29	--	.04	15.7	2	.28	.10	.38	1.7	.03	.010
JUN 17...	33	--	.04	12.0	8	.31	4.5	4.8	21	.03	.010
JUL 15...	32	--	.04	6.22	4	.23	.01	.24	1.1	.03	.010
AUG 13...	--	--	--	--	29	--	--	--	--	.09	.030
19...	37	--	.05	20.4	--	--	--	--	--	--	--
SEP 17...	58	--	.08	2.51	11	.24	15	15	67	.03	.010

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)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	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, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	COBALT, DIS- SOLVED (UG/L AS CO)
OCT 03...	3	--	300	--	--	0	--	--	20	--	--
AUG 19...	--	0	--	40	<1	--	4	<10	--	30	<3

DATE	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, TOTAL 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- PENDEO 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)
OCT 03...	--	8	--	--	580	510	70	--	0	--	--
NOV 06...	--	--	--	--	140	--	30	--	--	--	--
DEC 04...	--	--	--	--	150	--	50	--	--	--	--
JAN 10...	--	--	--	--	500	430	70	--	--	--	--
FEB 07...	--	--	--	--	120	80	40	--	--	--	--
MAR 06...	--	--	--	--	1900	1900	40	--	--	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
24...	--	--	--	--	110	90	20	--	--	--	--
APR 09...	--	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	190	150	40	--	--	--	--
MAY 27...	--	--	--	--	160	130	30	--	--	--	--
JUN 17...	--	--	--	--	660	600	60	--	--	--	--
JUL 15...	--	--	--	--	250	220	30	--	--	--	--
AUG 13...	--	--	--	--	--	--	--	--	--	--	--
19...	10	--	<10	<10	710	630	81	2000	--	19	10
SEP 17...	--	--	--	--	610	520	90	--	--	--	--

LITTLE KANAWHA RIVER BASIN

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03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	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 RECOV. FM BOT- TOM MA- TERIAL (UG/G AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)
OCT 03...	--	30	10	20	--	<.1	--	--	--	0	--
NOV 06...	--	10	0	10	--	--	--	--	3	--	--
DEC 04...	--	30	10	20	--	--	--	--	7	--	--
JAN 10...	--	100	0	100	--	--	--	--	1	--	--
FEB 07...	--	30	10	20	--	--	--	--	1	--	--
MAR 06...	--	120	90	30	--	--	--	--	7	--	--
06...	--	--	--	--	--	--	--	--	--	--	--
24...	--	30	10	20	--	--	--	--	--	--	--
APR 09...	--	--	--	--	--	--	--	--	--	--	--
22...	--	30	20	10	--	--	--	--	1	--	--
MAY 27...	--	10	0	10	--	--	--	--	4	--	--
JUN 17...	--	20	10	10	--	--	--	--	2	--	--
JUL 15...	--	20	0	20	--	--	--	--	0	--	--
AUG 13...	--	--	--	--	--	--	--	--	6	--	--
19...	<4	40	30	11	120	--	.00	<10	--	--	0
SEP 17...	--	30	10	20	--	--	--	--	3	--	--

DATE	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	ZINC, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 03...	0	--	30	--	--	--	--	.00	--	--
NOV 06...	0	--	10	--	--	--	--	.00	--	--
DEC 04...	0	--	10	--	--	--	--	.00	--	--
JAN 10...	0	--	30	--	--	--	--	.00	--	--
FEB 07...	0	--	20	--	--	--	--	.00	--	--
MAR 06...	0	--	40	--	--	--	--	.01	--	--
06...	--	--	--	--	--	--	--	--	82	401
24...	--	--	--	--	--	--	10.0	--	--	--
APR 09...	--	--	--	--	--	--	--	--	290	2090
22...	0	--	20	--	--	--	--	--	--	--
MAY 27...	0	--	10	--	--	--	--	.01	--	--
JUN 17...	0	--	20	--	--	--	--	.00	29	11
JUL 15...	0	--	10	--	--	--	--	.01	83	16
AUG 13...	0	--	30	--	--	--	--	.00	9	1.1
19...	--	18	--	9	15	1.7	--	--	19	10
SEP 17...	0	--	10	--	--	--	--	.00	--	--

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	48	41	43	50	49	41	38	46	71	71	66
2	---	43	41	42	52	48	40	49	47	72	68	66
3	53	41	44	43	50	48	43	50	53	72	78	72
4	46	39	55	46	52	48	42	51	54	61	73	80
5	52	43	42	42	46	51	46	53	58	49	74	68
6	44	42	44	55	45	40	45	49	63	65	67	62
7	43	42	44	63	51	43	46	42	57	48	69	67
8	43	43	45	64	52	44	40	---	56	50	77	73
9	49	---	44	54	51	43	44	45	67	55	75	72
10	45	42	54	44	53	42	44	---	55	45	76	74
11	65	41	38	44	53	50	42	48	45	64	75	74
12	44	40	42	44	51	46	47	47	---	44	84	96
13	41	43	45	43	52	50	43	---	46	47	66	76
14	39	41	38	43	53	45	43	44	48	46	64	76
15	39	38	40	43	43	46	40	---	50	50	68	77
16	43	40	38	43	53	47	40	48	53	50	64	100
17	43	42	39	45	44	47	41	49	58	55	53	81
18	43	51	41	46	44	49	40	54	59	55	51	80
19	43	44	43	43	42	46	39	---	57	54	51	79
20	---	41	43	94	40	52	42	54	68	54	49	81
21	47	43	39	48	43	46	43	40	58	65	52	98
22	47	---	44	85	40	50	44	39	57	60	53	90
23	47	---	43	44	42	43	45	42	57	63	52	110
24	48	59	43	58	40	45	47	42	64	63	56	85
25	48	---	42	77	39	---	46	43	62	56	56	78
26	51	68	39	50	43	43	46	44	63	58	59	---
27	52	67	55	46	43	41	39	44	62	118	58	---
28	52	36	44	48	43	43	35	47	64	109	61	74
29	51	40	41	49	48	43	37	47	67	116	61	74
30	47	40	41	48	---	42	40	47	71	97	62	74
31	47	---	39	50	---	51	---	57	---	72	66	---
MEAN	47	45	43	51	47	46	42	47	57	64	64	79
WTR YR 1980		MEAN	53	MAX	118	MIN		35				

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	14.0	5.0									
2	---	13.5	5.0									
3	14.5	8.0	5.5									
4	13.5	8.0	---									
5	14.0	7.5	5.5									
6	11.5	7.5	---									
7	11.5	6.5	---									
8	11.0	6.5	---									
9	11.0	---	---									
10	11.0	---	---									
11	---	---	---									
12	10.5	---	---									
13	---	---	---									
14	10.5	---	---									
15	10.0	8.0	---									
16	10.0	8.0	---									
17	15.5	7.0	---									
18	16.0	6.0	---									
19	16.0	7.0	---									
20	---	---	---									
21	15.5	---	---									
22	14.5	---	---									
23	17.0	---	---									
24	11.0	7.5	---									
25	11.0	---	---									
26	11.5	6.0	---									
27	11.0	5.5	---									
28	11.0	5.0	---									
29	14.0	5.0	---									
30	14.0	4.5	---									
31	14.0	---	---									
MEAN	13.0	7.5	5.5									
WTR YR 1980		MEAN	10.0	MAX	18.0	MIN	4.5					

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
	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)
1	13	6.3	0	.00	4	2.3	3	1.3	2	.54	3	.59
2	11	5.3	1180	4560	2	.97	2	.77	1	.26	3	.49
3	10	6.2	37	112	3	1.2	2	.65	0	.00	3	.47
4	12	6.9	6	8.6	2	.72	3	.87	0	.00	2	.36
5	27	26	4	3.5	3	1.0	3	.87	1	.22	289	1600
6	12	14	2	1.2	2	.67	3	.78	1	.22	154	1070
7	6	5.4	0	.00	1	.39	4	.99	1	.21	10	.22
8	6	3.7	1	.40	2	.72	7	2.9	3	.54	3	5.2
9	123	421	1	.35	1	.32	5	2.0	5	.84	4	4.9
10	243	2470	3	1.7	2	.63	7	2.6	3	.43	6	5.1
11	84	370	1	.89	3	.87	7	3.2	4	.40	6	4.1
12	61	144	4	3.8	6	2.0	95	148	2	.18	6	3.2
13	80	242	4	4.4	61	193	19	24	2	.21	7	4.1
14	20	46	3	2.9	36	118	2	2.2	3	.42	25	37
15	13	17	4	3.1	11	19	1	1.0	2	.30	11	15
16	7	5.7	4	2.9	5	5.4	1	.93	37	26	12	15
17	5	2.7	3	1.8	3	2.3	50	41	30	32	17	18
18	2	.79	5	2.7	3	1.5	60	53	10	8.1	45	112
19	1	.30	3	1.4	2	.86	51	60	9	7.0	21	46
20	1	.24	3	1.2	1	.38	15	16	8	5.5	17	24
21	1	.20	1	.34	1	.30	0	.00	12	12	16	21
22	1	.18	0	.00	1	.27	1	.69	135	394	14	21
23	1	.16	0	.00	3	.75	1	.68	38	87	8	9.6
24	2	.33	6	2.6	2	.51	0	.00	19	27	8	7.7
25	1	.15	6	5.0	94	326	2	1.6	9	9.0	52	86
26	1	.13	207	710	24	65	2	2.0	3	2.3	11	17
27	0	.00	36	87	16	26	0	.00	1	.59	22	24
28	1	.13	9	13	14	15	0	.00	2	1.1	40	35
29	2	.49	2	2.0	10	7.9	1	.59	3	1.1	38	34
30	0	.00	3	2.2	5	3.3	0	.00	---	---	29	22
31	0	.00	---	---	3	1.6	1	.30	---	---	87	139
TOTAL	---	3795.30	---	5534.98	---	798.86	---	368.92	---	617.46	---	3403.81

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
	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)
1	80	248	146	802	20	11	3	.11	6	.29	5	.16
2	18	33	11	24	7	2.7	2	.06	4	.30	4	.13
3	7	8.1	5	6.4	6	1.8	26	8.4	3	.19	11	.62
4	6	6.0	5	4.2	15	4.9	89	57	5	.23	7	.38
5	4	3.2	6	3.6	10	2.3	31	12	2	.09	132	75
6	5	3.3	5	2.4	9	2.1	46	27	3	.12	37	6.8
7	4	2.2	6	2.8	11	3.3	15	4.8	2	.09	10	.97
8	81	308	5	1.8	18	6.6	11	3.4	3	.11	7	.47
9	1140	14900	5	1.5	14	4.4	151	145	5	.14	6	.29
10	70	198	5	1.3	48	34	243	1030	5	.13	7	.38
11	24	35	5	1.2	24	20	50	94	5	.15	4	.22
12	8	7.6	7	1.5	13	6.3	36	28	95	29	5	.20
13	6	4.7	25	12	11	3.4	16	9.0	47	7.1	6	.21
14	6	9.3	7	3.3	7	1.6	5	1.6	13	1.0	5	.14
15	13	24	6	2.3	7	1.2	5	1.1	15	.81	30	1.9
16	7	10	7	2.2	41	18	3	.49	73	25	20	1.1
17	4	4.0	5	1.4	23	8.6	2	.24	27	5.6	13	.53
18	5	3.8	7	1.9	8	1.9	4	.41	27	16	6	.19
19	6	3.6	5	1.2	5	.90	3	.24	86	89	4	.10
20	8	3.8	50	125	5	.73	2	.14	20	11	4	.09
21	5	2.0	168	1280	5	.55	3	.16	121	90	4	.09
22	3	1.0	26	66	6	.55	10	.49	30	12	6	.15
23	3	.88	10	13	6	.47	55	8.0	7	1.8	7	.26
24	5	1.3	18	19	5	.34	20	3.4	8	1.3	17	1.3
25	3	.71	23	29	5	.30	6	.55	5	.59	10	.86
26	3	.84	4	3.3	7	.38	4	.25	5	.45	10	.86
27	131	433	4	2.2	6	.28	5	.24	5	.35	7	.42
28	84	274	3	1.2	6	.24	6	.24	5	.27	7	.30
29	40	68	4	1.1	8	.39	5	.23	4	.18	5	.18
30	652	3800	6	1.4	5	.20	2	.12	4	.15	3	.09
31	---	---	99	79	---	---	5	.23	4	.14	---	---
TOTAL	---	20397.33	---	2497.2	---	139.43	---	1436.90	---	293.58	---	94.39
TOTAL LOAD FOR YEAR:			39378.16		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, 4,115 acre-ft (5.07 hm³) Mar. 12, 1980, elevation, 775.76 ft (236.452 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 27,180 acre-ft (33.5 hm³) Oct. 11, elevation, 800.50 ft (243.992m); minimum, 4,115 acre-ft (5.07 hm³) Mar. 12, elevation, 775.76 ft (236.452 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)	(equivalent in cfs)
Sept. 30.....	789.51	14850	-	-
Oct. 31.....	785.80	11400	-3450	-56
Nov. 30.....	776.56	4563	-6837	-115
Dec. 31.....	776.59	4580	+17	0
CAL YR 1979			+143	0
Jan. 31.....	776.43	4488	-92	-1
Feb. 29.....	776.33	4432	-56	-1
Mar. 31.....	777.58	5170	+738	+12
Apr. 30.....	793.10	18530	+13360	+225
May 31.....	789.75	15090	-3440	-56
June 30.....	788.85	14220	-870	-15
July 31.....	789.38	14730	+510	+8
Aug. 31.....	788.88	14240	-490	-8
Sept. 30.....	788.78	14150	-90	-2
WTR YR 1980			-707	-1

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). Corps of Engineers gage-height telemeter at station.

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, 1,920 ft³/s (54.4 m³/s) Oct. 11, gage height, 56.23 ft (17.139 m); minimum, 14 ft³/s (0.40 m³/s) Sept. 24, gage height, 51.78 ft (15.783 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	232	285	259	229	158	174	611	1510	170	39	35	25
2	188	397	248	183	157	148	766	1660	233	21	34	22
3	218	741	232	153	132	148	366	1590	197	28	34	23
4	310	790	179	153	97	149	179	1010	126	28	35	25
5	410	945	165	153	97	407	181	294	97	28	35	140
6	458	1050	165	153	97	1120	109	85	112	201	35	129
7	385	576	166	153	149	1380	27	140	141	205	35	71
8	269	306	167	215	139	1270	42	162	118	103	35	36
9	264	251	166	206	94	1120	572	184	140	317	34	24
10	239	288	120	200	95	894	1540	191	199	703	34	24
11	1440	405	150	211	95	714	1640	148	271	1140	35	24
12	1870	463	172	232	97	348	1070	95	246	736	35	24
13	1850	587	384	447	79	225	535	73	179	363	35	24
14	1810	602	865	584	54	484	680	124	94	296	35	24
15	1760	558	1150	603	71	712	846	162	66	145	36	24
16	1080	467	1000	534	151	605	651	160	152	76	36	24
17	257	379	803	447	333	542	354	158	160	47	37	24
18	372	268	554	382	418	754	288	157	94	40	50	24
19	463	234	209	423	417	915	248	100	61	39	67	24
20	458	273	155	416	364	781	193	156	56	39	278	24
21	455	297	155	359	379	620	193	1560	50	39	441	24
22	666	293	153	299	725	588	155	1640	50	39	281	25
23	453	276	139	276	990	566	121	1640	49	39	170	25
24	188	223	162	275	823	421	121	981	48	37	118	24
25	171	433	455	340	455	603	106	554	48	34	85	26
26	251	824	974	457	308	717	132	722	48	34	85	25
27	209	1070	1120	458	224	496	813	429	48	34	75	26
28	142	1030	883	364	220	364	1490	309	50	34	68	26
29	248	928	583	278	217	403	1140	150	50	34	68	26
30	289	526	303	229	---	382	838	89	51	35	68	26
31	288	---	229	198	---	348	---	89	---	34	51	---
TOTAL	17693	15765	12485	9610	7635	18398	16007	16322	3404	4987	2500	1012
MEAN	571	526	403	310	263	593	534	527	113	161	80.6	33.7
MAX	1870	1070	1150	603	990	1380	1640	1660	271	1140	441	140
MIN	142	223	120	153	54	148	27	73	48	21	34	22

CAL YR 1979 TOTAL 149626.4 MEAN 410 MAX 2040 MIN 7.4 MEAN# 410 CFSM# 2.52 IN# 34.21
WTR YR 1980 TOTAL 125818.0 MEAN 344 MAX 1870 MIN 21 MEAN# 343 CFSM# 2.10 IN# 28.58

* Adjusted for change in contents in Burnsville Lake.

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 current year (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, 3,970 ft³/s (112 m³/s) May 21, gage height, 10.94 ft (3.335 m); minimum gage height, 3.51 ft (1.070 m) July 2.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.89	4.85	4.95	4.76	4.53	4.58	6.03	7.81	4.44	3.80	3.72	3.68
2	4.76	6.68	4.81	4.61	4.48	4.49	6.17	7.47	4.70	3.55	3.72	3.63
3	5.15	6.59	4.78	4.46	4.39	4.47	5.32	7.21	4.59	3.83	3.75	3.66
4	5.17	6.18	4.59	4.45	4.23	4.50	5.22	6.40	4.28	4.04	3.98	3.77
5	5.34	6.28	4.51	4.46	4.22	7.64	5.02	5.01	4.14	4.00	3.98	5.05
6	5.46	6.43	4.51	4.45	4.22	7.81	4.68	4.31	4.18	4.56	3.83	4.38
7	5.29	5.61	4.53	4.50	4.38	7.24	4.26	4.48	4.59	4.69	3.82	4.04
8	4.97	4.99	4.50	4.87	4.39	6.91	4.33	4.52	4.81	4.38	3.93	3.84
9	5.91	4.82	4.47	4.80	4.21	6.63	8.34	4.54	4.45	5.33	3.78	3.71
10	8.90	5.07	4.32	4.69	4.22	6.23	7.70	4.58	4.82	6.71	3.79	3.70
11	7.79	5.46	4.38	4.88	4.21	5.90	7.35	4.42	4.99	6.65	3.78	3.69
12	7.98	5.46	4.56	5.13	4.20	5.12	6.57	4.23	4.84	6.00	3.81	3.67
13	8.19	5.67	7.40	5.43	4.12	5.10	5.60	4.14	4.55	5.29	3.79	3.67
14	7.76	5.69	6.89	5.89	3.98	6.50	6.26	4.31	4.20	5.06	3.75	3.67
15	7.48	5.57	6.80	5.93	4.06	6.22	6.43	4.45	4.01	4.47	3.74	3.71
16	6.46	5.41	6.49	5.69	4.98	5.89	5.97	4.42	4.57	4.04	3.91	3.69
17	4.87	5.22	6.06	5.58	5.33	5.72	5.26	4.41	4.64	3.87	3.83	3.67
18	5.13	4.90	5.59	5.51	5.36	6.78	5.02	4.44	4.27	3.80	4.47	3.67
19	5.35	4.75	4.75	5.54	5.32	6.61	4.89	4.25	4.01	3.78	5.15	3.67
20	5.34	4.83	4.50	5.43	5.22	6.19	4.66	4.66	3.95	3.77	5.08	3.67
21	5.32	4.92	4.46	5.23	5.37	6.01	4.63	9.05	3.89	3.76	5.68	3.68
22	5.68	4.90	4.45	5.06	6.35	6.02	4.50	7.43	3.87	3.77	5.37	3.69
23	5.29	4.85	4.40	4.96	6.61	5.79	4.34	7.20	3.86	3.93	4.67	3.75
24	4.53	4.91	4.51	4.92	6.24	5.44	4.32	6.94	3.85	3.84	4.30	3.80
25	4.44	5.57	6.69	5.41	5.51	6.09	4.27	5.98	3.84	3.76	4.06	3.79
26	4.68	7.69	7.03	5.83	5.11	6.15	4.38	6.05	3.84	3.74	4.02	3.76
27	4.63	6.93	6.85	5.64	4.85	5.61	7.19	5.36	3.84	3.73	3.97	3.74
28	4.31	6.58	6.33	5.34	4.78	5.37	7.41	5.01	3.85	3.72	3.92	3.71
29	4.75	6.35	5.72	5.05	4.76	5.74	6.73	4.46	3.85	3.71	3.92	3.70
30	4.89	5.64	5.07	4.82	---	5.46	8.09	4.11	3.85	3.72	3.91	3.68
31	4.87	---	4.80	4.72	---	5.46	---	4.16	---	3.72	3.87	---
MEAN	5.66	5.63	5.28	5.10	4.81	5.92	5.70	5.35	4.25	4.29	4.11	3.78
MAX	8.90	7.69	7.40	5.93	6.61	7.81	8.34	9.05	4.99	6.71	5.68	5.05
MIN	4.31	4.75	4.32	4.45	3.98	4.47	4.26	4.11	3.84	3.55	3.72	3.63

WTR YR 1980 MEAN 4.99 MAX 9.05 MIN 3.55

LITTLE KANAWHA RIVER BASIN

199

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, June, July, and those over 2,500 ft³/s (70.8 m³/s) prior to March 5, 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.--52 years, 606 ft³/s (17.16 m³/s), 21.32 in/yr (542 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, 7,660 ft³/s (217 m³/s) Oct. 10, gage height, 20.40 ft (6.218 m); minimum, 39 ft³/s (1.10 m³/s) Sept. 20, 21, 22, gage height, 2.08 ft (0.634 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	495	341	555	402	290	300	1610	3590	206	65	68	70		
2	424	2090	385	362	230	250	1530	2450	307	53	71	47		
3	648	2820	330	271	190	220	1070	2090	329	88	79	55		
4	616	1400	300	263	200	250	1150	1630	213	110	107	215		
5	631	1200	268	271	204	3740	998	806	164	89	126	1450		
6	731	1360	274	262	205	5010	676	294	155	280	93	329		
7	695	1090	285	278	215	2490	404	284	412	230	77	188		
8	501	498	266	478	259	1990	287	313	1240	260	86	130		
9	1180	419	230	494	206	1770	3410	282	411	1100	83	88		
10	6710	491	220	352	180	1360	2630	301	574	2200	86	69		
11	3330	838	204	592	170	1150	2220	250	596	2700	76	62		
12	2710	746	260	1030	160	750	1830	214	478	1700	73	55		
13	2840	813	3250	848	150	1100	915	199	312	840	71	51		
14	2510	877	3510	1150	143	3150	1640	199	233	660	67	49		
15	2180	786	1970	1290	139	1780	2010	242	223	400	61	57		
16	1900	706	1620	1070	671	1350	1480	236	625	137	79	61		
17	471	615	1100	1030	901	1150	806	231	292	115	91	49		
18	461	436	780	1130	700	2540	598	252	175	96	309	43		
19	626	332	489	906	620	2100	538	235	138	86	1340	41		
20	609	325	283	848	675	1530	397	210	111	79	530	40		
21	594	390	247	659	811	1280	363	4750	104	73	893	42		
22	662	381	239	591	1640	1470	328	2530	99	73	1040	41		
23	853	366	240	509	1870	1180	250	1920	95	341	433	53		
24	267	525	257	464	1490	923	238	2160	91	157	231	64		
25	194	939	2400	723	1010	1070	228	2280	87	93	137	65		
26	216	3650	2530	1230	628	1400	238	1870	82	76	112	56		
27	336	2610	2070	1060	527	1050	2130	843	80	67	104	49		
28	167	1700	1560	812	415	800	2770	564	77	67	91	46		
29	241	1430	1080	622	413	1500	1960	375	82	73	86	43		
30	370	1040	681	452	---	1070	4100	187	87	62	83	41		
31	351	---	445	380	---	1540	---	173	---	73	80	---		
TOTAL	34519	31214	28328	20829	15312	47263	38804	31960	8078	12443	6863	3649		
MEAN	1114	1040	914	672	528	1525	1293	1031	269	401	221	122		
MAX	6710	3650	3510	1290	1870	5010	4100	4750	1240	2700	1340	1450		
MIN	167	325	204	262	139	220	228	173	77	53	61	40		
CAL YR 1979	TOTAL	326891	MEAN	896	MAX	6710	MIN	43	MEAN#	896	CFSM#	2.32	IN#	31.49
WTR YR 1980	TOTAL	279262	MEAN	763	MAX	6710	MIN	40	MEAN#	762	CFSM#	1.97	IN#	26.81

* Adjusted for change in contents in Burnsville Lake.

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 current year (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 (water years 1929-1978), 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, 16,900 ft³/s (479 m³/s) Oct. 10, gage height, 28.58 ft (8.711 m); minimum gage height, 6.63 ft (2.021 m) Sept. 20, 21.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.63	8.19	9.96	9.15	8.98	8.74	15.62	21.39	7.81	6.93	7.12	7.06
2	9.39	13.44	9.24	8.91	8.72	8.51	13.40	15.22	7.95	6.90	7.08	6.99
3	12.57	18.74	8.91	8.62	8.59	8.93	12.04	13.47	8.28	6.96	7.06	6.92
4	10.82	12.82	8.70	8.38	8.57	8.77	13.69	12.53	8.79	7.53	7.46	6.94
5	10.76	11.22	8.54	8.37	8.30	16.05	13.82	10.94	8.54	8.10	8.21	10.79
6	10.59	11.03	8.45	8.37	8.12	26.03	11.44	9.33	7.99	7.95	7.67	9.33
7	10.28	10.85	8.47	8.27	8.08	16.70	10.30	8.84	9.41	8.02	7.54	8.20
8	9.78	9.45	8.43	9.07	8.13	13.98	9.58	8.73	15.43	8.45	7.72	7.64
9	11.42	8.88	8.23	9.61	8.14	13.67	13.74	8.54	11.43	11.22	7.57	7.30
10	25.52	9.39	8.10	9.26	8.00	12.30	16.17	8.39	9.56	15.41	10.15	7.08
11	21.96	11.05	8.00	9.74	8.03	11.51	13.79	8.33	10.58	13.87	8.27	6.93
12	14.93	10.49	7.96	13.89	7.98	10.65	12.78	8.16	9.30	11.36	7.58	6.85
13	15.05	10.13	15.96	11.97	7.92	11.77	11.22	8.10	8.67	10.48	7.29	6.80
14	14.40	10.13	22.29	11.46	7.81	18.56	12.31	8.15	8.19	9.52	7.11	6.76
15	13.07	9.87	14.39	12.29	7.65	15.84	15.85	8.03	7.82	8.82	7.00	6.74
16	12.42	9.68	12.62	11.62	8.59	13.05	13.31	7.99	8.15	8.22	7.14	6.75
17	10.39	9.40	11.54	11.23	11.97	12.03	11.33	7.90	10.85	7.52	7.35	6.82
18	8.89	9.05	10.61	12.84	10.73	15.96	10.28	7.94	9.02	7.28	8.22	6.74
19	8.98	8.67	9.81	11.62	10.45	15.84	9.77	8.05	8.24	7.07	15.27	6.68
20	9.05	8.43	8.97	10.95	10.03	13.21	9.35	7.97	7.73	6.96	11.90	6.65
21	8.94	8.42	8.57	10.37	10.56	12.31	9.02	14.21	7.49	6.90	10.84	6.64
22	8.86	8.46	8.40	9.95	13.74	13.86	8.82	16.06	7.32	6.85	15.54	6.68
23	9.44	8.41	8.32	9.65	14.47	12.39	8.58	12.56	7.19	9.29	11.52	6.85
24	8.64	10.88	8.37	9.32	12.84	11.33	8.37	11.96	7.11	9.90	9.47	6.97
25	7.94	13.40	15.23	9.47	11.61	11.60	8.24	17.18	7.06	8.12	8.64	6.98
26	7.78	17.90	17.14	12.71	10.47	12.52	8.22	15.05	7.01	7.48	8.01	6.96
27	7.89	18.36	14.77	12.18	9.80	11.46	12.61	11.52	6.97	7.20	7.68	6.88
28	8.03	13.26	12.81	11.15	9.42	10.81	17.47	9.84	6.95	7.12	7.46	6.79
29	7.82	12.07	11.42	10.34	9.13	14.34	13.99	9.05	6.94	7.52	7.31	6.73
30	8.30	11.23	10.42	9.59	---	12.94	18.14	8.39	6.93	7.28	7.19	6.68
31	8.30	---	9.56	9.25	---	13.29	---	7.92	---	7.16	7.11	---
MEAN	11.03	11.11	10.78	10.31	9.55	13.19	12.11	10.70	8.49	8.50	8.56	7.14
MAX	25.52	18.74	22.29	13.89	14.47	26.03	18.14	21.39	15.43	15.41	15.54	10.79
MIN	7.78	8.19	7.96	8.27	7.65	8.51	8.22	7.90	6.93	6.85	7.00	6.64

WTR YR 1980 MEAN 10.13 MAX 26.03 MIN 6.64

201

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 Rocksdale, 9.0 mi (14.5 km) southwest of Grantsville, and at mile 14.1 (22.7 km).

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).

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.

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, 5,950 ft³/s (169 m³/s) July 10, gage height, 19.59 ft (5.971 m); minimum gage height, 3.76 ft (1.146 m) Sept. 21, 30.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.02	4.32	5.66	5.39	5.22	4.83	7.91	10.36	4.41	3.87	3.99	3.99
2	5.73	9.52	5.49	5.21	5.07	5.03	7.00	7.49	4.31	3.85	3.94	3.96
3	8.24	8.59	5.22	5.05	5.06	5.16	6.48	6.55	4.32	4.48	3.93	3.96
4	6.37	6.47	5.11	4.97	4.86	4.97	9.78	6.07	4.93	4.60	4.50	3.92
5	6.26	5.80	5.10	5.02	4.76	13.25	7.88	5.75	4.55	4.47	4.05	6.32
6	5.94	5.47	5.10	4.92	4.79	13.53	6.80	5.54	4.81	4.32	3.92	5.06
7	5.67	5.28	5.14	4.95	4.80	8.28	6.32	5.61	6.91	4.22	3.97	5.31
8	5.34	5.09	4.98	5.84	4.70	7.37	6.04	5.31	6.66	5.90	4.35	4.78
9	7.07	4.99	4.78	5.65	4.69	6.82	7.78	5.09	5.43	10.30	4.96	4.34
10	16.93	6.26	4.70	5.45	4.73	6.27	7.11	4.94	6.41	17.09	5.79	4.21
11	9.00	7.05	4.69	6.73	4.71	6.03	6.41	4.84	6.12	8.70	4.62	4.15
12	7.06	6.20	4.76	9.25	4.62	5.70	6.09	4.78	5.28	6.18	4.21	4.05
13	7.89	5.84	13.01	7.08	4.47	8.28	5.92	5.04	4.85	7.86	4.03	3.96
14	7.03	5.54	10.74	6.63	4.42	10.55	10.18	5.08	4.61	6.16	3.92	3.91
15	6.15	5.28	7.35	6.30	4.49	8.07	11.92	4.88	4.44	5.35	3.89	3.89
16	5.71	5.18	6.48	6.00	6.26	6.97	7.67	4.66	4.86	4.89	4.97	3.93
17	5.38	5.06	5.97	6.37	6.90	6.69	6.62	4.56	5.20	4.59	4.64	3.91
18	5.10	4.92	5.52	7.00	6.25	9.06	6.19	4.75	4.62	4.38	5.87	3.86
19	4.88	4.82	5.46	6.37	5.91	7.74	5.90	4.69	4.38	4.23	7.97	3.82
20	4.73	4.73	5.28	6.01	5.65	6.87	5.67	5.00	4.24	4.12	5.92	3.79
21	4.63	4.66	5.08	5.78	6.53	7.05	5.50	7.87	4.14	4.04	7.78	3.77
22	4.57	4.60	5.00	5.62	8.27	7.66	5.32	6.20	4.08	3.99	10.47	3.83
23	4.49	4.58	4.95	5.54	7.19	6.71	5.21	5.54	4.02	4.38	6.62	3.96
24	4.50	8.00	5.13	5.29	6.39	6.35	5.11	6.27	3.98	4.20	5.79	4.02
25	4.44	8.75	10.11	7.12	5.94	7.79	5.01	8.55	3.96	4.04	5.10	4.00
26	4.38	12.61	9.38	8.64	5.74	7.21	5.05	6.17	3.93	3.95	4.71	3.93
27	4.31	8.77	7.66	6.98	5.43	6.47	8.18	5.46	3.91	3.89	4.41	3.88
28	4.33	6.99	6.57	6.29	5.38	6.86	8.46	5.02	3.91	4.26	4.23	3.86
29	4.64	6.36	6.07	5.88	5.12	8.99	6.83	4.75	3.88	5.05	4.13	3.82
30	4.60	5.94	5.82	5.48	---	7.31	11.51	4.57	3.89	4.36	4.07	3.78
31	4.41	---	5.61	5.37	---	7.70	---	4.54	---	4.10	4.02	---
MEAN	5.96	6.26	6.19	6.07	5.46	7.47	7.06	5.68	4.70	5.35	4.99	4.13
MAX	16.93	12.61	13.01	9.25	8.27	13.53	11.92	10.36	6.91	17.09	10.47	6.32
MIN	4.31	4.32	4.69	4.92	4.42	4.83	5.01	4.54	3.88	3.8		

WTR YR 1980 MEAN 5.78 MAX 17.09 MIN 3.77

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.--41 years, 2,130 ft³/s (60.32 m³/s), 19.09 in/yr (485 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 (0.017 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, 21,900 ft³/s (620 m³/s) Mar. 6, gage height, 24.94 ft (7.602 m); minimum, 98 ft³/s (2.78 m³/s) Sept. 22, gage height, 13.88 ft (4.231 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1810	668	2250	1680	1130	1160	6260	14700	1320	223	330	276
2	1490	2830	1640	1450	820	800	5940	9590	743	202	280	231
3	3760	9910	1280	1290	720	740	4390	5430	585	340	262	214
4	3520	6780	1090	1160	770	880	7000	4100	840	628	262	214
5	2340	3080	998	1050	830	7510	7490	3200	946	457	468	190
6	2240	2210	932	1020	805	20500	4790	2090	1330	644	496	1910
7	2040	2080	924	1010	753	14700	3130	1390	2220	599	756	1030
8	1840	1870	920	1160	713	7130	2740	1150	3710	1370	810	676
9	2090	1300	853	1600	713	5470	6240	998	5710	7360	592	479
10	12600	1770	761	1590	590	4310	8550	880	2140	11100	1200	340
11	18800	2620	707	2040	530	3240	5700	797	2110	10500	1610	253
12	8980	2580	692	7080	510	2600	4190	768	1860	3560	810	202
13	5670	2020	6530	5360	490	2700	3490	708	1270	2920	508	168
14	5580	1770	16600	3380	480	8590	5370	704	957	2240	350	150
15	4290	1670	10100	3290	510	10100	12100	719	748	1410	267	133
16	3270	1500	4760	3260	929	5700	6790	643	820	971	300	122
17	2700	1380	3400	2820	2130	4340	4170	602	1240	722	490	116
18	1620	1220	2510	3690	2550	6500	2690	594	1790	506	708	116
19	1030	1030	2050	3780	1980	8620	2070	643	1030	368	4850	119
20	978	864	1660	2720	2010	5950	1740	692	756	289	5380	116
21	973	765	1290	2280	2760	4350	1510	1990	550	232	2940	107
22	917	741	1070	1910	4680	4720	1290	7870	435	311	9210	104
23	871	752	967	1650	6470	4790	1150	4450	370	3170	6680	110
24	1070	1300	966	1480	4960	3590	1020	2830	310	2350	2500	122
25	870	5610	3560	1590	3610	3090	897	5420	271	1340	1450	147
26	601	10200	9380	4280	2730	3890	857	6650	244	700	935	164
27	499	10700	7800	4500	1980	3580	1880	4250	223	463	676	161
28	474	6640	5120	3200	1680	3200	8230	2080	214	1200	502	154
29	602	3830	3500	2350	1460	6270	6950	1410	214	913	386	140
30	568	2880	2550	1800	---	6180	5320	1030	235	606	330	122
31	613	---	2040	1440	---	4680	---	875	---	446	305	---
TOTAL	94706	92570	98900	76910	50293	169880	133944	89253	35191	58140	46643	8386
MEAN	3055	3086	3190	2481	1734	5480	4465	2879	1173	1875	1505	280
MAX	18800	10700	16600	7080	6470	20500	12100	14700	5710	11100	9210	1910
MIN	474	668	692	1010	480	740	857	594	214	202	262	104

CAL YR 1979 TOTAL 1123822 MEAN 3079 MAX 24000 MIN 160 MEAN# 3079 CFSM# 2.03 IN# 27.56
WTR YR 1980 TOTAL 954816 MEAN 2609 MAX 20500 MIN 104 MEAN# 2608 CFSM# 1.72 IN# 23.41

* Adjusted for change in contents in Burnsville Lake.

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-61, 1965-67, 1976 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)
OCT												
01...	1600	1720	140	6.9	--	20.0	--	--	--	--	--	45
16...	1000	5470	95	6.7	--	11.5	20	10.5	.63	530	180	34
NOV												
05...	1700	2750	105	7.4	19.0	11.0	--	--	--	--	--	39
27...	1020	6600	100	6.7	--	12.0	100	10.6	.70	6000	6900	33
DEC												
03...	1430	1260	140	6.8	6.0	6.0	--	--	--	--	--	39
11...	1100	708	140	6.9	--	4.0	6.0	12.8	.32	600	50	110
JAN												
08...	1100	1170	130	7.0	.0	4.0	--	--	--	--	--	51
22...	1030	1910	130	7.3	--	4.0	.00	13.1	1.1	111	44	42
FEB												
05...	0815	840	110	7.2	.0	.0	--	--	--	--	--	49
MAR												
04...	0900	1000	160	7.2	4.0	1.0	--	--	--	--	--	--
05...	0900	1000	160	7.2	--	1.0	--	--	--	--	--	47
26...	1145	3930	110	7.5	--	7.0	--	--	--	--	--	44
APR												
08...	1130	2130	125	7.2	1.0	12.0	--	--	--	--	--	39
15...	1030	9580	80	6.8	--	10.5	34	9.9	1.3	6110	10100	29
29...	1030	7090	110	7.0	--	10.0	36	10.4	.54	2444	13000	35
MAY												
06...	1000	2110	100	6.8	--	17.0	--	--	--	--	--	33
13...	1030	716	110	7.0	--	10.0	1.6	8.8	.11	100	--	50
JUN												
02...	1700	627	160	6.2	24.0	24.0	--	--	--	--	--	46
23...	1400	360	120	7.6	--	27.0	18	7.7	.83	0	0	48
JUL												
14...	1700	1970	110	7.0	33.0	24.0	--	--	--	--	--	42
28...	1400	1440	<50	7.0	28.0	22.0	260	7.3	.24	19000	105000	35
AUG												
18...	1000	452	148	7.0	--	24.0	20	6.4	--	--	--	57
26...	1000	1120	126	7.2	--	24.0	4.1	6.1	.61	307	89	46
SEP												
25...	1100	146	171	6.7	--	22.0	--	5.8	--	53	7	--

[illegible]

LITTLE KANAWHA RIVER BASIN

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, 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)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	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)
OCT												
01...	5.4	.1	6.6	88	70	.12	409	--	.43	--	--	--
16...	3.3	.2	6.5	68	62	.09	1000	--	.39	.29	.000	.000
NOV												
05...	4.8	--	--	64	--	.09	475	--	--	--	--	--
27...	2.8	.0	6.5	68	56	.09	1210	--	.36	.31	.020	.000
DEC												
03...	4.8	--	--	68	--	.09	231	38	.37	--	--	--
11...	17	.2	5.4	201	179	.27	384	--	.27	.30	.020	.010
JAN												
08...	8.2	--	--	83	--	.11	262	--	--	--	--	--
22...	4.7	.1	6.1	67	0	.00	346	--	.41	.43	.050	.030
FEB												
05...	6.4	--	--	75	--	.10	170	--	--	--	--	--
MAR												
04...	--	--	--	--	--	--	--	--	--	--	--	--
05...	8.2	--	--	85	--	.12	230	--	--	--	--	--
26...	4.5	--	--	68	--	.09	722	--	--	--	--	--
APR												
08...	4.1	--	--	76	--	.10	437	--	--	--	--	--
15...	3.0	.1	5.5	68	57	.09	1760	--	.37	.37	.070	.050
29...	3.3	.1	5.9	65	55	.09	1240	--	.21	.23	.030	.010
MAY												
06...	3.4	--	--	64	--	.09	365	--	--	--	--	--
13...	6.4	.1	4.3	90	81	.12	174	--	.07	.05	.040	.030
JUN												
02...	5.2	--	--	80	--	.11	135	--	--	--	--	--
23...	8.7	.1	5.2	82	77	.11	79.7	--	.21	.22	.060	.070
JUL												
14...	4.9	--	--	69	--	.09	367	--	--	--	--	--
28...	2.4	.1	4.8	70	48	.10	272	--	1.3	.00	.000	.800
AUG												
18...	7.7	--	6.3	96	--	.13	117	--	--	--	--	--
26...	5.1	.1	8.0	81	74	.11	245	--	.38	.35	.020	.020
SEP												
25...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	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)	NITRO- GEN, ORGANIC DIS- SOLVED (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. (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)
OCT												
01...	--	--	--	--	--	--	--	--	--	.040	.12	--
16...	.00	.00	.33	.34	.33	.00	.34	.72	3.2	.040	.12	.030
NOV												
27...	.02	.00	.57	.39	.59	.20	.39	.95	4.2	.280	.86	.020
DEC												
03...	--	--	--	--	.11	--	--	.48	2.1	.030	.09	--
11...	.02	.01	.00	.01	.02	.00	.02	.29	1.3	.020	.06	.010
JAN												
22...	.06	.04	.69	.61	.74	.10	.64	1.2	5.1	.010	.03	.000
APR												
15...	.08	.06	.69	.84	.76	.00	.89	1.1	5.0	.150	.46	.020
29...	.04	.01	.33	.30	.36	.05	.31	.57	2.5	.050	.15	.010
MAY												
13...	.05	.04	.00	.03	.01	.00	.06	.08	.35	.020	.06	.000
JUN												
23...	.07	.09	.56	.54	.62	.01	.61	.83	3.7	.030	.09	.010
JUL												
28...	.00	1.0	.13	.00	.13	.00	.24	1.4	6.3	.120	.37	.020
AUG												
26...	.02	.03	.23	.24	.25	.00	.26	.63	2.8	.020	.06	.000

LITTLE KANAWHA RIVER BASIN

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03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)
OCT 01...	1	--	--	200	--	--	--	0	--	--
DEC 11...	4	2	2	0	0	50	--	1	1	0
APR 29...	1	0	1	<50	--	40	--	0	0	4
AUG 18...	--	--	--	--	--	70	<1	--	--	4

DATE	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)	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)
OCT 01...	30	--	--	--	--	--	6	--	--
DEC 11...	10	0	<10	6	3	3	4	2	2
APR 29...	10	0	10	0	0	0	8	6	2
AUG 18...	--	--	--	--	--	<3	--	--	<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)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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 01...	1400	1300	120	2	--	--	--	60	30	30
NOV 05...	800	--	90	--	--	--	--	70	30	40
DEC 03...	1100	--	100	--	--	--	--	80	30	50
DEC 11...	1500	1500	10	10	10	0	--	310	10	300
JAN 08...	500	420	80	--	--	--	--	60	0	60
FEB 05...	330	270	60	--	--	--	--	40	0	50
MAR 05...	490	430	60	--	--	--	--	50	10	40
MAR 26...	1300	1200	70	--	--	--	--	60	50	10
APR 08...	1100	1000	60	--	--	--	--	50	20	30
APR 29...	4700	4600	80	12	12	0	--	220	210	6
MAY 06...	1100	1000	60	--	--	--	--	80	50	30
JUN 02...	1100	1000	90	--	--	--	--	120	70	50
JUL 14...	5700	5400	260	--	--	--	--	240	70	170
AUG 18...	1000	910	95	--	--	<10	<4	130	30	100

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	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 RECOV- ERABLE (UG/L AS SE)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)
OCT 01...	.2	--	--	--	--	--	--	0	--	--	--
16...	--	--	--	--	--	--	--	--	--	--	0
NOV 27...	--	--	--	--	--	--	--	--	--	--	--
DEC 03...	--	--	--	--	4	--	--	--	--	--	0
11...	.1	.0	.1	--	15	7	8	0	0	0	0
JAN 22...	--	--	--	--	--	--	--	--	--	--	0
APR 15...	--	--	--	--	--	--	--	--	--	--	--
29...	<.1	<.0	<.1	--	9	9	0	0	0	0	0
MAY 13...	--	--	--	--	--	--	--	--	--	--	0
JUN 23...	--	--	--	--	--	--	--	--	--	--	--
JUL 28...	--	--	--	--	--	--	--	--	--	--	0
AUG 18...	--	--	--	<10	--	--	--	--	--	--	--
26...	--	--	--	--	--	--	--	--	--	--	--

DATE	SILVER, SUS- PENDE D RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	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)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE (MG/L AS C)
OCT 01...	--	--	--	--	20	--	--	--	--	--
16...	--	--	--	--	--	--	--	2.2	--	--
NOV 27...	--	--	--	--	--	--	--	7.9	--	--
DEC 03...	--	--	--	--	50	--	--	--	--	--
11...	0	0	--	--	40	10	30	--	--	--
JAN 22...	--	--	--	--	--	--	--	1.2	2.5	.4
APR 15...	--	--	--	--	--	--	--	13	--	--
29...	0	0	--	--	180	180	0	--	2.8	--
MAY 13...	--	--	--	--	--	--	--	1.9	--	--
JUN 23...	--	--	--	--	--	--	--	4.3	--	--
JUL 28...	--	--	--	--	--	--	--	4.8	--	--
AUG 18...	--	--	93	<6.0	--	--	16	2.7	--	--
26...	--	--	--	--	--	--	--	3.6	--	--

DATE	COAL IN BOTTOM MATE- RIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS ASH WEIGHT G/SQ M	BIOMASS CHLORO- PHYLL RAT20 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
OCT 01...	--	.00	--	--	--	--	--	--	--	--	--
16...	--	--	--	--	--	--	--	--	18	266	79
NOV 27...	--	--	--	--	--	--	--	--	933	16600	90
DEC 11...	--	--	--	--	--	--	--	--	4	7.6	96
JAN 22...	--	--	--	--	--	--	--	--	21	108	80
MAR 26...	28.0	--	--	--	--	--	--	--	--	--	--
APR 15...	--	--	--	--	--	--	--	--	899	23300	87
29...	--	--	--	--	--	--	--	--	128	2450	62
MAY 13...	--	--	--	--	--	800	--	--	16	31	86
JUN 23...	--	--	41.6	41.2	4.23	1300	94.5	7.43	25	24	45
JUL 28...	--	--	15.5	12.8	272	0	9.94	4.15	724	2820	97
AUG 18...	--	--	--	--	--	--	--	--	31	38	--
26...	--	--	--	--	--	--	--	--	40	121	56
SEP 25...	--	--	--	--	--	930	--	--	19	7.5	66

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	MAY 13,80 1030	JUN 23,80 1400	JUL 28,80 1400	AUG 26,80 1000	SEP 25,80 1100
TOTAL CELLS/ML	800	1300	0	100	930
DIVERSITY: DIVISION	1.2	1.3	0.0	1.1	1.8
..CLASS	1.2	1.4	0.0	1.1	1.8
..ORDER	1.8	1.9	0.0	1.5	2.0
...FAMILY	2.7	2.3	0.0	2.0	2.0
....GENUS	2.8	2.9	0.0	2.0	2.2

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										
....MICRACTINIACEAE										
.....MICRACTINIUM	14	2	150	12	--	-	13	13	--	-
....OOCYSTACEAE										
.....ANKISTRODESMUS	--	-	39	3	--	-	--	-	64	7
.....CHLORELLA	--	-	39	3	--	-	--	-	--	-
.....DICTYOSPHAERIUM	--	-	210#	15	--	-	--	-	13	1
.....KIRCHNERIELLA	--	-	--	-	--	-	--	-	52	6
.....SELENASTRUM	--	-	26	2	--	-	--	-	--	-
.....TREUBARIA	--	-	39	3	--	-	--	-	--	-
....SCENEDESMACEAE										
.....SCENEDESMUS	57	7	--	-	--	-	52#	50	--	-
...VOLVOCALES										
...CHLAMYDOMONADACEAE										
....CHLAMYDOMONAS	--	-	190	14	--	-	13	13	52	6
CHRYSOPHYTA										
..BACILLARIOPHYCEAE										
...CENTRALES										
....COSCINODISCAEAE										
.....CYCLOTELLA	--	-	490#	37	--	-	--	-	52	6
.....MELOSIRA	14	2	26	2	--	-	--	-	--	-
...PENNALES										
....ACHNANTHACEAE										
.....ACHNANTHES	29	4	--	-	--	-	--	-	--	-
....GOMPHONEMATACEAE										
.....GOMPHONEMA	29	4	--	-	--	-	--	-	--	-
....NAVICULACEAE										
.....NAVICULA	43	5	--	-	--	-	--	-	--	-
....NITZSCHIAEAE										
.....NITZSCHIA	57	7	13	1	--	-	--	-	--	-
..XANTHOPHYCEAE										
...HETEROCOCCALES										
....CHLOROTHECIAEAE										
.....OPHIOCYTIUM	--	-	13	1	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)										
..CRYPTOPHYCEAE										
...CRYPTOMONADALES										
....CRYPTOCHRYSIDACEAE										
.....CHROOMONAS	--	-	64	5	--	-	--	-	39	4
....CRYPTOMONADACEAE										
.....CRYPTOMONAS	--	-	39	3	--	-	--	-	13	1
CYANOPHYTA (BLUE-GREEN ALGAE)										
..CYANOPHYCEAE										
...CHROOCOCCALES										
....CHROOCOCCACEAE										
.....AGMENELLUM	57	7	--	-	--	-	--	-	--	-
.....ANACYSTIS	100	13	--	-	--	-	13	13	530#	57
....HORMOGONALES										
.....NOSTOCACEAE										
.....ANABAENA	86	11	--	-	--	-	--	-	--	-
....OSCILLATORIAEAE										
.....OSCILLATORIA	320#	39	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)										
..EUGLENOPHYCEAE										
...EUGLENALES										
....EUGLENACEAE										
.....EUGLENA	--	-	--	-	--	-	--	-	13	1
....TRACHELOMONAS	--	-	--	-	--	-	13	13	--	-
PYRRHOPHYTA (FIRE ALGAE)										
..DINOPHYCEAE										
...PERIDINIALES										
....GLENODINIACEAE										
.....GLENODINIUM	--	-	--	-	--	-	--	-	100	11

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

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 fair except those for February and August, which are poor.

AVERAGE DISCHARGE.--45 years, 586 ft³/s (16.60 m³/s), 17.61 in/yr (447 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.--Maximum discharge, 10,100 ft³/s (286 m³/s) Mar. 6, gage height, 18.67 ft (5.691 m), no other peak above base of 9,500 ft³/s (270 m³/s); minimum, 11 ft³/s (0.31 m³/s) Sept. 21, gage height, 2.17 ft (0.661 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	490	96	385	350	240	240	2330	2250	1490	56	145	85
2	770	1290	327	300	210	220	1340	1080	851	47	258	76
3	3710	2390	268	250	190	210	837	676	1460	121	215	67
4	1260	759	229	230	170	250	2120	513	1200	267	155	60
5	1060	430	220	200	160	4430	2220	413	656	208	121	101
6	896	309	219	210	158	6650	1040	339	589	221	107	179
7	660	256	245	220	163	1970	690	300	1070	168	165	99
8	539	216	239	468	150	2500	851	260	4640	483	170	70
9	2930	196	199	380	130	2720	4890	227	1480	2300	189	57
10	4740	632	173	300	120	1170	2070	193	857	1910	636	47
11	2520	1030	165	898	110	798	1010	175	859	949	250	50
12	1150	610	169	3980	100	582	711	169	439	392	480	57
13	1400	435	4380	1550	99	896	689	161	290	362	288	44
14	847	340	5370	951	96	4530	1620	147	216	384	141	36
15	512	272	1430	980	94	2200	3830	134	178	235	204	29
16	365	240	761	752	326	1210	1600	118	1540	159	414	23
17	288	220	538	679	500	1220	831	101	1600	119	268	18
18	232	196	369	1140	460	3460	606	108	530	91	1150	17
19	188	173	300	862	400	2170	495	134	304	71	4030	15
20	158	158	270	621	390	1100	438	269	218	58	1700	12
21	138	144	249	502	1250	983	393	1700	167	46	892	12
22	122	133	226	429	2300	1600	346	1360	133	200	3680	14
23	111	124	218	391	1950	946	294	511	108	520	2010	19
24	100	594	232	328	1420	682	264	373	91	383	864	20
25	96	2420	2960	342	952	637	240	2590	79	161	400	26
26	93	5610	2740	1040	698	514	217	1940	69	102	230	26
27	87	3230	1580	869	506	413	662	645	78	74	160	23
28	85	1030	870	622	445	609	1930	427	130	236	131	18
29	96	676	607	492	310	2790	916	323	76	373	106	14
30	116	495	495	340	---	1560	850	263	64	252	91	12
31	111	---	427	280	---	1650	---	282	---	139	85	---
TOTAL	25870	24704	26860	20956	14097	50910	36330	18181	21462	11087	19735	1326
MEAN	835	823	866	676	486	1642	1211	586	715	358	637	44.2
MAX	4740	5610	5370	3980	2300	6650	4890	2590	4640	2300	4030	179
MIN	85	96	165	200	94	210	217	101	64	46	85	12
CFSM	1.85	1.82	1.92	1.50	1.08	3.63	2.68	1.30	1.58	.79	1.41	.10
IN.	2.13	2.03	2.21	1.72	1.16	4.19	2.99	1.50	1.77	.91	1.62	.11

CAL YR 1979	TOTAL	316811	MEAN 868	MAX 9580	MIN 23	CFSM 1.92	IN 26.07
WTR YR 1980	TOTAL	271518	MEAN 742	MAX 6650	MIN 12	CFSM 1.64	IN 22.35

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WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

[illegible]

LITTLE KANAWHA RIVER BASIN

03155500 HUGHES RIVER AT CISCO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (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 P04)
OCT 01...	81	77	.11	98.6	--	.46	--	--	--	.050	.15
NOV 05...	87	--	.12	89.3	--	--	--	--	--	--	--
DEC 03...	92	--	.13	65.8	24	.45	.32	.77	3.4	.120	.37
JAN 07...	92	--	.13	54.2	--	--	--	--	--	--	--
FEB 04...	107	--	.15	49.7	--	--	--	--	--	--	--
MAR 03...	104	--	.14	99.1	--	--	--	--	--	--	--
26...	82	--	.11	102	--	--	--	--	--	--	--
APR 07...	79	--	.11	141	--	--	--	--	--	--	--
MAY 05...	101	--	.14	113	--	--	--	--	--	--	--
JUN 02...	79	--	.11	148	--	--	--	--	--	--	--
JUL 14...	87	--	.12	90.2	--	--	--	--	--	--	--
AUG 18...	147	--	.20	163	--	--	--	--	--	--	--
27...	--	--	--	--	--	--	--	--	--	--	--

DATE	ARSENIC TOTAL (UG/L AS AS)	BARIIUM, TOTAL RECOV- ERABLE (UG/L AS BA)	BARIIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS RE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT 01...	1	200	--	--	0	--	20	--	8	--
AUG 18...	--	--	80	<1	--	1	--	<3	--	<10

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)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)
OCT 01...	810	720	90	2	--	--	50	20	30	.2	--
NOV 05...	600	--	90	--	--	--	40	10	30	--	--
DEC 03...	460	--	90	--	--	--	60	0	60	--	--
JAN 07...	390	290	100	--	--	--	70	0	70	--	--
FEB 04...	370	270	100	--	--	--	70	0	70	--	--
MAR 03...	350	310	40	--	--	--	70	10	60	--	--
26...	470	410	60	--	--	--	40	10	30	--	--
APR 07...	520	460	60	--	--	--	40	0	40	--	--
MAY 05...	440	380	60	--	--	--	50	0	50	--	--
JUN 02...	4600	4500	110	--	--	--	220	190	30	--	--
JUL 14...	1400	1300	110	--	--	--	80	20	60	--	--
AUG 18...	2900	2800	110	--	<10	<4	150	90	63	--	<10

DATE	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT 01...	--	0	0	--	--	20	--	--	--	.01	--	--
DEC 03...	15	--	0	--	--	50	--	--	--	--	--	--
MAR 26...	--	--	--	--	--	--	--	--	4.00	--	--	--
AUG 18...	--	--	--	180	<6.0	--	<4	7.1	--	--	234	259

OHIO RIVER MAIN STEM

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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 fair. Daily discharge computed from head, gate openings, and lockages. Flow regulated by Ohio River system of locks, dams, and reservoirs.

AVERAGE DISCHARGE.--6 years, 63,060 ft³/s (1,786 m³/s), 21.79 in/yr (553 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, 208,000 ft³/s (5,890 m³/s) Apr. 15; minimum daily, 10,200 ft³/s (289 m³/s) July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67000	32500	81800	63900	23000	37500	190000	66600	65800	18000	51900	39800
2	68000	48800	67500	62000	21000	26400	207000	78600	66800	22900	42400	32100
3	94300	59700	57600	56200	18000	20500	174000	68900	135000	18600	72700	30700
4	88900	49800	50500	55800	17700	24900	158000	55200	138000	16500	111000	36900
5	71800	49800	49000	47300	17600	71300	157000	47500	108000	24000	107000	55200
6	76300	49500	52700	47100	23000	117000	149000	44500	96400	26000	89300	47900
7	95700	49300	44200	42200	23100	104000	133000	27000	104000	18400	68100	38600
8	93000	40900	43400	41700	20600	101000	137000	32300	117000	37500	55700	30800
9	94400	34400	44900	40000	19500	149000	160000	32400	110000	82900	58300	30700
10	123000	55200	42700	39000	19300	147000	194000	26200	111000	84400	63800	35300
11	145000	66000	43000	44000	17500	122000	185000	24800	104000	67200	110000	28200
12	120000	64000	43000	118000	15200	111000	154000	37700	97300	54900	193000	21500
13	105000	62000	69000	109000	14700	112000	138000	79300	79700	45400	166000	20800
14	100000	58000	109000	104000	12500	126000	146000	85600	61600	41300	102000	23500
15	98000	46000	93300	88300	16000	107000	208000	81000	54300	32400	94900	38300
16	91600	48500	73600	85600	18000	91300	178000	70400	72700	19600	109000	23700
17	82500	42000	55300	82400	21000	88200	162000	57400	77300	20600	87500	26900
18	75000	40500	51400	80000	23200	164000	137000	57000	67800	39300	117000	22900
19	66700	45000	52200	78800	19000	190000	131000	60700	58200	27600	180000	18100
20	57700	37000	49500	70400	24000	157000	116000	83800	43500	23100	182000	16000
21	54500	36700	40100	63700	38700	134000	99400	100000	35600	10200	120000	15500
22	51000	32600	44500	53800	60000	164000	83200	123000	30100	67100	159000	18600
23	39600	34100	39500	54800	101000	164000	71500	101000	27000	95200	126000	18300
24	31600	37800	39300	47700	109000	135000	60000	83000	26000	81000	95800	21500
25	30500	57000	71100	44800	96500	121000	54800	88500	23200	57700	75900	18400
26	34200	86400	131000	34000	83700	111000	41100	89800	17000	39100	60800	13700
27	27000	140000	163000	50000	67200	112000	42300	69300	19800	31500	55200	15300
28	22000	124000	117000	35000	58300	111000	53100	54000	20800	64900	53700	15900
29	26000	95000	99500	32000	45400	139000	58000	46700	23200	78200	49200	14600
30	23000	87900	89900	35000	---	144000	69300	38900	26000	72400	37700	11600
31	28000	---	80500	27000	---	152000	---	37500	---	60900	44400	---
TOTAL	2181300	1710400	2089000	1833500	1043700	3554100	3846700	1948600	2017100	1378800	2939300	781300
MEAN	70360	57010	67390	59150	35990	114600	128200	62860	67240	44480	94820	26040
MAX	145000	140000	163000	118000	109000	190000	208000	123000	138000	95200	193000	55200
MIN	22000	32500	39300	27000	12500	20500	41100	24800	17000	10200	37700	11600
CAL YR 1979	TOTAL	25443200	MEAN	69710	MAX	330000	MIN	12000				
WTR YR 1980	TOTAL	25323800	MEAN	69190	MAX	208000	MIN	10200				

OHIO RIVER MAIN STEM

03159870 OHIO RIVER AT RACINE DAM, WV

LOCATION.--Lat 38°55'00", long 81°54'45", Mason County, Hydrologic Unit 05030202, at left end of Racine Dam on Ohio River, 3.6 miles (5.8 km) south of Racine, Ohio, and at mile 237.5 (382.1 km), measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--40,100 mi² (10,400 km²), approximately.

PERIOD OF RECORD.--October 1979 to September 1980 (discontinued).

GAGE.--Gate opening and water-stage recorder. Headwater reference gage 0.4 mi (0.6 km) upstream at datum 548.00 ft (167.030 m) National Geodetic Vertical Datum of 1929. Tailwater reference gage 0.5 mi (0.8 km) downstream at datum 10.00 ft (3.048 m) lower.

REMARKS.--Records good. Daily discharge computed from head, gate openings, and lockages. Flow regulated by Ohio River system of locks, dams and reservoirs.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 228,000 ft³/s (6,460 m³/s) Apr. 2; minimum daily, 11,000 ft³/s (312 m³/s) July 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	72300	29600	90100	69000	24300	42800	196000	76000	67500	20000	65100	42400
2	70400	40500	86300	65400	22300	32800	228000	83600	67700	25000	45800	30400
3	94800	65700	71200	60500	18500	23800	200000	74800	127000	19800	83200	31800
4	93700	65000	54500	57300	18500	26400	179000	63600	148000	20900	118000	34600
5	75700	48900	50000	50100	18300	73400	189000	49000	118000	24600	116000	54500
6	76600	50400	53300	49100	24700	127000	158000	44000	104000	25100	96000	52000
7	98500	52800	50000	44300	24600	114000	137000	25100	110000	18500	69400	44700
8	95300	44300	45900	43700	21800	100000	129000	29400	118000	34400	62000	34300
9	98000	34600	47800	43200	20400	160000	178000	35100	114000	95400	60500	36700
10	123000	58800	43700	42000	20100	178000	212000	26700	113000	107000	67700	37000
11	153000	71400	41600	46200	19100	143000	189000	23000	108000	75800	112000	37300
12	129000	68900	42500	122000	16700	118000	163000	41800	102000	62600	208000	25600
13	110000	67200	74000	123000	15400	119000	140000	82100	87200	55200	188000	19800
14	104000	65000	123000	110000	13400	152000	154000	92600	72800	41600	108000	26800
15	98000	50400	106000	92100	17400	129000	227000	85600	56900	36300	96900	50000
16	91900	52900	81900	87200	19200	96500	191000	77300	69900	20100	111000	26100
17	86100	45200	59700	84800	22700	89200	166000	61700	76700	19600	92600	26200
18	71400	43600	52200	81800	25500	154000	140000	61300	79600	46500	112000	26900
19	59600	48200	52400	80200	20200	206000	123000	66600	67300	24100	195000	20600
20	60200	39800	50900	74300	24200	186000	119000	96500	50100	21000	190000	14500
21	56000	36900	44600	68800	35500	161000	101000	102000	41900	11700	135000	14700
22	53800	33700	45800	56100	63800	163000	84400	129000	37000	68100	201000	18200
23	37600	35800	40800	59500	93000	156000	73200	119000	29700	101000	145000	22700
24	35500	36600	41000	47500	123000	150000	65800	90700	27700	89600	105000	23700
25	34200	64600	75600	47700	108000	130000	59600	93600	26900	63700	82400	18500
26	34600	99100	141000	36900	83800	125000	41100	105000	17600	40400	68600	16700
27	28600	176000	181000	53700	76400	114000	43500	76800	21900	30700	61600	15200
28	23900	174000	142000	37800	68800	119000	54800	57800	21600	69800	55100	15200
29	28900	109000	109000	34100	51400	136000	58600	48600	25900	82000	51800	14100
30	23100	94900	95800	39200	---	156000	68100	48200	26000	75000	42400	12900
31	31200	---	83500	29900	---	156000	---	41800	---	62400	46000	---
TOTAL	2248900	1903800	2277100	1937400	1111000	3836900	4068100	2108300	2133900	1487900	3191100	844100
MEAN	72550	63460	73450	62500	38310	123800	135600	68010	71130	48000	102900	28140
MAX	153000	176000	181000	123000	123000	206000	228000	129000	148000	107000	208000	54500
MIN	23100	29600	40800	29900	13400	23800	41100	23000	17600	11700	42400	12900

WTR YR 1980 TOTAL 27148500 MEAN 74180 MAX 228000 MIN 11700

KANAWHA RIVER BASIN

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03176500 NEW RIVER AT GLEN LYN, VA
(National stream-quality accounting network station)

LOCATION (REVISED).--Lat 37°22'20", long 80°51'39", 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) 55 mi (88 km) above station. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--53 years, 5,033 ft³/s (142.5 m³/s), 18.14 in/yr (461 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, 49,700 ft³/s (1,410 m³/s) Apr. 15, gage height, 12.08 ft (3.682 m); minimum, 980 ft³/s (27.8 m³/s) Aug. 11, Sept. 22, gage height, 3.03 ft (0.924 m); minimum daily, 1,020 ft³/s (28.9 m³/s) Aug. 11.

DISCHARGE* IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10900	3800	11900	6850	5820	5060	10400	9990	4610	3710	5140	1230
2	8970	7380	7950	3280	6060	4070	9040	8750	2570	2470	3750	1170
3	7990	18100	5440	5860	2450	3710	9100	8360	6270	4810	1360	1820
4	7210	15100	6260	5770	2050	4310	8720	7000	5600	1460	1220	2100
5	6890	10300	5360	5730	4620	5330	8510	7100	2970	2050	3310	2410
6	6450	8920	5610	4040	5020	6550	6200	6960	3430	2160	3090	2330
7	3000	7420	6690	1950	4450	7700	7040	6950	5560	3130	3360	1500
8	3410	7130	5820	5360	5520	7180	8140	6520	1890	4300	2790	1600
9	4970	6220	4970	4510	5710	6620	18300	4770	3030	3860	2360	3000
10	8540	7250	3800	4300	2010	8980	23400	5480	4180	4590	1260	2300
11	13600	11700	5240	5520	1950	8070	15000	3790	3490	5460	1020	2100
12	9760	16700	5240	6050	5660	8750	13900	3880	3850	8950	1870	2000
13	8580	14900	5080	4320	4410	8390	14000	4940	4200	6060	1540	2300
14	6690	12100	4700	6230	4550	5960	19000	4880	3840	4410	1900	1300
15	6110	9490	4510	11400	4800	7510	42600	5020	1620	6440	1700	1200
16	7170	7750	3630	12300	7120	4910	24400	4840	1550	4800	1600	2500
17	6530	7910	2400	9580	4370	8800	17200	5400	3520	4850	1200	2300
18	6140	5200	4740	11800	2940	17500	15000	7010	3160	3650	1100	1700
19	4850	3970	4590	19200	4880	14000	12900	4500	3510	3750	1800	1800
20	4740	7010	4260	13900	5570	12600	10400	9000	3500	1580	1900	1900
21	3570	6690	3090	9620	6410	19400	9390	9640	3350	1470	2000	1300
22	2860	6370	3310	10400	7140	26700	9080	9270	1480	2790	2100	1100
23	6070	2340	1630	12400	6890	19400	8870	7460	1360	3160	4500	2500
24	6850	6530	2970	9730	3230	16100	8340	6670	3470	2900	2000	2100
25	3700	7510	10260	8930	4610	16300	8410	10700	3800	3130	1900	1900
26	4930	11300	7910	7530	6560	15400	8270	7850	7780	2750	3700	1830
27	5610	20800	9180	5830	6360	11300	8480	6230	9230	1280	2800	2620
28	1900	16300	7910	4870	6180	12500	5770	6720	6760	1370	2560	1320
29	1780	12000	7090	7130	4420	13900	8100	6410	4310	8650	2670	1110
30	5690	12700	5820	6740	---	12800	8970	6650	1390	6800	2350	1840
31	4440	---	2910	6510	---	11400	---	4910	---	6150	1390	---
TOTAL	189900	290890	170210	237640	141760	331200	376930	207650	115280	122940	71240	56180
MEAN	6126	9696	5491	7666	4888	10680	12560	6698	3843	3966	2298	1873
MAX	13600	20800	11900	19200	7140	26700	42600	10700	9230	8950	5140	3000
MIN	1780	2340	1630	1950	1950	3710	5770	3790	1360	1280	1020	1100
(*)	+97	-48	+51	-47	-22	+63	+3	-52	+58	-72	+78	+22
MEAN*	6223	9648	5542	7619	4866	10750	12570	6646	3901	3894	2376	1895
CFSM*	1.65	2.56	1.47	2.02	1.29	2.85	3.34	1.76	1.04	1.03	.63	.50
IN*	1.90	2.86	1.70	2.33	1.39	3.29	3.72	2.03	1.16	1.19	.73	.56

CAL YR 1979 TOTAL 2762360 MEAN 7568 MAX 55300 MIN 1330 MEAN* 7566 CFSM* 2.01 IN* 27.26
WTR YR 1980 TOTAL 2311820 MEAN 6316 MAX 42600 MIN 1020 MEAN* 6327 CFSM* 1.68 IN* 22.86

* 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, 1973-80): Maximum, 350 micromhos Nov. 6, 1968; minimum, 70 micromhos Mar. 26, 27, 1979.

WATER TEMPERATURES (water years 1964-71, 1973-80): 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, 200 micromhos Sept. 23; minimum daily, 83 micromhos May 1.

WATER TEMPERATURES: Maximum daily, 28.5°C Aug. 12; minimum daily, 2.0°C Feb. 2, Mar. 3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (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)	CALCIUM DIS- SOLVED (MG/L AS CA)	
DATE	TIME												
OCT 24...	1305	6830	104	7.0	12.0	5.0	10.6	650	280	42	8	10	
NOV 20...	1115	7710	117	7.1	9.0	2.0	10.4	72	47	49	10	12	
DEC 18...	1045	5950	117	8.0	2.0	3.0	12.2	33	K10	53	12	14	
JAN 21...	1200	9500	119	7.7	5.0	1.2	10.8	170	86	51	6	13	
FEB 26...	1100	7630	119	7.5	4.0	.50	12.0	K15	K3	51	2	13	
MAR 25...	1145	16600	111	6.7	7.5	2.0	11.7	730	450	48	7	12	
APR 22...	1200	9680	103	7.3	14.0	2.2	8.8	260	K22	45	8	11	
MAY 20...	1115	9540	116	7.5	18.0	1.8	8.6	70	310	50	7	12	
JUN 24...	1100	3740	145	7.7	23.0	.20	6.7	120	89	56	9	13	
JUL 29...	1045	13600	138	6.9	24.0	25	7.0	K3000	5400	57	8	14	
AUG 27...	1115	4130	138	7.7	26.0	3.1	6.9	33	120	61	7	14	
SEP 23...	1030	2720	191	7.8	26.0	.10	6.9	81	54	88	26	20	
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY (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 CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
OCT 24...	4.1	2.9	1.6	34	7.6	3.3	.1	8.0	77	60	.47	.44	
NOV 20...	4.7	2.8	1.4	39	9.3	3.0	.1	8.2	69	68	.60	.61	
DEC 18...	4.4	2.9	1.4	41	10	3.4	.1	8.1	80	72	.69	.67	
JAN 21...	4.5	2.4	1.0	45	6.3	3.1	.1	6.8	68	67	.63	.67	
FEB 26...	4.6	4.9	1.2	41	8.3	8.0	.1	6.1	71	73	.40	.40	
MAR 25...	4.3	3.1	1.4	41	6.4	4.1	.1	6.9	70	66	.65	.64	
APR 22...	4.3	2.2	1.1	37	7.1	2.9	.1	6.9	72	61	.70	.75	
MAY 20...	4.8	3.0	.8	43	8.1	3.1	.1	6.5	75	70	1.4	1.4	
JUN 24...	5.7	3.1	1.9	47	9.7	3.5	.1	3.9	84	74	1.0	1.0	
JUL 29...	5.4	3.3	1.5	49	10	3.3	.1	5.2	89	76	.93	.88	
AUG 27...	6.2	3.3	1.6	54	9.3	3.3	.2	8.0	90	81	.55	.56	
SEP 23...	9.3	4.3	1.7	62	22	4.2	.1	7.2	119	108	.49	.48	

K Results based on colony count outside the acceptable range (non-ideal colony count).

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WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (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. (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- PHORUS, DIS- SOLVED (MG/L AS P)	ARSENIC TOTAL (UG/L AS AS)
OCT 24...	.000	.020	.81	.40	.81	.39	.42	1.3	.86	.050	.030	--
NOV 20...	.010	.000	.28	.04	.29	.25	.04	.89	.65	.050	.030	3
DEC 18...	.040	.040	.37	.36	.41	.01	.40	1.1	1.1	.030	.030	--
JAN 21...	.010	.010	.29	.11	.30	.18	.12	.93	.79	.030	.020	--
FEB 26...	.090	.100	.38	.24	.47	.13	.34	.87	.74	.030	.020	1
MAR 25...	.010	.010	.60	.23	.61	.37	.24	1.3	.88	.050	.020	--
APR 22...	.060	.070	.14	.08	.20	.05	.15	.90	.90	.110	.030	--
MAY 20...	.110	.030	.14	.01	.25	.21	.04	1.7	1.4	.040	.030	1
JUN 24...	.070	.060	.37	.15	.44	.23	.21	1.4	1.2	.040	.030	--
JUL 29...	.050	.050	.77	.24	.82	.53	.29	1.8	1.2	.080	.050	--
AUG 27...	.030	.030	.27	.20	.30	.07	.23	.85	.79	.090	.070	1
SEP 23...	.020	.030	.15	.09	.17	.05	.12	.66	.60	.100	.100	--

[illegible]

KANAWHA RIVER BASIN

03176500 NEW RIVER AT GLEN LYN, VA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	IRON, SUS- PENDED RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	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 DIS- SOLVED (UG/L AS HG)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, TOTAL (UG/L AS SE)
OCT 24...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 20...	430	90	2	0	40	30	10	<.1	<.1	2	2	0
DEC 18...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 21...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 26...	170	40	3	0	20	20	3	<.1	<.1	3	1	0
MAR 25...	--	--	--	--	--	--	--	--	--	--	--	--
APR 22...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 20...	320	20	2	1	40	40	1	<.1	<.1	2	0	0
JUN 24...	--	--	--	--	--	--	--	--	--	--	--	--
JUL 29...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 27...	490	30	4	0	50	40	10	.1	.1	8	6	0
SEP 23...	--	--	--	--	--	--	--	--	--	--	--	--
DATE	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDED (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
OCT 24...	--	--	--	--	--	--	--	--	--	9	166	92
NOV 20...	0	0	0	20	20	2.4	2.2	.2	120	7	146	96
DEC 18...	--	0	--	--	--	2.5	--	--	--	7	112	92
JAN 21...	--	--	--	--	--	4.5	--	--	--	16	410	59
FEB 26...	0	1	0	30	20	1.7	1.6	.1	--	8	165	82
MAR 25...	--	0	--	--	--	2.2	--	--	170	21	941	83
APR 22...	--	--	--	--	--	2.3	--	--	--	41	1070	95
MAY 20...	0	0	0	20	5	--	--	.1	1400	22	567	71
JUN 24...	--	0	--	--	--	.8	--	--	150	10	101	94
JUL 29...	--	--	--	--	--	4.8	--	--	1400	98	3600	100
AUG 27...	0	0	0	80	10	12	12	.3	1200	14	156	79
SEP 23...	--	0	--	--	--	2.7	--	--	51	7	51	--

03176500 NEW RIVER AT GLEN LYN, VA--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	90	---	---	---	---	140	125	83	135	139	131	177
2	90	120	115	110	142	155	130	103	140	145	133	182
3	100	100	125	118	181	130	125	115	135	143	133	187
4	90	100	130	108	150	145	122	105	135	142	177	---
5	100	100	120	120	120	125	120	115	133	155	158	158
6	100	110	118	120	120	---	130	118	141	155	148	156
7	110	110	120	140	145	---	120	115	130	---	143	156
8	---	110	100	130	140	139	120	120	155	150	153	170
9	100	---	---	120	125	125	120	118	160	130	163	162
10	105	125	135	130	165	140	100	119	140	125	---	174
11	100	128	122	125	148	135	100	145	138	120	180	153
12	100	100	100	120	138	117	120	145	135	122	180	149
13	110	120	118	120	125	108	110	120	125	---	187	151
14	110	120	120	123	130	145	110	122	145	128	187	164
15	120	98	120	108	145	120	90	---	170	122	172	185
16	120	125	112	105	120	123	100	115	168	---	177	185
17	110	120	145	110	125	140	100	118	155	128	177	186
18	120	135	120	105	130	100	118	119	130	138	194	175
19	100	160	128	110	139	120	120	120	130	148	192	175
20	130	120	---	100	120	120	120	103	135	158	192	179
21	125	120	---	118	130	120	120	105	150	---	180	175
22	115	122	123	128	130	120	120	102	155	172	172	182
23	100	140	143	---	120	115	115	101	175	177	172	200
24	105	145	155	120	149	100	110	100	135	161	156	187
25	130	140	125	125	150	107	115	100	133	158	161	166
26	130	142	95	135	121	110	103	99	125	158	156	173
27	120	110	103	135	120	---	115	110	118	158	151	177
28	130	110	100	145	135	115	100	112	120	143	166	176
29	120	118	100	120	140	110	110	118	120	143	166	192
30	120	95	98	123	---	120	110	117	139	131	172	177
31	105	---	125	120	---	120	---	125	---	131	154	---
MEAN	110	119	119	120	136	124	114	114	140	144	166	173
WTR YR 1980	MEAN	132	MAX	200	MIN	83						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	---	---	---	---	4.5	11.5	13.0	22.0	23.0	25.0	25.0
2	20.0	13.5	7.0	7.0	2.0	3.5	13.0	13.0	22.5	25.0	26.0	26.0
3	19.0	12.0	5.5	6.5	2.5	2.0	12.5	14.0	23.0	24.0	26.0	27.5
4	17.5	11.0	7.0	7.0	3.0	4.0	13.0	15.5	23.0	24.0	26.5	---
5	17.5	11.0	7.0	6.0	3.5	5.5	11.5	16.0	22.5	25.0	26.5	27.0
6	16.0	11.5	7.0	5.0	3.5	---	11.0	17.0	21.5	25.0	27.0	26.0
7	15.0	11.5	7.5	4.0	3.5	---	13.0	17.5	22.0	---	27.0	26.0
8	---	11.5	7.5	5.0	3.5	8.0	13.0	16.0	23.0	25.0	26.5	25.0
9	17.5	---	---	6.0	6.0	9.0	13.0	16.0	21.0	25.0	26.5	25.0
10	16.5	12.0	6.0	4.5	5.5	8.0	14.0	15.5	21.0	26.0	---	25.5
11	15.5	12.0	7.5	5.5	5.0	7.0	14.0	16.0	19.0	22.0	28.0	23.5
12	15.5	11.0	8.5	4.5	5.0	6.5	14.0	18.0	20.5	26.0	28.5	23.5
13	12.0	11.0	11.0	4.5	4.5	5.0	14.0	20.5	21.0	---	28.0	24.0
14	13.5	9.5	8.0	5.0	5.5	5.0	13.0	19.5	21.0	24.0	28.0	23.5
15	11.0	8.0	5.0	8.0	6.0	5.5	13.0	---	24.0	26.5	27.0	26.0
16	10.5	9.0	6.0	8.0	5.5	7.0	12.0	19.0	22.0	---	26.0	24.5
17	14.0	9.0	7.0	8.5	4.5	8.5	11.0	19.0	22.0	28.0	25.0	24.0
18	14.0	9.0	6.5	8.0	4.0	8.5	13.0	18.5	22.0	26.5	24.0	24.0
19	14.0	9.0	6.0	7.5	4.0	8.5	12.0	18.0	22.5	26.0	25.0	25.0
20	15.0	10.5	---	7.0	6.0	10.0	13.0	18.0	22.0	28.0	25.0	24.0
21	16.0	11.0	---	6.5	6.0	9.0	14.0	17.5	20.5	---	25.0	24.0
22	17.0	11.0	7.0	7.0	8.0	7.5	14.5	17.5	21.0	27.0	25.5	25.0
23	15.0	13.0	10.0	---	9.5	7.0	14.5	18.5	24.0	26.5	25.0	26.0
24	13.5	13.5	9.0	6.5	9.5	9.0	16.0	19.0	23.5	26.0	24.0	25.0
25	13.5	13.0	8.0	6.0	9.0	10.0	16.5	18.0	22.0	26.0	25.0	24.5
26	13.0	12.5	8.0	7.5	5.5	9.0	16.5	17.0	22.0	27.5	26.0	23.5
27	12.5	12.0	7.0	7.0	6.0	---	16.0	18.0	24.0	27.0	26.0	21.0
28	12.5	10.5	6.0	7.5	5.5	9.5	13.5	19.0	25.0	26.0	27.0	19.0
29	13.5	9.0	5.0	7.5	5.0	9.0	14.0	20.0	26.0	25.0	26.0	19.0
30	13.5	7.5	5.0	5.5	---	10.0	13.0	21.0	25.5	26.0	27.0	20.0
31	14.0	---	5.5	3.0	---	11.0	---	22.0	---	25.5	25.5	---
MEAN	15.0	11.0	7.0	6.5	5.5	7.5	13.5	17.5	22.5	25.5	26.0	24.0
WTR YR 1980	MEAN	15.0	MAX	28.5	MIN	2.0						

KANAWHA RIVER BASIN

03176500 NEW RIVER AT GLEN LYN, VA--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	NOV 20,79 1115	MAR 25,80 1145	MAY 20,80 1115	JUN 24,80 1100				
TOTAL CELLS/ML	120	170	1400	150				
DIVERSITY: DIVISION	0.8	0.4	1.6	1.3				
..CLASS	0.8	0.4	1.6	1.3				
..ORDER	0.8	0.4	2.0	1.8				
...FAMILY	1.5	1.5	2.1	2.2				
....GENUS	1.8	1.7	2.5	2.5				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....OOCYSTACEAE								
.....ANKISTRODESMUS	39#	33	13	8	100	7	39#	25
.....CHODATELLA	--	--	--	--	26	2	--	--
.....DICTYOSPHAERIUM	--	--	--	--	--	--	13	8
.....OOCYSTIS	--	--	--	--	--	--	--	--
.....TETRAEDRON	--	--	--	--	--	--	--	--
...SCENEDESMACEAE								
....SCENEDESMUS	52#	44	--	--	78	5	--	--
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	--	--	--	52	4	--	--
...PHACOTACEAE								
....PHACOTUS	--	--	--	--	--	--	--	--
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCAEAE								
.....CYCLOTELLA	13	11	--	--	270#	19	26#	17
.....MELOSIRA	13	11	--	--	210	14	--	--
...PENNALES								
....ACHNANTHACEAE								
.....ACHNANTHES	--	--	--	--	--	--	--	--
...FRAGILARIACEAE								
.....ASTERIONELLA	--	--	13	8	--	--	--	--
.....FRAGILARIA	--	--	--	--	--	--	--	--
.....SYNEDRA	--	--	26#	15	13	1	--	--
...NAVICULACEAE								
....NAVICULA	--	--	100#	62	90	6	26#	17
...NITZSCHIAEAE								
....NITZSCHIA	--	--	13	8	--	--	39#	25
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOMONADACEAE								
.....CRYPTOMONAS	--	--	--	--	--	--	--	--
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
.....ANACYSTIS	--	--	--	--	580#	41	13	8
...HORMOGONALES								
....OSCILLATORIAEAE								
.....OSCILLATORIA	--	--	--	--	--	--	--	--
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
.....EUGLENA	--	--	--	--	13	1	--	--

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

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

KANAWHA RIVER BASIN

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03176500 NEW RIVER AT GLEN LYN, VA--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	JUL 29,80 1045	AUG 27,80 1115	SEP 23,80 1030
TOTAL CELLS/ML	1400	1200	51
DIVERSITY: DIVISION	1.6	1.2	1.5
..CLASS	1.6	1.2	1.5
...ORDER	2.0	1.7	1.5
...FAMILY	2.7	1.8	2.0
...GENUS	2.8	1.8	2.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)						
..CHLOROPHYCEAE						
...CHLOROCOCCALES						
...OOCYSTACEAE						
....ANKISTRODESMUS	26	2	--	-	13#	25
....CHODATELLA	--	-	--	-	--	-
....DICTYOSPHAERIUM	--	-	13	1	--	-
....OOCYSTIS	52	4	--	-	--	-
....TETRAEDRON	--	-	13	1	--	-
...SCENEDESMACEAE						
...SCENEDESMUS	410#	29	360#	30	--	-
..VOLVOCALES						
...CHLAMYDOMONADACEAE						
....CHLAMYDOMONAS	--	-	--	-	--	-
...PHACOTACEAE						
....PHACOTUS	--	-	13	1	--	-
CHRYCOPHYTA						
..BACILLARIOPHYCEAE						
...CENTRALES						
...COSCINODISCEAE						
....CYCLOTELLA	26	2	39	3	--	-
....MELOSIRA	--	-	--	-	--	-
...PENNALES						
....ACHNANTHACEAE						
....ACHNANTHES	78	5	--	-	--	-
...FRAGILARIACEAE						
....ASTERIONELLA	--	-	--	-	--	-
....FRAGILARIA	52	4	--	-	--	-
....SYNEDRA	90	6	--	-	--	-
...NAVICULACEAE						
....NAVICULA	100	7	--	-	13#	25
...NITZSCHIACEAE						
....NITZSCHIA	13	1	13	1	13#	25
CRYPTOPHYTA (CRYPTOMONADS)						
..CRYPTOPHYCEAE						
...CRYPTOMONADALES						
...CRYPTOMONADACEAE						
...CRYPTOMONAS	13	1	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)						
..CYANOPHYCEAE						
...CHROOCOCCALES						
...CHROOCOCCACEAE						
....ANACYSTIS	140	10	140	12	13#	25
...HORMOGONALES						
...OSCILLATORIACEAE						
...OSCILLATORIA	410#	29	590#	50	--	-
EUGLENOPHYTA (EUGLENOIDS)						
..EUGLENOPHYCEAE						
...EUGLENALES						
...EUGLENACEAE						
....EUGLENA	--	-	--	-	--	-

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 of 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 July, which are fair, and those for February and March, 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.--30 years, 477 ft³/s (13.51 m³/s), 17.84 in/yr (453 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 190⁰, that of Apr. 5, 1977.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,330 ft³/s (123 m³/s) Jan. 18, gage height, 9.02 ft (2.749 m), no peak above base of 4,500 ft³/s (130 m³/s); minimum, 51 ft³/s (1.44 m³/s) Sept. 30, gage height, 2.15 ft (0.655 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	220	124	427	415	360	430	915	3530	277	85	234	94
2	186	487	370	376	310	380	782	1920	250	73	181	106
3	182	1620	300	337	270	400	682	1220	222	69	148	95
4	168	950	285	328	250	510	1510	935	200	69	133	83
5	224	614	275	320	220	700	1480	786	178	86	154	77
6	234	421	260	300	200	2300	1020	662	459	123	155	70
7	202	337	246	320	185	1640	791	533	606	114	152	66
8	172	287	228	702	175	1580	666	462	337	90	127	62
9	154	255	194	706	165	1290	990	406	228	300	140	58
10	388	379	174	594	155	910	990	361	186	1000	107	76
11	804	854	168	570	145	849	809	328	167	2800	100	130
12	578	1380	165	1060	135	741	694	300	148	1260	430	95
13	698	1230	194	950	130	750	634	287	133	1070	388	72
14	1280	849	272	975	125	1610	768	337	124	1020	177	62
15	791	610	250	1220	300	1430	1040	302	117	546	125	58
16	539	487	228	1040	1060	1200	940	255	114	317	107	55
17	415	403	224	935	1630	1570	782	234	118	232	96	53
18	331	343	178	2480	1000	2160	682	448	121	181	125	56
19	262	300	192	3690	764	1690	602	522	109	148	254	78
20	220	265	192	2090	638	1320	525	469	102	128	210	71
21	196	240	182	1330	737	2350	462	1020	91	114	436	56
22	178	224	168	1320	1130	2530	409	895	85	170	1060	56
23	170	212	176	3240	995	1630	370	662	83	614	786	73
24	176	210	204	2190	809	1330	343	1050	80	394	376	90
25	165	234	1270	1470	700	1920	337	1450	82	228	243	85
26	148	1030	1350	1090	650	1640	373	955	124	170	181	77
27	136	1560	920	890	600	1230	867	732	141	150	145	68
28	130	985	694	723	560	1240	1520	543	104	317	120	58
29	144	686	550	610	490	1530	1190	427	88	1560	104	53
30	146	518	494	500	---	1210	3170	355	82	678	95	52
31	133	---	452	430	---	1040	---	305	---	343	98	---
TOTAL	9770	18094	11282	33201	14888	41110	26343	22691	5156	14449	7187	2185
MEAN	315	603	364	1071	513	1326	878	732	172	466	232	72.8
MAX	1280	1620	1350	3690	1630	2530	3170	3530	606	2800	1060	130
MIN	130	124	165	300	125	380	337	234	80	69	95	52
CFSM	.87	1.66	1.00	2.95	1.41	3.65	2.42	2.02	.47	1.28	.64	.20
IN.†	1.00	1.85	1.16	3.40	1.53	4.21	2.70	2.33	.53	1.48	.74	.22
IN.*	2.44	3.36	1.48	3.30	---	---	4.25	2.74	2.18	---	4.65	1.48

CAL YR 1979 TOTAL 250426 MEAN 686 MAX 6930 MIN 72 CFSM 1.89 IN 25.66
WTR YR 1980 TOTAL 206356 MEAN 564 MAX 3690 MIN 52 CFSM 1.55 IN 21.15

† Runoff.

* Rainfall.

KANAWHA RIVER BASIN

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03179000 BLUESTONE RIVER NEAR PIPESTEM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-1974. 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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											
23...	1115	171	260	7.5	--	14.0	--	97	23	.0	.0
NOV											
27...	1115	1570	160	7.8	10.0	10.0	--	59	12	.0	.0
JAN											
15...	1130	1250	155	6.6	5.0	4.5	--	49	15	.0	.0
MAR											
06...	1300	2020	--	--	9.0	4.5	--	--	--	--	--
23...	1740	1470	143	7.8	--	8.0	--	49	19	.1	5.0
APR											
18...	1530	651	170	8.4	16.5	12.5	--	59	18	--	--
MAY											
28...	1430	504	180	7.8	26.0	19.5	--	63	20	--	--
JUL											
08...	1015	74	280	8.0	25.5	22.5	--	130	21	--	--
AUG											
20...	0900	206	320	7.8	21.0	22.0	17	97	10	.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)	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 AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
OCT										
23...	29	5.9	11	.5	77	23	12	137	.19	63.3
NOV										
27...	18	3.3	4.8	.3	48	13	5.5	--	--	--
JAN										
15...	14	3.3	9.1	.6	34	16	12	85	.12	287
MAR										
06...	--	--	--	--	--	--	--	--	--	--
23...	14	3.4	6.6	.4	35	17	8.5	88	.12	349
APR										
18...	17	4.0	8.3	.5	43	16	9.4	87	.12	153
MAY										
28...	18	4.3	8.0	.4	50	17	7.8	92	.13	125
JUL										
08...	36	10	22	.8	110	40	19	194	.26	38.8
AUG										
20...	28	6.4	19	.9	87	30	20	176	.24	97.9

DATE	BARIIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
OCT											
23...	--	--	--	--	--	200	--	60	--	--	10
NOV											
27...	--	--	--	--	--	2700	2700	10	--	--	100
JAN											
15...	--	--	--	--	--	500	430	70	--	--	30
MAR											
23...	--	--	--	--	--	1200	1200	40	--	--	60
APR											
18...	--	--	--	--	--	390	350	40	--	--	20
MAY											
28...	--	--	--	--	--	1000	940	60	--	--	60
JUL											
08...	--	--	--	--	--	190	170	20	--	--	30
AUG											
20...	50	<1	<1	<3	<10	1300	1300	37	<10	5	70

KANAWHA RIVER BASIN

03179000 BLUESTONE RIVER NEAR PIPESTEM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 23...	0	10	--	--	--	--	--	--	--	--
NOV 27...	100	0	--	--	--	--	--	--	--	--
JAN 15...	20	10	--	--	--	--	--	--	--	--
MAR 23...	50	7	--	--	--	--	--	48.0	--	--
APR 18...	10	6	--	--	--	--	--	--	--	--
MAY 28...	50	9	--	--	--	--	--	--	--	--
JUL 08...	20	10	--	--	--	--	--	--	--	--
AUG 20...	60	7	15	190	<6.0	<4	4.0	--	43	24

KANAWHA RIVER BASIN

223

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, 16,270 acre-ft (20.1 hm³) Dec. 24, 1979, elevation, 1,396.54 ft (425.665 m).

EXTREMES FOR CURRENT YEAR.--Maximum contents, 83,680 acre-ft (103 hm³) Apr. 16, elevation, 1,427.96 ft (435.242 m); minimum, 16,270 acre-ft (20.1 hm³) Dec. 24, elevation, 1,396.54 ft (425.665 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Change in contents (equivalent in cfs)
Sept. 30.....	1410.31	38930	-	-
Oct. 31.....	1401.95	23880	-15050	-245
Nov. 30.....	1408.85	36210	+12330	+207
Dec. 31.....	1399.60	20330	-15880	-258
CAL YR 1979			-12870	-18
Jan. 31.....	1406.04	31010	+10680	+174
Feb. 29.....	1409.69	37760	+6750	+117
Mar. 31.....	1410.65	39550	+1790	+29
Apr. 30.....	1410.24	38800	-750	-13
May 31.....	1409.95	38260	-540	-9
June 30.....	1410.07	38480	+220	+4
July 31.....	1410.64	39540	+1060	+17
Aug. 31.....	1410.20	38720	-820	-13
Sept. 30.....	1410.46	39200	+480	+8
WTR YR 1980			+270	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.--51 years, 5,627 ft³/s (159.4 m³/s), 16.60 in/yr (442 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, 36,100 ft³/s (1,020 m³/s) Apr. 15, gage height, 12.15 ft (3.703 m); minimum, 860 ft³/s (24.4 m³/s) Oct. 25, gage height, 7.20 ft (2.195 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11500	4530	12800	5900	6650	5700	12800	14500	4530	3220	5900	1810
2	10100	5550	11400	5550	5800	4570	10500	12400	4210	3500	4040	1580
3	9170	14700	8000	5550	3990	3260	9750	9890	6000	4260	3300	1990
4	8060	17800	7100	5850	2860	5600	11500	8630	6050	2650	2020	2400
5	7390	14100	6350	5700	3900	9190	11800	7880	3780	2020	3000	2820
6	7190	11900	5800	4660	5500	9470	9470	8630	3780	2300	3780	2790
7	4620	10300	6300	3580	5100	10200	7940	6920	7700	3500	3780	2370
8	3730	8420	6450	3950	5650	10400	8140	6700	3380	4390	3300	2020
9	6860	7340	5850	5400	6450	9820	12000	6450	3820	4710	2860	2440
10	7640	7100	5250	5550	3740	9610	25000	5200	4080	6860	2190	2260
11	15200	8770	4950	5900	2440	9540	19300	4530	3950	7760	1900	2160
12	13300	14600	5450	6700	4620	9330	16100	4660	4170	11700	2470	2260
13	9820	17500	5500	6350	5250	9610	14900	5750	4390	6750	2750	2440
14	8770	15700	5450	6920	4480	9540	16400	5700	4080	7520	2230	1930
15	8630	13200	5150	11100	5250	9470	29500	5450	2820	7820	1680	1630
16	8280	10500	4710	13700	8140	9330	34300	5400	1930	4800	1840	2120
17	6200	9190	3780	12700	8140	8700	28100	5500	3000	5400	2020	2370
18	3620	7460	3990	13500	4900	16800	19100	7040	3460	4530	1600	2400
19	8210	4850	4850	21700	5450	18600	15300	6050	3580	3990	2370	2720
20	6500	6450	4850	21500	6300	15100	11900	8140	3860	2960	2680	2440
21	4750	7340	4440	14400	7160	17900	10700	9960	3990	2120	2650	2050
22	3820	6600	3700	12100	7460	26900	9540	10700	2370	3000	4710	1700
23	5700	4390	2650	15300	7940	27300	8980	8210	1530	4350	6400	2050
24	8420	5200	2790	14600	5750	20200	9120	7580	2960	4040	3990	2160
25	3900	7280	6920	12200	3740	18600	8140	12300	3900	3740	3100	2090
26	5100	8280	10900	10500	6050	18500	8630	10300	8350	3380	3100	2300
27	6650	18600	10700	8140	6800	15200	9610	7400	9050	2580	3220	2890
28	4950	20500	10000	6300	6750	13300	8280	7580	7220	2300	3220	2090
29	3500	15800	8910	7460	5950	15700	10500	6650	5150	9750	3220	1550
30	5050	13000	7700	7400	---	15100	13500	7040	2860	8490	3030	2050
31	6350	---	6050	7280	---	14300	---	5700	---	6800	2650	---
TOTAL	222980	316950	198740	287440	162210	396840	420800	238840	129950	151190	95000	65880
MEAN	7193	10570	6411	9272	5593	12800	14030	7705	4332	4877	3065	2196
MAX	15200	20500	12800	21700	8140	27300	34300	14500	9050	11700	6400	2890
MIN	3500	4390	2650	3580	2440	3260	7940	4530	1530	2020	1600	1550

CAL YR 1979 TOTAL 3251452 MEAN 8908 MAX 50600 MIN 932 MEAN# 8888 CFSM# 1.93 IN# 26.22
WTR YR 1980 TOTAL 2686820 MEAN 7341 MAX 34300 MIN 1530 MEAN# 7352 CFSM# 1.60 IN# 21.69

* Adjusted for change in contents in Claytor (Virginia) and Bluestone Lakes.

KANAWHA RIVER BASIN

225

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.

REMARKS.--Interruptions in water-temperature record due to instrument malfunctions.

EXTREMES FOR PERIOD OF RECORD.--

WATER TEMPERATURES: Maximum, 30.0°C July 17, 1977, July 21, 1980; minimum, 0.0°C on several days during winter months most years.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 30.0°C July 21; minimum, 1.5°C February 2-10.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

[illegible]

KANAWHA RIVER BASIN

227

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 period of no gage-height record, Oct. 24 to Nov. 29, which are fair, and those for January, February, and March, which are poor.

AVERAGE DISCHARGE.--37 years, 258 ft³/s (7.307 m³/s), 26.15 in/yr (664 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.--Maximum discharge, 2,330 ft³/s (66.0 m³/s) May 21, gage height, 4.77 ft (1.454 m), no peak above base of 2,800 ft³/s (79 m³/s); minimum, 10.3 ft³/s (0.29 m³/s), Sept. 20, 21, gage height, 0.72 ft (0.219 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123	82	244	186	80	160	984	1390	145	28	100	44
2	139	900	207	163	76	150	720	873	125	22	98	38
3	264	1300	167	138	74	140	519	568	116	47	72	50
4	208	700	211	126	72	160	495	405	110	73	68	36
5	328	450	191	131	70	230	421	309	90	41	60	37
6	485	300	159	121	68	370	377	252	107	42	48	36
7	462	250	146	133	66	354	329	230	113	28	38	28
8	369	220	124	139	64	783	332	186	173	178	34	23
9	836	230	105	117	62	1320	1790	163	136	374	51	20
10	1680	270	106	97	61	870	1090	145	392	520	81	19
11	1450	360	101	150	60	665	640	134	368	367	50	19
12	1250	440	99	360	74	469	459	124	255	221	35	17
13	1200	460	199	332	90	383	396	127	189	159	32	15
14	960	450	260	410	120	315	926	129	150	112	26	15
15	660	330	249	430	160	260	1310	109	123	88	24	19
16	450	290	241	413	229	272	876	98	157	70	43	25
17	320	250	211	395	280	1070	591	95	124	97	33	19
18	250	220	180	853	230	1830	484	154	94	97	507	17
19	200	190	243	1310	210	1060	399	131	83	64	569	15
20	179	170	178	823	195	685	332	212	70	58	362	14
21	157	155	144	530	280	1090	278	2040	60	62	353	13
22	140	145	131	395	944	1090	230	1090	53	104	282	18
23	137	148	130	316	1470	703	202	632	45	573	227	33
24	140	170	142	213	1240	531	182	489	41	321	177	33
25	130	500	654	252	827	588	167	455	40	201	138	72
26	120	1600	594	200	563	533	172	344	35	141	111	57
27	110	1000	459	150	387	457	1010	260	31	107	92	30
28	102	680	352	125	324	444	956	210	31	115	76	21
29	100	400	281	105	236	882	643	174	29	225	62	17
30	98	305	242	90	---	807	1440	161	31	135	54	16
31	90	---	208	84	---	914	---	182	---	108	50	---
TOTAL	13137	12965	6958	9287	8612	19585	18750	11871	3516	4778	3953	816
MEAN	424	432	224	300	297	632	625	383	117	154	128	27.2
MAX	1680	1600	654	1310	1470	1830	1790	2040	392	573	569	72
MIN	90	82	99	84	60	140	167	95	29	22	24	13
CFSM	3.16	3.22	1.67	2.24	2.22	4.72	4.66	2.86	.87	1.15	.96	.20
IN.	3.65	3.60	1.93	2.58	2.39	5.44	5.21	3.30	.98	1.33	1.10	.23
CAL YR 1979	TOTAL	129410	MEAN 355	MAX 3010	MIN 30	CFSM 2.65	IN 35.93					
WTR YR 1980	TOTAL	114228	MEAN 312	MAX 2040	MIN 13	CFSM 2.33	IN 31.71					

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, 24.5 July 21; minimum daily, -1.0°C Feb. 1-3, 11, 13.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.5	6.0	2.0	.0	-1.0	.0	5.5	9.0	15.5	20.5	23.0	23.5
2	14.5	5.5	1.0	.5	-1.0	.0	6.5	9.0	16.5	21.0	23.5	23.0
3	13.0	4.5	.0	1.0	-1.0	1.0	8.0	10.0	16.5	21.5	23.5	22.0
4	13.5	3.5	.5	1.0	.0	1.5	6.5	11.0	18.0	22.0	23.5	23.5
5	13.5	3.0	1.0	1.0	1.0	2.0	6.5	11.0	16.5	21.0	24.0	23.0
6	11.5	2.0	.5	.5	1.0	2.0	6.0	11.0	17.0	21.0	23.5	23.0
7	10.5	2.0	1.5	1.0	1.0	2.0	5.5	13.0	18.0	22.0	23.5	22.0
8	9.5	3.0	1.0	.5	1.5	2.0	6.5	14.0	18.0	22.0	24.0	21.0
9	10.0	3.0	1.0	1.0	1.5	3.0	7.0	11.5	16.5	22.0	24.0	20.0
10	10.0	3.5	1.0	1.5	.5	2.0	6.5	13.0	15.5	21.0	23.0	21.0
11	9.0	4.5	2.0	2.0	-1.0	1.5	6.0	14.5	15.5	22.0	23.0	20.0
12	10.0	6.5	1.5	2.0	.0	1.5	6.5	15.5	16.5	22.0	23.5	20.5
13	10.0	4.5	1.5	1.5	-1.0	2.0	7.0	16.5	16.5	21.0	22.0	21.0
14	9.0	1.5	1.0	2.0	.0	1.5	7.0	15.5	18.0	23.5	21.0	20.5
15	7.0	3.5	1.0	2.0	1.0	2.0	6.5	15.5	18.5	23.5	22.0	20.0
16	8.0	4.0	.5	2.0	1.0	1.5	5.5	15.5	19.0	23.5	22.0	19.5
17	9.0	3.5	.5	1.5	.5	2.0	5.5	16.5	18.5	23.5	22.0	20.5
18	11.0	2.0	.0	1.5	1.0	2.0	7.0	16.5	19.0	23.5	22.0	21.0
19	11.0	3.5	.5	1.0	1.5	3.0	7.0	17.0	19.0	23.5	22.0	20.5
20	12.0	4.5	.0	1.5	1.5	3.5	10.0	18.0	18.5	23.5	22.0	20.0
21	13.0	4.5	1.0	1.0	1.5	3.0	9.0	16.5	18.0	24.5	23.0	20.5
22	12.0	5.5	1.5	1.0	2.0	2.0	9.5	16.5	18.5	24.0	23.5	20.5
23	11.0	7.0	1.0	.5	2.0	1.5	13.0	14.5	20.0	23.5	22.0	19.5
24	9.0	8.0	2.0	.0	1.5	2.0	14.5	14.5	21.0	23.5	20.0	20.0
25	8.0	7.0	1.5	.5	2.0	1.5	8.0	15.5	20.0	24.0	20.5	20.0
26	7.0	8.5	1.0	1.0	1.0	2.0	6.5	15.5	21.0	24.0	21.0	18.5
27	4.5	8.0	1.0	1.0	.0	1.5	4.5	13.5	21.0	23.5	22.0	16.5
28	5.5	5.5	1.5	1.5	1.0	2.0	9.0	14.0	22.0	23.5	22.0	14.5
29	6.5	1.5	1.5	.5	.0	2.0	9.0	15.0	23.0	22.0	21.0	14.0
30	7.0	2.0	.5	.0	---	3.0	8.0	17.0	21.5	22.0	21.0	13.5
31	6.5	---	.0	.0	---	3.5	---	15.5	---	22.0	22.0	---
MEAN	10.0	4.5	1.0	1.0	.5	2.0	7.5	14.0	18.5	22.5	22.5	20.0
WTR YR 1980	MEAN	10.5		MAX	24.5		MIN	-1.0				

KANAWHA RIVER BASIN

229

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, February, March, and April, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--51 years, 875 ft³/s (24.78 m³/s), 22.00 in/yr (559 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Mar. 18	---	Unknown	Unknown	May 21	1000	*13100 371	10.60 3.231

Minimum discharge, 42 ft³/s (1.19 m³/s) Sept. 13-15; gage height, 1.72 ft (0.524 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	385	261	918	622	285	600	2700	3800	747	79	218	90
2	402	1620	771	556	270	540	2200	2530	589	74	192	86
3	1040	4920	596	481	255	500	1700	1730	498	73	181	83
4	948	2380	513	431	245	520	1900	1270	450	70	149	77
5	818	1500	529	414	235	640	2100	1000	385	101	140	83
6	1040	1120	494	397	225	1000	1600	833	414	112	131	74
7	1140	919	482	512	215	1600	1300	722	498	92	105	67
8	1010	765	435	773	210	2340	1050	616	449	87	88	69
9	1200	661	365	447	205	4240	1800	523	447	318	78	58
10	3520	730	325	285	200	2820	3800	468	396	732	73	54
11	5160	1020	318	274	195	2090	2500	424	719	909	92	50
12	3670	1300	302	1020	190	1480	1500	406	570	514	102	46
13	3860	1600	400	1210	240	1240	1300	381	443	382	78	44
14	3200	1470	843	1360	300	1090	1600	355	357	285	65	43
15	2040	1190	797	2660	380	896	6570	334	298	204	61	54
16	1400	1060	741	2240	500	1120	3490	290	271	160	70	62
17	1060	887	698	1780	880	4500	2180	263	305	133	65	56
18	832	747	532	3100	740	9200	1600	386	258	125	313	55
19	674	662	522	5890	690	6000	1280	491	204	171	1520	53
20	571	584	589	3180	670	3000	1070	578	180	120	830	48
21	503	525	477	1980	780	2600	908	9130	156	98	628	47
22	450	488	418	1440	1920	4100	776	4140	139	116	519	49
23	428	461	404	1280	4040	3000	673	2190	125	402	445	64
24	450	474	418	1000	3160	2000	599	1950	115	636	361	71
25	414	710	1940	820	2300	2500	563	2510	109	406	278	93
26	375	3910	2280	780	1670	2900	510	1520	103	274	221	101
27	343	4220	1580	640	1140	2100	1890	1070	97	205	181	133
28	322	2340	1180	500	1050	1500	3200	828	89	359	151	93
29	327	1560	948	410	830	2000	2080	659	83	791	128	72
30	323	1160	811	350	---	2700	3190	551	83	499	111	62
31	283	---	709	310	---	2300	---	914	---	290	100	---
TOTAL	38188	41244	22335	37142	24020	73116	57629	42862	9577	8817	7674	2037
MEAN	1232	1375	720	1198	828	2359	1921	1383	319	284	248	67.9
MAX	5160	4920	2280	5890	4040	9200	6570	9130	747	909	1520	133
MIN	283	261	302	274	190	500	510	263	83	70	61	43
CFSM	2.28	2.55	1.33	2.22	1.53	4.37	3.56	2.56	.59	.53	.46	.13
IN.	2.63	2.84	1.54	2.56	1.65	5.04	3.97	2.95	.66	.61	.53	.14

CAL YR 1979	TOTAL	456537	MEAN	1251	MAX	12600	MIN 108	CFSM 2.32	IN 31.45
WTR YR 1980	TOTAL	364641	MEAN	996	MAX	9200	MIN 43	CFSM 1.84	IN 25.12

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 October, January, February, and March and periods of no gage-height record, Oct. 28 to Nov. 29, and July 18 to Sept. 3, which are poor.

AVERAGE DISCHARGE.--9 years, 218 ft³/s (6.174 m³/s), 20.56 in/yr (522 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.--Maximum discharge, 6,020 ft³/s (170 m³/s) Mar. 17, gage height, 13.70 ft (4.176 m), no other peak above base of 3,200 ft³/s (91 m³/s); minimum, 11 ft³/s (0.31 m³/s) Sept. 16-19, gage height, 6.24 ft (1.902 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	240	200	197	148	110	115	612	581	126	14	37	25
2	380	540	166	133	100	100	459	398	99	14	32	24
3	400	1300	129	118	94	110	359	307	84	13	29	24
4	340	800	118	109	86	140	705	248	74	12	26	22
5	270	450	113	107	76	250	690	208	62	14	23	22
6	260	260	111	97	70	542	451	183	57	14	20	20
7	240	200	106	84	62	560	342	165	65	12	18	18
8	220	170	93	91	59	950	280	142	57	12	16	16
9	200	150	82	85	56	1170	1730	126	48	14	15	14
10	700	220	73	71	53	614	834	112	45	114	14	14
11	1300	320	69	82	51	429	483	103	42	96	16	12
12	1000	370	67	431	49	310	366	96	36	46	18	12
13	900	380	71	358	48	272	317	89	33	43	19	12
14	960	350	84	471	58	318	1110	87	30	35	15	11
15	620	290	80	720	80	320	1420	78	27	26	12	11
16	360	240	78	519	168	611	645	71	29	23	14	11
17	230	200	78	405	213	2930	423	65	32	22	13	11
18	150	170	60	1240	175	2650	328	96	26	25	45	11
19	115	145	78	1660	158	846	268	99	25	27	180	11
20	100	130	72	680	144	540	225	105	25	21	130	11
21	81	115	72	439	140	1370	195	394	23	19	100	11
22	74	105	67	366	243	1060	170	324	21	22	82	12
23	86	100	66	410	352	567	150	243	20	70	70	12
24	138	98	71	370	370	447	138	218	18	87	58	12
25	126	200	892	300	356	1150	128	277	18	60	52	20
26	103	600	600	250	298	695	124	228	18	45	48	22
27	94	1300	377	220	233	463	301	178	16	43	44	18
28	86	600	274	190	225	394	567	142	16	62	38	16
29	82	330	221	170	188	705	408	116	16	100	34	14
30	78	244	195	150	---	612	810	101	16	69	30	13
31	74	---	173	130	---	572	---	168	---	45	27	---
TOTAL	10007	10577	4933	10604	4315	21812	15038	5748	1204	1219	1275	462
MEAN	323	353	159	342	149	704	501	185	40.1	39.3	41.1	15.4
MAX	1300	1300	892	1660	370	2930	1730	581	126	114	180	25
MIN	74	98	60	71	48	100	124	65	16	12	12	11
CFSM	2.24	2.45	1.10	2.38	1.04	4.89	3.48	1.29	.28	.27	.29	.11
IN.	2.59	2.73	1.27	2.74	1.11	5.63	3.88	1.48	.31	.31	.33	.12

CAL YR 1979 TOTAL 101069 MEAN 277 MAX 4120 MIN 14 CFSM 1.92 IN 26.11
WTR YR 1980 TOTAL 87194 MEAN 238 MAX 2930 MIN 11 CFSM 1.65 IN 22.52

KANAWHA RIVER BASIN

231

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, February, and March, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--85 years, 1,998 ft³/s (56.58 m³/s), 19.99 in/yr (508 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.--Maximum discharge, 28,200 ft³/s (799 m³/s) Mar. 18, gage height, 12.44 ft (3.792 m), no other peak above base of 19,000 ft³/s (540 m³/s); minimum, 120 ft³/s (3.40 m³/s) Sept. 17, 18, gage height, 2.00 ft (0.610 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1590	596	2150	1430	1150	1630	7610	7010	1520	188	602	315
2	3140	1480	1720	1240	1050	1200	6270	5470	1360	174	436	275
3	3980	11200	1390	1100	950	1000	4550	3880	1140	171	368	380
4	3580	7300	1130	1000	848	1100	5420	3000	968	171	326	300
5	2630	4140	1010	931	770	1580	6200	2460	872	174	326	260
6	2330	2850	1020	848	700	3680	4370	2030	812	174	290	235
7	2280	2250	986	764	660	4820	3380	1780	992	174	285	220
8	2180	1810	917	705	620	5950	2780	1550	1100	177	250	204
9	1870	1520	815	705	580	9860	5570	1300	980	225	225	184
10	4150	1470	707	717	550	7820	10500	1150	836	1870	196	174
11	11200	2090	627	643	520	5170	5950	1060	800	3800	184	165
12	8480	3430	608	1140	500	3840	3940	1020	944	2320	356	156
13	7120	3810	612	2660	480	3080	3240	968	968	1360	235	144
14	8010	3500	781	2890	470	3080	5000	944	770	1000	188	138
15	5440	2880	1260	5250	700	2780	13900	860	637	700	188	132
16	3620	2420	1230	5770	1050	3820	8660	790	554	530	168	126
17	2650	2060	1160	4500	1940	8300	5220	691	522	401	156	123
18	2030	1710	1010	6470	1630	24800	3740	730	490	350	208	422
19	1600	1460	882	15700	1490	12500	3020	1020	498	305	790	332
20	1310	1280	827	9410	1410	6770	2530	1170	422	270	3200	212
21	1110	1140	902	5600	1400	7550	2170	3860	350	275	2620	177
22	975	1030	823	3980	2010	13100	1840	8930	315	270	2800	168
23	900	956	743	4630	5450	7610	1650	4250	285	338	2350	174
24	942	919	732	3980	6020	5100	1490	2980	260	514	1940	171
25	942	971	3960	3260	4800	7730	1340	4370	245	968	1300	216
26	890	3010	6690	2800	3740	8270	1270	3680	235	750	848	260
27	790	11200	4350	2400	2820	5270	1500	2460	220	538	619	230
28	730	5980	3030	2100	2320	3980	5100	1870	208	408	482	216
29	730	3810	2350	1800	2050	5450	4920	1500	200	628	394	208
30	690	2770	1920	1550	---	7610	5470	1270	196	1340	344	220
31	650	---	1660	1350	---	5820	---	1260	---	968	356	---
TOTAL	88539	91042	48002	97323	48678	190270	138600	75313	19699	21531	23030	6537
MEAN	2856	3035	1548	3139	1679	6138	4620	2429	657	695	743	218
MAX	11200	11200	6690	15700	6020	24800	13900	8930	1520	3800	3200	422
MIN	650	596	608	643	470	1000	1270	691	196	171	156	123
CFSM	2.11	2.24	1.14	2.31	1.24	4.52	3.41	1.79	.48	.51	.55	.16
IN.	2.43	2.50	1.32	2.67	1.33	5.22	3.80	2.06	.54	.59	.63	.18

CAL YR 1979	TOTAL	1065582	MEAN	2919	MAX	31000	MIN	259	CFSM	2.15	IN	29.21
WTR YR 1980	TOTAL	848564	MEAN	2318	MAX	24800	MIN	123	CFSM	1.71	IN	23.26

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, February and March, which are poor.

AVERAGE DISCHARGE.--44 years, 2,855 ft³/s (80.85 m³/s), 18.87 in/yr (479 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 discharge, 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.--Maximum discharge, 29,800 ft³/s (844 m³/s) Mar. 18, gage height, 14.90 ft (4.542 m), no other peak above base of 24,000 ft³/s (680 m³/s); minimum, 134 ft³/s (3.79 m³/s) Sept. 18, gage height, 0.74 ft (0.226 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1630	831	2950	1970	1500	1800	8640	8610	1520	212	739	427
2	4120	1730	2360	1710	1300	1500	8080	7200	1520	201	517	357
3	4520	11300	1900	1500	1200	1350	6010	5240	1240	187	407	455
4	4810	9670	1560	1390	1100	1400	7170	3980	1050	184	358	407
5	3710	5580	1360	1280	1000	1880	8340	3110	917	197	336	331
6	3230	3900	1290	1170	950	4940	6070	2540	963	194	328	290
7	2900	3020	1310	1060	880	6640	4590	2170	1040	190	311	280
8	2780	2390	1210	1040	830	7630	3720	1890	1330	191	289	245
9	2440	2000	1080	1030	790	11400	5220	1640	1200	259	257	228
10	3970	1950	941	1080	750	10200	12200	1410	978	1470	232	216
11	11400	2660	837	1010	710	6900	7750	1250	848	5220	219	192
12	10000	4440	784	1580	680	5200	5320	1140	786	3080	401	182
13	7700	4960	802	3390	650	4210	4260	1070	1040	1830	396	170
14	8890	4620	880	4030	720	4560	6300	1040	843	1220	249	158
15	6760	3850	1400	6100	900	4060	15400	964	702	879	212	151
16	4740	3170	1610	7290	1440	5060	11300	864	612	656	203	141
17	3460	2700	1460	5990	2720	8150	6990	804	554	509	176	137
18	2680	2290	1340	7740	2480	25600	5040	890	536	402	223	137
19	2110	1950	1110	17600	2060	16400	4020	1120	501	358	1080	486
20	1750	1720	1070	12400	1870	8950	3310	1350	492	317	2660	288
21	1490	1520	1060	7430	1830	8650	2800	1790	399	282	2690	221
22	1300	1370	1090	5400	2240	14900	2350	10900	349	317	3840	198
23	1180	1260	951	6070	5520	10100	2010	5690	319	389	2900	189
24	1170	1210	972	5640	7300	6780	1800	3840	292	512	2280	195
25	1200	1240	4360	4540	6070	8130	1640	4210	275	759	1590	205
26	1150	2830	8250	3900	4860	10600	1570	4880	268	888	1080	267
27	1040	12200	5950	3300	3720	7050	1940	3220	251	637	783	276
28	954	8030	4240	2800	2960	5480	5410	2310	237	500	611	244
29	954	5220	3260	2400	2620	6370	6670	1790	223	479	492	234
30	934	3800	2680	2000	---	9200	7260	1450	225	958	479	230
31	877	---	2280	1700	---	7530	---	1350	---	1070	547	---
TOTAL	105849	113411	62347	125540	61650	232620	173180	89712	21510	24547	26885	7537
MEAN	3414	3780	2011	4050	2126	7504	5773	2894	717	792	867	251
MAX	11400	12200	8250	17600	7300	25600	15400	10900	1520	5220	3840	486
MIN	877	831	784	1010	650	1350	1570	804	223	184	176	137
CFSM	2.10	2.33	1.24	2.49	1.31	4.62	3.55	1.78	.44	.49	.53	.15
IN.	2.42	2.60	1.43	2.87	1.41	5.33	3.96	2.05	.49	.56	.62	.17
CAL YR 1979	TOTAL	1282322	MEAN	3513	MAX	34600	MIN	297	CFSM	2.16	IN	29.36
WTR YR 1980	TOTAL	1044788	MEAN	2855	MAX	25600	MIN	137	CFSM	1.76	IN	23.92

03184000 GREENBRIER RIVER AT HILLDALE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1968-1974, 1979 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)
OCT										
17...	1755	3290	120	6.7	20.0	12.0	--	--	--	--
NOV										
13...	1555	4990	130	7.1	7.0	9.0	--	54	14	.0
28...	1215	7090	90	6.7	8.0	8.5	--	37	8	.0
JAN										
15...	0835	5970	130	6.5	7.0	3.5	--	--	--	.0
FEB										
12...	1600	884	145	7.1	-2.0	1.5	--	--	--	--
MAR										
07...	1345	6630	135	6.8	10.0	5.0	--	55	9	.0
23...	1230	9760	99	8.0	16.0	6.0	--	30	8	.1
APR										
16...	1515	10800	80	7.2	10.0	10.0	--	31	10	--
MAY										
30...	1050	1480	100	7.5	32.0	22.0	--	38	10	--
JUL										
09...	1120	236	210	7.6	23.0	25.0	--	85	18	--
AUG										
19...	1305	939	175	7.6	26.0	22.5	33	64	4	.0
26...	1525	1050	--	--	--	--	--	--	--	--
SEP										
29...	1430	244	250	8.3	23.0	17.5	--	110	36	.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 K)	BICAR- BONATE (MG/L AS HC03)	CAR- BONATE (MG/L AS C03)	ALKA- LITY (MG/L AS CAC03)
NOV										
13...	.0	18	2.3	2.1	--	.1	--	--	--	44
28...	.0	12	1.6	1.5	--	.1	--	--	--	29
JAN										
15...	.0	--	--	--	--	--	--	--	--	43
MAR										
07...	.0	18	2.5	2.6	--	.2	--	--	--	46
23...	5.0	10	1.2	1.6	--	.1	--	--	--	31
APR										
16...	--	10	1.5	1.6	--	.1	--	--	--	24
MAY										
30...	--	12	1.9	2.2	--	.2	--	--	--	34
JUL										
09...	--	27	4.2	6.2	--	.3	--	--	--	70
AUG										
19...	.0	20	3.3	3.7	--	.2	--	--	--	60
SEP										
29...	.0	34	5.1	4.2	8	.2	1.8	90	8	74

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 CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
NOV									
13...	--	7.8	2.5	--	--	72	--	.10	970
28...	--	6.5	1.7	--	--	62	--	.08	1190
JAN									
15...	--	--	--	--	--	--	--	--	--
MAR									
07...	--	9.8	3.7	--	--	81	--	.11	1450
23...	--	6.5	1.9	--	--	60	--	.08	1580
APR									
16...	--	7.1	1.7	--	--	57	--	.08	1660
MAY									
30...	--	7.3	2.1	--	--	90	--	.12	360
JUL									
09...	--	16	8.7	--	--	120	--	.16	76.5
AUG									
19...	--	14	4.4	--	5.5	102	--	.14	259
SEP									
29...	.7	22	5.4	.0	3.0	140	120	19	92.2

KANAWHA RIVER BASIN

03184000 GREENBRIER RIVER AT HILLDALE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
NOV											
13...	--	--	--	--	--	360	--	50	--	--	20
28...	--	--	--	--	--	1000	940	60	--	--	30
MAR											
07...	--	--	--	--	--	450	410	40	--	--	20
23...	--	--	--	--	--	750	710	40	--	--	0
APR											
16...	--	--	--	--	--	940	910	30	--	--	40
MAY											
30...	--	--	--	--	--	220	180	40	--	--	20
JUL											
09...	--	--	--	--	--	350	320	30	--	--	30
AUG											
19...	40	2	<1	<3	<10	1900	1800	67	<10	<4	80
SEP											
29...	--	--	--	--	--	770	730	40	--	--	40

DATE	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
NOV										
13...	20	3	--	--	--	--	--	--	--	--
28...	30	0	--	--	--	--	--	--	--	--
MAR										
07...	10	6	--	--	--	--	--	--	--	--
23...	0	3	--	--	--	--	--	3.00	--	--
APR										
16...	40	3	--	--	--	--	--	--	--	--
MAY										
30...	20	3	--	--	--	--	--	--	--	--
JUL										
09...	20	10	--	--	--	--	--	--	--	--
AUG										
19...	70	10	10	160	<6.0	13	5.6	--	50	127
SEP										
29...	30	7	--	--	--	--	--	--	--	--

KANAWHA RIVER BASIN

235

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 except those for August and September, which are fair. 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.--44 years, 7,977 ft³/s (225.9 m³/s), 17.31 in/yr (440 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, 50,000 ft³/s (1,420 m³/s) Apr. 15, gage height, 7.78 ft (2.371 m); minimum, 1,230 ft³/s (34.8 m³/s) Oct. 25, gage height, 1.53 ft (0.466 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12600	5330	16100	8310	9070	8290	21500	21600	6160	3400	6380	2130
2	13700	6990	14300	7710	7680	6300	18900	20600	6000	3650	4380	1860
3	13100	24300	10500	7410	5570	4630	16200	15600	7410	4340	3520	2240
4	12600	27000	9130	7670	3960	6470	18800	13400	7530	2950	2310	2610
5	11000	19600	8140	7370	5030	11800	20500	11700	5100	2130	3150	2870
6	10300	15600	7370	6020	6950	14900	16100	9930	4830	2380	3860	2830
7	7250	13500	7940	4700	6580	17200	13300	9730	9230	3520	3860	2420
8	6120	11000	8050	5010	7060	18300	12600	9160	4740	4470	3400	2100
9	8890	9590	7240	6730	7970	21300	17000	6950	5100	4830	2910	2380
10	11100	9150	6360	7010	5040	20200	35300	6110	5150	7760	2270	2270
11	25000	11400	5850	7400	3270	16900	27800	6050	4920	12500	1960	2130
12	22600	18600	6400	8830	5600	15100	21900	7120	4960	14300	2680	2200
13	16900	22000	6510	10000	6340	14400	19700	6780	5460	8480	2910	2350
14	17000	20000	6580	11500	5400	14700	22400	6780	5010	8540	2350	1960
15	15100	16900	6670	17000	6320	14200	41600	6720	3690	8480	1830	1610
16	12800	13700	6530	21200	10100	14900	45900	8360	2610	5410	1990	1990
17	9630	12000	5260	19100	11500	16900	36200	6610	3520	5680	2130	2240
18	4650	9980	5310	21100	7730	36800	25600	8360	3990	4830	1770	2270
19	10200	6830	6100	38500	7760	36400	21000	7640	4070	4200	3190	2830
20	8210	8210	6060	34500	8650	24600	16500	9610	4380	3310	4740	2530
21	6170	9090	5560	22900	9620	26400	14500	12200	4420	2270	4780	2060
22	4850	8220	4800	18100	10300	40800	13000	19300	2910	3190	7760	1730
23	6650	5680	3560	21600	13700	37500	11300	14400	1860	4560	8670	1990
24	9310	6410	3670	20800	13500	27500	11000	11900	3190	4380	5890	2130
25	5180	8800	11000	17300	10100	26600	10500	16300	4160	4250	4290	2060
26	6000	11300	19300	15100	11100	29600	11000	15700	8420	4120	3940	2270
27	7810	28800	17100	12700	11200	22900	12100	11000	9160	3070	3730	2830
28	6040	29000	14900	10100	10400	19100	13700	10300	7580	2640	3600	2270
29	4250	21400	12800	10800	9070	22300	17300	8850	5410	9290	3480	1640
30	5830	17200	11000	10400	---	24600	21000	8980	3110	9040	3270	2060
31	7400	---	8860	9950	---	22300	---	7530	---	7580	2990	---
TOTAL	318240	427580	268950	426820	236570	633890	604200	335270	154080	169550	113990	66860
MEAN	10270	14250	8676	13770	8158	20450	20140	10820	5136	5469	3677	2229
MAX	25000	29000	19300	38500	13700	40800	45900	21600	9230	14300	8670	2870
MIN	4250	5330	3560	4700	3270	4630	10500	6050	1860	2130	1770	1610

CAL YR 1979 TOTAL 4480350 MEAN 12270 MAX 56500 MIN 2160 MEAN# 12250 CFSM# 1.96 IN# 26.59
WTR YR 1980 TOTAL 3756000 MEAN 10260 MAX 45900 MIN 1610 MEAN# 10270 CFSM# 1.64 IN# 22.35

* Adjusted for change in contents in Claytor (Virginia) and Bluestone Lakes.

KANAWHA RIVER BASIN

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 Highway 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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PM FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT									
04...	0915	2.8	160	6.8	12.0	8.3	8.9	11	.08
25...	1030	1.3	190	6.7	9.0	4.7	10.8	4	.01
NOV									
13...	1345	5.0	130	6.5	7.0	--	10.5	15	.20
DEC									
05...	0945	1.3	185	6.8	3.0	--	12.5	0	.00
JAN									
09...	1015	3.0	175	6.9	4.0	--	12.2	7	.06
FEB									
21...	1000	6.5	165	6.7	5.0	--	12.0	12	.21
APR									
30...	0930	69	90	6.4	9.0	--	10.2	90	17
JUN									
27...	1150	.46	210	7.0	18.5	--	7.8	23	.03
JUL									
25...	1015	.69	170	6.9	18.5	--	7.8	10	.02
SEP									
02...	1155	.93	200	6.6	20.0	--	7.6	--	--

KANAWHA RIVER BASIN

237

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 State Highway 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 current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

		STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	COLI- FORM, TOTAL, IMMED. (COLS. PER 100 ML)	STREP- TOCOCOCC KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)
DATE	TIME											
OCT 03...	1445	4.1	110	6.4	14.0	8.8	8.7	10000	73000	2780	30	13
24...	1420	1.0	130	6.4	9.5	--	9.1	39000	195000	22670	38	17
	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)	SILICA, DIS- SOLVED (MG/L AS SiO2)
OCT 03...	8.2	2.3	7.9	43	.6	9.7	1.8	17	13	11	.1	6.0
24...	10	3.1	9.5	43	.7	11	1.9	21	17	13	.1	7.0
	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)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS PO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)
OCT 03...	70	64	.10	.77	.44	.020	1.9	.07	.46	.070	.21	90
24...	76	77	.10	.21	.16	.020	.71	.07	.18	.020	.06	--
	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	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, HEXA- VALENT, DIS- SOLVED (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	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)
OCT 03...	20	70	0	0	1	20	0	1800	680	4	1	3
24...	--	50	--	--	--	--	--	--	1400	--	--	--
	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)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS MG)	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)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	
OCT 03...	350	10	340	.1	.0	.1	30	10	20	19	.21	
24...	--	--	540	--	--	--	--	--	--	4	.01	

KANAWHA RIVER BASIN

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, February and March, which are poor.

AVERAGE DISCHARGE.--29 years, 62.7 ft³/s (1.776 m³/s), 16.31 in/yr (414 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, 2,290 ft³/s (64.9 m³/s) Aug. 21, gage height, 5.81 (1.771 m), no other peak above base of 700 ft³/s (20 m³/s); minimum, 8.8 ft³/s (0.249 m³/s) July 3, gage height, 1.38 ft (0.421 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45	23	63	55	52	58	137	426	40	9.6	37	21
2	42	104	55	49	45	50	120	272	36	9.6	30	18
3	47	174	45	45	40	52	107	191	33	9.2	25	36
4	40	118	43	43	37	70	244	146	31	19	26	22
5	51	75	40	43	34	118	275	120	27	55	40	19
6	47	59	40	39	31	282	181	104	118	28	30	18
7	51	49	40	49	28	282	137	94	129	16	26	16
8	42	42	36	75	26	362	126	81	70	14	37	14
9	39	39	31	70	25	346	307	75	47	37	39	15
10	84	91	30	63	24	219	226	68	43	134	26	31
11	120	118	28	65	22	161	161	63	34	132	22	24
12	99	126	28	102	21	120	137	59	28	57	20	18
13	149	126	37	115	20	107	134	61	25	237	20	15
14	146	104	40	191	20	118	181	61	23	120	16	14
15	104	81	36	195	37	104	174	51	22	57	15	14
16	79	70	34	146	126	102	155	47	25	37	14	15
17	63	57	34	137	155	164	126	43	23	30	14	14
18	51	49	36	258	107	258	109	68	19	24	96	13
19	42	43	31	326	94	216	96	59	17	20	167	12
20	37	40	31	209	89	164	86	89	16	18	68	11
21	33	37	28	140	115	247	77	170	14	16	725	11
22	31	36	27	140	265	261	68	118	14	20	552	12
23	30	34	27	233	216	191	61	91	13	155	240	21
24	28	49	40	184	152	167	59	79	13	102	112	18
25	27	57	177	160	120	237	59	84	13	47	70	15
26	25	237	174	140	107	191	61	75	13	33	51	21
27	24	188	129	110	89	155	326	61	13	27	39	19
28	27	123	91	95	86	146	358	51	10	63	31	14
29	34	94	75	85	75	152	261	45	16	158	27	11
30	30	77	68	74	---	143	525	42	12	96	23	9.6
31	31	---	61	60	---	143	---	42	---	49	23	---
TOTAL	1698	2520	1655	3696	2258	5386	5074	3036	937	1829.4	2661	511.6
MEAN	54.8	84.0	53.4	119	77.9	174	169	97.9	31.2	59.0	85.8	17.1
MAX	149	237	177	326	265	362	525	426	129	237	725	36
MIN	24	23	27	39	20	50	59	42	10	9.2	14	9.6
CFSM	1.05	1.61	1.02	2.28	1.49	3.33	3.24	1.88	.60	1.13	1.64	.33
IN.	1.21	1.80	1.18	2.63	1.61	3.84	3.62	2.16	.67	1.30	1.90	.36

CAL YR 1979 TOTAL 32763.4 MEAN 89.8 MAX 915 MIN 7.5 CFSM 1.72 IN 23.35
WTR YR 1980 TOTAL 31262.0 MEAN 85.4 MAX 725 MIN 9.2 CFSM 1.64 IN 22.28

KANAWHA RIVER BASIN

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03185000 PINEY CREEK AT RALEIGH, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1979 to September 1980.

INSTRUMENTATION.--Conductance recorder since October 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE.--Maximum, 372 micromhos July 8; minimum, 126 micromhos Jan. 19.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)
OCT								
02...	0945	39	205	7.1	--	16.0	--	11.2
19...	1130	41	200	7.3	18.0	12.0	--	--
22...	1215	11	225	7.6	--	16.5	3.5	11.4
NOV								
29...	1630	93	140	6.7	-5.0	4.0	--	--
JAN								
16...	1600	149	150	6.3	10.5	6.5	--	--
MAR								
04...	1100	65	245	6.2	7.0	.5	--	--
23...	0930	198	170	6.5	--	5.5	--	--
APR								
14...	1345	177	190	7.1	19.5	16.5	--	--
MAY								
30...	2000	36	225	7.1	20.0	20.0	--	--
JUN								
23...	1215	10	322	--	--	23.0	--	--
JUL								
07...	1200	17	320	7.4	23.0	23.0	--	--
AUG								
21...	2025	1450	100	7.3	--	21.0	155	--
25...	1020	80	--	--	25.0	21.0	--	--
SEP								
29...	1040	11	340	7.8	16.0	13.5	--	--

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)	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)
OCT										
02...	1670	1120	410	63	46	--	--	15	6.2	13
22...	2300	23670	217	77	51	--	--	18	7.8	.1
NOV										
29...	--	--	--	51	32	.0	.0	12	5.2	8.3
JAN										
16...	--	--	--	44	15	.0	.0	10	4.7	9.4
MAR										
04...	--	--	--	73	53	.0	.0	17	7.4	16
23...	--	--	--	44	27	.1	5.0	10	4.7	7.7
APR										
14...	--	--	--	55	39	.1	5.0	13	5.4	11
MAY										
30...	--	--	--	72	51	--	--	17	7.2	13
JUL										
07...	--	--	--	93	56	--	--	23	8.7	21
AUG										
21...	--	--	--	29	14	.0	.0	7.8	2.2	6.0
SEP										
29...	--	--	--	96	53	.0	.0	23	9.4	23

KANAWHA RIVER BASIN

03185000 PINEY CREEK AT RALEIGH, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

		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)	CAR- BONATE (MG/L AS CO3)	ALKA- LINITY (MG/L AS CACO3)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	
DATE	SODIUM PERCENT									
OCT										
02...	41	.7	15	2.0	--	--	17	--	50	
22...	0	.0	2.0	1.9	--	--	26	--	51	
NOV										
29...	--	.5	--	--	--	--	15	--	42	
JAN										
16...	--	.6	--	--	--	--	12	--	39	
MAR										
04...	--	.8	--	--	--	--	20	--	59	
23...	--	.5	--	--	--	--	13	--	38	
APR										
14...	--	.6	--	--	--	--	18	--	42	
MAY										
30...	--	.7	--	--	--	--	26	--	58	
JUL										
07...	--	.9	--	--	--	--	42	--	76	
AUG										
21...	--	.5	--	--	--	--	15	--	21	
SEP										
29...	34	1.0	--	2.1	53	0	43	1.3	82	
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)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	
OCT										
02...	12	.1	6.5	125	119	.17	13.2	.72	3.2	
22...	10	.1	6.5	129	113	.18	3.83	.43	1.9	
NOV										
29...	6.9	--	--	--	--	--	--	--	--	
JAN										
16...	8.1	--	--	100	--	.14	40.2	--	--	
MAR										
04...	12	--	--	149	--	.20	26.1	--	--	
23...	8.6	--	--	94	--	.13	50.3	--	--	
APR										
14...	11	--	--	117	--	.16	55.9	--	--	
MAY										
30...	5.8	--	--	112	--	.15	10.9	--	--	
JUL										
07...	11	--	--	181	--	.25	8.31	--	--	
AUG										
21...	7.3	--	4.8	83	--	.11	325	--	--	
SEP										
29...	6.7	.1	6.0	201	179	.27	6.19	--	--	
DATE	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, ORTHOPH OSPATE DISSOL. (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPATE DISSOL. (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)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)
OCT										
02...	.030	.10	.75	.000	.00	150	70	80	--	--
22...	.020	.07	.45	.010	.03	--	--	140	--	--
AUG										
21...	--	--	--	--	--	--	--	--	0	40
DATE	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 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)	CHRO- MIUM, HEXA- VALENT, DIS. (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
OCT										
02...	0	0	0	--	20	--	0	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
AUG										
21...	--	--	5	<10	--	20	--	4	<10	<10

03185000 PINEY CREEK AT RALEIGH, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	VANA- DIUM, DIS- SOLVED (UG/L AS V)	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, FM BOT- TOM MA- TERIAL (UG/G AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT									
02...	--	20	10	6	--	--	--	9	.95
22...	--	--	--	--	--	--	--	8	.24
NOV									
29...	--	--	--	--	--	--	--	1800	452
JAN									
16...	--	--	--	--	--	--	--	523	133
MAR									
04...	--	--	--	--	--	--	--	408	72
23...	--	--	--	--	--	--	260	13	6.9
APR									
14...	--	--	--	--	--	--	--	5173	2470
JUN									
23...	--	--	--	--	--	--	--	7240	195
JUL									
07...	--	--	--	--	--	--	--	38	1.7
AUG									
21...	<6.0	--	--	33	73	11	--	452	1770

DATE	COPPER, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CU)	IRON, TOTAL 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)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)
OCT										
02...	--	570	60	--	2	0	2	--	--	210
22...	--	--	0	--	--	--	--	--	--	--
NOV										
29...	--	380	10	--	--	--	--	--	--	280
JAN										
16...	--	360	20	--	--	--	--	--	--	270
MAR										
04...	--	430	70	--	--	--	--	--	--	440
23...	--	650	30	--	--	--	--	--	--	240
APR										
14...	--	1000	40	--	--	--	--	--	--	330
MAY										
30...	--	2300	40	--	--	--	--	--	--	340
JUL										
07...	--	970	20	--	--	--	--	--	--	290
AUG										
21...	110	12000	130	8700	--	--	<10	60	<4	630
SEP										
29...	--	420	30	--	--	--	--	--	--	120

DATE	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)
OCT										
02...	10	200	--	.1	.0	.2	--	--	--	--
22...	--	0	--	--	--	--	--	--	--	--
NOV										
29...	0	290	--	--	--	--	--	--	--	--
JAN										
16...	0	270	--	--	--	--	--	--	--	--
MAR										
04...	0	440	--	--	--	--	--	--	--	--
23...	0	270	--	--	--	--	--	--	--	--
APR										
14...	60	270	--	--	--	--	--	--	--	--
MAY										
30...	70	270	--	--	--	--	--	--	--	--
JUL										
07...	20	270	--	--	--	--	--	--	--	--
AUG										
21...	380	250	320	--	--	--	.00	<10	0	52
SEP										
29...	30	90	--	--	--	--	--	--	--	--

KANAWHA RIVER BASIN

03185000 PINEY CREEK AT RALEIGH, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	240	188	226	288	258	268	180	164	171	190	172	180
2	244	198	227	280	194	237	194	172	182	192	176	183
3	234	216	224	206	154	178	204	186	194	204	182	192
4	242	212	226	166	142	153	210	186	197	316	194	240
5	242	210	224	164	146	153	214	194	199	286	236	265
6	240	214	224	184	152	165	278	204	218	262	224	238
7	240	212	225	194	164	174	260	216	226	358	232	274
8	238	214	225	202	180	187	240	212	228	290	230	260
9	246	214	231	204	184	191	240	218	230	234	194	216
10	244	214	225	202	172	186	246	222	230	204	186	193
11	210	188	199	180	162	169	248	230	236	214	182	195
12	202	174	185	172	148	161	256	228	240	206	184	196
13	194	166	177	168	144	154	270	212	250	192	160	175
14	184	158	170	164	144	156	268	242	258	178	154	166
15	186	164	170	172	152	164	274	254	261	172	144	158
16	192	164	176	182	152	167	280	252	265	170	144	157
17	202	174	186	188	162	174	288	262	276	172	152	162
18	212	184	193	196	174	180	272	246	263	182	152	168
19	220	192	202	202	178	189	268	250	259	156	126	143
20	234	200	216	214	186	197	262	214	250	164	136	148
21	244	208	223	212	192	202	258	240	249	168	154	162
22	244	212	229	218	200	209	258	242	247	186	164	175
23	260	220	236	232	208	217	266	244	253	184	160	171
24	260	244	251	226	202	210	270	238	258	172	148	159
25	272	252	259	222	186	199	240	172	198	242	162	209
26	278	254	264	186	136	156	206	150	170	206	172	187
27	282	258	269	164	132	146	160	146	150	190	170	177
28	286	262	270	160	136	148	160	138	153	190	166	181
29	284	258	269	172	152	162	176	150	162	200	178	189
30	284	258	266	174	160	167	180	158	170	204	192	199
31	278	258	265	---	---	---	190	160	177	208	196	203
MONTH	286	158	224	288	132	181	288	138	220	358	126	191
	FEBRUARY			MARCH			APRIL			MAY		
1	224	202	215	268	246	254	220	190	204	158	146	150
2	232	218	226	248	242	245	226	200	206	166	156	162
3	232	224	228	252	242	248	220	198	209	190	164	174
4	242	224	232	256	244	250	228	208	214	206	182	186
5	256	232	243	278	250	262	216	164	187	204	190	197
6	264	244	252	280	286	250	180	158	165	222	198	209
7	278	248	259	232	190	205	180	164	170	226	214	217
8	280	260	268	200	160	184	190	172	179	240	222	231
9	340	260	284	176	150	157	202	154	173	266	240	250
10	334	306	318	178	156	164	162	152	154	268	246	255
11	326	292	309	196	166	186	178	152	163	260	242	251
12	290	274	283	204	190	196	184	164	170	264	252	255
13	298	286	291	230	200	214	190	176	180	272	254	260
14	304	284	293	248	222	237	192	176	181	268	254	265
15	312	284	291	252	224	238	188	172	179	286	268	273
16	342	288	317	238	204	220	186	172	177	282	268	274
17	284	222	251	228	198	213	190	168	179	284	272	275
18	232	198	216	228	184	202	194	172	182	276	268	271
19	208	190	200	196	162	177	208	186	192	290	270	274
20	246	196	213	190	168	174	216	194	198	282	246	269
21	240	206	224	194	174	185	222	196	209	238	210	218
22	226	192	211	186	166	176	234	210	222	212	198	205
23	190	168	178	186	158	171	232	214	227	200	194	197
24	192	166	181	196	168	179	236	226	230	204	196	200
25	202	178	191	198	184	188	262	236	242	214	204	209
26	276	196	229	198	176	183	268	246	250	228	208	216
27	246	224	233	194	174	181	254	162	203	224	212	215
28	266	226	243	206	180	189	180	154	159	218	210	214
29	288	244	256	204	182	192	168	154	161	230	216	218
30	---	---	---	206	184	189	170	150	159	234	220	228
31	---	---	---	212	188	195	---	---	---	248	236	241
MONTH	342	166	246	280	150	203	268	150	191	290	146	228

KANAWHA RIVER BASIN

03185000 PINEY CREEK AT RALEIGH, WV--Continued

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT						FEB					
02...	0945	39	205	9	.95	22...	0100	180	282	2260	1100
16...	1300	72	--	17	3.3	22...	0200	194	292	1120	587
22...	1215	11	225	8	.24	22...	0300	216	250	895	522
NOV						22...	0400	247	224	1110	740
02...	2100	177	193	886	423	22...	0500	264	228	692	493
02...	2200	180	190	535	260	22...	0600	278	231	1040	781
02...	2300	188	187	235	119	22...	0700	282	222	1070	815
02...	2400	212	181	277	159	22...	0800	289	192	895	698
03...	0100	191	180	141	73	22...	0900	292	168	438	345
03...	0200	188	177	104	53	22...	1000	289	178	434	339
03...	0300	184	180	114	57	22...	1100	289	179	381	297
03...	0400	188	185	79	40	22...	1300	286	168	252	195
03...	0500	188	185	78	40	22...	1400	286	166	257	198
03...	0600	188	180	58	29	22...	1500	278	163	216	162
03...	0700	184	180	74	37	22...	1600	278	160	195	146
03...	0800	184	180	81	40	22...	1700	275	156	141	105
03...	0900	180	180	60	29	22...	1800	275	156	190	141
03...	1000	180	180	64	31	22...	1900	275	154	142	105
03...	1100	180	180	44	21	22...	2000	272	154	140	103
03...	1200	177	175	63	30	22...	2100	272	152	109	80
03...	1300	177	170	39	19	22...	2200	268	150	117	85
26...	0500	226	220	757	462	22...	2300	264	148	98	70
26...	0600	268	192	723	523	22...	2400	261	147	86	61
26...	0700	286	177	654	505	MAR					
26...	0800	296	148	731	584	04...	1100	65	245	408	72
26...	0900	314	142	549	465	05...	2100	187	368	162	82
26...	1000	310	143	403	337	05...	2200	219	365	165	98
29...	1630	93	140	1800	452	05...	2300	230	359	168	104
DEC						05...	2400	233	348	149	94
25...	1000	177	194	894	427	06...	0100	264	330	156	111
25...	1100	180	191	729	354	23...	0930	198	170	13	6.9
25...	1200	184	186	677	336	23...	0945	190	149	13	6.7
25...	1300	180	177	647	314	APR					
25...	1400	191	175	388	200	14...	1345	177	190	5173	2470
25...	1500	191	171	289	149	14...	1500	177	181	2475	1180
25...	1600	194	171	464	243	14...	1600	177	181	2224	1060
25...	1700	194	173	249	130	14...	1700	177	175	1419	678
25...	1800	194	171	284	149	14...	1800	177	168	1196	572
25...	1900	198	159	111	59	14...	1900	177	176	893	427
25...	2000	205	170	463	256	14...	2000	177	186	1083	518
25...	2100	205	170	371	205	14...	2100	177	184	732	350
DEC						14...	2200	177	186	781	373
25...	2200	205	168	596	330	14...	2300	174	184	958	450
25...	2300	205	176	221	122	14...	2400	174	184	1009	474
25...	2400	205	180	118	65	15...	0100	174	183	873	410
26...	0100	202	189	229	125	15...	0200	174	183	659	310
26...	0200	202	216	141	77	15...	0300	170	182	432	198
26...	0300	198	203	154	82	15...	0400	170	183	795	365
26...	0400	198	181	98	52	15...	0500	170	180	497	228
26...	0500	191	171	99	51	15...	0600	170	180	496	228
26...	0600	191	175	165	85	15...	0700	170	180	804	369
26...	0700	188	180	64	32	15...	0800	170	179	567	260
26...	0800	184	175	72	36	15...	0900	170	160	877	403
JAN						15...	1000	170	177	558	256
16...	1600	149	150	523	133	15...	1100	170	180	1149	527
18...	0800	188	204	517	262	15...	1200	170	178	583	268
18...	0900	205	200	588	325	15...	1300	170	178	750	344
18...	1000	226	202	744	454	18...	1740	107	216	1540	445
18...	1100	250	196	622	420	MAY					
18...	1200	270	197	954	695	30...	1700	57	298	7850	1210
18...	1300	300	195	1600	1300	30...	1905	43	250	677	79
18...	1400	296	187	1370	1100	JUN					
18...	1500	310	178	1310	1100	06...	1400	170	268	694	319
18...	1600	330	176	717	639	06...	1500	140	270	475	180
18...	1700	342	167	553	511	06...	1600	161	270	356	155
18...	1800	354	165	365	349	06...	1700	167	242	517	233
18...	1900	362	157	461	451	06...	1800	230	221	3690	2290
18...	2000	366	153	299	295	06...	1900	208	222	618	347
18...	2100	366	153	331	327	06...	2000	202	237	971	530
18...	2200	366	152	332	328	06...	2100	194	248	747	391
18...	2300	366	151	508	502	06...	2200	184	236	547	272
18...	2400	366	148	313	309	06...	2300	177	221	509	243
19...	0100	366	148	229	226	06...	2400	174	218	476	224
19...	0200	350	149	254	240	07...	0100	174	215	472	222
19...	0300	358	142	219	212	07...	0200	170	218	381	175
19...	0400	354	143	215	205	23...	1215	10	322	7240	195
19...	0500	350	142	244	231						
19...	0600	350	142	196	185						

KANAWHA RIVER BASIN

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03185000 PINEY CREEK AT RALEIGH, WV--Continued

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
JUL					
07...	1200	17	320	38	1.7
07...	1315	14	320	32	1.2
07...	1400	16	313	430	19
07...	1500	16	312	51	2.2
07...	1600	16	311	30	1.3
07...	1700	16	312	24	1.0
07...	1800	15	316	21	.85
07...	1900	15	317	19	.77
07...	2000	14	317	17	.64
07...	2100	14	317	18	.68
07...	2200	14	319	17	.64
07...	2300	14	319	26	.98
07...	2400	14	320	29	1.1
08...	0100	14	319	28	1.1
08...	0200	14	316	30	1.1
08...	0300	14	316	30	1.1
08...	0400	14	319	34	1.3
08...	0500	14	319	29	1.1
08...	0600	14	319	28	1.1
08...	0700	14	318	27	1.0
08...	0800	14	319	19	.72
08...	0900	14	319	17	.64
08...	1000	13	315	13	.46
AUG					
21...	2025	1450	100	452	1770
21...	2200	760	122	368	755
21...	2300	685	122	703	1300
21...	2400	637	122	350	602
22...	0100	614	120	304	504
22...	0200	596	129	270	434
22...	0300	610	129	293	483
22...	0400	632	125	391	667
22...	0500	660	120	492	877
22...	0600	650	120	268	470
22...	0700	670	120	331	599
22...	0800	665	116	203	364
22...	0900	670	113	270	488
22...	1000	660	110	183	326
22...	1100	660	110	222	396
22...	1200	619	110	417	697
SEP					
02...	1240	32	298	5	.43

KANAWHA RIVER BASIN

03185050 BEAVER CREEK AT BEAVER, WV

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).

DRAINAGE AREA.--25 mi² (66.0 km²).

PERIOD OF RECORD.--October 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW- INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (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)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L AS CAC03)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT												
02...	1315	39	105	6.8	15.5	9.9	27900	41600	2370	27	14	7.0
23...	0905	26	110	6.8	13.0	10.0	10700	33700	3300	29	9	7.4

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- LINEITY 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 SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
OCT												
02...	2.3	6.7	43	.6	8.4	1.7	13	14	10	.1	4.9	58
23...	2.5	5.9	38	.5	7.7	1.8	20	16	9.3	.0	5.2	59

DATE	SOLIDS, SUM OF CONSTITU- ENTS, 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)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS NO3)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS NO2)	NITRO- GEN, NITRATE DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P)	PHOS- PHORUS, ORTHOPH OSPHATE DISSOL. (MG/L AS P04)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE RECOV. (UG/L AS AL)
OCT												
02...	56	.08	6.11	.21	.010	.93	.03	.22	.080	.08	150	130
23...	61	.08	4.14	.10	.020	.44	.07	.12	.010	.03	--	--

DATE	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	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, HEXA- VALENT, DIS- SOLVED (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	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)
OCT											
02...	20	0	0	0	20	0	550	150	10	7	3
23...	40	--	--	--	--	--	--	150	--	--	--

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)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE 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)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT											
02...	50	10	40	.1	.0	.1	0	0	0	9	.95
23...	--	--	40	--	--	--	--	--	--	6	.42

KANAWHA RIVER BASIN

247

03185120 LITTLE WHITESTICK CREEK AT BECKLEY, WV

LOCATION.--37°47'23", long 81°10'21", Raleigh County, Hydrologic Unit 05050004, at the downstream end of bridge on U.S. Highway 19 - State Highway 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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT									
03...	1250	8.1	295	7.1	14.0	--	10.1	33	.72
24...	1115	.56	455	7.3	8.0	5.5	5.9	5	.01
NOV									
13...	0945	12	330	6.9	9.0	--	10.6	11	.36
DEC									
04...	1030	1.2	410	7.3	3.0	3.4	12.4	2	.01
JAN									
09...	1135	2.2	580	7.1	3.0	--	8.1	9	.05
FEB									
21...	1130	8.2	600	7.0	5.0	--	12.1	24	.53
APR									
30...	1030	100	245	6.7	8.0	--	10.5	99	27
JUN									
27...	1320	.10	500	7.7	22.5	--	6.5	12	.00
JUL									
25...	1115	.26	600	7.2	21.0	--	5.8	7	.00
25...	1225	.26	650	7.3	24.0	--	5.3	9	.01
SEP									
02...	1325	.41	455	7.8	20.0	--	8.3	3	.00

KANAWHA RIVER BASIN

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 State Highway 41 about 800 ft (244 m) north of the intersection of U.S. Highway 19 and State Highway 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 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (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									
03...	1345	6.9	500	6.1	12.5	23	9.6	37	.69
24...	1015	1.2	950	6.9	9.5	3.1	9.4	6	.02
NOV									
13...	1030	1.2	255	4.9	8.0	--	11.8	21	.07
DEC									
04...	1130	3.1	600	4.7	3.0	--	14.6	8	.07
JAN									
09...	1230	3.7	615	5.2	3.0	--	13.9	26	.26
FEB									
21...	1220	18	425	6.3	5.0	--	12.3	60	2.9
APR									
30...	1130	132	170	6.2	8.0	--	10.6	83	30
JUN									
27...	1425	1.2	1100	7.7	21.5	--	7.2	4	.01
JUL									
25...	1320	1.6	900	6.5	20.5	--	8.0	5	.02
25...	1410	1.4	950	6.8	21.0	--	7.8	6	.02
25...	1500	.09	300	6.1	24.0	--	2.4	42	.01
SEP									
02...	1425	1.4	840	--	--	--	--	22	.08

KANAWHA RIVER BASIN

249

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).

WATER-DISCHARGE RECORDS

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

AVERAGE DISCHARGE.--51 years, 331 ft³/s (9.374 m³/s), 35.12 in/yr (892 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.--Maximum discharge, 4,680 ft³/s (133 m³/s) Apr. 9, gage height, 7.35 ft (2.240 m), no other peak above base of 4,600 ft³/s (130 m³/s); minimum, 14 ft³/s (0.40 m³/s); Sept. 14, 15, gage height, 0.96 ft (0.293 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	259	80	290	210	115	230	1150	1260	172	25	114	55
2	313	1100	246	185	110	200	834	858	140	22	147	47
3	1060	1050	198	167	105	190	624	585	125	21	92	61
4	589	548	198	155	100	180	690	430	150	47	75	54
5	994	387	177	147	96	400	550	335	112	65	65	49
6	796	296	175	132	93	700	435	283	219	54	52	48
7	688	245	192	137	90	624	360	265	335	49	46	37
8	504	207	167	135	88	1200	380	216	243	40	43	32
9	730	183	140	118	86	1650	2450	185	222	160	47	27
10	1230	364	140	104	85	876	1010	165	388	1860	58	25
11	1110	422	132	152	84	738	648	152	372	690	44	23
12	1100	443	127	738	82	505	500	145	252	318	40	20
13	1410	463	500	405	80	410	510	130	195	490	35	16
14	995	373	870	510	79	420	1570	135	157	286	30	14
15	635	297	535	612	250	346	1420	118	127	185	26	60
16	446	278	392	535	600	364	924	102	150	132	46	57
17	331	242	321	560	870	1590	714	94	175	140	58	32
18	259	226	231	1570	696	2160	570	167	118	237	924	25
19	214	209	237	1460	600	1030	445	167	92	132	1090	21
20	183	187	207	828	485	726	356	170	77	85	435	17
21	159	169	175	555	840	1650	297	978	65	60	1670	15
22	142	156	157	440	2440	1150	246	550	55	350	900	17
23	130	145	152	435	2080	756	216	392	47	1500	495	198
24	125	161	155	314	1520	636	198	834	42	450	356	137
25	111	263	846	314	888	1760	219	1090	41	234	249	98
26	102	1750	726	269	460	1040	195	600	36	162	183	190
27	93	1040	490	228	360	726	1420	392	32	125	137	106
28	93	666	368	207	310	672	1100	293	29	185	108	73
29	110	470	304	180	270	1280	720	225	27	440	88	54
30	95	356	269	130	---	900	1260	187	26	207	71	43
31	86	---	243	120	---	1110	---	237	---	137	63	---
TOTAL	15092	12776	9360	12052	13962	26219	22011	11740	4221	8888	7787	1651
MEAN	487	426	302	389	481	846	734	379	141	287	251	55.0
MAX	1410	1750	870	1570	2440	2160	2450	1260	388	1860	1670	198
MIN	86	80	127	104	79	180	195	94	26	21	26	14
CFSM	3.81	3.33	2.36	3.04	3.76	6.61	5.73	2.96	1.10	2.24	1.96	.43
IN.	4.39	3.71	2.72	3.50	4.06	7.62	6.40	3.41	1.23	2.58	2.26	.48
CAL YR 1979	TOTAL	176922	MEAN	485	MAX	5030	MIN	59	CFSM	3.79	IN	51.42
WTR YR 1980	TOTAL	145759	MEAN	398	MAX	2450	MIN	14	CFSM	3.11	IN	42.36

KANAWHA RIVER BASIN
03186500 WILLIAMS RIVER AT DYER, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

		DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)		
		OCT 16...	1435	422	32	6.8	16.0	9.0	--	--		
		NOV 19...	1350	199	35	6.8	17.0	6.5	--	--		
		JAN 22...	1045	422	18	7.3	5.0	3.0	--	--		
		FEB 11...	1250	84	--	--	--	--	--	--		
		MAR 04...	1305	183	--	--	10.0	1.0	--	--		
		22...	1130	1100	21	6.3	--	2.5	--	--		
		APR 15...	1010	1450	38	6.7	5.0	7.0	--	--		
		MAY 27...	1310	388	40	7.0	24.0	13.0	--	--		
		JUL 24...	1630	344	35	6.7	21.0	19.5	--	--		
		AUG 20...	1045	450	30	6.2	22.0	17.0	3.3	--		
		27...	1715	127	19	6.7	24.5	22.5	--	7.8		
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	ALKA- LITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)
MAR 22...	9	7	.1	5.0	2.5	.7	.5	.1	4	5.2	.2	--
AUG 20...	10	6	<.1	<5.0	2.8	.8	.5	.1	4	5.1	.7	4.0
DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)
MAR 22...	20	.03	59.4	--	--	--	--	--	140	150	10	--
AUG 20...	28	.04	34.0	40	<1	2	<3	<10	220	170	47	<10
DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
MAR 22...	--	40	10	30	--	--	--	--	7	4.00	--	--
AUG 20...	44	30	5	25	<10	12	7.0	44	3.6	--	1	1.2

KANAWHA RIVER BASIN

251

03187300 NORTH FORK CRANBERRY RIVER NEAR HILLSBORO, WV

LOCATION.--Lat 38°15'27", long 80°19'25", Pocahontas County, Hydrologic Unit, 05050005, Monongahela National Forest, on right bank at U.S. Forest Service bridge, 100 ft (30 m) upstream from mouth, and 10.5 mi (16.9 km) northwest of Hillsboro.

DRAINAGE AREA.--9.97 mi² (25.82 km²).

PERIOD OF RECORD.--October 1968 to September 1971, October 1979 to September 1980.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 3,165.40 ft (964.814 m) National Geodetic Vertical Datum of 1929. Rainfall records collected at site are contained in files of U.S. Geological Survey with only monthly totals published in this report.

REMARKS.--Records good except those for January, which are fair, and those for February and period of no gage-height record, June 6 to July 17, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 864 ft³/s (24.5 m³/s) Dec. 31, 1969, gage height, 3.93 ft (1.198 m), from rating curve extended above 70 ft³/s (2.0 m³/s) on basis of theoretical weir formula; minimum, 0.77 ft³/s (0.022) Sept. 20, 21, 1980, gage height, 1.31 ft (0.399 m).

EXTREMES FOR CURRENT YEAR.--Peak discharges above base of 350 ft³/s (9.9 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)
Nov. 26	0715	*407 11.5	3.21 0.978	Apr. 9	0030	378 10.7	3.15 0.960

Minimum discharge, 0.77 ft³/s (0.022 m³/s) Sept. 20, 21, gage height, 1.31 ft (0.399 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	9.2	24	17	9.8	27	94	85	13	2.9	11	5.3
2	65	122	21	14	9.0	41	67	55	12	3.0	11	4.9
3	83	71	40	13	8.4	23	51	40	11	3.7	8.3	7.0
4	51	41	30	12	7.8	22	73	31	13	4.8	7.4	5.3
5	73	30	15	12	7.3	73	48	25	10	5.4	6.5	4.5
6	58	24	15	11	7.0	105	38	22	17	4.1	6.5	3.9
7	48	21	15	12	6.6	41	32	20	16	3.6	6.5	3.9
8	38	17	13	12	6.3	98	65	17	17	10	5.7	3.0
9	61	16	17	11	6.0	127	166	15	21	30	5.7	2.4
10	71	42	11	10	5.8	65	69	13	28	80	6.5	2.2
11	58	34	11	21	5.6	56	47	13	22	50	5.3	1.8
12	85	32	11	58	5.4	47	41	12	18	30	4.9	1.4
13	115	30	51	29	5.2	33	45	11	15	36	4.9	1.2
14	71	24	44	38	5.0	30	166	11	12	25	4.2	1.1
15	48	22	30	40	8.0	25	98	9.7	13	16	3.9	1.2
16	37	20	25	36	23	24	61	9.2	15	10	11	1.2
17	29	17	30	55	22	155	48	8.8	13	6.4	6.1	1.2
18	23	17	91	158	22	145	41	22	11	8.8	77	1.2
19	20	17	46	105	19	69	33	18	9.0	6.5	69	.99
20	17	15	15	58	13	53	27	21	7.4	5.3	29	.84
21	15	14	14	41	20	172	23	42	6.2	4.6	23	1.3
22	14	13	13	33	132	85	20	30	5.4	22	32	2.6
23	13	13	13	27	122	56	17	25	4.7	56	31	18
24	13	18	19	31	107	63	17	41	4.2	25	24	7.0
25	11	23	85	32	60	148	16	47	3.9	16	18	7.0
26	11	161	41	22	48	75	15	34	3.6	12	14	6.5
27	9.7	71	31	17	40	58	100	27	3.3	13	11	4.6
28	10	47	25	15	33	89	61	22	3.2	21	7.8	3.5
29	11	38	26	13	30	140	42	15	3.4	26	7.0	2.4
30	9.7	31	20	12	---	91	81	14	3.2	15	6.5	1.8
31	9.2	---	19	11	---	120	---	17	---	11	6.5	---
TOTAL	1211.6	1050.2	861	976	794.2	2339	1702	772.7	334.5	563.1	471.2	109.23
MEAN	39.1	35.0	27.8	31.5	27.4	75.5	56.7	24.9	11.2	18.2	15.2	3.64
MAX	115	161	91	158	132	172	166	85	28	80	77	18
MIN	9.2	9.2	11	10	5.0	22	15	8.8	3.2	2.9	3.9	.84
CFSM	3.92	3.51	2.79	3.16	2.75	7.57	5.69	2.50	1.12	1.83	1.53	.37
IN.†	4.52	3.92	3.21	3.64	2.96	8.73	6.35	2.88	1.25	2.10	1.76	.41
IN.*	7.76	5.70	3.03	3.94	2.94	8.34	8.57	3.27	---	---	---	2.36

WTR YR 1980 TOTAL 11184.73 MEAN 30.6 MAX 172 MIN .84 CFSM 3.07 IN 41.73

† Runoff.

* Rainfall.

KANAWHA RIVER BASIN

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).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1944 to December 1951, June 1964 to September 1971, October 1979 to September 1980.

GAGE.--Water-stage recorder. Altitude of gage is 2,100 ft (640 m), from topographic map.

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

AVERAGE DISCHARGE.--15 years (water years 1945-51, 1965-71, 1980), 223 ft³/s (6.315 m³/s), 37.29 in/yr (947 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,260 ft³/s (234 m³/s) Mar. 7, 1967, gage height, 9.18 ft (2.798 m) from floodmarks, from rating curve extended above 4,000 ft³/s (110 m³/s); minimum, 0.8 ft³/s (0.02 m³/s) Sept. 17, 18, 1967, gage height 1.35 ft (0.411 m).

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)
Nov. 26	1030	*3120 88.4	6.11 1.862	Apr. 9	0415	3040 86.1	6.07 1.850
Mar. 17	2145	*3120 88.4	6.11 1.862				

Minimum discharge, 7.2 ft³/s (0.20 m³/s), Sept. 21, gage height, 1.70 ft (0.518 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	264	56	219	147	76	140	780	872	108	13	63	32
2	300	434	183	126	70	126	531	571	99	12	77	27
3	805	730	147	107	65	114	394	404	88	11	51	40
4	502	380	139	92	60	126	451	297	105	15	39	31
5	805	261	119	82	58	230	360	232	83	19	32	26
6	640	204	112	78	54	474	285	192	79	25	30	19
7	525	170	121	79	52	348	237	175	126	18	22	16
8	364	143	105	76	49	738	227	141	121	16	19	14
9	497	126	88	70	47	1320	1650	119	132	74	36	12
10	805	264	87	58	45	628	701	105	202	805	38	12
11	701	304	81	76	43	525	462	99	212	360	30	10
12	701	294	83	308	42	356	348	91	147	183	24	9.5
13	1000	291	324	219	41	288	332	84	117	230	22	8.9
14	708	243	502	261	40	282	1060	84	94	162	17	8.5
15	451	204	360	340	70	237	990	74	79	110	15	8.1
16	304	192	291	320	162	232	640	65	99	81	87	7.7
17	227	168	240	364	462	1060	450	60	115	57	65	7.5
18	179	158	179	1070	450	1970	350	112	79	88	372	7.5
19	145	149	175	1100	400	708	260	119	61	56	788	7.5
20	124	136	143	565	300	497	210	108	48	39	324	7.4
21	110	123	119	390	450	1360	180	264	39	28	628	7.2
22	97	112	102	316	1450	888	150	224	32	62	439	8.1
23	90	104	96	285	1650	531	134	181	27	664	246	128
24	88	114	100	222	1200	451	121	344	22	267	179	83
25	79	186	640	180	640	1670	115	605	20	153	141	53
26	72	1300	439	160	428	838	108	336	18	107	105	81
27	65	822	340	130	300	554	863	224	16	84	81	47
28	65	480	273	115	243	508	723	170	14	79	63	30
29	79	360	227	100	192	855	468	134	13	149	51	21
30	69	276	200	92	---	594	813	115	14	97	40	16
31	61	---	172	83	---	715	---	143	---	69	38	---
TOTAL	10922	8784	6406	7611	9139	19363	14393	6744	2409	4133	4162	785.9
MEAN	352	293	207	246	315	625	480	218	80.3	133	134	26.2
MAX	1000	1300	640	1100	1650	1970	1650	872	212	805	788	128
MIN	61	56	81	58	40	114	108	60	13	11	15	7.2
CFSM	4.34	3.61	2.55	3.03	3.88	7.70	5.91	2.69	.99	1.64	1.65	.32
IN.	5.00	4.02	2.93	3.49	4.19	8.87	6.59	3.09	1.10	1.89	1.91	.36

WTR YR 1980 TOTAL 94851.9 MEAN 259 MAX 1970 MIN 7.2 CFSM 3.19 IN 43.45

KANAWHA RIVER BASIN

253

03187500 CRANBERRY RIVER NEAR RICHWOOD, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--May 1979 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1979 to September 1980.

INSTRUMENTATION.--Automatic pumping sediment sampler since October 1979.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 186 mg/L Mar. 25; minimum daily mean, 0 mg/L on many days.

SEDIMENT LOADS: Maximum daily, 900 tons (816 metric tons) Mar. 18; minimum daily, 0 ton (0 metric ton) on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)
OCT							
17...	0930	208	22	6.3	10.5	9.0	7
NOV							
28...	1420	363	26	5.6	1.0	6.0	7
JAN							
15...	1430	332	30	7.0	7.0	3.5	8
FEB							
14...	1125	42	--	--	3.0	5.0	--
MAR							
06...	1230	468	--	--	4.0	1.0	--
18...	1155	1780	38	--	--	4.0	--
19...	1245	704	39	--	--	5.0	--
23...	0800	542	25	5.6	--	2.0	7
APR							
22...	1000	145	32	4.8	22.0	10.0	.7
MAY							
29...	1250	126	25	6.5	23.5	14.5	7
JUL							
18...	1245	94	30	5.4	--	20.5	7
AUG							
22...	0745	485	28	5.4	19.5	16.5	7
27...	1120	79	14	6.1	29.0	18.5	--
SEP							
12...	1440	9.6	17	6.6	26.5	19.5	--

DATE	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	ALKA- LINITY (MG/L AS CACO3)	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)
OCT												
17...	4	.0	.0	1.8	.5	.4	.1	3	4.9	.4	16	.02
NOV												
28...	5	.0	.0	1.9	.6	.4	.1	2	5.7	.6	--	--
JAN												
15...	6	.0	.0	2.0	.7	.5	.1	2	5.5	.9	18	.02
MAR												
23...	4	.1	5.0	1.8	.6	.5	.1	3	5.0	.6	11	.02
APR												
22...	3	.1	5.0	1.7	.6	.5	.1	4	4.4	.8	14	.02
MAY												
29...	5	.1	5.0	1.8	.6	.5	.1	2	4.1	.5	20	.03
JUL												
18...	3	.1	5.0	1.7	.6	.4	.1	4	5.0	.6	20	.03
AUG												
22...	6	<.1	<5.0	1.9	.6	.4	.1	2	5.3	.6	25	.03

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (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. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	COAL IN BOTTOM RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT												
17...	8.99	--	--	150	--	30	40	10	30	--	--	--
NOV												
28...	--	--	--	120	80	40	40	0	40	--	--	--
JAN												
15...	16.1	--	--	90	60	30	40	10	30	--	--	--
MAR												
23...	16.1	1.0	.000	90	80	10	40	0	40	4.00	--	--
APR												
22...	5.48	--	--	120	90	30	40	20	20	--	--	--
MAY												
29...	6.80	--	--	90	60	30	10	1	9	--	--	--
JUL												
18...	5.08	.44	.000	160	130	30	30	20	10	--	--	--
AUG												
22...	32.7	--	--	240	160	83	70	4	66	--	7	9.2

03187500 CRANBERRY RIVER NEAR RICHWOOD, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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)	
OCTOBER												
1	13	9.3	0	.00	9	5.3	5	2.0	3	.62	5	1.9
2	16	13	23	27	7	3.5	4	1.4	0	.00	4	1.4
3	35	76	46	91	5	2.0	4	1.2	0	.00	4	1.2
4	34	46	39	40	5	1.9	3	.75	0	.00	4	1.4
5	30	65	36	25	4	1.3	3	.66	0	.00	10	6.2
6	34	59	82	45	4	1.2	3	.63	0	.00	31	40
7	54	77	94	43	4	1.3	3	.64	0	.00	20	19
8	55	54	46	18	4	1.1	3	.62	0	.00	60	120
9	48	64	25	8.5	3	.72	0	.00	0	.00	140	499
10	34	74	13	9.3	3	.70	0	.00	0	.00	48	81
11	9	17	16	13	3	.66	3	.61	0	.00	35	50
12	4	7.6	16	13	3	.67	17	14	0	.00	21	20
13	63	170	15	12	18	16	9	5.3	0	.00	15	12
14	41	78	12	7.9	34	46	13	9.2	0	.00	14	11
15	25	30	9	5.0	21	20	95	87	0	.00	11	7.1
16	36	30	8	4.2	15	12	52	45	6	2.6	11	6.9
17	13	8.0	6	2.7	11	7.1	38	37	30	37	66	189
18	26	13	6	2.6	7	3.4	141	407	30	36	169	900
19	6	2.4	5	2.0	7	3.3	40	119	24	26	107	204
20	0	.00	5	1.8	5	1.9	25	38	16	13	34	46
21	3	.89	4	1.3	4	1.3	24	25	30	36	142	521
22	4	1.0	4	1.2	4	1.1	17	15	158	619	78	187
23	1	.24	4	1.1	4	1.0	6	4.6	179	796	38	54
24	1	.24	4	1.2	4	1.1	4	2.4	117	379	30	37
25	2	.42	8	4.0	49	85	3	1.5	49	85	186	841
26	3	.58	137	479	28	33	3	1.3	27	31	71	161
27	2	.35	30	155	20	18	7	2.5	16	13	39	58
28	1	.17	32	41	13	9.6	2	.62	12	7.9	35	48
29	1	.21	21	20	10	6.1	4	1.1	8	4.2	71	164
30	0	.00	14	10	8	4.3	3	.75	---	---	44	71
31	2	.33	---	---	7	3.3	3	.67	---	---	58	112
TOTAL	---	897.73	---	1084.80	---	293.85	---	825.45	---	2086.32	---	4471.1
APRIL												
1	64	135	76	179	6	1.8	8	.29	1	.17	2	.17
2	38	54	44	68	3	.80	10	.31	2	.42	1	.07
3	23	24	25	27	4	.95	7	.21	1	.14	1	.11
4	30	37	16	13	7	2.0	4	.16	1	.10	1	.08
5	21	20	11	6.9	6	1.3	5	.26	1	.09	2	.14
6	15	12	8	4.2	9	1.9	7	.47	1	.08	2	.10
7	11	7.1	7	3.3	8	2.7	8	.38	1	.06	2	.09
8	10	6.1	5	1.9	4	1.3	6	.25	1	.05	1	.04
9	179	796	4	1.3	6	2.1	20	4.0	2	.19	1	.03
10	56	106	4	1.1	12	6.5	58	126	2	.20	1	.03
11	30	37	4	1.1	9	5.1	30	29	1	.08	1	.03
12	20	19	3	.74	4	1.6	13	6.4	1	.06	2	.05
13	18	16	3	.68	4	1.3	12	7.4	1	.06	1	.02
14	98	280	3	.68	3	.76	10	4.4	1	.05	0	.00
15	90	241	0	.00	5	1.1	6	1.8	0	.00	0	.00
16	49	85	0	.00	8	2.1	4	.88	10	2.3	0	.00
17	30	36	0	.00	3	.93	11	1.7	11	1.9	0	.00
18	20	19	4	1.2	1	.21	10	2.4	90	152	0	.00
19	13	9.1	4	1.3	3	.49	8	1.2	56	142	0	.00
20	9	5.1	4	1.2	7	.91	7	.74	14	32	0	.00
21	7	3.4	13	9.3	6	.63	6	.45	46	93	0	.00
22	6	2.4	10	6.1	3	.26	60	10	8	9.5	0	.00
23	23	8.3	7	3.4	6	.43	112	201	5	3.3	11	3.8
24	14	4.6	20	19	4	.23	13	9.4	4	1.9	5	1.1
25	12	3.7	45	74	5	.27	7	2.9	2	.76	4	.57
26	11	3.2	19	17	5	.24	2	.58	3	.85	7	1.5
27	50	121	10	6.1	12	.51	1	.23	1	.22	2	.25
28	59	115	7	3.2	8	.30	2	.43	2	.34	1	.08
29	31	39	5	1.8	5	.17	2	.80	2	.27	0	.00
30	70	154	7	2.2	7	.27	2	.52	2	.22	0	.00
31	---	---	14	5.4	---	---	2	.37	2	.20	---	---
TOTAL	---	2399.0	---	460.10	---	39.16	---	414.93	---	422.51	---	8.26
TOTAL LOAD FOR YEAR: 13403.21 TONS.												

KANAWHA RIVER BASIN

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03189000 CHERRY RIVER AT FENWICK, WV

LOCATION.--Lat 38°13'45", long 80°35'00", Nicholas County, Hydrologic Unit 05050005, on left bank at downstream side of highway bridge at Fenwick, 1,000 ft (305 m) downstream from Laurel Creek, and at mile 6.4 (10.3 km).

DRAINAGE AREA.--150 mi² (388 km²).

PERIOD OF RECORD.--September 1929 to September 1969, October 1979 to September 1980. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 973: 1940-42. WSP 1275: 1930-31(M), 1932, 1933-34(M), 1936-39.

GAGE.--Water-stage recorder. Datum of gage is 2,088.94 ft (636.709 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Records good above 250 ft³/s (7.08 m³/s) and poor below.

AVERAGE DISCHARGE.--41 years (water years 1930-69, 1980), 409 ft³/s (11.58 m³/s), 37.03 in/yr (941 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,000 ft³/s (1,050 m³/s) July 19, 1954, gage height, 19.80 ft (6.035 m), from floodmarks, from rating curve extended above 19,000 ft³/s (540 m³/s) on basis of contracted-opening measurement of peak flow; minimum, 0.1 ft³/s (0.003 m³/s) Sept. 30, 1930.

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)
Nov. 26	0800	*6210 176	8.37 2.551	July 10	0700	5140 146	7.69 2.344

Minimum discharge, 14 ft³/s (0.40 m³/s) Sept. 21, gage height, 0.76 ft (0.232 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	500	350	399	307	180	270	1170	1390	230	22	90	81
2	700	1570	339	274	165	230	887	1020	210	20	110	70
3	1050	1470	280	242	155	220	694	734	180	21	95	60
4	90	848	257	220	145	300	792	560	240	26	74	52
5	1610	596	234	200	140	560	655	444	200	56	61	46
6	1250	468	232	180	135	953	552	374	160	45	50	42
7	1050	384	271	160	130	776	464	350	250	39	42	38
8	771	323	230	150	125	1590	456	280	343	60	36	34
9	1040	283	200	135	120	2010	1920	240	274	250	41	31
10	1530	619	190	130	116	1150	1070	210	395	3710	44	31
11	1410	632	185	250	113	1030	744	195	356	1760	41	28
12	1310	646	250	679	110	718	605	180	250	713	36	26
13	1960	619	565	468	108	605	614	170	180	859	33	23
14	1420	522	739	623	105	601	2500	160	150	488	30	21
15	940	436	552	739	180	501	2010	150	140	317	200	20
16	670	425	456	689	250	543	1240	140	245	220	333	18
17	501	377	377	859	456	2370	928	250	232	150	223	16
18	395	353	274	2140	614	2380	718	323	120	180	971	18
19	326	323	304	1960	476	1310	569	240	85	120	1640	19
20	277	292	245	1120	384	965	460	245	71	140	755	16
21	230	262	230	760	776	2020	384	587	61	250	1270	19
22	200	240	210	651	3440	1360	320	464	52	425	1270	29
23	180	226	200	610	2610	953	280	377	45	899	755	112
24	160	286	300	472	1920	911	251	513	38	433	480	104
25	150	370	1610	460	1170	2690	240	750	36	254	402	93
26	140	2940	984	392	814	1410	229	513	34	190	274	80
27	130	1460	694	336	605	971	1440	377	30	130	200	51
28	130	922	535	307	501	959	1220	295	26	160	160	35
29	135	651	440	268	388	1220	848	237	23	220	135	29
30	130	497	384	230	---	899	1410	251	23	170	115	24
31	125	---	346	210	---	1060	---	363	---	120	95	---
TOTAL	20510	19390	12512	16221	16431	33535	25670	12382	4679	12447	10061	1266
MEAN	662	646	404	523	567	1082	856	399	156	402	325	42.2
MAX	1960	2940	1610	2140	3440	2690	2500	1390	395	3710	1640	112
MIN	90	226	185	130	105	220	229	140	23	20	30	16
CFSM	4.41	4.31	2.69	3.49	3.78	7.21	5.71	2.66	1.04	2.68	2.17	.28
IN.	5.09	4.81	3.10	4.02	4.07	8.32	6.37	3.07	1.16	3.09	2.50	.31

WTR YR 1980 TOTAL 185104 MEAN 506 MAX 3710 MIN 16 CFSM 3.37 IN 45.91

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 State Highway 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 March, which are fair, and those for January and February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--16 years, 1,478 ft³/s (41.86 m³/s), 38.01 in/yr (965 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)
Feb. 22	2400	12800 362	15.52 4.73	July 10	1200	*14400 408	15.96 4.865

Minimum discharge, 54 ft³/s (1.53 m³/s) Sept. 21, 22, gage height, 9.14 ft (2.786 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1520	375	1300	970	450	760	4180	5320	712	85	331	230
2	1720	2800	1100	880	420	720	3150	3680	576	76	431	196
3	3520	5120	900	784	390	700	2430	2580	496	70	331	206
4	2640	2750	739	721	370	900	2390	1890	576	82	241	216
5	4000	1910	712	676	350	1620	2140	1470	480	225	196	196
6	3640	1470	712	584	340	4200	1750	1210	396	182	182	178
7	3070	1210	784	504	330	2940	1480	1090	850	147	152	156
8	2350	1010	739	459	325	4380	1340	910	784	128	131	131
9	2800	891	640	431	320	6460	7640	766	784	369	131	113
10	5510	1300	592	403	318	3630	4220	667	950	8210	164	102
11	5170	1920	576	445	315	3000	2720	608	1410	4600	156	92
12	4240	1950	576	2100	310	2190	2030	576	950	1920	131	82
13	5520	2210	1740	1700	310	1760	1880	520	730	2220	120	73
14	4340	1850	3390	1800	310	1950	4970	520	576	1530	102	67
15	2890	1490	2320	2320	376	1690	5720	473	459	970	92	62
16	2040	1410	1750	2140	658	1710	3680	403	488	667	325	156
17	1520	1290	1430	2120	1410	4270	2840	356	640	488	296	113
18	1190	1180	975	4490	1250	8360	2260	496	452	802	1430	82
19	966	1070	850	6400	1220	4430	1790	649	342	552	5400	70
20	819	949	775	3550	1130	3080	1470	592	279	383	2340	62
21	710	854	712	2480	2000	5320	1220	2370	230	291	4800	56
22	625	778	667	1960	7700	5000	1020	2070	192	356	4400	62
23	570	717	632	1470	9050	3130	890	1490	164	2410	2510	336
24	545	772	649	1310	6150	2540	784	1720	143	1600	1540	649
25	499	1150	3550	1120	3740	7290	766	3680	139	920	1150	383
26	460	6830	3200	1020	2650	4750	721	2290	135	616	820	568
27	424	4980	2240	900	1860	3130	4250	1580	113	459	600	376
28	408	2980	1720	660	1200	2560	4770	1180	99	431	452	235
29	477	2140	1400	580	820	3780	3060	910	85	802	349	206
30	456	1620	1210	520	---	3000	4750	739	88	608	285	160
31	403	---	1080	480	---	3180	---	880	---	396	257	---
TOTAL	65042	56976	39660	45977	46072	102430	82311	43685	14318	32595	29845	5614
MEAN	2098	1899	1279	1483	1589	3304	2744	1409	477	1051	963	187
MAX	5520	6830	3550	6400	9050	8360	7640	5320	1410	8210	5400	649
MIN	403	375	576	403	310	700	721	356	85	70	92	56
CFSM	3.97	3.60	2.42	2.81	3.01	6.26	5.20	2.67	.90	1.99	1.82	.35
IN.	4.58	4.01	2.79	3.24	3.25	7.22	5.80	3.08	1.01	2.30	2.10	.40

CAL YR 1979	TOTAL	738270	MEAN	2023	MAX	17100	MIN	301	CFSM	3.83	IN	52.01
WTR YR 1980	TOTAL	564525	MEAN	1542	MAX	9050	MIN	56	CFSM	2.92	IN	39.77

PERIOD OF RECORD.--Water years 1968-1973, 1975-1977, 1979 to current year.

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 1979 TO SEPTEMBER 1980

[illegible]

KANAWHA RIVER BASIN

03189100 GAULEY RIVER NEAR CRAIGSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	SOLIDS, RESIDUE AT 105 DEG. C, SUS- PENDED (MG/L)	NITRO- GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC 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)	BARIUM, DIS- SOLVED (UG/L AS BA)
OCT 17...	.07	202	--	--	--	--	--	--	--	--	--	--
NOV 19...	.03	65.8	--	--	--	--	--	--	--	--	--	--
DEC 20...	--	--	6	.66	--	.19	.85	3.8	.010	.03	--	--
JAN 14...	.03	112	--	--	--	--	--	--	--	--	--	--
17...	--	--	10	.65	--	.41	1.1	4.7	.340	1.0	--	--
31...	--	--	5	.48	--	.10	.58	2.6	.010	.03	--	--
MAR 23...	.04	207	--	--	.99	--	--	--	--	--	.000	--
APR 10...	--	--	--	.92	--	.55	1.5	6.5	.020	.06	--	--
24...	--	--	11	.74	--	.19	.93	4.1	.010	.03	--	--
MAY 08...	--	--	8	.80	--	.08	.88	3.9	.000	.00	--	--
30...	.04	59.9	--	--	--	--	--	--	--	--	--	--
JUN 18...	.05	40.0	6	.53	--	.11	.64	2.8	.020	.06	--	--
JUL 11...	--	--	50	.66	--	.14	.80	3.5	.040	.12	--	--
AUG 01...	--	--	2	.33	--	.15	.48	2.1	.040	.12	--	--
13...	--	--	2	.32	--	.08	.40	1.8	.000	.00	--	--
22...	.04	375	--	--	--	--	--	--	--	--	--	40
SEP 18...	--	--	2	.33	--	.04	.37	1.6	.000	.00	--	--
DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM, DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L 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)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM, DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDED RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 17...	--	--	--	--	610	--	80	--	--	90	10	80
NOV 19...	--	--	--	--	100	--	40	--	--	20	0	20
JAN 14...	--	--	--	--	110	70	40	--	--	20	0	20
MAR 23...	--	--	--	--	200	180	20	--	--	40	10	30
MAY 30...	--	--	--	--	170	130	40	--	--	20	10	10
JUN 18...	--	--	--	--	310	240	70	--	--	40	20	20
AUG 22...	<1	4	<3	<10	1300	1200	63	<10	<4	80	40	36
DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, TOTAL RECOV- ERABLE (UG/L AS NI)	SILVER, TOTAL RECOV- ERABLE (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	CYANIDE TOTAL (MG/L AS CN)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
DEC 20...	--	3	0	--	--	10	--	--	--	.00	--	--
JAN 17...	--	3	0	--	--	80	--	--	--	.01	--	--
31...	--	3	--	--	--	30	--	--	--	.01	--	--
MAR 23...	--	--	--	--	--	--	--	--	13.0	--	--	--
APR 24...	--	1	0	--	--	20	--	--	--	.00	--	--
MAY 08...	--	1	0	--	--	20	--	--	--	.00	--	--
JUN 18...	--	3	0	--	--	10	--	--	--	.00	--	--
JUL 11...	--	7	0	--	--	20	--	--	--	--	--	--
AUG 01...	--	1	0	--	--	20	--	--	--	.00	--	--
13...	--	2	0	--	--	10	--	--	--	--	--	--
22...	<10	--	--	15	<6.0	--	19	4.5	--	--	48	581
SEP 18...	--	1	0	--	--	30	--	--	--	.00	--	--

KANAWHA RIVER BASIN

259

03189590 SUMMERSVILLE LAKE NEAR SUMMERSVILLE, WV

LOCATION.--Lat 38°13'20", long 80°53'35", Nicholas County, Hydrologic Unit 05050005, at Summersville Dam on Gauley 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, 209,100 acre-ft (258 hm³) Oct. 5, elevation, 1,658.07 ft (505.38 m); minimum, 57,720 acre-ft (71.2 hm³) Dec. 18, elevation, 1,574.78 ft (479.99 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)	(equivalent in cfs)
Sept. 30.....	1649.3	184100	-	-
Oct. 31.....	1630.7	139500	-44600	-725
Nov. 30.....	1578.2	60970	-78530	-1320
Dec. 31.....	1576.8	59620	-1350	-22
CAL YR 1979			+380	+1
Jan. 31.....	1577.7	60480	+860	+14
Feb. 29.....	1577.2	60000	-480	-8
Mar. 31.....	1577.6	60380	+380	+6
Apr. 30.....	1653.2	194900	+134500	+2260
May 31.....	1652.6	193200	-1700	-28
June 30.....	1652.0	191500	-1700	-29
July 31.....	1652.1	191800	+300	+5
Aug. 31.....	1652.2	192100	+300	+5
Sept. 30.....	1645.9	175100	-17000	-286
WTR YR 1980			-9000	-12

KANAWHA RIVER BASIN

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 good. Flow regulated by Summersville Lake (station 03189590).

AVERAGE DISCHARGE.--14 years, 2,172 ft³/s (61.51 m³/s), 36.69 in/yr (932 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, 14,200 ft³/s (402 m³/s) July 10, gage height, 18.07 ft (5.508 m); minimum daily, 102 ft³/s (2.89 m³/s) Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	102	2360	2910	1350	426	1430	1310	8240	935	212	293	280
2	577	2350	1540	1060	626	1000	192	5580	935	212	242	227
3	900	2370	1310	1060	940	1000	446	3860	940	212	310	227
4	1200	2380	890	1060	940	1000	622	2520	530	212	395	229
5	2200	2380	649	1060	945	2350	626	2070	365	212	330	342
6	8240	2380	644	1060	945	4130	434	1780	434	212	225	398
7	6720	2370	825	1060	945	4530	165	1460	1940	212	225	275
8	4180	2370	925	1060	721	5020	168	1080	1470	212	225	220
9	4630	1650	930	649	382	6940	165	563	910	238	225	220
10	8360	1410	930	426	382	7390	162	563	910	7550	222	220
11	9790	2150	925	430	382	5470	162	980	1810	12100	222	214
12	4780	2390	925	1320	382	2960	162	1260	1440	3890	220	210
13	2500	2400	1650	2620	382	2300	162	960	1030	2580	220	210
14	3450	3070	3440	2610	382	2830	160	960	671	2550	220	210
15	5760	4000	4060	2620	382	2860	160	485	499	1770	220	208
16	5750	3980	3540	2930	382	2460	162	300	499	802	220	322
17	6340	3970	3520	3290	1190	2760	1590	298	689	802	220	694
18	4980	3940	2130	3910	2080	5990	2990	385	788	802	492	980
19	2520	3920	1090	6400	2090	6670	2480	865	640	802	8920	766
20	2510	5020	1090	6640	2090	5500	2090	1010	368	542	3900	595
21	2500	5960	1070	4820	2090	6370	1430	2890	245	391	3890	595
22	2500	5780	890	2900	5200	7740	1090	3380	212	313	7290	554
23	2490	5050	757	2500	9960	5920	1090	2290	212	2450	3900	577
24	2490	4390	1000	2510	11200	3620	1090	1850	212	2260	2310	577
25	2480	4460	3180	2800	8870	5230	970	4210	212	1190	1580	577
26	2440	7250	4390	2210	5010	7850	784	4010	212	860	1420	1230
27	2400	9620	4020	1860	2630	6320	4990	2690	212	644	779	2020
28	2390	7570	2680	1860	1900	4000	7930	1640	212	325	590	2010
29	2380	6180	2090	1530	1900	4490	4770	935	212	910	438	761
30	2370	4490	2260	820	---	4410	6800	671	212	970	372	184
31	2370	---	1970	426	---	3610	---	935	---	546	375	---
TOTAL	112299	117610	58230	66851	65754	134150	45352	60720	19956	46983	40490	16132
MEAN	3623	3920	1878	2156	2267	4327	1512	1959	665	1516	1306	538
MAX	9790	9620	4390	6640	11200	7850	7930	8240	1940	12100	8920	2020
MIN	102	1410	644	426	382	1000	160	298	212	212	220	184

CAL YR 1979 TOTAL 1027044 MEAN 2814 MAX 13700 MIN 102 MEAN# 2815 CFSM# 3.50 IN# 47.55
WTR YR 1980 TOTAL 784527 MEAN 2144 MAX 12100 MIN 102 MEAN# 2132 CFSM# 2.65 IN# 36.11

* Adjusted for change in contents in Summersville Lake.

KANAWHA RIVER BASIN

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03189890 MEADOW RIVER AT MCROSS, WV

LOCATION.--Lat 37°59'37", long 80°44'53", Greenbrier County, Hydrologic Unit 05050005, on right bank on downstream side of highway bridge at McRoss, 1.4 mi (2.3 km) upstream from Sewell Creek, and at mile 32.6 (52.5 km).

DRAINAGE AREA.--163 mi² (422 km²).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1979 to September 1980.

GAGE.--Water-stage recorder. Altitude of gage is 2,400 ft (732 m), from topographic map.

REMARKS.--Water-discharge records good except those below 200 ft³/s (5.66 m³/s) and those for February and March, which are poor.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for December to September 2,470 ft³/s (70.0 m³/s), Apr. 15, gage height, 11.48 ft (3.499 m), no peak above base of 2,500 ft³/s (71.0 m³/s); minimum, 13 ft³/s (0.37 m³/s) Sept. 21, gage height, 2.80 ft (0.853 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			366	267	220	230	826	1220	170	22	130	66
2			273	237	200	190	738	1010	150	21	170	60
3			246	213	180	170	608	755	130	20	115	66
4			243	202	160	170	701	501	110	22	90	70
5			234	190	150	320	777	341	100	24	71	54
6			200	170	140	468	671	275	250	27	56	42
7			180	160	130	553	535	248	866	29	62	37
8			170	165	120	988	388	211	678	33	58	33
9			160	160	115	1820	684	180	339	200	48	30
10			145	150	110	1550	744	160	222	887	41	28
11			135	220	108	1140	651	160	180	1400	34	26
12			140	477	105	788	517	140	150	956	30	23
13			220	502	100	547	429	140	130	669	27	20
14			350	585	98	509	1210	130	110	397	26	19
15			303	795	130	427	2340	125	110	202	40	17
16			261	796	350	535	1890	135	125	150	72	16
17			238	780	580	972	1060	180	110	130	66	15
18			230	1200	540	1760	685	200	94	100	218	15
19			229	1810	470	1450	442	213	80	70	690	15
20			226	1510	420	1020	327	197	66	62	550	14
21			215	1030	469	1090	270	449	54	60	775	13
22			190	742	1200	1200	228	435	45	190	1480	14
23			170	735	1810	979	202	317	39	389	1110	26
24			210	610	1670	828	183	259	35	412	695	42
25			812	600	1190	1300	180	625	32	373	475	32
26			1030	546	826	1290	176	456	32	284	254	32
27			856	477	600	967	635	301	31	170	181	30
28			678	409	430	758	997	219	30	140	146	22
29			482	329	320	828	857	181	27	180	110	18
30			341	290	---	762	1160	178	24	140	94	15
31			301	250	---	738	---	202	---	110	80	---
TOTAL			9834	16607	12941	26347	21111	10143	4519	7869	7994	910
MEAN			317	536	446	850	704	327	151	254	258	30.3
MAX			1030	1810	1810	1820	2340	1220	866	1400	1480	70
MIN			135	150	98	170	176	125	24	20	26	13
CFSM			1.95	3.29	2.74	5.22	4.32	2.01	.93	1.56	1.58	.19
IN.			2.24	3.79	2.95	6.01	4.82	2.31	1.03	1.80	1.82	.21

KANAWHA RIVER BASIN

03189890 MEADOW RIVER AT MCROSS, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)	ACIDITY TOTAL HEATED (MG/L AS H)
JAN 16...	1520	789	70	5.7	7.0	3.0	--	--	--	--	--	--
MAR 24...	1245	774	49	6.8	--	6.0	--	--	--	19	17	.1
APR 11...	1220	657	60	7.2	--	10.0	--	--	--	--	--	--
MAY 20...	1010	188	85	6.8	17.5	16.0	--	--	--	--	--	--
JUL 15...	1245	174	80	6.3	34.0	22.5	--	--	.93	26	14	.1
AUG 21...	1355	879	59	6.6	29.0	20.0	35	--	--	20	8	<.1
SEP 11...	1940	26	108	7.2	19.0	19.5	--	8.8	--	--	--	--

DATE	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	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
MAR 24...	5.0	4.9	1.7	1.7	.2	10	9.0	1.7	--	33	.04	69.0
JUL 15...	5.0	6.8	2.2	1.7	.1	12	15	2.1	--	15	.02	7.05
AUG 21...	<5.0	5.5	1.6	1.5	.2	12	9.6	2.2	5.1	52	.07	123

DATE	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	BARIIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)
MAR 24...	.80	--	.010	--	--	--	--	--	540	480	60	--
JUL 15...	.48	.45	.020	--	--	--	--	--	1000	790	210	--
AUG 21...	--	--	--	30	<1	2	<3	<10	2100	1900	220	<10

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
MAR 24...	--	40	10	30	--	--	--	--	--	16.0	--	--
JUL 15...	--	110	10	100	--	--	--	--	--	--	--	--
AUG 21...	<4	110	50	60	<10	31	<6.0	28	5.9	--	94	223

KANAWHA RIVER BASIN

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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 February and March, 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.--14 years, 784 ft³/s (22.20 m³/s), 29.17 in/yr (741 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.--Maximum discharge, 4,080 ft³/s (116 m³/s) Jan. 19, Aug. 22, gage height, 7.99 ft (2.435 m), no peak above base of 5,000 ft³/s (140 m³/s); minimum, 33 ft³/s (0.93 m³/s) Sept. 21, gage height, 2.99 ft (0.911 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	585	204	854	630	430	450	1660	3070	372	49	162	156
2	896	910	642	565	380	350	1650	2290	288	45	324	132
3	1180	2520	520	500	340	330	1370	1720	239	44	232	132
4	1140	1830	430	450	310	320	1360	1240	211	45	159	137
5	1270	1330	420	430	290	732	1630	875	183	52	130	130
6	1440	1050	388	376	270	1600	1380	702	165	57	119	107
7	1300	822	392	344	260	1630	1140	618	1140	59	99	92
8	1070	618	368	368	250	2320	910	525	1410	66	111	81
9	952	515	324	348	240	3500	2440	445	861	95	99	72
10	1570	708	292	313	230	2820	2120	384	550	1720	88	70
11	2110	1240	285	316	220	2190	1570	356	420	3040	78	69
12	1770	1480	285	738	215	1640	1210	328	328	1770	66	62
13	2340	1490	672	1080	210	1240	1030	306	268	1220	57	56
14	2590	1200	1080	1130	205	1200	2080	299	225	840	56	50
15	1890	952	952	1620	300	1030	3670	278	190	505	56	45
16	1360	828	774	1670	575	1160	3130	246	183	320	137	43
17	1010	732	648	1580	1240	1530	2090	218	215	239	150	38
18	750	636	480	2390	1230	2990	1460	222	201	204	678	38
19	570	570	475	3830	1160	2790	1050	368	150	168	3160	35
20	465	500	430	2830	924	2110	786	410	125	135	1730	35
21	392	445	376	2030	1180	2130	648	1080	109	111	1240	34
22	344	410	344	1510	3410	2570	550	1070	95	109	3430	44
23	320	380	324	1800	3720	2100	475	798	84	288	2250	51
24	306	430	340	1550	3070	1710	425	618	76	660	1370	76
25	295	595	1680	1360	2340	2900	400	726	72	515	924	92
26	271	2500	2310	1260	1300	2820	380	854	70	450	618	90
27	250	3110	1810	1100	960	2090	1840	624	69	332	380	72
28	239	2160	1390	973	820	1600	2960	460	67	194	281	64
29	250	1660	1080	822	600	1520	2080	368	59	309	222	54
30	250	1200	822	654	---	1410	3280	306	54	299	177	44
31	222	---	708	490	---	1360	---	316	---	201	174	---
TOTAL	29397	33025	21895	35057	26679	54142	46774	22120	8479	14141	18757	2201
MEAN	948	1101	706	1131	920	1747	1559	714	283	456	605	73.4
MAX	2590	3110	2310	3830	3720	3500	3670	3070	1410	3040	3430	156
MIN	222	204	285	313	205	320	380	218	54	44	56	34
CFSM	2.60	3.02	1.93	3.10	2.52	4.79	4.27	1.96	.78	1.25	1.66	.20
IN.†	3.00	3.37	2.23	3.57	2.72	5.52	4.77	2.25	.86	1.44	1.91	.22
IN.*	5.68	2.85	2.88	2.61	1.83	4.91	5.03	2.37	2.36	6.42	4.32	2.46

CAL YR 1979 TOTAL 398905 MEAN 1093 MAX 7200 MIN 101 CFSM 3.00 IN 40.66
WTR YR 1980 TOTAL 312667 MEAN 854 MAX 3830 MIN 34 CFSM 2.34 IN 31.87

† Runoff.

* Rainfall.

KANAWHA RIVER BASIN

03191500 PETERS CREEK NEAR LOCKWOOD, WV

LOCATION (REVISED).--Lat 38°15'45", long 81°01'24", Nicholas County, Hydrologic Unit 05050005, on left bank, 0.9 mi (1.4 km) downstream from Tate Run, 1.5 mi (2.4 km) upstream from Line Creek and Lockwood, and at mile 5.2 (8.4 km).

DRAINAGE AREA.--40.2 mi² (104 km²), revised.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1945 to September 1971, November 1979 to September 1980.

GAGE.--Water-stage recorder. Altitude of gage is 1,070 ft (326 m), from topographic map. Prior to Sept. 30, 1971, at site 0.5 mi (0.8 km) downstream at datum 1,059.52 ft (322.942 m) National Geodetic Vertical Datum of 1929. Prior to Nov. 2, 1945, nonrecording gage and Nov. 2, 1945, to Aug. 2, 1955, water-stage recorder near present site at datum 1,072.19 ft (326.804 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records good except those below 13 ft³/s (0.37 m³/s) and those for February and March, which are poor.

AVERAGE DISCHARGE.--26 years (water years 1946-1971) 62.1 ft³/s (1.759 m³/s), 20.62 in/yr (524 mm/yr).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft³/s (184 m³/s) Aug. 2, 1958, Aug. 30, 1959, from rating curve extended above 2,100 ft³/s (59 m³/s) on basis of slope-area measurement of peak flow; maximum gage height, 14.43 ft (4.398 m) Aug. 2, 1958; no flow Sept. 6-9, 1957.

EXTREMES FOR CURRENT YEAR.--Maximum discharge for period November to September, 2,160 ft³/s (61.2 m³/s) Apr. 8, gage height, 7.60 ft (2.316 m), no other peak above base of 1,200 ft³/s (34 m³/s); minimum daily, 7.6 ft³/s (0.22 m³/s) Sept. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	61	58	52	44	180	341	17	8.8	16	19
2		---	53	51	46	41	149	178	15	8.2	15	15
3		---	45	47	41	40	114	118	14	8.1	11	16
4		---	43	43	37	54	104	89	13	8.0	12	42
5		---	42	43	34	110	80	71	12	13	25	83
6		---	41	40	32	333	66	62	24	14	18	31
7		---	40	40	30	280	60	56	33	12	17	21
8		---	35	44	28	210	249	47	37	14	19	16
9		---	29	41	27	130	756	42	23	62	14	13
10		---	28	39	25	100	208	37	58	455	16	15
11		---	27	45	24	78	124	36	39	132	12	13
12		---	43	82	23	74	96	33	26	57	10	12
13		---	342	84	22	68	90	30	18	62	9.2	11
14		---	258	96	24	64	130	35	15	38	11	10
15		---	146	98	35	100	126	27	13	25	25	9.8
16		68	102	97	97	160	101	24	30	18	77	9.0
17		57	77	92	110	250	81	21	17	15	27	8.5
18		51	61	215	85	400	70	23	13	13	25	8.1
19		43	56	255	76	200	61	21	12	12	164	7.8
20		39	49	155	84	130	54	29	12	11	165	7.7
21		35	44	110	153	196	49	50	11	12	86	7.6
22		33	42	112	274	192	44	31	10	14	295	13
23		30	41	165	184	142	42	28	9.6	28	126	87
24		70	50	138	124	189	39	27	9.4	17	70	35
25		89	270	179	96	594	36	32	9.0	10	46	37
26		322	190	187	81	229	39	32	8.8	13	32	41
27		204	140	143	68	140	186	26	8.6	31	24	25
28		131	102	109	64	122	183	22	9.2	25	19	18
29		92	84	87	46	111	143	18	11	21	16	15
30		71	74	66	---	100	617	18	9.4	10	28	13
31		---	65	58	---	132	---	28	---	12	36	---
TOTAL		---	2680	3019	2022	5013	4277	1632	537.0	1179.1	1466.2	659.5
MEAN		---	86.5	97.4	69.7	162	143	52.6	17.9	38.0	47.3	22.0
MAX		---	342	255	274	594	756	341	58	455	295	87
MIN		---	27	39	22	40	36	18	8.6	8.0	9.2	7.6
CFSM		---	2.15	2.42	1.73	4.03	3.56	1.31	.45	.95	1.18	.55
IN.		---	2.48	2.79	1.87	4.64	3.96	1.51	.50	1.09	1.36	.61

KANAWHA RIVER BASIN

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03191500 PETERS CREEK NEAR LOCKWOOD, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CAC03)
NOV 21...	1400	33	200	7.8	19.5	9.5	--
JAN 18...	1050	188	150	7.1	9.0	8.0	--
FEB 14...	1340	38	--	--	5.0	1.0	--
28...	1605	64	--	--	.5	2.0	--
MAR 21...	1230	204	64	7.3	--	7.5	45
APR 07...	1230	61	190	6.8	22.0	11.0	--
09...	1155	649	90	6.9	--	12.0	--
MAY 23...	1030	27	250	6.7	19.5	17.0	--
JUN 17...	1300	17	280	7.5	--	21.0	--
JUL 08...	2045	25	361	--	--	23.0	--
10...	1515	355	114	6.6	--	20.0	36
31...	1630	9.6	340	7.9	--	26.5	--
AUG 19...	1330	230	114	7.1	--	19.0	35
27...	1700	21	250	7.3	--	26.5	--

DATE	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)	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)
MAR 21...	7	.2	10	10	4.8	7.5	.5	20	35	3.8	59	.08
JUL 08...	--	--	--	--	--	--	--	--	--	--	--	--
10...	23	.1	5.0	8.5	3.6	3.4	.2	13	28	2.1	88	.12
AUG 19...	19	.0	.0	8.1	3.5	3.8	.3	16	27	2.5	78	.11

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (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. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
MAR 21...	32.5	.93	.010	2600	2600	40	270	100	170	110	--	--
JUL 08...	--	--	--	--	--	--	--	--	--	--	2040	138
10...	84.3	1.0	.010	4800	4700	90	500	480	20	--	404	387
AUG 19...	48.4	--	--	3100	3100	49	360	210	150	--	124	77

KANAWHA RIVER BASIN

03191500 PETERS CREEK NEAR LOCKWOOD, WV--Continued

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)
JAN					
18...	1045	8.1	155	649	14
18...	1100	9.7	149	634	17
18...	1115	11	143	596	18
18...	1130	14	139	564	21
APR					
09...	0930	512	89	657	908
09...	1030	468	84	636	804
09...	1100	460	83	770	956
09...	1150	416	92	654	735
JUN					
17...	1320	17	282	27	1.3
JUL					
08...	2045	25	361	2040	138
09...	2100	177	206	9540	4560
09...	2200	245	184	6590	4360
09...	2300	202	166	2690	1470
09...	2400	216	193	2890	1690
10...	0100	181	202	2160	1060
10...	0200	242	221	1730	1130
10...	0300	326	208	3380	2980
10...	0400	338	173	3290	3000
10...	0500	800	154	5170	11200
10...	0600	1000	136	3610	9750
10...	0700	1016	128	3210	8810
10...	0800	902	122	2820	6870
10...	0900	794	120	1580	3390
10...	1000	598	119	1530	2470
10...	1100	525	118	941	1330
10...	1200	524	118	741	1050
10...	1300	472	117	552	703
10...	1330	428	116	528	610
10...	1400	396	114	394	421
10...	1500	371	114	382	383
10...	1515	355	114	404	387
10...	1600	338	114	393	359
10...	1700	311	112	322	270
10...	1800	281	114	262	199
10...	1900	320	438	678	586
10...	2000	329	130	1860	1650
10...	2100	311	124	1070	898
10...	2200	266	124	605	435
10...	2300	240	126	442	286
10...	2400	228	128	318	196
11...	0100	216	129	226	132
11...	0200	200	130	226	122
11...	0300	188	134	189	96
11...	0400	181	136	206	101
11...	0500	174	136	166	78
11...	0600	164	136	160	71
11...	0700	154	135	142	59
11...	0800	150	136	140	57
11...	0900	144	136	123	48
11...	1000	139	136	122	46
11...	1100	132	136	107	38
AUG					
19...	1330	230	114	124	77
19...	1500	230	140	177	110
19...	1600	232	121	538	337
19...	1700	308	120	417	347
19...	1800	472	150	1570	2000
19...	1900	472	121	1690	2150
19...	2000	322	128	1360	1180
19...	2100	353	118	1330	1270
19...	2200	329	118	1040	924
19...	2300	311	129	589	495
19...	2400	290	124	460	360
20...	0100	272	121	333	245
20...	0200	245	120	315	208
20...	0300	242	118	280	183
20...	0400	218	118	209	123
20...	0500	220	118	254	151
20...	0600	209	118	204	115
20...	0700	200	119	266	144
20...	0800	190	120	233	120
20...	0900	181	120	259	127
20...	1000	175	120	300	142
20...	1100	166	121	393	176
20...	1200	162	121	253	111
20...	1300	158	124	267	114
20...	1400	148	127	238	95

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 February, which are fair. Flow regulated since 1965 by Summersville Lake (station 03189590). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years, 2,728 ft³/s (77.26 m³/s), 28.17 in/yr (716 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, 18,700 ft³/s (530 m³/s) July 11, gage height, 10.56 ft (3.219 m); minimum, 235 ft³/s (6.66 m³/s) Sept. 30, gage height, 1.43 ft (0.436 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	939	2590	4430	2300	1000	2440	4180	12900	1300	255	616	588
2	1540	3280	2510	1750	1100	1530	2270	8820	1210	255	530	428
3	2510	5480	1920	1660	1680	1550	2010	6100	1160	260	524	398
4	3020	4670	1640	1590	1490	1640	2240	4410	1040	265	595	398
5	2170	4000	1200	1570	1380	3440	2510	3190	602	265	609	542
6	10100	3650	1160	1500	1300	7220	2210	2860	588	280	458	581
7	9170	3410	1200	1450	1250	7020	1500	2240	2110	270	416	542
8	5990	3170	1360	1490	1150	7500	1380	2060	3410	295	464	350
9	5860	2680	1290	1350	844	10200	4990	1190	1900	404	404	320
10	12300	1970	1250	889	720	10500	3350	1090	1590	6700	362	320
11	12600	3410	1240	880	710	8370	2320	1080	1790	17000	338	310
12	8470	4180	1270	1350	700	5240	1790	1810	2210	6660	315	290
13	5260	4430	3120	3910	690	3620	1510	1310	1270	3830	300	275
14	6080	4340	4970	3960	680	4150	2120	1320	1130	3720	290	270
15	7880	5330	5800	4380	670	4340	4250	1170	742	2650	310	265
16	7280	5170	4790	4680	1050	3780	4020	638	750	1300	654	260
17	7120	5010	4520	5130	2200	4180	3250	602	790	1030	500	476
18	6960	4860	3570	6300	3330	8300	5030	588	961	979	2270	898
19	3270	4760	1680	10700	3280	10300	3760	1020	916	952	13000	925
20	3110	5170	1660	10200	3250	7880	3250	1280	630	880	6780	646
21	3010	6480	1530	7640	3560	8300	2510	3160	482	560	4230	646
22	2930	6220	1430	4990	7720	10600	1790	5010	332	542	13000	646
23	2890	5800	1180	4740	13900	8820	1680	3140	305	1400	7260	774
24	2860	5120	1290	4580	14700	6080	1600	2750	295	3490	4360	710
25	2810	5390	4630	4880	12300	8200	1570	3800	290	1980	2720	726
26	2770	10000	7520	4310	7400	11300	1290	5210	285	1290	2290	826
27	2660	14100	6600	3440	4560	9270	4850	3800	280	1310	1490	2020
28	2650	10300	4900	3190	3080	5960	12300	2330	275	670	943	1990
29	2660	7920	3330	2890	2860	6140	7240	1540	275	880	835	1620
30	2650	6440	3350	1960	---	6300	11800	916	265	1370	616	285
31	2620	---	3080	1200	---	5490	---	1180	---	979	638	---
TOTAL	152139	159330	89420	110859	98554	199660	104570	88514	29183	62721	68117	19325
MEAN	4908	5311	2885	3576	3398	6441	3486	2855	973	2023	2197	644
MAX	12600	14100	7520	10700	14700	11300	12300	12900	3410	17000	13000	2020
MIN	939	1970	1160	880	670	1530	1290	588	265	255	290	260
CAL YR 1979 TOTAL	1561679			4279	18300	328	MEAN# 4280	CFSM# 3.25	IN# 44.20			
WTR YR 1980 TOTAL	1182392			3231	17000	255	MEAN# 3219	CFSM# 2.45	IN# 33.33			

* 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 current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	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												
22...	1240	2980	70	6.4	22.0	14.0	11.0	--	--	--	--	--
NOV												
14...	0950	4020	65	6.2	4.0	8.0	--	--	19	12	.0	.0
26...	1315	8710	80	6.3	14.0	11.5	--	--	23	16	.0	.0
JAN												
31...	1040	1180	70	6.5	-5.0	.5	--	--	22	5	.0	.0
MAR												
19...	1540	10700	--	--	--	--	--	--	--	--	--	--
21...	1100	7760	27	6.9	--	7.0	--	--	18	9	.1	5.0
MAY												
08...	1130	2110	65	7.0	--	14.0	--	--	19	14	.1	5.0
27...	1240	4360	61	--	--	9.5	--	--	--	--	--	--
JUN												
18...	1415	961	70	7.0	--	19.0	--	--	18	9	.1	5.0
JUL												
11...	1420	17400	63	6.5	--	16.5	--	.79	18	8	.1	5.0
18...	1300	987	80	--	26.0	22.5	--	--	--	--	--	--
AUG												
19...	1215	14900	65	6.6	24.0	20.0	--	--	19	11	<.1	<5.0
27...	1650	1470	55	6.6	--	24.5	7.6	--	--	--	--	--

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)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLOR- IDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)
NOV											
14...	4.6	1.9	1.8	.2	8	12	1.5	--	38	.05	412
26...	5.5	2.2	2.3	.2	8	16	2.1	--	--	--	--
JAN											
31...	5.1	2.2	2.6	.2	8	14	2.5	--	42	.06	134
MAR											
21...	4.1	1.8	2.5	.3	9	11	2.5	--	36	.05	754
MAY											
08...	4.4	1.9	2.1	.2	8	13	2.0	--	41	.06	234
JUN											
18...	4.4	1.8	2.1	.2	9	14	1.7	--	48	.07	125
JUL											
11...	4.2	1.9	2.0	.2	10	13	1.7	--	6	.01	282
AUG											
19...	4.5	1.8	2.1	.2	8	14	2.2	3.7	44	.06	1770

DATE	NITRO- GEN, NO2+N03 DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS, (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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)
NOV											
14...	--	--	--	--	--	--	--	--	300	--	60
26...	--	--	--	--	--	--	--	--	2000	2000	10
JAN											
31...	--	--	--	--	--	--	--	--	420	360	60
MAR											
21...	.88	--	.010	--	--	--	--	--	70	40	30
MAY											
08...	--	--	--	--	--	--	--	--	500	450	50
JUN											
18...	--	--	--	--	--	--	--	--	200	170	30
JUL											
11...	.70	.09	.000	--	--	--	--	--	1800	1700	70
AUG											
19...	--	--	--	40	<1	2	3	<10	4300	4200	80

KANAWHA RIVER BASIN

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03192000 GAULEY RIVER ABOVE BELVA, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)
NOV											
14...	--	--	40	20	20	--	--	--	--	--	--
26...	--	--	140	140	0	--	--	--	--	--	--
JAN											
31...	--	--	40	0	40	--	--	--	--	--	--
MAR											
21...	--	--	30	0	40	--	--	--	--	--	18.0
MAY											
08...	--	--	50	30	20	--	--	--	--	--	--
JUN											
18...	--	--	20	10	10	--	--	--	--	--	--
JUL											
11...	--	--	150	110	40	--	--	--	--	--	--
AUG											
19...	<10	<4	480	410	67	12	34	<6.0	22	14	--

KANAWHA RIVER BASIN

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 bridge (corrected), 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 except those for August and September, which are fair. 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.

AVERAGE DISCHARGE.--103 years, 12,590 ft³/s (356.5 m³/s), 20.43 in/yr (519 mm/yr), unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 320,000 ft³/s (9,060 m³/s) Sept. 14, 1878, gage height, 37.8 ft (11.52 m), site and datum then in use, from gage-height relation and rating curve extended above 150,000 ft³/s (4,200 m³/s); minimum, 640 ft³/s (18.1 m³/s) Aug. 15, 1930, gage height, -0.95 ft (-0.290 m), datum then in use; minimum daily, 690 ft³/s (19.5 m³/s) Oct. 29, 1921.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 68,700 ft³/s (1,950 m³/s) Mar. 19, gage height, 13.80 ft (4.026 m); minimum, 1,720 ft³/s (48.7 m³/s) Sept. 15, gage height, 2.06 ft (0.628 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13400	9950	23200	10900	11600	11700	29300	45300	8160	2980	8540	4800
2	16400	9430	18900	11000	9900	10300	26800	38700	7560	3840	7560	4250
3	17100	25900	14800	9340	8720	7630	21300	27900	7300	4010	5340	3840
4	17900	37800	12200	9780	6700	7280	22600	22700	8090	4850	4660	3780
5	15600	29600	10100	9730	6290	15500	27800	17600	7480	3050	4350	4070
6	22000	22000	9810	8880	7660	25600	23200	16100	4980	2630	4660	4220
7	20600	19900	9000	7680	9110	28900	17900	14900	7520	2780	5310	4340
8	13000	16400	9670	7020	8080	31900	15500	12400	11100	4140	4960	3820
9	13000	14100	9290	7490	8860	37400	25500	11000	8060	5510	4730	3230
10	25200	12300	8450	8440	8780	36700	39200	10100	7500	11800	4050	3110
11	35300	14500	7520	8390	4890	30600	39100	8380	7160	31700	3450	3060
12	39200	21600	7890	10300	4890	23600	28000	8590	7430	24100	3130	2770
13	28000	29600	10600	14900	7460	20300	25300	7860	6610	17500	3660	2820
14	26700	28500	12900	16100	7080	21400	27400	9310	6850	13500	3970	2860
15	28100	26300	13800	21300	6820	20800	45100	8520	6210	11600	3290	2400
16	23300	22400	12500	28300	9570	20500	57400	7920	5250	9950	3180	1940
17	21200	19400	11500	28300	16400	21700	46700	7240	3550	6030	3390	2250
18	15300	17600	9350	29700	15200	44800	37200	7800	4490	7300	3670	2990
19	12400	14900	8210	52600	11900	59200	28500	9090	5090	5530	18600	3430
20	13300	12500	8390	54700	12900	40400	23500	9250	5010	5340	16600	3720
21	11100	15900	8020	38300	14100	37100	18700	13300	4820	3740	12000	3660
22	8950	16500	7430	26900	22300	53900	16900	21700	4790	2860	23800	3220
23	8800	14100	6180	28100	30200	55200	14000	22600	3500	5190	23300	2770
24	10600	11200	5600	30500	33700	41100	13900	16900	2150	8500	17300	3020
25	12800	14300	11000	26900	27300	40200	13600	15800	2960	7440	11100	3230
26	6980	24700	28300	23800	19900	47200	12100	24800	4480	5520	8510	3170
27	9800	40900	28000	20000	18500	39900	17100	18000	8890	5980	7620	3900
28	10800	46200	23200	16100	15300	29000	31300	13700	9220	4560	6170	4770
29	8050	35100	18400	14100	14200	30900	28200	12300	6850	6410	5910	4500
30	7440	27000	16500	13900	---	34400	40500	9950	5330	13000	5300	2450
31	9470	---	14400	12700	---	32500	---	10000	---	10300	5620	---
TOTAL	521790	650580	395110	606150	378310	957610	813600	479710	188390	251640	243730	102390
MEAN	16830	21690	12750	19550	13050	30890	27120	15470	6280	8117	7862	3413
MAX	39200	46200	28300	54700	33700	59200	57400	45300	11100	31700	23800	4800
MIN	6980	9430	5600	7020	4890	7280	12100	7240	2150	2630	3130	1940
CAL YR 1979	TOTAL	6792240	MEAN	18610	MAX	86000	MIN	3720	CFSM	2.22	IN	30.20
WTR YR 1980	TOTAL	5589010	MEAN	15270	MAX	59200	MIN	1940	CFSM	1.83	IN	24.85

KANAWHA RIVER BASIN

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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.

REMARKS.--Interruptions in water temperature record due to instrument malfunctions.

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, 28.5°C July 23, 24; minimum, 0.5°C Feb. 3-7, 18.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

[illegible]

KANAWHA RIVER BASIN

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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, Mar. 4, 1980.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily 29.0°C July 21, 23, Aug 9; minimum daily, 0.0°C Mar. 4.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.5	13.5	7.0	4.5	3.5	3.5	9.0	9.5	24.0	24.5	21.0	24.5
2	---	---	6.0	4.0	3.5	2.0	10.5	10.0	16.0	26.0	21.0	26.0
3	19.0	---	5.5	3.5	2.0	1.5	11.0	10.0	17.0	---	21.0	26.5
4	18.5	11.5	6.0	4.5	1.0	.0	11.5	12.0	21.5	25.5	26.5	26.5
5	18.5	11.0	4.5	5.0	1.5	1.5	10.5	12.0	---	25.5	26.5	27.0
6	18.0	10.5	5.0	4.5	2.0	3.5	11.5	13.5	21.5	---	---	---
7	15.5	10.5	---	---	1.0	4.0	13.0	15.0	22.0	25.5	26.5	---
8	15.0	10.5	6.5	3.5	.5	4.0	11.0	15.0	22.0	26.5	28.5	---
9	15.0	11.5	4.5	5.5	3.0	4.5	11.0	---	20.0	25.5	29.0	---
10	---	13.0	6.5	3.5	1.5	5.0	12.0	14.5	20.0	25.5	25.5	26.5
11	15.0	14.5	---	3.5	1.5	6.5	11.5	14.5	20.0	21.0	26.5	---
12	13.5	10.0	5.0	4.0	3.0	6.5	11.5	16.0	20.0	---	---	25.5
13	13.0	11.0	5.5	4.5	2.0	8.0	11.5	22.0	20.0	---	---	25.0
14	13.0	10.0	6.5	4.5	2.0	5.0	11.5	20.5	20.5	24.5	---	26.0
15	11.5	9.5	6.0	4.0	3.0	4.5	12.0	---	20.5	25.0	28.5	---
16	11.0	9.5	6.5	5.0	3.5	3.0	11.0	16.5	21.5	26.0	28.0	25.0
17	13.5	9.5	6.5	5.0	3.5	4.5	10.5	18.0	21.0	26.5	28.0	25.5
18	13.0	8.5	5.5	5.0	3.5	6.5	11.0	17.0	22.0	28.0	---	24.5
19	13.0	9.0	5.5	5.5	2.0	---	10.0	18.0	21.5	27.0	---	24.5
20	13.0	9.0	4.0	5.5	3.5	14.5	10.0	---	23.0	27.0	20.5	25.5
21	13.5	9.5	4.0	5.5	4.0	8.0	11.0	19.5	22.0	29.0	21.0	25.5
22	15.5	9.5	3.5	5.0	---	8.0	11.0	17.0	22.0	28.5	26.0	24.0
23	16.5	9.5	5.0	5.0	---	7.0	13.5	17.0	21.0	29.0	25.0	24.5
24	15.0	10.5	5.0	4.0	5.5	6.5	14.0	18.0	---	28.0	---	24.0
25	14.0	11.0	11.0	3.5	6.0	8.5	14.5	16.5	24.5	26.5	---	24.0
26	14.0	11.5	12.0	---	5.0	8.0	15.0	17.0	24.5	25.5	---	---
27	14.0	11.5	5.5	---	4.0	8.5	14.5	---	25.0	26.0	---	22.0
28	14.5	12.0	---	4.5	3.5	9.0	12.0	16.5	24.5	26.0	---	---
29	11.5	10.5	---	5.0	3.5	9.0	11.0	15.5	24.5	26.5	25.0	---
30	13.0	9.0	4.5	4.0	---	8.0	11.0	18.5	25.5	26.5	---	25.0
31	13.0	---	4.5	3.5	---	8.5	---	19.0	---	28.0	---	---
MEAN	14.5	10.5	6.0	4.5	3.0	6.0	11.5	16.0	21.5	26.5	25.0	25.0
WTR YR 1980	MEAN	13.5		MAX	29.0	MIN	.0					

KANAWHA RIVER BASIN

03194700 ELK RIVER BELOW WEBSTER SPRINGS, WV

LOCATION.--Lat 38°35'50", long 80°29'20", Webster County, Hydrologic Unit 05050007, on right bank 200 ft (61 m) upstream from bridge on County Highway 7, 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 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.--21 years, 705 ft³/s (19.97 m³/s), 35.72 in/yr (907 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.--Maximum discharge, 7,710 ft³/s (218 m³/s) Apr. 9, gage height, 8.87 ft (2.704 m), no peak above base of 8,500 ft³/s (240 m³/s); minimum, 40 ft³/s (1.13 m³/s) Sept. 14, gage height, 3.12 ft (0.951 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	312	230	578	438	240	390	2120	2890	355	74	276	98
2	355	1090	487	400	210	310	1540	1900	284	64	340	94
3	1180	2680	400	355	190	300	1120	1250	252	67	256	94
4	990	1430	355	320	175	410	1020	895	280	212	187	95
5	1650	931	340	304	160	1120	960	683	248	233	216	117
6	1690	698	335	280	155	3200	786	550	312	163	163	131
7	1280	578	380	268	145	1860	676	474	345	157	121	97
8	1000	480	380	288	135	2390	599	395	288	121	105	85
9	1660	420	335	264	130	2880	3990	335	599	216	97	65
10	4850	508	312	237	125	1700	2360	296	990	3220	93	59
11	3340	850	304	237	115	1350	1410	268	627	1660	85	95
12	2490	913	292	1030	110	990	980	252	444	802	76	74
13	2860	1170	778	1020	110	818	834	237	330	895	72	56
14	2200	990	1770	913	140	950	1470	240	260	606	64	49
15	1440	786	1230	1130	190	834	2630	230	264	385	58	117
16	990	714	886	1040	272	826	1700	196	395	276	67	196
17	722	641	698	913	786	1370	1250	178	308	212	101	123
18	550	578	508	1610	662	3510	1010	181	260	252	931	91
19	444	522	468	3040	564	2200	802	233	219	196	2260	74
20	375	456	415	1770	501	1510	648	292	181	148	1040	61
21	330	410	350	1170	754	1930	543	2880	154	123	3000	56
22	296	375	312	868	3760	2310	450	1900	135	103	1470	59
23	276	345	304	886	4600	1540	390	1160	119	304	802	199
24	264	350	308	714	3020	1170	345	1050	107	480	508	340
25	252	468	1650	730	1890	2360	330	2140	98	320	345	308
26	230	2550	1770	706	1320	2100	320	1280	94	209	264	578
27	209	2410	1180	578	904	1400	1760	859	88	157	205	370
28	199	1410	859	460	754	1040	2380	613	78	138	169	256
29	272	970	669	390	599	1550	1490	462	72	904	138	190
30	276	722	571	325	---	1340	2420	365	69	536	126	148
31	244	---	501	270	---	1370	---	360	---	345	109	---
TOTAL	33226	26675	19725	22954	22716	47028	38333	25044	8255	13578	13744	4375
MEAN	1072	889	636	740	783	1517	1278	808	275	438	443	146
MAX	4850	2680	1770	3040	4600	3510	3990	2890	990	3220	3000	578
MIN	199	230	292	237	110	300	320	178	69	64	58	49
CFSM	4.00	3.32	2.37	2.76	2.92	5.66	4.77	3.02	1.03	1.63	1.65	.55
IN.†	4.61	3.70	2.74	3.19	3.15	6.53	5.32	3.48	1.15	1.88	1.91	.61
IN.*	5.44	4.12	2.61	2.70	1.75	4.55	5.69	4.25	4.25	6.76	7.62	3.39

CAL YR 1979 TOTAL 345804 MEAN 947 MAX 6740 MIN 113 CFSM 3.53 IN 48.00
WTR YR 1980 TOTAL 275653 MEAN 753 MAX 4850 MIN 49 CFSM 2.81 IN 38.26

† Runoff.

* Rainfall.

KANAWHA RIVER BASIN

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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.--Interruptions in water-temperature record 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 recorded, 23.5°C June 5; minimum, 1.0°C Feb. 27, 29, and Mar. 1-5.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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)
OCT												
18...	1210	464	74	7.3	15.0	12.0	--	27	3	.0	.0	8.1
NOV												
10...	1230	442	74	7.3	--	8.0	--	26	6	.0	.0	7.7
20...	1155	452	75	7.3	21.0	8.0	--	--	--	--	--	--
JAN												
17...	1130	951	62	7.1	9.0	6.0	--	25	0	.0	.0	7.7
FEB												
13...	1035	114	--	--	--	.5	--	--	--	--	--	--
MAR												
05...	1000	487	--	--	--	1.0	--	--	--	--	--	--
28...	0900	1050	60	6.9	14.0	8.0	--	18	0	.1	5.0	4.8
APR												
17...	1130	1320	75	6.6	11.0	6.0	--	22	5	.1	5.0	6.6
MAY												
28...	1145	650	85	6.6	24.0	13.5	--	22	7	.1	5.0	6.5
JUN												
18...	1035	270	70	7.1	19.5	19.0	--	20	2	--	--	5.8
JUL												
23...	1130	118	75	7.1	20.0	24.5	--	30	10	--	--	8.5
AUG												
21...	1230	4210	39	6.7	--	20.5	170	23	13	4.1	45.0	6.2
SEP												
04...	0920	96	--	--	25.0	24.5	--	--	--	--	--	--
18...	1315	91	--	--	--	22.0	--	--	--	--	--	--

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)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)
OCT												
18...	1.6	1.3	.1	24	7.8	1.2	--	40	.05	50.1	--	--
NOV												
10...	1.6	1.4	.1	18	8.1	1.4	--	36	.05	43.0	--	--
20...	--	--	--	20	--	--	--	--	--	--	--	--
JAN												
17...	1.5	1.5	.1	26	8.7	2.5	--	42	.06	108	--	--
MAR												
28...	1.5	1.2	.1	12	7.6	1.6	--	38	.05	108	--	--
APR												
17...	1.4	1.3	.1	17	7.9	1.2	--	36	.05	128	--	--
MAY												
28...	1.5	1.4	.1	15	8.9	1.5	--	56	.08	98.3	--	--
JUN												
18...	1.4	1.3	.1	18	9.8	2.2	--	43	.06	31.3	--	--
JUL												
23...	2.2	2.6	.2	20	10	3.1	--	65	.09	20.7	--	--
AUG												
21...	1.7	1.2	.1	10	9.3	2.2	4.6	36	.05	409	40	3

KANAWHA RIVER BASIN

03194700 ELK RIVER BELOW WEBSTER SPRINGS, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CW)	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, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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 18...	--	--	--	120	--	20	--	--	10	3	7
NOV 10...	--	--	--	90	--	30	--	--	10	4	6
20...	--	--	--	--	--	--	--	--	--	--	--
JAN 17...	--	--	--	100	80	20	--	--	10	7	3
MAR 28...	--	--	--	170	130	40	--	--	20	10	10
APR 17...	--	--	--	330	310	20	--	--	30	30	4
MAY 28...	--	--	--	240	210	30	--	--	30	10	20
JUN 18...	--	--	--	480	450	30	--	--	20	20	4
JUL 23...	--	--	--	250	200	50	--	--	20	0	20
AUG 21...	5	<3	<10	18000	18000	100	<10	<4	90	80	9

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
MAR 28...	--	--	--	--	--	20.0	--	--
AUG 21...	<10	31	<6.0	10	18	--	914	10400

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

KANAWHA RIVER BASIN

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03194700 ELK RIVER BELOW WEBSTER SPRINGS, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

KANAWHA RIVER BASIN

03195100 RIGHT FORK HOLLY RIVER AT GUARDIAN, WV

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).

DRAINAGE AREA.--51.1 mi² (132.3 km²).

PERIOD OF RECORD.--March 1974 to September 1978. October 1978 to current year (gage heights, occasional discharge measurements, and annual maximum discharge only).

GAGE.--Water-stage recorder. Datum of gage is 1,078.00 ft (328.574 m) National Geodetic Vertical Datum of 1929.

REMARKS.--No gage-height record Oct. 27-31 due to instrument malfunction. Records for winter periods not adjusted for ice effect. Corps of Engineers gage-height telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,400 ft³/s (181 m³/s) July 16, 1979, gage height, 14.50 ft (4.420 m), from rating curve extended above 2,600 ft³/s (74 m³/s); minimum, 1.6 ft³/s (0.045 m³/s) Aug. 26, 27, 1976, gage height, 2.68 ft (0.817 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,620 ft³/s (74.2 m³/s) Aug. 21, gage height, 10.12 ft (3.085 m); minimum gage height, 3.14 ft (0.957 m) July 3.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.92	3.49	3.94	3.90	3.79	3.74	5.38	6.57	3.83	3.30	3.47	3.45
2	4.07	4.82	3.85	3.84	3.77	4.15	4.88	5.29	3.77	3.18	3.76	3.44
3	4.34	5.55	3.75	3.78	3.82	3.83	4.46	4.65	3.77	3.50	3.54	3.51
4	4.36	4.72	3.72	3.74	3.89	3.78	4.28	4.30	3.76	4.21	3.46	3.51
5	4.80	4.32	3.70	3.73	3.64	5.25	4.10	4.09	3.64	3.96	3.52	3.64
6	4.84	4.09	3.70	3.67	3.62	6.47	3.97	3.95	3.73	3.85	3.40	3.56
7	4.55	3.97	3.73	3.66	3.59	5.25	3.91	3.86	3.95	3.69	3.34	3.47
8	4.27	3.87	3.67	3.74	3.54	5.25	3.91	3.75	4.35	3.63	3.31	3.41
9	5.29	3.80	3.64	3.70	3.53	4.77	6.19	3.67	4.09	4.12	3.36	3.36
10	7.86	3.94	3.65	3.70	3.54	4.40	5.29	3.61	4.96	7.34	3.45	3.36
11	6.20	4.08	3.65	3.77	3.57	4.23	4.67	3.57	4.90	5.28	3.38	3.39
12	5.31	4.35	3.65	4.25	3.53	4.04	4.37	3.53	4.43	4.54	3.29	3.32
13	5.28	4.65	4.46	4.33	3.57	4.02	4.23	3.50	4.15	5.08	3.26	3.27
14	4.98	4.48	5.22	4.32	3.55	4.32	4.61	3.54	3.97	4.54	3.24	3.25
15	4.53	4.26	4.76	4.32	3.49	4.41	4.94	3.45	3.85	4.13	3.21	3.32
16	4.21	4.23	4.40	4.33	3.95	4.42	4.81	3.38	4.11	3.90	3.41	3.42
17	3.99	4.16	4.14	4.25	4.50	4.40	4.54	3.34	4.01	3.79	3.44	3.31
18	3.83	4.14	3.94	4.45	4.34	5.03	4.34	3.37	3.88	3.75	4.71	3.26
19	3.72	4.05	3.89	5.16	4.23	5.15	4.17	3.36	3.80	3.62	5.87	3.23
20	3.66	3.93	3.80	4.77	4.10	4.74	4.03	3.84	3.70	3.54	4.76	3.21
21	3.61	3.84	3.71	4.41	4.56	4.71	3.93	6.74	3.61	3.48	6.84	3.21
22	3.56	3.78	3.67	4.22	5.98	4.93	3.82	5.58	3.54	3.44	5.46	3.40
23	3.56	3.72	3.65	4.29	5.40	4.66	3.76	4.89	3.48	3.78	4.59	3.66
24	3.59	3.84	3.68	4.27	4.71	4.40	3.71	4.75	3.43	3.73	4.16	3.63
25	3.54	4.09	5.04	4.53	4.40	5.05	3.66	5.29	3.39	3.59	3.93	3.70
26	3.50	5.69	5.09	4.57	4.24	5.04	3.64	4.93	3.34	3.50	3.77	3.85
27	---	5.31	4.67	4.41	4.05	4.58	4.87	4.58	3.29	3.44	3.65	3.65
28	---	4.67	4.36	4.24	3.98	4.32	5.69	4.32	3.26	3.44	3.57	3.53
29	---	4.31	4.16	4.09	3.85	4.17	4.94	4.13	3.25	3.63	3.51	3.45
30	---	4.08	4.06	3.91	---	4.06	6.56	3.99	3.32	3.50	3.54	3.40
31	---	---	3.97	3.89	---	4.61	---	3.98	---	3.42	3.52	---
MEAN	---	4.27	4.04	4.14	4.03	4.59	4.52	4.25	3.82	3.93	3.86	3.44
MAX	---	5.69	5.22	5.16	5.98	6.47	6.56	6.74	4.96	7.34	6.84	3.85
MIN	---	3.49	3.64	3.66	3.49	3.74	3.64	3.34	3.25	3.18	3.21	3.21

KANAWHA RIVER BASIN

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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 current year (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.--No gage-height record Dec. 10, 11, due to instrument malfunction. 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, 1,910 ft³/s (54.1 m³/s) Oct. 10, gage height, 10.13 ft (3.088 m); minimum gage height, 4.31 ft (1.314 m) Aug. 29.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.55	5.33	5.90	5.80	5.61	5.63	7.15	8.09	5.43	4.65	4.72	4.73
2	5.61	6.54	5.82	5.71	5.62	5.83	6.77	7.13	5.35	4.60	4.96	4.67
3	5.99	7.23	5.72	5.64	5.83	6.03	6.40	6.56	5.32	4.91	4.75	4.75
4	6.00	6.61	5.69	5.58	5.88	6.05	6.28	6.21	5.45	5.48	4.67	4.74
5	6.71	6.22	5.68	5.56	5.64	7.30	6.13	5.98	5.25	5.22	4.65	4.87
6	6.71	5.98	5.70	5.48	5.45	7.99	6.02	5.84	5.20	5.14	4.61	4.83
7	6.40	5.86	5.82	5.51	5.37	7.13	5.94	5.82	5.40	4.96	4.57	4.72
8	6.11	5.73	5.80	5.64	5.28	7.24	6.00	5.68	5.37	4.96	4.55	4.66
9	7.18	5.65	5.74	5.61	5.26	6.88	8.05	5.62	5.36	5.39	4.53	4.61
10	9.04	5.86	---	5.56	5.26	6.46	7.12	5.58	5.94	6.82	4.59	4.76
11	7.80	6.12	---	5.72	5.27	6.34	6.55	5.55	6.38	6.26	4.57	4.80
12	7.23	6.32	5.60	6.62	5.27	6.15	6.26	5.50	5.97	5.80	4.58	4.66
13	7.41	6.49	6.48	6.53	5.21	6.12	6.14	5.54	5.69	5.80	4.63	4.60
14	7.10	6.41	7.11	6.45	5.30	6.55	6.52	5.49	5.49	5.53	4.57	4.58
15	6.57	6.21	6.70	6.43	5.24	6.55	6.79	5.40	5.33	5.34	4.53	4.80
16	6.17	6.19	6.34	6.36	5.97	6.46	6.68	5.37	5.53	5.19	4.72	4.78
17	5.90	6.14	6.08	6.25	6.60	6.43	6.43	5.33	5.54	5.07	4.76	4.67
18	5.69	6.12	5.84	6.32	6.54	7.00	6.25	5.36	5.36	5.01	4.94	4.62
19	5.55	6.07	5.77	6.79	6.15	7.06	6.09	5.31	5.25	4.91	5.69	4.58
20	5.46	6.00	5.65	6.62	6.03	6.71	6.00	5.67	5.14	4.82	5.33	4.55
21	5.39	5.91	5.55	6.33	6.41	6.69	5.84	8.15	5.05	4.76	6.31	4.54
22	5.35	5.78	5.50	6.16	7.76	6.79	5.62	7.24	4.98	4.75	5.90	4.66
23	5.35	5.79	5.47	6.24	7.50	6.60	5.56	6.60	4.90	5.17	5.54	4.93
24	5.38	5.85	5.48	6.17	6.88	6.39	5.49	6.44	4.85	4.98	5.28	5.04
25	5.31	6.14	7.09	6.34	6.50	6.91	5.48	7.16	4.81	4.81	5.11	5.05
26	5.27	7.35	7.08	6.34	6.28	6.90	5.68	6.71	4.76	4.73	4.98	5.07
27	5.19	7.31	6.65	6.23	6.04	6.54	7.00	6.30	4.72	4.67	4.86	4.92
28	5.27	6.76	6.33	6.09	5.94	6.29	7.64	5.98	4.69	4.66	4.78	4.83
29	5.43	6.38	6.12	5.94	5.75	6.18	7.01	5.74	4.66	4.96	4.72	4.76
30	5.36	6.09	5.99	5.69	---	6.07	8.28	5.56	4.67	4.79	4.69	4.71
31	5.34	---	5.89	5.70	---	6.57	---	5.55	---	4.69	4.89	---
MEAN	6.09	6.21	---	6.05	5.93	6.58	6.44	6.08	5.26	5.12	4.90	4.75
MAX	9.04	7.35	---	6.79	7.76	7.99	8.28	8.15	6.38	6.82	6.31	5.07
MIN	5.19	5.33	---	5.48	5.21	5.63	5.48	5.31	4.66	4.60	4.53	4.54

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, 63,910 acre-ft (78.8 hm³) Aug. 21, elevation, 924.85 ft (281.894 m); minimum, 3,590 acre-ft (4.43 hm³) Mar. 31, elevation 848.24 ft (258.544 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)	Change in Contents (equivalent in cfs)
Sept. 30.....	898.84	32600	-	-
Oct. 31.....	850.43	4170	-28430	-462
Nov. 30.....	854.59	5440	+1270	+21
Dec. 31.....	852.75	4850	-590	-10
CAL YR 1979			-24650	-34
Jan. 31.....	852.97	4910	+60	+1
Feb. 29.....	853.38	5040	+130	+2
Mar. 31.....	851.25	4400	-640	-10
Apr. 30.....	863.36	8810	+4410	+74
May 31.....	875.47	14990	+6180	+101
June 30.....	898.89	32650	+17660	+297
July 31.....	923.56	61980	+29330	+477
Aug. 31.....	923.29	61580	-400	-7
Sept. 30.....	922.56	60510	-1070	-18
WTR YR 1980			+27910	+38

KANAWHA RIVER BASIN

281

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 (03195400).

AVERAGE DISCHARGE.--42 years, 1,140 ft³/s (32.28 m³/s), 28.51 in/yr (724 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, 7,880 ft³/s (223 m³/s) Aug. 19, gage height, 20.32 ft (6.194 m); minimum, 82 ft³/s (2.32 m³/s) June 9, Sept. 13-16, 27, gage height, 10.71 ft (3.264 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1900	369	1050	913	555	674	3550	5720	580	100	445	242
2	1950	1380	871	754	551	561	2890	4720	544	100	445	246
3	2390	3680	772	628	547	700	1790	2890	326	100	445	242
4	2750	3650	766	622	520	924	1590	1830	364	105	347	242
5	3200	2060	670	590	480	1950	1580	1290	360	100	260	242
6	3910	1430	600	520	480	5330	1160	907	294	100	257	239
7	3510	1220	622	480	456	5660	1100	715	215	100	195	239
8	2260	955	664	575	378	4820	1100	469	122	105	155	239
9	2600	802	590	575	325	4810	4140	335	138	117	120	235
10	3350	808	540	515	247	2690	5820	201	235	211	117	235
11	6820	1090	540	485	137	1970	3990	130	215	158	117	235
12	7000	1460	550	1050	405	1560	2690	136	195	176	117	161
13	7020	1960	1740	1870	492	1320	1990	302	192	1010	117	82
14	6630	1940	3090	1600	145	1600	2100	474	192	1130	105	82
15	4810	1490	2960	1690	297	1630	3530	469	195	629	86	84
16	3570	1300	1850	1730	459	1560	2720	440	205	360	89	138
17	2750	1170	1310	1590	1100	1830	2050	310	198	360	86	279
18	2170	1070	948	1580	1240	3410	1570	272	155	360	1620	386
19	1780	976	814	3320	1160	4920	1260	283	93	360	5140	343
20	1430	871	766	3620	1260	3430	1050	602	128	343	1870	298
21	1170	742	600	2230	1470	2410	900	4280	115	221	3500	298
22	826	688	565	1500	4290	3110	762	4200	107	152	3500	302
23	520	628	565	1400	6510	2640	646	1870	103	141	1650	298
24	440	658	575	1330	5240	1950	580	2050	100	141	933	298
25	420	1030	2350	1530	2900	2960	508	3680	100	260	528	298
26	378	3380	4040	1680	2070	3650	575	2560	100	322	440	176
27	320	4990	2580	1460	1540	2550	2300	1260	100	322	268	86
28	304	2940	1710	1180	1080	1910	4690	774	100	283	117	130
29	387	1920	1270	971	951	1980	3000	253	100	668	141	208
30	455	1350	990	753	---	1990	4070	189	100	887	161	239
31	360	---	941	581	---	1680	---	450	---	538	242	---
TOTAL	77380	48007	37899	39322	37285	78179	65701	44061	5971	9959	23613	6822
MEAN	2496	1600	1223	1268	1286	2522	2190	1421	199	321	762	227
MAX	7020	4990	4040	3620	6510	5660	5820	5720	580	1130	5140	386
MIN	304	369	540	480	137	561	508	130	93	100	86	82

CAL YR 1979 TOTAL 618060 MEAN 1693 MAX 7020 MIN 110 MEAN* 1659 CFSM* 3.06 IN* 41.49
WTR YR 1980 TOTAL 474199 MEAN 1296 MAX 7020 MIN 82 MEAN* 1334 CFSM* 2.46 IN* 33.45

* 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.

REMARKS.--Interruptions in water-temperature record due to instrument malfunctions.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: Maximum, 29.0°C Aug. 30, Sept. 1, 1960; minimum, 0.0°C many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum recorded, 20.0°C June 8, 12-15; minimum recorded, 0.0°C Feb. 7-11, 14.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.5	18.5	12.5	10.5	6.5	5.0	4.0	3.5	1.5	1.5	1.0	1.0
2	18.5	18.5	12.5	11.5	5.0	4.0	3.5	3.5	1.5	1.0	1.5	1.0
3	18.5	18.5	12.5	11.5	4.0	3.5	3.5	3.0	1.5	1.0	1.5	1.0
4	18.5	18.0	11.5	10.0	3.5	3.0	3.0	3.0	1.0	.5	1.0	1.0
5	18.0	17.0	10.0	9.0	3.0	2.5	3.0	3.0	.5	.5	1.0	1.0
6	17.0	16.5	9.0	8.5	2.5	2.5	3.0	3.0	.5	.5	1.5	1.0
7	16.5	14.0	8.5	8.5	3.0	2.5	3.0	3.0	.5	.0	3.5	1.5
8	14.0	12.5	8.5	8.5	2.5	2.5	3.0	2.5	.5	.0	5.5	3.5
9	12.5	12.5	8.5	8.5	3.5	2.5	2.5	2.5	.0	.0	7.0	5.5
10	12.5	11.5	8.5	8.5	4.0	3.5	3.5	2.5	.5	.0	7.0	5.0
11	11.5	10.5	9.0	8.5	4.0	3.5	3.5	3.5	.5	.0	6.0	5.0
12	10.5	10.0	9.0	9.0	3.5	3.5	3.5	3.5	1.0	.5	5.5	5.0
13	10.0	9.5	9.0	8.5	4.5	3.5	4.5	3.5	1.0	.5	4.0	4.0
14	10.0	10.0	8.5	8.5	---	---	4.5	4.0	.5	.0	4.0	3.5
15	10.0	8.0	8.5	8.0	---	---	5.0	4.0	.5	.5	4.0	4.0
16	9.5	9.0	8.5	7.0	---	---	6.0	5.0	.5	.5	5.0	3.5
17	9.5	9.0	7.0	7.0	---	---	6.0	6.0	.5	.5	7.0	4.5
18	9.0	9.0	7.0	7.0	---	---	6.5	6.0	.5	.5	8.0	7.0
19	10.0	9.0	7.0	7.0	---	---	6.5	6.0	.5	.5	8.0	6.5
20	11.0	10.0	7.0	7.0	---	---	6.0	5.0	.5	.5	7.0	6.5
21	13.0	11.0	7.5	7.0	---	---	5.0	4.5	.5	.5	7.5	7.0
22	14.0	13.0	8.5	7.5	---	---	4.5	4.5	3.0	.5	7.5	6.5
23	14.0	14.0	9.5	8.5	2.5	2.0	4.5	4.0	4.0	3.0	7.0	6.5
24	14.0	14.0	9.5	9.5	3.5	2.5	4.5	3.5	4.5	4.0	7.5	6.5
25	14.0	12.0	11.0	9.5	6.5	3.5	3.5	1.5	4.5	4.5	8.0	7.5
26	12.5	11.0	12.0	11.0	6.5	6.0	2.0	1.5	4.5	4.0	8.0	7.0
27	11.5	10.5	12.0	10.5	6.0	5.0	3.0	2.0	4.0	2.5	8.0	7.0
28	10.5	9.5	10.5	9.5	5.0	4.5	3.0	3.0	2.5	1.5	9.5	8.0
29	10.5	9.5	9.5	8.0	4.5	4.5	3.0	3.0	1.5	1.0	9.5	9.5
30	11.0	10.0	8.0	6.5	4.5	4.0	3.0	2.0	---	---	10.5	9.5
31	11.0	10.0	---	---	4.5	4.0	2.0	1.5	---	---	11.5	10.5
MONTH	18.5	8.0	12.5	6.5	6.5	2.0	6.5	1.5	4.5	.0	11.5	1.0

KANAWHA RIVER BASIN

283

03195500 ELK RIVER AT SUTTON, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.0	11.5	10.5	10.0	17.0	16.5	19.0	15.0				
2	12.0	12.0	11.0	10.0	17.0	17.0	18.0	15.0				
3	12.0	12.0	12.0	11.0	18.0	17.0	16.5	15.5				
4	12.0	12.0	13.0	12.0	18.0	17.0	17.5	15.5				
5	12.0	12.0	14.5	13.0	18.5	17.0	17.0	15.0				
6	12.5	12.0	15.5	14.0	18.5	17.0	18.0	15.5				
7	12.5	12.5	17.0	15.5	19.0	17.5	18.5	15.0				
8	12.5	12.5	17.5	16.5	20.0	17.5	19.0	15.0				
9	12.5	12.5	17.5	16.5	19.5	16.0	17.5	15.5				
10	13.0	12.5	18.5	15.5	18.5	17.0	16.5	15.5				
11	13.0	13.0	17.5	15.5	19.5	16.0	18.5	15.5				
12	13.0	13.0	18.0	15.0	20.0	17.0	---	---				
13	13.0	13.0	17.0	14.5	20.0	17.0	---	---				
14	13.5	13.0	16.0	15.5	20.0	17.0	---	---				
15	13.5	13.5	17.0	15.5	20.0	17.5	---	---				
16	13.5	13.5	17.5	16.0	17.5	16.5	---	---				
17	13.5	13.5	17.5	17.0	18.5	16.0	---	---				
18	13.5	13.5	18.5	16.5	19.0	16.0	---	---				
19	14.0	13.5	18.0	17.0	19.5	15.0	---	---				
20	14.0	14.0	17.5	17.5	18.5	15.5	---	---				
21	14.0	13.5	18.5	16.5	18.0	15.0	---	---				
22	14.5	13.5	16.5	15.0	19.0	14.5	---	---				
23	15.0	14.0	15.0	14.5	19.5	14.5	---	---				
24	15.5	14.5	15.5	14.5	17.5	15.0	---	---				
25	16.0	15.0	16.5	15.5	17.5	15.0	---	---				
26	16.5	16.0	16.5	16.0	19.0	15.0	---	---				
27	16.0	13.5	16.0	15.5	18.5	15.0	---	---				
28	13.5	11.0	16.5	15.5	19.0	15.5	---	---				
29	11.0	11.0	19.5	15.5	18.0	15.5	---	---				
30	11.0	10.5	19.5	15.5	17.5	15.0	---	---				
31	---	---	17.0	16.5	---	---	---	---				
MONTH	16.5	10.5	19.5	10.0	20.0	14.5	19.0	15.0				

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).

WATER-DISCHARGE RECORDS

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 current year.

GAGE.--Water-stage recorder. Datum of gage is 934.46 ft (284.823 m) National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,300 ft³/s (292 m³/s) July 10, 1980, gage height, 13.55 ft (4.130 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, 10,300 ft³/s (292 m³/s) July 10, gage height, 13.55 ft (4.130 m); minimum, 8.9 ft³/s (0.25 m³/s) Sept. 20, 21, gage height, 1.85 ft (0.564 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	205	55	204	180	140	100	644	1330	78	19	18	21
2	266	696	172	156	117	82	544	699	64	14	32	22
3	389	870	137	138	129	74	386	452	64	53	22	27
4	347	452	129	127	120	125	332	327	129	140	18	22
5	345	295	121	125	105	1330	270	255	72	84	22	44
6	327	229	119	110	94	1900	234	207	145	71	29	30
7	288	186	119	112	82	790	211	174	327	46	19	21
8	234	154	101	138	74	636	512	138	225	46	17	17
9	974	140	87	128	66	455	2840	116	139	217	16	14
10	3940	205	86	122	60	325	835	100	312	4140	16	14
11	1510	240	85	138	54	278	481	90	270	835	16	14
12	750	342	91	243	50	230	353	82	173	455	17	12
13	775	461	765	276	48	300	299	80	117	628	15	11
14	612	377	900	293	44	340	505	110	85	365	12	10
15	413	286	536	283	66	310	547	80	67	208	12	10
16	281	270	362	274	278	330	444	67	97	129	26	13
17	210	237	262	266	446	430	353	59	82	90	27	11
18	158	219	198	386	443	700	292	62	57	75	147	9.7
19	127	194	181	680	365	860	240	59	48	55	395	9.7
20	109	166	149	508	246	720	197	176	40	45	280	8.9
21	93	146	126	359	407	580	167	1030	33	36	480	8.9
22	82	132	115	290	974	640	140	490	29	33	340	9.3
23	76	121	109	312	700	560	126	307	26	57	190	35
24	76	238	115	290	443	460	113	398	25	46	120	41
25	68	345	1120	464	325	780	99	822	23	33	80	32
26	63	1540	895	556	268	700	101	472	23	27	60	36
27	58	860	540	440	214	461	658	301	19	28	45	26
28	63	491	365	342	198	356	852	200	17	23	35	20
29	75	332	281	270	161	320	530	140	15	32	28	16
30	62	246	240	210	---	270	1360	104	20	26	24	12
31	58	---	208	170	---	359	---	113	---	21	22	---
TOTAL	13034	10525	8918	8386	6717	15801	14665	9040	2821	8077	2580	577.5
MEAN	420	351	288	271	232	510	489	292	94.0	261	83.2	19.3
MAX	3940	1540	1120	680	974	1900	2840	1330	327	4140	480	44
MIN	58	55	85	110	44	74	99	59	15	14	12	8.9
CFM	3.39	2.83	2.32	2.19	1.87	4.11	3.94	2.36	.76	2.11	.67	.16
IN.	3.91	3.16	2.68	2.52	2.02	4.74	4.40	2.71	.85	2.42	.77	.17

CAL YR 1979 TOTAL 124363.0 MEAN 341 MAX 3940 MIN 33 CFM 2.75 IN 37.31
WTR YR 1980 TOTAL 101141.5 MEAN 276 MAX 4140 MIN 8.9 CFM 2.23 IN 30.34

KANAWHA RIVER BASIN

285

03196500 BIRCH RIVER AT HEROLD, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)
OCT 31...	1145	56	95	6.4	20.0	12.0	--
DEC 12...	1230	83	75	6.5	12.5	5.0	--
FEB 06...	1630	101	70	6.5	3.5	.0	--
MAR 11...	1625	264	65	6.0	5.5	5.5	--
MAR 26...	1700	1170	50	6.4	11.0	9.0	--
APR 30...	1315	1730	50	6.2	11.5	9.0	--
JUN 17...	0830	85	80	7.3	13.0	16.0	--
JUL 23...	1700	56	100	6.8	24.0	24.5	--
AUG 19...	0830	356	61	6.2	21.5	9.5	100
SEP 03...	1045	20	--	--	25.0	24.0	--

DATE	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)	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)	SULFATE DIS- SOLVED (MG/L AS SO4)	SILICA, DIS- SOLVED (MG/L AS SiO2)
MAR 26...	--	13	10	.1	5.0	2.0	1.9	1.2	.1	4	11	--
JUN 17...	--	--	--	--	--	--	--	--	--	8	--	--
AUG 19...	8.7	27	17	<.1	<5.0	6.7	2.4	2.1	.2	9	15	5.2

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L 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)	LEAD, DIS- SOLVED (UG/L AS PB)
MAR 26...	36	.05	114	--	--	--	--	--	390	340	50	--
JUN 17...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 19...	43	.06	41.3	50	4	2	<3	<10	4600	4500	70	10

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
MAR 26...	--	30	10	20	--	--	--	--	--	4.00	--	--
JUN 17...	--	--	--	--	--	--	--	--	--	--	--	--
AUG 19...	<4	160	130	27	<10	51	<6.0	9	6.8	--	162	156

KANAWHA RIVER BASIN

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 February, which are poor. Flow regulated since 1960 by Sutton Lake (station 03195400). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--22 years, 1,576 ft³/s (44.63 m³/s), 28.46 in/yr (723 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, 15,120 ft³/s (428 m³/s) July 10, gage height, 12.66 ft (3.859 m); minimum, 100 ft³/s (2.83 m³/s) Sept. 14, 15, gage height, 1.40 ft (0.427 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2190	396	1310	1210	812	926	4020	8060	620	147	483	276
2	2480	2280	1100	1060	745	790	4010	6580	745	141	477	272
3	2890	4760	929	857	700	857	2630	4000	494	153	483	276
4	3350	4620	912	850	680	1190	2180	2510	527	314	455	293
5	3590	2950	839	827	650	4650	2050	1790	499	264	343	554
6	4330	1770	739	737	640	7400	1650	1240	659	225	305	314
7	4230	1560	750	685	600	6940	1420	1080	850	185	293	280
8	2920	1200	783	850	572	5490	1460	715	626	195	208	268
9	3480	991	729	850	516	5360	7950	566	352	385	185	264
10	9580	1180	675	767	461	3680	7770	419	827	7610	159	264
11	8520	1400	675	775	361	2610	5220	310	665	1450	153	260
12	8360	1870	783	1300	284	2030	3610	280	477	775	162	252
13	8030	2570	3830	2320	865	1800	2500	347	390	1620	156	144
14	7930	2600	4490	2200	324	2320	2770	646	347	1630	147	100
15	5710	1980	4010	2150	366	2370	4220	614	319	1130	126	117
16	4330	1670	2680	2220	1040	2010	3680	584	419	549	144	109
17	3320	1510	1780	2090	1450	2310	2720	477	390	483	144	208
18	2630	1320	1380	2150	1890	4180	2120	394	319	461	797	361
19	2100	1220	1100	3830	1520	5800	1630	385	222	435	6540	380
20	1720	1090	1050	4540	1660	4540	1390	532	189	419	2670	305
21	1310	930	857	3030	1980	3290	1170	5180	202	343	2500	305
22	1110	840	775	2030	4980	3960	1040	5880	179	248	4930	371
23	693	800	767	1800	7220	3590	842	2530	166	225	2310	371
24	521	1090	895	1800	5950	2710	805	2460	153	215	1260	380
25	537	1570	3880	2370	3890	4100	659	5220	153	208	752	394
26	469	5770	5610	2700	2670	4870	678	3840	147	357	510	352
27	450	6220	3680	2310	2060	3570	2710	1790	144	366	455	179
28	366	3830	2370	1790	1430	2640	6080	1270	141	366	208	135
29	478	2540	1740	1470	1370	2610	4700	626	141	404	166	192
30	523	1740	1410	1180	---	2670	6070	301	153	1050	192	264
31	495	---	1240	918	---	2330	---	510	---	652	225	---
TOTAL	98642	64267	53768	53666	47686	103593	89754	61136	11515	23005	27938	8240
MEAN	3182	2142	1734	1731	1644	3342	2992	1972	384	742	901	275
MAX	9580	6220	5610	4540	7220	7400	7950	8060	850	7610	6540	554
MIN	366	396	675	685	284	790	659	280	141	141	126	100
CAL YR 1979	TOTAL	809280	MEAN	2217	MAX	10200	MIN	160	MEAN#	2183	CFSM#	2.90
WTR YR 1980	TOTAL	643210	MEAN	1757	MAX	9580	MIN	100	MEAN#	1795	CFSM#	2.39
											IN#	39.42
											IN#	32.50

* Adjusted for change in contents in Sutton Lake.

KANAWHA RIVER BASIN

287

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 current year (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, 19,500 ft³/s (552 m³/s) Oct. 10, gage height, 14.26 ft (4.346 m); minimum gage height, 0.75 ft (0.229 m) Sept. 17.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.51	1.73	3.99	3.54	2.79	3.06	5.99	10.08	1.95	.78	1.81	1.12
2	5.41	3.56	3.59	3.31	2.98	3.69	6.81	9.03	2.14	.76	1.58	1.18
3	6.25	6.93	3.20	2.87	2.93	3.42	5.45	6.99	1.95	.85	1.54	1.32
4	6.00	6.95	3.05	2.85	3.26	3.55	4.80	5.49	1.83	.94	1.56	1.22
5	5.93	5.79	3.00	2.80	3.13	6.02	4.60	4.55	1.76	1.28	1.51	3.18
6	6.44	4.18	2.81	2.62	2.85	10.03	4.27	3.69	1.83	1.11	1.23	1.59
7	6.50	3.91	2.77	2.68	2.57	9.14	3.82	3.37	2.92	.98	1.22	1.55
8	5.42	3.44	2.58	3.00	2.22	7.75	3.84	2.81	2.30	.92	1.19	1.22
9	5.62	3.21	2.44	3.00	1.96	7.31	10.42	2.38	1.75	1.61	1.03	1.17
10	12.43	3.46	2.28	2.87	1.91	6.72	9.61	2.08	1.88	8.69	1.10	1.19
11	9.82	3.81	2.22	3.00	1.74	5.21	7.70	1.81	2.56	5.16	.94	1.14
12	9.43	4.13	4.79	3.65	1.55	4.56	6.26	1.52	1.88	2.80	.85	1.10
13	9.17	4.88	8.40	4.95	1.69	4.28	4.98	1.53	1.58	3.46	.88	1.05
14	9.22	5.23	7.17	5.10	1.99	4.91	5.47	2.05	1.45	3.83	.85	.85
15	7.73	4.72	6.27	4.86	1.48	5.16	6.41	2.30	1.37	3.24	.90	.78
16	6.51	4.16	5.03	4.94	2.41	4.77	6.33	2.06	1.49	2.25	.91	.77
17	5.61	4.00	4.16	4.83	3.64	6.02	5.29	1.90	1.64	1.74	.83	.75
18	4.88	3.72	3.63	5.07	4.48	7.76	4.62	1.80	1.35	1.61	1.41	.95
19	4.25	3.63	3.38	6.37	3.96	6.67	3.98	1.60	1.20	1.55	7.19	1.33
20	3.84	3.40	3.23	7.26	4.03	6.42	3.58	1.79	.97	1.49	5.60	1.29
21	3.32	3.20	2.88	6.00	4.39	6.24	3.25	5.46	.90	1.42	3.66	1.17
22	3.10	2.95	2.72	4.94	6.34	6.74	3.08	8.23	.92	1.25	7.55	1.23
23	2.48	2.84	2.73	4.55	8.51	6.63	2.84	5.44	.87	1.11	5.20	1.91
24	2.10	3.37	4.08	4.57	8.22	5.84	2.69	4.48	.84	1.03	3.54	1.49
25	1.96	4.59	7.68	5.43	6.97	6.83	2.45	6.56	.82	.97	2.79	1.67
26	1.92	7.31	8.08	6.07	5.41	7.42	2.41	6.77	.82	1.02	2.00	1.61
27	1.80	8.96	6.29	5.42	4.76	6.39	4.83	4.76	.80	1.33	1.65	1.38
28	1.72	7.28	5.09	4.64	4.10	5.26	8.09	3.82	.78	1.38	1.40	1.02
29	1.62	5.73	4.41	4.09	3.55	5.25	7.52	2.64	.76	1.38	.99	.94
30	1.80	4.72	3.94	3.56	---	5.16	9.33	1.83	.78	2.03	.93	1.05
31	1.88	---	3.64	3.15	---	4.93	---	1.38	---	2.26	1.02	---
MEAN	5.12	4.53	4.18	4.26	3.65	5.91	5.36	3.88	1.47	1.94	2.09	1.27
MAX	12.43	8.96	8.40	7.26	8.51	10.03	10.42	10.08	2.92	8.69	7.55	3.18
MIN	1.62	1.73	2.22	2.62	1.48	3.06	2.41	1.38	.76	.76	.83	.75

WTR YR 1980 MEAN 3.64 MAX 12.43 MIN .75

KANAWHA RIVER BASIN

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 and March, which are poor. Flow regulated since 1960 by Sutton Lake (station 03195400). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--52 years, 2,040 ft³/s (57.77 m³/s), 24.19 in/yr (614 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, 21,500 ft³/s (609 m³/s) Oct. 10, gage height, 14.79 ft (4.508 m); minimum, 115 ft³/s (3.26 m³/s) Sept. 17, 18, gage height, 4.07 ft (1.241 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2650	690	2460	1870	1400	1600	4430	11300	530	139	753	256
2	3720	1300	2000	1760	1090	1200	5920	9220	732	139	599	298
3	6270	5900	1700	1530	1050	1000	4510	6590	840	153	517	355
4	5200	6040	1460	1260	1100	1200	3560	4450	620	184	511	355
5	4870	4840	1410	1250	1000	5060	3250	3130	620	252	550	1310
6	5200	3070	1330	1200	880	12300	2870	2320	599	360	420	912
7	5460	2350	1200	1070	790	9650	2310	1820	1170	272	350	530
8	4600	2020	1140	1140	720	7460	2120	1510	1090	248	473	449
9	3720	1710	1120	1300	650	6610	10900	1070	776	473	425	355
10	16600	1790	1030	1280	600	5810	9850	867	524	6590	655	335
11	11200	2310	930	1240	560	3980	7770	690	1100	6200	325	320
12	9750	2410	948	1620	520	3180	5570	571	808	1830	236	293
13	9400	3050	4300	2350	490	2720	4050	491	578	1490	208	280
14	9500	3620	8110	3340	520	3410	5000	613	455	2230	196	252
15	7550	3250	6150	3110	630	3620	6200	876	395	1880	176	168
16	5720	2640	4820	3110	718	3200	5900	808	405	1260	200	125
17	4490	2340	3230	3090	1980	3110	4450	753	498	704	204	122
18	3600	2100	2380	3160	2290	4870	3430	676	479	571	634	125
19	2890	1920	1930	4190	2520	7220	2740	557	365	517	6360	272
20	2410	1760	1670	5990	2340	6820	2250	571	298	479	5460	395
21	2010	1590	1520	5110	2770	5260	1920	2260	216	449	2530	350
22	1690	1400	1250	3600	4980	5280	1670	7030	200	405	7100	335
23	1380	1260	1130	2930	8080	5330	1460	4560	200	345	4820	571
24	966	1530	1140	2720	7910	4400	1220	2720	180	298	2470	592
25	753	2770	3740	3700	6150	6410	1120	4170	164	256	1530	517
26	746	5550	7790	5200	4090	6930	984	5610	153	224	966	564
27	662	8880	6770	4280	3250	5770	2670	3320	146	302	676	485
28	641	6890	4470	3340	2580	4320	7170	2000	142	415	578	330
29	599	4580	3230	2640	2010	4170	7270	1410	135	467	370	216
30	655	3290	2520	2100	---	3920	10300	800	135	425	244	176
31	690	---	2100	1700	---	3800	---	473	---	1080	240	---
TOTAL	135592	92850	84978	82180	63668	149610	132864	83236	14553	30637	40776	11643
MEAN	4374	3095	2741	2651	2195	4826	4429	2685	485	988	1315	388
MAX	16600	8880	8110	5990	8080	12300	10900	11300	1170	6590	7100	1310
MIN	599	690	930	1070	490	1000	984	473	135	139	176	122

CAL YR 1979 TOTAL 1175547 MEAN 3221 MAX 16600 MIN 250 MEAN# 3187 CFMS# 2.78 IN# 37.80
WTR YR 1980 TOTAL 922587 MEAN 2521 MAX 16600 MIN 122 MEAN# 2559 CFMS# 2.23 IN# 30.43

* Adjusted for change in contents in Sutton Lake.

KANAWHA RIVER BASIN

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03197000 ELK RIVER AT QUEEN SHOALS, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961-1975, 1979 to current year.

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, 0.0°C on many days during winter months.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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)
OCT											
30...	1100	649	100	6.5	24.0	22.0	--	--	29	5	.0
DEC											
13...	1715	6480	70	6.6	5.5	5.5	--	--	23	20	.0
FEB											
05...	1020	1000	75	6.0	2.0	.0	--	--	25	10	.0
MAR											
14...	1330	3540	70	6.4	2.0	4.5	--	--	21	13	.0
25...	1100	6770	60	6.2	6.0	8.0	--	--	15	6	.1
MAY											
02...	1230	9390	60	6.3	25.5	14.0	--	--	17	4	.1
JUN											
13...	1300	624	105	7.5	26.5	25.0	--	--	22	7	--
JUL											
21...	0955	470	76	6.7	28.5	27.5	--	--	25	13	.1
AUG											
18...	2215	2410	70	5.7	--	24.0	38	7.1	28	21	<.1
SEP											
02...	1020	300	--	--	--	--	--	--	--	--	--

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 AD- SORP- TION RATIO	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
OCT											
30...	20	7.5	2.5	2.5	.2	15	16	3.2	--	54	.07
DEC											
13...	20	5.9	2.1	2.0	.2	11	14	3.0	--	--	--
FEB											
05...	20	5.9	2.4	2.6	.2	8	17	4.7	--	46	.06
MAR											
14...	20	5.3	1.8	2.3	.2	8	12	3.4	--	75	.10
25...	5:0	3.2	1.8	1.6	.2	9	10	2.2	--	39	.05
MAY											
02...	5:0	3.9	1.7	1.4	.1	13	12	1.7	--	33	.04
JUN											
13...	--	5.7	2.0	3.4	.3	15	14	7.7	--	62	.08
JUL											
21...	5:0	6.2	2.2	2.4	.2	15	14	2.9	--	44	.06
AUG											
18...	45:0	6.5	2.8	3.1	.3	7	16	4.0	3.5	45	.06

KANAWHA RIVER BASIN

03197000 ELK RIVER AT QUEEN SHOALS, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)
OCT 30...	94.6	--	--	--	--	--	400	--	210	--	--
DEC 13...	--	--	--	--	--	--	1800	1700	60	--	--
FEB 05...	124	--	--	--	--	--	200	140	60	--	--
MAR 14...	717	--	--	--	--	--	590	540	50	--	--
25...	713	--	--	--	--	--	2400	2300	130	--	--
MAY 02...	837	--	--	--	--	--	2200	2200	30	--	--
JUN 13...	104	--	--	--	--	--	330	300	30	--	--
JUL 21...	55.8	--	--	--	--	--	310	250	60	--	--
AUG 18...	293	60	1	3	<3	<10	1700	1600	58	<10	<4

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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
OCT 30...	60	0	60	--	--	--	--	--	--	--	--
DEC 13...	100	100	1	--	--	--	--	--	--	--	--
FEB 05...	50	0	50	--	--	--	--	--	--	--	--
MAR 14...	40	10	30	--	--	--	--	--	--	--	--
25...	120	100	20	--	--	--	--	--	3.00	--	--
MAY 02...	10	0	10	--	--	--	--	--	--	--	--
JUN 13...	40	30	10	--	--	--	--	--	--	--	--
JUL 21...	60	30	30	--	--	--	--	--	--	--	--
AUG 18...	120	50	66	<10	54	46.0	7	2.2	--	121	787

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 10,000 ft³/s (283 m³/s) and poor below. Since 1939, flow regulated by increasing number of reservoirs upstream from station. Corps of Engineers gage-height telemeters at station.

AVERAGE DISCHARGE.--41 years, 15,000 ft³/s (424.8 m³/s), 19.55 in/yr (497 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, 16.79 ft (5.118 m) Aug. 7, 1978 (corrected).

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, 76,800 ft³/s (2,060 m³/s) Mar. 19; maximum gage height, 26.75 ft (8.153 m) May 1; minimum gage height, 17.50 ft (5.334 m) Sept. 1.

CORRECTIONS.--The minimum gage height for water year 1978 is 16.79 ft (5.118 m) Aug. 7; the previously published figure was not the minimum.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14400	10900	26000	14400	14400	14700	36200	66900	9060	3260	9700	5380
2	20800	13800	22100	13500	12400	13800	33500	51600	8600	4110	8490	4830
3	25200	30200	16500	11500	10600	9910	27400	35800	8420	4290	6200	4490
4	21000	43500	14600	12600	8550	9910	27500	27600	9010	5200	5510	4380
5	18600	34900	12900	11600	8040	26900	31800	21500	8380	3490	5210	5590
6	25200	25400	11900	10800	9910	46200	27600	19300	7670	3270	5380	5330
7	26300	22300	12500	9390	10400	41800	20600	17600	12300	3260	5930	5090
8	17900	18700	12900	9210	9580	40900	17900	13900	13700	4570	5710	4470
9	17500	16500	12200	10400	10300	44100	36300	13000	9700	7860	5540	3770
10	45200	15300	11200	10500	10100	43400	47600	11800	8660	22900	5040	4120
11	50000	18000	8600	12000	6060	36500	52300	9820	8710	54000	4100	4140
12	53100	24500	9310	13600	6020	27900	34800	9890	8630	26200	3620	3460
13	38700	32100	20100	17700	8420	24300	30100	8980	7510	29200	4070	3380
14	37600	31900	26100	20000	8590	26400	33800	10500	7590	17300	4350	3340
15	36000	29400	20400	24400	8550	26300	55000	9980	6880	13500	3650	2770
16	30100	25600	18900	31800	10400	24800	67900	9210	5950	12300	3790	2250
17	27100	22200	18100	31800	20300	25500	55800	8430	4420	7490	3820	2530
18	19600	20600	14500	32700	18400	45000	42800	8950	5250	8450	4530	3270
19	15100	17300	13100	54500	16200	70200	28400	10100	5690	6520	33400	3850
20	16200	13900	11700	62000	16800	49500	24400	10900	5510	6200	23800	4260
21	13400	17700	10400	45600	20200	45100	19900	17100	5240	4510	18700	4150
22	13600	17700	9410	30600	30200	60200	18600	30400	5170	3550	40100	3770
23	8860	15900	8010	32100	39600	64500	16500	25700	3880	5860	30400	3710
24	13600	15500	7470	34300	43200	50600	17800	19000	2510	9150	19500	3980
25	13400	18600	15000	33100	35300	50900	18200	19600	3300	7980	14400	4040
26	8160	33800	36200	31700	25700	58600	15800	30300	4790	5980	10100	4010
27	11000	49800	37400	27400	23100	51400	24500	20300	9200	6510	8730	4630
28	12200	56300	29800	21600	19400	37100	42500	16500	9510	7580	7080	5300
29	11500	41500	23200	19500	18200	35700	36100	14700	7130	8970	6560	4900
30	8540	30900	20500	17900	---	39600	65400	11200	5600	14300	6140	2800
31	10600	---	18200	16000	---	39200	---	10900	---	12000	6340	---
TOTAL	680460	764700	529200	724200	478920	1180920	1007000	591460	217970	329760	319890	121990
MEAN	21950	25490	17070	23360	16510	38090	33570	19080	7266	10640	10320	4066
MAX	53100	56300	37400	62000	43200	70200	67900	66900	13700	54000	40100	5590
MIN	8160	10900	7470	9210	6020	9910	15800	8430	2510	3260	3620	2250
CAL YR 1979	TOTAL	8365950	MEAN	22920	MAX	107000	MIN	4760				
WTR YR 1980	TOTAL	6946470	MEAN	18980	MAX	70200	MIN	2250				

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, 30.5°C July 21, Aug. 10, 13-15; minimum, 1.0°C Feb. 5.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

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TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

[illegible]

KANAWHA RIVER BASIN

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 December, January, and February, which are fair, and those for period of no gage-height record, Aug. 1 to Sept. 3, which are poor.

AVERAGE DISCHARGE.--58 years, 521 ft³/s (14.75 m³/s), 18.00 in/yr (457 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Apr. 30	1630	*16100 456	20.24 6.169	July 11	0330	11800 334	16.86 5.139

Minimum discharge, 55 ft³/s (1.6 m³/s) July 2, 3, gage height 1.83 ft (0.558 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	354	177	650	510	525	606	1040	5160	162	64	150	150
2	354	600	550	455	440	525	972	2280	143	57	130	130
3	910	2240	460	400	382	500	887	1500	132	59	150	110
4	826	1160	400	374	350	535	1100	1110	146	72	120	103
5	666	760	360	350	330	1690	1300	855	134	132	125	92
6	535	584	350	330	310	4340	1050	706	1990	137	155	101
7	480	480	340	310	290	2410	848	628	1670	108	120	118
8	410	415	300	300	270	1990	920	515	682	101	115	99
9	386	386	270	290	260	1690	3130	455	400	1460	160	88
10	1230	661	240	350	250	1230	2150	405	284	3170	140	510
11	1770	1190	233	410	240	1020	1390	365	232	6720	120	365
12	1180	1180	258	600	230	816	1030	331	194	1440	110	222
13	1340	1570	1860	749	220	730	907	295	160	2130	100	165
14	2170	1100	1580	796	215	772	1910	295	146	1430	95	137
15	1290	820	910	1050	299	694	3050	267	134	712	115	120
16	892	678	716	910	994	658	1810	239	157	460	120	108
17	694	562	589	784	2090	664	1300	222	165	326	90	99
18	562	490	485	964	1160	1550	1010	246	132	253	90	94
19	485	430	430	2900	868	1760	829	239	112	210	800	94
20	420	378	390	1820	790	1360	694	246	101	178	600	90
21	334	342	354	1120	946	1390	604	430	88	160	450	94
22	299	318	326	904	3100	1800	510	355	86	143	1900	148
23	278	303	318	1270	2840	1470	460	281	81	129	1800	165
24	258	440	342	1400	1790	1190	415	256	81	108	1200	154
25	240	650	732	1530	1280	1780	380	336	75	670	650	162
26	219	2440	1540	1680	1050	1760	380	326	79	706	300	157
27	205	2860	1310	1310	844	1340	1540	253	70	316	240	129
28	205	1370	952	1090	778	1100	2830	213	64	213	190	112
29	236	940	760	802	705	1150	1680	184	64	160	170	101
30	222	800	661	661	---	1080	10200	168	68	151	230	94
31	194	---	578	600	---	1020	---	181	---	160	180	---
TOTAL	19644	26324	19244	27019	23846	40620	46326	19342	8032	22135	10915	4311
MEAN	634	877	621	872	822	1310	1544	624	268	714	352	144
MAX	2170	2860	1860	2900	3100	4340	10200	5160	1990	6720	1900	510
MIN	194	177	233	290	215	500	380	168	64	57	90	88
CFSM	1.61	2.23	1.58	2.22	2.09	3.33	3.93	1.59	.68	1.82	.90	.37
IN.	1.86	2.49	1.82	2.56	2.26	3.84	4.39	1.83	.76	2.10	1.03	.41

CAL YR 1979	TOTAL	318517	MEAN 873	MAX 8620	MIN 87	CFSM 2.22	IN 30.15
WTR YR 1980	TOTAL	267758	MEAN 732	MAX 10200	MIN 57	CFSM 1.86	IN 25.34

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 Charleston & 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 January and February, which are poor.

AVERAGE DISCHARGE.--6 years, 739 ft³/s (20.93 m³/s), 22.71 in/yr (577 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Mar. 6	0800	6090 172	13.57 4.136	July 11	0800	10700 303	19.76 6.023
Apr. 30	2000	*13200 374	22.88 6.974				

Minimum daily discharge, 60 ft³/s (1.70 m³/s) July 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	404	193	692	617	637	700	1240	7100	192	65	183	167
2	369	737	591	557	507	629	1170	2610	160	62	138	145
3	923	2150	507	496	450	600	1080	1640	149	60	167	140
4	954	1360	447	454	430	705	1200	1200	274	63	136	123
5	763	897	414	420	410	1770	1460	954	151	98	134	115
6	610	688	401	390	390	5020	1190	760	1840	156	169	111
7	543	576	397	370	370	2790	999	662	2010	121	154	121
8	468	482	359	355	350	2100	897	560	798	107	111	102
9	437	454	316	340	330	1840	3350	482	469	1190	178	94
10	1660	827	292	380	310	1380	2500	423	343	2970	158	439
11	1910	1330	277	521	300	1150	1610	407	272	7580	132	385
12	1410	1330	292	750	285	945	1230	367	227	1660	120	234
13	1440	1600	2710	923	275	853	1060	326	190	1430	115	165
14	2070	1280	2140	945	270	902	1790	323	165	1640	110	140
15	1420	954	1200	1200	340	840	3690	293	154	815	125	115
16	1020	792	910	1090	985	792	2120	259	169	459	151	103
17	775	664	742	954	2100	792	1450	239	192	340	102	94
18	633	572	614	1040	1380	1540	1160	251	154	259	100	85
19	536	507	543	2570	1030	1950	963	254	134	206	899	83
20	479	444	500	1910	923	1560	823	309	119	190	590	81
21	388	404	447	1330	981	1530	717	459	121	162	423	79
22	337	375	407	1060	2820	1960	621	423	117	149	2120	123
23	309	356	391	1360	2770	1700	557	335	102	180	1940	169
24	286	610	414	1500	1830	1380	507	296	85	174	863	165
25	260	840	775	1610	1430	2000	465	343	83	145	476	156
26	238	2020	1600	1720	1210	2020	458	376	79	900	332	154
27	225	2930	1510	1480	981	1560	1300	293	76	500	244	132
28	220	1590	1150	1180	902	1290	3020	241	74	330	197	109
29	252	1110	910	950	818	1350	1860	213	69	200	167	98
30	244	849	792	784	---	1260	8270	192	67	170	256	94
31	214	---	680	650	---	1220	---	199	---	180	180	---
TOTAL	21797	28921	23420	29906	25814	46128	48757	22789	9035	22561	11170	4321
MEAN	703	964	755	965	890	1488	1625	735	301	728	360	144
MAX	2070	2930	2710	2570	2820	5020	8270	7100	2010	7580	2120	439
MIN	214	193	277	340	270	600	458	192	67	60	100	79
CFSM	1.59	2.18	1.71	2.18	2.01	3.37	3.68	1.66	.68	1.65	.81	.33
IN.	1.83	2.43	1.97	2.52	2.17	3.88	4.10	1.92	.76	1.90	.94	.36
CAL YR 1979	TOTAL	375851	MEAN	1030	MAX	10900	MIN	101	CFSM	2.33	IN	31.63
WTR YR 1980	TOTAL	294619	MEAN	805	MAX	8270	MIN	60	CFSM	1.82	IN	24.80

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, Oct. 29, 1979.

SEDIMENT LOADS: Maximum daily, 137,000 tons (124,000 metric tons) Jan. 26, 1978; minimum daily, 0.27 ton (0.24 metric tons) June 19, 1977.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 570 micromhos July 2; minimum daily, 108 micromhos Aug. 30.

WATER TEMPERATURES: Maximum daily observed, 24.0°C July 30; minimum daily observed, 0.0°C Feb. 1.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,040 mg/L July 11; minimum daily mean, 1 mg/L Oct. 29.

SEDIMENT LOADS: Maximum daily, 41,200 tons (37,400 metric tons) July 11; minimum daily, 0.49 ton (0.44 metric tons) July 3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	HARD- NESS (MG/L AS CAC03)	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL HEATED (MG/L AS H)
NOV										
01...	1200	181	490	7.6	23.0	14.0	--	120	88	.0
DEC										
07...	1205	404	--	--	10.0	5.0	--	--	--	--
12...	0930	254	400	7.3	17.5	4.5	--	--	--	--
JAN										
15...	0900	1260	--	--	--	--	--	--	--	--
23...	1020	1350	112	7.1	-3.5	2.0	--	--	--	--
31...	1220	717	290	7.0	-5.5	.0	--	90	57	.0
FEB										
13...	1120	278	--	--	-1.5	.0	--	--	--	--
28...	1630	950	240	6.8	-3.0	4.5	--	--	--	--
MAR										
13...	1015	820	260	6.7	--	4.0	--	84	65	.0
24...	1520	1310	245	6.9	22.5	9.0	--	83	66	.1
27...	1200	2150	200	7.2	12.5	10.0	--	--	--	--
APR										
21...	1130	744	270	7.0	22.0	15.0	--	94	74	.1
29...	1955	1630	140	--	9.0	10.0	--	--	--	--
30...	1045	11700	--	--	--	9.5	--	--	--	--
MAY										
01...	1045	6530	140	6.2	--	10.0	--	--	--	--
27...	1155	323	330	7.7	21.0	19.0	--	--	--	--
JUN										
05...	1040	148	410	7.5	21.0	20.0	--	130	88	--
24...	1520	96	500	8.1	25.5	23.0	--	--	--	--
JUL										
15...	1145	743	200	6.6	29.5	22.5	--	70	54	.1
30...	1720	261	280	7.3	29.0	24.0	--	--	--	--
AUG										
04...	1400	132	--	--	--	27.5	--	--	--	--
18...	1445	100	394	7.1	28.0	25.0	10	140	100	.0
SEP										
08...	1330	113	430	7.6	30.0	25.0	--	--	--	--

KANAWHA RIVER BASIN

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03198550 BIG COAL RIVER NEAR ALUM CREEK, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	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	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)
NOV 01...	.0	25	15	24	.9	36	120	7.8	--	226	.31
DEC 12...	--	--	--	--	--	34	--	--	--	--	--
JAN 31...	.0	18	11	10	.5	33	72	4.1	--	151	.21
MAR 13...	.0	17	10	10	.5	19	75	4.5	--	138	.19
24...	5.0	15	11	7.5	.4	17	71	3.3	--	138	.19
27...	--	--	--	--	--	7	--	--	--	--	--
APR 21...	5.0	18	12	11	.5	22	84	4.1	--	183	.25
JUN 05...	--	27	16	30	1.1	47	130	8.8	--	300	.41
JUL 15...	5.0	14	8.4	6.7	.4	17	58	3.4	--	132	.18
AUG 18...	.0	31	16	26	1.0	43	120	11	4.5	246	.33
DATE	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)
NOV 01...	110	--	--	--	--	--	420	--	80	--	--
JAN 31...	292	--	--	--	--	--	440	420	20	--	--
FEB 28...	--	--	--	--	--	--	--	--	--	--	--
MAR 13...	306	--	--	--	--	--	580	570	10	--	--
24...	488	--	--	--	--	--	1200	1200	10	--	--
27...	--	--	--	--	--	--	--	--	--	--	--
APR 21...	368	--	--	--	--	--	490	470	20	--	--
JUN 05...	120	--	--	--	--	--	280	240	40	--	--
JUL 15...	265	--	--	--	--	--	2300	2300	50	--	--
AUG 18...	66.4	70	2	6	<3	<10	880	730	150	<10	21
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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
NOV 01...	80	10	70	--	--	--	--	--	--	--	--
JAN 31...	140	10	130	--	--	--	--	--	--	--	--
FEB 28...	--	--	--	--	--	--	--	--	--	36	92
MAR 13...	110	10	100	--	--	--	--	--	--	--	--
24...	140	0	140	--	--	--	--	--	7.00	--	--
27...	--	--	--	--	--	--	--	--	--	126	731
APR 21...	90	20	70	--	--	--	--	--	--	--	--
JUN 05...	60	10	50	--	--	--	--	--	--	--	--
JUL 15...	130	90	40	--	--	--	--	--	--	--	--
AUG 18...	90	20	70	<10	420	<6.0	13	3.3	--	13	3.5

KANAWHA RIVER BASIN

03198550 BIG COAL RIVER NEAR ALUM CREEK, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	251	332	281	234	265	---	217	134	---	552	330	318
2	246	230	219	218	---	182	214	---	---	570	---	347
3	123	229	231	262	---	---	221	223	425	557	388	328
4	215	260	243	281	---	282	225	249	438	543	430	342
5	205	159	260	273	---	214	213	278	441	558	434	370
6	211	187	261	295	---	147	---	292	---	539	400	395
7	221	204	287	242	---	158	214	310	205	540	431	231
8	236	---	318	309	---	179	231	322	---	516	424	426
9	183	---	330	313	---	185	---	---	---	---	400	420
10	172	215	336	297	---	206	161	344	297	---	435	299
11	178	204	351	---	---	226	185	---	---	148	376	352
12	166	165	320	264	---	244	206	356	312	186	372	328
13	174	156	155	241	351	237	226	348	342	195	---	425
14	161	160	174	222	335	259	213	380	357	160	---	358
15	173	174	213	200	---	263	153	380	368	205	394	---
16	180	186	---	---	190	261	176	---	380	245	343	383
17	196	206	258	209	166	254	203	---	402	280	---	390
18	212	---	253	221	164	229	---	---	402	310	403	400
19	227	228	260	---	183	174	---	402	421	290	330	---
20	248	257	259	150	196	---	---	389	---	360	228	---
21	251	252	280	---	199	204	258	---	340	370	239	390
22	263	259	309	191	180	186	268	344	---	380	245	431
23	277	264	298	112	156	241	278	---	520	---	148	400
24	324	214	284	---	179	219	284	---	500	400	---	401
25	209	157	290	186	194	208	---	338	502	420	208	360
26	320	183	223	183	811	179	304	307	550	440	240	---
27	203	131	185	188	828	205	280	325	504	---	262	429
28	316	151	192	203	829	---	134	325	510	190	212	439
29	227	174	208	217	---	---	148	341	529	235	108	428
30	333	188	248	234	---	216	154	---	538	280	242	428
31	300	---	226	244	---	---	---	---	---	315	---	---
MEAN	226	205	258	230	214	214	215	319	422	362	321	378
WTR YR 1980	MEAN	279	MAX	570	MIN	108						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.0	10.0	---	---	.0	---	7.0	9.0	---	18.0	---	19.0
2	18.0	13.0	7.0	---	---	8.0	8.0	---	---	19.0	---	20.0
3	18.0	9.0	7.0	---	---	---	9.0	8.0	16.0	19.0	19.0	19.0
4	15.0	11.5	7.0	---	---	4.0	8.0	11.0	14.0	18.0	19.0	---
5	14.0	10.0	8.0	---	---	6.0	8.0	11.0	---	19.0	19.0	19.0
6	14.0	10.0	8.0	---	---	6.0	---	11.0	---	18.0	---	18.0
7	14.0	11.0	5.0	---	---	4.0	6.0	11.0	14.0	18.0	18.0	18.0
8	13.0	---	---	---	---	8.0	9.0	11.0	---	18.0	19.0	19.0
9	13.0	---	---	---	---	6.0	---	---	14.0	---	21.0	19.0
10	13.0	10.0	---	---	---	8.0	12.0	14.0	---	---	---	17.0
11	13.0	10.0	---	---	---	6.0	9.0	---	---	15.0	---	16.0
12	13.0	9.0	---	---	---	5.0	9.0	14.0	18.0	17.0	---	18.0
13	10.0	10.0	---	---	4.0	---	8.0	14.0	17.0	18.0	---	18.0
14	13.0	10.0	---	---	4.0	7.0	11.0	12.0	15.0	18.0	---	17.0
15	13.0	10.0	---	5.5	---	8.0	8.0	13.0	17.0	19.0	20.0	---
16	13.0	9.0	---	---	4.0	11.0	8.0	---	17.0	17.0	---	17.0
17	14.0	10.0	---	---	3.0	9.0	10.0	---	18.0	18.0	---	17.0
18	15.0	---	---	---	3.0	7.0	10.0	---	16.0	18.0	19.0	15.0
19	15.0	9.0	---	---	4.0	6.0	---	15.0	17.0	18.0	19.0	---
20	15.0	10.0	---	---	4.0	---	---	11.0	---	19.0	---	---
21	17.0	9.0	---	---	8.0	6.0	12.0	---	14.0	19.0	---	17.0
22	18.0	9.0	---	---	8.0	6.0	12.0	14.0	---	19.0	18.0	19.0
23	15.0	9.0	---	2.0	7.0	7.0	12.0	---	19.0	---	---	---
24	15.0	9.0	---	---	6.0	6.0	12.0	---	18.0	19.0	---	17.0
25	13.0	11.0	---	6.0	6.0	5.0	---	14.0	18.0	18.0	18.0	18.0
26	12.0	9.0	---	4.0	3.0	7.0	11.0	11.0	18.0	19.0	19.0	---
27	10.0	9.0	---	4.0	4.0	10.0	11.0	16.5	19.0	---	19.0	18.0
28	12.0	8.0	---	5.0	4.0	10.0	9.0	14.0	19.0	19.0	18.0	---
29	10.0	10.0	---	5.0	---	---	9.0	14.0	18.0	19.0	18.0	15.0
30	11.0	10.0	---	4.0	---	7.0	9.5	---	18.0	24.0	19.0	---
31	10.0	---	---	---	---	---	---	---	---	19.0	---	---
MEAN	14.0	10.0	7.0	4.5	4.5	7.0	9.5	12.5	17.0	18.5	19.0	17.5
WTR YR 1980	MEAN	12.5	MAX	24.0	MIN	.0						

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	30	33	7	3.6	12	22	13	22	10	17	18	34								
2	27	27	100	199	13	21	8	12	10	14	55	93								
3	126	314	334	1970	10	14	11	15	8	9.7	27	44								
4	37	95	143	526	5	6.0	8	9.8	7	8.1	37	70								
5	57	117	49	119	6	6.7	6	6.8	6	6.6	358	2310								
6	50	82	39	72	13	14	6	6.3	6	6.3	756	10700								
7	23	34	32	50	13	14	7	7.0	5	5.0	206	1550								
8	27	34	24	31	10	9.7	15	14	5	4.7	169	959								
9	65	77	19	23	7	6.0	14	13	4	3.6	204	1010								
10	326	1610	73	163	6	4.7	8	8.2	4	3.3	115	429								
11	250	1290	189	679	8	6.0	45	63	4	3.2	73	226								
12	185	704	62	223	13	10	92	186	3	2.3	43	110								
13	365	1420	105	462	612	5000	67	167	10	7.4	28	65								
14	410	2290	67	232	110	636	46	117	11	8.0	22	54								
15	105	402	41	106	23	74	106	346	14	13	47	107								
16	89	245	19	41	7	17	58	171	170	623	42	90								
17	50	24	15	27	5	10	92	237	480	2910	27	58								
18	42	72	12	19	20	33	207	581	124	463	204	996								
19	24	35	6	8.2	27	40	529	3640	82	227	232	1220								
20	5	6.5	6	7.2	14	19	170	875	47	117	68	287								
21	6	6.3	7	7.6	7	8.5	93	333	107	283	143	592								
22	10	9.1	10	10	4	4.4	93	267	788	6950	215	1140								
23	8	6.7	10	9.6	4	4.2	211	776	350	2620	182	833								
24	4	3.1	91	154	7	7.8	68	275	222	1100	118	439								
25	2	1.4	53	120	53	111	200	896	128	494	282	1590								
26	3	1.9	400	2180	287	1230	117	545	73	239	197	1070								
27	4	2.4	500	3960	147	598	75	299	37	98	127	535								
28	2	1.2	195	836	72	223	54	172	33	80	105	366								
29	1	.68	75	226	51	125	30	77	25	55	112	409								
30	2	1.3	39	89	13	28	18	38	---	---	133	454								
31	3	1.7	---	---	23	42	17	30	---	---	123	404								
TOTAL	---	8947.28	---	12553.2	---	8345.0	---	10205.1	---	16371.2	---	28244								
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER									
1	100	334	615	11800	14	7.3	9	1.6	13	6.4	7	3.2								
2	82	258	260	1830	12	5.2	5	.83	7	2.6	13	5.1								
3	70	204	252	1110	8	3.2	3	.49	23	10	29	11								
4	79	255	239	777	7	5.2	4	.68	5	1.8	8	2.7								
5	167	663	172	443	7	2.9	7	1.8	4	1.4	7	2.2								
6	17	55	80	164	654	3250	23	9.7	18	8.2	6	1.8								
7	17	46	25	45	450	2440	7	2.3	11	4.6	6	2.0								
8	105	254	30	45	66	142	5	1.4	18	5.4	6	1.6								
9	800	7240	16	21	45	57	350	1120	35	17	8	2.0								
10	370	2500	22	25	33	31	1100	8820	13	5.5	323	383								
11	192	835	26	29	25	18	2040	41200	12	4.3	137	142								
12	112	371	16	16	15	9.2	569	3180	15	4.9	29	18								
13	85	243	15	13	10	5.1	263	1010	16	5.0	13	5.8								
14	493	2840	15	13	7	3.1	293	1300	13	3.9	10	3.8								
15	640	6380	15	12	35	15	109	240	14	4.7	13	4.0								
16	215	1230	12	8.4	46	21	59	73	109	131	12	3.3								
17	111	435	12	7.7	43	22	40	37	27	7.4	10	2.5								
18	50	157	24	16	13	5.4	18	13	12	3.2	8	1.8								
19	13	34	13	8.9	7	2.5	12	6.7	175	425	9	2.0								
20	7	16	32	28	5	1.6	11	5.6	80	127	7	1.5								
21	12	23	123	158	5	1.6	11	4.8	125	143	6	1.3								
22	47	79	47	54	5	1.6	8	3.2	600	3430	27	9.0								
23	22	33	25	23	4	1.1	33	16	350	1830	67	31								
24	8	11	13	10	5	1.1	19	8.9	205	478	45	20								
25	7	8.8	33	31	5	1.1	34	13	68	87	30	13								
26	5	6.2	54	55	3	.64	16	39	31	28	21	8.7								
27	200	702	13	10	5	1.0	8	11	14	9.2	14	5.0								
28	400	3260	11	7.2	6	1.2	453	404	18	9.6	7	2.1								
29	200	1000	10	5.7	6	1.1	267	144	41	18	6	1.6								
30	1500	33500	12	6.2	7	1.3	47	22	146	115	5	1.3								
31	---	---	22	12	---	---	29	14	25	12	---	---								
TOTAL	---	62973.0	---	16784.1	---	6058.44	---	57704.00	---	6939.1	---	692.3								
TOTAL LOAD FOR YEAR: 235816.72 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 good except those for March, which are fair, and those for February, which are poor.

AVERAGE DISCHARGE.--50 years, 358 ft³/s (10.14 m³/s), 18.01 in/yr (457 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)
Apr. 30	1445	8240 233	15.14 4.615	July 11	0015	*8410 238	15.39 4.691
July 10	1200	6900 195	13.23 4.033				

Minimum discharge, 48 ft³/s (1.36 m³/s) Sept. 19, gage height, 2.05 ft (0.625 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	213	131	435	370	350	450	646	3210	153	55	190	93
2	262	761	375	328	310	410	630	1450	135	51	169	82
3	488	1150	314	295	290	390	595	982	129	54	149	89
4	422	690	294	270	355	380	800	754	138	60	133	78
5	373	520	276	260	940	1610	766	600	109	101	142	75
6	310	428	266	245	782	3310	630	508	615	73	120	66
7	293	362	250	235	248	1630	550	442	386	55	116	66
8	239	318	218	225	212	1230	779	370	220	65	167	60
9	236	308	194	220	190	1010	2700	321	162	1070	144	58
10	809	612	184	250	180	808	1350	290	135	4360	149	240
11	945	780	173	271	170	682	892	282	124	3730	113	129
12	722	802	213	373	160	560	712	257	109	868	99	89
13	1450	811	2700	410	155	517	664	235	101	1990	89	76
14	1250	677	1360	478	170	565	1700	245	95	964	80	68
15	794	563	746	474	252	499	2170	207	93	500	76	66
16	583	493	582	468	1130	481	1230	188	127	330	85	57
17	457	413	473	465	1230	508	898	178	113	250	80	55
18	362	363	388	744	746	1250	730	212	87	203	186	54
19	306	320	355	1240	598	1260	610	181	78	169	640	51
20	270	286	313	913	569	964	527	225	75	146	263	54
21	239	262	278	684	688	1100	454	378	71	131	183	73
22	212	242	261	636	2590	1160	398	242	73	127	334	89
23	202	225	251	950	1790	976	350	207	69	183	292	164
24	186	433	276	866	1150	874	324	210	66	135	240	116
25	171	563	579	1000	928	1180	297	438	63	113	178	113
26	158	1800	924	910	766	1080	295	318	66	103	140	101
27	149	1320	844	754	620	874	964	237	60	146	118	82
28	159	853	641	623	550	802	1370	193	58	2240	101	75
29	190	624	537	533	513	778	988	169	57	772	107	69
30	152	509	479	456	---	712	5540	158	57	366	242	63
31	138	---	422	400	---	712	---	164	---	245	118	---
TOTAL	12740	17619	15601	16346	18632	28762	30559	13851	3824	19655	5243	2551
MEAN	411	587	503	527	642	928	1019	447	127	634	169	85.0
MAX	1450	1800	2700	1240	2590	3310	5540	3210	615	4360	640	240
MIN	138	131	173	220	155	380	295	158	57	51	76	51
CFSM	1.52	2.17	1.86	1.95	2.38	3.44	3.77	1.66	.47	2.35	.63	.32
IN.	1.76	2.43	2.15	2.25	2.57	3.96	4.21	1.91	.53	2.71	.72	.35

CAL YR 1979	TOTAL	229152	MEAN 628	MAX 7870	MIN 80	CFSM 2.33	IN 31.57
WTR YR 1980	TOTAL	185383	MEAN 507	MAX 5540	MIN 51	CFSM 1.88	IN 25.54

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, July 3, 1980.

SEDIMENT LOADS: Maximum daily, 110,000 tons (99,800 metric tons) Jan. 26, 1978; minimum daily, 0 ton (0 metric ton) several days in 1974, 1979, July 3, 1980.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,100 micromhos Sept. 20; minimum daily, 134 micromhos July 11.

WATER TEMPERATURES: Maximum, 30.5°C July 8, 21, Aug. 12; minimum, 0.5°C Feb. 5, 6.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,090 mg/L July 9; minimum daily mean, 0 mg/L July 3.

SEDIMENT LOADS: Maximum daily, 27,300 tons (24,800 metric tons) Apr. 30; minimum daily, 0 ton (0 metric tons) July 3.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	511	609	334	384	---	---	328	164	700	1020	460	720
2	527	493	353	418	---	---	333	310	716	1030	525	820
3	442	202	---	450	---	315	342	345	768	1030	609	835
4	367	229	394	481	514	311	317	380	720	1030	645	878
5	381	267	416	475	---	216	282	---	785	955	710	845
6	413	309	427	---	544	210	312	415	551	---	679	969
7	439	340	445	537	---	185	340	442	334	950	692	788
8	464	373	447	539	548	187	177	465	425	1010	710	940
9	492	397	478	526	569	198	206	505	570	370	600	990
10	393	370	502	535	569	228	369	535	658	197	625	820
11	238	257	524	513	---	246	266	570	740	134	611	609
12	247	256	608	492	552	273	308	580	807	240	659	640
13	263	236	196	435	603	289	341	595	830	225	725	808
14	191	243	184	392	588	286	310	605	858	220	765	875
15	230	273	242	326	530	290	174	606	880	329	825	905
16	282	299	272	363	507	293	223	648	789	428	835	945
17	330	331	216	377	204	298	275	673	830	480	860	990
18	371	360	366	370	243	241	317	662	852	540	810	1040
19	412	386	405	214	282	185	343	650	880	600	280	1080
20	448	408	424	263	311	197	374	665	991	650	358	1100
21	483	430	432	295	308	217	400	462	1020	675	507	1080
22	519	447	466	299	216	195	422	465	995	725	520	940
23	515	459	487	272	190	198	444	553	1030	750	421	775
24	525	431	501	259	232	219	468	590	1010	675	446	603
25	545	301	418	262	268	216	495	552	1010	700	495	695
26	565	255	268	256	302	204	505	389	1040	775	568	737
27	580	181	239	272	337	216	459	452	1010	825	643	751
28	591	217	270	298	347	238	213	530	1010	228	700	845
29	584	260	310	334	282	274	225	612	1020	225	769	905
30	527	297	332	370	---	318	174	658	1020	310	545	940
31	585	---	330	407	---	325	---	681	---	386	562	---
MEAN	434	331	376	380	393	244	325	525	828	590	618	862
WTR YR 1980	MEAN	495	MAX	1100	MIN	134						

03199000 LITTLE COAL RIVER AT DANVILLE, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOHER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	19.5	19.0	15.5	13.5	5.0	4.5	5.0	4.5	1.0	1.0	3.5	1.0
2	19.0	17.5	15.0	12.5	4.5	4.0	4.5	4.5	1.0	1.0	1.0	1.0
3	17.5	16.0	12.5	12.0	4.0	2.5	5.0	4.5	1.0	1.0	1.5	1.0
4	16.0	15.0	11.5	9.5	3.5	2.0	5.0	4.5	1.0	1.0	2.0	1.0
5	15.5	15.0	9.5	9.0	4.0	3.0	5.0	4.0	1.0	.5	5.0	2.0
6	15.0	13.5	9.5	9.0	5.5	4.0	4.0	3.0	1.0	.5	5.5	5.0
7	14.0	13.0	10.0	9.5	6.0	5.5	3.5	3.0	1.5	1.0	8.5	5.0
8	14.0	12.5	9.5	9.0	6.0	5.0	4.0	3.5	2.0	1.0	12.0	8.5
9	14.5	13.5	11.0	9.0	5.0	3.0	4.5	4.0	2.5	2.0	12.0	10.0
10	13.5	11.5	12.0	11.0	5.0	2.5	4.5	3.0	3.0	2.5	10.0	8.0
11	12.0	11.5	11.5	10.0	5.0	3.5	7.0	4.0	2.5	1.0	10.5	8.5
12	12.5	12.0	10.0	9.0	8.0	5.0	7.0	4.5	1.5	1.0	8.5	6.0
13	12.5	12.0	9.5	9.0	9.0	8.0	4.5	3.5	2.0	1.0	8.5	6.0
14	12.5	12.0	9.5	8.5	9.0	8.0	6.0	4.5	3.0	1.0	8.5	7.5
15	12.0	10.5	8.5	7.5	8.0	5.5	6.5	6.0	4.5	3.0	8.0	6.0
16	12.0	11.0	9.0	7.5	6.0	5.5	6.5	6.5	4.5	4.0	10.0	8.0
17	14.0	12.0	9.0	8.0	6.0	4.0	8.0	6.5	4.0	2.5	11.5	10.0
18	14.5	13.5	9.0	8.0	4.0	2.0	8.0	8.0	3.0	1.0	11.5	9.5
19	15.0	14.0	9.0	8.0	4.0	2.5	8.0	7.0	4.0	2.5	10.0	7.0
20	16.0	14.5	10.0	9.0	4.0	3.0	7.0	6.0	4.5	4.0	10.0	9.5
21	16.5	15.0	11.0	10.0	4.0	3.0	6.0	5.5	7.5	4.5	10.5	9.5
22	17.5	15.5	12.0	11.0	6.0	4.0	6.0	5.5	8.5	7.0	10.0	7.5
23	17.0	15.5	11.5	10.0	8.0	6.0	6.0	5.0	8.5	7.0	10.0	7.5
24	15.5	11.5	12.0	11.5	9.0	8.0	5.0	3.0	7.5	7.5	11.0	10.0
25	11.5	10.5	12.0	11.0	9.0	7.5	6.5	4.0	7.5	6.5	11.0	9.5
26	11.5	10.5	12.5	12.0	7.5	6.5	6.5	6.0	6.5	3.5	10.0	8.5
27	10.5	8.5	12.0	10.0	6.5	6.5	6.0	5.5	4.0	3.0	11.5	9.0
28	10.5	9.5	10.5	9.0	6.5	5.5	5.5	4.5	4.5	3.5	12.0	10.5
29	12.5	10.5	9.0	6.5	5.5	5.0	4.5	3.5	4.0	3.0	13.0	10.5
30	14.0	11.5	6.5	5.0	5.5	5.0	3.5	1.5	---	---	13.0	12.0
31	14.5	13.0	---	---	5.5	5.0	1.5	1.0	---	---	12.5	11.5
MONTH	19.5	8.5	15.5	5.0	9.0	2.0	8.0	1.0	8.5	.5	13.0	1.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.5	10.5	11.5	11.0	23.5	20.5	27.0	21.0	26.5	23.0	27.5	22.5
2	13.5	10.5	13.5	11.5	23.5	21.0	28.5	22.5	27.0	24.5	28.5	24.0
3	14.0	12.5	14.5	12.5	23.5	21.0	27.5	24.0	28.0	24.0	25.5	22.5
4	14.5	11.5	16.0	13.0	24.5	21.0	26.0	23.0	27.0	25.0	26.5	22.0
5	11.5	9.5	16.5	14.5	25.0	19.5	28.0	24.5	29.0	24.5	26.5	22.0
6	12.5	9.5	17.0	15.5	22.0	18.0	29.5	25.0	27.5	24.5	25.5	22.0
7	12.5	11.5	18.0	16.5	20.0	18.0	29.5	23.5	28.5	25.5	25.5	22.5
8	14.0	12.5	17.5	15.0	22.5	20.0	30.5	23.5	28.0	25.0	25.0	21.0
9	13.5	11.5	15.0	12.5	21.5	17.5	26.0	21.5	28.0	24.0	26.0	21.5
10	12.0	11.5	16.0	12.5	22.0	18.0	22.5	20.0	29.0	24.5	22.5	21.5
11	13.5	10.5	18.5	15.5	22.0	17.5	20.5	17.5	29.0	25.0	22.5	18.5
12	14.0	13.0	19.5	17.5	22.5	17.0	21.5	20.0	30.5	26.0	23.5	18.5
13	13.0	11.0	21.0	18.5	23.5	17.5	21.5	19.5	28.5	26.0	24.5	19.5
14	12.5	10.5	20.0	18.0	24.5	19.5	22.5	20.0	29.0	24.0	25.5	21.0
15	12.5	10.5	18.5	15.0	26.5	22.0	23.0	22.5	27.5	22.5	23.5	22.0
16	12.0	9.0	19.0	15.0	24.5	20.5	26.0	22.5	26.5	24.5	24.5	20.0
17	12.5	9.0	18.5	17.5	24.0	19.0	27.0	25.0	26.5	24.0	23.0	20.5
18	13.5	10.5	19.0	16.0	25.0	19.5	27.5	24.0	25.5	23.5	22.5	20.0
19	14.5	11.5	20.0	17.5	25.5	19.5	29.0	24.0	23.5	22.0	23.5	19.0
20	15.0	13.0	19.5	18.0	25.5	21.5	30.0	25.0	24.0	22.5	23.0	20.5
21	17.0	14.5	18.0	17.0	24.5	19.0	30.5	26.0	26.5	23.5	24.0	21.5
22	16.5	14.5	21.0	17.0	26.5	19.5	29.0	26.0	25.5	23.5	23.0	22.0
23	18.5	15.5	21.0	19.5	27.5	21.0	26.5	24.5	24.0	22.5	22.5	20.5
24	18.5	16.5	21.0	19.5	23.5	22.5	27.5	24.0	25.0	23.0	20.5	19.5
25	18.0	15.5	19.0	18.0	23.0	21.0	28.5	23.5	26.5	23.0	20.5	19.5
26	16.5	13.5	19.5	16.5	27.0	20.5	29.0	24.5	27.5	23.5	20.5	19.0
27	13.5	12.0	20.0	17.0	28.0	22.0	29.0	25.0	28.0	24.0	19.0	16.0
28	12.0	10.5	21.0	16.5	29.0	24.0	26.0	20.5	28.0	24.0	17.5	15.0
29	12.0	10.5	23.0	18.0	27.5	24.5	22.5	21.0	28.0	24.0	19.0	15.0
30	11.5	10.5	23.5	20.0	25.5	23.0	24.5	22.0	25.5	23.0	18.0	16.0
31	---	---	22.5	20.5	---	---	---	---	25.5	23.0	---	---
MONTH	18.5	9.0	23.5	11.0	29.0	17.0	30.5	17.5	30.5	22.0	28.5	15.0
YEAR	30.5	.5										

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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)	
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	10	5.8	7	2.5	43	51	15	15	28	26	42	51
2	83	96	253	769	27	27	14	12	23	19	40	44
3	317	438	347	1080	17	14	13	10	17	13	40	42
4	104	118	263	490	13	10	10	7.3	12	12	52	53
5	43	43	192	270	14	10	10	7.0	62	157	581	3380
6	47	39	66	76	12	8.6	8	5.3	22	46	282	2520
7	33	26	34	33	13	8.8	12	7.6	7	4.7	162	713
8	13	8.4	19	16	13	7.7	30	18	6	3.4	321	1070
9	21	13	45	37	7	3.7	24	14	7	3.6	337	919
10	362	853	244	403	3	1.5	13	8.8	6	2.9	132	288
11	337	860	163	343	6	2.8	30	22	3	1.4	113	208
12	322	628	166	359	18	10	72	73	7	3.0	67	101
13	308	1210	159	348	423	3080	57	63	13	5.4	37	52
14	273	921	73	133	185	679	67	86	12	5.5	94	143
15	167	358	67	102	97	195	59	76	24	16	37	50
16	118	186	30	40	92	145	45	57	276	1010	33	43
17	66	81	21	23	46	59	43	54	281	933	52	71
18	29	28	13	13	30	31	178	358	98	197	336	1180
19	17	14	12	10	22	21	357	1200	104	168	317	1080
20	18	13	7	5.4	16	14	170	419	60	92	331	862
21	11	7.1	7	5.0	13	9.8	108	199	184	342	289	858
22	8	4.6	7	4.6	8	5.6	74	127	377	2730	264	827
23	9	4.9	12	7.3	10	6.8	334	861	291	1410	141	372
24	8	4.0	118	138	77	57	139	325	207	643	115	271
25	10	4.6	125	190	264	412	130	351	144	361	313	1000
26	10	4.3	474	2300	235	586	141	346	123	254	134	391
27	6	2.4	197	702	267	608	123	250	162	271	82	194
28	8	3.4	137	316	138	239	44	74	78	116	143	323
29	13	6.7	87	147	67	97	37	53	57	79	122	256
30	8	3.3	63	87	71	92	28	34	---	---	56	108
31	6	2.2	---	---	17	19	30	32	---	---	72	138
TOTAL	---	5986.7	---	8449.8	---	6511.3	---	5165.0	---	8924.9	---	17608
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	96	167	560	4850	15	6.2	2	.30	23	12	21	5.3
2	43	73	270	1060	17	6.2	1	.14	7	3.2	12	2.7
3	45	72	107	284	39	14	0	.00	13	5.2	16	3.8
4	201	438	44	90	67	25	2	.32	6	2.2	17	3.6
5	94	194	40	65	17	5.0	13	3.5	8	3.1	20	4.3
6	54	92	37	51	1000	2170	7	1.4	4	1.3	12	2.1
7	40	59	60	72	161	191	4	.59	6	1.9	13	2.3
8	84	294	15	15	35	21	19	3.3	52	23	11	1.8
9	266	1940	8	6.9	19	8.3	2090	6600	73	28	11	1.7
10	37	135	8	6.3	16	5.8	1610	20300	72	29	226	162
11	209	503	6	4.6	13	4.4	1020	12600	61	19	171	60
12	131	252	5	3.5	10	2.9	250	586	13	3.5	32	7.7
13	67	120	4	2.5	9	2.5	745	4000	12	2.9	21	4.3
14	371	1920	4	2.6	9	2.3	310	807	6	1.3	16	2.9
15	271	1650	2	1.1	10	2.5	200	270	5	1.0	14	2.5
16	352	1200	1	.51	122	44	57	51	6	1.4	10	1.5
17	137	332	6	2.9	35	11	47	32	6	1.3	9	1.3
18	78	154	8	4.6	12	2.8	21	11	88	74	8	1.2
19	45	74	63	32	10	2.1	13	5.9	1040	2000	6	.83
20	25	36	331	246	9	1.8	7	2.8	133	102	7	1.0
21	17	21	422	504	8	1.5	6	2.1	46	23	30	5.9
22	13	14	27	18	7	1.4	19	7.0	206	196	62	16
23	10	9.5	13	7.3	17	3.2	70	35	116	92	154	73
24	10	8.7	82	38	16	2.9	15	5.5	53	34	92	29
25	11	8.8	162	202	8	1.4	7	2.1	24	12	41	13
26	21	17	58	50	6	1.1	7	1.9	14	5.3	43	12
27	152	396	22	14	2	.32	45	19	10	3.2	18	4.0
28	190	703	20	10	2	.31	1430	10700	9	2.5	15	3.0
29	173	461	16	7.3	3	.46	200	417	11	6.1	13	2.4
30	1530	27300	21	9.0	3	.46	46	45	291	195	12	2.0
31	---	---	24	11	---	---	34	22	47	15	---	---
TOTAL	---	38644.0	---	7671.11	---	2541.85	---	56531.85	---	2899.4	---	433.13
TOTAL LOAD FOR YEAR: 161367.04 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 current year.

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 those for January and February, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 599 ft³/s (17.0 m³/s) Dec. 9, 1978, gage height, 8.59 ft (2.618 m); minimum daily, 1.5 ft³/s (0.042 m³/s) June 16, 20, 1979, and Sept. 20, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharge 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)
June 6	1300	*488 13.8	6.35 1.935	Aug. 29	2245	423 12.0	6.05 1.844

Minimum daily discharge, 1.5 ft³/s (0.042 m³/s) Sept. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.1	5.1	17	15	11	14	30	100	3.8	2.2	5.3	11
2	8.1	59	14	13	10	13	27	50	3.1	2.2	4.3	5.9
3	9.8	56	11	12	9.4	12	25	30	3.4	2.2	3.6	4.0
4	9.4	33	10	11	8.8	12	30	21	4.8	3.0	3.3	3.3
5	9.8	23	9.8	10	8.2	126	27	17	2.6	4.7	3.0	3.0
6	9.0	18	9.4	9.8	7.6	122	23	13	180	2.7	2.8	3.0
7	8.1	14	9.0	9.4	7.2	64	20	11	91	2.4	3.0	2.8
8	6.4	12	7.3	9.0	6.7	43	73	9.4	35	3.3	4.0	2.5
9	8.6	12	6.1	8.8	6.3	31	183	8.6	19	13	4.0	2.5
10	79	37	5.7	13	5.8	25	84	7.3	13	131	3.6	35
11	55	42	5.4	17	5.5	20	42	7.3	8.8	77	2.8	13
12	35	38	13	22	5.3	17	28	6.4	6.5	30	2.7	6.5
13	42	35	216	23	5.1	17	23	5.4	5.9	60	2.5	4.3
14	39	28	105	25	5.0	22	57	5.1	4.7	29	2.4	3.3
15	28	23	54	22	11	20	69	4.1	4.3	14	2.2	2.7
16	20	19	37	20	64	20	42	3.8	6.5	8.0	3.3	2.7
17	15	15	26	20	53	20	29	3.4	4.3	5.3	2.5	2.4
18	12	13	20	41	39	38	21	4.8	3.6	4.0	3.3	2.1
19	9.8	12	17	51	26	40	17	3.8	3.3	3.0	4.7	1.8
20	8.6	10	15	41	30	35	14	11	3.0	2.8	3.6	1.5
21	7.7	9.0	13	31	44	43	13	11	2.8	2.7	4.0	1.8
22	6.4	8.1	13	29	75	43	11	7.7	2.7	2.4	21	2.1
23	7.3	7.7	12	30	53	37	10	6.4	2.5	2.5	23	2.5
24	6.4	34	15	30	37	40	9.0	5.7	2.7	2.2	12	2.1
25	5.7	43	30	34	29	64	8.6	11	2.7	2.1	6.5	2.1
26	5.4	86	47	33	22	50	8.6	9.4	2.7	2.1	4.0	1.9
27	4.8	56	42	29	19	37	17	7.3	2.5	9.7	3.3	1.8
28	6.1	38	31	23	18	35	20	5.7	2.4	69	2.7	1.8
29	6.1	27	25	19	16	38	22	4.8	2.2	26	29	1.8
30	5.1	20	21	16	---	35	189	4.8	2.4	13	56	1.8
31	5.1	---	17	13	---	33	---	5.1	---	8.0	21	---
TOTAL	484.8	832.9	873.7	680.0	637.9	1166	1172.2	401.3	432.2	539.5	249.4	133.0
MEAN	15.6	27.8	28.2	21.9	22.0	37.6	39.1	12.9	14.4	17.4	8.05	4.43
MAX	79	86	216	51	75	126	189	100	180	131	56	35
MIN	4.8	5.1	5.4	8.8	5.0	12	8.6	3.4	2.2	2.1	2.2	1.5
CFSM	1.28	2.28	2.31	1.80	1.80	3.08	3.21	1.06	1.18	1.43	.66	.36
IN.	1.48	2.54	2.66	2.07	1.94	3.56	3.57	1.22	1.32	1.64	.76	.41

CAL YR	TOTAL	MEAN	MAX	MIN	CFSM	IN
1979	10743.3	29.4	370	1.5	2.41	32.76
1980	7602.9	20.8	216	1.5	1.71	23.18

03199300 ROCK CREEK NEAR DANVILLE--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1979 to current year.

WATER TEMPERATURE: May 1979 to current year.

SUSPENDED-SEDIMENT DISCHARGE: May 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 250 micromhos July 2, 6, 1980; minimum daily, 60 micromhos June 3, 1979.

WATER TEMPERATURES: Maximum daily, 28.0°C July 7, 8, 1980; minimum daily, 2.0°C Jan. 31, Feb. 1, 2, 6, 1980.

SEDIMENT CONCENTRATIONS: Maximum daily, 477 mg/L June 6, 1980; minimum daily, 0 mg/L Feb. 9, 11, 1980.

SEDIMENT LOADS: Maximum daily, 378 tons (343 metric tons) June 6, 1980; minimum daily 0 tons (0 metric tons) Feb. 9, 11, 1980.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 250 micromhos July 2, 6; minimum daily, 80 micromhos Mar. 5.

WATER TEMPERATURES: Maximum daily, 28.0°C July 7, 8; minimum daily, 2.0°C Jan. 31, Feb. 1, 2, 6.

SEDIMENT CONCENTRATIONS: Maximum daily, 477 mg/L June 6; minimum daily, 0 mg/L Feb. 9, 11.

SEDIMENT LOADS: Maximum daily, 378 tons (343 metric tons) June 6; minimum daily, 0 tons (0 metric tons) Feb. 9, 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
OCT								
10...	1130	89	100	6.3	5.0	11.0	--	--
NOV								
07...	1430	12	125	7.3	6.0	9.0	--	--
DEC								
11...	1400	4.9	150	7.2	13.0	6.5	--	--
12...	1255	4.8	150	6.1	19.0	11.0	--	--
13...	1045	220	--	--	--	--	--	--
13...	1220	263	--	--	--	--	--	--
14...	1025	98	--	--	--	--	--	--
JAN								
23...	1440	35	107	6.6	-4.0	3.5	--	--
30...	1030	13	110	7.0	-7.0	.0	--	-7
FEB								
12...	1000	5.0	137	--	-5	.0	--	-7
12...	1552	15	141	--	--	5.0	1	.04
13...	1040	5.4	--	--	--	--	--	--
13...	1540	27	128	--	--	4.0	2	.15
14...	1535	27	127	--	--	4.0	2	.15
15...	1630	27	140	--	--	5.0	393	29
16...	0853	75	141	--	--	5.0	400	81
17...	1548	43	101	--	--	4.0	18	2.1
18...	1548	43	106	--	--	6.0	9	1.0
19...	1646	35	108	--	--	8.0	10	.94
20...	1630	47	150	--	--	7.0	158	20
21...	1548	47	102	--	--	9.0	33	4.2
22...	1536	57	100	--	--	11.0	25	3.8
23...	1536	47	101	--	--	10.0	26	3.3
24...	1433	43	104	--	--	10.0	11	1.3
25...	1515	35	106	--	--	8.0	8	.76
26...	1633	27	151	--	--	5.0	6	.44
28...	1200	25	115	6.8	-3.0	4.5	--	-7
MAR								
05...	1245	131	106	--	--	6.0	648	229
05...	1315	134	107	--	--	6.0	704	255
05...	1325	141	--	--	--	--	--	--
05...	1425	153	104	--	--	7.0	778	321
11...	1550	17	111	--	--	--	5	.23
11...	1650	17	--	--	--	--	--	--
28...	2020	176	120	6.7	11.0	9.0	--	--
APR								
22...	1050	12	115	7.2	23.5	12.5	--	--
29...	1805	34	120	--	14.0	11.0	--	--
30...	1430	265	--	--	--	10.0	--	--
MAY								
28...	0920	18	160	7.1	18.0	16.0	--	--
JUN								
02...	1030	3.0	170	6.7	23.0	19.0	--	-7

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)
JUL						
16...	1635	7.0	150	7.1	32.5	26.0
AUG						
05...	1315	2.7	--	--	31.5	25.0
SEP						
03...	1525	3.4	170	7.3	30.0	25.0
04...	1910	4.3	180	7.8	26.5	25.0

KANAWHA RIVER BASIN

03199300 ROCK CREEK NEAR DANVILLE--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	144	142	113	120	115	112	106	87	160	240	158	154
2	146	86	110	119	123	112	106	94	164	250	154	163
3	132	91	111	120	127	113	104	106	163	238	158	171
4	131	94	110	129	132	112	104	108	164	220	180	177
5	127	99	113	127	133	80	103	110	174	220	177	204
6	132	106	114	133	124	94	104	111	87	250	188	205
7	135	105	130	160	138	99	113	114	115	245	164	178
8	137	106	119	138	148	94	115	118	112	240	178	195
9	139	109	143	129	153	98	84	129	122	157	177	198
10	92	92	125	126	158	98	99	130	130	92	175	124
11	87	104	120	114	149	101	101	130	150	105	174	136
12	104	96	122	114	140	102	106	132	147	112	173	151
13	100	93	116	114	128	102	106	138	153	105	175	179
14	101	146	104	118	127	101	90	138	168	205	184	186
15	104	102	102	106	140	97	97	144	165	210	181	179
16	107	152	100	98	141	97	97	141	174	177	179	176
17	113	124	105	94	101	94	104	149	170	210	157	220
18	114	140	97	94	106	92	108	150	175	210	153	218
19	118	112	110	92	108	90	112	93	180	210	157	216
20	127	110	112	94	150	94	112	111	195	205	171	215
21	141	116	116	107	102	91	122	118	195	205	168	218
22	134	113	119	---	100	92	115	136	200	210	170	220
23	134	118	116	104	101	94	128	133	210	210	169	188
24	133	111	118	100	104	97	126	126	205	215	154	208
25	133	90	102	100	106	87	128	126	220	100	142	208
26	136	84	95	97	151	95	134	118	222	102	153	210
27	141	88	92	101	---	94	98	---	230	104	165	234
28	134	96	94	103	114	96	99	116	230	---	172	231
29	138	103	107	106	113	106	97	143	235	118	180	236
30	139	102	119	114	---	105	100	159	230	135	154	239
31	141	---	115	111	---	104	---	158	---	175	156	---
MEAN	126	108	112	113	126	98	107	126	175	183	168	195

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	8.0	5.0	2.0	3.0	11.0	15.0	22.0	27.0	22.0	18.0
2	---	---	7.0	6.0	2.0	3.0	15.0	16.0	22.0	27.0	23.0	18.0
3	---	---	6.0	7.0	3.0	3.0	11.0	16.0	24.0	24.0	24.0	20.0
4	---	---	7.0	7.0	3.0	4.0	9.0	16.0	20.0	26.0	24.0	22.5
5	---	---	7.0	5.0	3.0	7.0	13.0	17.0	20.0	27.0	17.0	20.0
6	---	---	9.0	5.0	2.0	8.0	14.0	17.0	15.0	27.0	18.0	21.0
7	---	---	9.5	6.0	3.0	9.0	14.0	18.0	17.0	28.0	19.0	19.0
8	---	---	6.0	6.0	3.0	12.0	15.0	15.0	19.0	28.0	20.0	20.0
9	---	13.0	5.0	8.0	4.0	12.0	12.0	16.0	19.0	21.0	19.0	21.0
10	11.0	13.0	6.0	7.0	3.0	12.0	13.0	17.0	21.0	---	20.0	17.0
11	12.0	11.0	9.0	7.0	3.0	7.0	16.0	15.0	21.0	19.0	20.0	18.0
12	13.0	11.0	11.0	8.0	5.0	12.0	16.0	20.0	23.0	20.0	19.0	21.0
13	12.0	11.0	12.0	7.0	4.0	11.0	11.0	19.0	23.0	20.0	19.0	22.0
14	10.0	11.0	8.0	9.0	4.0	6.0	12.0	18.0	24.0	21.0	22.0	23.0
15	12.0	11.0	8.0	8.0	5.0	9.0	11.0	21.0	24.0	21.0	21.0	23.0
16	12.0	9.0	10.0	9.0	5.0	11.0	12.0	22.0	21.0	22.0	21.0	23.0
17	14.0	11.0	5.0	10.0	4.0	7.0	15.0	17.0	22.0	22.0	20.0	23.0
18	14.0	10.0	8.0	9.0	6.0	8.0	16.0	19.0	25.0	23.5	20.0	23.0
19	17.0	12.0	6.0	8.0	8.0	11.0	15.0	18.0	24.0	23.0	17.0	22.0
20	18.0	12.0	6.0	8.0	7.0	10.0	15.0	18.0	25.0	23.0	14.0	22.0
21	17.0	13.0	8.0	8.0	9.0	8.0	16.0	18.0	25.0	21.0	23.0	23.0
22	18.0	14.0	9.0	---	11.0	9.0	16.0	20.0	27.0	20.0	22.0	23.0
23	15.0	14.0	11.0	3.5	10.0	11.0	---	20.0	27.0	22.0	23.0	20.0
24	13.0	12.0	11.5	6.0	10.0	11.0	---	19.5	23.0	22.0	---	20.0
25	14.0	15.0	8.0	8.0	8.0	9.0	14.0	18.0	26.0	17.0	---	21.0
26	14.0	12.0	9.0	8.0	5.0	9.0	12.0	17.0	26.0	18.0	---	21.0
27	12.0	13.0	7.0	8.0	---	12.0	---	---	27.0	19.0	21.0	19.0
28	13.0	9.0	8.0	5.0	6.0	10.0	---	19.0	26.5	---	20.0	18.0
29	11.0	8.0	6.0	5.0	5.0	13.0	11.5	23.0	27.0	19.0	20.0	18.0
30	12.0	7.0	8.0	3.0	---	12.0	14.0	23.0	27.0	22.5	18.0	18.0
31	16.0	---	7.0	2.0	---	11.0	---	23.0	---	21.0	19.0	---
MEAN	13.5	11.5	8.0	6.5	5.0	9.0	13.5	18.5	23.0	22.5	20.0	20.5

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	8	.13	5	.07	6	.27	4	.16	3	.09	5	.19													
2	10	.22	105	19	5	.19	5	.18	4	.11	5	.18													
3	12	.32	28	4.2	11	.33	2	.06	4	.10	7	.23													
4	9	.23	11	.98	7	.19	4	.12	4	.10	6	.19													
5	8	.21	6	.37	5	.13	2	.05	4	.09	284	104													
6	7	.17	5	.24	3	.08	1	.03	3	.06	25	8.2													
7	6	.13	5	.19	4	.10	3	.08	7	.14	20	3.5													
8	5	.09	4	.13	4	.08	4	.10	1	.02	18	2.1													
9	7	.16	6	.20	2	.03	4	.10	0	.00	10	.84													
10	112	24	31	3.1	4	.06	2	.07	1	.02	6	.41													
11	35	5.2	23	2.6	5	.07	5	.23	2	.03	5	.27													
12	24	2.2	16	1.6	22	2.1	5	.30	0	.00	3	.14													
13	61	6.9	14	1.3	153	84	5	.31	1	.01	4	.18													
14	22	2.3	20	1.5	48	14	7	.47	2	.03	4	.24													
15	8	.60	12	.74	32	4.7	4	.24	190	9.1	4	.22													
16	12	.65	7	.36	18	1.8	5	.27	247	37	6	.32													
17	7	.29	8	.33	10	.70	78	4.2	33	4.7	25	1.4													
18	5	.16	6	.22	7	.38	143	16	11	1.2	37	3.8													
19	5	.13	7	.22	4	.18	42	5.8	11	.77	16	1.7													
20	5	.12	3	.08	3	.12	17	1.9	59	5.8	10	.95													
21	5	.10	3	.07	2	.07	18	1.5	80	11	11	1.3													
22	4	.07	2	.04	4	.14	23	1.8	54	11	14	1.6													
23	3	.06	7	.15	3	.10	27	2.2	25	3.6	12	1.2													
24	2	.03	27	2.5	11	.45	5	.41	12	1.2	35	5.2													
25	7	.11	104	12	33	2.7	7	.64	8	.63	38	6.6													
26	5	.07	112	26	94	12	5	.45	7	.42	16	2.2													
27	3	.04	29	4.4	34	3.9	4	.31	6	.31	16	1.6													
28	12	.20	17	1.7	10	.84	15	.93	3	.15	23	2.2													
29	23	.38	11	.79	7	.47	8	.41	4	.17	25	2.6													
30	3	.04	10	.55	5	.28	5	.22	---	---	16	1.5													
31	3	.04	---	---	3	.14	5	.18	---	---	7	.62													
TOTAL	---	45.35	---	85.63	---	130.60	---	39.72	---	87.85	---	155.68													
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER															
1	14	1.1	25	6.8	15	.15	6	.04	4	.06	4	.11													
2	17	1.2	24	3.2	13	.11	7	.04	11	.13	4	.06													
3	21	1.4	7	.57	15	.14	24	.14	9	.09	4	.04													
4	20	1.6	5	.28	38	.49	23	.19	11	.10	4	.04													
5	12	.87	5	.23	22	.15	20	.25	15	.12	7	.06													
6	8	.50	16	.56	477	378	19	.14	11	.08	7	.06													
7	59	3.0	45	1.3	63	19	21	.13	23	.19	5	.04													
8	115	65	42	1.1	17	1.6	55	.49	35	.37	5	.03													
9	123	61	17	.39	13	.67	70	2.3	33	.35	6	.04													
10	22	5.0	10	.20	15	.51	295	104	17	.17	107	15													
11	25	2.8	7	.14	12	.29	59	13	14	.11	8	.27													
12	23	1.7	5	.09	9	.16	82	6.6	29	.21	7	.12													
13	20	1.2	6	.09	7	.11	55	8.9	49	.33	5	.06													
14	86	16	7	.10	5	.06	5	.39	53	.34	6	.05													
15	36	6.7	5	.06	6	.07	2	.07	43	.26	6	.04													
16	17	1.9	5	.05	29	.56	2	.04	41	.37	9	.06													
17	8	.63	4	.04	9	.10	2	.03	41	.28	44	.28													
18	9	.51	6	.08	7	.07	8	.09	104	.93	72	.40													
19	7	.32	12	.12	8	.07	5	.04	53	.67	67	.32													
20	5	.19	191	8.0	8	.06	9	.07	12	.12	69	.28													
21	6	.21	35	1.0	13	.10	2	.01	22	.24	63	.30													
22	6	.18	6	.12	7	.05	2	.01	43	2.9	70	.39													
23	5	.14	4	.07	5	.03	7	.05	4	.25	49	.33													
24	6	.15	34	.52	5	.04	27	.16	7	.22	8	.04													
25	5	.12	35	1.0	5	.04	60	.33	6	.11	4	.02													
26	7	.16	7	.18	7	.05	76	.42	6	.06	3	.02													
27	34	1.6	4	.08	7	.05	97	6.4	15	.13	3	.01													
28	11	.59	9	.14	7	.04	185	57	15	.11	3	.01													
29	37	2.2	13	.17	9	.05	5	.36	157	48	3	.01													
30	252	152	15	.19	7	.04	11	.38	247	46	3	.01													
31	---	---	18	.25	---	---	6	.13	12	.68	---	---													
TOTAL	---	329.97	---	27.12	---	402.86	---	202.20	---	103.98	---	18.50													
TOTAL LOAD FOR YEAR:		1629.46 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 (34.5 km²).

PERIOD OF RECORD.--Water years 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1979 to current year.

WATER TEMPERATURES: May 1979 to current year.

SUSPENDED-SEDIMENT DISCHARGE: May 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 250 micromhos June 30, 1980; minimum daily, 65 micromhos May 28, 1979.

WATER TEMPERATURE: Maximum daily, 28.0°C July 7, 8, 1980; minimum daily, 2.0°C Jan. 31, Feb. 1-3, 6, 1980.

SEDIMENT CONCENTRATIONS: Maximum daily, 1,200 mg/L July 15, 1979; minimum daily, 0 mg/L Feb. 9, 1980.

SEDIMENT LOADS: Maximum daily, 533 tons (484 metric tons) July 15, 1979; minimum daily, 0 ton (0 metric tons) Feb. 9, 1980.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 250 micromhos June 30; minimum daily, 77 micromhos Dec. 13.

WATER TEMPERATURES: Maximum daily, 28.0°C July 7, 8; minimum daily, 2.0°C Jan. 31, Feb. 1-3, 6.

SEDIMENT CONCENTRATIONS: Maximum daily, 551 mg/L Aug. 30; minimum daily, 0 mg/L Feb. 9.

SEDIMENT LOADS: Maximum daily, 404 tons (367 metric tons) June 6; minimum daily, 0.02 ton (0 metric tons) Feb. 9.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)
JAN 23...	1350	120	6.2	-4.0	4.0
FEB 28...	1330	110	6.8	-3.0	4.5
MAR 28...	2040	130	--	11.0	9.0
APR 29...	1815	100	--	9.0	11.0
MAY 30...	1410	--	--	--	10.5
JUN 28...	0930	160	7.4	20.0	16.0
JUL 26...	1730	230	7.6	31.5	24.0
SEP 30...	1740	120	7.7	31.0	24.5
SEP 04...	1920	195	7.7	26.5	25.0

KANAWHA RIVER BASIN

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03199320 ROCK CREEK AT ROCK CREEK, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	180	144	105	113	115	147	110	100	159	240	154	157
2	164	85	106	119	125	142	110	94	177	240	151	157
3	174	94	108	121	127	118	106	105	170	220	173	170
4	139	91	108	124	132	113	---	106	167	220	164	175
5	166	100	109	123	132	112	106	110	176	225	190	186
6	147	109	113	131	125	95	108	115	92	235	181	188
7	135	108	121	160	140	138	112	114	115	240	161	194
8	164	107	118	136	151	95	116	118	116	240	184	198
9	159	110	119	127	184	98	86	146	131	160	163	228
10	112	94	124	122	158	99	102	134	132	97	170	124
11	139	128	125	106	144	109	100	132	142	100	155	138
12	112	107	150	110	143	106	106	134	148	104	163	148
13	113	95	77	111	127	118	108	138	155	102	173	174
14	105	96	82	113	128	106	83	138	170	200	180	195
15	104	106	103	116	141	98	97	142	171	205	184	201
16	120	107	107	98	141	98	100	159	174	177	184	206
17	114	102	112	95	102	92	115	153	175	200	156	216
18	119	106	110	95	111	92	104	152	197	205	157	238
19	131	116	116	92	108	90	125	---	175	205	155	213
20	127	111	121	94	150	92	134	92	195	205	167	210
21	138	116	124	97	105	90	126	120	---	205	173	236
22	142	111	128	97	100	90	126	126	200	205	174	216
23	135	117	123	126	102	92	131	134	200	210	170	186
24	134	90	108	105	104	96	126	165	205	215	147	209
25	135	90	100	101	106	86	130	124	215	97	147	208
26	137	86	---	100	150	92	127	121	210	101	154	223
27	146	87	100	101	---	92	104	120	220	106	174	232
28	135	96	104	148	115	95	99	136	220	102	175	234
29	140	106	114	110	114	108	97	134	240	116	177	238
30	140	101	141	117	---	106	100	162	250	132	154	235
31	143	---	116	113	---	106	---	162	---	174	156	---
MEAN	137	104	113	114	128	104	110	130	176	177	167	198

TEMPERATURE, WATER (DEG. C) WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	18.0	8.0	5.0	2.0	3.0	11.0	15.0	22.0	27.0	21.0	18.0
2	---	14.0	7.0	6.0	2.0	3.0	15.0	16.0	22.0	27.0	20.0	18.0
3	---	13.0	6.0	7.0	2.0	3.0	11.0	16.0	24.0	25.0	21.0	20.0
4	---	13.0	7.0	7.0	3.0	4.0	9.0	16.0	20.0	26.0	24.0	21.0
5	---	13.0	7.0	5.0	3.0	7.0	13.0	17.0	22.0	27.0	23.0	20.0
6	---	12.0	9.0	5.0	2.0	8.0	14.0	17.0	15.0	27.0	18.0	21.0
7	---	11.0	8.0	6.0	3.0	9.0	14.0	18.0	17.0	28.0	19.0	19.0
8	---	11.0	6.0	6.0	3.0	12.0	15.0	18.0	19.0	28.0	20.0	20.0
9	---	12.0	5.0	8.0	4.0	12.0	12.0	16.0	19.0	27.0	19.0	21.0
10	---	13.0	6.0	7.0	3.0	13.0	13.0	17.0	21.0	15.0	20.0	17.0
11	---	11.0	9.0	7.0	3.0	7.0	16.0	15.0	---	19.0	20.0	18.0
12	---	11.0	11.0	8.0	5.0	12.0	10.0	20.0	---	20.0	19.0	21.0
13	---	11.0	9.0	7.0	4.0	11.0	11.0	19.0	---	20.0	19.0	22.0
14	---	11.0	8.5	9.0	4.0	6.0	12.0	18.0	---	21.0	22.0	---
15	12.0	11.0	8.0	9.0	5.0	9.0	11.0	21.0	---	21.0	21.0	23.0
16	12.0	9.0	10.0	9.0	5.0	11.0	12.0	22.0	---	22.0	21.0	23.0
17	14.0	11.0	5.0	10.0	4.0	7.0	15.0	17.0	22.0	22.0	20.0	20.0
18	14.0	10.0	5.0	9.0	6.0	8.0	16.0	19.0	24.0	22.0	20.0	23.0
19	17.0	12.0	6.0	8.0	8.0	11.0	15.0	---	24.0	23.0	17.0	22.0
20	18.0	13.0	6.0	8.0	7.0	10.0	15.0	19.0	---	23.0	14.0	22.0
21	17.0	13.0	8.0	8.0	9.0	8.0	16.0	18.0	---	---	23.0	23.0
22	18.0	14.0	9.0	9.0	11.0	9.0	16.0	20.0	27.0	20.0	22.0	---
23	15.0	14.0	---	5.0	10.0	11.0	---	19.0	27.0	22.0	22.0	25.0
24	13.0	12.0	11.5	6.0	10.0	11.0	---	19.5	23.0	22.0	---	20.0
25	14.0	15.0	8.0	8.0	8.0	9.0	---	18.0	26.0	17.0	---	21.0
26	14.0	12.0	9.0	8.0	5.0	9.0	12.0	19.0	25.0	18.0	---	21.0
27	12.0	13.0	7.0	8.0	---	12.0	---	21.0	27.0	19.0	21.0	19.0
28	13.0	9.0	8.0	5.0	4.5	9.5	---	19.5	27.0	17.0	21.0	18.0
29	11.0	8.0	6.0	5.0	5.0	---	11.5	23.0	27.0	19.0	22.0	18.0
30	12.0	7.0	8.0	3.0	---	---	14.0	23.0	27.0	20.0	18.0	18.0
31	16.0	---	7.0	2.0	---	---	---	23.0	---	21.0	19.0	---
MEAN	14.0	12.0	7.5	7.0	5.0	8.5	13.0	18.5	23.0	22.0	20.0	20.5

KANAWHA RIVER BASIN

03199320 ROCK CREEK AT ROCK CREEK, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	7	.11	4	.06	6	.28	2	.08	2	.06	6	.23
2	18	.39	181	40	5	.19	3	.11	2	.05	5	.18
3	30	.79	132	21	14	.42	1	.03	3	.08	5	.16
4	9	.23	15	1.3	8	.22	4	.12	4	.10	6	.19
5	8	.21	11	.68	5	.13	2	.05	4	.09	331	131
6	7	.17	5	.24	3	.08	2	.05	2	.04	30	9.9
7	7	.15	40	1.5	6	.14	2	.05	2	.04	26	4.5
8	7	.12	4	.13	4	.08	3	.07	1	.02	20	2.3
9	15	.35	12	.39	2	.03	4	.10	0	.00	10	.84
10	132	30	28	2.8	4	.06	1	.04	1	.02	6	.40
11	47	7.0	24	2.7	5	.07	5	.22	2	.03	7	.38
12	35	3.3	16	1.6	20	.97	5	.30	12	.17	4	.18
13	61	6.9	15	1.4	200	117	5	.31	2	.03	4	.18
14	20	2.1	22	1.7	56	16	4	.27	5	.07	4	.24
15	8	.60	15	.93	33	4.8	9	.53	162	6.1	4	.22
16	9	.45	8	.41	18	1.8	6	.32	294	49	6	.32
17	7	.28	13	.53	9	.63	84	4.5	33	4.7	25	1.4
18	4	.13	8	.28	5	.27	149	16	13	1.4	37	3.8
19	5	.13	5	.16	4	.18	47	6.5	12	.84	15	1.6
20	4	.09	3	.08	3	.12	17	1.9	57	6.1	10	.95
21	5	.10	3	.07	2	.07	16	1.3	81	12	11	1.3
22	7	.12	2	.04	2	.07	20	1.6	71	15	14	1.6
23	5	.10	13	.27	2	.06	30	2.4	27	3.9	15	1.5
24	2	.03	30	2.8	13	.53	5	.40	15	1.5	38	5.8
25	2	.03	70	8.3	33	2.7	9	.83	7	.55	48	8.3
26	2	.03	112	26	94	12	5	.45	8	.48	14	1.9
27	4	.05	29	4.4	34	3.9	3	.23	6	.31	13	1.3
28	140	3.4	17	1.7	8	.67	12	.74	6	.29	22	2.1
29	45	.83	11	.80	3	.20	5	.26	4	.17	27	2.8
30	2	.03	10	.54	3	.17	4	.17	---	---	24	2.3
31	2	.03	---	---	3	.14	3	.11	---	---	12	1.1
TOTAL	---	58.25	---	122.81	---	163.98	---	40.04	---	103.14	---	188.97
APRIL			MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	17	1.4	50	14	13	.13	24	.14	17	.24	10	.30
2	31	2.3	27	3.6	18	.15	16	.10	13	.15	5	.08
3	28	1.9	11	.89	18	.17	30	.18	7	.07	6	.06
4	24	1.9	7	.40	55	.71	25	.20	11	.10	23	.20
5	9	.66	5	.23	23	.16	25	.32	27	.22	14	.11
6	12	.75	20	.70	500	404	26	.19	25	.19	10	.08
7	70	3.6	57	1.7	75	.10	16	.10	26	.21	7	.05
8	142	63	57	1.4	33	3.1	65	.58	35	.38	10	.07
9	213	105	22	.51	63	3.2	70	2.3	41	.44	8	.05
10	53	12	13	.26	21	.73	350	124	22	.21	132	16
11	14	1.6	11	.22	7	.17	95	20	22	.17	7	.25
12	16	1.2	8	.14	11	.19	66	6.5	57	.42	3	.05
13	16	.99	8	.12	10	.16	82	13	78	.53	2	.02
14	106	21	7	.10	5	.06	12	.94	60	.39	4	.04
15	38	7.1	5	.06	6	.07	7	.26	58	.34	12	.09
16	5	.57	5	.05	27	.59	11	.24	55	.49	5	.04
17	5	.39	4	.04	7	.08	7	.10	50	.34	52	.34
18	11	.62	4	.05	10	.10	5	.05	103	.92	72	.41
19	10	.46	9	.09	9	.08	5	.04	56	.71	71	.35
20	12	.45	191	8.0	11	.09	6	.05	13	.13	68	.28
21	10	.35	47	1.4	18	.14	7	.05	22	.24	65	.32
22	7	.21	7	.15	13	.09	12	.08	52	3.3	68	.39
23	7	.21	7	.12	11	.07	12	.08	7	.43	57	.38
24	6	.15	97	.57	9	.07	27	.16	9	.29	11	.06
25	5	.12	42	1.2	12	.09	78	.44	8	.14	4	.02
26	5	.12	17	.43	11	.08	77	.44	7	.08	3	.02
27	48	2.2	7	.14	9	.06	64	2.1	19	.17	4	.02
28	14	.76	7	.11	12	.08	182	41	16	.12	6	.03
29	40	2.4	18	.23	15	.09	27	1.9	72	31	23	.11
30	286	163	17	.22	14	.09	17	.60	551	84	9	.04
31	---	---	13	.18	---	---	12	.26	43	2.4	---	---
TOTAL	---	396.41	---	37.31	---	436.80	---	216.40	---	128.82	---	20.26
TOTAL LOAD FOR YEAR:			1913.19		TONS.							

KANAWHA RIVER BASIN

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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 3, 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 March, which are fair, and those for January and February, which are poor.

AVERAGE DISCHARGE.--6 years, 582 ft³/s (16.48 m³/s), 24.78 in/yr (629 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) (m ³ /s)	Gage height (ft) (m)	Date	Time	Discharge (ft ³ /s) (m ³ /s)	Gage height (ft) (m)
Mar. 6	0400	4880 138	12.58 3.834	Apr. 30	1800	*8780 249	17.90 5.480
July 11	0300	8440 239	17.58 5.358				

Minimum daily discharge, 52 ft³/s (1.47 m³/s) July 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	225	147	512	428	430	526	876	4120	177	53	224	128
2	229	1170	437	378	380	490	824	2090	156	52	194	102
3	476	1740	363	333	360	470	753	1390	147	57	168	99
4	410	996	330	315	340	460	1060	1020	165	57	152	98
5	380	655	308	290	310	2150	1040	776	131	106	154	81
6	320	500	294	275	290	4060	820	634	916	85	139	84
7	296	419	276	265	270	2210	662	533	673	65	129	75
8	248	363	246	255	250	1740	792	446	292	60	192	68
9	238	343	220	250	240	1400	3570	388	203	1140	180	62
10	1210	753	207	287	225	1070	2050	348	168	3610	182	256
11	1390	1130	196	348	215	896	1330	325	149	4480	138	188
12	964	1080	218	449	205	526	1000	301	133	1160	121	124
13	1360	1110	3400	494	195	610	856	266	121	2630	105	104
14	1740	916	2440	564	200	694	1990	270	115	1260	95	92
15	1080	701	1240	578	278	610	3110	240	108	641	98	89
16	725	589	848	557	1380	582	1890	211	129	416	96	75
17	512	470	638	554	2000	596	1350	198	137	310	95	71
18	393	410	482	892	1200	1410	1020	232	102	250	102	66
19	333	363	422	1750	892	1680	804	202	92	212	631	62
20	289	318	373	1360	792	1300	666	335	85	185	315	59
21	260	287	323	976	1060	1510	564	503	79	167	212	75
22	229	266	296	800	2770	1550	485	325	75	153	375	107
23	218	248	278	1250	2340	1340	434	258	74	196	335	172
24	203	592	306	1200	1580	1150	388	246	74	170	286	136
25	185	868	690	1300	1200	1730	358	634	69	146	216	124
26	173	2320	1250	1290	988	1550	340	407	68	133	165	120
27	164	2030	1210	1060	757	1230	960	287	63	144	138	98
28	167	1290	904	800	722	1070	1760	234	59	2450	118	89
29	203	864	655	645	634	1100	1250	198	59	908	105	81
30	168	638	578	547	---	968	5470	180	60	721	355	74
31	156	---	494	480	---	928	---	191	---	284	174	---
TOTAL	14944	23576	20434	20970	22503	37606	38472	17788	4879	22301	5989	3059
MEAN	482	766	659	676	776	1213	1282	574	163	719	193	102
MAX	1740	2320	3400	1750	2770	4060	5470	4120	916	4480	631	256
MIN	156	147	196	250	195	460	340	180	59	52	95	59
CFSM	1.51	2.46	2.07	2.12	2.43	3.80	4.02	1.80	.51	2.25	.61	.32
IN.	1.74	2.75	2.38	2.45	2.62	4.39	4.49	2.07	.57	2.60	.70	.36

CAL YR 1979	TOTAL	306615	MEAN 840	MAX 9560	MIN 77	CFSM 2.63	IN 35.76
WTR YR 1980	TOTAL	232521	MEAN 635	MAX 5470	MIN 52	CFSM 1.99	IN 27.12

KANAWHA RIVER BASIN

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 metric tons) Jan. 26, 1978; minimum daily, 0 ton (0 metric ton) several days in 1975, 1977, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,030 micromhos July 1, 2, 4; minimum daily, 134 micromhos July 10.

WATER TEMPERATURES: Maximum daily, 30.0°C Aug. 11; minimum daily, 0.0°C Feb. 1, 2, 4, Mar. 2.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,000 mg/L July 9; minimum daily mean, 2 mg/L June 30.

SEDIMENT LOADS: Maximum daily, 31,400 tons (28,500 metric tons) Apr. 30; minimum daily, 0.32 ton (0.29 metric ton) June 30.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)
OCT							
22...	1320	227	--	--	--	17.0	--
NOV							
07...	1015	413	390	7.5	6.0	8.5	--
DEC							
10...	1320	207	526	7.5	15.0	4.0	--
12...	1200	184	550	6.3	--	10.5	--
JAN							
23...	1335	--	300	6.6	-4.0	4.0	--
29...	1300	609	350	7.2	3.0	-5	--
FEB							
12...	1355	230	--	--	--	--	--
28...	1400	768	230	6.7	-3.0	6.0	--
MAR							
07...	1440	2140	177	--	--	7.0	--
12...	1150	659	350	7.1	7.0	4.0	--
25...	0940	1880	240	7.2	6.5	9.0	--
28...	2110	1270	290	7.0	11.5	9.5	--
APR							
22...	1230	492	400	7.2	25.5	15.0	--
29...	1840	1150	250	--	9.0	10.5	--
30...	1300	6910	164	--	--	10.0	--
MAY							
28...	0950	225	530	7.9	20.0	17.5	--
JUN							
04...	1100	173	650	7.3	21.0	21.0	--
26...	1800	68	950	8.5	29.5	25.5	--
JUL							
16...	0940	409	370	6.9	32.0	22.5	--
30...	1810	358	320	7.7	30.0	24.0	--
AUG							
19...	0945	824	360	7.5	24.0	22.0	150
SEP							
04...	1530	92	--	--	--	--	--
04...	1945	90	800	8.1	28.0	26.0	--

03199400 LITTLE COAL RIVER AT JULIAN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)
NOV 07...	91	59	.0	.0	20	10	29	1.3	32	110	4.0	--
DEC 10...	140	91	.0	.0	32	15	47	1.7	51	190	6.2	--
JAN 29...	98	64	.0	.0	21	11	25	1.1	34	98	3.8	--
MAR 07...	--	--	--	--	--	--	--	--	--	--	--	--
12...	90	65	.1	5.0	18	11	16	.7	32	82	4.8	--
24...	--	--	--	--	--	--	--	--	16	--	--	--
25...	72	48	.1	5.0	15	8.3	17	.9	25	69	3.9	--
28...	--	--	--	--	--	--	--	--	--	--	--	--
APR 22...	110	78	--	--	24	13	35	1.4	40	130	5.1	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 04...	140	68	--	--	33	15	78	2.8	80	200	9.9	--
JUL 16...	100	66	.2	10	22	12	28	1.2	41	110	5.3	--
AUG 19...	120	79	.0	.0	26	12	34	1.5	36	130	4.6	5.6

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)
NOV 07...	203	.28	226	--	--	--	--	--	2200	--	50	--
DEC 10...	--	--	--	--	--	--	--	--	310	310	0	--
JAN 29...	198	.27	326	--	--	--	--	--	780	770	10	--
MAR 07...	--	--	--	--	--	--	--	--	--	--	--	--
12...	180	.24	320	--	--	--	--	--	--	0	20	--
24...	--	--	--	--	--	--	--	--	--	--	--	--
25...	153	.21	777	--	--	--	--	--	7200	7200	40	--
28...	--	--	--	--	--	--	--	--	--	--	--	--
APR 22...	247	.34	328	--	--	--	--	--	510	500	10	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 04...	445	.61	208	--	--	--	--	--	3700	3700	40	--
JUL 16...	214	.29	236	--	--	--	--	--	1700	1700	20	--
AUG 19...	237	.32	527	50	4	5	<3	<10	6900	6900	14	<10

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
NOV 07...	--	110	50	60	--	--	--	--	--	--	--	--
DEC 10...	--	210	140	70	--	--	--	--	--	--	--	--
JAN 29...	--	100	0	100	--	--	--	--	--	--	--	--
MAR 07...	--	--	--	--	--	--	--	--	--	--	181	1050
12...	--	--	--	40	--	--	--	--	--	--	65	116
24...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	190	140	50	--	--	--	--	--	51.0	--	--
28...	--	--	--	--	--	--	--	--	--	--	173	593
APR 22...	--	80	20	60	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	2511	46800
JUN 04...	--	140	90	50	--	--	--	--	--	--	--	--
JUL 16...	--	100	50	50	--	--	--	--	--	--	--	--
AUG 19...	17	180	130	50	<10	470	<6.0	17	21	--	1750	3890

KANAWHA RIVER BASIN

03199400 LITTLE COAL RIVER AT JULIAN, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	452	674	277	352	395	---	303	202	654	1030	---	588
2	484	385	324	375	428	300	308	268	668	1030	---	668
3	356	201	350	409	---	304	316	328	675	---	---	708
4	359	248	374	440	493	307	273	340	655	1030	650	772
5	408	285	---	---	478	241	264	362	712	1000	675	802
6	394	330	400	469	487	136	295	408	288	950	---	812
7	414	370	398	483	482	171	316	432	272	875	---	709
8	434	378	422	502	547	185	340	436	---	950	---	846
9	---	---	453	472	523	207	159	469	495	310	575	890
10	302	350	477	485	539	227	204	490	570	134	610	---
11	222	268	583	472	536	246	262	---	654	160	680	528
12	238	262	536	398	512	292	288	530	735	240	660	---
13	207	260	240	377	---	289	---	542	752	170	728	698
14	193	266	168	349	547	281	214	558	790	230	785	770
15	290	---	212	339	---	---	174	574	812	325	753	818
16	280	326	263	345	---	287	224	---	---	360	812	840
17	322	364	287	328	261	284	271	621	778	650	880	886
18	693	400	---	324	---	223	302	630	778	700	896	938
19	---	406	361	---	291	180	320	608	818	---	287	960
20	---	363	373	246	---	242	358	512	900	195	274	1010
21	---	---	382	288	269	213	380	492	965	270	495	1010
22	483	406	424	314	158	234	288	441	930	330	440	820
23	---	423	442	300	183	244	412	518	995	---	405	---
24	517	320	---	249	230	---	421	561	980	---	412	575
25	550	257	355	249	---	244	462	385	960	---	472	662
26	---	192	273	243	288	239	478	439	975	---	545	698
27	592	169	224	261	316	262	368	---	1010	---	609	720
28	---	201	237	293	230	248	205	525	1020	---	673	760
29	659	238	273	310	281	280	240	578	---	---	728	830
30	597	275	307	353	---	288	145	618	1020	---	343	860
31	648	---	320	---	---	295	---	582	---	---	448	---
MEAN	421	319	348	358	385	248	296	480	773	547	593	784
WTR YR 1980	MEAN	459	MAX	1030	MIN	134						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	17.0	6.5	3.0	.0	---	12.0	13.0	24.0	25.5	---	26.5
2	19.0	13.0	3.5	5.5	.0	.0	15.0	14.0	23.0	28.0	---	26.5
3	18.0	12.0	3.5	5.5	---	1.0	15.5	15.0	23.0	---	---	26.0
4	16.0	11.0	4.0	---	.0	---	13.0	16.5	23.0	25.0	---	26.5
5	17.0	11.5	---	---	1.0	6.0	12.0	18.0	24.5	27.0	---	27.5
6	15.0	10.0	4.0	5.5	.5	8.0	13.0	18.5	20.0	27.0	---	27.0
7	13.0	10.5	5.0	3.5	.5	---	14.0	19.0	21.0	27.0	---	25.5
8	14.0	10.0	5.0	2.0	1.5	---	15.0	17.0	---	28.0	---	25.5
9	---	---	5.5	3.0	5.0	---	13.0	16.5	21.5	23.5	27.0	26.0
10	12.0	11.5	2.0	1.5	2.5	---	---	15.0	20.5	---	27.5	23.0
11	12.0	10.0	2.5	8.0	2.5	---	14.0	---	21.0	20.0	30.0	---
12	13.0	9.5	5.5	5.5	---	---	14.0	21.0	23.0	22.0	27.5	---
13	12.0	9.5	9.0	6.0	---	---	---	22.0	22.0	24.0	26.0	26.5
14	11.5	9.0	7.0	7.0	4.5	---	12.0	19.0	23.0	23.0	27.0	25.5
15	13.0	---	5.0	7.0	---	---	9.5	19.0	25.0	24.5	26.0	23.5
16	13.0	10.0	7.0	9.0	---	---	12.0	---	---	27.0	24.0	24.0
17	14.0	10.0	2.5	9.5	---	---	12.0	20.0	22.5	27.5	25.5	23.5
18	---	10.0	---	9.5	---	---	14.0	20.0	23.0	27.5	25.0	22.5
19	---	10.0	6.5	---	7.5	---	15.0	21.0	23.5	27.0	23.0	23.0
20	---	13.0	3.0	5.5	6.0	10.5	17.0	18.5	24.0	29.0	---	24.0
21	---	---	4.0	7.0	9.0	10.0	18.5	19.0	23.0	29.0	26.5	24.0
22	17.0	11.5	4.5	7.5	10.0	9.5	---	22.0	24.5	27.0	24.0	21.0
23	---	13.5	9.0	5.5	10.0	9.0	20.0	22.0	24.5	26.0	24.0	---
24	12.0	12.0	---	---	8.0	---	20.0	22.0	24.0	26.0	24.5	21.5
25	11.0	14.0	7.5	---	9.0	9.0	18.0	---	22.5	28.0	25.5	22.0
26	---	13.0	7.0	6.5	3.0	9.5	14.0	20.0	25.0	26.5	26.0	21.0
27	10.0	11.0	7.5	6.0	4.0	11.0	13.0	21.0	27.0	---	26.5	19.0
28	---	10.0	5.5	5.5	4.0	9.5	12.0	22.0	28.0	20.5	27.0	17.5
29	15.0	6.0	6.0	4.0	---	13.0	10.5	23.0	---	23.0	27.0	18.5
30	15.0	6.5	7.0	2.0	---	13.0	10.5	24.0	25.0	24.0	23.5	19.0
31	16.0	---	3.5	---	---	13.0	---	22.0	---	---	25.0	---
MEAN	14.5	11.0	5.5	5.5	4.0	9.0	14.0	19.5	23.5	25.5	26.0	23.5
WTR YR 1980	MEAN	15.5	MAX	30.0	MIN	.0						

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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)	MEAN CONCENTRATION (MG/L)	LOADS (T/DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH			
1	27	16	13	5.2	25	35	18	21	17	20	43	61		
2	77	48	227	930	18	21	14	14	18	18	32	42		
3	147	189	105	492	17	17	19	17	15	15	32	41		
4	90	100	63	169	22	20	20	17	12	11	56	70		
5	83	85	37	65	26	22	17	13	12	10	665	5680		
6	96	83	31	42	28	22	13	9.7	14	11	570	6250		
7	42	34	33	37	20	15	17	12	12	8.7	187	1120		
8	26	17	14	14	15	10	28	19	17	11	120	564		
9	30	19	23	21	13	7.7	32	22	31	20	106	400		
10	350	1140	214	393	10	5.6	32	25	13	7.9	72	208		
11	200	751	74	225	16	8.5	48	45	6	3.5	50	121		
12	88	229	225	680	16	9.4	90	109	17	9.4	55	78		
13	400	1470	105	315	391	3380	54	72	26	14	57	94		
14	325	1530	45	111	180	1190	34	52	32	17	43	81		
15	100	292	36	68	86	288	32	50	53	40	32	53		
16	78	153	29	46	52	119	43	65	682	2920	23	36		
17	40	55	24	30	32	55	63	94	270	1460	31	50		
18	31	33	17	19	22	29	162	515	188	607	256	1180		
19	28	25	13	13	18	21	210	996	116	279	161	730		
20	25	20	20	17	15	15	97	357	123	263	97	341		
21	22	15	20	16	15	13	45	119	303	864	157	640		
22	17	10	14	10	30	24	48	104	1080	8560	122	511		
23	15	8.8	14	9.4	17	13	486	1640	350	2210	77	278		
24	13	7.1	96	153	13	11	450	1460	142	607	53	165		
25	15	7.5	187	438	144	291	175	616	67	217	124	579		
26	14	6.5	800	5010	853	821	97	337	63	168	113	473		
27	24	11	230	1260	97	318	42	120	60	123	52	172		
28	36	16	101	351	72	176	36	78	56	109	87	251		
29	54	30	52	121	55	97	25	44	62	106	92	272		
30	12	5.4	39	67	45	70	18	27	---	---	44	115		
31	13	5.5	---	---	23	31	17	22	---	---	43	108		
TOTAL	---	6411.8	---	11127.6	---	7155.2	---	7091.7	---	18709.5	---	20764		
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER			
1	65	154	640	7110	37	18	3	.43	36	22	27	9.3		
2	50	111	186	1050	34	14	4	.56	26	14	24	6.6		

KANAWHA RIVER BASIN

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 Highway 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).

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.

REMARKS.--Water-discharge records based on once-daily observations of gage height at station.

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 mean, 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 metric tons) Jan. 26, 1978; minimum daily, 0 tons (0 metric ton) Nov. 22, 1977, June 23, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 675 micromhos July 2, 3; minimum daily observed, 128 micromhos May 1, July 19.

WATER TEMPERATURES: Maximum daily observed, 30.0°C July 21; minimum daily observed, 0.0°C Feb. 18.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,220 mg/L July 11; minimum daily mean, 1 mg/L June 29, 30, July 2, 3.

SEDIMENT LOADS: Maximum daily, 70,100 tons (63,600 metric tons) July 11; minimum daily, 0.30 ton (0.27 metric ton) July 2, 3.

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	272	378	224	227	---	---	239	128	419	650	350	---
2	271	270	234	232	---	---	238	194	455	675	---	399
3	260	169	246	248	---	---	255	238	462	675	430	425
4	212	155	262	---	---	---	224	260	480	---	508	465
5	223	176	278	---	---	225	250	---	477	590	490	506
6	221	197	---	274	---	165	---	---	237	590	481	---
7	234	214	---	300	---	151	244	---	204	560	---	519
8	242	228	---	315	---	174	254	340	221	---	522	538
9	244	240	---	314	---	188	189	355	254	348	542	540
10	184	231	315	295	---	208	166	370	281	---	487	347
11	170	196	333	---	---	226	198	380	331	---	502	348
12	165	176	315	---	---	252	224	405	346	190	510	402
13	176	175	138	244	461	251	---	415	388	210	500	---
14	153	165	140	216	---	263	216	420	---	170	545	432
15	161	177	166	205	---	259	164	---	420	245	579	476
16	184	197	184	207	---	282	169	430	455	270	579	502
17	204	213	202	214	---	---	200	450	450	320	548	511
18	250	232	---	223	176	269	236	450	450	202	---	537
19	263	253	232	180	192	188	256	450	---	128	284	538
20	282	262	240	166	207	198	266	350	---	400	259	505
21	---	264	254	188	213	214	292	375	---	420	273	519
22	---	---	---	223	181	203	304	350	---	450	212	509
23	---	---	266	---	153	245	319	343	---	---	225	462
24	---	234	---	196	179	230	328	---	---	460	236	475
25	339	231	239	---	202	216	---	340	600	460	262	418
26	---	189	196	192	---	195	343	321	600	500	325	425
27	---	134	160	195	234	218	319	330	600	520	362	457
28	---	156	170	211	---	227	170	348	625	360	---	468
29	---	179	---	231	---	234	---	398	625	210	401	475
30	---	198	202	---	---	232	146	405	625	270	392	503
31	---	---	204	---	---	236	---	---	---	330	319	---
MEAN	224	210	226	230	220	221	239	354	435	392	412	470
WTR YR 1980	MEAN	309	MAX	675	MIN	128						

KANAWHA RIVER BASIN

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03199700 COAL RIVER AT ALUM CREEK, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.0	---	4.0	2.0	---	---	11.0	10.0	23.0	26.0	26.0	---
2	18.0	13.0	3.0	4.0	---	---	14.0	13.0	23.0	26.0	---	25.0
3	16.0	10.0	3.0	4.0	---	---	15.0	16.0	24.0	25.0	27.0	26.0
4	15.0	10.0	2.0	---	---	---	11.0	16.0	23.0	---	26.0	27.0
5	15.0	10.0	---	---	---	3.0	12.0	---	23.0	27.0	26.0	27.0
6	14.0	10.0	---	3.0	---	5.0	---	---	19.0	27.0	28.0	---
7	13.0	9.0	---	---	---	---	12.0	---	19.0	27.0	---	26.0
8	13.0	8.0	---	---	---	10.0	12.0	16.0	20.0	---	27.0	---
9	13.0	9.0	---	3.0	---	---	12.0	15.0	20.0	23.5	27.0	26.0
10	12.0	10.0	4.0	4.0	---	11.0	13.0	16.0	20.0	20.5	28.0	23.0
11	13.0	10.0	5.0	---	---	8.0	12.0	17.0	19.0	19.0	29.0	22.0
12	12.0	9.0	6.0	---	---	4.0	14.0	17.0	21.0	21.0	27.0	---
13	11.0	9.0	8.0	4.0	---	5.0	---	18.0	22.0	21.0	27.0	25.0
14	10.0	8.0	6.0	5.0	---	5.0	10.0	19.0	---	24.0	27.0	25.0
15	10.0	8.0	6.0	5.5	---	6.0	10.0	---	24.0	25.0	26.0	24.0
16	17.0	7.0	5.0	5.0	---	8.0	8.0	19.0	20.0	25.0	---	25.0
17	14.0	7.0	2.0	9.0	---	---	8.0	19.0	23.0	27.0	---	---
18	---	9.0	---	8.0	.0	9.0	14.0	19.0	23.0	27.0	---	23.0
19	---	8.0	3.0	5.0	4.0	9.0	15.0	20.0	---	---	23.0	25.0
20	15.0	10.0	5.0	5.0	4.0	9.0	16.0	18.0	---	29.0	23.0	24.0
21	18.0	9.0	4.0	5.0	6.0	9.0	16.0	18.0	---	30.0	25.0	24.0
22	18.0	---	---	4.0	9.0	8.0	17.0	20.0	---	27.0	23.0	24.0
23	---	---	7.0	---	9.0	8.0	18.0	21.0	---	---	21.0	21.0
24	---	11.0	---	4.0	8.0	10.0	19.0	---	---	25.0	23.0	21.0
25	11.0	13.0	5.0	---	5.0	9.0	---	20.0	---	27.0	24.0	21.0
26	---	13.0	6.0	5.0	---	8.0	14.0	20.0	22.0	28.0	25.0	20.0
27	---	11.0	5.0	5.0	4.0	10.0	12.0	20.0	23.0	28.0	25.0	20.0
28	---	---	5.0	4.0	---	10.0	---	21.0	26.0	23.0	---	19.0
29	---	5.0	---	3.0	---	10.0	---	22.0	26.0	23.0	27.0	19.0
30	---	4.0	5.0	---	---	13.0	10.0	23.0	26.0	25.0	24.0	18.0
31	---	---	2.5	---	---	13.0	---	---	---	27.0	25.0	---
MEAN	14.0	9.0	4.5	4.5	5.5	8.5	13.0	18.0	22.0	25.5	25.5	23.0

03199700 COAL RIVER AT ALUM CREEK, WV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER				NOVEMBER			DECEMBER		
1	637	29	50	332	12	11	1320	43	153
2	582	52	82	1470	296	1170	1110	24	72
3	1240	304	1020	3810	343	3530	921	19	47
4	1430	103	398	2700	180	1310	804	13	28
5	1200	57	185	1780	50	240	741	15	30
6	970	37	97	1350	56	204	710	15	29
7	870	27	63	1110	47	141	695	12	23
8	757	23	47	921	27	67	623	9	15
9	772	26	54	853	30	69	536	10	14
10	2950	421	3350	1370	77	285	494	16	21
11	3430	266	2460	2490	247	1660	453	13	16
12	2630	140	994	2410	92	599	453	23	28
13	2490	166	1120	2750	120	891	4640	800	10000
14	3720	305	3060	2370	47	301	4910	200	2650
15	2760	143	1070	1820	47	231	2750	85	631
16	1940	84	440	1490	47	189	1940	57	299
17	1430	72	278	1240	38	127	1490	121	487
18	1130	57	174	1050	75	213	1160	97	304
19	921	40	99	921	35	87	989	29	77
20	788	25	53	804	12	26	904	17	41
21	665	17	31	726	7	14	788	34	72
22	582	14	22	665	20	36	710	36	69
23	536	15	22	623	49	82	681	21	39
24	494	13	17	1320	209	745	710	44	84
25	453	12	15	1960	123	651	1320	122	435
26	414	10	11	3720	405	4070	2630	303	2150
27	377	10	10	4830	277	3610	2810	103	781
28	354	9	8.6	3120	197	1660	2180	58	341
29	439	79	94	2230	133	801	1720	37	172
30	427	37	43	1650	92	410	1430	34	131
31	366	17	17	---	---	---	1260	28	95
TOTAL	37754	---	15384.6	53885	---	23430	43882	---	19334
JANUARY				FEBRUARY			MARCH		
1	1090	47	138	951	10	26	1260	108	367
2	956	31	80	854	5	12	1130	62	189
3	836	15	34	776	5	10	1140	35	108
4	772	20	42	689	5	9.3	1220	52	171
5	698	20	38	630	6	10	3530	422	4020
6	660	32	57	592	7	11	7450	689	13900
7	621	57	96	572	6	9.3	4770	296	3810
8	601	51	83	553	5	7.5	3680	284	2920
9	582	40	63	533	11	16	3210	302	2620
10	621	20	34	514	12	17	2450	167	1100
11	904	13	32	504	11	15	2050	98	542
12	1370	34	126	495	17	23	1670	63	284
13	1560	67	282	485	20	26	1540	44	183
14	1620	72	315	507	25	34	1780	81	389
15	1900	100	513	623	40	67	1540	113	470
16	1780	60	288	1760	250	1190	1320	47	168
17	1620	83	363	3950	375	4000	1410	48	183
18	1720	348	1620	2680	160	1160	2480	118	790
19	3770	607	6180	1990	52	279	3460	189	1770
20	3330	238	2140	1740	63	296	2840	113	866
21	2430	172	1130	2160	295	1720	2790	183	1380
22	1920	192	995	4190	977	11100	3320	215	1930
23	2320	172	1080	4810	755	9810	2990	138	1110
24	2630	117	831	3430	235	2180	2590	85	594
25	2790	97	731	2660	197	1410	3610	390	3800
26	2950	87	693	2250	175	1060	3550	197	1890
27	2560	69	477	1800	80	389	2880	117	910
28	2100	55	312	1650	40	178	2430	110	722
29	1690	40	183	1490	35	140	2540	107	734
30	1370	33	122	---	---	---	2300	79	491
31	1090	20	59	---	---	---	2210	102	609
TOTAL	50861	---	19137	45838	---	35205.1	81140	---	48920

03199700 COAL RIVER AT ALUM CREEK, WV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	2210	118	704	11800	720	22900	354	37	35
2	2070	103	576	4730	250	3190	302	26	21
3	1900	116	595	3190	184	1580	275	15	11
4	2210	184	1100	2370	113	723	293	26	21
5	2540	97	665	1850	53	265	275	27	20
6	2140	72	416	1500	35	142	2030	1000	5480
7	1760	56	266	1280	27	93	3550	340	3260
8	1580	320	1370	1070	23	66	1410	187	712
9	4850	1270	16600	904	21	51	836	72	163
10	4400	365	4340	788	20	43	623	38	64
11	2900	125	979	725	19	37	439	27	32
12	2210	92	549	710	15	29	377	22	22
13	1920	72	373	609	12	20	312	18	15
14	3370	450	4090	596	11	18	275	12	8.9
15	5760	730	11400	567	10	15	258	9	6.3
16	3950	240	2560	466	9	11	284	33	25
17	2790	150	1130	427	8	9.2	354	23	22
18	2210	93	555	453	10	12	275	13	9.7
19	1830	64	316	466	20	25	226	12	7.3
20	1540	65	270	1050	552	1560	197	12	6.4
21	1260	27	92	1410	242	921	190	10	5.1
22	1120	27	82	939	87	221	177	8	3.8
23	993	23	62	680	37	68	170	8	3.7
24	921	18	45	582	76	119	177	6	2.9
25	836	12	27	804	306	664	170	5	2.3
26	804	17	37	870	155	364	158	3	1.3
27	1780	107	514	637	40	69	158	3	1.3
28	4320	260	3030	494	18	24	145	3	1.2
29	3210	560	4850	402	15	16	134	1	.36
30	10300	1850	51400	354	14	13	128	1	.35
31	---	---	---	366	12	12	---	---	---
TOTAL	79684	---	108993	43089	---	33280.2	14552	---	9963.91
JULY			AUGUST			SEPTEMBER			
1	134	2	.7	402	23	25	312	62	52
2	122	1	.3	321	16	14	275	75	56
3	122	1	.3	332	15	13	284	57	44
4	164	7	3.1	332	13	12	234	22	14
5	183	13	6.4	302	24	20	204	8	4.4
6	275	10	7.4	293	19	15	197	8	4.3
7	204	6	3.3	258	10	7.0	211	11	6.3
8	170	120	55	275	11	8.2	197	9	4.8
9	1830	636	3140	366	37	37	170	10	4.6
10	4370	1860	21900	321	51	44	651	300	527
11	11700	2220	70100	312	47	40	741	150	300
12	3320	280	2510	242	31	20	389	53	56
13	4010	963	10400	197	19	10	275	33	25
14	3390	280	2560	170	23	11	219	20	12
15	1670	103	464	170	20	9.2	197	13	6.9
16	1030	67	186	402	167	181	177	8	3.8
17	741	39	78	226	500	305	151	6	2.4
18	567	26	40	219	750	443	145	5	2.0
19	453	18	22	1320	450	1600	145	5	2.0
20	366	17	17	1180	250	796	139	4	1.5
21	312	13	11	772	210	438	139	3	1.1
22	275	13	9.7	2560	869	6010	204	20	11
23	312	7	5.9	2720	575	4220	354	197	188
24	343	18	17	1370	140	518	354	67	64
25	275	18	13	820	60	133	284	34	26
26	234	12	7.6	567	33	51	275	21	16
27	226	7	4.3	414	30	34	234	13	8.2
28	2520	841	5720	321	27	23	197	9	4.8
29	2030	240	1320	267	20	14	177	8	3.8
30	887	100	239	582	175	275	164	4	1.8
31	567	43	66	466	120	151	---	---	---
TOTAL	42802	---	118907.0	18499	---	15477.4	7695	---	1453.7
YEAR	519681		449485.91						

KANAWHA RIVER BASIN

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 January and February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--24 years (water years 1909-11, 1930-31, 1962-80), 1,265 ft³/s (35.82 m³/s), 19.95 in/yr (507 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)
Apr. 30	2400	*19400 549	21.11 6.434	July 11	0900	16300 462	19.29 5.880

Minimum discharge, 115 ft³/s (3.26 m³/s) July 2, gage height, 10.31 ft (3.142 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	657	342	1360	1120	980	1300	2270	12100	365	138	414	321
2	600	1520	1140	986	880	1160	2140	4880	312	126	331	284
3	1280	3930	950	862	800	1180	1960	3290	284	126	342	293
4	1470	2780	829	796	710	1260	2270	2440	302	169	342	241
5	1240	1840	764	720	650	3640	2620	1910	284	189	312	210
6	1000	1390	732	680	610	7680	2200	1540	2090	284	302	203
7	897	1140	717	640	590	4920	1810	1320	3660	210	266	218
8	780	950	642	620	570	3790	1630	1100	1450	176	284	203
9	796	879	553	600	550	3310	5000	932	862	1880	377	176
10	3040	1410	509	640	530	2530	4540	812	642	4500	331	672
11	3540	2570	467	932	520	2110	2990	748	453	12100	321	764
12	2710	2480	467	1410	510	1720	2270	732	389	3430	249	401
13	2570	2830	4780	1610	500	1580	1980	628	321	4140	203	284
14	3840	2440	5060	1670	523	1840	3470	614	284	3500	176	225
15	2850	1880	2830	1960	642	1580	5940	584	266	1720	176	203
16	2000	1540	2000	1840	1810	1360	4070	480	293	1060	414	182
17	1470	1280	1540	1670	4070	1450	2880	440	365	764	233	156
18	1160	1080	1200	1770	2760	2550	2270	467	284	584	225	150
19	950	950	1020	3890	2050	3570	1880	480	233	467	1360	150
20	812	829	932	3430	1790	2920	1580	1080	203	377	1220	144
21	686	748	812	2510	2230	2880	1300	1450	196	321	796	144
22	600	686	732	1980	4320	3430	1160	968	182	284	2640	210
23	553	642	702	2390	4960	3080	1020	702	176	321	2810	365
24	509	1360	732	2710	3540	2670	950	600	182	354	1410	365
25	467	2020	1360	2880	2740	3730	862	829	176	284	845	293
26	427	3840	2710	3040	2320	3660	829	897	162	241	584	284
27	389	4980	2900	2640	1860	2970	1840	657	162	233	427	241
28	365	3220	2250	2160	1700	2510	4450	509	150	2600	331	203
29	453	2300	1770	1740	1540	2620	3310	414	138	2090	275	182
30	440	1700	1470	1410	---	2370	10600	365	132	914	600	169
31	377	---	1300	1120	---	2270	---	377	---	584	480	---
TOTAL	38928	55556	45230	52426	47255	83640	82091	44345	14998	44166	19076	7936
MEAN	1256	1852	1459	1691	1629	2698	2736	1430	500	1425	615	265
MAX	3840	4980	5060	3890	4960	7680	10600	12100	3660	12100	2810	764
MIN	365	342	467	600	500	1160	829	365	132	126	176	144
CFSM	1.46	2.15	1.70	1.96	1.89	3.13	3.18	1.66	.58	1.66	.71	.31
IN.	1.68	2.40	1.95	2.27	2.04	3.61	3.55	1.92	.65	1.91	.82	.34

CAL YR	1979	TOTAL	682987	MEAN	1871	MAX	16000	MIN	185	CFSM	2.17	IN	29.51
WTR YR	1980	TOTAL	535647	MEAN	1464	MAX	12100	MIN	126	CFSM	1.70	IN	23.14

KANAWHA RIVER BASIN

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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 metric tons) Jan. 26, 1978; minimum daily, 0 ton (0 metric tons) on several days in April 1978, Feb. 5, Mar. 21, 22, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 750 micromhos July 1-4; minimum daily, 113 micromhos Dec. 13.

TEMPERATURE: Maximum, 28.0°C July 22; minimum, 0.5°C Feb. 13-17.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,150 mg/L July 11; minimum daily mean, 2 mg/L on Dec. 3, 4, Feb. 9, 13.

SEDIMENT LOADS: Maximum daily, 70,200 tons (63,700 metric tons) July 11; minimum daily, 2.6 tons (2.4 metric tons) July 1.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)
OCT							
22...	1200	614	--	--	27.0	18.5	--
29...	1410	463	560	7.5	20.5	11.0	--
NOV							
01...	1640	365	490	7.6	--	15.0	--
DEC							
12...	1025	480	440	6.2	--	6.5	--
12...	1510	466	393	7.0	13.5	5.0	--
JAN							
23...	1130	2550	252	6.2	-4.0	4.5	--
30...	1450	1480	290	7.1	-5.0	1.5	--
FEB							
13...	1445	531	--	--	3.0	.0	--
28...	1310	1910	260	6.8	--	4.0	9.0
MAR							
13...	1640	1580	290	7.0	13.0	5.0	--
24...	1300	2690	240	7.1	17.5	8.5	--
27...	1300	3040	205	--	13.0	11.0	--
APR							
24...	1030	950	260	7.3	24.5	16.5	--
25...	1350	848	--	--	--	16.5	--
MAY							
01...	1430	10400	120	6.5	--	12.0	--
01...	1715	9390	160	--	21.0	14.0	--
27...	1250	672	280	7.6	23.5	19.5	--
JUN							
17...	1300	400	490	7.0	22.5	21.0	--
24...	1310	189	620	8.2	24.0	22.5	--
JUL							
14...	1250	3640	180	6.3	27.5	21.5	--
30...	1915	764	250	7.5	29.0	24.0	--
AUG							
18...	1315	176	515	7.4	26.0	26.0	35
SEP							
09...	1100	169	--	--	--	24.5	--
11...	1900	614	340	7.7	21.0	22.0	--

03200500 COAL RIVER AT TORNAO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)
NOV 01...	130	82	.0	.0	28	14	33	1.3	46	140	7.2	--
DEC 12...	120	86	.0	.0	26	14	30	1.2	44	130	6.5	--
JAN 30...	90	55	.0	.0	18	11	16	.7	35	78	4.0	--
FEB 28...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 13...	95	67	.1	5.0	20	11	26	1.2	28	100	5.1	--
24...	70	44	.1	5.0	14	8.6	11	.6	16	71	3.5	--
APR 24...	110	80	--	--	22	13	22	.9	38	110	5.3	--
JUN 17...	130	80	.1	5.0	27	15	41	1.6	49	160	9.1	--
JUL 14...	57	42	.1	5.0	12	6.5	7.0	.4	16	47	2.7	--
AUG 18...	140	76	.0	.0	30	15	52	2.1	61	170	10	3.6

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM, DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)
NOV 01...	277	.38	273	--	--	--	--	--	480	--	60	--
DEC 12...	--	--	--	--	--	--	--	--	380	370	10	--
JAN 30...	161	.22	643	--	--	--	--	--	340	320	20	--
FEB 28...	--	--	--	--	--	--	--	--	--	--	--	--
MAR 13...	218	.30	930	--	--	--	--	--	--	0	10	--
24...	141	.19	1020	--	--	--	--	--	700	700	0	--
APR 24...	210	.29	539	--	--	--	--	--	580	560	20	--
JUN 17...	293	.40	316	--	--	--	--	--	200	180	20	--
JUL 14...	194	.26	1910	--	--	--	--	--	3500	3400	80	--
AUG 18...	351	.48	167	70	3	<1	<3	<10	850	810	44	<10

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
NOV 01...	--	50	10	40	--	--	--	--	--	--	--	--
DEC 12...	--	150	150	3	--	--	--	--	--	--	--	--
JAN 30...	--	60	10	50	--	--	--	--	--	--	--	--
FEB 28...	--	--	--	--	--	--	--	--	--	--	45	232
MAR 13...	--	--	--	70	--	--	--	--	--	--	--	--
24...	--	70	10	60	--	--	--	--	--	20.0	--	--
APR 24...	--	50	20	30	--	--	--	--	--	--	--	--
JUN 17...	--	100	50	50	--	--	--	--	--	--	--	--
JUL 14...	--	140	120	20	--	--	--	--	--	--	--	--
AUG 18...	23	60	20	37	<10	500	<6.0	15	1.6	--	53	25

03200500 COAL RIVER AT TORNADO, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	349	388	230	255	183	177	245	135	508	750	332	334
2	348	246	249	288	178	---	249	257	499	750	380	372
3	270	239	291	310	167	169	255	240	502	750	435	394
4	271	213	287	271	---	181	251	257	525	750	448	470
5	298	210	303	346	---	267	248	321	529	700	435	488
6	298	218	311	367	---	166	229	321	309	---	524	524
7	314	---	312	361	---	190	252	338	---	725	526	553
8	313	251	322	366	---	192	213	354	273	675	534	548
9	312	267	354	364	176	246	211	383	280	500	554	558
10	208	226	355	365	177	255	172	419	355	318	494	442
11	294	225	356	336	198	267	216	417	352	124	492	340
12	221	187	400	283	218	279	264	422	438	185	496	380
13	217	205	113	296	211	276	280	439	440	195	484	448
14	186	321	174	270	216	296	209	441	484	220	488	459
15	219	225	177	248	---	324	160	459	478	265	---	450
16	217	218	234	244	188	312	264	462	500	350	480	---
17	216	245	234	259	208	300	287	594	520	370	480	529
18	275	230	219	252	225	292	203	585	560	380	538	---
19	280	318	254	254	---	211	---	358	560	450	516	---
20	298	319	281	264	---	245	293	374	625	460	284	586
21	345	316	287	251	260	---	350	---	---	460	282	600
22	335	318	287	196	---	232	360	372	625	500	216	625
23	347	318	287	242	---	282	362	---	625	500	202	620
24	---	149	310	212	---	181	357	---	635	300	268	550
25	---	146	274	202	---	222	186	424	675	477	272	511
26	---	143	200	202	---	207	188	362	675	520	304	470
27	---	139	202	---	277	203	177	333	700	520	400	509
28	---	159	204	227	298	242	179	362	---	416	402	548
29	384	225	201	242	304	---	180	470	700	202	400	565
30	414	228	249	262	---	---	156	460	725	250	436	---
31	407	---	248	278	---	242	---	455	---	312	---	---
MEAN	294	238	265	277	218	239	241	386	522	446	417	495
WTR YR 1980	MEAN	339	MAX	750	MIN	113						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

KANAWHA RIVER BASIN

03200500 COAL RIVER AT TORNADO, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	8.0	14.0	13.5	25.5	25.5	25.0	23.5	24.5	24.0	24.0	23.0
2	8.0	8.0	15.5	14.5	26.0	25.5	26.5	23.0	25.0	24.0	25.0	23.5
3	9.0	8.0	17.0	15.5	26.0	26.0	25.5	24.0	25.5	25.0	25.0	23.5
4	9.0	9.0	18.0	16.5	26.5	26.0	25.0	24.0	25.5	25.0	25.5	23.5
5	9.0	9.0	19.5	17.5	26.0	26.0	26.0	23.5	25.0	24.5	26.5	24.0
6	9.0	8.5	20.0	19.0	21.5	16.5	26.0	24.0	25.0	24.5	27.0	24.5
7	8.5	8.5	20.5	19.5	17.5	16.5	26.5	24.5	25.5	24.5	26.0	24.5
8	9.0	8.5	20.5	19.5	19.0	17.5	26.5	23.5	24.5	24.0	26.0	23.5
9	9.0	9.0	19.0	18.0	19.0	18.0	25.0	21.5	25.5	24.5	25.0	23.0
10	9.0	9.0	18.0	17.0	18.5	18.0	21.5	18.0	26.5	25.5	24.0	21.5
11	9.0	9.0	19.5	18.0	18.5	18.0	18.0	16.5	27.5	26.5	21.5	20.0
12	9.5	9.0	21.5	19.5	18.5	18.5	19.5	16.5	27.5	26.0	20.0	19.5
13	9.5	9.5	23.0	21.5	19.0	18.5	19.5	19.0	27.5	25.0	21.5	20.5
14	9.5	9.0	23.0	22.0	20.5	19.0	20.5	18.5	27.0	24.5	23.0	21.0
15	9.0	8.5	22.0	21.0	22.5	20.0	21.5	20.0	25.5	24.5	23.0	22.0
16	8.5	8.0	21.0	20.5	22.5	20.5	23.5	21.5	24.5	22.5	22.0	21.5
17	8.0	8.0	21.5	21.0	20.5	20.0	24.5	23.5	23.5	22.5	21.5	21.0
18	8.5	8.0	22.0	21.0	21.5	20.0	25.0	24.0	23.5	22.0	---	---
19	9.5	8.5	22.0	22.0	22.5	20.5	25.5	25.0	22.5	21.5	---	---
20	10.5	9.5	22.0	20.0	23.5	20.5	27.0	25.5	21.5	21.0	---	---
21	17.0	10.5	20.5	19.0	22.5	20.5	27.5	27.0	22.5	21.0	---	---
22	16.5	16.5	22.5	20.5	23.5	19.5	28.0	26.0	22.5	19.5	---	---
23	17.5	16.5	23.0	22.5	24.5	20.5	26.0	25.0	19.5	19.5	---	---
24	18.0	17.5	23.5	23.0	23.5	22.0	25.0	24.0	21.0	19.5	---	---
25	18.5	18.0	23.5	23.0	23.0	22.0	24.5	24.0	22.5	21.0	---	---
26	18.5	17.5	23.0	22.0	25.0	21.0	26.0	24.0	23.5	22.0	---	---
27	17.5	16.0	22.5	22.0	26.0	21.5	26.5	25.0	24.0	23.0	---	---
28	16.0	15.5	23.0	22.0	26.0	23.0	25.5	19.5	24.5	24.0	---	---
29	15.0	15.0	24.5	23.0	26.0	24.5	21.0	19.5	25.0	24.0	---	---
30	15.0	13.5	25.5	24.5	25.5	24.5	22.5	20.5	24.5	22.5	---	---
31	---	---	25.5	25.5	---	---	24.0	22.5	23.0	22.0	---	---
MONTH	18.5	8.0	25.5	13.5	26.5	16.5	28.0	16.5	27.5	19.5	27.0	19.5
YEAR	28.0	.5										

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	64	114	12	11	7	26	7	21	30	79	70	229
2	77	125	148	899	5	15	6	16	20	48	399	1250
3	128	366	400	4240	2	5.1	7	16	15	32	1150	3610
4	68	270	250	1880	2	4.5	21	45	10	19	430	1460
5	37	124	11	55	3	6.2	37	72	10	18	813	9790
6	22	59	14	53	5	9.9	13	24	7	12	843	17800
7	18	44	14	43	6	12	7	12	5	8.0	147	1950
8	14	29	10	26	5	8.7	7	12	5	7.7	32	327
9	75	161	8	19	5	7.5	6	9.7	2	3.0	52	465
10	350	2870	33	126	5	6.9	6	10	3	4.3	37	253
11	450	4300	114	791	5	6.3	17	43	3	4.2	27	154
12	175	1280	32	214	12	15	68	259	3	4.1	21	98
13	250	1730	37	283	887	13700	39	170	2	2.7	35	150
14	550	5700	8	53	153	2360	27	122	6	8.5	47	233
15	125	962	10	51	37	283	100	529	35	60	20	86
16	16	86	12	50	24	130	50	248	250	1220	9	33
17	11	44	10	35	10	42	20	90	850	9340	11	43
18	11	34	15	44	8	26	60	287	160	1190	95	776
19	12	31	8	21	7	19	580	6090	65	360	124	1190
20	10	22	8	18	7	18	410	3800	55	266	62	489
21	12	22	7	14	8	18	206	1360	300	1810	58	450
22	18	29	6	11	8	16	106	567	850	9910	137	1270
23	17	25	6	10	7	13	125	807	500	6700	115	957
24	15	21	148	654	9	18	175	1280	225	2150	69	533
25	15	19	18	98	43	183	210	1690	100	740	252	2420
26	15	17	466	4860	159	1050	325	2670	85	532	113	1120
27	16	17	600	8070	9	70	175	1250	60	301	52	417
28	12	12	63	548	18	109	88	513	45	206	36	244
29	12	15	8	50	15	72	40	188	35	145	53	375
30	12	14	7	32	8	32	19	72	---	---	46	294
31	9	9.2	---	---	7	25	67	203	---	---	38	233
TOTAL	---	18551.2	---	23259	---	18307.1	---	22475.7	---	35180.5	---	48699

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

[illegible]

KANAWHA RIVER BASIN

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, 36.5°C Sept. 14, 1980; minimum daily, 0.0°C Jan. 18, 1977.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 36.5°C Sept. 14; minimum, 3.5°C Feb. 10.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.0	29.5	15.5	19.0	16.0	4.5	26.5	24.5	28.5	28.0	34.0	30.5
2	19.0	---	18.5	21.5	15.0	5.0	26.5	21.5	31.0	30.5	34.0	32.0
3	27.0	---	9.5	21.5	14.5	9.0	26.0	23.0	31.5	---	30.0	31.0
4	26.5	19.0	23.0	21.0	---	14.5	25.0	21.5	27.0	31.0	31.0	30.0
5	24.5	21.0	21.0	22.0	14.0	24.0	22.0	23.5	---	29.0	31.0	34.5
6	---	26.5	22.0	21.0	14.5	21.0	23.5	24.5	28.5	---	---	---
7	24.0	24.0	---	---	20.0	21.0	24.0	24.5	32.0	28.5	---	---
8	24.0	22.0	18.0	18.0	10.0	22.0	27.0	25.0	33.0	29.0	32.0	---
9	32.0	22.0	16.5	18.0	11.0	15.5	26.5	20.5	24.0	29.0	31.0	---
10	---	23.0	16.5	17.0	3.5	17.0	26.5	20.0	26.0	29.0	32.0	---
11	21.0	24.0	---	19.0	9.0	14.5	23.5	22.0	22.0	31.5	32.0	---
12	25.5	19.0	31.0	14.5	6.5	13.5	27.0	24.0	23.0	---	---	26.5
13	25.5	20.0	18.0	11.0	5.5	12.0	23.0	29.0	24.5	---	---	30.0
14	24.0	20.0	17.0	16.5	20.0	17.0	32.0	29.0	28.0	---	---	36.5
15	19.0	24.5	16.0	24.0	13.5	15.0	25.0	19.5	29.0	30.5	31.0	---
16	20.5	25.5	18.0	14.5	18.0	16.0	23.0	26.5	---	---	29.0	31.5
17	28.5	18.5	16.5	25.5	13.5	24.0	22.0	28.0	28.0	---	30.0	35.5
18	---	24.0	14.5	16.5	11.5	18.0	21.0	26.0	29.5	34.0	---	26.5
19	---	27.0	13.5	10.0	17.0	---	24.0	28.5	29.0	28.0	---	26.0
20	27.0	28.0	21.0	13.0	22.0	22.0	24.0	---	30.5	31.5	32.0	26.5
21	26.5	24.5	22.0	11.5	23.0	31.0	24.0	25.0	22.0	34.5	32.0	28.0
22	28.5	26.5	22.0	16.5	---	23.5	25.5	25.0	22.0	31.5	32.0	32.0
23	28.0	25.0	24.5	12.0	---	21.5	30.0	31.0	24.5	30.5	29.0	32.0
24	24.5	23.5	25.5	18.5	22.0	26.0	30.0	29.5	---	31.0	---	32.0
25	23.5	22.0	20.0	24.0	19.5	---	26.5	---	29.5	28.0	---	31.0
26	21.5	28.0	20.5	---	18.5	---	23.5	---	28.5	29.5	---	30.0
27	20.0	18.5	21.0	---	21.0	---	---	---	28.5	30.5	---	21.5
28	28.0	20.0	---	20.0	19.0	---	26.5	---	29.5	29.5	---	23.5
29	24.5	21.0	20.0	18.5	16.5	---	26.5	---	30.0	30.0	31.0	23.0
30	25.5	18.0	18.5	16.0	---	---	30.5	---	28.0	30.0	31.5	27.0
31	29.0	---	19.0	17.0	---	---	---	---	---	31.0	30.0	---
MEAN	25.0	23.0	19.5	18.0	15.0	17.5	25.5	25.0	27.5	30.0	31.5	29.5
WTR YR 1980	MEAN	23.5	MAX	36.5	MIN	3.5						

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 1980 (discontinued).

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 except those for November, December, February, June, and September, which are poor.

AVERAGE DISCHARGE.--51 years (water years 1909-16, 1931, 1938-78, 1980), 298 ft³/s (8.439 m³/s), 17.00 in/yr (432 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.--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)
Oct. 10	1245	5240 148	20.28 6.181	Aug. 19	0015	*6470 183	22.74 6.931
Dec. 14	---	Unknown	Unknown	Aug. 21	1445	6000 170	21.79 6.642
Mar. 6	0245	5180 147	20.17 6.148	Aug. 22	0445	5700 161	21.20 6.462

Minimum discharge, 5.0 ft³/s (0.14 m³/s) June 27, gage height, 1.79 ft (0.546 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	37	180	188	150	165	622	2030	120	5.5	29	31
2	116	1800	150	158	140	150	483	702	66	5.8	26	45
3	464	2600	120	137	125	140	364	410	52	8.2	22	62
4	318	560	100	127	113	135	1700	292	54	13	24	38
5	225	280	90	138	105	2270	1240	223	46	32	26	28
6	205	190	88	128	98	4310	556	184	80	30	22	23
7	154	150	84	142	92	1290	388	173	170	20	47	19
8	126	130	80	315	88	728	361	147	110	28	95	16
9	426	110	66	294	84	710	1170	116	82	342	81	27
10	4910	540	58	243	80	470	638	98	52	1820	45	62
11	2710	842	54	443	78	394	392	90	50	1550	47	60
12	655	370	52	1740	76	294	299	83	44	241	30	35
13	942	270	1800	768	74	504	267	94	33	481	19	25
14	684	210	4700	499	72	1680	1370	149	24	364	14	17
15	361	160	2000	406	72	969	2580	132	18	133	12	13
16	249	143	500	322	359	540	797	90	35	74	18	11
17	184	120	308	340	576	462	441	74	53	49	22	9.4
18	138	105	235	538	342	1690	322	91	50	35	1400	8.2
19	108	92	199	408	264	1140	259	96	28	26	4180	7.4
20	88	82	180	311	268	597	214	167	19	20	1070	6.6
21	74	72	147	265	714	546	185	649	15	14	3110	8.2
22	66	66	133	237	818	675	154	366	12	15	5410	12
23	61	60	126	222	677	470	137	209	10	20	2420	25
24	54	450	139	185	443	390	125	196	9.3	20	562	50
25	49	1200	696	700	329	1080	110	140	8.9	18	130	34
26	47	2200	1160	1060	287	651	110	113	8.2	19	60	29
27	43	2000	811	544	228	430	663	100	6.1	15	34	23
28	40	700	449	362	217	466	1000	84	6.7	304	27	14
29	41	350	313	275	186	1220	468	74	6.1	232	21	12
30	44	250	260	207	---	710	1300	66	5.5	89	26	12
31	41	---	223	181	---	552	---	120	---	41	33	---
TOTAL	13755	16139	15501	11883	7155	25828	18715	7558	1273.8	6064.5	19062	762.8
MEAN	444	538	500	383	247	833	624	244	42.5	196	615	25.4
MAX	4910	2600	4700	1740	818	4310	2580	2030	170	1820	5410	62
MIN	40	37	52	127	72	135	110	66	5.5	5.5	12	6.6
CFSM	1.87	2.26	2.10	1.61	1.04	3.50	2.62	1.03	.18	.82	2.58	.11
IN.	2.15	2.52	2.42	1.86	1.12	4.04	2.93	1.18	.20	.95	2.98	.12

WTR YR 1980 TOTAL 143697.1 MEAN 393 MAX 5410 MIN 5.5 CFMS 1.65 IN 22.46

KANAWHA RIVER BASIN

03201000 POCATALICO RIVER AT SISSONVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to September 1980 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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)
NOV												
09...	1340	107	210	7.5	11.5	8.0	--	75	13	.0	.0	22
DEC												
17...	1200	312	180	6.4	-6.5	2.0	--	58	26	.0	.0	17
FEB												
15...	1130	69	260	7.5	5.0	.5	--	85	30	.0	.0	25
MAR												
12...	1030	266	200	6.9	1.0	4.0	--	59	24	.0	.0	17
25...	1630	1160	180	7.7	7.0	7.0	--	58	33	.1	5.0	16
APR												
14...	1330	1200	190	6.7	15.0	11.0	--	56	22	.1	5.0	16
MAY												
06...	1445	176	210	7.3	--	18.0	--	69	27	--	--	20
JUN												
12...	1530	50	315	7.1	--	20.0	--	87	29	--	--	26
JUL												
31...	1245	41	410	7.2	30.5	25.5	--	110	40	--	--	32
AUG												
21...	1300	5480	75	6.4	--	22.5	250	21	8	.2	10	6.1
SEP												
10...	1100	16	380	7.0	--	22.5	--	110	42	.1	5.0	33

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)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SI02)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)
NOV												
09...	4.8	15	.8	57	17	23	--	120	.16	34.7	--	--
DEC												
17...	3.8	11	.6	35	19	19	--	115	.16	96.9	--	--
FEB												
15...	5.4	17	.8	55	19	34	--	140	.19	25.9	--	--
MAR												
12...	3.9	9.5	.5	39	18	15	--	109	.15	78.3	--	--
25...	4.3	10	.6	34	19	22	--	112	.15	351	--	--
APR												
14...	4.0	11	.6	37	17	18	--	115	.16	373	--	--
MAY												
06...	4.6	13	.7	50	18	21	--	136	.19	64.6	--	--
JUN												
12...	5.4	17	.8	58	15	38	--	172	.23	23.0	--	--
JUL												
31...	6.3	35	1.5	62	15	81	--	240	.33	26.4	--	--
AUG												
21...	1.4	1.4	.1	13	12	1.9	4.2	68	.09	1010	40	<1
SEP												
10...	6.6	28	1.2	68	14	62	--	230	.31	9.94	--	--

KANAWHA RIVER BASIN

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03201000 POCATALICO RIVER AT Sissonville, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L 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)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)
NOV 09...	--	--	--	570	--	100	--	--	120	10	110
DEC 17...	--	--	--	600	540	60	--	--	60	10	50
FEB 15...	--	--	--	540	440	100	--	--	160	0	160
MAR 12...	--	--	--	660	610	50	--	--	60	10	50
MAR 25...	--	--	--	2700	2600	100	--	--	100	70	30
APR 14...	--	--	--	9000	8900	60	--	--	250	180	70
MAY 06...	--	--	--	650	560	90	--	--	50	0	80
JUN 12...	--	--	--	770	720	50	--	--	170	30	140
JUL 31...	--	--	--	2700	2600	80	--	--	280	140	140
AUG 21...	3	<3	<10	50000	50000	260	<10	<4	1800	1700	88
SEP 10...	--	--	--	780	740	40	--	--	300	50	250

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
MAR 25...	--	--	--	--	--	6.00	--	--
AUG 21...	<10	33	<6.0	32	55	--	1940	28700

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 (corrected) Bridge, and at mile 31.1, (50.0 km).

DRAINAGE AREA.--11,809 mi² (30,5895 km²).

PERIOD OF RECORD.--Water years 1957-70, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1957 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 water-quality 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, 324 micromhos Sept. 22; minimum daily, 100 micromhos July 12, 13.

pH: Maximum daily, 7.5 units Dec. 12; minimum daily, 6.0 units Aug. 22.

WATER TEMPERATURES: Maximum daily, 28°C July 25-29, Aug. 12, 15; 2.0°C Feb. 4-13.

DISSOLVED OXYGEN: Maximum daily, 13.9 mg/L Feb. 24; minimum daily, 4.8 mg/L June 29.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CaCO3)
OCT											
09...	1045	E18800	140	7.1	15.0	15	9.6	.77	467	53	41
NOV											
06...	0955	E27600	140	7.0	11.0	9.0	11.1	.72	500	530	50
DEC											
18...	0945	E16400	155	7.2	5.0	3.5	12.8	1.3	273	60	49
JAN											
15...	1000	E27500	190	7.6	4.5	1.5	13.2	.79	700	230	61
29...	1000	E22300	160	7.5	4.0	2.4	13.4	.70	500	78	52
FEB											
12...	0930	E6880	225	7.2	1.5	1.0	13.9	.87	<1	<1	67
APR											
08...	0930	E20500	155	7.4	13.0	2.0	10.6	.91	300	51	51
22...	0845	E20500	150	7.3	13.5	15	10.2	.95	450	40	47
MAY											
06...	0915	E21800	140	7.3	14.5	13	9.8	.90	230	15	46
JUN											
10...	1130	E9690	180	7.4	23.5	1.4	8.2	.67	67	35	56
JUL											
23...	1400	E6370	200	7.0	27.0	16	6.7	1.2	160	68	61
AUG											
15...	0800	E3930	570	7.4	29.0	.20	5.8	1.1	--	16	86
SEP											
16...	0830	E2540	347	6.8	26.0	.40	4.6	.94	207	29	94

KANAWHA RIVER BASIN

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03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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 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)	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)
OCT 09...	.1	5.5	78	71	.11	--	.51	.51	.120	.070	.15
NOV 06...	.0	6.1	75	84	.10	--	.61	.53	.080	.020	.10
DEC 18...	.1	6.0	80	89	.11	--	.57	.58	.070	.080	.08
JAN 15...	.1	5.3	113	99	.15	--	.46	.48	.090	.030	.11
29...	.1	6.1	83	86	.11	--	.47	.47	.050	.040	.06
FEB 12...	.1	5.4	119	119	.16	--	.47	.47	.160	.140	.19
APR 08...	.1	5.5	106	82	.14	--	.58	.64	.080	.100	.10
22...	.1	6.2	91	77	.12	--	.84	.69	.150	.080	.18
MAY 06...	.1	6.5	97	77	.13	--	.69	.70	.050	.040	.06
JUN 10...	.1	3.7	100	91	.14	2350	.46	.46	.120	.110	.15
JUL 23...	.1	6.5	138	111	.19	--	.74	.76	.150	.170	.18
AUG 15...	.1	5.7	161	150	.22	--	.65	.60	.270	.180	.33
SEP 16...	.1	5.3	182	172	.25	--	.52	.39	.260	.090	.31

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)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
OCT 09...	24	11	3.3	7.7	28	.5	9.1	1.4	17	22	7.6
NOV 06...	6	14	3.6	5.1	23	.3	6.8	1.7	44	18	6.2
DEC 18...	19	12	4.5	8.4	37	.5	9.8	1.4	30	28	7.8
JAN 15...	25	16	5.2	9.2	24	.5	11	1.3	36	28	10
29...	26	14	4.2	7.3	30	.4	8.5	1.2	26	26	8.9
FEB 12...	30	18	5.4	11	26	.6	12	1.3	37	36	17
APR 08...	18	14	4.0	5.6	19	.3	--	1.3	33	22	6.8
22...	22	12	4.2	6.5	22	.4	--	1.3	25	21	7.5
MAY 06...	26	11	4.5	7.1	24	.5	--	1.3	20	26	5.7
JUN 10...	27	14	5.1	10	27	.6	--	1.5	29	27	10
JUL 23...	23	16	5.2	11	27	.6	--	1.8	38	31	13
AUG 15...	39	23	7.0	18	31	.8	--	2.1	47	39	24
SEP 16...	47	25	7.7	23	34	1.0	--	2.6	47	54	24

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC DIS- SOLVED (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. (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 P04)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
OCT 09...	.09	.19	.19	.31	.05	.26	.82	3.6	.040	.12	.020
NOV 06...	.03	.40	.17	.48	.29	.19	1.1	4.8	.080	.25	.010
DEC 18...	.10	.74	.68	.81	.05	.76	1.4	6.1	.040	.12	.030
JAN 15...	.04	.35	.28	.44	.13	.31	.90	4.0	.030	.09	.020
29...	.05	.13	.19	.18	.00	.23	.65	2.9	.020	.06	.020
FEB 12...	.18	.18	.26	.34	.00	.40	.81	3.6	.040	.12	.020
APR 08...	.13	.29	.17	.37	.10	.27	.95	4.2	.030	.09	.020
22...	.10	.29	.18	.44	.18	.26	1.3	5.7	.050	.15	.020
MAY 06...	.05	.21	.16	.26	.06	.20	.95	4.2	.020	.06	.010
JUN 10...	.14	.13	.10	.25	.04	.21	.71	3.1	.040	.12	.010
JUL 23...	.22	.23	.23	.38	.00	.40	1.1	5.0	.070	.21	.030
AUG 15...	.23	.12	.30	.39	.00	.48	1.0	4.6	.030	.09	.000
SEP 16...	.12	.20	.46	.55	.00	.55	1.1	4.7	.050	.15	.020

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)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)
NOV 06...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 15...	3	1	2	<50	<10	40	1	1	0	20	10	10
29...	--	--	--	--	--	--	--	--	--	--	--	--
APR 08...	2	0	2	<50	<10	40	0	0	1	20	10	10
22...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 06...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 10...	1	1	0	<50	--	50	0	0	2	10	0	10
JUL 23...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 16...	1	0	1	100	0	100	0	0	0	10	0	10

DATE	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)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 06...	--	--	--	--	--	--	--	--	--	--	--	--
JAN 15...	1	1	0	3	1	2	560	510	50	3	3	0
29...	--	--	--	--	--	--	--	--	--	--	--	--
APR 08...	2	2	0	2	0	3	770	730	40	3	2	1
22...	--	--	--	--	--	--	--	--	--	--	--	--
MAY 06...	--	--	--	--	--	--	--	--	--	--	--	--
JUN 10...	0	0	0	3	2	1	630	610	20	3	3	0
JUL 23...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 16...	2	0	2	0	0	4	250	240	10	18	17	1

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	SELENIUM, DIS-SOLVED (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	SILVER, SUSPENDED RECOVERABLE (UG/L AS AG)	SILVER, DIS-SOLVED (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, SUSPENDED RECOVERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS ALPHA, DIS-SOLVED (PCI/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (PCI/L AS U-NAT)
NOV 06...	--	0	--	--	--	--	--	--	--	--	--
JAN 15...	0	0	0	0	10	0	10	--	--	--	--
29...	--	0	--	--	--	--	--	--	--	--	--
APR 08...	0	0	0	0	140	0	150	--	--	--	--
22...	--	0	--	--	--	--	--	--	--	--	--
MAY 06...	--	--	--	--	--	--	--	<1.1	.9	<.7	.6
JUN 10...	0	0	0	0	10	10	0	--	--	--	--
JUL 23...	--	0	--	--	--	--	--	--	--	--	--
SEP 16...	0	0	0	0	30	20	10	--	--	--	--

[illegible]

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PERI- PHYTON BIOMASS TOTAL DRY WEIGHT G/SQ M	PERI- PHYTON BIOMASS ASH 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, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 09...	--	--	--	240	--	--	18	--	84
NOV 06...	--	--	--	--	--	--	37	--	90
DEC 18...	--	--	--	--	--	--	5	--	79
JAN 15...	--	--	--	--	--	--	17	--	65
FEB 29...	--	--	--	--	--	--	12	--	63
APR 12...	--	--	--	--	--	--	15	--	46
MAY 08...	--	--	--	140	--	--	22	--	89
JUN 22...	--	--	--	1100	--	--	19	--	80
JUL 06...	--	--	--	1600	--	--	37	--	30
AUG 10...	4.41	2.36	124	4700	16.6	4.14	105	2460	14
SEP 23...	6.61	3.62	3398	1900	.880	2.81	44	--	44
OCT 15...	12.5	9.92	37.3	--	69.1	9.36	33	--	79
NOV 16...	6.30	4.33	82.8	--	23.8	4.95	35	--	73

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	161	211	138	168	184	173	166	135	172	243	147	228
2	166	219	143	176	205	180	173	127	179	246	154	236
3	157	218	154	183	208	190	170	132	189	247	161	251
4	166	176	159	188	214	201	173	138	204	260	168	271
5	165	154	175	198	221	217	188	149	220	273	166	279
6	167	153	192	204	230	185	193	160	217	284	160	271
7	159	151	195	213	241	152	193	161	220	305	184	274
8	151	156	199	225	240	153	202	166	229	308	212	277
9	146	155	208	236	233	159	216	171	192	288	226	272
10	150	162	208	236	239	154	156	176	193	262	228	270
11	134	183	214	231	234	144	143	182	202	138	236	265
12	142	182	223	230	232	151	144	190	208	100	248	270
13	134	169	236	217	234	153	145	202	---	100	252	---
14	142	162	182	202	263	173	154	207	---	118	252	---
15	140	158	157	197	251	174	156	212	204	136	255	---
16	133	154	169	175	263	165	142	209	208	150	254	---
17	132	152	168	161	256	166	134	209	208	150	244	308
18	136	157	168	162	222	173	133	206	209	150	234	317
19	142	163	175	155	202	159	136	206	219	161	258	318
20	156	170	188	135	198	128	142	212	232	170	255	322
21	157	178	198	134	193	133	150	223	244	180	250	323
22	158	179	202	140	195	155	160	208	258	180	227	324
23	172	172	212	147	176	156	163	161	268	177	213	321
24	181	173	222	161	152	153	176	146	278	192	195	310
25	196	195	236	162	139	147	182	157	287	200	187	305
26	195	180	219	164	142	143	186	141	287	188	180	297
27	196	153	164	160	152	137	192	132	292	178	181	289
28	201	131	154	162	157	138	182	129	323	178	188	285
29	203	139	157	171	160	148	140	143	263	184	199	289
30	212	138	156	178	---	166	133	151	244	197	211	299
31	210	---	160	178	---	167	---	156	---	146	221	---
MEAN	163	168	185	182	208	161	164	171	230	196	211	287
WTR YR 1980	MEAN	192	MAX	324	MIN	100						

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.0	7.1	7.0	7.1	7.0	6.8	7.2	6.6	6.7	6.8	6.5	---
2	6.9	7.1	7.1	7.1	7.0	6.9	7.1	6.7	6.7	7.3	6.6	---
3	6.9	7.0	7.1	7.2	7.0	6.9	7.1	6.4	6.7	6.9	6.6	---
4	7.0	7.0	7.1	7.1	7.1	6.9	7.1	6.4	6.7	6.8	6.6	7.0
5	6.9	7.0	7.2	7.2	7.1	6.9	7.2	6.5	6.9	6.7	6.6	7.2
6	7.0	7.1	7.2	7.2	7.1	6.9	7.2	6.7	6.9	6.9	---	7.3
7	7.0	7.1	7.2	7.3	7.1	7.0	7.2	6.8	6.8	6.7	6.4	7.2
8	7.0	7.1	7.1	7.3	7.0	7.1	7.2	6.8	6.7	6.9	6.5	7.1
9	6.9	7.1	7.1	7.4	7.0	7.2	7.2	6.8	6.7	7.2	6.7	7.1
10	6.8	7.1	7.2	7.2	7.0	7.2	7.0	6.8	6.8	6.9	6.8	7.0
11	7.0	7.1	7.2	7.0	7.0	7.1	7.0	6.8	6.8	6.6	6.8	7.0
12	7.0	7.1	7.5	7.1	7.1	7.1	7.1	6.8	6.7	6.6	6.7	6.9
13	7.0	7.2	7.2	7.0	7.1	7.1	7.0	6.8	---	6.6	6.6	---
14	7.0	7.2	6.9	7.1	7.1	7.2	7.0	6.9	---	6.6	6.4	---
15	7.0	7.2	6.9	7.1	7.1	7.2	7.0	6.9	6.6	6.7	6.3	---
16	7.0	7.2	6.9	7.0	7.2	7.2	7.0	6.9	6.6	6.7	6.4	---
17	6.9	7.1	7.0	7.0	7.1	7.2	7.1	6.9	6.6	6.7	6.4	7.2
18	6.9	7.1	7.0	7.0	7.1	7.3	7.1	6.9	6.6	6.7	6.4	7.3
19	6.9	7.1	7.0	6.8	7.1	7.2	7.0	6.9	6.6	6.6	6.3	7.3
20	6.9	7.1	7.0	6.9	7.1	7.1	7.0	6.8	6.8	6.6	6.3	7.3
21	6.9	7.1	7.0	6.9	7.0	7.1	7.0	7.0	6.7	6.8	6.2	7.2
22	6.9	7.1	7.0	6.9	7.0	7.1	7.0	7.0	6.7	6.8	6.0	7.1
23	7.0	7.1	7.0	7.0	6.9	7.2	7.0	6.9	7.2	6.7	---	6.8
24	7.0	7.1	7.0	7.0	6.8	7.1	7.0	6.8	6.8	6.6	---	6.6
25	7.0	7.0	7.0	7.0	6.8	7.1	7.1	6.9	6.7	6.7	---	6.5
26	7.1	7.0	7.1	6.9	6.8	7.1	7.1	6.7	6.8	6.8	---	6.5
27	7.0	6.9	7.1	6.9	6.8	7.1	7.1	6.7	6.9	6.9	---	6.5
28	7.0	6.9	7.1	6.9	6.8	7.1	7.1	6.7	6.8	6.8	---	6.5
29	7.0	7.0	7.1	6.9	6.8	7.1	6.9	6.8	6.6	6.7	---	6.5
30	7.1	7.1	7.0	7.0	---	7.1	6.8	6.8	6.8	6.6	---	6.5
31	7.1	---	7.0	7.0	---	7.2	---	6.7	---	6.5	---	---
MEAN	7.0	7.1	7.1	7.1	7.0	7.1	7.1	6.8	6.8	6.8	6.5	6.9

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	14.0	8.5	5.0	3.5	3.5	10.5	11.5	20.5	25.5	26.5	25.0
2	19.5	14.0	7.5	5.0	3.0	3.0	10.5	12.0	20.5	26.0	27.0	25.5
3	19.5	13.5	6.5	4.5	2.5	3.0	11.5	12.5	21.0	25.5	27.0	25.5
4	18.5	13.0	6.0	4.5	2.0	3.0	12.0	13.0	21.5	25.5	27.0	25.5
5	17.5	12.0	6.0	4.5	2.0	3.0	12.0	14.0	22.5	25.5	26.5	26.0
6	17.0	11.5	6.0	4.5	2.0	3.0	12.5	14.0	22.5	26.0	27.0	26.5
7	17.0	11.0	6.0	4.0	2.0	4.0	12.5	14.5	23.0	25.5	27.0	26.5
8	16.0	10.5	6.0	4.0	2.0	4.5	12.5	15.5	22.0	26.0	27.0	26.5
9	15.5	10.5	6.0	4.0	2.0	6.0	13.0	16.0	22.5	26.5	27.5	26.5
10	14.5	10.5	6.0	4.0	2.0	7.0	12.5	16.0	22.5	25.5	27.5	26.5
11	13.5	10.5	5.5	4.5	2.0	6.5	13.0	16.5	22.5	23.5	27.5	26.0
12	13.0	10.0	6.0	4.5	2.0	6.5	13.0	17.0	22.0	21.0	28.0	26.0
13	13.5	10.0	6.0	4.5	2.0	6.5	12.5	17.5	---	20.5	27.5	---
14	13.0	10.0	7.5	4.5	2.5	6.5	13.0	18.0	---	21.5	27.5	---
15	12.0	9.5	7.5	4.5	2.5	6.5	12.0	18.0	22.5	22.5	28.0	---
16	12.0	9.5	7.0	5.0	3.0	6.5	11.5	18.0	22.0	24.5	27.5	---
17	12.5	9.0	6.5	5.5	2.5	6.5	11.5	18.5	22.5	25.0	27.5	25.5
18	13.0	9.0	6.5	6.0	2.5	7.0	11.5	18.5	22.5	26.0	27.0	25.0
19	13.5	9.0	6.0	6.5	2.5	7.5	12.0	19.0	22.5	26.5	25.5	25.0
20	14.0	9.0	5.5	6.5	3.0	7.5	12.5	19.0	23.0	26.5	23.5	25.0
21	14.5	9.5	5.0	6.0	3.0	8.0	13.5	19.0	22.5	27.5	22.0	25.0
22	15.0	10.0	5.0	6.0	4.0	8.0	14.0	19.5	23.0	27.0	21.0	25.0
23	15.5	10.5	5.5	5.5	5.5	7.5	15.0	19.0	23.5	27.0	21.0	25.0
24	15.5	10.5	5.5	5.0	6.0	8.0	16.0	18.0	23.5	27.5	21.5	24.5
25	15.0	11.0	5.5	4.5	6.0	8.0	16.5	19.0	23.5	28.0	21.5	24.5
26	15.0	12.0	6.0	4.0	6.0	8.0	16.5	18.5	24.0	28.0	22.0	24.0
27	14.5	12.0	6.5	4.5	5.5	8.0	16.5	18.0	24.5	28.0	23.0	23.5
28	14.0	12.0	6.0	4.5	5.0	8.5	15.0	18.0	25.0	28.0	23.5	23.0
29	14.0	11.0	6.0	4.5	4.5	9.0	13.0	18.0	25.0	28.0	24.0	22.5
30	14.0	9.5	5.5	4.0	---	9.5	12.5	19.5	25.5	26.5	24.5	22.0
31	14.0	---	5.5	3.5	---	10.0	---	19.5	---	26.0	24.5	---
MEAN	15.0	11.0	6.0	5.0	3.0	6.5	13.0	17.0	23.0	25.5	25.5	25.0

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	7.7	10.0	---	12.3	12.2	12.6	12.3	8.5	---	7.6	8.0
2	10.1	7.7	9.8	---	12.2	12.2	12.0	12.5	8.4	---	7.6	7.8
3	9.6	8.0	9.6	10.7	12.7	12.0	12.1	12.7	8.0	---	7.4	8.3
4	8.7	8.9	9.4	10.6	12.2	11.7	12.0	12.8	8.1	---	7.1	7.0
5	8.9	9.0	9.8	10.5	12.2	11.7	12.0	12.7	7.8	---	6.8	5.8
6	8.6	8.8	10.1	10.5	12.6	12.5	12.3	11.4	7.6	---	7.0	5.5
7	8.7	8.6	11.0	10.4	12.7	12.2	12.5	10.6	6.8	---	7.1	5.3
8	8.6	7.3	9.7	10.5	12.2	12.5	12.2	10.6	6.7	---	6.9	5.0
9	8.5	6.3	9.5	10.5	12.2	12.5	11.6	10.3	6.3	7.3	6.5	5.0
10	8.5	6.4	9.6	11.0	12.1	11.7	11.3	10.0	6.8	5.9	6.4	5.3
11	8.8	6.4	9.6	11.6	11.8	12.0	11.6	9.9	6.6	5.2	6.3	5.2
12	8.7	6.5	9.4	11.6	12.3	11.8	12.4	9.6	6.8	6.4	6.4	5.0
13	8.8	6.4	9.3	11.8	11.9	11.4	12.9	9.3	---	6.9	6.3	---
14	8.7	6.6	9.1	12.0	12.5	11.4	12.6	9.0	---	---	6.5	---
15	7.8	6.7	8.7	12.2	13.3	11.4	12.6	8.7	6.8	---	6.5	---
16	7.7	6.7	8.8	12.2	13.0	12.7	13.0	8.6	6.9	---	6.0	---
17	8.1	6.6	9.3	12.1	13.0	13.2	13.0	8.5	7.2	---	5.6	6.4
18	8.5	6.6	9.2	11.8	13.0	12.4	12.4	8.6	7.3	---	6.7	6.4
19	8.9	7.1	9.2	11.3	13.1	11.3	11.5	8.2	7.0	---	7.1	6.0
20	9.1	7.7	9.4	10.5	13.6	11.9	---	7.7	7.7	---	8.4	5.9
21	9.1	8.1	9.2	11.0	13.5	11.7	---	8.4	7.1	7.8	9.3	6.1
22	8.3	7.9	9.3	11.3	13.6	11.8	---	8.9	7.2	7.6	9.4	6.3
23	7.7	7.8	9.3	11.2	13.6	11.8	10.4	9.3	8.4	6.9	9.6	6.5
24	7.7	8.2	9.2	11.7	13.9	11.6	12.8	9.5	8.2	6.6	9.9	6.4
25	7.6	8.5	9.3	12.3	13.2	11.3	13.3	9.3	7.0	6.9	9.9	6.2
26	7.9	8.7	9.1	12.2	12.1	10.9	12.8	9.1	7.2	6.7	9.7	6.2
27	8.4	8.9	9.0	12.0	11.8	12.7	13.3	9.1	7.3	7.2	9.4	6.3
28	8.4	8.7	9.1	12.3	12.0	13.4	13.0	9.5	5.8	7.0	9.2	6.2
29	8.0	9.7	9.0	12.2	12.1	13.2	12.6	9.2	4.8	7.0	9.1	6.2
30	7.6	10.2	9.1	12.2	---	12.9	12.5	9.2	5.0	7.1	8.8	6.3
31	7.7	---	9.0	12.2	---	13.2	---	8.9	---	7.3	8.4	---
MEAN	8.5	7.8	9.4	11.5	12.6	12.1	12.3	9.8	7.1	6.9	7.7	6.2

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	OCT 9.79 1045	APR 8.80 0930	APR 22.80 0845	MAY 6.80 0915
TOTAL CELLS/ML	240	140	1100	1600
DIVERSITY: DIVISION	0.0	0.9	0.4	0.9
..CLASS	0.0	0.9	0.4	0.9
..ORDER	0.2	1.5	0.4	1.2
...FAMILY	2.5	1.5	0.4	1.4
....GENUS	2.7	1.5	0.4	1.4

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
....MICRACTINIACEAE								
.....GOLENKINIA	--	-	--	-	--	-	--	-
.....MICRACTINIUM	--	-	--	-	--	-	--	-
....OOCYSTACEAE								
.....ANKISTRODESMUS	--	-	--	-	13	1	27	2
.....CHLORELLA	--	-	--	-	13	1	--	-
.....CHODATELLA	--	-	--	-	--	-	--	-
.....DICTYOSPHAERIUM	--	-	52#	36	--	-	--	-
.....KIRCHNERIELLA	--	-	--	-	--	-	--	-
.....SELENASTRUM	--	-	--	-	--	-	--	-
.....TETRAEDRON	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	--	-	--	-
....SCENEDESMUS	--	-	--	-	26	2	--	-
....TETRASTRUM	--	-	--	-	--	-	55	3
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	--	-	27	2
...VOLVOCAEEAE								
....PANDORINA	--	-	--	-	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
....COSCINODISCACEAE								
.....CYCLOTELLA	10	4	26#	18	13	1	55	3
.....MELOSIRA	--	-	--	-	--	-	14	1
.....STEPHANODISCUS	--	-	--	-	--	-	--	-
...PENNALES								
....ACHNANTHACEAE								
.....ACHNANTHES	30	13	--	-	--	-	--	-
....CYMBELLACEAE								
.....CYMBELLA	25	10	--	-	--	-	41	2
....EUNOTIACEAE								
.....EUNOTIA	--	-	--	-	--	-	14	1
...FRAGILARIACEAE								
.....FRAGILARIA	25	10	--	-	--	-	--	-
....SYNEDRA	35	15	--	-	--	-	--	-
...GOMPHONEMACEAE								
.....GOMPHONEMA	25	10	--	-	--	-	14	1
....NAVICULACEAE								
.....NAVICULA	81#	33	64#	45	--	-	14	1
...NITZSCHACEAE								
.....NITZSCHIA	10	4	--	-	--	-	14	1
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
....CRYPTOCHRYSIDACEAE								
.....CHROOMONAS	--	-	--	-	--	-	--	-
....CRYPTOMONADACEAE								
.....CRYPTOMONAS	--	-	--	-	--	-	14	1
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
....CHROOCOCCACEAE								
.....AGMENELLUM	--	-	--	-	--	-	--	-
.....ANACYSTIS	--	-	--	-	--	-	27	2
...HORMOGONALES								
....OSCILLATORIACEAE								
.....OSCILLATORIA	--	-	--	-	1000#	94	1300#	80
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
....EUGLENACEAE								
.....EUGLENA	--	-	--	-	--	-	--	-
....TRACHELOMONAS	--	-	--	-	--	-	14	1

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

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

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	JUN 10.80 1130	JUL 23.80 1400	AUG 15.80 0800	SEP 16.80 0830				
TOTAL CELLS/ML	4700	1900	2900	2800				
DIVERSITY: DIVISION	1.0	1.3	1.7	1.4				
..CLASS	1.0	1.3	1.7	1.4				
..ORDER	1.7	1.7	2.3	1.4				
...FAMILY	2.2	1.9	2.7	1.7				
....GENUS	2.7	2.0	2.9	2.1				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...MICRACTINIACEAE								
....GOLENKINIA	34	1	310# 17	--	-	--	-	--
....MICRACTINIUM	--	-	--	-	1000# 36	--	-	400 14
....OOCYSTACEAE								
....ANKISTRODESMUS	340	7	13	1	51	2	39	1
....CHLORELLA	34	1	--	-	--	-	--	-
....CHODATELLA	34	1	--	-	--	-	*	0
....DICTYOSPHAERIUM	270	6	52	3	--	-	--	-
....KIRCHNERIELLA	--	-	--	-	26	1	52	2
....SELENASTRUM	--	-	--	-	26	1	52	2
....TETRAEDRON	34	1	13	1	--	-	--	-
....SCENEDESMACEAE								
....ACTINASTRUM	--	-	--	-	100	4	--	-
....SCENEDESMUS	140	3	--	-	51	2	130	5
....TETRASTRUM	--	-	--	-	--	-	--	-
..VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	880# 19		39	2	320	11	--	-
...VOLVOCAEAE								
...PANDORINA	540	12	--	-	--	-	--	-
CHRYSOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	1800# 38		190	10	90	3	150	6
....MELOSTRA	410	9	39	2	410	14	150	6
....STEPHANODISCUS	--	-	--	-	--	-	140	5
..PENNALES								
...ACHNANTHACEAE								
...ACHNANTHES	--	-	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	--	-	--	-	--	-	--	-
...EUNOTIACEAE								
....EUNOTIA	--	-	--	-	--	-	--	-
...FRAGILARIACEAE								
....FRAGILARIA	--	-	--	-	--	-	--	-
....SYNEDRA	34	1	--	-	--	-	--	-
...GOMPHONEMACEAE								
....GOMPHONEMA	--	-	--	-	--	-	--	-
...NAVICULACEAE								
....NAVICULA	--	-	--	-	--	-	--	-
...NITZSCHIACEAE								
....NITZSCHIA	170	4	13	1	*	0	*	0
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	*	0	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	100	4	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	410	14	1600# 59	
....ANACYSTIS	--	-	120	6	--	-	--	-
...HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	1100# 58		180	6	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
....EUGLENA	--	-	--	-	51	2	--	-
....TRACHELOMONAS	--	-	--	-	--	-	--	-

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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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 telemeter 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, 33.45 ft (10.196 m) Apr. 16; minimum gage height, 23.81 ft (7.257 m) Oct. 26, July 6.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.25	24.39	25.94	25.00	24.43	24.45	29.40	26.82	24.70	24.00	24.53	24.55
2	24.83	24.69	25.14	24.85	24.52	24.44	30.72	27.05	24.52	24.42	24.34	24.27
3	25.82	25.34	24.81	24.73	24.46	24.43	30.22	26.04	25.89	24.41	24.38	24.33
4	26.26	25.79	24.56	24.71	24.32	24.47	28.62	25.15	26.86	24.35	25.57	24.49
5	25.29	25.51	24.45	24.73	24.12	25.69	28.73	24.64	26.11	24.80	25.77	24.50
6	25.30	26.06	24.55	24.66	24.44	28.50	28.32	24.72	25.22	24.20	25.26	24.66
7	25.95	25.29	24.55	24.34	24.77	27.76	27.44	24.34	25.74	24.25	24.77	24.45
8	26.01	24.47	24.42	24.46	24.44	26.86	26.90	24.76	26.26	24.69	24.44	24.29
9	25.46	24.41	24.48	24.75	24.15	28.34	28.01	24.63	26.14	25.61	24.69	24.16
10	27.79	24.60	24.42	24.75	24.67	29.00	30.04	24.46	25.83	26.23	24.81	24.23
11	29.32	24.86	24.18	24.67	24.36	27.94	32.02	24.29	25.82	26.75	25.07	24.12
12	29.56	24.88	24.46	26.15	23.98	26.76	29.71	24.58	25.50	25.07	27.34	24.08
13	27.76	25.05	25.56	26.61	24.48	26.73	27.81	24.78	25.17	25.03	28.17	24.03
14	27.28	25.16	27.30	26.41	24.49	27.64	28.32	25.62	24.87	24.37	25.93	24.37
15	27.12	24.75	26.53	25.80	24.53	27.31	31.16	25.00	24.42	24.42	24.95	24.42
16	26.24	24.71	25.34	26.10	24.77	26.11	33.18	24.79	24.67	24.29	25.33	24.22
17	25.69	24.52	24.74	26.05	24.72	25.77	31.51	24.52	24.60	24.46	25.24	24.43
18	25.47	24.59	24.74	25.71	24.94	27.91	28.91	24.64	24.96	24.38	25.05	24.35
19	24.85	24.66	24.61	26.41	24.62	31.68	27.60	24.72	24.61	24.25	28.77	24.26
20	25.06	24.46	24.76	26.71	24.60	31.57	26.92	25.05	24.60	24.19	29.72	24.36
21	24.69	24.67	24.33	26.26	24.91	28.65	26.07	25.72	24.36	24.11	27.63	24.26
22	24.54	24.48	24.34	25.11	25.18	29.21	25.41	26.98	24.27	24.45	27.60	24.39
23	24.33	24.45	24.45	25.31	26.69	30.69	24.96	27.37	24.32	25.26	28.53	24.59
24	24.54	24.46	24.20	25.47	27.57	29.64	24.93	25.65	24.07	25.44	26.29	24.51
25	24.55	24.80	24.66	25.06	27.08	28.10	24.97	25.31	24.29	24.53	25.23	24.42
26	24.29	25.89	27.00	24.74	25.97	28.01	24.58	26.19	24.09	24.10	24.66	24.22
27	24.30	28.55	28.99	25.21	25.16	27.74	24.83	25.22	24.69	24.43	24.45	24.33
28	24.20	29.06	27.74	24.65	24.93	27.28	25.40	24.70	24.25	25.03	24.44	24.51
29	24.57	27.43	26.45	24.55	24.73	27.95	25.47	24.61	24.48	25.50	24.42	24.35
30	24.19	26.18	25.85	24.82	---	28.58	25.46	24.37	24.30	25.51	24.16	24.23
31	24.54	---	25.24	24.36	---	28.77	---	24.34	---	24.77	24.41	---
MEAN	25.65	25.27	25.25	25.26	24.90	27.68	27.92	25.20	24.99	24.75	25.68	24.35
MAX	29.56	29.06	28.99	26.71	27.57	31.68	33.18	27.37	26.86	26.75	29.72	24.66
MIN	24.19	24.39	24.18	24.34	23.98	24.43	24.58	24.29	24.07	24.00	24.16	24.03

WTR YR 1980 MEAN 25.58 MAX 33.18 MIN 23.98

GUYANDOTTE RIVER BASIN

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 December 1979 (discontinued).

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.

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, 0.35 ft³/s (0.010 m³/s) Sept. 30, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period October to December, 47 ft³/s (1.33 m³/s) Nov. 26, gage height 4.60 ft (1.402 m), no peak above base of 100 ft³/s (2.8 m³/s); minimum daily, 2.0 ft³/s (0.06 m³/s) Nov. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	2.0	9.0									
2	5.5	10	7.8									
3	5.8	14	6.8									
4	5.8	12	6.8									
5	5.8	9.0	6.4									
6	5.8	7.1	6.1									
7	5.5	5.2	5.8									
8	4.6	4.6	5.2									
9	4.3	4.1	4.9									
10	8.6	11	4.9									
11	11	15	4.3									
12	9.4	16	4.1									
13	10	15	5.2									
14	11	13	5.2									
15	9.4	11	4.6									
16	7.1	9.8	4.6									
17	6.1	9.0	4.6									
18	5.2	8.2	4.3									
19	4.3	7.8	4.1									
20	3.9	6.8	4.3									
21	3.9	6.1	4.3									
22	3.3	5.5	4.1									
23	3.9	5.2	4.3									
24	3.7	6.4	5.2									
25	3.5	5.8	12									
26	3.3	32	18									
27	2.9	21	15									
28	3.3	15	12									
29	3.3	12	9.8									
30	3.1	10	8.6									
31	2.6	---	8.2									
TOTAL	170.2	309.6	210.5									
MEAN	5.49	10.3	6.79									
MAX	11	32	18									
MIN	2.6	2.0	4.1									
CFSM	.65	1.22	.81									
IN.†	.75	1.37	.93									
IN.*	---	3.74	1.88									

CAL YR 1979 TOTAL 4845.3 MEAN 13.3 MAX 339 MIN 1.7 CFSM 1.58 IN 21.38

† Runoff.

* Rainfall.

GUYANDOTTE RIVER BASIN

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03202240 ALLEN CREEK AT ALLEN JUNCTION, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1977 to December 1979 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to December 1979 (discontinued).

pH: March 1978 to September 1979.

WATER TEMPERATURES: November 1977 to December 1979 (discontinued).

TURBIDITY: March 1978 to December 1979 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: November 1977 to December 1979 (discontinued).

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, 0.6 NTU Dec. 21, 23, 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 metric tons) Jan. 26, 1978; minimum daily, 0 tons (0 metric tons) on several days in October through November 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily for period October to December, 446 micromhos Nov. 1; minimum daily, 174 micromhos Nov. 26.

WATER TEMPERATURES: Maximum daily for period October to December, 23°C Oct. 1, 2; minimum daily, 2.0°C Dec. 25, 27, 30.

TURBIDITY: Maximum daily for period October through December, 77 NTU Dec. 13; minimum daily, 0.6 NTU Dec. 21, 23.

SEDIMENT CONCENTRATIONS: Maximum daily mean for period October to December, 116 mg/L Nov. 26; minimum daily mean, 2 mg/L Oct. 19, Dec. 19.

SEDIMENT LOADS: Maximum daily for period October through December, 10 tons (9.1 metric tons) Nov. 26; minimum daily, 0.02 tons (0.02 metric tons) Oct. 19, Dec. 19.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)
OCT							
03...	1445	5.7	--	--	--	--	--
10...	1710	8.9	350	7.6	9.5	10.0	--
17...	1515	5.7	--	--	17.0	--	--
22...	1440	3.2	450	7.6	22.0	17.0	--
23...	1000	3.9	--	--	--	14.0	--
31...	1105	2.9	--	--	15.0	13.0	--
NOV							
14...	0850	13	260	7.0	--	8.0	5.2
14...	1730	12	310	7.5	1.5	8.0	--
20...	1415	6.7	--	--	--	--	--
30...	1415	9.7	--	--	.0	7.5	--
DEC							
05...	1130	6.8	370	7.4	--	4.5	2.7
13...	0945	4.9	450	5.6	--	9.5	--

GUYANDOTTE RIVER BASIN

03202240 ALLEN CREEK AT ALLEN JUNCTION, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA) (00933)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY (MG/L AS CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 22...	--	130	32	29	13	44	42	1.7	47	3.4	98	110
NOV 14...	11.5	77	38	16	9.0	15	43	.7	17	2.3	39	68
DEC 05...	13.3	110	41	25	12	31	37	1.3	33	2.4	71	95

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS) (01001)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)
OCT 22...	1.3	.1	9.1	275	266	.37	2.38	--	--	--	--	--
NOV 14...	1.2	.1	8.7	160	144	.22	5.62	90	--	--	--	--
DEC 05...	1.1	.1	8.6	225	219	.31	4.13	70	1	0	1	1

DATE	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD) (01026)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR) (01031)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU) (01041)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	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)
OCT 22...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 14...	--	--	--	--	--	--	--	--	100	--	--	--
DEC 05...	0	2	20	10	10	2	0	2	230	0	0	0

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG) (71895)	SELE- NIUM, TOTAL RECOV- ERABLE (UG/L AS SE) (01147)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE) (01146)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN) (01091)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT CHARGE, SUS- PENDE (T/DAY) (80155)
OCT 22...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 14...	430	--	--	--	--	--	--	--	--	--	15	.53
DEC 05...	560	<.1	<.1	<.0	0	0	0	120	10	110	7	.13

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SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

[illegible]

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

[illegible]

GUYANDOTTE RIVER BASIN

03202240 ALLEN CREEK AT ALLEN JUNCTION, WV--Continued

TURBIDITY (NTU), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	4.0	2.3									
2	75	10	3.0									
3	7.8	10	3.3									
4	3.8	8.8	3.4									
5	4.4	4.6	4.3									
6	1.7	5.0	---									
7	12	4.1	4.3									
8	11	4.1	3.5									
9	.68	3.4	3.3									
10	2.1	19	---									
11	2.1	1.0	2.5									
12	4.8	8.5	---									
13	23	5.2	75									
14	.78	5.3	2.1									
15	.78	4.7	1.8									
16	.69	3.5	1.0									
17	.64	3.2	2.0									
18	.66	3.5	2.8									
19	.63	3.2	2.3									
20	.73	2.9	2.9									
21	1.3	2.8	.60									
22	1.8	2.6	1.4									
23	2.5	---	.60									
24	3.5	24	7.7									
25	3.6	4.4	16									
26	3.6	33	5.2									
27	---	10	3.6									
28	4.5	7.2	3.5									
29	3.5	5.7	1.1									
30	3.9	4.2	1.5									
31	3.7	---	1.2									
MEAN	6.3	7.2	5.8									

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	6	.07	10	.05	5	.12						
2	79	1.2	61	1.5	6	.13						
3	29	.45	27	1.0	6	.11						
4	7	.11	18	.58	8	.15						
5	7	.11	13	.32	11	.19						
6	7	.11	9	.17	13	.21						
7	8	.12	8	.11	7	.11						
8	7	.09	8	.10	7	.10						
9	6	.07	7	.08	6	.08						
10	53	1.2	61	1.6	5	.07						
11	23	.68	34	1.4	5	.06						
12	23	.58	25	1.1	7	.08						
13	40	1.1	15	.61	91	1.3						
14	20	.59	14	.49	7	.10						
15	12	.30	16	.48	4	.05						
16	8	.15	9	.24	5	.06						
17	7	.12	7	.17	5	.06						
18	3	.04	6	.13	5	.06						
19	2	.02	7	.15	2	.02						
20	5	.05	22	.40	4	.05						
21	5	.05	7	.12	3	.03						
22	5	.04	7	.10	3	.03						
23	7	.07	12	.17	5	.06						
24	5	.05	20	.35	50	.57						
25	17	.16	9	.14	78	2.7						
26	11	.10	116	10	102	5.1						
27	6	.05	35	2.0	10	.41						
28	5	.04	20	.81	6	.19						
29	5	.04	17	.55	5	.13						
30	5	.04	11	.30	4	.09						
31	5	.04	---	---	5	.11						
TOTAL	---	7.84	---	25.22	---	12.53						

GUYANDOTTE RIVER BASIN

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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 from mouth, 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 September 1980 (discontinued).

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 periods of no gage-height record, June 14 to July 16, and those for February, May and June, which are poor. 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, 0.08 ft³/s (0.002 m³/s) Aug. 23-28, Oct. 10, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 300 ft³/s (8.50 m³/s) July 10, gage height, 5.90 ft (1.798 m), from highwater mark, no other peak above base of 150 ft³/s (4.2 m³/s); minimum daily, 0.19 ft³/s (0.005 m³/s) June 24.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	2.0	5.0	5.0	4.2	4.8	15	60	1.9	.23	.36	1.7
2	3.8	50	3.8	4.2	3.7	4.5	13	30	1.5	.22	.33	1.2
3	4.4	34	3.9	3.7	3.2	4.3	10	15	1.3	.21	.30	1.8
4	3.8	12	3.1	3.3	2.8	7.0	80	11	1.2	.35	6.1	1.4
5	4.0	7.0	3.0	3.0	2.5	13	41	8.4	1.1	1.2	4.4	2.4
6	3.4	5.2	3.1	3.2	2.4	48	17	7.0	5.0	.62	1.5	1.4
7	4.2	4.0	2.9	4.5	2.2	41	11	5.8	1.5	.45	1.7	1.2
8	3.6	3.6	2.3	7.4	2.1	79	8.0	5.0	.72	.62	1.7	1.1
9	3.4	3.4	1.7	8.1	2.0	43	64	4.4	.33	6.4	.96	.96
10	9.8	27	1.7	8.1	1.9	18	32	3.8	.52	180	.80	4.2
11	14	26	1.7	12	1.9	11	15	3.3	.43	25	.62	1.8
12	9.4	17	1.7	23	1.8	7.9	10	3.1	.36	12	.52	1.3
13	17	16	3.4	18	1.7	7.5	8.5	3.3	.36	30	.43	.87
14	17	11	3.5	43	2.0	9.9	12	3.1	.30	17	.39	.67
15	9.4	8.0	3.3	34	3.1	8.9	15	3.0	.30	10	.36	.80
16	6.4	6.1	3.5	17	29	8.8	13	2.7	.35	2.0	.43	.57
17	4.4	4.6	3.6	12	22	22	10	2.4	.30	1.7	.36	.52
18	3.4	4.0	7.6	76	15	40	9.4	2.7	.26	.80	4.0	.47
19	2.4	3.6	3.2	56	8.7	25	7.9	2.8	.24	.68	4.2	.36
20	2.2	2.9	3.7	20	8.4	15	6.5	17	.23	.60	2.0	.28
21	2.0	2.4	2.3	11	15	31	5.6	12	.22	.90	2.6	.28
22	1.8	2.3	2.3	18	49	35	4.7	8.0	.21	2.0	15	.33
23	2.2	2.2	2.4	51	26	19	4.2	6.8	.20	2.8	5.5	.73
24	2.0	3.6	4.0	25	14	15	4.6	5.8	.19	1.5	2.8	.52
25	1.6	3.6	23	19	9.8	24	3.4	5.0	.36	1.2	1.8	.47
26	1.4	36	26	15	7.9	23	3.6	4.2	.38	.96	1.3	.36
27	1.2	22	15	11	6.4	15	64	3.2	.30	.78	.96	.30
28	2.2	12	10	9.0	5.8	13	28	2.7	.30	2.2	.73	.26
29	2.6	8.4	7.9	7.0	5.2	15	18	2.4	.26	1.3	.62	.24
30	2.1	6.3	7.1	5.8	---	15	100	2.1	.24	.70	.62	.30
31	2.0	---	6.0	4.9	---	14	---	1.8	---	.39	1.3	---
TOTAL	151.3	346.2	171.7	538.2	259.7	637.6	634.4	247.8	20.86	304.81	64.69	28.79
MEAN	4.88	11.5	5.54	17.4	8.96	20.6	21.1	7.99	.70	9.83	2.09	.96
MAX	17	50	26	76	49	79	100	60	5.0	180	15	4.2
MIN	1.2	2.0	1.7	3.0	1.7	4.3	3.4	1.8	.19	.21	.30	.24
CFSM	1.01	2.37	1.14	3.59	1.85	4.25	4.35	1.65	.14	2.03	.43	.20
IN.†	1.16	2.65	1.32	4.13	1.99	4.89	4.86	1.90	.16	2.34	.50	.22
IN.‡	2.87	4.16	1.06	---	---	---	6.81	2.73	2.25	---	---	---

CAL YR 1979 TOTAL 4535.01 MEAN 12.4 MAX 311 MIN .26 CFSM 2.56 IN 34.78
WTR YR 1980 TOTAL 3406.05 MEAN 9.31 MAX 180 MIN .19 CFSM 1.92 IN 26.12

† Runoff.

‡ Rainfall.

GUYANDOTTE RIVER BASIN

03202245 MARSH FORK AT MABEN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1977 to September 1980 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to September 1980 (discontinued).

pH: March 1978 to September 1979.

WATER TEMPERATURES: November 1977 to September 1980 (discontinued).

TURBIDITY: March 1978 to September 1980 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: November 1977 to September 1980 (discontinued).

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, 27.0°C July 21, 1980; minimum daily, -1.0°C on several days December 1978 through February 1979.

TURBIDITY: Maximum daily, 180 NTU June 6, 1980; minimum daily, 1 NTU on several days in 1978 and 1979, July 26, 1980.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 484 mg/L July 6, 1980; minimum daily mean, 0 mg/L on many days during 1978, 1979, and 1980.

SEDIMENT LOADS: Maximum daily, 293 tons (266 metric tons) Jan. 26, 1978; minimum daily, 0 tons (0 metric tons) on many days during 1978, 1979, and 1980.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 186 micromhos June 23; minimum daily, 42 micromhos Apr. 26.

WATER TEMPERATURES: Maximum daily, 27.0°C July 21; minimum daily, 0.0°C Dec. 17-20, Feb 5, 6, 11, 12.

TURBIDITY: Maximum daily, 180 NTU June 6; minimum daily, 1 NTU on July 26.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 484 mg/L June 6; minimum daily mean, 0 mg/L Nov. 18-21, Dec. 8, 9.

SEDIMENT LOADS: Maximum daily, 137 tons (124 metric tons) July 10; minimum daily, 0 tons (0 metric tons) on many days during year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW- INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)
OCT							
03...	1635	4.0	--	--	--	--	--
10...	1910	12	70	7.3	14.5	9.0	--
17...	1350	4.4	--	--	19.0	14.0	--
22...	1230	1.8	87	6.5	25.5	14.5	--
23...	0910	3.8	--	--	--	13.5	--
31...	1330	1.9	95	7.0	16.5	12.0	--
NOV							
15...	0900	9.4	60	6.4	--	5.0	2.9
15...	0945	8.1	48	6.9	-1.0	4.5	--
20...	1555	2.9	--	--	--	--	--
29...	1520	7.9	75	7.3	-2.0	6.0	--
DEC							
06...	0955	2.6	70	6.7	--	3.0	1.4
13...	0900	2.6	124	5.7	--	8.0	--
JAN							
26...	1435	19	60	6.1	8.0	8.0	--
28...	1440	9.4	--	--	3.0	5.0	--
FEB							
29...	1040	4.9	140	6.2	-7.0	4.0	--
MAR							
14...	1100	8.9	180	6.6	2.0	3.0	--
28...	1355	17	70	--	14.0	7.0	--
APR							
25...	1205	3.3	90	6.9	19.0	13.5	--
29...	1100	18	60	--	10.0	9.5	--
MAY							
28...	1345	1.5	100	7.4	25.5	21.0	--
JUN							
06...	1335	12	95	6.2	25.0	15.0	--
26...	0825	.52	180	7.8	20.0	16.5	--
JUL							
16...	1905	2.1	90	6.7	27.0	23.5	--
30...	1015	.52	165	7.8	22.0	20.0	--
SEP							
04...	1240	1.0	170	7.6	29.0	22.5	--
18...	1510	.38	215	6.9	23.0	21.5	--

GUYANDOTTE RIVER BASIN

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03202245 MARSH FORK AT MABEN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CAC03) (00900)	HARD- NESS, NONCAR- BONATE (MG/L CAC03) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM+ POTAS- SIUM DIS- SOLVED (MG/L AS NA) (00933)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LINITY (MG/L AS CAC03) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 22...	--	24	0	5.8	2.4	6.9	48	.6	8.4	1.5	32	8.5
NOV 15...	13.2	14	8	3.3	1.5	2.6	37	.3	3.6	1.0	6	7.8
DEC 06...	14.1	18	0	4.1	1.8	4.1	44	.4	5.0	.9	18	8.4
DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS) (01001)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)
OCT 22...	6.3	.0	7.1	52	58	.07	.25	--	--	--	--	--
NOV 15...	3.1	.0	6.5	32	30	.04	.81	50	--	--	--	--
DEC 06...	4.3	.0	6.1	43	41	.06	.30	30	1	0	1	1
DATE	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD) (01026)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR) (01031)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU) (01041)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	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)
OCT 22...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 15...	--	--	--	--	--	--	--	--	130	--	--	--
DEC 06...	0	2	20	10	10	1	0	1	90	1	1	0
DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG) (71895)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE) (01146)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN) (01091)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT 22...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 15...	30	--	--	--	--	--	--	--	--	--	8	.20
DEC 06...	30	<.1	<.1	<.0	0	0	0	10	0	10	0	.00

GUYANDOTTE RIVER BASIN

03202245 MARSH FORK AT MABEN, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	43	66	62	59	74	63	73	100	118	---	142
2	80	44	65	61	54	65	58	73	100	118	---	143
3	83	43	65	58	53	90	64	74	98	118	106	150
4	77	43	64	60	53	62	52	73	129	116	105	136
5	80	43	66	80	67	63	70	72	129	130	102	136
6	89	43	67	82	64	63	66	73	121	121	106	---
7	76	43	69	83	65	71	66	73	123	120	68	138
8	74	43	68	87	55	52	76	72	129	175	68	136
9	82	43	---	72	54	68	50	78	112	118	68	136
10	71	---	73	62	58	62	60	76	131	72	69	135
11	75	---	76	72	99	68	69	78	129	65	69	135
12	69	56	---	58	87	70	68	84	122	120	140	176
13	69	57	115	97	54	61	70	82	132	118	68	154
14	68	51	62	69	90	121	65	84	131	72	68	155
15	72	61	60	50	54	87	72	84	123	86	67	163
16	66	57	61	52	54	65	69	87	160	92	67	158
17	68	67	66	63	54	89	58	90	142	132	68	154
18	76	67	61	56	56	63	68	83	158	131	112	170
19	86	68	59	61	---	51	67	82	159	131	107	153
20	85	67	65	57	92	61	67	85	160	130	68	151
21	85	67	62	51	74	47	65	76	159	130	67	152
22	---	60	61	62	50	47	71	75	162	120	106	176
23	89	49	62	43	57	54	69	75	186	121	104	165
24	81	68	59	46	60	83	89	73	158	116	99	152
25	81	65	55	70	62	53	80	75	171	120	100	162
26	81	45	52	60	130	57	42	87	150	122	110	171
27	81	47	51	---	100	58	47	91	116	112	116	170
28	81	50	61	66	---	61	49	86	118	140	132	166
29	81	54	61	56	140	68	65	89	118	136	126	175
30	80	56	62	56	---	77	48	91	122	150	139	182
31	44	---	---	---	---	54	---	99	---	101	138	---
MEAN	77	54	65	64	70	67	64	80	135	118	95	155
WTR YR 1980	MEAN	87	MAX	186	MIN	42						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.0	14.0	4.0	5.0	1.0	2.0	11.0	10.0	22.0	24.0	---	23.0
2	17.0	15.0	---	4.0	1.0	3.0	12.0	11.0	22.0	24.0	---	24.0
3	14.0	14.0	3.0	4.0	1.0	3.0	13.0	11.0	22.0	25.0	25.0	23.0
4	15.0	13.0	2.0	4.0	1.0	7.0	9.0	11.0	22.0	23.0	22.0	22.0
5	16.0	14.0	3.0	5.0	.0	7.0	10.0	12.0	21.0	23.0	22.0	22.0
6	16.0	13.0	3.0	5.0	.0	7.0	11.0	13.0	17.0	24.0	25.0	22.0
7	16.0	14.0	5.0	4.0	1.0	8.0	11.0	13.0	19.0	25.0	25.0	21.0
8	13.0	14.0	3.0	4.0	1.0	7.0	12.0	13.0	20.0	25.0	25.0	21.0
9	13.0	14.0	---	3.0	1.0	8.0	11.0	12.0	21.0	23.0	26.0	21.0
10	9.0	---	3.0	7.0	1.0	7.0	11.0	11.0	21.0	18.0	26.0	20.0
11	9.0	---	5.0	8.0	.0	7.0	12.0	11.0	20.0	20.0	26.0	17.0
12	9.0	7.0	---	---	.0	7.0	12.0	14.0	21.0	20.0	25.0	20.0
13	10.0	9.0	8.0	---	1.0	5.0	12.0	13.0	22.0	20.0	24.0	22.0
14	13.0	7.0	8.0	---	1.0	4.0	14.0	13.0	22.0	21.0	25.0	22.0
15	13.0	6.0	7.0	---	2.0	6.0	11.0	14.0	22.0	21.0	23.0	19.0
16	9.0	7.0	7.0	---	2.0	7.0	12.0	18.0	20.0	24.0	23.0	19.0
17	13.0	11.0	.0	---	2.0	7.0	11.0	14.0	22.0	25.0	23.0	19.0
18	9.0	12.0	.0	---	2.0	6.0	10.0	13.0	22.0	24.0	20.0	19.0
19	15.0	10.0	.0	---	---	---	11.0	14.0	22.0	23.0	21.0	20.0
20	16.0	11.0	.0	---	4.0	6.0	15.0	14.0	22.0	25.0	19.0	21.0
21	17.0	12.0	6.0	---	4.0	7.0	16.0	15.0	22.0	27.0	19.0	22.0
22	---	12.0	7.0	---	7.0	8.0	16.0	16.0	22.0	22.0	19.0	21.0
23	15.0	10.0	7.0	---	10.0	8.0	18.0	15.0	23.0	20.0	19.0	19.0
24	11.0	12.0	5.0	---	6.0	8.0	15.0	15.0	21.0	20.0	21.0	20.0
25	14.0	12.0	6.0	---	5.0	7.0	14.0	15.0	18.0	23.0	22.0	20.0
26	14.0	11.0	5.0	8.0	1.0	8.0	13.0	11.0	19.0	22.0	23.0	19.0
27	14.0	9.0	4.0	---	---	10.0	11.0	17.0	24.0	24.0	24.0	16.0
28	15.0	8.0	5.0	5.0	2.0	7.0	12.0	20.0	24.0	22.0	24.0	14.0
29	14.0	5.0	4.0	4.0	4.0	8.0	10.0	20.0	23.0	25.0	24.0	16.0
30	14.0	4.0	5.0	2.0	---	7.0	9.0	22.0	23.0	22.0	23.0	16.0
31	14.0	---	---	---	---	7.0	---	22.0	---	25.0	22.0	---
MEAN	13.5	10.5	4.5	5.0	2.5	6.5	12.0	14.5	21.5	23.0	23.0	20.0
WTR YR 1980	MEAN	13.5	MAX	27.0	MIN	.0						

TURBIDITY (NTU), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	3	.03	2	.01	3	.04	57	.77	8	.09	27	.35					
2	2	.02	57	4.5	4	.04	18	.20	27	.27	15	.18					
3	5	.06	15	1.4	7	.07	7	.07	44	.38	7	.08					
4	4	.04	26	.84	3	.03	7	.06	50	.38	8	.15					
5	3	.03	31	.59	2	.02	12	.10	20	.14	65	2.3					
6	5	.05	31	.44	1	.01	23	.20	10	.06	71	9.2					
7	7	.08	34	.37	1	.01	24	.29	9	.05	38	4.2					
8	7	.07	35	.34	0	.00	18	.36	42	.24	187	40					
9	5	.05	36	.33	0	.00	25	.55	33	.18	43	5.0					
10	26	.74	53	4.0	1	.00	9	.20	38	.19	33	1.6					
11	7	.26	22	1.5	5	.02	47	1.5	36	.18	23	.68					
12	5	.13	10	.46	6	.03	66	4.1	16	.08	13	.28					
13	19	.91	3	.13	32	.29	52	2.5	72	.33	23	.47					
14	6	.28	7	.21	12	.11	68	8.0	30	.16	50	1.3					
15	8	.20	5	.11	3	.03	22	2.0	43	.36	10	.24					
16	5	.09	2	.03	4	.04	8	.37	57	4.5	12	.29					
17	7	.08	2	.02	12	.12	26	.84	55	3.3	74	5.4					
18	4	.04	0	.00	74	1.5	219	47	23	.93	49	5.3					
19	3	.02	0	.00	12	.10	62	9.4	17	.40	23	1.6					
20	1	.01	0	.00	5	.05	38	2.1	23	.52	22	.89					
21	2	.01	0	.00	5	.03	7	.21	33	1.3	22	1.8					
22	5	.02	2	.01	5	.03	84	4.1	68	9.5	22	2.1					
23	4	.02	10	.06	11	.07	94	14	31	2.2	17	.87					
24	3	.02	8	.08	45	1.0	22	1.5	23	.87	67	2.7					
25	4	.02	3	.03	96	7.2	15	.77	12	.32	52	3.4					
26	4	.02	70	7.4	32	2.2	12	.49	9	.19	37	2.3					
27	5	.02	19	1.1	15	.61	13	.39	10	.17	35	1.4					
28	6	.04	10	.32	34	.92	16	.39	9	.14	67	2.4					
29	17	.12	12	.27	47	1.0	9	.17	12	.17	60	2.4					
30	13	.07	7	.12	55	1.1	12	.19	---	---	42	1.7					
31	3	.02	---	---	57	.92	11	.15	---	---	41	1.5					
TOTAL	---	3.57	---	24.67	---	17.59	---	102.97	---	27.60	---	102.08					

03202245 MARSH FORK AT MABEN, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

[illegible]

GUYANDOTTE RIVER BASIN

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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 December 1979 (discontinued).

GAGE.--Water-stage and rainfall recorders. Altitude of gage is 1,380 ft (421 m), from topographic map.

REMARKS.--Water-discharge records 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, 0.08 ft³/s (0.002 m³/s) Oct. 12, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period October to December, 113 ft³/s (3.20 m³/s) Nov. 2, gage height, 5.41 ft (1.649 m), no other peak above base of 100 ft³/s (2.8 m³/s); minimum daily, 1.9 ft³/s (0.05 m³/s) Oct. 26, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	2.2	7.8									
2	4.0	40	6.7									
3	4.0	29	6.1									
4	3.4	12	5.8									
5	3.9	8.5	5.5									
6	3.5	6.7	5.2									
7	4.0	5.6	5.0									
8	3.2	5.0	4.2									
9	3.1	4.8	3.8									
10	8.5	20	3.7									
11	11	25	3.4									
12	8.3	20	3.6									
13	11	20	5.4									
14	12	14	5.5									
15	8.7	10	5.5									
16	6.4	8.5	6.2									
17	4.9	6.9	5.6									
18	4.0	5.9	4.8									
19	3.3	5.1	4.6									
20	3.1	4.5	5.1									
21	2.9	4.1	4.3									
22	2.6	4.2	4.4									
23	2.6	4.0	4.3									
24	2.3	5.8	5.5									
25	2.1	5.6	21									
26	1.9	44	28									
27	1.9	28	18									
28	2.5	16	13									
29	2.6	11	10									
30	2.3	8.9	9.3									
31	2.2	---	8.5									
TOTAL	140.8	385.3	229.8									
MEAN	4.54	12.8	7.41									
MAX	12	44	28									
MIN	1.9	2.2	3.4									
CFSM	.64	1.80	1.04									
IN.†	.74	2.01	1.20									
IN.*	---	---	2.09									

CAL YR 1979 TOTAL 5321.17 MEAN 14.6 MAX 235 MIN .97 CFSM 2.05 IN 27.80

† Runoff.
* Rainfall.

GUYANDOTTE RIVER BASIN

03202255 STILL RUN AT ITMANN, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1977 to December 1979 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to December 1979 (discontinued).

pH: March 1978 to September 1979.

WATER TEMPERATURES: November 1977 to December 1979 (discontinued).

TURBIDITY: March 1978 to December 1979 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: November 1977 to December 1979 (discontinued).

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, Dec. 18, 1979.

TURBIDITY: Maximum daily, 200 NTU May 12, 1979; minimum daily, 0.9 NTU Dec. 18, 1979.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1350 mg/L Jan. 21, 1979; minimum daily mean, 0 mg/L Nov. 23, Dec. 7-10, 22, 1979.

SEDIMENT LOADS: Maximum daily, 1150 tons (1040 metric tons) Jan. 26, 1978; minimum daily, 0 tons (0 metric tons) on several days in 1978 and Nov. 23, Dec. 7-10, 22, 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily for period October to December, 790 micromhos Oct. 28; minimum daily, 59 micromhos Nov. 26.

WATER TEMPERATURES: Maximum daily for period October to December, 17.0°C Oct. 1; minimum daily, 0.0°C Dec. 18.

TURBIDITY: Maximum daily for period October to December, 131 NTU Nov. 30; minimum daily, 0.9 NTU Dec. 18.

SEDIMENT CONCENTRATIONS: Maximum daily mean for period October to December, 98 mg/L Nov. 2; minimum daily mean, 0 mg/L Nov. 23, Dec. 7-10, 22.

SEDIMENT LOADS: Maximum daily for period October to December, 13 tons (12 metric tons) Nov. 2, minimum daily, 0 tons (0 metric tons) Nov. 23, Dec. 7-10, 22.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)
OCT							
03...	1240	3.5	--	--	--	--	--
10...	1610	8.4	140	7.3	8.0	9.5	--
17...	1230	4.8	--	--	18.5	12.0	--
22...	1245	2.3	475	7.8	--	16.0	--
22...	1345	2.3	--	7.8	--	--	--
30...	1620	2.0	450	8.0	18.0	15.5	--
NOV							
14...	1045	12	95	6.6	--	9.0	3.6
14...	1600	13	98	6.5	5.0	8.0	--
14...	1630	14	--	--	--	--	--
20...	1200	4.4	--	--	--	--	--
27...	1430	24	90	7.4	17.0	11.0	--
30...	1445	8.2	122	6.8	--	5.0	175
DEC							
05...	1330	4.8	820	7.2	--	6.0	20

DATE	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CA) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM+ POTAS- SIUM, DIS- SOLVED (MG/L AS NA) (00933)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)
OCT										
22...	--	50	0	12	4.8	110	82	6.8	110	2.2
22...	--	--	--	--	--	--	--	--	--	--
NOV										
14...	12.0	22	7	5.2	2.2	7.2	52	.7	8.3	1.1
30...	--	--	--	--	--	--	--	--	--	--
DEC										
05...	12.5	44	8	11	4.1	30	69	2.0	31	1.3

GUYANDOTTE RIVER BASIN

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03202255 STILL RUN AT ITMANN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	ALKA- LINITY (MG/L AS CAC03) (00410)	SULFATE DIS- SOLVED (MG/L AS S04) (00945)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SI02) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	ALUM- NUM, DIS- SOLVED (UG/L AS AL) (01106)
OCT										
22...	130	140	2.3	.1	7.4	353	357	.48	2.19	--
22...	125	--	--	--	--	--	--	--	--	--
NOV										
14...	15	24	1.2	.0	6.4	56	56	.08	1.81	40
30...	--	--	--	--	--	--	--	--	--	--
DEC										
05...	36	60	1.2	.1	6.2	144	136	.20	1.87	50

DATE	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC SUS- PENDED TOTAL (UG/L AS AS) (01001)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)	CADMIUM SUS- PENDED RECOV- ERABLE (UG/L AS CD) (01026)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, SUS- PENDED RECOV- ERABLE (UG/L AS CR) (01031)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)
OCT										
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
NOV										
14...	--	--	--	--	--	--	--	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
DEC										
05...	1	0	1	1	0	5	20	10	10	2

DATE	COPPER, SUS- PENDED RECOV- ERABLE (UG/L AS CU) (01041)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB) (01050)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG) (71895)
OCT										
22...	--	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--	--
NOV										
14...	--	--	70	--	--	--	60	--	--	--
30...	--	--	--	--	--	--	--	--	--	--
DEC										
05...	1	1	60	0	0	0	130	<.1	.1	.0

DATE	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, SUS- PENDED TOTAL (UG/L AS SE) (01146)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN) (01091)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY) (80155)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM (70331)
OCT									
22...	--	--	--	--	--	--	--	--	--
22...	--	--	--	--	--	--	--	--	--
NOV									
14...	--	--	--	--	--	--	7	.23	--
30...	--	--	--	--	--	--	832	18	75
DEC									
05...	0	0	0	10	3	7	29	.38	--

03202255 STILL RUN AT ITMANN, WV--Continued

TURBIDITY (NTU), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	1.7	2.3									
2	2.2	---	2.7									
3	2.5	3.7	2.5									
4	3.0	4.0	3.3									
5	2.3	2.5	11									
6	1.3	2.6	2.8									
7	1.4	2.1	2.9									
8	2.1	2.0	2.4									
9	2.4	13	2.5									
10	5.9	10	2.4									
11	1.9	4.3	3.5									
12	7.8	5.3	3.7									
13	7.7	2.1	2.0									
14	2.2	3.4	2.6									
15	3.2	3.1	1.4									
16	3.5	3.3	1.9									
17	4.6	1.9	1.5									
18	3.1	2.3	.90									
19	---	2.6	1.6									
20	1.8	1.5	2.2									
21	11	2.5	2.0									
22	1.9	2.0	1.4									
23	2.0	2.1	1.2									
24	2.9	2.4	1.4									
25	2.3	2.8	4.2									
26	2.8	17	4.4									
27	2.5	5.2	1.9									
28	3.1	4.9	1.6									
29	2.4	15	1.7									
30	2.4	130	3.4									
31	1.8	---	2.5									
MEAN	3.2	8.8	2.6									

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	5	.06	3	.02	6	.13						
2	3	.03	98	13	2	.04						
3	2	.02	10	.78	1	.02						
4	3	.03	7	.23	3	.05						
5	3	.03	4	.09	7	.10						
6	4	.04	3	.05	1	.01						
7	11	.12	2	.03	0	.00						
8	5	.04	3	.04	0	.00						
9	10	.08	29	.38	0	.00						
10	48	1.1	86	5.8	0	.00						
11	22	.65	15	1.0	1	.01						
12	17	.38	11	.59	2	.02						
13	42	1.2	4	.22	5	.07						
14	13	.42	7	.26	7	.10						
15	4	.09	6	.16	2	.03						
16	2	.03	16	.37	2	.03						
17	7	.09	4	.07	3	.05						
18	6	.06	2	.03	7	.09						
19	15	.13	2	.03	10	.12						
20	7	.06	2	.02	3	.04						
21	5	.04	1	.01	1	.01						
22	5	.04	1	.01	0	.00						
23	12	.08	0	.00	2	.02						
24	3	.02	3	.05	6	.09						
25	2	.01	6	.09	27	1.8						
26	3	.02	89	11	27	2.1						
27	3	.02	12	.91	5	.24						
28	14	.09	12	.52	2	.07						
29	7	.05	18	.53	2	.05						
30	3	.02	67	1.6	3	.08						
31	2	.01	---	---	2	.05						
TOTAL	---	5.06	---	37.89	---	5.42						

GUYANDOTTE RIVER BASIN

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 December 1979 (discontinued).

GAGE.--Water-stage and rainfall recorders. Altitude of gage is 1,380 ft (421 m), from topographic map.

REMARKS.--Water-discharge records 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, 0.06 ft³/s (0.002 m³/s), Nov. 13, 14, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period October to December, 119 ft³/s (3.37 m³/s) Nov. 2, gage height, 5.09 ft (1.551 m), no peak above base of 200 ft³/s (5.7 m³/s); minimum daily, 1.8 ft³/s (0.05 m³/s) Oct. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	2.5	7.2									
2	7.0	53	5.7									
3	7.7	33	4.7									
4	8.0	15	4.5									
5	7.7	10	4.7									
6	6.5	8.0	4.7									
7	7.0	6.0	4.5									
8	5.3	5.1	3.6									
9	4.9	4.9	3.0									
10	15	32	2.9									
11	18	29	2.9									
12	12	21	2.9									
13	18	19	5.5									
14	18	13	5.7									
15	12	9.6	5.5									
16	8.2	8.0	5.7									
17	6.2	6.2	5.3									
18	4.7	5.3	4.7									
19	3.9	4.7	4.9									
20	3.6	4.2	4.4									
21	3.1	3.9	3.7									
22	2.9	3.6	3.7									
23	2.9	3.4	3.7									
24	2.7	5.7	6.5									
25	2.3	5.1	27									
26	2.0	42	30									
27	1.8	23	21									
28	3.1	15	15									
29	3.3	11	12									
30	2.6	8.5	10									
31	2.5	---	9.0									
TOTAL	209.1	410.7	234.6									
MEAN	6.75	13.7	7.57									
MAX	18	53	30									
MIN	1.8	2.5	2.9									
CFSM	1.08	2.19	1.21									
IN.†	1.24	2.44	1.39									
IN.*	2.65	3.72	1.81									

CAL YR 1979 TOTAL 5960.78 MEAN 16.3 MAX 565 MIN .43 CFSM 2.60 IN 35.36

† Runoff.

* Rainfall.

GUYANDOTTE RIVER BASIN

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03202310 BEARHOLE FORK AT PINEVILLE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1977 to December 1979 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: November 1977 to December 1979 (discontinued).

pH: March 1978 to September 1979.

WATER TEMPERATURES: November 1977 to December 1979 (discontinued).

TURBIDITY: March 1978 to December 1979 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: November 1977 to December 1979 (discontinued).

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, Dec. 19, 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, 0 mg/L Oct. 24, Nov. 17, 18, 21, 1979.

SEDIMENT LOADS: Maximum daily, 744 tons (675 metric tons) June 21, 1979; minimum daily, 0 tons (0 metric tons) on many days during 1978 and 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily for period October to December, 106 micromhos Oct. 1; minimum daily, 38 micromhos Nov. 27.

WATER TEMPERATURES: Maximum daily for period October to December, 17.0°C Oct. 1; minimum daily, 0.0°C Dec. 19.

TURBIDITY: Maximum daily for period October to December, 70 NTU Nov. 2; minimum daily, 0.6 NTU Dec. 16, 21.

SEDIMENT CONCENTRATIONS: Maximum daily mean for period October to December, 205 mg/L Nov. 26; minimum daily mean, 0 mg/L Oct. 24, Nov. 17, 18, 21.

SEDIMENT LOADS: Maximum daily for period October to December, 26 tons (24 metric tons) Nov. 26; minimum daily, 0 tons (0 metric tons) Oct. 24, Nov. 17, 18, 21.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW- INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)
OCT							
04...	0950	7.8	--	--	--	--	--
11...	0950	19	47	6.9	5.5	9.0	--
18...	1030	4.8	--	--	--	--	--
22...	1610	2.6	--	--	19.0	16.5	--
23...	1115	2.9	90	6.5	--	13.0	--
23...	1145	2.9	--	6.5	--	--	--
31...	1110	2.2	85	7.1	16.0	12.0	--
NOV							
14...	1315	13	<50	6.2	--	8.0	3.8
15...	0750	10	50	6.9	-4.0	4.0	--
21...	1015	4.0	--	--	--	--	--
27...	1615	22	55	6.6	12.5	10.5	--
DEC							
05...	1530	4.5	60	6.8	--	3.0	1.0
12...	1635	2.7	72	6.5	--	8.0	--

03202310 BEARHOLE FORK AT PINEVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	OXYGEN, DIS- SOLVED (MG/L) (00300)	HARD- NESS (MG/L AS CACO3) (00900)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3) (00902)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	SODIUM PERCENT (00932)	SODIUM AD- SORP- TION RATIO (00931)	SODIUM+ POTAS- SIUM, DIS- SOLVED (MG/L AS NA) (00933)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	ALKA- LITY (MG/L AS CACO3) (00410)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)
OCT 23...	--	21	0	5.4	1.9	6.5	47	.6	8.4	1.9	21	7.1
23...	--	--	--	--	--	--	--	--	--	--	30	--
NOV 14...	11.8	11	6	2.6	1.1	2.3	39	.3	3.4	1.1	5	6.9
DEC 05...	13.8	15	0	3.8	1.4	4.9	49	.5	6.0	1.1	20	7.8
DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SiO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)	SOLIDS, DIS- SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS- SOLVED (TONS PER DAY) (70302)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS) (01002)	ARSENIC SUS- PENDE TOTAL (UG/L AS AS) (01001)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD) (01027)
OCT 23...	4.7	.0	6.5	51	47	.07	.40	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 14...	2.0	.0	6.4	33	26	.04	1.16	60	--	--	--	--
DEC 05...	3.2	.0	6.0	40	41	.05	.49	20	1	0	1	1
DATE	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD) (01026)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	CHRO- MIUM, SUS- PENDE RECOV- ERABLE (UG/L AS CR) (01031)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, SUS- PENDE RECOV- ERABLE (UG/L AS CU) (01041)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, 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)
OCT 23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 14...	--	--	--	--	--	--	--	--	100	--	--	--
DEC 05...	0	3	20	10	10	1	0	1	100	1	1	0
DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MERCURY DIS- SOLVED (UG/L AS HG) (71890)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG) (71900)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG) (71895)	SELE- NIUM, TOTAL (UG/L AS SE) (01147)	SELE- NIUM, SUS- PENDE TOTAL (UG/L AS SE) (01146)	SELE- NIUM, DIS- SOLVED (UG/L AS SE) (01145)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN) (01091)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	SEDI- MENT, SUS- PENDE (MG/L) (80154)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY) (80155)
OCT 23...	--	--	--	--	--	--	--	--	--	--	--	--
23...	--	--	--	--	--	--	--	--	--	--	--	--
NOV 14...	20	--	--	--	--	--	--	--	--	--	0	.00
DEC 05...	40	<.1	.1	.0	0	0	0	120	10	110	0	.00

GUYANDOTTE RIVER BASIN

03202310 BEARHOLE FORK AT PINEVILLE, WV--Continued

TURBIDITY (NTU), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	1.3	2.5									
2	5.4	70	2.4									
3	3.5	9.1	---									
4	2.1	4.4	2.9									
5	2.6	3.1	4.8									
6	1.5	2.9	---									
7	3.2	2.4	4.1									
8	1.6	2.4	2.3									
9	1.0	1.9	2.4									
10	9.4	18	3.6									
11	4.4	---	2.0									
12	3.2	10	3.2									
13	3.6	4.5	3.1									
14	2.8	3.6	2.5									
15	1.9	3.9	1.2									
16	3.2	2.9	.60									
17	3.2	2.6	.90									
18	1.7	2.2	1.5									
19	2.7	2.0	1.5									
20	1.8	2.2	1.0									
21	2.2	2.6	.60									
22	1.8	2.3	1.0									
23	1.4	2.1	1.1									
24	---	15	1.1									
25	1.1	4.8	12									
26	2.0	45	7.2									
27	1.6	8.4	2.5									
28	---	6.0	---									
29	3.4	3.4	1.6									
30	1.5	3.1	1.0									
31	1.6	---	.90									
MEAN	2.7	8.4	2.6									

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	5	.08	2	.01	4	.08						
2	27	.62	113	13	5	.08						
3	7	.15	20	1.8	4	.05						
4	5	.11	11	.45	6	.07						
5	5	.10	6	.16	12	.15						
6	4	.07	7	.15	5	.06						
7	3	.06	5	.08	12	.15						
8	3	.04	2	.03	6	.06						
9	2	.03	2	.03	7	.06						
10	63	3.4	101	10	23	.18						
11	29	1.5	47	3.7	11	.09						
12	16	.52	7	.40	9	.07						
13	77	3.4	3	.15	51	.96						
14	25	1.2	2	.07	7	.11						
15	17	.55	13	.34	2	.03						
16	13	.29	2	.04	4	.06						
17	11	.18	0	.00	6	.09						
18	10	.13	0	.00	3	.04						
19	10	.11	2	.03	4	.05						
20	10	.10	2	.02	7	.08						
21	6	.05	0	.00	5	.05						
22	4	.03	2	.02	5	.05						
23	2	.02	1	.01	4	.04						
24	0	.00	35	.60	21	.72						
25	1	.01	2	.03	77	4.7						
26	14	.08	205	26	15	1.2						
27	6	.03	13	.81	7	.40						
28	36	.48	5	.20	9	.36						
29	98	.87	2	.06	5	.16						
30	17	.12	5	.11	3	.08						
31	4	.03	---	---	1	.02						
TOTAL	---	14.36	---	58.30	---	10.30						

GUYANDOTTE RIVER BASIN

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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 February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--12 years, 471 ft³/s (13.34 m³/s), 20.77 in/yr (528 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)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 30	1100	6680	189	July 10	2300	6680	189

Minimum discharge, 73 ft³/s (2.07 m³/s) June 30; minimum gage height, 2.91 ft (0.887 m) Sept. 21, 22.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	253	139	463	435	450	466	996	2700	240	78	161	125
2	252	617	407	383	400	434	930	1570	204	82	138	144
3	319	1300	346	358	370	400	834	1150	217	104	119	166
4	283	744	328	344	340	380	2570	930	210	98	112	169
5	287	510	322	339	320	595	1950	780	186	119	342	166
6	264	409	327	298	300	1590	1250	680	214	164	195	142
7	261	349	317	290	280	1720	978	605	374	102	145	124
8	221	309	280	492	260	2110	852	525	233	92	150	115
9	203	292	245	511	250	1770	1420	466	183	555	153	103
10	350	637	227	495	230	1180	1210	426	164	2270	143	175
11	610	988	234	490	220	984	942	402	155	2700	123	212
12	535	924	226	695	220	792	804	374	155	710	117	139
13	538	900	268	736	210	726	732	354	145	1270	112	117
14	692	748	314	994	200	816	882	374	145	762	98	112
15	514	588	274	1240	272	768	984	322	138	422	92	115
16	390	501	268	990	720	744	864	293	135	303	94	105
17	315	432	269	858	1180	900	726	279	148	240	88	101
18	262	382	235	1840	780	1570	675	334	130	195	123	99
19	215	340	250	2710	655	1450	620	314	130	164	382	91
20	193	314	245	1560	585	1150	555	342	119	140	227	89
21	177	282	228	1100	655	1490	505	710	108	123	334	87
22	166	270	221	1040	1130	1820	454	585	96	121	1410	95
23	165	256	224	2260	1130	1360	430	458	90	700	690	134
24	168	295	241	1680	876	1140	410	402	90	390	362	144
25	158	338	719	1220	720	1520	406	426	102	237	244	115
26	145	1180	1170	1030	680	1450	398	402	110	180	195	203
27	134	1350	917	894	570	1150	1690	346	96	204	164	150
28	134	898	688	762	575	1040	2240	314	86	186	138	105
29	180	678	566	665	540	1090	1400	279	80	555	125	93
30	161	541	513	570	---	1030	4830	254	76	310	115	97
31	145	---	466	490	---	1000	---	251	---	210	125	---
TOTAL	8690	17511	11798	27769	15118	34635	33537	17647	4559	13786	7016	3832
MEAN	280	584	381	896	521	1117	1118	569	152	445	226	128
MAX	692	1350	1170	2710	1180	2110	4830	2700	374	2700	1410	212
MIN	134	139	221	290	200	380	398	251	76	78	88	87
CFSM	.91	1.90	1.24	2.91	1.69	3.63	3.63	1.85	.49	1.45	.73	.42
IN.	1.05	2.11	1.42	3.35	1.83	4.18	4.05	2.13	.55	1.67	.85	.46

CAL YR 1979	TOTAL	237486	MEAN 651	MAX 7170	MIN 78	CFSM 2.11	IN 28.68
WTR YR 1980	TOTAL	195898	MEAN 535	MAX 4830	MIN 76	CFSM 1.74	IN 23.66

WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1973 to October 1976, January 1977 to September 1979.

WATER TEMPERATURES: October 1973 to current year.

SUSPENDED-SEDIMENT DISCHARGE: July 1973 to September 1979.

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 metric tons) Jan. 26, 1978; minimum daily, 0 ton (0 metric ton) Nov. 12, 23, 1976.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum 29.5°C July 20, 21; minimum recorded, 0.5°C Feb. 1-6, 18 and Mar. 1-5.

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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)
NOV												
01...	1425	145	520	8.6	22.0	13.0	--	--	92	0	.0	.0
28...	1540	792	190	7.0	5.0	9.0	--	--	47	--	.0	.0
JAN												
29...	1250	687	310	--	-1.0	5.0	--	--	--	--	--	--
FEB												
01...	0930	458	350	7.8	-12.0	.5	--	--	87	12	.0	.0
MAR												
11...	1725	957	240	7.8	3.5	8.0	--	--	62	18	.0	.0
25...	0930	1510	235	7.5	--	9.0	--	--	69	26	.0	.0
APR												
23...	1410	432	350	8.2	32.0	17.0	--	--	85	4	--	--
JUN												
04...	1715	208	575	8.3	27.0	23.5	--	--	95	0	--	--
JUL												
23...	1810	734	240	7.4	23.0	22.0	--	--	51	0	--	--
AUG												
20...	1700	214	314	8.0	28.5	23.0	55	6.6	66	0	.0	.0
SEP												
18...	1610	94	590	7.5	23.0	23.5	--	--	--	--	--	--

[illegible]

03202400 GUYANDOTTE RIVER NEAR BAILEYSVILLE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)
NOV												
01...	--	--	--	--	640	--	170	--	--	60	10	50
28...	--	--	--	--	980	--	50	--	--	110	70	40
JAN												
29...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
01...	--	--	--	--	450	290	160	--	--	130	0	130
MAR												
11...	--	--	--	--	1400	1400	20	--	--	980	920	60
25...	--	--	--	--	6000	6000	50	--	--	200	150	50
APR												
23...	--	--	--	--	530	500	30	--	--	90	20	70
JUN												
04...	--	--	--	--	570	520	50	--	--	60	30	30
JUL												
23...	--	--	--	--	23000	23000	110	--	--	600	560	40
AUG												
20...	<1	3	<3	<10	3400	3400	49	<10	24	110	90	20
SEP												
18...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
MAR								
25...	--	--	--	--	--	24.0	--	--
AUG								
20...	<10	230	<6.0	<4	7.7	--	90	52

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

[illegible]

GUYANDOTTE RIVER BASIN

365

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 December and February, which are poor.

AVERAGE DISCHARGE.--5 years, 59.7 ft³/s (1.691 m³/s), 19.92 in/yr (506 mm/yr).

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)
Jan. 18	2115	701 19.9	10.96 3.341	Apr. 30	0945	*2360 66.8	13.99 4.264
Apr. 4	0815	882 25.0	11.20 3.414	July 10	1945	2210 62.6	13.76 4.194
Apr. 27	2000	551 15.6	10.26 3.127				

Minimum discharge, 2.4 ft³/s (0.07 m³/s) Sept. 16, 17, 20, 21, gage height, 6.70 ft (2.042 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	11	42	42	31	40	118	421	16	3.0	6.0	8.8
2	38	150	34	33	27	38	112	172	12	2.8	5.0	4.8
3	64	188	24	28	25	36	100	113	11	3.5	4.5	21
4	44	94	21	26	22	35	548	84	9.9	4.5	8.4	9.9
5	36	60	19	23	20	138	271	68	8.4	22	34	6.3
6	27	45	24	23	18	371	139	57	10	12	15	4.8
7	27	35	23	31	17	259	99	49	13	5.0	11	4.0
8	20	29	19	71	16	219	85	43	8.8	13	11	3.3
9	18	27	15	80	15	129	137	36	7.0	58	7.3	3.0
10	66	116	13	69	14	94	112	30	6.6	746	6.0	13
11	94	156	12	66	14	85	88	28	6.6	579	5.0	8.4
12	68	132	13	65	13	70	74	26	6.0	83	4.2	4.8
13	60	135	22	60	12	70	66	25	5.0	405	3.7	3.5
14	54	99	24	132	12	86	109	26	4.8	151	3.5	3.0
15	47	71	22	180	35	86	169	25	4.5	68	3.3	2.8
16	36	55	23	128	196	83	124	22	6.0	39	3.5	2.6
17	28	42	23	101	209	104	94	19	7.3	24	3.3	2.8
18	22	34	18	295	113	174	82	23	5.0	17	15	3.5
19	19	28	17	425	80	183	68	23	4.0	13	23	2.8
20	17	24	16	182	78	127	58	41	3.5	11	9.5	2.4
21	15	21	16	115	94	195	49	174	2.8	9.1	6.6	2.4
22	14	20	15	125	116	259	42	94	2.8	8.8	68	4.0
23	14	19	15	351	105	162	39	62	2.8	29	24	12
24	14	27	23	206	85	130	38	47	3.5	14	13	8.8
25	12	27	107	131	68	304	34	40	4.0	9.5	8.8	5.0
26	11	199	193	90	58	227	36	34	4.2	7.7	6.3	12
27	9.6	170	146	73	50	131	313	25	4.5	6.6	5.0	7.0
28	13	105	97	61	45	110	346	22	3.5	19	4.2	4.2
29	18	74	73	51	43	123	184	20	3.0	16	3.5	3.3
30	13	54	62	42	---	127	1450	17	2.8	9.5	3.0	3.0
31	11	---	51	35	---	120	---	14	---	7.3	5.7	---
TOTAL	954.6	2247	1222	3340	1631	4315	5184	1880	189.3	2396.3	330.3	177.2
MEAN	30.8	74.9	39.4	108	56.2	139	173	60.6	6.31	77.3	10.7	5.91
MAX	94	199	193	425	209	371	1450	421	16	746	68	21
MIN	9.6	11	12	23	12	35	34	14	2.8	2.8	3.0	2.4
CFSM	.76	1.84	.97	2.65	1.38	3.42	4.25	1.49	.16	1.90	.26	.15
IN.	.87	2.05	1.12	3.05	1.49	3.94	4.74	1.72	.17	2.19	.30	.16
CAL YR 1979	TOTAL	30493.6	MEAN 83.5	MAX 1140	MIN 3.2	CFSM 2.05	IN 27.87					
WTR YR 1980	TOTAL	23866.7	MEAN 65.2	MAX 1450	MIN 2.4	CFSM 1.60	IN 21.81					

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, Aug. 11, 1980; 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 metric tons) Apr. 4, 1977; minimum daily, 0 ton (0 metric ton) Oct. 8, 1974.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum, 26.0°C Aug. 11; minimum, 0.5°C several days in December, February and March.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

		DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)			
NOV													
		02...	1305	209	95	6.8	12.5	12.0	--	--			
		28...	1220	105	80	6.5	8.0	9.0	--	--			
JAN													
		29...	1520	49	80	--	-1.0	4.0	--	--			
MAR													
		10...	1345	92	90	7.2	18.0	7.5	--	--			
		25...	1045	328	65	6.6	--	8.0	--	--			
APR													
		23...	1645	38	140	6.5	29.0	17.5	--	--			
JUN													
		05...	1720	7.3	200	7.3	28.0	21.0	--	--			
JUL													
		17...	1710	20	120	6.6	28.0	25.0	--	--			
AUG													
		12...	1445	4.3	--	--	--	24.0	--	--			
		20...	1545	8.4	153	7.5	27.5	23.0	32	5.9			
SEP													
		09...	1305	2.7	200	6.8	28.0	23.0	--	--			
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)	SULFATE DIS- SOLVED (MG/L AS S04)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	
MAR													
25...	14	1	.1	5.0	3.1	1.4	3.0	.4	12	11	1.0	--	
AUG													
20...	47	0	.0	.0	13	3.6	11	.7	50	16	6.3	7.0	
DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)	
MAR													
25...	40	.05	35.4	--	--	--	--	--	3700	3600	130	--	
AUG													
20...	84	.11	1.91	70	<1	<1	<3	<10	2000	1800	160	<10	
DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)	
MAR													
25...	--	130	100	30	--	--	--	--	--	10.0	114	101	
AUG													
20...	<4	90	20	68	<10	110	<6.0	18	3.1	--	41	.93	

03202490 INDIAN CREEK AT FANROCK, WV--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.0	17.0	---	---	4.0	3.0	4.5	4.0	1.0	1.0	3.5	2.0
2	17.5	15.5	---	---	3.5	2.5	4.0	3.5	1.0	1.0	2.0	2.0
3	15.5	14.5	11.0	10.0	2.5	1.5	4.5	4.0	1.0	1.0	2.0	2.0
4	15.0	14.0	10.0	8.0	2.0	1.0	4.0	3.5	1.0	1.0	2.0	2.0
5	14.5	13.0	8.5	7.0	2.5	1.0	3.5	2.5	1.0	1.0	3.5	2.0
6	12.5	11.5	8.5	7.0	4.5	2.0	2.5	2.0	1.0	1.0	7.5	3.5
7	12.5	11.5	9.0	8.0	5.0	4.5	2.5	1.5	1.5	1.0	7.0	5.0
8	12.0	10.0	8.0	7.0	5.0	3.5	3.5	2.5	1.5	1.0	9.5	6.5
9	12.5	12.0	9.5	8.0	3.5	2.0	4.0	3.5	1.5	1.0	9.0	8.0
10	---	---	10.5	9.5	3.0	1.5	3.5	2.5	1.5	1.0	8.5	6.5
11	---	---	10.5	9.5	3.5	2.0	5.5	3.5	1.5	1.0	8.5	6.5
12	---	---	9.5	8.5	6.0	3.0	5.5	3.5	1.5	1.0	6.5	4.5
13	---	---	9.5	8.5	7.0	6.0	4.0	3.0	1.5	1.0	7.0	5.0
14	---	---	8.5	7.0	7.0	4.5	6.0	4.0	1.5	1.0	7.0	5.0
15	---	---	7.0	5.5	4.5	3.0	6.5	6.0	2.0	1.5	7.0	4.0
16	---	---	8.5	7.0	3.5	2.5	7.0	5.5	3.0	2.0	8.5	5.5
17	---	---	7.0	6.0	3.5	1.5	8.0	7.0	3.0	2.0	9.5	8.5
18	---	---	7.0	5.5	1.0	1.0	8.0	7.0	2.5	1.5	9.5	7.5
19	---	---	7.0	5.5	1.0	.5	7.5	5.5	3.5	2.0	9.5	5.0
20	---	---	8.5	6.5	1.0	.5	6.5	5.0	4.0	3.5	9.5	8.0
21	---	---	9.5	7.5	1.5	.5	5.5	4.5	6.5	4.0	9.5	7.0
22	---	---	10.0	8.0	3.0	1.5	5.5	4.5	8.0	6.5	9.5	6.5
23	---	---	10.0	8.0	5.0	3.0	6.0	4.5	8.0	6.5	9.5	6.0
24	---	---	11.5	10.5	7.0	5.0	5.0	3.5	8.0	7.5	11.0	8.5
25	---	---	12.5	11.0	7.0	5.5	6.0	5.0	7.5	6.0	10.0	8.5
26	---	---	12.5	10.0	6.0	5.5	6.0	5.0	6.0	3.5	9.5	7.5
27	---	---	9.5	8.5	5.5	5.0	5.5	5.0	4.0	2.5	11.5	7.0
28	---	---	9.5	8.0	5.0	4.5	5.5	5.0	4.0	3.5	11.0	9.5
29	---	---	8.0	5.5	4.0	3.5	5.0	3.5	4.0	3.5	13.0	9.0
30	---	---	5.5	4.0	4.5	3.5	3.5	1.5	---	---	12.5	10.0
31	---	---	---	---	4.0	3.5	1.5	1.0	---	---	12.0	10.5
MONTH	18.0	10.0	12.5	4.0	7.0	.5	8.0	1.0	8.0	1.0	13.0	2.0
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.5	9.5	12.0	9.0	---	---	19.5	19.5	23.5	22.5	23.0	21.5
2	14.0	9.5	12.5	9.0	---	---	19.5	19.5	24.0	22.0	23.5	22.0
3	15.0	10.5	13.0	10.0	---	---	19.5	19.5	24.0	22.5	22.0	21.0
4	15.0	11.5	15.0	10.0	---	---	19.5	19.5	24.0	22.5	23.0	21.5
5	12.0	9.5	16.0	12.0	---	---	19.5	19.5	23.0	21.5	23.5	21.5
6	12.5	9.0	17.0	13.5	19.5	17.0	19.5	19.5	22.5	21.0	23.5	22.0
7	12.0	10.5	17.0	14.0	21.0	18.5	19.5	19.5	23.0	22.0	23.5	22.5
8	13.5	11.5	15.5	12.0	22.0	20.0	19.5	19.5	23.5	22.0	22.5	21.5
9	13.5	12.0	14.5	10.0	19.5	17.0	19.5	19.5	25.5	23.0	22.5	21.0
10	13.5	12.0	16.5	9.0	19.0	16.5	19.5	19.5	25.0	23.0	22.0	20.5
11	14.0	11.0	18.5	13.0	18.5	16.5	19.5	19.5	26.0	24.0	20.5	19.0
12	14.0	13.0	20.0	14.5	19.0	15.0	19.5	19.5	24.5	23.5	20.5	19.0
13	13.0	12.0	19.5	16.5	19.5	15.5	19.5	17.5	23.5	22.0	21.0	19.5
14	15.0	11.5	18.0	12.5	21.0	19.0	19.0	17.5	23.0	21.5	22.0	20.0
15	12.5	10.5	21.0	11.0	22.0	18.0	20.0	19.0	23.5	22.0	22.0	21.0
16	12.5	9.5	22.5	9.5	20.5	18.5	22.0	20.0	23.0	22.0	21.5	20.0
17	12.5	9.0	20.0	13.0	20.5	17.5	24.0	21.0	22.5	21.5	21.0	20.0
18	12.5	10.0	19.5	14.0	20.5	17.5	24.0	21.0	22.0	20.5	21.0	20.0
19	14.0	10.5	18.5	14.5	21.0	17.5	23.5	21.5	21.5	20.5	21.5	19.5
20	15.0	12.0	17.0	15.0	20.5	18.0	24.5	22.5	22.0	21.0	21.0	20.0
21	16.5	13.5	15.0	13.0	19.5	17.0	25.0	23.0	24.0	21.5	21.5	20.5
22	16.5	13.5	17.0	13.5	19.5	19.5	24.0	22.5	22.5	20.5	22.0	21.0
23	16.5	14.5	17.5	15.5	19.5	19.5	22.5	21.0	22.0	20.5	21.0	20.5
24	16.5	14.0	17.0	16.0	19.5	19.5	22.5	20.5	22.0	20.5	21.0	20.0
25	16.0	12.5	17.0	16.0	19.5	19.5	23.0	20.5	22.5	21.0	21.0	20.5
26	14.0	12.5	---	---	19.5	19.5	23.5	21.5	23.0	21.0	20.5	18.5
27	13.0	9.5	---	---	19.5	19.5	23.5	22.0	23.0	21.0	18.5	16.5
28	12.0	9.0	---	---	19.5	19.5	23.0	22.0	23.0	21.0	16.5	15.5
29	10.0	8.5	---	---	19.5	19.5	23.5	21.0	23.0	21.5	16.0	15.0
30	10.0	9.0	---	---	19.5	19.5	23.0	21.0	22.5	21.5	16.0	15.0
31	---	---	---	---	---	---	24.0	21.5	22.5	21.0	---	---
MONTH	16.5	8.5	22.5	9.0	22.0	15.0	25.0	17.5	26.0	20.5	23.5	15.0

GUYANDOTTE RIVER BASIN

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 December 1979 (discontinued).

REVISED RECORDS.--WDR WV-79-1: 1978

GAGE.--Water-stage and rainfall recorders. Altitude of gage is 1,760 ft (536 m), from topographic map.

REMARKS.--Water-discharge records 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, 0.03 ft³/s (0.001 m³/s) Nov. 13, 14, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period October to December, 77 ft³/s (2.18 m³/s) Nov. 2, gage height, 6.16 ft (1.878 m), no peak above base of 115 ft³/s (3.3 m³/s); minimum daily, 1.9 ft³/s (0.05 m³/s) Oct. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	2.7	9.5									
2	5.9	35	7.7									
3	12	48	5.7									
4	11	19	5.3									
5	8.8	12	5.1									
6	6.4	9.5	5.1									
7	7.0	7.3	4.7									
8	5.3	6.2	3.4									
9	4.5	6.2	2.8									
10	11	30	2.5									
11	15	36	2.5									
12	12	23	2.5									
13	19	19	4.1									
14	23	15	4.3									
15	14	12	3.9									
16	9.9	9.9	4.3									
17	7.3	7.7	4.1									
18	5.3	6.4	3.4									
19	4.1	5.3	3.6									
20	3.6	4.5	3.4									
21	3.1	3.9	3.1									
22	2.8	3.6	3.1									
23	2.7	3.4	3.3									
24	2.7	5.9	4.7									
25	2.4	6.4	26									
26	2.3	54	35									
27	1.9	42	21									
28	2.5	22	14									
29	3.3	14	11									
30	2.8	11	11									
31	2.8	---	9.5									
TOTAL	219.5	480.9	229.6									
MEAN	7.08	16.0	7.41									
MAX	23	54	35									
MIN	1.9	2.7	2.5									
CFSM	1.07	2.41	1.12									
IN.†	1.23	2.69	1.29									
IN.*	3.55	4.10	1.99									

CAL YR 1979 TOTAL 6103.66 MEAN 16.7 MAX 375 MIN .49 CFSM 2.52 IN 34.19

† Runoff.
* Rainfall.

GUYANDOTTE RIVER BASIN

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03202695 MILAM FORK AT MCGRAWS, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February to December 1979 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February to December 1979 (discontinued).

pH: February to September 1979.

TURBIDITY: February to December 1979 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: February to December 1979 (discontinued).

EXTREMES FOR PERIOD OF RECORD.--

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, several days in December 1979.

SEDIMENT LOADS: Maximum daily, 176 tons (160 metric tons) July 13; minimum daily, 0 tons (0 metric ton) Mar. 15, 16, several days in December 1979.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily for period October to December, 248 micromhos Oct. 28; minimum daily, 57 micromhos Oct. 28; minimum daily, 57 micromhos Nov. 27.

TURBIDITY: Maximum daily for period October to December, 50 NTU Nov. 26; minimum daily, 1.7 NTU Dec. 22.

SEDIMENT CONCENTRATIONS: Maximum daily mean for period October to December 111 mg/L Dec. 25; minimum daily mean, 0 mg/L several days in December.

SEDIMENT LOADS: Maximum daily for period October to December, 15 tons (14 metric tons) Nov. 26; minimum daily, 0 tons (0 metric ton) several days in December.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)
OCT											
04...	1120	11	--	--	--	--	--	--	--	--	--
11...	1055	16	85	7.0	11.0	9.5	--	--	--	--	--
18...	1155	5.3	--	--	--	--	--	--	--	--	--
23...	0815	3.0	--	--	15.0	13.5	--	--	--	--	--
23...	1130	2.7	220	6.8	10.0	13.0	--	--	30	0	7.0
30...	1215	2.7	220	7.5	18.0	11.0	--	--	--	--	--
NOV											
14...	1430	14	85	6.5	--	8.0	4.4	11.7	17	0	4.0
15...	0845	12	95	6.9	-5	4.5	--	--	--	--	--
29...	1115	15	110	7.5	-1.0	6.0	--	--	--	--	--
DEC											
06...	0835	4.9	160	7.0	--	3.0	2.9	13.1	25	0	5.7
13...	0820	3.2	156	6.5	--	8.0	--	--	--	--	--

GUYANDOTTE RIVER BASIN

03202695 MILAM FORK AT MCGRAWS, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	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 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 23...	3.0	36	71	2.9	38	1.9	82	9.6	9.5	.1	7.3
NOV 14...	1.8	7.8	60	.8	8.9	1.1	20	9.7	2.5	.0	7.2
DEC 06...	2.5	22	76	1.9	23	1.0	53	11	5.9	.1	7.0

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)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	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)
OCT 23...	129	124	.18	.94	--	--	--	--	--	--	--
NOV 14...	49	46	.07	1.85	50	--	--	--	--	--	--
DEC 06...	92	88	.13	1.22	20	1	0	1	1	0	1

DATE	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)	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, DIS- SOLVED (UG/L AS MN)
NOV 14...	--	--	--	--	--	--	200	--	--	--	50
DEC 06...	30	10	20	1	0	1	400	1	1	0	130

DATE	MERCURY TOTAL RECOV- ERABLE (AS HG)	MERCURY SUS- PENDED RECOV- ERABLE (AS HG)	MERCURY DIS- SOLVED (AS HG)	SELE- NIUM, TOTAL (AS SE)	SELE- NIUM, SUS- PENDED TOTAL (AS SE)	SELE- NIUM, DIS- SOLVED (AS SE)	ZINC, TOTAL RECOV- ERABLE (AS ZN)	ZINC, SUS- PENDED RECOV- ERABLE (AS ZN)	ZINC, DIS- SOLVED (AS ZN)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
NOV 14...	--	--	--	--	--	--	--	--	--	10	.38
DEC 06...	<.1	<.0	<.1	0	0	0	70	50	20	0	.00

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SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

TURBIDITY (NTU), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

[illegible]

GUYANDOTTE RIVER BASIN

03202695 MILAM FORK AT MCGRAWS, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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	7	.10	10	.07	2	.05						
2	30	.65	91	11	0	.00						
3	35	1.1	37	4.8	0	.00						
4	22	.65	17	.87	1	.01						
5	17	.40	11	.36	1	.01						
6	10	.17	11	.28	0	.00						
7	10	.19	13	.26	0	.00						
8	8	.11	10	.17	2	.02						
9	13	.16	12	.20	0	.00						
10	42	1.2	66	6.2	0	.00						
11	25	1.0	31	3.0	0	.00						
12	17	.55	27	1.7	0	.00						
13	97	5.2	15	.77	15	.21						
14	34	2.1	10	.41	3	.03						
15	13	.49	7	.23	1	.01						
16	10	.27	5	.13	2	.02						
17	7	.14	4	.08	2	.02						
18	6	.09	3	.05	0	.00						
19	5	.06	2	.03	1	.01						
20	5	.05	3	.04	2	.02						
21	7	.06	3	.03	1	.01						
22	8	.06	4	.04	0	.00						
23	8	.06	7	.06	1	.01						
24	10	.07	6	.10	53	1.1						
25	10	.06	7	.12	111	6.4						
26	8	.05	91	15	26	2.5						
27	8	.04	23	2.6	12	.68						
28	7	.05	13	.77	7	.26						
29	10	.09	9	.34	4	.12						
30	10	.08	5	.15	5	.15						
31	8	.06	---	---	3	.08						
TOTAL	---	15.36	---	49.86	---	11.72						

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 0.3 mi (0.5 km) upstream from Cedar Creek, 1.2 mi (1.9 km) southwest of village of Clear Fork, 1.7 mi (2.7 km) downstream from Laurel Branch, 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.

AVERAGE DISCHARGE.--6 years, 227 ft³/s (6.429 m³/s), 24.86 in/yr (631 mm/yr).

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)
Jan. 19	0130	1600 45.3	6.90 2.103	Apr. 30	1400	5160 146	9.85 3.002
Jan. 27	1500	3500 99.1	8.58 2.615	July 11	0200	*5970 169	10.48 3.194

Minimum discharge, 12.1 ft³/s (0.34 m³/s) July 1, 2, gage height, 3.68 ft (1.122 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	105	55	192	168	140	189	310	1370	46	14	39	29
2	121	452	156	150	120	180	278	614	44	13	44	28
3	342	816	128	128	110	170	254	395	40	16	34	49
4	282	408	114	118	100	160	614	296	37	19	35	42
5	210	275	102	123	98	310	674	243	33	35	71	35
6	147	216	100	111	90	1040	413	204	78	86	62	37
7	145	180	100	107	86	896	306	180	75	38	41	29
8	118	156	88	156	82	1080	264	147	58	26	52	26
9	107	136	75	168	78	770	704	123	41	530	48	23
10	204	408	67	180	76	482	584	107	35	2650	44	45
11	334	860	62	201	74	372	381	98	31	3040	37	59
12	303	640	61	381	72	278	296	88	29	536	31	37
13	417	660	76	395	70	250	271	82	28	1030	26	31
14	578	400	109	512	70	282	764	84	26	542	23	27
15	350	285	100	626	94	257	1050	73	26	278	21	25
16	237	237	100	440	530	254	554	64	26	189	20	23
17	171	195	100	342	680	350	377	56	33	128	20	22
18	134	165	82	770	377	888	306	71	30	94	150	22
19	109	145	80	1200	282	716	254	67	25	78	386	21
20	96	123	80	614	257	482	222	76	22	64	165	19
21	86	109	71	390	342	698	192	177	19	55	92	18
22	75	100	68	350	1020	840	162	128	19	52	306	23
23	69	96	66	776	758	548	145	105	16	75	257	49
24	67	121	84	620	470	426	131	92	16	71	121	56
25	59	165	342	488	350	788	121	142	15	52	92	41
26	52	952	620	417	296	674	111	131	17	40	64	36
27	47	716	446	363	247	452	2400	116	16	36	51	33
28	48	413	314	299	240	386	1390	75	15	300	41	30
29	78	296	254	250	225	431	584	62	14	107	35	28
30	67	231	219	190	---	413	3440	54	14	69	32	25
31	61	---	195	160	---	368	---	48	---	48	30	---
TOTAL	5219	10011	4651	11193	7434	15430	17552	5568	924	10311	2470	968
MEAN	168	334	150	361	256	498	585	180	30.8	333	79.7	32.3
MAX	578	952	620	1200	1020	1080	3440	1370	78	3040	386	59
MIN	47	55	61	107	70	160	111	48	14	13	20	18
CFSM	1.36	2.69	1.21	2.91	2.07	4.02	4.72	1.45	.25	2.69	.64	.26
IN.	1.57	3.00	1.40	3.36	2.23	4.63	5.27	1.67	.28	3.09	.74	.29

CAL YR 1979	TOTAL	119744	MEAN 328	MAX 5340	MIN 15	CFSM 2.65	IN 35.92
WTR YR 1980	TOTAL	91731	MEAN 251	MAX 3440	MIN 13	CFSM 2.02	IN 27.52

GUYANDOTTE RIVER BASIN

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, Dec. 13, 1977 to Sept. 30, 1979.

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 metric tons) Apr. 4, 1977; minimum daily, 0 ton (0 metric ton) May 27, 28, June 3, 1977.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily observed, 28.0°C Aug. 11; minimum daily observed, 0.0°C Feb. 1-4, 7, 9,

Mar. 3.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)
NOV							
02...	1000	134	350	7.1	12.0	12.5	--
28...	1015	425	180	7.0	9.5	9.0	--
JAN							
31...	1650	179	250	7.0	-7.0	.5	--
MAR							
12...	1655	251	225	6.5	6.0	4.0	--
24...	1640	400	220	6.8	--	9.0	--
APR							
24...	1705	135	320	6.6	19.0	17.0	--
JUN							
05...	1835	38	710	8.5	26.0	24.0	--
JUL							
18...	1135	93	380	7.3	--	24.5	--
AUG							
20...	1430	147	338	7.7	28.0	22.5	47
SEP							
09...	1200	23	570	7.4	19.0	22.5	--

03202750 CLEAR FORK AT CLEAR FORK, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	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)	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)	SULFATE DIS- SOLVED (MG/L AS SO4)	SILICA, DIS- SOLVED (MG/L AS SiO2)
MAR 24...	--	84	71	.1	5.0	17	10	5.9	.3	13	76	--
AUG 20...	7.2	110	91	.0	.0	24	13	10	.5	23	120	8.3

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)
MAR 24...	129	.18	139	--	--	--	--	--	220	0	410	--
AUG 20...	198	.27	78.6	40	<1	5	3	<10	3500	3500	31	10

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
MAR 24...	--	280	20	260	--	--	--	--	--	19.0	--	--
AUG 20...	12	310	130	180	11	270	<6.0	24	3.4	--	87	35

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	15.0	---	5.0	.0	---	11.5	11.5	23.0	25.0	26.0	---
2	---	12.0	3.5	5.0	.0	---	13.0	11.5	23.0	24.0	---	26.5
3	---	11.0	3.5	5.0	.0	.0	14.0	13.0	23.0	---	27.0	25.0
4	---	9.0	---	4.0	.0	1.0	12.0	15.0	---	---	26.0	26.0
5	---	9.5	5.0	---	1.0	2.0	9.0	16.0	23.0	---	24.0	26.0
6	---	9.0	6.0	2.0	.5	6.0	11.0	17.0	22.0	---	26.0	26.0
7	11.0	9.0	6.0	2.0	.0	5.5	---	18.0	22.0	---	25.0	26.0
8	11.5	8.0	5.5	---	1.0	6.5	---	16.0	24.0	---	26.0	---
9	---	8.5	---	4.0	.0	8.0	---	15.0	21.5	---	27.0	25.0
10	9.0	10.5	6.0	4.0	1.0	8.0	12.0	---	22.0	---	---	24.0
11	9.0	10.0	7.0	5.0	1.0	7.0	12.0	17.5	21.0	---	28.0	24.0
12	9.5	9.5	7.5	4.0	1.0	4.0	12.0	---	21.0	---	27.0	24.0
13	10.0	---	9.0	4.0	1.5	6.0	10.0	19.0	23.0	---	---	24.0
14	---	8.5	8.5	6.0	1.5	---	13.0	18.0	23.0	---	26.0	25.0
15	---	---	7.0	7.0	2.0	6.0	9.0	19.0	25.0	---	27.0	24.0
16	---	---	6.5	7.0	---	8.0	10.0	---	20.0	---	---	---
17	---	---	5.0	8.0	1.5	9.0	11.0	17.0	23.0	---	25.0	21.0
18	15.0	---	2.5	9.0	1.5	8.5	11.5	19.0	20.0	---	23.5	24.0
19	---	---	4.0	7.0	3.0	7.0	13.0	20.0	21.0	---	22.0	24.0
20	---	---	5.0	6.0	3.5	8.0	---	17.0	24.0	---	24.0	23.0
21	---	---	4.0	5.5	6.0	8.0	15.0	17.0	21.0	---	25.0	24.0
22	18.0	---	---	5.0	8.5	7.5	16.0	19.0	24.0	---	21.0	23.0
23	16.0	---	7.5	4.0	8.0	7.0	17.0	20.0	25.0	25.0	21.0	---
24	12.0	12.0	9.0	3.0	7.5	9.0	17.0	---	23.0	25.0	---	23.0
25	11.0	13.0	8.5	6.0	6.0	8.0	17.0	18.0	23.0	26.0	23.5	22.5
26	11.5	13.5	7.0	6.0	3.0	8.0	14.0	19.0	---	24.0	25.0	---
27	10.5	11.0	6.0	6.0	---	10.0	11.5	20.0	27.0	26.0	26.0	---
28	9.0	9.0	6.0	5.0	2.5	10.0	12.0	21.0	27.0	---	26.0	---
29	9.5	5.5	5.0	4.0	2.0	11.0	10.0	23.0	25.0	23.0	26.0	---
30	14.0	6.0	7.0	---	---	11.0	9.5	23.0	25.0	24.0	25.0	---
31	13.0	---	6.0	---	---	10.0	---	---	---	26.0	25.0	---
MEAN	11.5	10.0	6.0	5.0	2.5	7.0	12.5	17.5	23.0	25.0	25.0	24.5

GUYANDOTTE RIVER BASIN

03202913 R. D. BAILEY LAKE AT JUSTICE, WV

LOCATION.--Lat 37°35'57", long 81°49'13", Mingo and Wyoming Counties, Hydrologic Unit 05070101, on the Guyandotte River about 1.0 mi (1.6 km) northeast of Justice.

DRAINAGE AREA.--535 mi² (1386 km²).

PERIOD OF RECORD.--February to September 1980 (monthend contents only).

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

REMARKS.--Reservoir is formed by rock and random fill dam with concrete face. Spillway is uncontrolled, broad-crested saddle, elevation 1,155 ft (352.0 m). Outflow controlled by two 6.0 ft (1.83 m) by 12.0 ft (3.66 m) gates, elevation 938.0 ft (285.9 m), discharging through an 18.0 ft (5.49 m) diameter tunnel in left abutment. Selective withdrawals can be made from five 10.0 ft (3.05 m) by 8.0 ft (2.44 m) intake gates at elevations 966.0 ft (294.4 m), 986.0 ft (300.5 m), 1,000 ft (304.8 m), and two at 1,020 ft (310.9 m). Total level-pool capacity at elevation 1,155 ft (352.0 m), spillway crest, is 203,700 acre-ft (251 hm³) of which 181,700 acre-ft (224 hm³) is controlled storage above elevation 1,012 ft (308.0 m), minimum-pool elevation. This is a multi-purpose reservoir.

COOPERATION.--Records were furnished by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum for period February through September, 51,846 acre-ft (63.9 hm³) May 1, elevation 1,058.88 ft (322.747 m); minimum, since initial filling, 354 acre-ft (0.436 hm³) Feb. 4, elevation 908.50 ft (276.911 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)	Change in Contents (equivalent in cfs)
Sept. 30.....	-	-	-	-
Oct. 31.....	-	-	-	-
Nov. 30.....	-	-	-	-
Dec. 31.....	-	-	-	-
CAL YR 1979				
Jan. 31.....	-	-	-	-
Feb. 29.....	984.90	12080	-	-
Mar. 31.....	1011.00	21610	+9530	+155
Apr. 30.....	1056.75	50060	+28450	+478
May 31.....	1035.03	34240	-15820	-257
June 30.....	1034.97	34200	-40	-1
July 31.....	1035.12	34300	+100	+2
Aug. 31.....	1035.09	34280	-20	0
Sept. 30.....	1035.03	34240	-40	-1
WTR YR 1980			+34240	+47

GUYANDOTTE RIVER BASIN

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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 Huff (corrected) 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 current year.

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 period October to January, which are poor. Flow regulated since February 1980 by R. D. Bailey Lake (station 03202913) at mile 112 (180 km).

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,800 ft³/s (476 m³/s) June 22, 1979, gage height, 13.90 ft (4.237 m); minimum discharge, 2.1 ft³/s (0.06 m³/s) Dec. 18, 1978, gage height, 2.05 ft (0.625 m); minimum daily, 38 ft³/s (1.08 m³/s) Nov. 22, 23, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,810 ft³/s (221 m³/s) May 1, gage height, 10.72 ft (3.267 m); minimum daily, 82 ft³/s (2.32 m³/s) Feb. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	320	245	620	691	540	773	1490	6730	285	111	282	196
2	392	970	560	610	450	767	1260	6310	291	95	231	174
3	727	3000	480	538	380	678	1190	3040	267	106	189	224
4	720	1600	430	507	330	678	2360	2200	261	128	174	216
5	640	1100	410	507	313	806	3650	2180	259	155	236	246
6	520	840	400	452	125	2220	3640	1820	244	228	623	267
7	470	740	390	408	82	4180	2690	1340	407	199	320	155
8	410	620	360	642	90	4500	1410	1010	438	174	259	128
9	370	640	310	795	96	3950	1730	827	273	1320	259	128
10	600	1100	290	805	214	2530	1120	600	233	2330	244	259
11	900	2240	270	800	310	1720	274	550	201	4670	199	291
12	980	2010	297	1030	356	1210	214	568	184	4940	191	194
13	1200	2100	330	1280	400	1100	217	582	184	4730	172	150
14	1630	1470	460	1500	341	1160	965	542	184	4340	164	139
15	1280	990	412	2390	360	1250	2640	415	174	2210	148	137
16	920	741	392	1880	732	1170	2300	415	160	994	148	120
17	705	637	388	1440	1510	1160	1400	470	160	470	148	148
18	552	502	341	2100	2010	2000	1190	403	160	348	204	120
19	436	470	330	3500	1910	2160	1080	403	160	282	209	93
20	360	430	345	3700	1290	760	925	462	160	256	199	110
21	313	390	323	2000	1170	1010	765	1070	148	212	179	140
22	290	360	306	1500	1660	2420	691	1120	135	215	1130	190
23	290	390	300	2500	2580	2720	669	832	135	665	1650	240
24	306	480	323	2900	1950	2460	615	661	135	734	803	230
25	303	660	895	2300	1070	2730	588	618	120	373	460	194
26	287	2100	2330	1700	273	3070	543	661	110	294	331	164
27	264	2400	1890	1350	129	3020	2070	550	111	261	264	207
28	271	1400	1310	1250	437	2060	4480	442	111	801	214	167
29	349	1100	1010	1070	592	1830	5490	370	111	1340	196	117
30	334	800	870	760	---	1950	5560	359	113	573	176	124
31	277	---	780	490	---	1760	---	303	---	337	160	---
TOTAL	17416	32525	18152	43395	21700	59802	53216	37853	5914	33891	10162	5268
MEAN	562	1084	586	1400	748	1929	1774	1221	197	1093	328	176
MAX	1630	3000	2330	3700	2580	4500	5560	6730	438	4940	1650	291
MIN	264	245	270	408	82	678	214	303	110	95	148	93

CAL YR 1979 TOTAL 418272 MEAN 1146 MAX 9820 MIN 95 MEAN# 1146 CFSM# 2.14 IN# 29.09
WTR YR 1980 TOTAL 339294 MEAN 927 MAX 6730 MIN 82 MEAN# 974 CFSM# 1.82 IN# 24.79

* Adjusted for change in contents in R. D. Bailey Lake.

GUYANDOTTE RIVER BASIN

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. Flow regulated since February 1980 by R. D. Bailey Lake (station 03202913) at mile 112 (180 km). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--18 years, 1,439 ft³/s (40.75 m³/s), 19.95 in/yr (507 mm/yr), unadjusted.

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, 12,400 ft³/s (351 m³/s) July 10, gage height, 15.12 ft (4.609 m); minimum, 144 ft³/s (4.08 m³/s) July 3, 4, gage height, 4.62 ft (1.408 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	697	388	1140	1010	860	1120	2340	3470	375	154	505	266
2	701	1300	984	908	740	1220	1940	3190	396	154	423	294
3	1200	3850	843	798	620	1020	1730	4270	370	154	361	361
4	1150	2250	738	772	540	1030	3030	2780	342	165	324	351
5	920	1460	697	781	460	1850	4410	2600	333	262	380	412
6	800	1120	690	714	410	4510	4370	2320	351	306	585	390
7	724	934	682	666	375	5490	3570	1810	346	294	643	333
8	651	809	628	898	342	5750	2230	1260	592	237	505	233
9	575	755	544	1150	365	5130	4410	1160	365	1700	423	210
10	906	1340	493	1110	365	3570	3100	880	328	5430	396	606
11	1490	2950	463	1100	469	2590	1300	763	286	6610	356	512
12	1540	2730	475	1360	558	1870	955	738	259	5280	315	417
13	1820	2930	643	1720	571	1600	908	746	251	6830	278	282
14	2250	2190	825	1960	599	1700	1830	746	247	5090	266	251
15	1720	1630	789	2960	621	1760	4070	636	247	3110	244	223
16	1270	1330	714	2530	1950	1710	3910	551	251	1380	237	223
17	988	1110	682	1990	2790	1760	2410	571	240	722	237	191
18	803	965	606	3200	2790	3380	1950	606	223	518	1310	240
19	677	845	578	6940	2710	3820	1650	551	216	417	2900	177
20	590	756	578	5110	2450	2260	1500	621	210	390	1580	162
21	536	718	544	2820	1850	2120	1220	1130	210	328	816	177
22	494	656	518	2250	4400	3760	1080	1420	194	315	2490	259
23	462	613	518	4460	4220	3980	994	1090	188	451	2840	315
24	441	785	558	4820	3380	3440	945	852	191	1010	1280	356
25	433	997	1120	3400	2320	4160	871	755	185	544	871	365
26	408	3310	3220	2630	1200	4300	871	789	167	412	571	274
27	388	4710	2980	2180	755	4110	3540	722	156	493	469	259
28	403	2770	2050	1850	816	3330	5730	578	158	5560	390	270
29	461	1870	1540	1550	1090	2920	6330	499	158	2390	328	230
30	470	1400	1300	1330	---	2960	9600	451	158	1160	324	182
31	421	---	1150	1000	---	2760	---	457	---	628	286	---
TOTAL	26389	49471	29290	65967	40616	90980	82794	49012	7993	52494	22933	8821
MEAN	851	1649	945	2128	1401	2935	2760	1581	266	1693	740	294
MAX	2250	4710	3220	6940	4400	5750	9600	3470	592	6830	2900	606
MIN	388	388	463	666	342	1020	871	451	156	154	237	162

CAL YR 1979 TOTAL 733207 MEAN 2009 MAX 27000 MIN 232 MEAN# 2009 CFSM# 2.40 IN# 32.63
WTR YR 1980 TOTAL 526760 MEAN 1439 MAX 9600 MIN 154 MEAN# 1436 CFSM# 1.78 IN# 24.20

* Adjusted for change in contents in R. D. Bailey Lake.

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WATER-QUALITY RECORDS

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1975 to September 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

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 metric tons) Nov. 13, 1975; minimum daily, 2.7 tons (2.4 metric tons) July 23, 27, 1976.

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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)
NOV 06...	1230	1080	270	7.5	14.0	9.0	--	65	35	.0	.0	15
DEC 11...	1510	461	420	7.7	14.5	5.0	--	110	49	.0	.0	25
FEB 04...	1445	796	380	7.5	-4.5	1.0	--	110	46	.0	.0	23
MAR 19...	1310	3940	180	7.6	19.0	8.0	--	63	38	.0	.0	14
22...	1220	3380	190	7.1	11.0	8.0	--	62	42	.1	5.0	13
MAY 08...	1245	1250	260	7.7	20.0	16.0	--	79	41	--	--	17
JUN 17...	1215	238	450	8.2	24.0	22.0	--	120	51	--	--	26
JUL 28...	1425	7220	140	7.2	30.0	19.5	--	44	22	--	--	10
AUG 20...	1430	1460	300	7.6	28.0	24.0	20	80	25	.0	.0	18
SEP 19...	1420	164	500	7.5	29.0	24.5	--	--	--	--	--	--

[illegible]

03203600 GUYANDOTTE RIVER AT LOGAN, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
MAR 22...	--	--	--	--	--	100	--	--
AUG 20...	12	250	<6.0	<4	2.8	--	94	371

[illegible]

GUYANDOTTE RIVER BASIN

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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 February and March, which are poor. Flow regulated since February 1980 by R. D. Bailey Lake (station 03202913) at mile 112 (180 km). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--53 years (water years 1916-17, 1930-80), 1,657 ft³/s (46.93 m³/s), 18.35 in/yr (466 mm/yr), unadjusted.

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, 12,000 ft³/s (340 m³/s) July 11, gage height, 21.51 ft (6.556 m), backwater; minimum, 185 ft³/s (5.24 m³/s) July 2, 3, gage height, 3.30 ft (1.006 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1050	580	2010	1610	1520	1620	3770	11300	629	189	728	424
2	938	1930	1650	1410	1400	1650	3210	10200	528	185	612	371
3	1070	4500	1390	1260	1200	1780	2760	7670	528	185	514	382
4	1470	4900	1210	1170	1000	1560	2870	4480	487	196	442	468
5	1330	2990	1110	1190	820	3280	4700	3440	442	237	449	442
6	1110	2040	1070	1130	740	5590	5290	3190	461	343	507	481
7	1020	1570	1040	1060	847	7600	4950	2700	487	360	716	461
8	931	1320	990	1130	678	7700	3990	2080	461	338	767	382
9	931	1190	905	1370	639	7000	5330	1580	672	1140	624	287
10	2240	1690	821	1510	665	6000	5830	1390	449	4940	521	474
11	2310	3340	769	1670	652	4950	3760	1150	400	10500	474	883
12	2480	4290	736	2140	762	3190	2160	1040	349	7060	442	647
13	2650	4230	2180	2350	775	2540	1740	978	317	8810	388	507
14	3600	3930	4540	2660	866	2880	2520	1000	302	7700	333	365
15	3320	2950	2480	3090	990	2670	4560	948	297	5380	312	317
16	2370	2260	1800	3740	2550	2630	5730	794	322	3010	322	287
17	1720	1820	1460	3220	4550	2520	4630	741	343	1600	302	268
18	1330	1520	1250	2880	4170	3320	3330	835	302	934	312	246
19	1110	1320	1130	5260	3940	5310	2750	905	273	728	2060	268
20	964	1170	1060	7000	3710	4690	2360	1360	259	606	2770	233
21	866	1060	1000	5390	3660	3450	2050	1400	250	542	1520	212
22	801	990	944	3570	4230	4320	1680	1700	246	474	2080	237
23	743	931	905	3720	6270	5290	1490	1640	237	461	3700	442
24	697	1200	951	5550	5630	4920	1370	1300	224	716	2650	494
25	658	1890	1410	5380	4320	5550	1280	1480	224	1000	1410	487
26	626	3590	2910	4170	3220	5880	1190	1200	224	641	919	468
27	587	5580	4640	3450	1970	5590	1590	1070	212	556	703	360
28	574	5540	3730	2950	1510	5080	5380	912	189	1390	600	317
29	645	3660	2740	2500	1540	4660	6770	767	189	3920	494	327
30	658	2620	2170	2080	---	4260	8100	684	189	2060	528	282
31	645	---	1850	1820	---	4140	---	647	---	1150	556	---
TOTAL	41444	76601	52851	87430	64824	131620	107140	70581	10492	67351	28755	11819
MEAN	1337	2553	1705	2820	2235	4246	3571	2277	350	2173	928	394
MAX	3600	5580	4640	7000	6270	7700	8100	11300	672	10500	3700	883
MIN	574	580	736	1060	639	1560	1190	647	189	185	302	212

CAL YR 1979 TOTAL 1105407 MEAN 3029 MAX 32400 MIN 327 MEAN# 3029 CFSM# 2.47 IN# 33.55
WTR YR 1980 TOTAL 750908 MEAN 2052 MAX 11300 MIN 185 MEAN# 2099 CFSM# 1.71 IN# 23.31

* Adjusted for change in contents in R. D. Bailey Lake.

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCLAND, 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 metric tons) Apr. 5, 1977; minimum daily, 2.3 tons (2.1 metric tons) July 20, 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	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												
10...	1030	2270	245	7.1	--	12.5	40	9.7	.49	4000	4900	66
NOV												
07...	1025	1650	235	6.9	--	9.0	1.0	11.3	.42	3700	280	66
15...	1115	2880	200	7.0	6.0	8.0	--	--	--	--	--	58
DEC												
19...	1045	1160	325	7.4	--	2.5	3.4	13.6	.78	1030	290	89
26...	1330	3340	290	6.4	2.5	6.5	--	--	--	--	--	80
JAN												
16...	1030	4170	205	7.4	--	6.0	4.0	12.3	.74	4600	700	54
30...	1030	2310	265	7.4	--	4.0	1.5	12.9	.35	2600	304	78
FEB												
13...	1030	784	440	7.2	.0	.5	.50	14.4	.96	220	K25	110
MAR												
27...	0900	5710	160	7.2	8.0	7.5	--	--	--	--	--	56
APR												
09...	0930	4920	165	7.1	--	12.5	65	10.7	.51	10200	24700	44
23...	1000	1520	320	7.3	--	13.0	5.0	--	.50	733	161	86
30...	1430	7620	175	6.9	17.0	12.0	--	--	--	--	--	55
MAY												
07...	1045	2680	220	7.2	--	16.0	18	9.0	.79	1400	192	65
30...	1040	685	410	7.4	25.0	21.0	--	--	--	--	--	110
JUN												
25...	0930	245	580	7.7	--	23.0	1.5	7.2	.13	72	124	110
25...	1030	245	580	7.7	--	23.0	--	7.2	--	--	--	150
JUL												
30...	1210	1740	250	7.1	--	23.0	--	7.4	--	--	--	72
30...	1230	1740	250	7.1	--	23.0	500	7.4	.46	4650	1190	74
AUG												
14...	0900	208	490	7.7	--	25.0	.10	7.0	.10	78	67	140
18...	1410	287	230	6.5	30.0	24.5	5.0	--	--	--	--	72
SEP												
12...	1145	598	370	7.4	29.0	22.0	--	--	--	--	--	100
17...	0930	268	556	7.1	--	23.0	.60	6.3	.37	158	327	140

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	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)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
OCT												
10...	34	--	--	15	7.0	19	37	1.0	21	2.4	32	62
NOV												
07...	39	--	--	15	6.9	15	45	.8	17	2.1	27	59
15...	30	.0	.0	13	6.1	12	--	.7	--	--	28	46
DEC												
19...	43	--	--	20	9.6	28	53	1.3	30	2.4	46	79
26...	39	.0	.0	18	8.4	23	--	1.1	--	--	41	76
JAN												
16...	21	--	--	12	5.8	13	47	.8	15	1.6	33	44
30...	42	--	--	17	8.6	19	48	.9	21	2.0	36	72
FEB												
13...	58	.0	.0	26	12	34	39	1.4	37	2.6	57	130
MAR												
27...	39	.0	.0	12	6.2	12	--	.7	--	--	28	48
APR												
09...	22	--	--	10	4.6	8.2	28	.5	--	1.9	22	38
23...	49	--	--	19	9.3	23	36	1.1	--	2.3	37	78
30...	32	.1	5.0	12	6.1	15	--	.9	--	--	23	49
MAY												
07...	43	--	--	14	7.4	15	32	.8	--	2.0	22	57
30...	47	--	--	24	11	41	--	1.7	--	--	58	110
JUN												
25...	48	--	--	27	10	41	44	1.7	--	3.8	87	110
25...	58	--	--	34	15	60	--	2.2	--	--	87	160
JUL												
30...	32	--	--	16	7.8	18	--	.9	--	--	40	66
30...	37	--	--	17	7.7	18	34	.9	--	2.5	42	62
AUG												
14...	60	--	--	31	14	47	42	1.8	--	3.8	75	120
18...	38	.2	10	18	6.6	11	--	.6	--	--	34	46
SEP												
12...	57	--	--	24	10	28	--	1.2	--	--	44	100
17...	63	--	--	31	14	47	42	1.8	--	4.1	72	130
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 CONSTIT- UENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	NITRO- GEN, NO2+NO3 DIS- SOLVED 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)
OCT												
10...	5.3	.1	7.2	145	138	.20	889	.25	.26	.050	.020	.06
NOV												
07...	4.0	.0	8.3	129	128	.18	575	.38	.31	.000	.000	.00
15...	3.4	--	--	114	--	.16	886	--	--	--	--	--
DEC												
19...	7.2	.1	7.5	181	183	.25	567	.39	.38	.010	.040	.01
26...	6.2	--	--	181	--	.25	1630	--	--	--	--	--
JAN												
16...	4.0	.1	7.1	122	109	.17	1370	.35	.36	.010	.000	.01
30...	4.9	.1	7.7	153	155	.21	954	.35	.35	.020	.010	.02
FEB												
13...	15	.1	7.0	254	264	.35	538	.72	.71	.100	.100	.12
MAR												
27...	3.2	--	--	126	--	.17	1940	--	--	--	--	--
APR												
09...	4.7	.1	6.0	160	89	.22	2130	.39	.39	.020	.070	.02
23...	9.8	.1	7.3	197	173	.27	808	.41	.41	.010	.040	.01
30...	3.2	--	--	130	--	.18	2670	--	--	--	--	--
MAY												
07...	4.4	.1	7.6	136	123	.19	984	.49	.53	.040	.040	.05
30...	14	--	--	235	--	.32	435	--	--	--	--	--
JUN												
25...	16	.1	1.3	240	246	.33	159	.01	.02	.020	.010	.02
25...	24	--	--	361	--	.49	239	--	--	--	--	--
JUL												
30...	4.4	--	--	148	--	.20	695	--	--	--	--	--
30...	4.3	.2	7.4	159	143	.22	747	.47	.45	.020	.030	.02
AUG												
14...	19	.1	2.4	300	283	.41	168	.11	.10	.020	.010	.02
18...	14	--	7.2	152	--	.21	118	--	--	--	--	--
SEP												
12...	9.1	--	--	226	--	.31	365	--	--	--	--	--
17...	19	.2	6.8	306	297	.42	221	.38	.33	.040	.020	.05

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, ORGANIC SOLVED (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. (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)	ARSENIC TOTAL (UG/L AS AS)
OCT 10...	.03	.49	.21	.54	.31	.23	.79	3.5	.050	.15	.010	--
NOV 07...	.00	.15	.11	.15	.04	.11	.53	2.3	.040	.12	.000	--
DEC 19...	.05	.47	.36	.48	.08	.40	.87	3.9	.010	.03	.010	--
JAN 16...	.00	.53	.38	.54	.16	.38	.89	3.9	.060	.18	.000	3
30...	.01	.27	.00	.29	.29	.00	.64	2.8	.020	.06	.020	--
FEB 13...	.13	.15	.15	.25	.00	.25	.97	4.3	.040	.12	.010	--
APR 09...	.09	2.9	.05	2.9	2.8	.12	3.3	15	.040	.12	.010	2
23...	.05	.56	.05	.57	.48	.09	.98	4.3	.030	.09	.010	--
MAY 07...	.05	1.1	.22	1.1	.84	.26	1.6	7.0	.030	.09	.000	--
JUN 25...	.01	.13	.10	.15	.04	.11	.16	.71	.020	.06	.010	1
JUL 30...	.04	.10	.00	.12	.11	.01	.59	2.6	.140	.43	.030	--
AUG 14...	.01	.07	.00	.09	.09	.00	.20	.89	.000	.00	.000	--
SEP 17...	.03	.06	.02	.10	.06	.04	.48	2.1	.010	.03	.000	1

DATE	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)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)
JAN 16...	2	1	100	50	50	--	0	0	0
APR 09...	0	2	700	700	30	--	0	0	3
JUN 25...	1	0	100	10	90	--	0	0	1
AUG 18...	--	--	--	--	70	<1	--	--	<1
SEP 17...	0	1	100	0	100	--	0	0	0

DATE	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)	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)
JAN 16...	20	10	<10	3	1	2	5	3	2
APR 09...	30	20	10	27	27	0	51	49	2
JUN 25...	20	--	<10	0	0	0	2	0	2
AUG 18...	--	--	--	--	--	11	--	--	<10
SEP 17...	10	0	20	1	0	1	8	5	3

GUYANDOTTE RIVER BASIN

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03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	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)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE D RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE D 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 D RECOV- ERABLE (UG/L AS HG)
NOV												
07...	--	--	--	--	--	--	--	--	--	--	--	--
15...	2100	--	60	--	--	--	--	130	120	10	--	--
DEC												
26...	2600	2600	40	--	--	--	--	100	80	20	--	--
JAN												
16...	3300	3300	30	5	5	0	--	180	170	9	.3	.0
30...	--	--	--	--	--	--	--	--	--	--	--	--
MAR												
27...	2300	2300	30	--	--	--	--	80	70	10	--	--
APR												
09...	44000	44000	50	440	440	4	--	2100	2100	6	.1	.0
23...	--	--	--	--	--	--	--	--	--	--	--	--
30...	4600	4500	60	--	--	--	--	190	180	10	--	--
MAY												
30...	760	740	20	--	--	--	--	60	40	20	--	--
JUN												
25...	350	330	20	0	0	0	--	70	20	50	<.1	--
25...	300	290	10	--	--	--	--	100	60	40	--	--
JUL												
30...	5700	5700	30	--	--	--	--	290	280	10	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
18...	540	450	88	--	--	<10	18	450	40	410	--	--
SEP												
12...	2700	2700	10	--	--	--	--	90	80	10	--	--
17...	640	600	40	1	0	1	--	70	30	40	<.1	--

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	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 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 D RECOV- ERABLE (UG/L AS AG)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)
NOV												
07...	--	--	--	--	--	--	--	--	0	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--	--
DEC												
26...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
16...	.3	--	5	5	0	1	1	0	0	0	0	--
30...	--	--	--	--	--	--	--	--	1	--	--	--
MAR												
27...	--	--	--	--	--	--	--	--	--	--	--	--
APR												
09...	.1	--	59	59	0	2	2	0	0	0	0	--
23...	--	--	--	--	--	--	--	--	0	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
30...	--	--	--	--	--	--	--	--	--	--	--	--
JUN												
25...	<.1	--	2	2	0	1	1	0	0	0	0	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
30...	--	--	--	--	--	--	--	--	0	--	--	--
30...	--	--	--	--	--	--	--	--	--	--	--	--
AUG												
18...	--	15	--	--	--	--	--	--	--	--	--	130
SEP												
12...	--	--	--	--	--	--	--	--	--	--	--	--
17...	<.1	--	4	2	2	0	0	0	0	0	0	--

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C)	CARBON, ORGANIC SUS- PENDE (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	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												
10...	--	--	--	--	3.1	--	--	--	96	98	601	78
NOV												
07...	--	--	--	--	1.3	--	--	--	--	47	209	35
DEC												
19...	--	--	--	--	1.0	--	--	--	--	29	91	81
JAN												
16...	--	390	360	30	--	1.5	1.7	--	--	7	79	4
30...	--	--	--	--	1.5	--	--	--	--	25	156	90
FEB												
13...	--	--	--	--	.9	--	--	--	--	23	49	58
MAR												
27...	--	--	--	--	--	--	--	92.0	--	--	--	--
APR												
09...	--	240	220	20	--	2.0	>7.0	--	780	1486	19700	54
23...	--	--	--	--	1.5	--	--	--	13	105	431	18
MAY												
07...	--	--	--	--	1.8	--	--	--	600	5862	42400	0
JUN												
25...	--	10	6	4	--	6.7	--	--	9100	--	--	--
JUL												
30...	--	--	--	--	3.6	--	--	--	320	306	1440	24
AUG												
14...	--	--	--	--	2.3	--	--	--	--	45	25	71
18...	<6.0	--	--	45	8.0	--	--	--	--	9	7.0	--
SEP												
17...	--	40	40	0	--	--	.5	--	--	59	43	82

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	OCT 10,79 1030	APR 9,80 0930	APR 23,80 1000	MAY 7,80 1045
TOTAL CELLS/ML	96	780	13	600
DIVERSITY: DIVISION	0.0	0.0	0.0	0.7
..CLASS	0.0	0.0	0.0	0.7
..ORDER	0.6	0.0	0.0	0.7
...FAMILY	1.2	2.2	0.0	1.0
....GENUS	1.2	2.5	0.0	1.0

ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
....SCHROEDERIA	--	-	--	-	--	-	--	-
...COELASTRACEAE								
....COELASTRUM	--	-	--	-	--	-	--	-
...OOCYSTACEAE								
....ANKISTRODSMUS	--	-	--	-	--	-	--	-
...OOCYSTIS	--	-	--	-	--	-	--	-
....WESTELLA	--	-	--	-	--	-	--	-
...SCENEDESMACEAE								
....SCENEDESMUS	--	-	--	-	--	-	--	-
...TETRASPORALES								
...PALMELLACEAE								
...SPHAEROCYSTIS	--	-	--	-	--	-	--	-
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
....CHLAMYDOMONAS	--	-	--	-	--	-	--	-
CHRYSTOPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCACEAE								
....CYCLOTELLA	15#	16	--	-	--	-	--	-
....MELOSIRA	--	-	--	-	--	-	--	-
...PENNALES								
...ACHNANTHACEAE								
....ACHNANTHES	--	-	--	-	--	-	14	2
...RHOICOSPHEA	5	5	--	-	--	-	--	-
...CYMBELLACEAE								
....CYMBELLA	5	5	82	11	--	-	--	-
...EUNOTIACEAE								
....EUNOTIA	--	-	27	4	--	-	--	-
...FRAGILARIACEAE								
....FRAGILARIA	--	-	--	-	--	-	--	-
...SYNEDRA	--	-	27	4	--	-	14	2
...GOMPHONEMACEAE								
....GOMPHONEMA	--	-	140#	18	--	-	--	-
...MERIDIONACEAE								
....MERIDION	--	-	27	4	--	-	--	-
...NAVICULACEAE								
....FRUSTULIA	--	-	14	2	--	-	--	-
....NAVICULA	70#	74	360#	46	13#	100	14	2
...PINNULARIA	--	-	14	2	--	-	--	-
...NITZSCHACEAE								
....NITZSCHIA	--	-	14	2	--	-	43	7
...SURIPELLACEAE								
....SURIPELLA	--	-	82	11	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
....CHROOMONAS	--	-	--	-	--	-	--	-
...CRYPTOMONADACEAE								
....CRYPTOMONAS	--	-	--	-	--	-	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
....AGMENELLUM	--	-	--	-	--	-	--	-
...ANACYSTIS	--	-	--	-	--	-	--	-
...HORMOGONALES								
...OSCILLATORIACEAE								
....OSCILLATORIA	--	-	--	-	--	-	500#	83
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
....TRACHELOMONAS	--	-	--	-	--	-	14	2
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
...PERIDINIALES								
...GLENODINIACEAE								
....GLENODINIUM	--	-	--	-	--	-	--	-

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

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

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

PHYTOPLANKTON ANALYSES, OCTOBER 1979 TO SEPTEMBER 1980

DATE TIME	JUN 25,80 0930	JUL 31,80 1230	AUG 14,80 0900	SEP 17,80 0930				
TOTAL CELLS/ML	9100	320	13000	3700				
DIVERSITY: DIVISION	1.4	0.2	1.6	0.9				
..CLASS	1.4	0.2	1.6	0.9				
...ORDER	1.7	1.1	2.2	1.3				
...FAMILY	1.9	1.5	2.7	1.3				
....GENUS	2.1	1.6	3.2	1.3				
ORGANISM	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT	CELLS /ML	PER- CENT
CHLOROPHYTA (GREEN ALGAE)								
..CHLOROPHYCEAE								
...CHLOROCOCCALES								
...CHARACIACEAE								
...SCHROEDERIA	--	-	--	-	* 0	--	--	-
...COELASTRACEAE								
...COELASTRUM	--	-	--	-	1600	12	--	-
...OOCYSTACEAE								
...ANKISTRODESMUS	150	2	--	-	760	6	50	1
...OOCYSTIS	440	5	--	-	470	4	--	-
...WESTELLA	--	-	--	-	700	5	--	-
...SCENEDESMACEAE								
...SCENEDESMUS	580	6	--	-	580	4	--	-
...TETRASPORALES								
...PALMELLACEAE								
...SPHAEROCYSTIS	880	10	13	4	470	4	800#	21
...VOLVOCALES								
...CHLAMYDOMONADACEAE								
...CHLAMYDOMONAS	--	-	--	-	170	1	25	1
CHRYSPHYTA								
..BACILLARIOPHYCEAE								
...CENTRALES								
...COSCINODISCEACEAE								
...CYCLOTELLA	5200#	57	13	4	3800#	29	2700#	71
...MELOSIRA	370	4	90#	28	--	-	--	-
...PENNALES								
...ACHNANTHACEAE								
...ACHNANTHES	--	-	--	-	--	-	--	-
...RHOICOSPHEA	--	-	--	-	--	-	--	-
...CYMBELLACEAE								
...CYMBELLA	--	-	--	-	--	-	--	-
...EUNOTIACEAE								
...EUNOTIA	--	-	--	-	--	-	--	-
...FRAGILARIACEAE								
...FRAGILARIA	73	1	--	-	--	-	--	-
...SYNEDRA	--	-	--	-	410	3	--	-
...GOMPHONEMACEAE								
...GOMPHONEMA	--	-	--	-	--	-	--	-
...MERIDIONACEAE								
...MERIDION	--	-	--	-	--	-	--	-
...NAVICULACEAE								
...FRUSTULIA	--	-	--	-	--	-	--	-
...NAVICULA	--	-	26	8	--	-	--	-
...PINNULARIA	--	-	--	-	--	-	--	-
...NITZSCHACEAE								
...NITZSCHIA	73	1	180#	56	810	6	130	3
...SURIARELLACEAE								
...SURIARELLA	--	-	--	-	--	-	--	-
CRYPTOPHYTA (CRYPTOMONADS)								
..CRYPTOPHYCEAE								
...CRYPTOMONADALES								
...CRYPTOCHRYSIDACEAE								
...CHROOMONAS	1200	14	--	-	--	-	25	1
...CRYPTOMONADACEAE								
...CRYPTOMONAS	--	-	--	-	120	1	--	-
CYANOPHYTA (BLUE-GREEN ALGAE)								
..CYANOPHYCEAE								
...CHROOCOCCALES								
...CHROOCOCCACEAE								
...AGMENELLUM	--	-	--	-	2000#	15	--	-
...ANACYSTIS	73	1	--	-	1200	9	50	1
...HORMOGONALES								
...OSCILLATORIACEAE								
...OSCILLATORIA	--	-	--	-	--	-	--	-
EUGLENOPHYTA (EUGLENOIDS)								
..EUGLENOPHYCEAE								
...EUGLENALES								
...EUGLENACEAE								
...TRACHELOMONAS	--	-	--	-	--	-	--	-
PYRRHOPHYTA (FIRE ALGAE)								
..DINOPHYCEAE								
...PERIDINIALES								
...GLENODINIACEAE								
...GLENODINIUM	73	1	--	-	--	-	--	-

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

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

GUYANDOTTE RIVER BASIN

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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 September 1980 (discontinued).

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, February, and September, which are poor.

AVERAGE DISCHARGE.--42 years, 290 ft³/s (8.213 m³/s), 15.38 in/yr (391 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. 14	1200	*4080 116	16.39 4.996	Mar. 6	1100	3780 107	15.53 4.734

Minimum discharge, 7.0 ft³/s (0.20 m³/s) July 2, gage height 0.48 ft (0.146 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	109	52	235	230	150	212	642	550	124	8.1	28	25
2	99	1130	199	190	140	186	530	358	68	7.2	25	35
3	204	1900	164	160	130	170	410	275	55	12	19	51
4	220	611	141	150	120	165	1190	226	59	30	19	32
5	183	352	133	170	115	1890	675	189	49	41	61	23
6	160	260	129	140	111	3500	432	164	92	25	47	15
7	153	212	127	200	108	1490	338	149	249	17	51	15
8	147	178	114	374	104	693	406	125	113	17	59	13
9	172	170	94	310	100	520	1340	105	66	48	82	20
10	2530	486	81	260	100	380	707	94	55	478	51	45
11	2120	779	77	444	100	322	448	88	54	1730	37	78
12	662	460	75	1290	98	264	342	78	38	576	26	46
13	613	342	1560	653	98	290	304	73	30	2550	20	34
14	668	273	3750	516	98	1020	936	76	26	1160	16	24
15	436	221	1550	480	140	653	1150	62	23	276	20	20
16	318	194	560	378	1120	448	618	63	35	151	205	17
17	246	170	394	376	1320	382	412	58	63	102	69	15
18	194	147	282	468	516	850	322	59	40	76	246	13
19	156	132	242	428	386	722	267	59	29	60	342	13
20	130	116	215	378	396	492	230	714	22	48	97	12
21	114	104	183	328	939	731	202	1050	18	41	118	12
22	99	95	165	288	1110	913	178	428	16	35	1050	16
23	88	89	158	280	884	552	160	223	14	34	292	42
24	81	358	178	253	554	590	145	164	13	33	113	78
25	77	910	544	332	406	2260	128	296	13	29	73	51
26	70	1780	874	380	340	1010	123	271	12	25	52	43
27	62	1580	657	296	284	580	615	149	11	23	41	33
28	59	618	390	260	278	532	659	100	11	52	31	24
29	61	406	156	224	255	1030	348	80	9.6	38	27	20
30	64	296	326	191	---	633	344	67	9.0	39	20	17
31	61	---	270	164	---	526	---	123	---	28	27	---
TOTAL	10356	14421	14023	10591	10500	24006	14601	6516	1416.6	7789.3	3364	882
MEAN	334	481	452	342	362	774	487	210	47.2	251	109	29.4
MAX	2530	1900	3750	1290	1320	3500	1340	1050	249	2550	1050	78
MIN	59	52	75	140	98	165	123	58	9.0	7.2	16	12
CFSM	1.31	1.88	1.77	1.34	1.41	3.02	1.90	.82	.18	.98	.43	.12
IN.	1.50	2.10	2.04	1.54	1.53	3.49	2.12	.95	.21	1.13	.49	.13

CAL YR 1979	TOTAL	182138.0	MEAN	499	MAX	4860	MIN	20	CFSM	1.95	IN	26.47
WTR YR 1980	TOTAL	118465.9	MEAN	324	MAX	3750	MIN	7.2	CFSM	1.27	IN	17.21

GUYANDOTTE RIVER BASIN

03204500 MUD RIVER NEAR MILTON, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975-1977, 1979 to September 1980 (discontinued).

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 metric tons) Apr. 5, 1977; minimum daily mean, 0 ton (0 metric tons) Nov. 7, 8, 1975.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	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)
NOV												
09...	0930	152	120	7.0	10.0	8.0	--	41	12	.0	.0	11
DEC												
26...	0900	947	105	6.2	5.0	5.0	--	44	3	.0	.0	12
JAN												
15...	1550	462	100	7.0	7.0	5.5	--	41	12	.0	.0	11
FEB												
12...	1330	97	140	7.2	.0	1.0	--	49	12	.0	.0	13
MAR												
27...	0720	622	100	7.1	2.5	6.5	--	34	14	.1	5.0	8.8
APR												
09...	1200	1570	96	7.0	20.0	13.0	--	40	23	.1	5.0	11
MAY												
16...	1130	65	138	6.8	--	16.5	--	49	20	.1	5.0	13
JUL												
03...	1145	13	170	6.9	30.0	23.0	--	61	21	.2	10	17
30...	0925	44	155	7.1	--	23.0	--	56	9	--	--	15
AUG												
20...	1335	94	163	7.0	26.0	23.0	180	56	6	.0	.0	16
SEP												
12...	0925	50	170	7.2	16.0	19.0	--	62	16	--	--	18

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)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	SOLIDS, DIS- SOLVED (TONS PER DAY)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)
NOV												
09...	3.4	3.8	.3	29	18	4.4	--	70	.10	28.7	--	--
DEC												
26...	3.3	3.8	.3	36	24	2.9	--	83	.11	212	--	--
JAN												
15...	3.3	3.6	.2	20	23	3.0	--	79	.11	98.5	--	--
FEB												
12...	3.9	5.7	.4	30	24	7.1	--	76	.10	19.9	--	--
MAR												
27...	2.8	3.0	.2	20	19	2.9	--	67	.09	113	--	--
APR												
09...	3.1	3.5	.2	23	19	3.1	--	82	.11	348	--	--
MAY												
16...	4.1	5.2	.3	37	22	5.2	--	59	.08	10.3	--	--
JUL												
03...	4.4	6.0	.3	45	20	6.9	--	104	.14	3.59	--	--
30...	4.4	6.2	.4	47	16	7.8	--	88	.12	10.5	--	--
AUG												
20...	3.9	6.2	.4	50	22	6.2	7.0	107	.15	27.2	50	<1
SEP												
12...	4.2	6.8	.4	46	19	9.5	--	117	.16	15.9	--	--

GUYANDOTTE RIVER BASIN

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03204500 MUD RIVER NEAR MILTON, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	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, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)
NOV 09...	--	--	--	700	--	120	--	--	70	0	70
DEC 26...	--	--	--	2000	1900	110	--	--	90	60	30
JAN 15...	--	--	--	860	780	80	--	--	50	30	20
FEB 12...	--	--	--	400	290	110	--	--	120	10	110
MAR 27...	--	--	--	2300	2300	50	--	--	90	80	10
APR 09...	--	--	--	14000	14000	180	--	--	400	380	20
MAY 16...	--	--	--	900	760	140	--	--	100	40	60
JUL 03...	--	--	--	3800	3700	90	--	--	360	170	190
JUL 30...	--	--	--	1300	1200	150	--	--	130	30	100
AUG 20...	3	<3	<10	7300	7200	95	<10	<4	200	160	40
SEP 12...	--	--	--	8700	8600	80	--	--	230	140	90

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
MAR 27...	--	--	--	--	--	3.00	--	--
AUG 20...	11	76	<6.0	12	4.2	--	231	59

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 May through August 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.

AVERAGE DISCHARGE.--34 years (water years 1935-68), 75,240 ft³/s (2,131 m³/s), 18.28 in/yr (464 mm/yr).

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, 280,000 ft³/s (7,930 m³/s) Apr. 16; maximum gage height, 37.73 ft (11.500 m) Apr. 16; minimum discharge, not determined; minimum gage height, 24.84 ft (7.571 m) Sept. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	123000	---	131000	98200	---	61000	234000	162000	65500	---	74400	52700
2	94100	52600	113000	84400	---	---	251000	173000	71000	---	57000	---
3	112000	93300	91600	77000	---	---	255000	147000	111000	---	66400	---
4	132000	125000	73800	73200	---	---	224000	113000	150000	---	105000	---
5	116000	95200	64600	69100	---	94500	221000	83100	143000	---	127000	58900
6	102000	84300	64900	63800	---	189000	210000	76300	116000	---	115000	62300
7	119000	85300	66800	59900	---	190000	188000	---	117000	---	94400	54800
8	132000	71000	55600	51400	---	171000	171000	---	134000	---	75000	---
9	116000	---	58300	51500	---	184000	192000	---	135000	123000	58300	---
10	161000	66600	55200	52600	---	193000	243000	---	124000	138000	77200	---
11	212000	87400	50200	54000	---	185000	262000	---	126000	169000	79100	---
12	217000	86400	---	119000	---	185000	244000	---	115000	123000	155000	---
13	195000	98200	100000	157000	---	163000	201000	77800	104000	114000	195000	---
14	173000	97400	173000	153000	---	166000	200000	108000	83100	93700	153000	---
15	166000	84700	164000	136000	---	171000	252000	101000	63600	71200	99800	58400
16	149000	78000	129000	132000	---	152000	277000	90200	67600	50800	113000	---
17	127000	68800	93800	128000	50400	136000	261000	74500	80000	---	112000	---
18	115000	61200	72900	129000	52700	181000	224000	62400	84000	54000	94800	---
19	93800	62100	67100	128000	---	255000	192000	70400	76000	---	186000	---
20	82100	54500	63900	155000	---	255000	172000	85200	59000	---	226000	---
21	74900	51300	56100	145000	58600	214000	148000	109000	---	---	189000	---
22	69900	51200	54100	113000	92800	218000	122000	144000	---	54600	191000	---
23	55500	50300	---	93700	142000	246000	98900	163000	---	99800	226000	---
24	---	51200	---	93800	172000	231000	85200	130000	---	107000	168000	---
25	---	76400	74300	98500	167000	204000	69400	109000	---	84200	120000	---
26	---	119000	144000	75000	145000	201000	64000	130000	---	55600	90700	---
27	---	186000	199000	97100	120000	190000	55200	118000	---	---	74400	---
28	---	211000	190000	77800	86900	177000	102000	85200	---	66000	67100	---
29	---	185000	161000	57400	75400	194000	118000	57700	---	101000	68000	---
30	---	148000	137000	59300	---	212000	117000	51300	---	104000	---	---
31	---	---	118000	51300	---	218000	---	---	---	88000	51800	---
TOTAL	---	---	---	2934000	---	---	5453700	---	---	---	---	---
MEAN	---	---	---	94650	---	---	181800	---	---	---	---	---
MAX	---	---	---	157000	---	---	277000	---	---	---	---	---
MIN	---	---	---	51300	---	---	55200	---	---	---	---	---

TWELVEPOLE CREEK BASIN

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03206600 EAST FORK TWELVEPOLE CREEK NEAR DUNLOW

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).

WATER-DISCHARGE RECORDS

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.--Water-discharge records good except those for December and February, which are poor. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--16 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.--Maximum discharge, 1,360 ft³/s (38.5 m³/s) Dec. 13, gage height, 10.65 ft (3.246 m), no other peak above base of 840 ft³/s (24 m³/s); minimum, 0.92 ft³/s (0.026 m³/s) June 24, 25, gage height, 4.58 ft (1.396 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	12	60	47	37	41	95	41	9.2	1.5	1.8	2.9
2	28	283	45	40	34	35	83	36	8.3	1.3	1.5	8.3
3	27	192	34	34	32	32	75	34	7.1	1.6	1.3	10
4	22	114	31	36	30	40	99	31	6.1	2.7	2.6	3.0
5	22	79	29	36	28	485	92	28	4.6	2.9	50	2.6
6	19	60	28	29	26	420	81	26	4.2	2.4	9.2	2.7
7	19	46	26	35	25	214	70	24	3.6	2.7	4.0	2.7
8	15	39	23	41	24	155	77	21	3.6	2.9	3.0	1.9
9	28	39	21	42	23	111	224	18	3.4	21	2.7	2.9
10	180	155	19	41	22	92	153	17	3.4	129	2.0	41
11	126	158	19	80	21	77	107	17	3.4	164	2.3	13
12	93	119	50	131	20	61	87	16	3.0	31	8.0	6.9
13	156	89	820	117	19	67	86	15	1.7	89	3.0	3.8
14	141	68	320	113	25	119	214	17	1.6	94	2.1	3.0
15	99	57	193	94	47	94	252	13	1.5	49	2.3	2.9
16	72	51	126	82	279	83	177	12	3.2	27	3.4	2.6
17	54	43	83	78	197	83	117	12	4.0	16	2.3	2.1
18	41	39	63	92	134	97	93	14	2.7	11	2.6	1.9
19	34	36	55	103	99	94	73	15	1.8	6.9	26	1.7
20	30	31	44	96	99	92	61	24	1.4	4.4	21	1.9
21	26	29	38	81	120	140	51	26	1.2	2.9	13	2.7
22	24	28	35	79	224	138	42	18	1.1	3.0	59	8.6
23	24	26	33	83	175	116	37	16	1.0	4.0	20	12
24	22	73	52	76	132	122	34	15	.96	3.0	12	8.9
25	19	99	137	83	107	194	29	25	.96	2.7	8.0	6.4
26	16	279	178	71	86	162	28	21	1.2	2.0	4.6	4.6
27	14	201	146	65	72	125	51	15	1.2	1.8	3.2	3.4
28	18	141	105	58	70	128	47	12	1.3	2.3	2.9	2.7
29	23	104	81	49	57	138	45	11	1.3	3.0	2.7	2.3
30	16	85	69	45	---	125	44	11	1.5	2.9	2.9	2.0
31	14	---	57	41	---	114	---	11	---	2.1	3.8	---
TOTAL	1449	2775	3020	2098	2264	3994	2724	612	89.52	690.0	283.2	171.4
MEAN	46.7	92.5	97.4	67.7	78.1	129	90.8	19.7	2.98	22.3	9.14	5.71
MAX	180	283	820	131	279	485	252	41	9.2	164	59	41
MIN	14	12	19	29	19	32	28	11	.96	1.3	1.3	1.7
CFSM	1.22	2.42	2.55	1.77	2.05	3.38	2.38	.52	.08	.58	.24	.15
IN.	1.41	2.70	2.94	2.04	2.20	3.89	2.65	.60	.09	.67	.28	.17
CAL YR 1979	TOTAL	34275.60	MEAN	93.9	MAX	1150	MIN	1.7	CFSM	2.46	IN	33.38
WTR YR 1980	TOTAL	20170.12	MEAN	55.1	MAX	820	MIN	.96	CFSM	1.44	IN	19.64

TWELVEPOLE CREEK BASIN

03206600 EAST FORK TWELVEPOLE CREEK NEAR DUNLOW, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1974-1976, 1980.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1974, February to December 1975, February to March 1976.

WATER TEMPERATURES: March to October 1974, February 1975 to September 1975, November to December 1975, February to March 1976.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 220 micromhos Mar. 14, 1975; minimum daily, 17 micromhos Apr. 28, 1975.

WATER TEMPERATURES: Maximum daily, 27.0°C Sept. 3, 1975; minimum daily, 0.0°C Mar. 24, 25, 1975.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	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)
NOV												
05...	1620	71	70	6.7	15.5	9.0	--	--	--	--	--	--
DEC												
15...	1645	161	60	6.8	4.5	6.0	--	--	--	--	--	--
FEB												
07...	1215	25	50	6.7	-1.5	.0	--	--	--	--	--	--
26...	1710	78	42	6.8	--	3.0	--	--	.33	45	K18	17
MAR												
20...	1345	97	55	7.2	15.0	8.0	--	--	--	--	--	--
24...	1300	112	58	6.4	16.0	8.5	--	--	--	--	--	16
APR												
23...	1630	37	62	6.1	--	21.0	--	4.7	.23	90	36	18
MAY												
06...	1750	25	250	6.7	24.5	19.5	--	--	--	--	--	--
20...	1515	21	62	6.9	--	16.5	--	--	.62	K5100	K3100	23
JUN												
16...	1650	3.0	105	6.9	17.0	19.0	--	--	--	--	--	--
18...	1515	2.7	93	7.3	--	23.0	--	--	.26	K57000	2100	27
JUL												
16...	1830	23	76	7.1	--	27.5	--	--	.27	1500	990	24
31...	1115	2.2	105	7.1	26.0	24.0	--	--	--	--	--	--
AUG												
06...	1100	14	82	7.2	--	23.0	--	--	.66	4600	2800	26
20...	1840	15	65	7.1	26.0	24.5	10	--	--	--	--	22
SEP												
17...	1125	2.0	130	6.9	20.0	20.5	--	--	--	--	--	--
23...	1730	13	96	7.3	--	20.0	--	8.1	.30	--	--	31

K Results based on colony count outside the acceptable range (non-ideal colony count).

TWELVEPOLE CREEK BASIN

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03206600 EAST FORK TWELVEPOLE CREEK NEAR DUNLOW, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	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)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
FEB 26...	0	--	--	3.0	2.3	1.9	18	.2	1.1	7	15	1.3
MAR 24...	12	.1	5.0	2.8	2.2	1.6	--	.2	--	6	14	1.1
APR 23...	2	--	--	3.2	2.4	2.3	20	.2	1.4	6	14	1.5
MAY 20...	7	--	--	4.7	2.7	3.2	22	.3	1.3	16	12	2.3
JUN 18...	10	--	--	5.7	3.1	6.0	31	.5	2.1	17	12	7.0
JUL 16...	7	--	--	5.1	2.8	2.9	19	.3	1.9	17	13	2.0
AUG 06...	4	--	--	5.6	3.0	4.4	25	.4	2.3	22	9.0	4.0
20...	4	.0	.0	4.7	2.4	2.3	--	.2	--	18	11	1.6
SEP 23...	1	--	--	7.3	3.2	4.9	24	.4	2.6	30	8.3	4.4

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 CONSTITUENTS, 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)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
FEB 26...	.1	7.5	38	53	.05	8.00	.19	.040	.05	.10	.14	.000
MAR 24...	--	--	42	--	.06	12.7	--	--	--	--	--	--
APR 23...	.0	7.6	40	43	.05	4.00	.10	.050	.06	.08	.13	.000
MAY 20...	.1	6.8	50	44	.07	2.83	.35	.030	.04	.24	.27	.010
JUN 18...	.1	4.4	54	51	.07	.39	.05	.060	.08	.15	.21	.010
JUL 16...	.1	8.2	50	47	.07	3.10	.11	.010	.01	.15	.16	.010
AUG 06...	.2	5.3	78	49	.11	2.95	.17	.180	.23	.31	.49	.010
20...	--	7.9	42	--	.06	1.70	--	--	--	--	--	--
SEP 23...	.1	6.7	59	56	.08	2.07	.10	.000	.00	.20	.20	.010

TWELVEPOLE CREEK BASIN

03206600 EAST FORK TWELVEPOLE CREEK NEAR DUNLOW, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	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)	BARIIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS RE)	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, HEXA- VALENT, DIS. (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
FER 26...	90	70	20	--	--	0	0	1	<10	0	--	--
MAR 24...	--	--	--	--	--	--	--	--	--	--	--	--
APR 23...	--	--	100	--	--	--	--	--	--	--	--	--
MAY 20...	--	--	100	--	--	--	--	--	--	--	--	--
JUN 18...	90	60	30	--	--	0	0	1	10	0	--	--
JUL 16...	--	--	0	--	--	--	--	--	--	--	--	--
AUG 06...	--	--	300	--	--	--	--	--	--	--	--	--
20...	--	--	--	40	5	--	--	3	--	--	<3	<10
SEP 23...	--	--	100	--	--	--	--	--	--	--	--	--

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)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)
FER 26...	360	190	170	0	0	0	--	30	10	20	<.1	.0
MAR 24...	820	770	50	--	--	--	--	40	30	10	--	--
APR 23...	--	--	170	--	--	--	--	--	--	30	--	--
MAY 20...	--	--	90	--	--	--	--	--	--	30	--	--
JUN 18...	570	470	100	0	0	0	--	40	0	50	<.1	--
JUL 16...	--	--	200	--	--	--	--	--	--	50	--	--
AUG 06...	--	--	600	--	--	--	--	--	--	30	--	--
20...	950	810	140	--	--	<10	<4	40	20	25	--	--
SEP 23...	--	--	340	--	--	--	--	--	--	60	--	--

DATE	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
FER 26...	<.1	--	--	--	20	20	3	--	--	--	--
MAR 24...	--	--	--	--	--	--	--	--	7.00	--	--
JUN 18...	<.1	--	--	--	20	20	0	--	--	--	--
AUG 20...	--	<10	34	<6.0	--	--	6	3.3	--	12	.49

TWELVEPOLE CREEK BASIN

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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, 22,030 acre-ft (27.2 hm³) July 11, elevation, 666.48 ft (203.143 m); minimum, 11,640 acre-ft (14.4 hm³) Jan. 18, elevation, 655.92 ft (199.924 m).

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation (feet)	Contents (acre-feet)	Change in Contents (acre-feet)	Change in Contents (equivalent in cfs)
Sept. 30.....	662.56	17760	-	-
Oct. 31.....	662.29	17480	-280	-5
Nov. 30.....	656.69	12290	-5190	-87
Dec. 31.....	656.13	11820	-470	-8
CAL YR 1979	-	-	-720	-1
Jan. 31.....	656.27	11930	+110	+2
Feb. 29.....	656.24	11910	-20	0
Mar. 31.....	656.81	12390	+480	+8
Apr. 30.....	662.46	17660	+5270	+88
May 31.....	662.58	17780	+120	+2
June 30.....	661.93	17120	-660	-11
July 31.....	662.55	17750	+630	+10
Aug. 31.....	662.52	17720	-30	0
Sept. 30.....	662.29	17480	-240	-4
WTR YR 1980	-	-	-280	0

TWELVEPOLE CREEK BASIN

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).

WATER-DISCHARGE RECORDS

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.--Water-discharge records good. Flow regulated since March 1972 by East Lynn Lake (station 03206780).

AVERAGE DISCHARGE.--18 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, 1,980 ft³/s (56.1 m³/s) July 10, gage height, 20.57 ft (6.270 m); minimum daily, 7.9 ft³/s (0.22 m³/s) June 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	137	271	133	37	134	161	134	35	14	12	16
2	74	718	211	102	76	107	27	133	34	13	12	13
3	85	948	137	102	93	106	25	102	35	12	13	11
4	80	912	90	102	93	178	32	87	22	14	13	10
5	84	636	70	102	92	904	26	87	15	17	13	10
6	81	260	88	102	93	1310	24	55	9.6	12	14	10
7	78	260	95	104	64	1340	22	41	7.9	11	17	10
8	73	247	81	104	54	927	35	40	8.4	13	15	10
9	55	275	62	104	54	572	203	40	9.0	26	14	11
10	459	588	58	149	55	279	352	40	9.3	472	14	19
11	655	770	56	207	55	150	347	40	9.6	1020	14	11
12	480	602	53	495	55	128	262	40	9.6	982	26	8.7
13	457	374	780	621	54	134	229	40	9.3	972	31	8.7
14	545	367	1390	502	55	285	541	47	9.3	647	31	8.7
15	324	319	1240	372	104	329	745	42	9.6	201	31	23
16	205	201	922	331	650	324	655	29	11	84	32	30
17	160	160	728	417	887	397	475	26	10	17	31	30
18	71	155	510	290	719	440	329	26	9.6	14	33	30
19	40	158	278	215	447	430	223	91	9.3	13	36	18
20	37	160	133	344	329	349	221	159	9.0	13	37	12
21	36	158	102	292	420	455	146	190	9.3	13	93	13
22	35	158	102	193	637	551	65	193	10	12	297	14
23	59	158	102	168	670	571	41	138	13	14	324	17
24	77	167	107	166	344	432	41	97	13	13	229	29
25	56	326	195	201	207	492	58	70	13	12	114	35
26	74	679	397	213	285	534	68	68	13	12	76	35
27	69	854	527	213	266	457	197	63	13	13	38	35
28	64	677	477	151	246	427	236	59	14	15	17	35
29	60	450	365	125	215	427	231	40	14	13	16	35
30	64	310	326	124	---	422	161	35	14	12	17	35
31	65	---	244	59	---	422	---	35	---	12	17	---
TOTAL	4751	12184	10197	6803	7356	14013	6178	2287	407.8	4708	1677	583.1
MEAN	153	406	329	219	254	452	206	73.8	13.6	152	54.1	19.4
MAX	655	948	1390	621	887	1340	745	193	35	1020	324	35
MIN	35	137	53	59	37	106	22	26	7.9	11	12	8.7

CAL YR 1979 TOTAL 116609.9 MEAN 319 MAX 2030 MIN 9.6 MEAN# 318 CFSM# 2.30 IN# 31.29
WTR YR 1980 TOTAL 71144.9 MEAN 194 MAX 1390 MIN 7.9 MEAN# 194 CFSM# 1.41 IN# 19.14

* Adjusted for change in contents in East Lynn Lake.

TWELVEPOLE CREEK BASIN

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03206790 EAST FORK TWELVEPOLE CREEK BELOW EAST LYNN DAM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 04...	1235	82	--	--	--	19.0	--	--	--
NOV 14...	1615	418	--	--	--	--	--	--	--
DEC 14...	1445	1320	70	5.9	11.0	6.0	--	--	--
FEB 11...	1245	54	70	6.5	-3.0	3.0	--	--	--
27...	1010	253	48	7.4	--	3.0	12.0	.37	64
APR 01...	1500	30	31	--	12.0	9.0	--	--	--
24...	0945	40	68	6.6	--	11.0	6.7	.44	120
MAY 21...	0945	205	58	6.9	--	15.5	--	.91	730
29...	1350	28	75	6.9	--	20.0	--	--	--
JUN 19...	0945	10	64	6.7	--	19.5	--	.40	K33
24...	1600	11	68	6.4	--	22.5	--	--	--
JUL 17...	1120	14	76	6.2	--	21.5	--	.62	110
29...	1635	13	70	6.4	--	25.0	--	--	--
AUG 05...	1630	12	66	6.6	--	25.5	--	.79	73
SEP 11...	1545	12	77	6.2	25.0	25.0	--	--	--
24...	1030	35	70	6.7	--	22.0	7.5	.31	--

DATE	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	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)	SULFATE DIS- SOLVED (MG/L AS SO4)
FEB 27...	K14	21	15	4.1	2.7	1.5	12	.1	2.7	1.2	6	18
APR 24...	92	21	9	4.0	2.7	1.6	13	.2	--	1.2	7	17
MAY 21...	660	21	14	4.1	2.7	2.0	16	.2	--	1.0	7	19
JUN 19...	230	22	15	4.5	2.7	1.6	13	.1	--	1.4	7	18
JUL 17...	210	26	10	5.5	3.0	2.0	13	.2	--	1.7	15	17
AUG 05...	940	24	16	4.9	2.8	2.0	14	.2	--	1.8	8	16
SEP 24...	--	24	8	5.2	2.6	1.7	12	.2	--	1.8	14	16

TWELVEPOLE CREEK BASIN

03206790 EAST FORK TWELVEPOLE CREEK BELOW EAST LYNN DAM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, 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 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)
FEB 27...	1.3	.1	6.8	41	41	.06	28.0	.23	.040	.05	.10	.14
APR 24...	1.1	.1	7.2	55	43	.07	5.94	.18	.060	.08	.20	.26
MAY 21...	1.3	.0	7.2	48	45	.07	26.6	.78	.030	.04	.10	.13
JUN 19...	1.2	.1	5.4	44	41	.06	1.19	.27	.070	.09	.06	.13
JUL 17...	1.4	.1	5.3	55	47	.07	2.08	.09	.170	.22	.36	.53
AUG 05...	1.8	.2	4.2	60	39	.08	1.94	.09	.180	.23	.52	.70
SEP 24...	2.1	.1	4.4	42	45	.06	3.97	.04	.060	.08	.21	.27

DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	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)	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, HEXA- VALENT DIS. (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
FEB 27...	.000	50	30	20	0	0	0	10	0	760	670	90
APR 24...	.010	--	--	100	--	--	--	--	--	--	--	110
MAY 21...	.010	--	--	100	--	--	--	--	--	--	--	40
JUN 19...	.000	70	40	30	0	0	1	20	0	440	360	80
JUL 17...	.010	--	--	100	--	--	--	--	--	--	--	150
AUG 05...	.010	--	--	100	--	--	--	--	--	--	--	170
SEP 24...	.020	--	--	100	--	--	--	--	--	--	--	190

DATE	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. (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)	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 27...	0	0	0	110	0	110	<.1	<.0	<.1	10	10	0
APR 24...	--	--	--	--	--	110	--	--	--	--	--	--
MAY 21...	--	--	--	--	--	40	--	--	--	--	--	--
JUN 19...	0	0	0	130	10	120	<.1	--	<.1	20	20	0
JUL 17...	--	--	--	--	--	720	--	--	--	--	--	--
AUG 05...	--	--	--	--	--	310	--	--	--	--	--	--
SEP 24...	--	--	--	--	--	590	--	--	--	--	--	--

TWELVEPOLE CREEK BASIN

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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 bridge on State Highway 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. WDR WV-79-1: 1978(m).

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. Flow regulated since March 1972 by East Lynn Lake (station 03206780). Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--38 years (water years 1916-17, 1929-31, 1947-54, 1956-80), 350 ft³/s (9.912 m³/s), 15.84 in/yr (402 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, 4,400 ft³/s (125 m³/s) July 10, gage height, 17.76 ft (5.413 m); minimum, 15 ft³/s (0.42 m³/s) July 1, 2, gage height, 3.63 ft (1.106 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	190	155	435	350	147	330	751	282	78	16	27	37
2	185	1400	387	268	160	255	385	266	72	15	25	36
3	213	1680	272	248	206	240	322	242	70	25	23	31
4	197	1350	234	240	197	270	685	207	64	51	23	43
5	199	1050	192	248	187	2040	387	199	46	75	33	37
6	192	532	195	234	183	2660	307	178	46	41	40	29
7	211	400	207	262	175	2210	272	138	37	22	85	26
8	180	410	193	300	136	1680	382	129	31	18	96	26
9	222	392	149	280	140	1070	877	119	28	100	59	29
10	1620	1210	137	286	140	679	874	113	27	1560	43	97
11	1170	1290	130	646	133	457	718	111	26	1900	45	62
12	898	1070	127	1120	137	350	580	109	24	1180	40	53
13	763	751	1770	1020	124	377	495	102	23	1400	60	37
14	964	580	3000	901	141	727	1220	113	22	969	59	29
15	667	540	2320	709	234	640	1510	109	22	345	51	27
16	482	410	1450	586	1360	571	1250	91	34	209	50	41
17	365	317	1110	664	1560	613	853	77	31	85	52	40
18	282	292	826	664	1200	1020	688	79	25	61	143	39
19	178	278	559	490	865	814	460	102	24	51	236	37
20	155	268	347	568	646	712	412	598	22	42	185	23
21	141	258	268	562	853	1060	347	375	20	38	286	23
22	130	248	250	445	1160	1100	252	298	19	36	927	63
23	134	244	244	387	1200	982	193	240	19	44	480	115
24	163	385	342	375	916	880	180	183	24	44	335	62
25	144	500	715	402	542	1190	170	150	20	35	209	69
26	140	979	880	407	530	1080	187	192	20	26	123	57
27	138	1360	985	382	515	910	530	137	18	28	103	51
28	133	1140	877	337	465	925	482	115	17	58	55	48
29	134	799	676	276	422	1020	405	100	16	47	44	45
30	133	542	553	260	---	850	350	80	17	31	43	43
31	134	---	482	207	---	862	---	84	---	31	43	---
TOTAL	10857	20830	20312	14124	14674	28574	16524	5318	942	8583	4023	1355
MEAN	350	694	655	456	506	922	551	172	31.4	277	130	45.2
MAX	1620	1680	3000	1120	1560	2660	1510	598	78	1900	927	115
MIN	130	155	127	207	124	240	170	77	16	15	23	23

CAL YR 1979 TOTAL 241595 MEAN 662 MAX 3240 MIN 42 MEAN# 661 CFSM# 2.20 IN# 29.92
WTR YR 1980 TOTAL 146116 MEAN 399 MAX 3000 MIN 15 MEAN# 399 CFSM# 1.33 IN# 18.11

* Adjusted for change in contents in East Lynn Lake.

TWELVEPOLE CREEK BASIN

03207020 TWELVEPOLE CREEK BELOW WAYNE, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1978 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOC- CI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CAC03)
OCT												
04...	1410	199	100	6.8	13.5	16.5	--	--	--	--	--	35
NOV												
08...	1500	377	90	7.0	12.0	10.0	--	--	--	--	--	10
DEC												
21...	1030	260	90	6.4	--	3.0	--	--	--	--	--	30
JAN												
15...	1415	685	80	6.4	7.0	5.0	--	--	--	--	--	27
FEB												
11...	1420	140	90	6.1	-3.0	1.0	--	--	--	--	--	37
27...	1120	538	64	6.3	--	3.0	--	12.0	.51	K1800	260	27
MAR												
25...	0710	1250	95	7.3	7.5	8.0	--	--	--	--	--	33
31...	1330	837	--	--	30.0	--	--	--	--	--	--	--
APR												
24...	1130	183	115	7.2	--	17.0	--	5.9	.57	K1900	280	37
MAY												
21...	1110	348	112	6.8	--	15.0	--	--	.76	4500	4600	41
29...	1540	97	110	7.0	--	20.5	--	--	--	--	--	37
JUN												
19...	1100	24	173	6.9	--	20.5	--	--	.51	3000	1000	54
24...	1800	25	175	6.9	--	21.0	--	--	--	--	--	54
JUL												
17...	1255	81	110	7.7	--	25.0	--	--	1.0	3300	1700	33
29...	1645	39	165	6.7	28.5	24.5	--	--	--	--	--	58
AUG												
05...	1410	27	167	7.0	--	26.0	--	--	.50	3600	500	58
22...	1330	688	100	6.3	--	23.0	100	--	--	--	--	38
SEP												
11...	1705	80	155	6.9	22.0	22.0	--	--	--	--	--	55
24...	1200	60	144	7.2	--	20.0	--	7.2	1.1	--	--	50

TWELVEPOLE CREEK BASIN

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03207020 TWELVEPOLE CREEK BELOW WAYNE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	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	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)
OCT												
04...	20	.0	.0	8.4	3.4	3.6	--	.3	--	--	15	20
NOV												
08...	6	.0	.0	2.5	.8	.9	--	.1	--	--	4	5.8
DEC												
21...	8	.0	.0	6.7	3.2	3.1	--	.2	--	--	13	21
JAN												
15...	10	.0	.0	5.7	3.0	2.3	--	.2	--	--	11	21
FEB												
11...	23	.0	.0	8.5	3.8	4.6	--	.3	--	--	14	26
27...	17	--	--	5.7	3.0	2.5	16	.2	3.7	1.2	10	20
MAR												
25...	10	.1	5.0	7.8	3.2	2.4	--	.2	--	--	15	22
APR												
24...	6	--	--	8.3	4.0	4.1	19	.3	--	1.5	14	25
MAY												
21...	23	--	--	9.6	4.1	4.1	17	.3	--	1.3	18	28
29...	25	.1	5.0	8.3	3.9	4.5	--	.3	--	--	12	24
JUN												
19...	32	--	--	13	5.3	9.2	26	.5	--	2.3	29	30
24...	28	.1	5.0	13	5.3	8.3	--	.5	--	--	26	33
JUL												
17...	13	--	--	7.7	3.4	3.5	18	.3	--	2.0	20	21
29...	25	.1	5.0	14	5.5	7.9	--	.5	--	--	33	29
AUG												
05...	24	--	--	14	5.5	8.3	23	.5	--	2.6	32	30
22...	19	.1	5.0	9.7	3.3	2.5	--	.2	--	--	19	20
SEP												
11...	25	.2	10	14	4.8	6.0	--	.4	--	--	30	28
24...	21	--	--	13	4.2	5.6	18	.3	--	3.4	29	26

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)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC DIS. (MG/L AS N)
OCT												
04...	3.8	--	--	68	--	.09	36.5	--	--	--	--	--
NOV												
08...	.9	--	--	22	--	.03	22.4	--	--	--	--	--
DEC												
21...	3.4	--	--	63	--	.09	44.2	--	--	--	--	--
JAN												
15...	1.6	--	--	54	--	.07	99.9	--	--	--	--	--
FEB												
11...	5.7	--	--	60	--	.08	22.7	--	--	--	--	--
27...	2.2	.1	7.1	51	49	.07	74.1	.22	.060	.08	.23	.29
MAR												
25...	1.9	--	--	61	--	.08	206	--	--	--	--	--
APR												
24...	4.6	.0	7.6	73	75	.10	36.1	.22	.050	.06	.30	.35
MAY												
21...	2.7	.1	7.6	74	70	.10	69.5	.41	.040	.05	.31	.35
29...	4.3	--	--	54	--	.07	14.1	--	--	--	--	--
JUN												
19...	12	.1	6.4	102	93	.14	6.61	.15	.100	.13	.26	.36
24...	11	--	--	107	--	.15	7.16	--	--	--	--	--
JUL												
17...	3.1	.1	6.0	68	60	.09	14.9	.25	.060	.08	.69	.75
29...	12	--	--	100	--	.14	10.4	--	--	--	--	--
AUG												
05...	11	.2	6.2	95	100	.13	6.93	.16	.120	.15	.22	.34
22...	2.2	--	7.7	65	--	.09	121	--	--	--	--	--
SEP												
11...	7.8	--	--	107	--	.15	23.1	--	--	--	--	--
24...	6.2	.1	6.7	90	85	.12	14.6	.39	.010	.01	.72	.73

TWELVEPOLE CREEK BASIN

03207020 TWELVEPOLE CREEK BELOW WAYNE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	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)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	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, HEXA- VALENT, DIS. (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)
FEB 27...	.000	100	80	20	--	--	0	0	3	<10	0	--
APR 24...	.010	--	--	100	--	--	--	--	--	--	--	--
MAY 21...	.000	--	--	200	--	--	--	--	--	--	--	--
JUN 19...	.000	100	90	10	--	--	0	0	0	10	0	--
JUL 17...	.010	--	--	100	--	--	--	--	--	--	--	--
AUG 05...	.010	--	--	100	--	--	--	--	--	--	--	--
22...	--	--	--	--	40	2	--	--	3	--	--	<3
SEP 24...	.010	--	--	100	--	--	--	--	--	--	--	--

DATE	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)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
OCT 04...	--	1000	--	210	--	--	--	--	160	20	140	--
NOV 08...	--	150	--	40	--	--	--	--	20	0	20	--
DEC 21...	--	990	850	140	--	--	--	--	150	0	150	--
JAN 15...	--	800	720	80	--	--	--	--	80	10	70	--
FEB 11...	--	460	290	170	--	--	--	--	230	20	210	--
27...	--	800	730	70	2	2	0	--	90	20	70	<.1
MAR 25...	--	4600	4600	50	--	--	--	--	160	120	40	--
APR 24...	--	--	--	140	--	--	--	--	--	--	180	--
MAY 21...	--	--	--	60	--	--	--	--	--	--	60	--
29...	--	1200	1100	110	--	--	--	--	250	10	240	--
JUN 19...	--	610	560	50	1	1	0	--	740	40	700	<.1
24...	--	530	490	40	--	--	--	--	680	40	640	--
JUL 17...	--	--	--	40	--	--	--	--	--	--	30	--
29...	--	970	810	160	--	--	--	--	510	10	500	--
AUG 05...	--	--	--	80	--	--	--	--	--	--	560	--
22...	<10	13000	13000	260	--	--	13	<4	550	370	180	--
SEP 11...	--	2400	2300	150	--	--	--	--	320	60	260	--
24...	--	--	--	180	--	--	--	--	--	--	160	--

DATE	MERCURY SUS- PENDE RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
FEB 27...	.0	<.1	--	--	--	30	20	10	--	--	--	--
MAR 25...	--	--	--	--	--	--	--	--	--	11.0	--	--
JUN 19...	--	<.1	--	--	--	160	150	7	--	--	--	--
AUG 22...	--	--	<10	52	<6.0	--	--	13	11	--	396	736

TWELVEPOLE CREEK BASIN

405

03207055 BEECH FORK LAKE NEAR LAVALETTE, WV

LOCATION.--Lat 38°18'14", long 82°24'58", Wayne County, Hydrologic Unit 05090102, at Beech Fork Dam on Beech Fork 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, 3,446 acre-ft (4.25 hm³), elevation 581.75 ft (177.32 m) Dec. 17, 1979.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,120 acre-ft (14.9 hm³) Oct. 10, elevation 595.73 ft (181.58 m), minimum, 3,446 acre-ft (4.25 hm³), elevation 581.75 ft (177.32 m) Dec. 17.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (acre-feet)	Change in contents (equivalent in cfs)
Sept. 30.....	592.93	9863	-	-
Oct. 31.....	583.68	4289	-5574	-91
Nov. 30.....	583.31	4118	-171	-3
Dec. 31.....	583.85	4368	+250	-4
CAL YR 1979			-253	0
Jan. 31.....	583.43	4173	-195	-3
Feb. 29.....	583.60	4251	+78	+1
Mar. 31.....	583.91	4396	+145	+2
Apr. 30.....	592.02	9193	+4797	+81
May 31.....	591.90	9107	+86	+1
June 30.....	591.13	8566	-541	-9
July 31.....	592.14	9280	+714	+12
Aug. 31.....	592.50	9543	+263	+4
Sept. 30.....	592.27	9374	-169	-3
WTR YR 1980			-489	-1

TWELVEPOLE CREEK BASIN

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).

WATER-DISCHARGE RECORDS

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.--Water-discharge records good. 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 (0.046 m).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,620 ft³/s (45.9 m³/s) Dec. 14, gage height, 9.39 ft (2.862 m); minimum, 4.7 ft³/s (0.13 m³/s) Apr. 8, gage height, 0.75 (0.229 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP		
1	85	50	95	74	41	49	72	48	25	8.2	7.9	11		
2	118	233	111	73	41	49	16	47	23	8.5	7.9	9.9		
3	61	368	128	46	41	49	12	44	23	9.2	7.9	8.2		
4	35	360	51	34	27	49	20	37	21	9.6	7.9	6.8		
5	34	228	24	34	15	978	12	25	17	11	8.9	6.5		
6	35	49	24	34	10	927	12	18	17	11	7.7	6.5		
7	35	41	21	34	13	226	11	17	17	11	9.2	6.5		
8	35	27	15	78	18	94	17	17	17	11	7.9	6.5		
9	54	25	15	112	18	148	16	17	13	11	7.7	7.1		
10	322	182	15	112	19	99	22	14	7.9	129	7.7	7.9		
11	633	346	15	133	20	75	61	9.9	8.2	609	7.7	6.8		
12	627	213	15	210	21	76	89	9.9	7.7	244	7.7	11		
13	344	99	778	217	21	105	99	9.9	7.7	272	7.7	11		
14	338	91	879	226	21	635	655	9.6	7.7	490	8.2	11		
15	196	32	255	229	28	326	554	9.6	7.9	54	11	11		
16	122	36	242	213	53	120	119	8.9	9.6	34	12	11		
17	195	36	90	198	51	161	94	7.9	8.9	28	12	11		
18	195	35	10	152	161	404	55	7.1	8.5	17	19	11		
19	198	28	11	72	759	312	33	8.5	7.7	12	246	10		
20	204	20	11	72	477	192	33	240	7.9	7.1	150	9.6		
21	203	20	11	113	255	380	33	206	7.9	6.8	37	9.2		
22	164	20	11	107	300	316	33	111	7.9	6.3	501	8.5		
23	215	20	18	67	193	169	33	60	7.9	8.5	781	8.9		
24	211	21	66	52	188	125	33	27	7.9	9.6	346	7.9		
25	208	21	117	50	87	398	33	20	7.9	6.0	63	7.9		
26	204	246	169	63	39	374	33	35	7.9	6.5	12	7.9		
27	193	378	206	63	40	188	356	99	7.9	6.8	12	7.9		
28	169	123	147	63	51	231	290	35	7.9	8.2	11	7.9		
29	148	76	54	51	59	246	61	21	7.9	7.9	11	7.9		
30	133	67	75	41	---	190	43	23	8.2	7.9	11	7.9		
31	92	---	74	41	---	187	---	25	---	7.9	11	---		
TOTAL	5806	3491	3753	3064	3067	7878	2950	1267.3	342.0	2069.0	2358.0	262.2		
MEAN	187	116	121	98.8	106	254	98.3	40.9	11.4	66.7	76.1	8.74		
MAX	633	378	879	229	759	978	655	240	25	609	781	11		
MIN	34	20	10	34	10	49	11	7.1	7.7	6.0	7.7	6.5		
CAL YR 1979	TOTAL	49611.0	MEAN	136	MAX	1310	MIN	8.2	MEAN#	136	CFSM#	1.69	IN#	22.97
WTR YR 1980	TOTAL	36307.5	MEAN	99.2	MAX	978	MIN	6.0	MEAN#	98.2	CFSM#	1.22	IN#	16.63

* Adjusted for change in contents in Beech Fork Lake near Lavalette.

TWELVEPOLE CREEK BASIN

407

03207057 BEECH FORK BELOW BEECH FORK DAM, WV--Continued

PERIOD OF RECORD.--October 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	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 04...	1650	34	--	--	--	--	--	--	--	--	--	--	
NOV 08...	1215	27	140	6.6	--	11.0	--	--	--	--	--	--	
DEC 21...	1430	11	100	--	11.0	3.0	--	--	--	--	--	--	
FEB 12...	1145	21	--	--	--	--	--	--	--	--	--	--	
27...	1330	46	122	6.3	--	5.0	--	--	.78	140	120	55	
MAR 25...	0815	161	130	7.1	6.5	7.0	--	--	--	--	--	50	
31...	1530	184	--	--	--	6.0	--	--	--	--	--	--	
APR 24...	1315	34	131	7.1	--	14.5	--	5.7	.45	110	K520	47	
MAY 21...	1210	113	126	6.9	--	16.0	--	--	.37	53	70	49	
29...	1200	21	150	6.7	--	20.0	--	--	--	--	--	--	
JUN 19...	1210	7.4	149	7.1	--	20.5	--	--	.45	33	140	57	
24...	1315	7.8	160	6.9	31.0	22.5	--	--	--	--	--	--	
JUL 17...	1405	22	135	7.6	--	23.0	--	--	.91	240	230	51	
29...	1305	8.0	115	6.6	--	23.5	--	--	--	--	--	--	
AUG 05...	1145	7.9	148	7.0	--	24.5	--	--	.54	400	K1800	57	
22...	1445	861	140	6.2	29.0	22.5	200	--	--	--	--	57	
SEP 11...	1015	5.6	155	6.6	20.0	19.5	--	--	--	--	--	--	
24...	1305	7.9	155	7.2	--	19.0	--	6.5	1.3	--	--	59	
DATE		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	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)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
FEB 27...	31	--	--	--	15	4.2	4.6	15	.3	1.3	24	33	3.0
MAR 25...	24	.1	5.0	--	14	3.6	3.8	--	.2	--	27	27	2.0
APR 24...	27	--	--	--	13	3.6	3.8	14	.2	1.6	25	28	1.4
MAY 21...	24	--	--	--	13	4.0	4.4	16	.3	1.1	25	30	1.9
JUN 19...	24	--	--	--	16	4.2	4.5	14	.3	1.7	35	30	2.4
JUL 17...	18	--	--	--	14	3.8	4.2	15	.3	2.1	33	25	2.1
AUG 05...	23	--	--	--	16	4.2	4.8	15	.3	2.4	42	24	4.2
22...	11	.4	20	--	16	4.0	3.3	--	.2	--	46	19	1.7
SEP 24...	7	--	--	--	17	4.0	3.9	12	.2	2.5	52	15	3.4

03207057 BEECH FORK BELOW BEECH FORK DAM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

	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 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN+AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)
FEB 27...	.1	6.1	83	84	.11	10.3	.38	.060	.08	.34	.40	.010
MAR 25...	--	--	87	--	.12	37.8	--	--	--	--	--	--
APR 24...	.1	6.5	85	71	.12	7.80	.18	.050	.06	.22	.27	.020
MAY 21...	.1	5.9	83	77	.11	25.3	.23	.070	.09	.07	.14	.000
JUN 19...	.1	4.0	90	83	.12	1.80	.06	.100	.13	.29	.39	.000
JUL 17...	.1	4.1	88	77	.12	5.23	.19	.060	.08	.66	.72	.010
AUG 05...	.2	4.6	103	83	.14	2.20	.07	.250	.32	.22	.47	.010
AUG 22...	--	6.0	83	--	.11	193	--	--	--	--	--	--
SEP 24...	.1	6.8	95	89	.13	2.03	.16	.680	.88	.42	1.1	.010
	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDE D RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM TOTAL RECOV- ERABLE (UG/L AS CD)	CADMIUM SUS- PENDE D RECOV- ERABLE (UG/L AS CD)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)	CHRO- MIUM, HEXA- VALENT, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)
FEB 27...	210	180	30	--	--	0	0	2	10	0	--	--
MAR 25...	--	--	--	--	--	--	--	--	--	--	--	--
APR 24...	--	--	200	--	--	--	--	--	--	--	--	--
MAY 21...	--	--	200	--	--	--	--	--	--	--	--	--
JUN 19...	110	80	30	--	--	0	0	2	10	0	--	--
JUL 17...	--	--	0	--	--	--	--	--	--	--	--	--
AUG 05...	--	--	400	--	--	--	--	--	--	--	--	--
AUG 22...	--	--	--	60	3	--	--	1	--	--	<3	<10
SEP 24...	--	--	100	--	--	--	--	--	--	--	--	--
	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)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDE D RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE D RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)	
FEB 27...	1600	1500	100	1	1	0	--	190	30	160	.3	
MAR 25...	2500	2400	80	--	--	--	--	130	50	80	--	
APR 24...	--	--	90	--	--	--	--	--	--	80	--	
MAY 21...	--	--	50	--	--	--	--	--	--	10	--	
JUN 19...	750	630	120	2	2	0	--	300	10	290	.1	
JUL 17...	--	--	10	--	--	--	--	--	--	750	--	
AUG 05...	--	--	380	--	--	--	--	--	--	780	--	
AUG 22...	4700	3200	1500	--	--	<10	<4	1900	0	2000	--	
SEP 24...	--	--	2700	--	--	--	--	--	--	2000	--	
	MERCURY SUS- PENDE D RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	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)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE D (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE D (T/DAY)
FEB 27...	.2	<.1	--	--	--	10	0	10	--	--	--	--
MAR 25...	--	--	--	--	--	--	--	--	--	8.00	--	--
JUN 19...	--	<.1	--	--	--	80	70	9	--	--	--	--
AUG 22...	--	--	<10	84	<6.0	--	--	9	7.3	--	101	235

BIG SANDY RIVER BASIN

409

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 September, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--50 years, 559 ft³/s (15.83 m³/s), 15.03 in/yr (382 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.--Maximum discharge, 10,400 ft³/s (295 m³/s) Apr. 30, gage height, 8.57 ft (2.612 m), no other peak above base of 6,000 ft³/s (170 m³/s); minimum daily, 96 ft³/s (2.7 m³/s) Sept. 29, 30.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	183	165	523	502	673	648	1340	4530	453	154	200	190
2	208	682	460	453	605	631	1210	2670	432	157	190	157
3	325	1380	385	411	648	614	1120	1990	390	162	183	165
4	276	699	363	411	538	598	2320	1600	363	160	179	152
5	272	474	368	411	481	834	2180	1320	346	183	232	141
6	254	379	357	374	495	2080	1650	1150	335	193	285	131
7	232	330	357	390	481	1730	1360	1020	357	160	232	128
8	204	300	320	807	432	1420	1190	900	335	152	232	131
9	190	285	285	834	425	1200	1380	798	315	717	200	124
10	516	622	263	735	439	1030	1090	726	281	1410	190	250
11	726	1130	263	682	390	1030	1040	682	267	2250	183	200
12	502	1290	267	726	397	910	960	639	254	699	197	150
13	481	1210	325	708	368	900	930	605	245	1840	186	120
14	852	890	390	970	379	1040	1100	639	236	1110	165	120
15	530	656	346	1230	460	980	1420	538	228	568	160	120
16	397	553	341	1100	1310	950	1280	495	236	397	157	120
17	325	467	330	1000	1860	1080	1080	467	232	315	162	130
18	281	404	285	2430	1230	1800	1000	622	220	276	276	140
19	249	363	300	3750	990	1930	910	631	216	249	553	130
20	224	330	295	2160	890	1630	843	717	208	236	272	120
21	216	320	281	1540	930	2500	780	1780	200	232	212	110
22	204	300	281	1520	1010	2910	699	1250	200	224	930	150
23	193	290	276	3820	960	2100	648	930	197	816	474	200
24	212	325	290	2530	890	1840	631	816	186	390	276	150
25	200	390	639	1850	825	2240	639	1030	186	267	228	120
26	186	1520	1190	1400	816	2010	631	890	204	236	197	110
27	176	1680	1110	1140	735	1650	1910	762	193	236	172	100
28	186	1070	880	980	753	1560	2830	631	176	502	162	98
29	216	798	717	861	708	1610	1960	545	165	320	149	96
30	190	631	639	780	---	1530	6310	502	162	249	143	96
31	172	---	568	753	---	1490	---	481	---	216	212	---
TOTAL	9378	19933	13694	37258	21118	44475	42441	32356	7818	15076	7589	4149
MEAN	303	664	442	1202	728	1435	1415	1044	261	486	245	138
MAX	852	1680	1190	3820	1860	2910	6310	4530	453	2250	930	250
MIN	172	165	263	374	368	598	631	467	162	152	143	96
CFSM	.60	1.32	.88	2.38	1.44	2.84	2.80	2.07	.52	.96	.49	.27
IN.	.69	1.47	1.01	2.74	1.56	3.28	3.13	2.38	.58	1.11	.56	.31
CAL YR 1979	TOTAL	330897	MEAN 907	MAX 9620	MIN 128	CFSM 1.80	IN 24.37					
WTR YR 1980	TOTAL	255285	MEAN 698	MAX 6310	MIN 96	CFSM 1.38	IN 18.81					

BIG SANDY RIVER BASIN

03213000 TUG FORK AT LITWAR, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1979 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1979 to September 1980 (discontinued).

INSTRUMENTATION.--Conductance recorder October 1979 to September 1980.

REMARKS.--Interruptions in record were due to instrument malfunctions.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE.--Maximum recorded, 925 micromhos Sept. 9; minimum recorded, 205 micromhos July 11.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	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												
03...	1130	335	760	8.2	--	16.0	--	--	--	--	--	120
30...	1335	176	--	--	26.0	15.5	--	--	--	--	--	--
31...	1330	179	595	8.7	--	14.0	--	--	--	--	--	150
DEC												
11...	1700	264	650	8.5	--	4.0	--	--	--	--	--	150
12...	1200	264	--	--	18.0	7.5	--	--	--	--	--	--
JAN												
31...	1110	736	480	7.9	-5.0	1.0	--	--	--	--	--	140
FEB												
25...	1530	834	380	7.3	--	8.0	--	9.4	.57	K1700	480	110
MAR												
13...	1740	877	425	8.5	12.0	8.0	--	--	--	--	--	100
25...	1350	2120	280	7.8	--	9.0	--	--	--	--	--	95
APR												
11...	1105	1050	--	--	--	11.5	--	--	--	--	--	--
21...	1730	756	470	8.4	22.0	18.0	--	--	--	--	--	120
22...	1730	690	483	8.5	--	18.0	--	7.1	.22	780	220	120
MAY												
01...	1045	4290	210	--	--	10.5	--	--	--	--	--	--
02...	0840	12	290	--	--	11.5	--	--	--	--	--	--
19...	1535	647	535	8.1	--	18.5	--	--	.71	K8400	K4200	140
JUN												
03...	1830	400	650	8.5	25.0	22.0	--	--	--	--	--	150
17...	1450	232	760	8.5	--	21.5	--	--	.26	450	K19	160
JUL												
15...	1250	536	400	8.1	33.0	23.0	--	--	--	--	--	120
15...	1730	523	417	8.1	--	25.0	--	--	1.2	5700	1600	120
AUG												
07...	1930	236	580	8.5	--	26.5	--	7.5	.38	K11000	K7000	150
19...	1350	605	580	8.2	--	25.0	125	--	--	--	--	120
SEP												
05...	1220	140	740	8.3	26.0	25.5	--	--	--	--	--	--
22...	1720	157	836	8.5	--	24.5	--	8.1	.40	--	--	130

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

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03213000 TUG FORK AT LITWAR, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	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	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)
OCT											
03...	0	.0	.0	28	11	69	--	2.8	--	--	95
31...	0	.0	.0	37	14	95	--	3.4	--	--	120
DEC											
11...	0	.0	.0	35	14	69	--	2.5	--	--	100
JAN											
31...	13	.0	.0	34	14	52	--	1.9	--	--	100
FEB											
25...	6	--	--	26	10	40	44	1.7	42	2.0	77
MAR											
13...	0	.0	.0	25	10	44	--	1.9	--	--	78
25...	29	.1	5.0	23	9.0	22	--	1.0	--	--	55
APR											
21...	0	.1	5.0	27	12	55	--	2.2	--	--	94
22...	0	--	--	28	13	54	48	2.1	--	2.3	92
MAY											
19...	0	--	--	34	13	59	48	2.2	--	2.1	100
JUN											
03...	0	--	--	36	15	87	--	3.1	--	--	120
17...	0	--	--	37	16	110	60	3.8	--	3.3	140
JUL											
15...	0	--	--	30	11	37	--	1.5	--	--	71
15...	0	--	--	30	11	40	41	1.6	--	2.8	78
AUG											
07...	0	--	--	38	14	68	49	2.4	--	3.3	100
19...	0	.0	.0	28	11	78	--	3.4	--	--	93
SEP											
22...	0	--	--	29	14	120	66	4.6	--	3.7	140

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)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)
OCT												
03...	13	--	--	342	--	.47	309	--	--	--	--	--
31...	16	--	--	455	--	.62	220	--	--	--	--	--
DEC												
11...	12	--	--	--	--	--	--	--	--	--	--	--
JAN												
31...	8.4	--	--	294	--	.40	584	--	--	--	--	--
FEB												
25...	7.4	.1	6.5	229	231	.31	516	.28	.040	.05	.25	.29
MAR												
13...	6.7	--	--	250	--	.34	592	--	--	--	--	--
25...	4.6	--	--	167	--	.23	956	--	--	--	--	--
APR												
21...	6.2	--	--	287	--	.39	586	--	--	--	--	--
22...	6.2	.1	4.7	298	285	.41	555	.06	.020	.03	.14	.16
MAY												
19...	6.8	.2	5.7	329	320	.45	575	.60	.010	.01	.10	.11
JUN												
03...	7.9	--	--	406	--	.55	438	--	--	--	--	--
17...	10	.2	3.5	459	465	.62	288	.10	.010	.01	.15	.16
JUL												
15...	6.4	--	--	240	--	.33	347	--	--	--	--	--
15...	6.6	.1	8.1	263	251	.36	371	.42	.000	.00	.82	.82
AUG												
07...	11	.2	4.0	373	354	.51	238	.14	.000	.00	.24	.24
19...	9.9	--	3.9	366	--	.50	598	--	--	--	--	--
SEP												
22...	17	.3	.6	484	475	.66	205	.06	.000	.00	.34	.34

BIG SANDY RIVER BASIN

03213000 TUG FORK AT LITWAR, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	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)	ARSENIC TOTAL IN BOT- TOM MA- TERIAL (UG/G AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	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 RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CD)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR)
FEB 25...	.020	80	10	70	--	--	--	0	0	3	--	10
APR 22...	.010	--	--	100	--	--	--	--	--	--	--	--
MAY 19...	.020	--	--	200	--	--	--	--	--	--	--	--
JUN 17...	.020	60	10	50	--	--	--	0	0	3	--	20
JUL 15...	.030	--	--	0	--	--	--	--	--	--	--	--
AUG 07...	.020	--	--	100	--	--	--	--	--	--	--	--
19...	--	--	--	--	0	80	<1	--	--	2	<10	--
SEP 22...	.010	--	--	100	--	--	--	--	--	--	--	--

DATE	CHRO- MIUM, RECOV. FM BOT- TOM MA- TERIAL (UG/G)	CHRO- MIUM, HEXA- VALENT, DIS- (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COBALT, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS CO)	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)
OCT 03...	--	--	--	--	--	--	3300	--	50	--	--	--
31...	--	--	--	--	--	--	430	--	40	--	--	--
DEC 11...	--	--	--	--	--	--	290	290	0	--	--	--
JAN 31...	--	--	--	--	--	--	510	480	30	--	--	--
FEB 25...	--	0	--	--	--	--	430	410	20	--	0	0
MAR 13...	--	--	--	--	--	--	820	810	10	--	--	--
25...	--	--	--	--	--	--	3400	3400	10	--	--	--
APR 21...	--	--	--	--	--	--	1100	1100	30	--	--	--
22...	--	--	--	--	--	--	--	--	20	--	--	--
MAY 19...	--	--	--	--	--	--	--	--	20	--	--	--
JUN 03...	--	--	--	--	--	--	340	310	30	--	--	--
17...	--	0	--	--	--	--	190	160	30	--	1	1
JUL 15...	--	--	--	--	--	--	2800	2800	20	--	--	--
15...	--	--	--	--	--	--	--	--	10	--	--	--
AUG 07...	--	--	--	--	--	--	--	--	30	--	--	--
19...	<10	--	<3	20	<10	<10	6200	6200	24	4600	--	--
SEP 22...	--	--	--	--	--	--	--	--	40	--	--	--

BIG SANDY RIVER BASIN

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03213000 TUG FORK AT LITWAR, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	LEAD, DIS- SOLVED (UG/L AS PB)	LEAD, RECOV. FM BOT- TOM MA- TERIAL (UG/G AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)
OCT												
03...	--	--	--	130	120	10	--	--	--	--	--	--
31...	--	--	--	30	0	30	--	--	--	--	--	--
DEC												
11...	--	--	--	60	60	0	--	--	--	--	--	--
JAN												
31...	--	--	--	70	20	50	--	--	--	--	--	--
FEB												
25...	0	--	--	60	30	30	--	<.1	.0	<.1	--	--
MAR												
13...	--	--	--	70	40	30	--	--	--	--	--	--
25...	--	--	--	90	70	20	--	--	--	--	--	--
APR												
21...	--	--	--	70	50	20	--	--	--	--	--	--
22...	--	--	--	--	--	20	--	--	--	--	--	--
MAY												
19...	--	--	--	--	--	20	--	--	--	--	--	--
JUN												
03...	--	--	--	30	10	20	--	--	--	--	--	--
17...	0	--	--	30	10	20	--	<.1	--	<.1	--	--
JUL												
15...	--	--	--	100	90	10	--	--	--	--	--	--
15...	--	--	--	--	--	9	--	--	--	--	--	--
AUG												
07...	--	--	--	--	--	10	--	--	--	--	--	--
19...	<10	20	55	170	170	2	210	--	--	--	.00	<10
SEP												
22...	--	--	--	--	--	20	--	--	--	--	--	--

DATE	SELE- NIUM, TOTAL IN BOT- TOM MA- TERIAL (UG/G)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	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)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
FEB											
25...	--	--	--	10	0	10	--	--	--	--	--
MAR											
25...	--	--	--	--	--	--	--	--	57.0	--	--
JUN											
17...	--	--	--	90	80	10	--	--	--	--	--
AUG											
19...	0	600	<6.0	--	--	<4	37	1.7	--	446	729

BIG SANDY RIVER BASIN

03213000 TUG FORK AT LITWAR, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	---	---	---	615	607	611	405	381	394	557	536	546
2	---	---	---	629	621	626	440	412	428	583	558	570
3	760	265	735	637	619	634	464	446	456	603	587	597
4	723	716	720	636	617	627	492	470	480	632	607	613
5	775	707	745	624	606	616	518	497	511	642	628	635
6	777	755	768	616	603	610	552	524	543	668	644	657
7	780	734	760	610	601	606	577	558	569	680	663	674
8	792	764	777	610	602	607	597	583	590	672	510	595
9	780	771	777	610	605	608	616	601	608	506	489	495
10	762	608	702	612	606	610	635	622	627	544	518	535
11	592	521	570	614	604	611	678	641	657	570	547	556
12	506	475	488	615	603	609	686	681	682	575	571	573
13	511	476	495	610	595	602	691	671	680	578	560	567
14	507	480	493	602	582	592	683	641	653	562	484	536
15	519	487	505	590	565	577	646	633	642	490	452	463
16	531	500	517	572	555	563	637	612	623	489	463	475
17	547	517	531	563	549	556	621	614	618	510	493	499
18	564	532	548	556	543	551	630	623	626	512	381	448
19	579	549	564	554	543	548	642	622	631	384	384	384
20	596	565	580	551	542	547	665	636	646	387	377	378
21	611	581	596	549	543	546	679	669	674	442	381	419
22	621	596	609	551	533	538	702	685	695	462	431	452
23	625	606	616	541	536	538	720	704	714	434	390	402
24	620	610	616	549	543	545	723	669	699	410	396	402
25	615	600	610	557	548	554	666	509	600	433	413	423
26	608	600	604	555	397	501	499	384	418	457	437	446
27	601	589	597	404	323	360	409	393	402	478	460	469
28	594	586	590	331	380	310	440	408	422	493	482	488
29	593	579	585	345	318	333	478	444	459	505	495	501
30	600	578	589	376	343	364	505	484	499	515	508	511
31	600	585	593	---	---	---	535	509	522	531	380	519
MONTH	792	265	617	637	300	550	723	381	573	680	377	511
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1										---	---	---
2										281	254	266
3										321	295	309
4										353	335	345
5										377	369	374
6										405	391	399
7										429	421	425
8										452	443	448
9										476	468	471
10										497	491	492
11										522	513	519
12										533	524	530
13										536	535	535
14										538	530	534
15										537	531	534
16										553	541	549
17										563	555	559
18										560	552	557
19										551	511	528
20										521	481	507
21										486	407	437
22										434	412	421
23										467	442	454
24										495	474	486
25										510	483	497
26										499	490	494
27										520	506	513
28										539	527	533
29										561	547	554
30										582	568	576
31										598	589	594
MONTH										598	254	481

BIG SANDY RIVER BASIN

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03213000 TUG FORK AT LITWAR, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	614	605	611	702	691	695	621	608	613	738	727	733
2	632	622	627	696	678	686	643	622	633	734	727	730
3	646	636	641	711	663	678	648	640	643	732	727	730
4	662	649	657	702	663	689	650	647	649	739	729	734
5	669	659	663	683	635	665	668	655	660	748	726	737
6	682	668	675	638	615	631	665	606	624	771	759	763
7	691	675	683	645	624	634	603	577	587	804	788	794
8	706	688	696	665	590	653	646	591	621	854	844	849
9	708	701	705	583	395	443	656	643	650	925	893	912
10	719	707	714	411	219	339	685	661	674	894	801	824
11	717	707	712	303	205	240	703	691	697	870	841	851
12	727	710	718	386	298	349	710	701	706	862	850	856
13	731	717	724	417	265	335	718	700	712	870	844	859
14	743	731	738	349	286	313	717	704	710	867	852	859
15	748	741	745	443	371	402	725	718	720	860	837	850
16	759	748	754	506	452	477	744	730	737	846	830	838
17	760	750	756	553	514	537	755	739	746	827	806	816
18	754	744	748	581	547	565	750	619	713	803	786	790
19	777	745	765	611	586	599	610	573	586	---	---	---
20	782	764	773	620	612	616	626	602	613	---	---	---
21	782	766	774	637	623	630	673	621	645	---	---	---
22	773	766	770	648	630	640	673	668	671	---	---	---
23	767	759	762	633	437	508	664	637	647	---	---	---
24	767	759	764	504	442	471	637	631	633	---	---	---
25	760	740	750	556	511	534	653	635	643	---	---	---
26	735	725	730	587	562	575	669	650	659	---	---	---
27	717	707	712	607	557	598	686	667	676	---	---	---
28	701	686	693	564	469	495	703	684	693	---	---	---
29	710	689	695	569	516	551	718	700	709	---	---	---
30	710	695	702	576	568	573	727	715	721	---	---	---
31	---	---	---	607	581	594	740	725	732	---	---	---
MONTH	782	605	715	711	205	539	755	573	668	925	726	807

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).

WATER-DISCHARGE RECORDS

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.--Water-discharge records fair except those for February and March, which are poor.

AVERAGE DISCHARGE.--34 years, 36.8 ft³/s (1.042 m³/s), 16.12 in/yr (409 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.--Maximum discharge, 538 ft³/s (15.2 m³/s) Apr. 27, gage height, 5.45 ft (1.661 m), no peak above base of 700 ft³/s (20 m³/s); minimum, 0.48 ft³/s (0.014 m³/s) July 8, gage height, 2.38 ft (0.725 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.0	3.7	15	17	8.9	15	53	151	5.2	1.1	4.5	2.6
2	8.8	67	12	14	8.4	12	46	78	4.9	1.0	3.3	2.3
3	15	56	8.6	11	8.0	13	42	51	5.6	1.4	2.7	2.9
4	9.6	28	9.2	12	7.6	13	163	37	4.7	.97	2.3	2.0
5	7.6	18	9.6	11	7.1	60	128	29	3.9	3.5	2.9	3.3
6	5.9	14	9.6	9.2	6.8	150	80	26	3.5	2.1	5.2	3.3
7	5.1	11	8.9	13	6.4	100	57	21	3.5	.82	3.7	2.0
8	4.3	9.2	7.0	34	6.1	60	50	17	3.0	1.7	3.9	1.7
9	3.5	9.2	5.2	38	5.8	35	64	14	2.7	8.2	3.2	2.1
10	22	40	5.2	30	5.5	23	53	12	3.2	31	2.2	10
11	22	54	6.4	27	5.2	25	42	11	2.6	18	2.0	4.3
12	14	69	5.4	23	5.0	35	37	10	2.3	6.7	7.0	2.6
13	18	69	10	18	4.8	50	36	10	2.0	12	3.0	2.1
14	20	41	15	68	5.2	48	97	10	1.8	5.6	2.3	1.8
15	14	28	15	96	7.3	40	132	7.3	1.7	4.7	2.6	1.7
16	10	22	15	68	100	41	90	6.2	2.0	3.0	2.1	4.3
17	7.9	17	14	43	70	65	64	5.6	3.9	2.5	1.8	3.9
18	6.2	14	9.6	242	45	149	54	8.6	2.0	2.1	23	4.1
19	4.9	12	12	196	25	134	44	9.6	1.5	1.8	39	4.1
20	4.3	13	10	84	25	91	37	19	1.8	1.6	11	3.7
21	3.9	12	8.9	50	30	193	32	39	1.3	2.0	6.7	3.5
22	3.3	11	8.6	62	38	189	28	25	1.2	3.7	108	5.4
23	5.4	10	8.9	203	35	110	25	18	1.2	4.5	32	16
24	3.7	16	11	102	30	100	23	14	1.5	2.7	16	7.0
25	2.9	18	57	57	26	145	23	12	1.6	1.7	10	5.8
26	2.7	167	121	33	23	118	23	10	2.9	4.1	7.0	6.9
27	2.5	81	91	22	20	80	332	8.6	1.5	11	4.9	2.8
28	2.9	43	50	18	17	83	229	7.0	1.3	99	3.9	1.4
29	4.1	27	31	14	16	108	96	5.6	1.2	20	3.3	.95
30	3.2	20	26	10	---	91	229	5.4	1.1	9.2	2.9	4.2
31	2.7	---	21	9.6	---	74	---	5.9	---	5.9	2.7	---
TOTAL	244.4	1000.1	637.1	1634.8	598.1	2450	2409	683.8	76.6	273.59	325.1	118.75
MEAN	7.88	33.3	20.6	52.7	20.6	79.0	80.3	22.1	2.55	8.83	10.5	3.96
MAX	22	167	121	242	100	193	332	151	5.6	99	108	16
MIN	2.5	3.7	5.2	9.2	4.8	12	23	5.4	1.1	.82	1.8	.95
CFSM	.25	1.07	.67	1.70	.67	2.55	2.59	.71	.08	.29	.34	.13
IN.	.29	1.20	.76	1.96	.72	2.94	2.89	.82	.09	.33	.39	.14

CAL YR 1979 TOTAL 20191.90 MEAN 55.3 MAX 955 MIN 1.1 CFSM 1.78 IN 24.23
WTR YR 1980 TOTAL 10451.34 MEAN 28.6 MAX 332 MIN .82 CFSM .92 IN 12.54

BIG SANDY RIVER BASIN

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03213500 PANTHER CREEK NEAR PANTHER, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1979 to September 1980.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: December 1979 to September 1980.

INSTRUMENTATION.--Conductance recorder since December 1979.

REMARKS.--Interruptions in record due to instrument malfunctions.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: For period December through September, maximum recorded, 3,120 micromhos Feb. 13; minimum recorded, 45 micromhos Apr. 27, 28.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	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												
30...	1240	3.3	--	--	21.0	13.0	--	--	--	--	--	--
DEC												
11...	1400	7.0	--	--	13.0	3.0	--	--	--	--	--	--
JAN												
31...	1330	26	90	--	-6.0	.0	--	--	--	--	--	--
FEB												
25...	1620	2.3	74	6.6	--	6.0	--	--	.21	92	120	21
MAR												
05...	0800	44	100	--	--	.0	--	--	--	--	--	--
13...	1205	49	90	7.3	--	5.0	--	--	--	--	--	--
25...	1515	151	57	7.2	--	7.5	--	--	--	--	--	18
APR												
12...	1125	38	--	--	--	11.0	--	--	--	--	--	--
22...	1005	28	110	--	18.0	11.0	--	--	--	--	--	--
22...	1845	29	125	7.6	--	15.0	--	6.1	.12	K7	98	24
MAY												
01...	1335	143	65	--	24.0	11.5	--	--	--	--	--	--
19...	1645	9.2	184	7.6	--	17.5	--	--	.39	K160	440	32
JUN												
03...	1520	4.6	270	8.2	--	21.0	--	--	--	--	--	--
17...	1555	2.7	520	8.5	--	21.5	--	--	.28	80	220	53
JUL												
15...	1640	3.7	190	7.3	31.0	26.5	--	--	--	--	--	--
15...	1850	3.7	230	7.8	--	25.0	--	--	.62	K640	K2800	57
AUG												
08...	1245	3.9	400	8.2	--	23.5	--	7.8	.31	980	750	51
19...	1510	24	130	7.3	--	23.0	210	--	--	--	--	30
SEP												
04...	1450	2.1	640	8.4	29.0	24.5	--	--	--	--	--	--
22...	1855	6.7	916	8.5	--	21.5	--	7.6	.40	--	--	47

DATE	HARD- NESS, NONCAR- BONATE (MG/L CAC03)	ACIDITY TOTAL MEATED (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	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)
FEB												
25...	0	--	--	4.6	2.3	8.3	45	.8	9.4	1.1	21	18
MAR												
25...	0	.1	5.0	3.3	2.3	4.0	--	.4	--	--	12	14
APR												
22...	0	--	--	5.3	2.5	13	53	1.2	--	1.3	29	21
MAY												
19...	0	--	--	7.4	3.2	26	63	2.0	--	1.2	54	33
JUN												
17...	0	--	--	13	4.9	100	80	6.0	--	2.1	160	92
JUL												
15...	0	--	--	14	5.3	22	45	1.3	--	2.3	59	45
AUG												
08...	0	--	--	13	4.4	68	73	4.2	--	2.3	120	70
19...	0	.0	.0	7.3	2.8	12	--	1.0	--	--	36	23
SEP												
22...	0	--	--	12	4.1	190	89	12	--	2.3	300	150

BIG SANDY RIVER BASIN

03213500 PANTHER CREEK NEAR PANTHER, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

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)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC DIS. (MG/L AS N)
FEB 25...	1.4	.1	7.3	56	57	.08	.35	.21	.020	.03	.00	.00
MAR 25...	.8	--	--	45	--	.06	18.3	--	--	--	--	--
APR 22...	1.4	.0	7.3	71	74	.10	5.56	.08	.020	.03	.02	.04
MAY 19...	1.9	.1	6.9	118	114	.16	2.93	.34	.030	.04	.02	.05
JUN 17...	2.9	.2	6.5	327	318	.44	2.38	.12	.000	.00	.16	.16
JUL 15...	1.9	.1	7.2	137	134	.19	1.37	.14	.000	.00	.48	.48
AUG 08...	3.5	.2	6.1	248	240	.34	2.61	.09	.060	.08	.16	.22
SEP 19...	2.1	--	7.4	94	--	.13	6.09	--	--	--	--	--
SEP 22...	5.0	.3	5.7	549	550	.75	9.93	.07	.000	.00	.33	.33
DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	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)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	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, HEXA- VALENT, DIS. (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)
FEB 25...	.000	120	40	80	--	--	0	0	1	10	0	--
MAR 25...	--	--	--	--	--	--	--	--	--	--	--	--
APR 22...	.000	--	--	100	--	--	--	--	--	--	--	--
MAY 19...	.010	--	--	100	--	--	--	--	--	--	--	--
JUN 17...	.010	120	80	40	--	--	0	0	2	10	0	--
JUL 15...	.010	--	--	200	--	--	--	--	--	--	--	--
AUG 08...	.010	--	--	100	--	--	--	--	--	--	--	--
SEP 19...	--	--	--	--	30	0	--	--	2	--	--	2
SEP 22...	.020	--	--	100	--	--	--	--	--	--	--	--
DATE	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)	LEAD, SUS- PENDE RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)	MERCURY TOTAL RECOV- ERABLE (UG/L AS HG)
FEB 25...	--	600	560	40	0	0	0	--	20	10	6	<.1
MAR 25...	--	1000	970	30	--	--	--	--	30	30	0	--
APR 22...	--	--	--	80	--	--	--	--	--	--	10	--
MAY 19...	--	--	--	50	--	--	--	--	--	--	7	--
JUN 17...	--	320	270	50	0	0	0	--	20	10	8	<.1
JUL 15...	--	--	--	120	--	--	--	--	--	--	20	--
AUG 08...	--	--	--	90	--	--	--	--	--	--	10	--
SEP 19...	0	12000	12000	84	--	--	10	2	230	220	8	--
SEP 22...	--	--	--	140	--	--	--	--	--	--	10	--

BIG SANDY RIVER BASIN

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03213500 PANTHER CREEK NEAR PANTHER, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	MERCURY SUS- PENDE- RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDE- RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDE- (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE- (T/DAY)
FEB 25...	.0	<.1	--	--	--	10	0	10	--	--	--	--
MAR 25...	--	--	--	--	--	--	--	--	--	3.00	34	14
JUN 17...	--	<.1	--	--	--	40	40	0	--	--	--	--
AUG 19...	--	--	0	67	6.0	--	--	0	5.1	--	302	20

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1							---	---	---	232	199	212
2							---	---	---	232	205	218
3							---	---	---	287	227	266
4							---	---	---	283	256	268
5							---	---	---	287	258	271
6							---	---	---	297	263	279
7							---	---	---	311	268	292
8							---	---	---	319	186	222
9							---	---	---	193	180	185
10							---	---	---	253	190	202
11							---	---	---	254	214	226
12							311	279	291	252	228	237
13							281	196	245	259	248	255
14							188	152	160	254	198	224
15							154	147	151	210	184	191
16							150	146	148	240	196	207
17							166	149	154	271	222	235
18							253	166	212	252	155	195
19							214	177	192	189	156	169
20							224	188	199	213	189	200
21							266	192	222	310	215	243
22							264	209	236	306	195	255
23							246	238	242	203	186	193
24							250	222	240	249	181	211
25							226	114	152	305	227	253
26							121	104	111	306	260	284
27							122	108	114	353	307	329
28							153	117	129	586	354	389
29							148	138	142	634	382	526
30							161	149	154	2290	337	737
31							198	161	170	1130	334	356
MONTH							311	104	183	2290	155	269

BIG SANDY RIVER BASIN

03213500 PANTHER CREEK NEAR PANTHER, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	373	281	323	---	---	---	81	76	79	62	55	58
2	553	377	459	---	---	---	91	79	82	84	62	71
3	410	376	391	---	---	---	92	84	87	80	73	76
4	563	373	408	---	---	---	88	58	68	88	81	84
5	1080	586	913	---	---	---	63	57	59	98	89	92
6	976	698	762	---	---	---	70	63	66	132	99	105
7	945	698	807	---	---	---	75	70	72	137	115	126
8	1160	720	899	---	---	---	88	74	82	132	118	121
9	1050	824	956	---	---	---	80	76	78	147	131	137
10	945	870	897	---	---	---	79	75	77	150	132	143
11	1550	769	1000	---	---	---	88	76	80	---	---	---
12	997	760	871	---	---	---	93	84	90	---	---	---
13	3120	951	1660	---	---	---	96	90	95	---	---	---
14	2610	859	1250	99	73	84	92	69	79	---	---	---
15	787	445	599	85	67	72	65	62	63	---	---	---
16	---	---	---	91	86	88	81	64	70	---	---	---
17	---	---	---	96	83	88	76	71	73	---	---	---
18	---	---	---	86	62	68	94	75	80	---	---	---
19	---	---	---	64	61	62	91	81	83	---	---	---
20	---	---	---	74	64	67	92	87	88	---	---	---
21	---	---	---	69	54	62	99	92	95	---	---	---
22	---	---	---	59	54	56	140	100	108	---	---	---
23	---	---	---	66	59	62	150	101	132	---	---	---
24	---	---	---	76	65	70	121	93	116	---	---	---
25	---	---	---	74	60	63	136	115	121	---	---	---
26	---	---	---	66	59	62	164	112	140	---	---	---
27	---	---	---	70	64	66	107	45	59	---	---	---
28	---	---	---	73	69	71	63	45	54	---	---	---
29	---	---	---	69	65	66	65	58	61	---	---	---
30	---	---	---	70	65	67	63	53	57	---	---	---
31	---	---	---	80	69	73	---	---	---	---	---	---
MONTH	3120	281	813	99	54	69	164	45	83	150	55	101
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE			JULY			AUGUST			SEPTEMBER			
1	---	---	---	---	---	---	352	294	319	513	482	496
2	---	---	---	---	---	---	415	348	387	573	513	546
3	---	---	---	---	---	---	466	415	445	621	558	588
4	332	316	322	---	---	---	503	468	484	624	558	600
5	346	296	327	---	---	---	563	505	541	578	468	538
6	372	331	361	---	---	---	555	433	512	694	529	584
7	402	327	372	---	---	---	416	310	356	814	701	776
8	398	344	383	---	---	---	468	318	388	829	752	800
9	428	396	406	---	---	---	480	416	445	752	522	734
10	482	389	451	---	---	---	507	424	457	568	327	441
11	468	363	414	---	---	---	578	511	544	409	324	371
12	498	474	485	---	---	---	643	267	443	520	370	437
13	486	468	477	---	---	---	260	215	228	618	543	584
14	522	490	507	---	---	---	428	223	303	679	573	622
15	558	522	537	---	---	---	581	436	511	672	609	641
16	555	534	543	409	381	358	663	583	616	848	669	771
17	---	---	---	472	404	435	709	621	677	892	778	848
18	---	---	---	527	474	497	701	96	569	903	854	878
19	---	---	---	595	527	552	157	95	120	921	838	882
20	---	---	---	643	573	610	253	174	203	976	819	885
21	---	---	---	686	637	661	307	199	271	1000	903	952
22	---	---	---	694	505	624	226	65	99	1000	765	921
23	---	---	---	576	393	464	203	128	172	782	285	403
24	---	---	---	595	431	489	189	151	168	581	384	473
25	---	---	---	509	451	475	249	190	210	643	548	594
26	---	---	---	676	507	562	352	255	297	698	541	609
27	---	---	---	581	164	243	356	311	327	606	558	576
28	---	---	---	155	69	96	362	340	350	615	486	546
29	---	---	---	173	111	136	399	366	385	482	461	473
30	---	---	---	220	164	192	463	395	428	676	316	474
31	---	---	---	293	230	254	518	461	483	---	---	---
MONTH	558	296	430	694	69	416	709	65	379	1000	285	635

BIG SANDY RIVER BASIN

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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).

WATER-DISCHARGE RECORDS

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.--Water-discharge records good. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years, 1,242 ft³/s (35.17 m³/s), 18.02 in/yr (458 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.--Maximum discharge, 10,800 ft³/s (306 m³/s) May 1, gage height, 18.96 ft (5.779 m), no other peak above base of 9,000 ft³/s (250 m³/s); minimum, 164 ft³/s (4.64 m³/s) Sept. 18, gage height, 2.47 ft (0.753 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980 MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	406	310	1070	946	1130	1230	2400	8750	580	197	307	302
2	385	1270	890	838	975	1150	2030	4960	545	195	277	305
3	646	3330	606	758	854	1050	1880	3480	513	255	253	330
4	654	1910	674	706	854	1090	3650	2680	478	237	242	327
5	516	1180	682	782	790	2490	4570	2130	430	364	275	292
6	465	870	682	730	850	4020	3070	1840	415	364	469	232
7	449	722	646	702	810	4110	2330	1620	397	280	412	212
8	400	626	590	1050	754	3130	2010	1410	424	237	409	202
9	358	598	526	1520	730	2470	3460	1240	376	679	355	212
10	529	1050	472	1370	722	1950	2850	1090	349	2240	290	488
11	1120	2080	449	1240	726	1800	2150	1000	325	4120	282	443
12	1060	2250	452	1250	686	1620	1790	938	312	1590	824	317
13	930	2720	529	1210	630	1510	1680	866	305	1260	421	235
14	1060	1980	730	1450	626	1640	2040	898	290	2020	307	200
15	1050	1470	746	2110	794	1620	2690	830	282	955	253	186
16	782	1160	702	2030	2320	1550	2620	722	290	630	237	178
17	630	942	674	1800	4240	1630	2120	674	297	497	225	174
18	536	814	590	2860	2780	3050	1880	746	282	409	314	168
19	472	722	548	7470	1980	3810	1690	898	262	364	1670	188
20	424	646	558	4630	1730	3080	1510	1020	247	330	942	184
21	385	594	529	3060	1810	3820	1360	1490	240	310	516	176
22	361	568	504	2460	2420	5890	1240	2040	230	327	2960	265
23	343	532	504	5790	2340	4250	1120	1440	232	564	1800	456
24	327	718	555	5360	1970	3340	1040	1170	232	786	846	504
25	322	985	930	3620	1690	4080	1020	1150	230	456	536	340
26	315	3390	2360	2600	1600	3950	960	1060	230	349	406	270
27	297	4090	2620	1970	1410	3150	3860	1030	240	335	330	255
28	312	2440	1740	1700	1400	2720	6820	850	235	1630	280	215
29	394	1710	1490	1480	1390	3270	4150	730	215	960	255	192
30	376	1320	1260	1310	---	3100	5030	646	202	516	370	184
31	340	---	1100	1220	---	2740	---	606	---	379	275	---
TOTAL	16644	42997	26408	66022	41011	84310	75020	50004	9685	23835	17338	8032
MEAN	537	1433	852	2130	1414	2720	2501	1613	323	769	559	268
MAX	1120	4090	2620	7470	4240	5890	6820	8750	580	4120	2960	504
MIN	297	310	449	702	626	1050	960	606	202	195	225	168
CFSM	.57	1.53	.91	2.28	1.51	2.91	2.67	1.72	.35	.82	.60	.29
IN.	.66	1.71	1.05	2.62	1.63	3.35	2.98	1.99	.38	.95	.69	.32
CAL YR 1979	TOTAL	651150	MEAN	1784	MAX	15900	MIN	200	CFSM	1.91	IN	25.88
WTR YR 1980	TOTAL	461306	MEAN	1260	MAX	8750	MIN	168	CFSM	1.35	IN	18.33

BIG SANDY RIVER BASIN
03213700 TUG FORK AT WILLIAMSON, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV									
07...	1445	704	350	7.5	10.5	9.0	--	--	--
DEC									
12...	1135	424	570	7.7	12.5	5.5	--	--	--
FEB									
05...	1230	730	580	7.7	-3.0	.5	--	--	--
26...	0930	1620	308	6.6	--	3.5	12.4	.60	K1700
MAR									
29...	1305	3320	300	7.4	24.5	11.5	--	--	--
APR									
23...	0900	1090	430	8.1	--	16.5	5.9	.34	1700
MAY									
07...	1525	1450	450	7.5	28.0	19.0	--	--	--
20...	0915	1040	550	8.1	--	18.5	--	.51	4600
JUN									
17...	1555	308	750	8.0	23.0	24.0	--	--	--
18...	0910	292	730	8.4	--	21.0	--	.22	800
JUL									
16...	1000	658	318	8.2	--	25.5	--	.75	6600
29...	1245	942	270	7.6	29.0	23.5	--	--	--
AUG									
07...	2020	382	440	7.8	--	27.0	--	.39	8800
SEP									
10...	1100	450	600	7.8	21.0	25.0	--	--	--
23...	1015	330	620	7.9	--	23.0	8.1	.54	--

DATE	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)	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												
26...	2	2	0	90	20	70	<.1	<.0	<.1	20	10	9
APR												
23...	--	--	--	--	--	60	--	--	--	--	--	--
MAY												
20...	--	--	--	--	--	30	--	--	--	--	--	--
JUN												
18...	0	0	0	60	40	20	<.1	--	<.1	60	60	0
JUL												
16...	--	--	--	--	--	10	--	--	--	--	--	--
AUG												
07...	--	--	--	--	--	10	--	--	--	--	--	--
SEP												
23...	--	--	--	--	--	40	--	--	--	--	--	--

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

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03213700 TUG FORK AT WILLIAMSON, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	STREP- TOCOCI FECAL, KF AGAR (COLS. PER 100 ML)	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)	SULFATE DIS- SOLVED (MG/L AS SO4)
FEB 26...	500	110	40	24	11	19	28	.8	21	2.2	65	79
APR 23...	K290	130	35	29	14	37	38	1.4	--	2.6	98	100
MAY 20...	4500	160	16	36	16	56	43	2.0	--	2.5	140	140
JUN 18...	270	170	0	38	19	95	54	3.1	--	3.7	200	150
JUL 16...	1200	110	34	28	9.6	21	29	.9	--	2.8	78	66
AUG 07...	K11000	130	20	29	14	42	40	1.6	--	3.4	110	110
SEP 23...	--	140	0	31	15	63	49	2.3	--	4.1	140	130
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)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)
FEB 26...	5.7	.1	7.4	195	189	.27	853	.38	.020	.03	.20	.22
APR 23...	4.8	.1	5.4	260	251	.35	765	.12	.020	.03	.20	.22
MAY 20...	6.8	.2	3.7	355	347	.48	997	.24	.040	.05	.23	.27
JUN 18...	10	.2	1.9	454	439	.62	358	.09	.010	.01	.12	.13
JUL 16...	5.1	.1	7.9	210	188	.29	373	.49	.000	.00	.26	.26
AUG 07...	7.8	.2	2.5	275	277	.37	284	.27	.000	.00	.12	.12
SEP 23...	15	.2	3.8	350	347	.48	312	.23	.040	.05	.27	.31
DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	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)	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, HEXA- VALENT, DIS. (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
FEB 26...	.000	230	170	60	0	0	0	10	0	1500	1400	150
APR 23...	.010	--	--	100	--	--	--	--	--	--	--	40
MAY 20...	.010	--	--	300	--	--	--	--	--	--	--	20
JUN 18...	.010	80	0	90	0	0	1	20	0	250	230	20
JUL 16...	.020	--	--	100	--	--	--	--	--	--	--	20
AUG 07...	.010	--	--	300	--	--	--	--	--	--	--	50
SEP 23...	.010	--	--	100	--	--	--	--	--	--	--	50

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

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).

WATER-DISCHARGE RECORDS

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.--Water-discharge records good except those for January, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--46 years, 1,429 ft³/s (40.47 m³/s), 16.33 in/yr (415 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 FOR CURRENT YEAR.--Maximum discharge, 9,910 ft³/s (281 m³/s) May 1, gage height, 18.55 ft (5.654 m), no peak above base of 10,000 ft³ (280 m³/s); minimum, 219 ft³/s (6.20 m³/s) Sept. 18, 19, gage height 1.81 ft (0.552 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	604	397	1560	1400	1460	1800	2980	8780	712	239	400	348
2	592	1600	1340	1200	1270	1680	2600	5240	672	236	344	414
3	728	4170	1150	1100	1160	1570	2360	3610	624	285	316	724
4	880	2890	1020	1000	1130	1580	3300	2830	584	302	302	480
5	720	1730	1000	1100	1040	2770	4990	2360	528	428	330	435
6	608	1270	988	1000	1100	6760	3610	2010	492	516	520	337
7	596	1030	920	1000	1080	5580	2850	1770	480	355	572	292
8	528	884	852	1200	1000	4130	2500	1560	476	292	540	271
9	460	820	760	1500	952	3380	4000	1380	453	644	480	257
10	756	1450	680	1700	948	2790	3100	1240	414	2080	376	636
11	1290	2710	636	1700	920	2470	2720	1130	393	4220	320	644
12	1490	2810	648	1600	904	2250	2420	1070	376	2450	780	496
13	1570	3210	2200	1800	852	2070	2240	1000	365	1420	676	355
14	1730	2720	2270	2000	872	2240	3090	1020	351	2270	414	288
15	1690	2030	1650	2300	1050	2260	3890	976	341	1390	320	257
16	1270	1590	1390	2500	3100	2150	3610	852	344	900	299	239
17	1000	1330	1220	2400	5230	2160	2990	796	369	664	271	232
18	836	1120	1080	3000	3790	3500	2590	884	344	528	446	222
19	712	984	936	7000	2790	4600	2300	940	323	446	2050	232
20	624	876	908	5500	2410	3970	2020	1140	309	404	1690	232
21	548	788	856	4500	2480	4110	1800	1630	295	369	892	232
22	496	736	800	3300	3990	6310	1600	2260	285	362	3290	274
23	468	684	796	6660	3700	5160	1440	1610	281	588	2840	776
24	439	944	892	6290	3020	3970	1340	1290	285	988	1370	796
25	414	1510	1480	4260	2570	4500	1280	1170	285	640	856	584
26	404	3360	2910	3210	2360	4680	1240	1300	281	449	620	425
27	369	5250	3590	2550	2110	3870	2650	1120	285	400	484	348
28	376	3500	2820	2170	2030	3370	6810	980	288	1060	397	306
29	508	2510	2210	1900	2000	3770	4640	860	271	1670	344	268
30	504	1900	1850	1670	---	3680	4110	772	253	740	439	246
31	446	---	1620	1570	---	3350	---	744	---	516	443	---
TOTAL	23656	56803	43032	80080	57318	106480	87070	54324	11759	27851	23421	11646
MEAN	763	1893	1388	2583	1976	3435	2902	1752	392	898	756	388
MAX	1730	5250	3590	7000	5230	6760	6810	8780	712	4220	3290	796
MIN	369	397	636	1000	852	1570	1240	744	253	236	271	222
CFSM	.64	1.59	1.17	2.17	1.66	2.89	2.44	1.48	.33	.76	.64	.33
IN.	.74	1.78	1.35	2.51	1.79	3.33	2.73	1.70	.37	.87	.73	.36
CAL YR 1979	TOTAL	869991	MEAN	2384	MAX	30300	MIN	257	CFSM	2.01	IN	27.24
WTR YR 1980	TOTAL	583440	MEAN	1594	MAX	8780	MIN	222	CFSM	1.34	IN	18.27

BIG SANDY RIVER BASIN

425

03214000 TUG FORK NEAR KERMIT, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1979 to September 1980.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV									
08...	1100	885	370	7.6	9.0	8.0	--	--	--
DEC									
14...	1615	1690	270	7.4	6.0	7.0	--	--	--
FEB									
06...	1300	1070	520	7.7	1.0	.5	--	--	--
26...	1205	2350	282	6.3	--	4.5	--	.73	K1500
MAR									
28...	1820	3450	280	7.6	13.0	10.0	--	--	--
APR									
23...	1200	1450	392	7.9	--	18.0	5.9	.59	2400
MAY									
06...	0945	2000	370	7.5	20.0	16.5	--	--	--
20...	1130	1070	570	7.8	--	18.5	--	.35	2600
JUN									
18...	1025	342	780	8.2	21.0	22.5	--	--	--
18...	1120	348	756	8.3	--	22.5	--	.21	K630
JUL									
15...	1635	1390	382	--	--	--	--	--	--
16...	1400	876	322	8.0	--	27.0	--	.85	5400
30...	0950	723	290	7.5	23.0	24.0	--	--	--
AUG									
08...	0820	536	501	8.0	--	25.0	--	.68	K15000
SEP									
11...	1000	640	550	7.8	15.0	22.5	--	--	--
23...	1330	728	482	7.6	--	22.0	7.5	.98	--

DATE	STREP- TOCOCCI 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)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)
FEB												
26...	300	93	44	21	9.8	20	31	.9	22	1.9	49	72
APR												
23...	300	120	35	27	12	34	38	1.4	--	2.5	85	93
MAY												
20...	420	150	13	35	16	62	46	2.2	--	2.5	140	130
JUN												
18...	K45	170	0	40	18	95	54	3.1	--	3.9	180	170
JUL												
16...	2000	100	34	27	9.1	22	31	.9	--	2.8	72	65
AUG												
08...	K7200	150	37	34	15	49	41	1.8	--	3.6	120	110
SEP												
23...	--	110	30	27	11	47	46	1.9	--	4.0	83	100

K Results based on colony count outside the acceptable range (non-ideal colony count).

BIG SANDY RIVER BASIN

03214000 TUG FORK NEAR KERMIT, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	CHLORIDE, DIS- SOLVED (MG/L AS CL)	FLUORIDE, 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 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)
FEB 26...	9.9	.1	7.6	171	174	.23	1090	.42	.040	.05	.27	.31
APR 23...	7.5	.1	6.1	237	232	.32	928	.15	.030	.04	.41	.44
MAY 20...	12	.2	3.4	360	346	.49	1040	.19	.010	.01	.15	.16
JUN 18...	23	.2	2.1	460	461	.63	432	.08	.020	.03	.11	.13
JUL 16...	10	.1	7.7	204	189	.28	483	.51	.000	.00	.34	.34
AUG 08...	18	.2	3.1	314	300	.43	454	.27	.080	.10	.33	.41
SEP 23...	20	.2	4.1	273	265	.37	537	.44	.010	.01	.53	.54
DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	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)	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, HEXA- VALENT, DIS. (UG/L AS CR)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)
FEB 26...	.000	350	310	40	0	0	3	10	0	2300	2300	50
APR 23...	.010	--	--	100	--	--	--	--	--	--	--	40
MAY 20...	.010	--	--	200	--	--	--	--	--	--	--	20
JUN 18...	.000	100	0	100	0	0	0	10	0	260	250	10
JUL 16...	.010	--	--	0	--	--	--	--	--	--	--	30
AUG 08...	.010	--	--	200	--	--	--	--	--	--	--	40
SEP 23...	.000	--	--	100	--	--	--	--	--	--	--	100
DATE	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. (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)	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 26...	3	3	0	100	70	30	<.1	<.0	<.1	20	10	10
APR 23...	--	--	--	--	--	30	--	--	--	--	--	--
MAY 20...	--	--	--	--	--	5	--	--	--	--	--	--
JUN 18...	2	2	0	40	20	20	<.1	--	<.1	80	80	4
JUL 16...	--	--	--	--	--	9	--	--	--	--	--	--
AUG 08...	--	--	--	--	--	10	--	--	--	--	--	--
SEP 23...	--	--	--	--	--	20	--	--	--	--	--	--

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 1979 to current year.

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 CURRENT YEAR.--

Maximum daily, 26.5°C July 21, 22; minimum daily, 2.0°C Jan. 4-6, 9, 10.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.0	10.5	9.0	3.0	4.5	5.0	12.0	12.0	13.5	23.5	25.0	25.0
2	14.0	10.0	9.0	3.0	4.5	4.5	12.0	12.0	14.5	23.5	25.0	25.0
3	14.0	10.0	8.5	3.0	4.5	4.5	13.0	13.0	15.5	23.0	25.5	25.0
4	14.0	10.0	8.5	2.0	4.5	4.5	13.0	13.0	17.0	23.0	25.5	25.0
5	14.0	9.5	8.5	2.0	4.0	5.0	12.0	13.0	18.0	22.0	25.0	24.5
6	13.5	9.5	8.5	2.0	4.0	5.0	12.0	13.5	19.0	22.0	25.0	24.5
7	13.5	9.5	9.0	3.0	4.5	5.0	12.0	13.5	19.5	22.0	25.5	24.0
8	13.5	9.5	9.0	3.0	4.5	5.5	12.0	13.5	20.5	21.5	25.5	24.0
9	13.5	10.0	8.5	2.0	4.5	5.5	12.0	12.0	20.5	22.0	25.5	24.0
10	13.5	10.0	8.5	2.0	4.5	5.5	13.0	13.0	21.0	22.0	25.0	23.5
11	13.0	10.0	8.5	3.0	4.5	5.5	13.0	13.0	21.0	23.0	25.0	23.5
12	13.0	10.0	8.5	3.0	5.0	5.5	12.0	13.0	21.0	23.0	25.0	23.0
13	13.0	10.0	9.0	3.0	5.0	6.0	12.0	12.0	21.5	23.0	25.0	23.0
14	13.0	10.0	9.0	3.5	5.0	6.0	12.0	12.0	21.5	23.0	25.5	23.5
15	12.0	10.5	8.5	3.5	5.5	6.0	11.0	12.0	22.0	23.5	25.5	24.0
16	12.0	10.5	8.5	3.5	5.0	6.0	10.5	13.0	22.0	23.5	25.0	24.5
17	12.0	10.5	8.5	3.5	5.0	6.0	10.5	13.0	22.0	24.5	25.0	24.5
18	11.5	10.5	8.0	3.0	5.5	6.5	10.0	13.0	23.0	26.0	25.0	24.0
19	11.5	10.5	8.0	3.0	5.5	7.0	10.0	13.0	23.0	26.0	24.5	24.0
20	11.5	11.0	8.0	3.0	5.5	8.0	10.5	12.0	23.0	26.0	24.0	24.0
21	11.0	11.0	7.0	3.5	6.0	8.5	11.0	12.0	22.0	26.5	23.5	23.5
22	11.0	11.0	7.0	3.5	6.0	8.5	11.0	12.0	23.0	26.5	23.5	23.0
23	11.0	11.5	7.0	3.5	6.0	9.0	11.5	12.0	23.0	26.0	24.0	23.0
24	10.5	11.5	6.5	4.0	6.0	9.5	12.0	13.0	23.0	26.0	24.0	22.0
25	10.5	12.0	6.5	4.0	6.5	9.5	12.0	13.0	23.0	26.0	24.5	22.0
26	10.5	12.0	6.0	4.0	6.5	9.5	12.0	13.0	23.5	26.0	25.0	21.0
27	10.0	12.0	6.0	4.0	6.0	9.5	12.0	13.0	23.5	26.0	25.0	19.5
28	10.0	11.0	6.0	4.0	5.5	9.0	12.0	13.0	23.5	25.5	25.0	19.0
29	10.0	9.0	5.5	4.0	5.5	10.0	12.0	13.5	23.5	25.5	25.0	18.0
30	10.5	9.0	5.5	4.5	---	11.5	12.0	13.5	23.5	25.5	24.5	19.5
31	10.5	---	5.5	4.5	---	12.0	---	13.5	---	25.0	25.0	---
MEAN	12.0	10.5	7.5	3.0	5.0	7.0	11.5	13.0	21.0	24.0	25.0	23.0
WTR YR 1980	MEAN	13.5		MAX	26.5		MIN	2.0				

BIG SANDY RIVER BASIN

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.

REVISED RECORDS.--WDR WV-78-1: 1977.

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. 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, 1978 (corrected).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,690 ft³/s (246 m³/s) May 1, gage height, 17.13 ft (5.221 m), no peak above base of 11,000 ft³/s (310 m³/s); minimum, 259 ft³/s (7.33 m³/s) July 2, gage height, 2.48 ft (0.756 m).

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	543	2180	1920	1850	2320	3910	7340	839	274	462	626
2	940	1780	1860	1680	1640	2080	3430	6750	779	262	377	635
3	925	4670	1580	1480	1500	2010	3050	4520	715	265	333	640
4	1110	4330	1360	1330	1410	2050	3040	3530	660	320	333	640
5	1020	2800	1250	1410	1330	3800	5410	2920	602	442	367	635
6	824	2070	1220	1360	1280	7820	4620	2520	548	641	512	645
7	750	1700	1170	1280	1300	7350	3620	2230	525	521	607	650
8	720	1450	1070	1360	1200	5630	3140	1980	508	377	670	650
9	660	1290	967	1800	1130	4550	4220	1750	508	454	839	650
10	1190	1960	869	2090	1100	3750	4920	1570	470	1700	566	650
11	1740	3350	770	2070	1050	3230	3890	1430	434	3960	430	650
12	2020	3690	760	2610	1060	2880	3220	1330	410	3700	422	650
13	1960	3770	750	2510	977	2620	2870	1230	395	2210	977	650
14	1960	3590	750	2540	988	2660	3650	1230	384	2170	566	650
15	1960	2810	2090	2860	1190	2680	5270	1220	370	2060	402	650
16	1740	2280	2500	3250	3110	2570	4930	1080	381	1310	326	474
17	1820	1900	2060	3070	6230	2520	4110	988	388	956	300	294
18	1930	1630	1710	2970	5330	3270	3460	1020	388	755	313	274
19	2090	1430	1490	6220	3900	4970	3030	1110	367	616	1740	262
20	2340	1250	1330	7350	3220	4800	2660	1390	339	539	2570	271
21	2420	1120	1210	5060	3220	4670	2370	1690	330	478	2010	274
22	2650	1040	1110	3910	4760	6480	2110	2420	316	442	3890	290
23	2140	977	1070	4520	5290	6510	1900	2120	310	454	4160	561
24	1780	1180	1350	7050	4350	5110	1730	1660	310	859	2240	824
25	1150	2000	2280	5530	3580	5280	1600	1520	303	899	1420	725
26	534	3090	3460	4190	3170	5680	1520	1510	303	561	1040	539
27	503	5960	4560	3320	2840	4980	1740	1410	303	442	824	414
28	482	4900	3890	2800	2640	4250	5920	1230	310	508	680	364
29	588	3480	3020	2460	2570	4560	5850	1060	307	1900	574	323
30	636	2670	2490	2170	---	4630	4190	956	290	1030	521	290
31	597	---	2180	1950	---	4350	---	859	---	616	745	---
TOTAL	42199	74710	54356	94120	73215	130060	105380	63573	13092	31721	31216	15850
MEAN	1361	2490	1753	3036	2525	4195	3513	2051	436	1023	1007	528
MAX	2650	5960	4560	7350	6230	7820	5920	7340	839	3960	4160	824
MIN	482	543	750	1280	977	2010	1520	859	290	262	300	262
CFSM	.90	1.65	1.16	2.02	1.68	2.78	2.33	1.36	.29	.68	.67	.35
IN.†	1.04	1.84	1.34	2.32	1.81	3.21	2.60	1.57	.32	.78	.77	.39
IN.*	2.64	3.30	3.04	2.05	2.40	4.57	3.19	3.12	.75	5.92	5.38	3.72

CAL YR 1979 TOTAL 1051023 MEAN 2880 MAX 29000 MIN 303 CFSM 1.91 IN 25.94
WTR YR 1980 TOTAL 729492 MEAN 1993 MAX 7820 MIN 262 CFSM 1.32 IN 18.01

† Runoff.

* Rainfall.

BIG SANDY RIVER BASIN

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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 current year.

SUSPENDED SEDIMENT DISCHARGE: March 1977 to September 1978.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily observed, 848 micromhos June 29, 1980; minimum daily, 93 micromhos Dec. 9, 1978.

WATER TEMPERATURES: Maximum daily observed, 33.0°C Aug. 3, 10, 1980, minimum daily observed, 0.0°C Feb. 6, 1979.

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 metric tons) Apr. 5, 1977; minimum daily, 2.2 tons (2.0 metric tons) Sept. 29, 30, 1978.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily observed, 848 micromhos June 29; minimum daily, 157 micromhos Dec. 14.

WATER TEMPERATURES: Maximum daily observed, 33.0°C Aug. 3, 10; minimum daily observed, 5.0°C several days during December, February and March.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)
NOV												
09...	1220	1230	350	7.7	10.0	8.5	--	--	--	--	--	94
DEC												
15...	1315	3120	240	7.5	10.5	6.5	--	--	--	--	--	69
FEB												
07...	1730	1320	390	7.9	1.0	1.0	--	--	--	--	--	140
26...	1545	3130	230	6.3	--	5.5	--	--	.68	1200	360	81
MAR												
18...	1555	3400	290	7.9	11.0	11.0	--	--	--	--	--	93
26...	1440	5750	220	7.5	--	10.0	--	--	--	--	--	83
APR												
02...	1100	3450	280	7.6	17.0	12.0	--	--	--	--	--	--
23...	1845	745	349	7.6	--	19.0	--	5.9	.40	2500	120	110
MAY												
05...	1630	2780	330	7.8	30.0	16.5	--	--	--	--	--	110
15...	1235	1190	550	7.8	20.0	19.0	--	--	--	--	--	--
20...	1700	1400	520	7.9	--	18.0	--	--	.51	870	1000	140
JUN												
11...	1430	426	730	8.4	25.5	24.0	--	--	--	--	--	--
18...	1710	384	800	8.3	--	25.0	--	--	.28	K140	K35	170
19...	1500	366	760	8.3	28.0	25.5	--	--	--	--	--	190
JUL												
16...	1400	1280	320	7.4	32.0	27.0	--	--	--	--	--	--
17...	0810	1000	329	8.0	--	25.5	--	--	.95	2600	700	100
31...	1555	592	340	7.2	37.0	28.0	--	--	--	--	--	97
AUG												
06...	1630	556	568	7.8	--	27.0	--	--	.98	K12000	K15000	150
13...	1140	1250	480	7.9	25.5	27.0	--	--	--	--	--	--
20...	1550	2520	410	7.8	--	24.5	200	--	--	--	--	97
SEP												
16...	1700	296	650	7.9	28.0	25.5	--	--	--	--	--	--
18...	1355	278	680	8.1	24.0	23.0	--	--	--	--	--	--
23...	1900	945	804	8.0	--	21.5	--	7.8	.54	--	--	160

BIG SANDY RIVER BASIN

03214900 TUG FORK AT GLENHAYES, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	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)	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
NOV												
09...	36	.0	.0	23	8.8	26	--	1.2	--	--	61	63
DEC												
15...	33	.0	.0	16	7.1	17	--	.9	--	--	41	53
FEB												
07...	42	.0	.0	31	14	44	--	1.6	--	--	97	110
26...	39	--	--	18	8.8	16	29	.8	18	1.8	42	61
MAR												
18...	39	.0	.0	22	9.3	21	--	.9	--	--	63	67
26...	47	.1	5.0	19	8.7	13	--	.6	--	--	41	56
APR												
23...	41	--	--	25	12	30	36	1.2	--	2.4	73	85
MAY												
05...	49	--	--	24	11	23	--	1.0	--	--	62	78
20...	24	--	--	33	15	53	44	1.9	--	2.5	120	130
JUN												
18...	4	--	--	40	18	97	54	3.2	--	4.0	170	160
19...	6	--	--	43	19	88	--	2.8	--	--	180	160
JUL												
17...	31	--	--	27	9.0	22	31	.9	--	2.9	72	66
31...	31	--	--	24	9.1	24	--	1.1	--	--	66	69
AUG												
06...	49	--	--	36	14	53	43	1.9	--	4.1	99	120
20...	0	.0	.0	23	9.6	42	--	2.0	--	--	98	81
SEP												
23...	5	--	--	38	17	88	53	3.0	--	4.5	160	150

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)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)
NOV												
09...	15	--	--	198	--	.27	658	--	--	--	--	--
DEC												
15...	8.5	--	--	--	--	--	--	--	--	--	--	--
FEB												
07...	15	--	--	274	--	.37	977	--	--	--	--	--
26...	7.8	.1	7.8	145	148	.20	1230	.42	.060	.08	.20	.26
MAR												
18...	6.7	--	--	182	--	.25	1670	--	--	--	--	--
26...	4.0	--	--	145	--	.20	2250	--	--	--	--	--
APR												
23...	8.6	.1	6.8	222	214	.30	447	.23	.010	.01	.16	.17
MAY												
05...	5.9	--	--	209	--	.28	1570	--	--	--	--	--
20...	13	.1	4.0	329	324	.45	1240	.29	.010	.03	.21	.22
JUN												
18...	40	.3	2.3	467	465	.64	484	.14	.030	.04	.11	.14
19...	27	--	--	453	--	.62	448	--	--	--	--	--
JUL												
17...	11	.1	7.3	213	192	.29	575	.60	.000	.08	.35	.35
31...	16	--	--	190	--	.26	304	--	--	--	--	--
AUG												
06...	38	.2	2.5	359	329	.49	539	.41	.060	.08	.51	.57
20...	9.2	--	4.2	235	--	.32	1600	--	--	--	--	--
SEP												
23...	45	.2	2.5	446	443	.61	1140	.30	.000	.00	.24	.24

BIG SANDY RIVER BASIN

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03214900 TUG FORK AT GLENHAYES, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, SUS- PENDED RECOV. (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	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, HEXA- VALENT, DIS. (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)
FEB 26...	.010	470	440	30	--	--	0	0	0	<10	0	--
APR 23...	.010	--	--	100	--	--	--	--	--	--	--	--
MAY 20...	.010	--	--	200	--	--	--	--	--	--	--	--
JUN 18...	.020	100	20	80	--	--	0	0	1	10	0	--
JUL 17...	.010	--	--	0	--	--	--	--	--	--	--	--
AUG 06...	.010	--	--	100	--	--	--	--	--	--	--	--
20...	--	--	--	--	60	<1	--	--	<1	--	--	<3
SEP 23...	.000	--	--	100	--	--	--	--	--	--	--	--

DATE	COPPER, DIS- SOLVED (UG/L 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)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB)	LEAD, SUS- PENDED RECOV- ERABLE (UG/L AS PB)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	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)
NOV 09...	--	1800	--	660	--	--	--	--	70	10	60	--
DEC 15...	--	4200	4200	20	--	--	--	--	150	150	1	--
FEB 07...	--	1400	1400	50	--	--	--	--	90	50	40	--
26...	--	2300	2300	30	3	3	0	--	90	80	9	<.1
MAR 18...	--	6400	6400	50	--	--	--	--	310	300	10	--
26...	--	3600	3600	40	--	--	--	--	130	120	10	--
APR 23...	--	--	--	150	--	--	--	--	--	--	20	--
MAY 05...	--	7000	7000	20	--	--	--	--	340	330	7	--
20...	--	--	--	10	--	--	--	--	--	--	5	--
JUN 18...	--	170	160	10	0	0	0	--	20	10	9	<.1
19...	--	330	320	10	--	--	--	--	30	30	5	--
JUL 17...	--	--	--	10	--	--	--	--	--	--	4	--
31...	--	7500	7400	70	--	--	--	--	270	260	10	--
AUG 06...	--	--	--	40	--	--	--	--	--	--	10	--
20...	<10	27000	27000	47	--	--	<10	17	730	730	3	--
SEP 23...	--	--	--	70	--	--	--	--	--	--	10	--

DATE	MERCURY SUS- PENDED RECOV- ERABLE (UG/L AS HG)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN)	ZINC, SUS- PENDED RECOV- ERABLE (UG/L AS ZN)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)	COAL IN BOTTOM MATE- RIAL (GM/KG)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDED (T/DAY)
FEB 07...	--	--	--	--	--	--	--	--	--	--	73	260
26...	.0	<.1	--	--	--	20	20	2	--	--	--	--
MAR 26...	--	--	--	--	--	--	--	--	--	27.0	--	--
JUN 18...	--	<.1	--	--	--	30	30	0	--	--	--	--
AUG 20...	--	--	<10	290	<6.0	--	--	<4	16	--	2300	15600

BIG SANDY RIVER BASIN

03214900 TUG FORK AT GLENHAYES, WV--Continued

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	394	533	289	273	---	---	265	253	530	809	390	524
2	404	402	---	---	---	---	283	188	550	823	460	508
3	348	---	---	335	---	---	301	248	570	811	560	548
4	---	---	172	---	---	330	317	284	590	810	625	480
5	421	---	---	---	---	292	272	324	596	794	625	496
6	302	---	---	---	---	221	234	352	640	778	600	598
7	409	---	---	---	441	200	255	388	640	652	590	602
8	348	---	---	382	---	205	280	400	650	720	678	684
9	---	311	---	367	---	224	282	412	672	687	520	652
10	377	316	---	353	---	246	251	435	672	566	538	606
11	343	272	---	---	---	264	248	458	696	452	627	578
12	360	---	---	305	458	298	---	478	665	368	604	590
13	---	278	302	---	505	312	---	500	701	319	570	650
14	---	245	157	268	541	328	---	515	737	342	498	686
15	---	252	208	278	458	319	---	554	720	403	442	668
16	291	260	270	253	342	318	244	550	700	328	547	659
17	305	295	301	230	---	312	253	550	738	390	610	642
18	304	---	336	239	222	290	255	550	732	360	679	675
19	334	---	352	234	204	252	299	530	752	460	488	678
20	334	356	366	183	---	226	298	540	720	520	434	718
21	344	389	---	189	255	223	325	530	758	---	355	726
22	358	400	381	---	278	234	351	500	741	600	194	740
23	436	411	---	---	225	188	370	415	710	600	276	748
24	454	420	---	196	229	209	392	340	727	650	310	482
25	468	399	---	184	---	237	410	370	791	580	356	609
26	501	308	300	215	---	238	419	415	781	625	388	549
27	496	341	268	246	289	232	415	450	812	580	394	590
28	---	227	221	255	295	245	285	480	781	540	444	635
29	504	---	222	---	311	264	204	460	848	540	486	635
30	504	257	228	---	---	257	226	490	820	290	546	570
31	517	---	262	---	---	---	---	520	---	335	505	---
MEAN	394	334	273	262	337	258	297	435	701	558	495	618

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.0	---	---	---	---	---	8.0	10.0	25.0	25.0	30.0	25.0
2	20.0	---	---	---	---	---	15.0	20.0	27.0	30.0	20.0	25.0
3	17.0	---	---	---	---	---	14.0	19.0	25.0	28.0	33.0	27.0
4	---	---	---	---	---	7.0	15.0	19.0	20.0	25.0	21.0	25.0
5	---	---	---	---	---	5.0	14.0	18.0	20.0	29.0	25.0	26.0
6	15.0	---	---	---	12.0	---	---	22.0	23.0	30.0	25.0	28.0
7	15.0	---	---	---	9.0	15.0	20.0	20.0	28.0	29.0	25.0	27.0
8	15.0	---	---	---	10.0	15.0	15.0	27.0	30.0	26.0	25.0	25.0
9	---	---	---	---	12.0	16.0	15.0	25.0	27.0	26.0	25.0	25.0
10	12.0	---	---	---	11.0	13.0	15.0	---	29.0	33.0	25.0	25.0
11	11.0	---	---	---	10.0	15.0	20.0	20.0	20.0	25.0	29.0	23.0
12	12.0	---	---	---	9.0	5.0	---	20.0	25.0	26.0	27.0	22.0
13	---	---	---	---	8.0	13.0	---	23.0	25.0	25.0	26.0	23.0
14	---	---	---	---	5.0	8.0	---	20.0	23.0	28.0	25.0	25.0
15	---	---	---	---	5.0	5.0	---	17.0	30.0	27.0	28.0	---
16	---	---	5.0	8.0	7.0	10.0	13.0	20.0	20.0	26.0	25.0	23.0
17	---	---	5.0	10.0	---	12.0	10.0	20.0	20.0	27.0	21.0	24.0
18	---	---	5.0	8.0	---	12.0	12.0	24.0	25.0	25.0	26.0	24.0
19	---	---	8.0	10.0	---	11.0	15.0	21.0	23.0	30.0	25.0	21.0
20	---	---	5.0	8.0	---	10.0	14.0	20.0	20.0	31.0	25.0	23.0
21	---	---	---	10.0	---	10.0	20.0	20.0	20.0	---	24.0	25.0
22	---	---	5.0	---	---	9.0	25.0	20.0	28.0	29.0	22.0	26.0
23	---	---	---	---	---	11.0	20.0	20.0	28.0	30.0	22.0	23.0
24	---	---	---	10.0	---	12.0	19.0	20.0	25.0	25.0	23.0	22.0
25	---	---	---	15.0	---	10.0	19.0	20.0	29.0	27.0	22.0	20.0
26	---	---	8.0	10.0	---	11.0	15.0	25.0	24.0	26.0	25.0	20.0
27	---	---	5.0	8.0	---	---	15.0	20.0	23.0	30.0	25.0	18.0
28	---	---	12.0	---	9.0	18.0	13.0	25.0	28.0	25.0	30.0	20.0
29	---	---	10.0	---	9.0	18.0	15.0	21.0	29.0	25.0	30.0	17.0
30	---	---	---	---	---	18.0	13.0	25.0	25.0	25.0	25.0	18.0
31	---	---	---	---	---	---	---	26.0	---	26.5	27.0	---
MEAN	15.0	---	7.0	9.5	7.5	10.5	15.0	20.0	24.5	27.5	25.5	23.5

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CAC03)
POTOMAC RIVER BASIN								
01605500 - SOUTH BRANCH POTOMAC RIVER AT FRANKLIN, W. VA. (LAT 38 38 14 LONG 079 20 14)								
OCT , 1979								
03...	1345	733	150	8.4	--	20.0	--	--
NOV								
15...	1210	262	210	9.1	10.0	7.5	11.9	--
DEC								
19...	1300	100	210	9.2	--	3.5	15.2	--
JUN , 1980								
11...	1250	109	185	8.6	20.0	16.0	10.2	--
JUL								
24...	1130	63	190	8.6	21.0	19.0	--	--
SEP								
11...	0840	34	190	7.9	15.0	14.0	--	--
01606500 - SO. BRANCH POTOMAC RIVER NEAR PETERSBURG, W. VA (LAT 38 59 34 LONG 079 10 26)								
NOV , 1979								
15...	1430	926	200	9.0	14.0	7.5	12.1	--
DEC								
19...	1515	438	190	8.8	--	3.0	13.8	--
JUN , 1980								
12...	0920	662	160	8.7	19.0	16.0	--	--
JUL								
24...	1515	518	200	8.2	24.5	22.0	--	--
SEP								
12...	0815	102	205	7.8	13.0	18.0	--	--
01607500 - SO FK SO BR POTOMAC R AT BRANDYWINE W VA (LAT 38 37 53 LONG 079 14 38)								
OCT , 1979								
03...	1200	633	100	8.6	--	20.0	--	--
NOV								
15...	1035	174	150	9.0	10.0	6.5	11.8	--
DEC								
19...	1135	35	180	9.8	--	3.0	13.4	--
JAN , 1980								
30...	1155	69	140	9.1	--	2.0	12.0	--
JUN								
11...	1110	32	165	7.8	17.5	16.0	9.5	--
JUL								
24...	0915	22	180	7.6	20.0	20.0	6.8	--
SEP								
11...	1105	6.9	180	7.6	18.0	17.0	9.1	--
01608000 - SO FK SOUTH BRANCH POTOMAC R NR MOOREFIELD W VA (LAT 39 00 44 LONG 078 57 23)								
OCT , 1979								
03...	0930	1440	90	8.4	19.5	16.5	--	--
NOV								
15...	0830	386	160	9.2	5.5	7.0	11.1	--
DEC								
19...	0915	90	185	9.0	--	3.5	12.0	--
JAN , 1980								
30...	0915	223	160	8.9	--	2.0	12.0	--
MAR								
19...	0835	1380	100	8.5	--	8.0	10.7	--
APR								
29...	1530	542	150	8.5	25.0	12.0	9.4	--
JUN								
11...	0835	107	180	7.3	19.0	16.0	--	--
JUL								
23...	1355	84	180	7.5	26.0	23.0	--	--
SEP								
11...	1400	25	170	7.5	26.0	22.0	--	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CACO3)
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POTOMAC RIVER BASIN--Continued

01611500 - CACAPON RIVER NEAR GREAT CACAPON, W. VA. (LAT 39 34 43 LONG 078 18 34)

OCT , 1979								
01...	1415	341	105	9.5	24.0	18.5	--	--
NOV								
13...	1130	795	160	9.2	13.0	9.0	10.8	--
DEC								
17...	1210	385	135	9.1	--	3.0	12.8	--
MAR , 1980								
17...	1135	1290	125	7.5	12.0	6.0	11.4	--
JUN								
09...	1230	319	120	9.1	21.5	21.0	8.2	--
JUL								
22...	1045	113	150	8.0	27.0	28.0	--	--
SEP								
09...	1120	84	180	7.9	23.0	24.5	--	--

01616500 - OPEQUON CREEK NEAR MARTINSBURG, W. VA. (LAT 39 25 25 LONG 077 56 20)

NOV , 1979								
14...	0800	296	465	8.5	4.5	9.0	8.8	--
DEC								
17...	1600	215	520	8.8	--	4.0	12.4	--
JAN , 1980								
28...	1340	282	560	8.7	--	5.0	--	--
JUN								
09...	1600	181	560	8.6	28.0	19.0	--	--
SEP								
10...	0815	79	600	8.0	21.5	20.0	--	--

MONONGAHELA RIVER BASIN

03050500 - TYGART VALLEY RIVER NEAR ELKINS, W. VA. (LAT 38 55 30 LONG 079 52 45)

NOV , 1979								
07...	1640	348	75	6.0	7.0	7.0	--	--
DEC								
19...	1500	328	75	6.0	5.0	1.0	--	--
JAN , 1980								
30...	1445	207	87	6.2	-3.0	1.0	--	--
MAR								
12...	1545	723	80	6.4	2.0	2.0	--	--
JUN								
02...	1245	221	65	6.8	--	--	--	--
JUL								
15...	1300	197	90	6.1	34.0	25.0	--	--
SEP								
03...	1230	148	90	6.8	28.0	24.0	--	--

03051000 - TYGART VALLEY RIVER AT BELINGTON, W. VA. (LAT 39 01 45 LONG 079 56 10)

NOV , 1979								
05...	1400	1130	100	5.7	17.0	9.0	--	--
DEC								
18...	1415	601	110	6.8	3.0	1.0	--	--
JAN , 1980								
29...	1425	620	115	6.8	2.0	1.0	--	--
APR								
28...	1625	4350	70	7.0	18.0	11.0	--	--
JUN								
03...	1450	844	110	6.4	26.0	20.0	--	--
JUL								
14...	1500	668	92	6.2	36.0	23.0	--	--
SEP								
03...	0945	170	195	6.8	28.0	23.0	--	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CAC03)
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MONONGAHELA RIVER BASIN--Continued

03053500 - BUCKHANNON RIVER AT HALL, W. VA. (LAT 39 03 05 LONG 080 06 50)

NOV , 1979								
05...	1605	829	80	5.6	17.0	9.0	--	--
DEC								
18...	1015	548	190	6.9	-8.0	1.5	--	--
JAN , 1980								
30...	1100	368	120	4.6	-5.0	.0	--	--
MAR								
12...	1145	703	100	4.6	4.0	4.5	--	--
APR								
29...	1045	1630	75	6.8	15.0	10.5	--	--
JUN								
04...	1145	708	145	6.3	20.0	17.0	--	--
SEP								
02...	1340	63	205	7.4	30.0	26.0	--	--

03058500 - W. F. RIVER AT BUTCHERVILLE, W. VA. (LAT 39 05 25 LONG 080 28 05)

NOV , 1979								
08...	1200	115	170	6.9	14.0	12.0	--	--
DEC								
05...	1030	129	220	7.2	3.0	3.0	--	--
FEB , 1980								
06...	1230	121	150	7.0	4.0	1.0	--	--
MAR								
08...	0930	492	--	--	8.0	3.0	--	--
AUG								
29...	1000	43	150	7.5	26.0	24.0	--	--

03059000 - WEST FORK RIVER AT CLARKSBURG, W. VA. (LAT 39 16 15 LONG 080 21 20)

OCT , 1979								
22...	1035	302	245	8.8	20.0	15.0	9.1	--
DEC								
05...	0920	235	335	6.7	.0	2.5	13.3	--
JAN , 1980								
15...	1105	1120	300	8.0	--	3.5	--	--
FEB								
20...	0935	480	310	7.6	--	.5	13.7	--
APR								
07...	0935	795	300	9.3	18.5	11.0	10.0	--
MAY								
28...	0930	392	300	7.5	17.5	17.5	--	--
JUL								
17...	0945	106	290	8.0	--	23.0	--	--
SEP								
16...	1000	98	385	7.2	18.5	21.0	--	--

03062400 - COBUN CREEK AT MORGANTOWN, W. VA. (LAT 39 36 30 LONG 079 57 20)

OCT , 1979								
25...	1200	4.9	125	8.5	12.0	8.5	10.7	--
DEC								
06...	1405	9.3	130	6.2	--	6.0	12.2	--
JAN , 1980								
14...	1335	24	165	7.6	--	5.0	--	--
FEB								
19...	1410	11	145	7.4	--	3.0	11.9	--
APR								
07...	1530	25	100	7.0	22.0	12.5	10.2	--
MAY								
19...	1120	7.9	120	7.2	--	17.0	9.1	--
JUL								
14...	1420	4.3	170	7.9	30.0	23.0	--	--
SEP								
04...	0810	2.6	180	7.4	20.0	20.0	--	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CACO3)
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MONONGAHELA RIVER BASIN--Continued

03065000 - DRY FORK AT HENDRICKS, W. VA. (LAT 39 04 20 LONG 079 37 20)

OCT , 1979								
16...	1415	1200	100	6.1	20.0	9.0	--	--
DEC								
04...	1345	361	75	6.4	8.0	1.0	--	--
JAN , 1980								
15...	1445	1180	75	6.3	4.0	8.0	--	--
APR								
09...	1555	4450	65	6.8	14.0	11.0	--	--
MAY								
21...	1600	5470	60	6.8	18.0	15.0	--	--
JUL								
02...	1425	99	72	6.3	27.0	23.0	--	--
AUG								
11...	1450	262	60	6.0	33.0	23.0	--	--
SEP								
24...	1445	156	70	7.4	20.0	19.0	--	--

03066000 - BLACKWATER RIVER AT DAVIS, W. VA. (LAT 39 07 35 LONG 079 28 10)

OCT , 1979								
18...	1100	196	110	4.2	7.0	10.0	--	--
DEC								
05...	1520	88	120	5.7	11.0	1.0	--	--
JAN , 1980								
16...	1455	212	100	5.7	8.0	3.0	--	--
APR								
08...	1525	184	200	6.2	11.0	11.0	--	--
MAY								
20...	1530	152	105	6.1	17.0	12.0	--	--
JUL								
01...	1755	75	190	4.3	29.0	25.0	--	--
SEP								
23...	1545	42	160	6.8	16.0	19.0	--	--

03069000 - SHAVERS FORK AT PARSONS, W. VA. (LAT 39 05 45 LONG 079 40 40)

OCT , 1979								
16...	1545	773	70	5.9	17.0	10.0	--	--
DEC								
04...	1605	246	60	6.8	1.0	1.0	--	--
JAN , 1980								
16...	1625	589	45	6.9	6.5	3.5	--	--
APR								
09...	1230	8340	50	6.8	18.0	10.0	--	--
MAY								
22...	1030	1950	40	6.2	21.0	13.0	--	--
JUL								
02...	1615	77	65	6.3	28.0	26.0	--	--
AUG								
11...	1640	192	65	--	30.0	28.0	--	--
SEP								
24...	1615	158	65	6.9	18.0	20.0	--	--
25...	1525	201	65	6.9	21.0	19.0	--	--

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 FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CAC03)
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MONONGAHELA RIVER BASIN--Continued

03070500 - BIG SANDY CREEK AT ROCKVILLE, W. VA. (LAT 39 37 15 LONG 079 42 20)

OCT , 1979								
24...	1440	148	165	6.0	10.0	10.0	9.9	--
JAN , 1980								
16...	0930	423	105	8.3	--	2.0	--	--
APR								
11...	0840	846	60	6.6	9.5	7.0	--	--
MAY								
29...	0905	193	100	7.6	17.0	14.5	--	--
JUL								
16...	1305	52	200	4.2	--	--	--	--
SEP								
19...	0855	25	150	6.4	24.0	21.0	--	--

LITTLE KANAWHA RIVER BASIN

03151520 - LITTLE KANAWHA RIVER BELOW BURNSVILLE DAM, WV (LAT 38 50 41 LONG 080 37 45)

NOV , 1979								
07...	1500	410	100	7.3	14.0	12.0	--	--
DEC								
05...	1230	151	80	7.1	8.0	10.5	--	--
FEB , 1980								
07...	0835	164	100	7.0	4.0	2.0	--	--
MAR								
07...	1450	1350	110	6.8	--	--	--	--
APR								
10...	1000	1630	75	7.2	8.0	12.0	--	--
MAY								
07...	1315	165	60	7.0	12.0	12.5	--	--
JUN								
20...	0905	70	60	7.1	--	19.0	--	--
JUL								
17...	0850	43	--	--	29.0	23.0	--	--
AUG								
06...	1100	35	<50	6.8	27.0	23.5	--	--
28...	1735	68	70	6.9	29.5	28.0	--	--
SEP								
05...	1005	160	<50	6.5	24.0	25.0	--	--

03151600 - LITTLE KANAWHA RIVER AT BURNSVILLE, W. VA. (LAT 38 51 55 LONG 080 40 32)

JUL , 1980								
16...	1930	82	--	--	31.0	25.5	--	--

03152000 - LITTLE KANAWHA RIVER AT GLENVILLE, W. VA. (LAT 38 56 00 LONG 080 50 20)

NOV , 1979								
06...	1530	1340	160	6.5	--	--	--	--
FEB , 1980								
05...	1700	209	150	6.7	.0	1.0	--	--
JUL								
16...	1030	128	--	--	30.0	24.0	--	--
AUG								
28...	1445	89	150	7.2	33.0	26.0	--	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LINITY (MG/L AS CAC03)
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KANAWHA RIVER BASIN

03180000 - NEW RIVER AT BLUESTONE DAM W VA (LAT 37 38 35 LONG 080 53 00)

OCT , 1979								
19...	1000	7590	140	7.1	12.5	14.0	--	--
NOV								
28...	1115	21400	110	6.8	8.5	10.0	--	--
JAN , 1980								
16...	1000	13500	130	7.2	5.0	5.0	--	--
MAR								
07...	1225	9860	155	6.7	10.5	5.0	--	--
APR								
17...	2000	25100	105	7.2	11.5	12.0	--	--
JUL								
07...	1600	4110	150	7.5	27.5	26.0	--	--
AUG								
25...	1200	3080	--	--	25.5	27.0	--	--
SEP								
30...	1415	2340	--	--	18.0	21.0	--	--

03180500 - GREENBRIER RIVER AT DURBIN, W. VA. (LAT 38 32 35 LONG 079 50 00)

OCT , 1979								
19...	1050	196	66	7.1	13.0	8.5	--	--
NOV								
29...	1635	391	85	7.0	-6.5	2.5	--	--
JAN , 1980								
23...	1245	303	90	7.7	-4.0	1.5	--	--
FEB								
12...	1315	77	--	--	-4.0	.0	--	--
MAR								
10...	1500	840	--	--	14.0	7.0	--	--
APR								
23...	0905	214	60	6.7	21.5	11.5	--	--
JUL								
23...	1510	587	80	7.1	26.0	19.0	--	--
SEP								
02...	1815	40	61	7.1	27.5	23.5	7.1	--
03...	1000	53	45	7.3	21.0	19.7	8.2	--

03182500 - GREENBRIER RIVER AT BUCKEYE, W. VA. (LAT 38 11 15 LONG 080 07 50)

OCT , 1979								
16...	1840	1250	70	6.8	11.5	9.5	--	--
NOV								
29...	1130	1610	65	6.3	-3.5	4.0	--	--
JAN , 1980								
23...	1030	1340	70	6.7	.0	2.0	--	--
FEB								
12...	0945	206	--	--	-2.0	.5	--	--
MAR								
10...	1230	2850	--	--	4.0	8.0	--	--
APR								
23...	1220	658	82	7.8	27.0	16.0	--	--
JUL								
23...	1845	518	130	8.2	23.0	25.0	--	--
SEP								
03...	1945	80	102	8.5	22.5	26.5	8.0	--

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 FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LINITY (MG/L AS CACO3)
KANAWHA RIVER BASIN--Continued								
03182700 - ANTHONY CREEK NEAR ANTHONY, W. VA. (LAT 37 54 30 LONG 080 17 30)								
OCT , 1979								
22...	1705	74	55	6.7	17.0	15.5	10.4	--
FEB , 1980								
13...	1415	54	60	6.7	4.0	.0	--	--
MAR								
05...	1620	213	60	6.5	3.0	2.0	--	--
APR								
15...	1215	1250	--	--	--	--	--	--
15...	1345	1140	--	--	--	--	--	--
MAY								
29...	1330	106	60	6.8	22.0	18.5	--	--
JUL								
15...	1830	25	100	6.5	25.0	26.0	--	--
SEP								
03...	1500	25	102	7.9	23.0	23.5	7.6	--
03183500 - GREENBRIER RIVER AT ALDERSON, W. VA. (LAT 37 43 30 LONG 080 38 30)								
OCT , 1979								
17...	1450	2580	105	7.4	25.0	12.0	--	--
NOV								
29...	1110	3970	90	6.6	-2.0	5.0	--	--
JAN , 1980								
15...	1530	5740	105	7.2	12.0	4.5	--	--
MAR								
05...	1240	1470	120	6.8	6.0	1.5	--	--
APR								
17...	1130	5290	80	7.1	12.0	8.0	--	--
MAY								
29...	1750	1360	100	8.0	32.5	20.0	--	--
JUL								
09...	0900	240	220	7.5	21.0	23.5	--	--
AUG								
27...	1145	788	--	--	25.0	22.5	--	--
03184500 - NEW RIVER AT HINTON, W. VA. (LAT 37 40 15 LONG 080 53 40)								
OCT , 1979								
18...	1600	2420	120	7.3	22.0	14.0	--	--
NOV								
27...	1630	34100	90	6.6	10.0	8.0	--	--
JAN , 1980								
14...	1300	11400	120	6.2	6.0	3.0	--	--
MAR								
04...	1815	11000	--	--	--	--	--	--
APR								
17...	1740	33900	100	7.2	13.5	11.0	--	--
JUL								
08...	1520	4350	150	7.5	35.0	27.0	--	--
AUG								
25...	1745	4260	--	--	--	--	--	--
SEP								
30...	1015	2260	240	7.6	16.0	17.5	--	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CACO3)
KANAWHA RIVER BASIN--Continued								
03187300 - NORTH FORK CRANBERRY RIVER NEAR HILLSBORO, W. VA (LAT 38 15 27 LONG 080 19 25)								
OCT , 1979								
17...	1205	28	<50	4.7	19.0	11.0	11.6	--
NOV								
28...	0930	43	31	4.6	6.0	6.0	--	--
JAN , 1980								
15...	0945	40	40	6.4	3.0	2.5	--	--
MAR								
11...	1215	58	--	--	-5.0	2.0	--	--
23...	0915	54	21	4.8	--	1.5	--	2
APR								
16...	1205	60	38	4.3	3.0	5.0	--	--
MAY								
29...	1000	14	30	5.0	19.5	10.5	--	--
JUL								
17...	1510	6.6	30	--	24.5	19.0	--	--
AUG								
20...	1655	28	29	4.4	--	--	--	--
27...	2000	12	16	4.6	19.0	16.5	8.3	--
03189000 - CHERRY RIVER AT FENWICK, W. VA. (LAT 38 13 45 LONG 080 35 00)								
OCT , 1979								
17...	1830	455	55	6.3	14.5	12.0	--	--
NOV								
21...	1130	208	51	6.6	16.0	6.5	--	--
JAN , 1980								
16...	0930	732	60	6.8	6.0	4.0	--	--
MAR								
04...	1045	230	--	--	8.5	1.0	--	--
23...	1800	842	30	6.5	--	6.0	--	2
APR								
09...	1635	1620	22	7.2	--	11.0	--	--
JUL								
14...	1620	434	50	6.2	29.5	22.5	--	4
AUG								
21...	1840	1210	40	6.5	27.0	18.5	--	4
26...	1110	275	37	6.8	25.5	17.5	8.4	--
SEP								
09...	1810	31	109	7.2	27.5	22.5	7.8	--
03189600 - GAULEY RIVER BELOW SUMMERSVILLE DAM, W. VA. (LAT 38 13 00 LONG 080 53 30)								
OCT , 1979								
01...	1500	99	--	--	--	--	--	--
02...	1150	2110	--	--	--	--	--	--
NOV								
26...	1620	10300	70	6.7	8.0	10.5	--	--
JAN , 1980								
30...	1415	1060	50	--	-3.0	3.0	--	--
FEB								
25...	1315	11300	--	--	6.0	3.0	--	--
MAR								
24...	1525	2800	40	6.7	--	5.0	--	3
APR								
10...	1000	161	60	7.2	5.0	7.0	--	--
15...	0740	159	--	--	4.0	6.0	--	--
MAY								
20...	1330	914	60	7.1	17.5	9.5	--	--
JUL								
08...	1645	211	65	6.5	25.5	15.0	--	6
AUG								
19...	1445	11300	66	6.8	21.5	18.0	--	10
29...	1315	378	41	6.7	28.5	20.0	8.5	--
SEP								
30...	1300	189	50	7.0	25.0	20.0	8.4	7

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 FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CAC03)
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KANAWHA RIVER BASIN--Continued

03190400 - MEADOW RIVER NEAR MT. LOOKOUT, W. VA. (LAT 38 11 25 LONG 080 56 55)

NOV , 1979								
28...	1130	2110	55	6.6	5.0	8.0	--	--
JAN , 1980								
16...	1100	1660	60	7.0	5.0	4.0	--	--
MAR								
26...	0740	3080	50	7.1	4.0	5.0	--	4
JUL								
11...	1050	3120	57	6.5	--	19.0	--	8
AUG								
21...	0945	1160	--	--	--	--	--	--
28...	1705	281	69	7.0	24.0	24.0	5.1	--

03193000 - KANAWHA RIVER AT KANAWHA FALLS, W. VA. (LAT 38 08 20 LONG 081 12 45)

NOV , 1979								
05...	1240	29100	--	--	--	10.0	--	--
DEC								
28...	1330	21900	--	--	2.0	4.5	--	--
FEB , 1980								
14...	1200	7170	140	7.6	.0	1.0	--	--
MAR								
24...	1015	40600	--	--	--	6.5	--	--
MAY								
08...	1230	13000	85	7.4	--	15.5	--	--
27...	0900	20100	--	--	13.5	16.5	--	--
JUL								
22...	1045	3350	--	--	31.0	28.0	--	--
25...	0840	7650	--	--	24.0	23.0	--	--

03195100 - RIGHT FORK HOLLY RIVER AT GUARDIAN, W. VA. (LAT 38 38 08 LONG 080 27 58)

MAR , 1980								
28...	1200	150	45	6.1	11.0	8.0	--	7
AUG								
20...	1635	153	30	6.2	26.0	21.0	7.8	6

03195250 - LEFT FORK HOLLY RIVER NEAR REPLETE, W. VA. (LAT 38 41 19 LONG 080 25 59)

OCT , 1979								
31...	1600	41	50	6.6	15.0	13.0	--	--
MAR , 1980								
14...	1100	221	40	6.0	-5	2.0	--	--
27...	1200	209	40	5.6	15.0	7.0	--	5
APR								
30...	1955	1000	40	6.4	12.0	9.0	--	--
AUG								
20...	0950	42	33	5.9	25.5	20.0	7.8	4

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CAC03)
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KANAWHA RIVER BASIN--Continued

03195500 - ELK RIVER AT SUTTON, W. VA. (LAT 38 39 46 LONG 080 42 34)

NOV , 1979								
01...	0850	328	80	7.0	18.0	11.0	--	--
DEC								
12...	1600	549	70	6.3	11.0	3.5	--	--
FEB , 1980								
07...	1105	496	65	6.8	4.0	1.0	--	--
MAR								
12...	1115	1550	60	6.6	4.5	5.5	--	--
MAY								
01...	1830	5870	50	6.3	14.0	10.0	--	--
30...	1345	84	55	7.0	28.0	18.0	--	--
JUN								
16...	1645	213	60	--	17.5	16.5	--	--
JUL								
22...	1500	151	80	7.3	25.5	28.0	--	--
SEP								
03...	1245	243	--	--	25.0	25.5	--	--

03196600 - ELK RIVER NEAR FRAMETOWN, W. VA. (LAT 38 35 34 LONG 080 53 06)

OCT , 1979								
31...	1015	535	100	6.7	18.0	12.0	--	--
DEC								
11...	1615	663	65	--	15.0	3.5	--	--
FEB , 1980								
06...	0930	640	70	6.8	.5	.0	--	--
MAR								
12...	1230	1970	60	6.2	3.0	5.0	--	--
APR								
29...	1815	3790	55	6.4	10.0	11.0	--	--
JUN								
17...	1245	376	85	7.1	19.0	21.0	--	--
JUL								
22...	1150	237	<50	6.6	30.0	27.5	--	--
SEP								
02...	1230	255	--	--	29.5	--	--	--

03198000 - KANAWHA RIVER AT CHARLESTON, W. VA. (LAT 38 22 10 LONG 081 42 05)

OCT , 1979								
05...	1400	--	--	--	--	17.5	--	--
29...	1120	11800	--	--	13.0	13.0	--	--
DEC								
03...	1300	--	--	--	--	6.0	--	--
MAR , 1980								
20...	1230	54000	--	--	--	--	--	--
APR								
18...	1010	44200	--	--	23.0	11.0	--	--
22...	0940	24000	--	--	26.0	13.0	--	--
MAY								
28...	1005	13300	--	--	17.0	18.0	--	--
JUN								
26...	1100	--	--	--	--	23.5	--	--

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 FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LINITY (MG/L AS CACO3)
KANAWHA RIVER BASIN--Continued								
03198020 - TRACE FK @ RUTH WV (LAT 38 18 30 LONG 081 43 40)								
MAR , 1980								
19...	1115	8.2	93	--	18.0	6.0	--	--
24...	0945	5.9	110	7.2	16.5	6.5	--	15
APR								
08...	1900	4.2	138	--	--	--	--	--
14...	1435	5.2	94	--	--	--	--	--
30...	1010	17	76	--	--	9.5	--	--
30...	1105	22	77	--	--	--	--	--
MAY								
23...	1020	.61	189	--	--	--	--	--
JUN								
06...	1100	6.7	140	--	--	--	--	--
16...	1000	1.5	245	--	--	--	--	--
JUL								
01...	1445	.28	442	--	--	23.5	--	--
03...	1230	.23	441	--	--	23.0	--	--
09...	0945	.61	459	--	--	--	--	--
15...	1550	1.6	150	6.6	27.0	24.0	--	--
15...	1600	1.6	150	--	--	--	--	--
28...	0940	6.2	142	--	--	24.0	--	--
28...	1010	6.0	--	--	--	--	--	--
28...	1945	6.0	170	--	--	24.0	--	--
30...	0845	.79	220	--	22.5	20.0	--	--
AUG								
01...	0745	.37	240	--	--	--	--	--
01...	0840	.37	--	--	26.0	22.5	--	--
04...	1020	.43	260	--	--	--	--	--
05...	0900	.47	225	--	25.0	21.0	--	--
18...	1145	.46	255	6.5	26.0	22.0	--	52
18...	1900	2.9	--	--	--	--	--	--
19...	1025	1.7	192	--	--	--	--	--
SEP								
05...	1000	1.3	178	--	--	--	--	--
05...	1010	1.3	175	7.0	26.0	21.0	--	--
08...	1520	1.0	--	--	--	--	--	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CAC03)
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KANAWHA RIVER BASIN--Continued

03198022 - TRACE FK D/S DRYDEN HOLLOW @ RUTH WV (LAT 38 18 55 LONG 081 43 42)

MAR , 1980

19...	1015	13	124	--	6.0	4.5	--	--
24...	1025	9.7	150	7.1	12.5	8.0	--	16

APR

08...	1845	6.1	151	--	--	--	--	--
14...	1425	7.2	128	--	--	--	--	--
30...	1000	81	97	--	--	9.5	--	--
30...	1050	72	101	--	--	--	--	--

MAY

23...	1000	1.4	242	--	--	--	--	--
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JUN

06...	1010	14	184	--	--	--	--	--
16...	0900	2.8	304	--	--	--	--	--

JUL

01...	1145	.23	459	--	--	19.5	--	--
03...	1000	.25	462	--	--	24.5	--	--
07...	0925	.23	455	--	--	19.0	--	--
09...	0930	1.8	312	--	--	--	--	--
15...	1525	1.9	200	--	--	--	--	--
15...	1715	1.9	200	6.9	31.0	24.5	--	--
28...	1030	11	195	--	--	21.0	--	--
28...	1045	12	--	--	--	21.0	--	--
28...	1110	12	220	--	--	--	--	--
28...	1440	5.7	--	--	--	24.5	--	--
28...	1500	6.3	215	--	--	24.5	--	--
30...	1015	.81	270	--	--	20.5	--	--
30...	1035	.81	--	--	28.0	20.5	--	--

AUG

01...	0900	.37	295	--	--	23.0	--	--
01...	0940	.37	--	--	--	23.0	--	--
04...	1040	.41	320	--	--	--	--	--
04...	1110	.41	--	--	--	24.0	--	--
05...	0830	1.2	310	--	24.0	21.0	--	--
18...	1045	4.0	370	6.9	25.0	22.0	--	72
18...	1850	7.8	--	--	--	--	--	--
19...	1015	2.2	234	--	--	--	--	--

SEP

05...	1140	1.8	244	--	--	--	--	--
05...	1145	1.8	220	7.2	29.0	23.5	--	--
08...	1600	1.4	--	--	--	--	--	--

03198500 - BIG COAL RIVER AT ASHFORD, W. VA. (LAT 38 10 45 LONG 081 42 40)

DEC , 1979

11...	1105	246	420	6.9	15.5	3.5	--	--
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JAN , 1980

28...	1535	985	300	7.2	1.0	4.5	--	--
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APR

23...	1100	521	325	7.0	24.0	15.5	--	--
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JUN

02...	1455	149	420	7.4	28.5	22.0	--	--
-------	------	-----	-----	-----	------	------	----	----

JUL

17...	1110	356	290	6.9	30.0	24.0	--	--
-------	------	-----	-----	-----	------	------	----	----

SEP

03...	1230	108	310	7.3	27.0	25.0	--	--
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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 FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CAC03)
KANAWHA RIVER BASIN--Continued								
03199000 - LITTLE COAL RIVER AT DANVILLE, W. VA. (LAT 38 03 45 LONG 081 50 15)								
NOV , 1979								
06...	1410	402	420	7.6	14.0	9.0	--	--
DEC								
10...	1140	179	800	7.3	10.0	3.0	--	--
12...	1425	167	680	6.4	17.0	8.5	--	--
JAN , 1980								
23...	1500	972	265	6.5	-4.0	4.0	--	--
28...	1225	667	450	6.7	1.0	4.5	--	--
FEB								
12...	1100	194	516	--	--	--	--	--
12...	1115	202	--	--	-1.0	1.0	--	--
28...	1245	605	360	6.7	3.0	6.0	--	--
MAR								
06...	1050	3570	--	--	--	5.0	--	--
07...	1110	1360	188	--	--	6.0	--	--
07...	1300	1170	198	--	--	7.0	--	--
12...	1635	529	380	--	.0	3.5	--	--
12...	1700	528	344	--	--	--	--	--
28...	1945	898	310	6.9	11.5	9.5	--	--
APR								
23...	1415	373	--	--	4.0	8.0	--	--
29...	1725	910	270	--	9.0	10.0	--	--
30...	1350	7960	--	--	--	10.0	--	--
MAY								
28...	2100	188	625	8.0	22.0	22.0	--	--
JUN								
02...	1300	132	720	7.6	27.0	22.0	--	--
26...	1610	66	830	8.6	29.5	26.0	--	--
JUL								
10...	1450	314	430	7.2	--	24.5	--	--
30...	1700	315	270	7.8	31.0	24.0	--	--
SEPT								
02...	1650	76	--	--	27.0	28.5	--	--
04...	1850	71	850	8.1	26.5	27.0	--	--
03199700 - COAL RIVER AT ALUM CREEK, W. VA. (LAT 38 17 11 LONG 081 48 25)								
NOV , 1979								
01...	1350	362	500	7.6	24.0	15.5	--	--
MAR , 1980								
05...	0915	5130	235	--	--	1.0	--	--
13...	1510	1575	248	--	--	--	--	--
APR								
21...	1500	882	--	--	--	16.5	--	--
30...	1200	10200	--	--	--	10.0	--	--
AUG								
19...	1040	--	400	--	--	--	--	--
SEP								
11...	1810	886	290	7.2	23.5	22.5	--	--
11...	1815	--	290	7.2	--	22.5	--	--

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CACO3)
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GUYANDOTTE RIVER BASIN

03202915 - GUYANDOTTE RIVER BELOW R.D. BAILEY DAM (LAT 37 35 53 LONG 081 49 46)

OCT , 1979								
30...	1535	292	--	--	20.5	13.0	--	--
DEC								
12...	1045	326	--	--	--	3.5	--	--
FEB , 1980								
01...	1405	726	360	7.6	-6.0	.5	--	--
MAR								
11...	1330	2080	150	7.2	7.0	8.0	--	--
APR								
22...	1555	66	220	6.9	27.0	11.0	--	--
23...	1040	703	230	7.1	28.0	11.0	--	--
MAY								
01...	1610	7820	--	--	--	--	--	--
JUN								
04...	1030	278	300	7.7	25.5	18.0	--	--
JUL								
24...	0940	733	320	7.5	20.0	25.0	--	--
SEP								
19...	0920	105	370	7.0	18.0	22.0	--	--

TWELVEPOLE CREEK BASIN

03206980 - WEST FORK TWELVEPOLE CREEK ABOVE WAYNE @ ECHO WV (LAT 38 10 52 LONG 082 28 33)

MAY , 1979								
11...	1530	99	70	6.7	--	21.5	--	--
AUG								
10...	0750	36	--	--	--	--	--	--
15...	1330	70	--	--	24.0	--	--	--
SEP								
14...	1515	54	130	6.9	19.0	20.0	--	--
17...	1205	22	130	7.4	22.0	18.0	--	--
NOV								
09...	1545	104	140	6.6	12.0	9.5	--	--
DEC								
18...	1240	205	80	6.9	2.5	3.0	--	--
FEB , 1980								
08...	1150	52	85	6.9	-.5	.5	--	--
27...	0815	184	56	7.0	--	1.5	--	14
MAR								
24...	1605	332	80	6.8	18.5	8.5	--	17
29...	1930	428	220	6.4	12.0	11.5	--	--
APR								
02...	1635	240	80	6.3	--	13.0	--	--
24...	0745	86	89	7.1	--	15.0	6.1	18
MAY								
09...	1125	50	100	6.8	14.0	13.5	--	--
15...	1115	40	120	7.1	18.5	17.0	--	--
21...	0830	85	94	6.9	--	15.0	--	23
JUN								
11...	1530	7.7	160	7.7	24.0	19.5	--	--
19...	0830	66.5	134	7.1	--	16.5	--	38
20...	1135	6.0	220	6.9	17.0	19.0	--	--
JUL								
16...	1235	38	120	7.7	31.0	25.0	--	--
17...	0955	28	109	7.9	--	24.5	--	26
AUG								
01...	1020	7.4	210	7.0	27.0	24.5	--	--
06...	0715	12	168	7.1	--	22.5	--	56
13...	1020	32	140	7.5	24.0	22.5	--	--
17...	1015	--	140	7.5	--	22.5	--	--
22...	1000	256	92	6.9	22.0	22.5	--	20
28...	1020	18	160	6.7	25.5	22.5	--	--
29...	1035	15	150	7.1	25.0	23.0	--	--
SEP								
12...	1000	26	190	7.0	18.0	19.0	--	--
18...	1445	8.3	160	7.5	24.0	21.0	--	--
24...	0915	33	158	7.4	--	19.0	7.9	49

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 FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CACO3)
BIG SANDY RIVER BASIN								
03212600 - TUG FORK AT WELCH W VA (LAT 37 25 00 LONG 081 35 25)								
NOV , 1979								
01...	1055	20	--	--	19.0	13.0	--	--
DEC								
12...	1530	46	--	--	19.0	7.0	--	--
13...	1120	46	740	6.3	--	10.5	--	--
JAN , 1980								
26...	1130	212	500	7.9	4.0	7.0	--	--
30...	1005	133	580	--	-4.0	4.0	--	--
FEB								
25...	1230	100	450	5.8	--	6.5	--	80
29...	1210	97	640	7.8	-2.0	4.0	--	--
MAR								
12...	1105	108	540	8.0	3.0	4.5	--	--
25...	0820	310	370	7.8	--	8.5	--	78
28...	1600	255	420	--	13.0	9.5	--	--
APR								
22...	1440	82	640	8.5	--	16.5	6.2	120
24...	1410	86	625	8.2	25.0	17.5	--	--
29...	1315	242	410	--	9.0	10.0	--	--
30...	1800	1630	204	--	13.0	10.5	--	--
MAY								
19...	1240	76	620	7.9	--	18.0	--	110
28...	1540	56	610	8.2	28.0	20.0	--	--
JUN								
05...	1115	50	810	8.2	18.0	18.0	--	--
17...	1200	21	730	8.3	--	18.5	--	140
26...	1010	28	830	8.1	21.0	18.0	--	--
JUL								
15...	1345	64	520	8.3	--	24.0	--	110
17...	1115	42	575	8.1	31.0	24.0	--	--
30...	1205	31	600	8.2	29.5	22.5	--	--
AUG								
06...	0940	42	550	8.0	--	21.0	7.9	120
19...	0950	30	700	8.0	--	21.0	--	134
SEP								
04...	1435	14	770	8.4	26.5	25.0	--	--
17...	1620	15	900	7.9	23.0	20.5	--	--
22...	1410	10	840	8.3	--	24.0	10.0	170

03212700 - ELKHORN CR AT MAITLAND, W. VA. (LAT 37 25 47 LONG 081 33 08)

OCT , 1979								
31...	1130	44	--	--	19.0	13.0	--	--
DEC								
12...	1440	63	--	--	18.0	10.0	--	--
13...	1150	70	600	6.5	--	11.5	--	--
JAN , 1980								
26...	1155	243	490	7.9	4.5	8.0	--	--
30...	1305	162	500	8.2	-3.0	5.0	--	--
FEB								
25...	1100	143	490	7.6	--	7.5	--	150
29...	1230	126	590	8.2	-3.5	5.5	--	--
MAR								
12...	1350	162	525	8.6	7.0	7.0	--	--
25...	0900	368	396	8.0	--	9.0	--	111
25...	1015	369	--	--	--	--	--	--
28...	1530	322	430	--	15.5	10.0	--	--
APR								
22...	1230	132	575	8.7	--	16.0	--	210
24...	1100	124	575	8.5	20.0	14.5	--	--
29...	1245	541	360	--	10.0	10.5	--	--
30...	1530	1020	223	--	11.0	10.0	--	--
MAY								
19...	1145	132	594	8.2	--	16.0	--	200
28...	1525	166	600	8.4	28.0	17.5	--	--
JUN								
05...	1315	109	650	8.0	27.0	16.5	--	--
17...	1100	66	650	8.0	--	15.5	--	240
26...	0940	60	680	8.4	21.0	16.5	--	--
JUL								
15...	1215	140	520	8.1	--	19.0	--	160
17...	1255	117	580	7.6	34.0	20.5	--	--
30...	1140	87	580	8.3	26.5	18.0	--	--
AUG								
05...	1300	66	622	8.3	--	20.0	8.6	210
19...	0850	64	660	8.3	--	17.5	--	215
SEP								
04...	1410	47	750	8.6	25.5	21.0	--	--
17...	1740	40	680	8.0	24.0	19.0	--	--
22...	1130	33	740	8.5	--	20.0	10.4	270

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LITY (MG/L AS CAC03)
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BIG SANDY RIVER BASIN--Continued

03212985 - DRY FORK AT AVONDALE, WV. (LAT 37 25 32 LONG 081 47 22)

OCT , 1979								
31...	1500	51	--	--	19.0	15.0	--	--
DEC								
12...	1405	92	--	--	18.5	7.0	--	--
13...	1300	120	550	7.4	--	9.5	--	--
JAN , 1980								
26...	1025	470	355	--	4.5	7.0	--	--
31...	1355	260	430	8.0	-3.0	1.5	--	--
FEB								
25...	1415	284	318	7.1	--	8.0	12.2	93
29...	1330	228	340	8.6	-.5	4.5	--	--
MAR								
19...	1715	922	300	8.0	17.0	9.5	--	--
25...	1150	798	260	7.9	--	9.5	--	72
25...	1300	799	--	--	--	--	--	--
28...	1700	592	315	7.1	11.0	10.0	--	--
APR								
22...	1405	283	440	8.4	26.0	18.0	--	--
22...	1615	276	445	9.2	--	18.0	7.0	130
29...	1400	840	250	--	9.0	10.5	--	--
MAY								
01...	0900	2160	--	--	20.5	10.0	--	--
19...	1430	240	500	8.3	--	21.0	--	170
28...	1640	230	525	8.8	29.5	22.0	--	--
JUN								
02...	1810	157	625	8.9	27.0	25.0	--	--
17...	1340	82	770	8.5	--	22.5	--	270
26...	1110	90	800	8.6	24.0	21.0	--	--
JUL								
15...	1600	167	378	8.2	--	27.0	--	120
16...	1310	136	475	8.2	32.0	28.0	--	--
30...	1305	84	640	8.6	30.0	25.5	--	--
AUG								
07...	1800	106	578	8.5	--	27.0	7.4	220
19...	1230	301	650	8.3	--	23.5	--	217
SEP								
04...	1540	46	730	8.3	31.0	28.5	--	--
08...	1545	54	825	8.1	29.0	26.5	--	--
22...	1615	42	840	8.6	--	24.0	8.6	300

03213800 - PIGEON CREEK NR LENORE, W. VA. (LAT 37 47 13 LONG 082 15 44)

NOV , 1979								
07...	1640	96	280	7.9	8.0	10.0	--	--
DEC								
12...	1355	42	430	7.6	19.5	9.5	--	--
FEB , 1980								
05...	1455	68	420	7.6	.5	.5	--	--
26...	1110	210	222	6.1	--	2.0	--	34
MAR								
26...	1020	359	150	7.5	--	7.0	--	33
29...	1515	284	240	7.2	19.5	13.0	--	--
APR								
02...	1330	182	220	7.2	22.0	14.0	--	--
23...	1045	106	290	7.7	--	15.5	5.9	56
MAY								
07...	1740	82	320	8.1	23.0	20.5	--	--
15...	1430	45	480	8.4	21.0	19.0	--	--
20...	1030	40	480	7.7	--	17.5	--	100
JUN								
11...	1300	175	840	8.3	24.0	19.0	--	--
18...	1015	14	750	8.0	--	18.5	--	160
18...	1450	14	800	7.9	25.0	22.5	--	--
JUL								
16...	1200	28	507	8.2	--	25.5	--	120
16...	1720	27	500	8.2	37.5	30.0	--	--
29...	1530	28	310	7.5	30.0	25.5	--	--
AUG								
08...	1115	26	468	8.1	--	24.0	--	110
13...	1440	20	540	8.2	29.5	26.0	--	--
20...	1040	141	220	7.7	--	21.5	--	41
SEP								
10...	1215	99	340	7.1	21.0	22.0	--	--
18...	1115	28	540	8.3	19.0	21.0	--	--
23...	1210	89	295	7.6	--	21.0	8.3	54

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 FIELD (UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE, WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	ALKA- LINITY (MG/L AS CAC03)
BIG SANDY RIVER BASIN--Continued								
03214700 - ROCKCASTLE CREEK AT INEZ,KY. (LAT 37 52 05 LONG 082 32 32)								
NOV , 1979								
08...	1410	57	200	7.2	10.0	8.0	--	--
DEC								
06...	0950	44	260	--	6.0	4.0	--	--
12...	1550	29	--	--	--	9.0	--	--
13...	1005	1460	115	6.6	7.5	9.0	--	--
13...	1225	1910	105	6.1	8.0	9.0	--	--
13...	1610	2030	115	5.7	7.5	9.0	--	--
13...	1735	1870	--	--	--	--	--	--
JAN , 1980								
04...	1335	70	--	--	--	3.5	--	--
FEB								
06...	1640	44	1050	7.1	1.0	.0	--	--
26...	1405	149	153	6.0	--	3.5	--	24
MAR								
20...	1110	100	130	7.2	10.0	7.5	--	--
APR								
01...	1800	--	166	--	--	12.0	--	--
02...	0845	--	141	--	--	10.0	--	--
02...	1455	131	160	6.5	--	15.0	--	--
03...	1840	--	148	--	--	16.0	--	--
04...	1525	--	168	--	--	12.0	--	--
23...	1315	59	233	7.5	--	19.5	5.6	37
MAY								
08...	1755	28	320	7.0	17.0	18.0	--	--
15...	1545	19	360	7.9	24.0	20.0	--	--
20...	1320	32	283	7.2	--	17.5	--	48
JUN								
11...	1140	8.5	430	7.8	65.0	21.0	--	--
16...	1335	8.5	400	7.4	21.0	21.0	--	--
18...	1315	6.2	420	7.8	--	26.0	--	80
JUL								
16...	1600	16	426	7.8	36.5	31.5	--	66
30...	1345	8.5	530	7.0	29.0	28.5	--	--
AUG								
07...	1010	12	379	7.6	--	25.5	--	72
13...	1315	9.5	500	8.1	30.5	28.0	--	--
SEPT								
11...	1440	16	450	7.3	26.0	24.0	--	--
18...	1220	5.9	500	8.0	21.0	21.0	--	--
23...	1530	27	540	7.8	--	21.0	8.3	91

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 1980

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Measurement	
					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, 1978-80	10-24-79 7-03-80	19 14

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 1980

						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 southeast of Weston, and at mile 3.0	25.7	1946-60*, 1961-80a	5-21-80	6.90	1,440
03062500	Deckers Creek at Morgan- town, WV	Lat 39°37'45", long 79°57'10", Monongalia County, Hydrologic Unit 05020003, on left bank at Kingwood Street, 0.6 mile up- stream from mouth.	63.2	1946-69*, 1972, 1980	8-18-80	12.36	7,550
Kings Creek basin							
03110830	Kings Creek at Weirton, WV	Lat 40°26'08", long 80°35'34", Hancock County, Hydrologic Unit 05030101, at County road bridge 0.2 mile upstream from State Highway 2, and at mile 1.4.	49.0	1976-78*, 1980	8-18-80	12.48	5,200

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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Annual maximum discharge at crest-stage partial-record stations during water year 1980 (continued)

Station No.	Station name	Location	Drainage area (mi ²)	Period of Record	Date	Gage height (feet)	Dis- charge (ft ³ /s)
		Little Grave Creek basin					
03113700	Little Grave Creek near Glendale, WV	Lat 39°57'50", long 80°42'04", Marshall County, Hydrologic Unit 05030106, on right bank 0.1 mi downstream from Brendan Hollow, 2.9 mi northeast of Glendale, and at mile 6.1.	4.97	1969-77*, 1980	8-18-80	6.86	1,120
		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*, 1963-80a	7-28-80	12.38	12,600

* Not detected.

* Operated as a continuous-record gaging station

a Recorder chart on file in district office.

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES
DISCHARGE MEASUREMENTS MADE AT MISCELLANEOUS SITES DURING WATER YEAR 1979
in West Virginia

Stream	Tributary to	Location	Drainage area (mi ²)	Measured previously (water years)	Date	Discharge (ft ³ /s)
Monongahela River basin						
Lost Creek	West Fork River	Lat 39°09'25", long 80°20'47", Harrison County, Hydrologic Unit 05020002, 0.6 mile upstream from Bonds Creek at Lost Creek, and at mile 6.4.	9.42	1979	3-24-80 8-09-80 8-19-80	18 1,100 204
Bonds Creek	Lost Creek	Lat 39°09'25", long 80°21'22", Harrison County, Hydrologic Unit 05020002, 800 feet upstream from mouth, at Lost Creek.	0.82	--	8-9-80	1,950
Dunkard Creek	Monongahela River	Lat 39°42'39", long 80°10'42", Monongalia County, Hydrologic Unit 05020005, 0.5 mile upstream from Days Run, at Pentress, and at mile 28.8.	115	--	8-18-80	19,000
Wheeling Creek basin						
Little Wheeling Creek	Wheeling Creek	Lat 40°03'26", long 80°37'10", Ohio County, Hydrologic Unit 05030106, at bridge on U. S. Route 40 at Tridelpia, and at mile 2.2.	19.7	1979	3-25-80 8-18-80 8-21-80	57 4,900 79
Wheeling Creek	Ohio River	Lat 40°01'53", long 80°39'08", Ohio County, Hydrologic Unit 05030106, 1.3 miles upstream from Little Wheeling Creek, at Elm Grove, and at mile 9.1.	220	--	8-18-80	9,700
Grave Creek basin						
Grave Creek	Ohio River	Lat 39°50'05", long 80°36'02", Marshall County, Hydrologic Unit 05030106, 0.4 mile upstream from North Fork, at Loudenville, and at mile 17.6.	7.5	1979	3-25-80 8-18-80 8-21-80	21 1,120 18

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- TOCOCCHI FECAL, KF AGAR (COLS. PER 100 ML)
------	------	---	--	--	---

395259080373701 - MIDDLE GRAVE CR AB KNOXVILLE, WV (LAT 39 52 59 LONG 080 37 37)

JUN , 1980					
24...	1410	.95	1400	11000	830
JUL					
29...	1245	2.4	3000	26000	6000
AUG					
26...	1000	3.0	330	1800	1000

395318080381701 - GOSNEY RN AT MOUTH AT KNOXVILLE, WV (LAT 39 53 18 LONG 080 38 17)

JUN , 1980					
24...	1320	.27	2800	5800	2900
JUL					
29...	1140	.78	560	3700	1200
AUG					
26...	1100	.73	820	7800	970

395320080381001 - WHITNEY RN AT MOUTH AT KNOXVILLE, WV (LAT 39 53 20 LONG 080 38 10)

JUN , 1980					
24...	1400	.80	660	1600	320
JUL					
29...	1215	2.0	220	810	520
AUG					
26...	1030	2.0	280	880	560

ANALYSES OF SAMPLES COLLECTED AT MISCELLANEOUS SITES
KANAWHA RIVER BASIN

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT DIS- CHARGE, SUS- PENDE (T/DAY)
------	------	---	--	---	--

380949081505401 - LITTLE HEWITT CR U/S FROM CORRIDOR G @ JULIAN WV (LAT 38 09 49 LONG 081 50 54)

APR , 1980					
14...	1545	26	176	820	58
30...	1235	9.4	259	326	8.3
MAY					
23...	1230	1.7	329	15	.07
JUN					
06...	1240	30	202	1260	102
16...	1215	1.0	405	33	.09
JUL					
09...	1125	1.0	362	38	.10
AUG					
19...	1145	1.3	336	42	.15

380951081510101 - LITTLE HEWITT CR D/S FROM CORRIDOR G @ JULIAN WV (LAT 38 09 51 LONG 081 51 01)

APR , 1980					
14...	1545	26	173	763	54
MAY					
23...	1240	1.7	343	146	.67
JUN					
16...	1145	1.0	435	38	.10

GROUND-WATER RECORDS

GROUND-WATER LEVELS

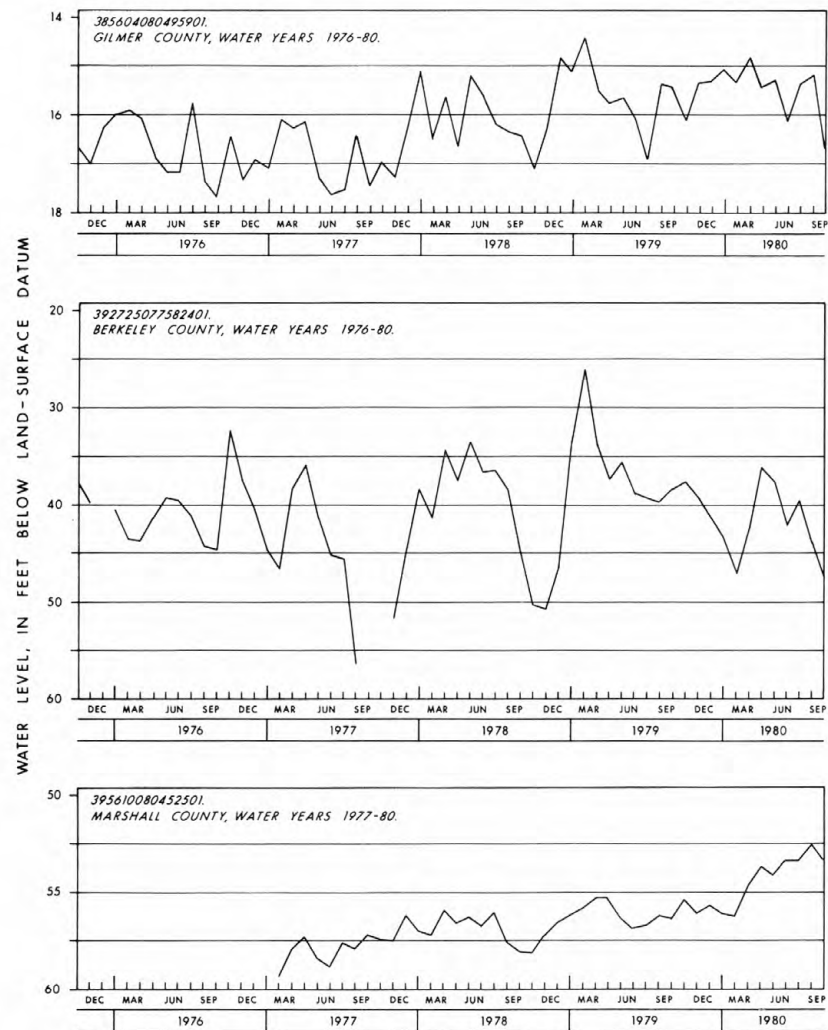


Figure 5.--End of month water levels for selected observation wells.

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 Limestown 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.--Water-level record doubtful Mar. 15-17.

PERIOD OF RECORD.--November 1956 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.00 ft (7.01 m), estimated, 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 1979 TO SEPTEMBER 1980
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	34.50	36.47	39.86	42.29	44.01	47.45	40.13	35.25	38.23	42.66	41.10	43.76
10	32.77	37.40	40.52	42.82	44.81	47.92	40.76	36.32	38.96	40.54	41.72	44.61
15	34.18	38.07	40.74	42.37	45.54	47.88	39.93	37.31	39.94	41.42	42.38	45.35
20	36.05	38.98	41.69	42.06	46.31	46.31	39.57	37.33	40.11	42.37	42.08	46.15
25	36.70	39.81	41.27	42.56	46.66	44.31	39.26	36.09	41.36	38.08	43.08	46.63
EOM	37.88	39.03	41.52	43.32	47.15	42.55	36.10	37.69	42.17	39.94	44.00	47.26
WTR YR 1980	HIGH	32.27	OCT 11	LOW	48.29	MAR 14						

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 (weekly water-level measurements).

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 1979 TO SEPTEMBER 1980

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1979	73.53	JAN 02, 1980	73.40	APR 02, 1980	73.11	JUL 02, 1980	73.59
10	73.28	09	73.44	09	73.10	09	73.61
17	73.20	16	73.38	16	73.10	16	73.64
24	73.33	23	73.33	23	73.08	23	73.65
31	73.45	31	73.33	30	73.13	30	73.71
NOV 07	73.46	FEB 06	73.41	MAY 07	73.21	AUG 06	73.76
14	73.46	13	73.43	14	73.28	13	73.78
21	73.46	20	73.47	21	73.38	20	73.78
28	73.46	27	73.38	28	73.41	27	73.76
DEC 05	73.44	MAR 05	73.26	JUN 04	73.44	SEP 03	73.74
12	73.43	12	73.20	11	73.46	10	73.73
19	73.36	19	73.13	18	73.49	17	73.74
26	73.37	26	73.13	25	73.53	24	73.77

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 (weekly water-level measurements).

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 1979 TO SEPTEMBER 1980

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1979	15.49	JAN 07, 1980	15.68	APR 14, 1980	15.22	JUL 21, 1980	15.79
08	15.16	14	15.02	21	15.32	28	15.39
15	15.11	21	15.06	28	15.43	AUG 04	15.83
22	15.66	28	15.06	MAY 05	15.06	11	15.89
29	16.12	FEB 04	15.51	12	15.76	18	15.99
NOV 05	15.78	11	15.86	20	16.11	25	15.20
12	15.95	18	15.90	26	15.28	SEP 02	15.88
20	16.03	24	15.33	JUN 02	15.66	08	15.32
26	15.38	MAR 03	15.60	09	15.40	15	15.98
DEC 03	15.68	10	14.94	16	15.42	22	16.40
10	16.11	17	14.91	25	15.90	29	16.69
17	15.34	24	14.97	30	16.17		
24	15.53	31	14.82	JUL 07	15.83		
31	15.35	APR 07	14.97	14	15.30		

GROUND-WATER LEVELS

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 vein 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.

PERIOD OF RECORD.--June 1978 to current year (water-level recorder).

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 1979 TO SEPTEMBER 1980
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	8.84	8.28	8.74	8.44	9.67	8.73	6.88	7.01	7.80	8.97	9.12	8.42
10	7.89	8.02	8.95	8.59	10.04	8.25	6.89	7.03	7.81	9.47	9.19	8.97
15	6.77	8.04	9.16	8.78	10.30	7.80	6.76	7.37	7.77	9.19	9.25	9.41
20	6.64	8.12	9.20	8.78	10.51	7.80	6.76	8.02	7.52	8.75	8.65	9.76
25	6.85	8.30	9.14	8.59	10.12	7.27	6.79	8.13	7.54	8.80	7.90	10.07
EOM	7.90	8.47	8.58	8.86	8.95	7.28	6.99	7.73	7.83	8.97	7.99	10.39

WTR YR 1980 HIGH 6.63 OCT 17 AND OTHERS LOW 10.56 FEB 22 AND OTHERS

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 (weekly water-level measurements).

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 1979 TO SEPTEMBER 1980

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06, 1979	5.74	JAN 05, 1980	5.72	APR 05, 1980	5.06	JUL 05, 1980	5.92
13	5.25	12	5.42	12	5.35	12	5.22
20	5.80	19	4.76	19	5.51	19	5.92
27	5.73	26	5.43	25	5.62	26	6.00
NOV 03	4.92	FEB 02	5.76	MAY 03	5.42	AUG 02	6.00
10	5.45	09	5.83	10	5.71	09	5.98
17	5.56	16	5.43	17	5.82	16	6.00
24	5.73	23	5.61	24	5.60	23	5.35
DEC 01	5.58	MAR 01	5.79	31	5.20	30	5.93
08	5.78	08	4.90	JUN 07	5.55	SEP 06	5.90
15	5.80	15	5.49	15	5.90	13	6.02
22	5.88	22	5.05	21	6.00	20	5.83
29	5.57	29	4.99	28	6.20	27	5.77

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 Nov. 17 to Dec. 8, Dec. 29 to Jan. 28, Feb. 6-17, Mar. 2-5, 7-17, Apr. 20-26, May 2, 7-22, May 26 to June 9, June 14 to July 21, July 25 to Sept. 9, and Sept. 15-18. Records poor.

PERIOD OF RECORD.--February 1972 to current year (water-level recorder).

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), estimated, below land surface datum, July 15, 1973.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
NOON VALUES FROM GRAPHIC RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	.68	.85	---	---	9.71	---	1.32	4.05	---	---	---	---
10	.58	5.80	10.50	---	---	---	4.30	---	11.53	---	---	13.10
15	1.60	5.96	8.44	---	---	---	3.48	---	---	---	---	---
20	8.58	---	10.51	---	10.63	.80	---	---	---	---	---	13.97
25	9.24	---	.69	---	3.63	1.02	---	5.73	---	---	---	14.05
EOM	10.72	---	---	9.61	5.32	.73	.48	---	---	---	---	14.22

WTR YR 1980 HIGH .48 APR 30 LOW 14.22 SEP 28 AND OTHERS

GROUND-WATER LEVELS

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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 (595 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of well casing, 0.9 ft (0.27 m) above land-surface datum.

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 (80.16 m), estimated, below land-surface datum, July 15, 1972; lowest, 174.15 ft (83.56 m), estimated, below land-surface datum November 6, 1970.

NOTE.--Water-level measurement Oct. 2, 1979, 269.35 ft below land-surface datum. Water-level measurement Apr. 29, 1980, 264.90 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. 3, 1979, 21.25 ft below land-surface datum. Water-level measurement Mar. 25, 1980, 20.60 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 Nov. 25, 30, Dec. 5, 15, 25, Jan. 5, 20, 25, Feb. 5, 10, Mar. 20, Apr. 5, 30, May 10, 25, June 5, 15, July 20, Aug. 10, and Sept. 20, 25. Some unpublished daily values also missing.

PERIOD OF RECORD.--April to December 1978 (periodic water-level measurements), December 1978 to current year (daily water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 178.63 ft (54.45 m) below land-surface datum, Sept. 29, 1980; 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 1979 TO SEPTEMBER 1980
DAILY WATER-LEVEL MEASUREMENTS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	192.00	191.95	*190.80	*190.20	*189.50	187.70	*185.00	183.42	*183.70	181.95	180.79	179.67
10	192.10	191.57	191.09	190.43	*188.90	187.79	184.43	*183.75	183.16	181.56	*180.45	179.47
15	192.18	191.51	*191.00	190.20	188.74	187.88	184.11	182.52	*182.90	181.60	180.10	178.90
20	192.18	191.55	190.85	*189.90	188.45	*187.35	183.98	182.98	182.85	*181.35	179.97	*179.15
25	191.77	*191.07	*190.40	*189.30	188.60	186.14	183.47	*183.55	182.57	181.23	180.07	*178.75
EOM	191.95	*191.07	190.26	189.64	188.53	184.95	*182.90	183.88	182.06	180.84	179.73	178.65

WTR YR 1980 HIGH 178.60 SEP 28 LOW 192.41 OCT 8

* Estimated.

GROUND-WATER LEVELS

MARION COUNTY--Continued

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 Oct. 1, 2, Nov. 30 to Jan. 3, Feb. 8 to Mar. 7, and May 23 to July 18. Records poor.

PERIOD OF RECORD.--June 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 1979 to SEPTEMBER 1980
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	39.69	41.30	*43.40	41.81	42.28	*39.00	26.61	42.71	*29.00	*45.60	43.47	32.68
10	23.84	43.21	*45.30	40.62	*43.80	32.02	30.13	44.14	*38.00	*34.00	46.48	46.42
15	35.50	42.89	*33.00	39.30	*43.40	38.50	24.85	43.42	*43.20	*44.80	40.03	44.76
20	41.08	44.78	*42.80	38.52	*42.00	31.96	40.28	43.64	*42.00	48.17	34.53	49.04
25	43.15	41.19	*30.00	40.36	*36.60	37.54	42.48	*26.60	*45.50	45.12	42.67	49.97
EOM	45.53	*40.80	*39.40	41.04	*43.00	23.72	41.07	*40.00	*45.60	30.90	46.58	50.66

WTR YR 1980 HIGH 19.97 AUG 18 LOW 50.66 SEP 30

* 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 discontinued Jan. 14, 1977. Water-level data Feb. 23, 1977 to Sept. 25, 1979 and well depth 94 ft, Apr. 30, 1980, published in error. See well 395610080452501, Marshall County, for corrected values.

PERIOD OF RECORD.--June 1950 to August 1965 (water-level recorder), January 1967 to August 1968 (water-level recorder), August 1968 to January 1977 (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.

395610080452501. Local number, 4-3-7.

LOCATION.--Lat 39°56'10", long 80°45'25", Hydrologic Unit 05030106, on U.S. Highway 250, Glendale.

Owner: Triangle PWC, Inc. (Plant Well #1).

AQUIFER.--Gravel.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 10 in (0.25 m), depth 98 ft (29.9 m), cased.

DATUM.--Land-surface datum is about 640 ft (195 m) National Geodetic Vertical Datum of 1929. Measuring point: Top of casing at land-surface datum.

REMARKS.--Well depth 94 ft (28.7 m), Apr. 30, 1980. Water-quality sample taken on Apr. 30, 1980, water level 53.35 ft (16.26 m) below land-surface datum.

PERIOD OF RECORD.--February 1977 to current year (weekly water-level measurements).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 52.53 ft (16.01 m) below land-surface datum, Aug. 27 and Sept. 2, 1980; lowest measured, 59.37 ft (18.10 m) below land-surface datum, Feb. 23, 1977.

REVISED RECORDS.--WDR WV-80-1: 1977-79 (water levels, published in error as well number 395608080452301, Marshall County).

GROUND-WATER LEVELS

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MARSHALL COUNTY (Continued)

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEARS OCTOBER 1976 TO SEPTEMBER 1979

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 23, 1977	59.37	OCT 19, 1977	57.29	JUN 13, 1978	56.05	FEB 06, 1979	56.32
MAR 01	58.75	24	57.49	21	56.50	13	56.80
08	58.57	NOV 02	57.59	28	56.75	20	56.17
14	58.50	09	57.64	JUL 05	56.58	27	55.80
22	58.07	15	57.58	12	56.02	MAR 07	54.56
29	57.99	22	57.65	19	55.40	14	54.00
APR 04	57.77	29	57.50	26	56.05	21	54.82
11	57.48	DEC 06	57.02	AUG 02	56.42	28	55.36
20	57.39	13	57.12	09	56.77	APR 04	55.12
25	57.37	22	56.40	16	57.00	11	54.86
MAY 03	57.55	29	56.27	25	57.45	18	55.14
10	57.69	JAN 03, 1978	56.10	31	57.51	25	55.33
18	57.93	10	56.36	SEP 07	57.58	MAY 02	55.55
23	58.17	16	56.55	13	57.66	09	55.92
31	58.48	23	57.00	19	57.95	16	56.29
JUN 08	58.67	FEB 01	56.86	26	58.06	23	56.51
16	58.84	08	56.55	OCT 04	58.12	30	56.36
23	59.05	15	56.88	11	58.20	JUN 06	56.65
29	58.82	24	57.17	18	58.30	13	56.78
JUL 06	58.55	MAR 01	57.40	25	58.17	20	56.87
14	58.31	08	57.75	NOV 01	58.08	27	56.98
21	57.87	15	57.35	08	57.95	JUL 05	57.17
28	57.55	22	56.68	15	57.58	12	57.35
AUG 03	57.73	29	55.90	22	57.35	19	57.14
10	57.90	APR 04	55.85	29	57.25	24	56.70
17	57.95	11	56.13	DEC 06	57.27	31	56.75
24	58.18	18	56.30	13	56.70	AUG 05	56.79
31	57.97	24	56.60	20	56.60	15	56.89
SEP 07	57.75	MAY 02	56.93	27	56.55	23	56.69
14	57.48	09	57.08	JAN 03, 1979	56.35	29	56.31
21	57.37	17	56.47	10	56.30	SEP 05	56.51
28	57.22	24	56.32	17	56.52	12	56.66
OCT 05	57.15	31	56.22	24	56.20	18	56.48
12	57.05	JUN 06	56.00	31	56.12	25	56.47

WATER YEAR 1980

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1979	56.24	JAN 04, 1980	55.60	APR 10, 1980	53.79	JUL 15, 1980	53.97
09	55.98	11	55.50	16	53.33	23	53.60
16	55.55	18	56.59	23	53.57	30	53.43
23	55.73	23	56.73	30	53.57	AUG 06	53.14
30	55.45	30	56.05	MAY 07	54.17	13	52.73
NOV 07	55.73	FEB 06	56.25	14	54.54	20	52.64
14	55.85	13	56.32	21	53.89	27	52.53
20	55.93	20	56.29	27	54.09	SEP 02	52.53
27	56.02	27	56.25	JUN 04	53.70	09	52.83
DEC 04	56.03	MAR 05	55.95	10	53.62	16	52.97
11	55.88	12	55.56	17	53.55	22	53.15
18	55.81	19	55.12	24	53.45	29	53.44
23	55.76	26	54.69	JUL 01	53.58		
31	55.70	APR 02	54.35	08	53.83		

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	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)
APR 30...	1130	3000	6.4	14.0	1600	1300	468	100	180	20	2.1	5.6
DATE	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)
APR 30...	250	1500	290	.1	16	3150	2720	4.28	.01	.010	50	<0
DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	
APR 30...	3	<3	<10	4500	150	9	320	<10	760	<6.0	54	

GROUND-WATER LEVELS

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.

REMARKS.--Water-quality sample taken on May 6, 1980, water level 36.87 ft (11.24 m) below land-surface datum.

PERIOD OF RECORD.--May 1958 to current year (weekly water-level measurements).

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 1979 TO SEPTEMBER 1980

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 05, 1979	36.56	JAN 11, 1980	36.89	APR 10, 1980	37.14	JUL 10, 1980	37.18
12	36.60	18	36.95	17	37.22	17	37.22
19	36.56	25	37.00	24	37.19	31	36.91
26	36.62	FEB 01	37.04	MAY 01	36.95	AUG 07	36.89
NOV 02	36.66	08	37.08	08	36.97	14	36.74
09	36.67	15	37.06	15	36.99	21	36.82
16	36.70	22	37.04	22	36.89	28	36.77
23	36.70	29	37.29	29	36.92	SEP 04	36.90
30	36.68	MAR 07	37.20	JUN 05	36.92	11	36.95
DEC 07	36.66	14	37.40	12	36.99	18	36.92
14	36.63	21	37.40	19	36.99	25	36.84
21	36.59	27	37.22	26	37.03		
JAN 04, 1980	36.80	APR 03	37.20	JUL 03	37.05		

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SAMP- LING DEPTH (FT)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L AS CA)	CALCIUM SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	SODIUM PERCENT
MAY 06...	1200	73.0	90	6.2	14.0	29	9	7.1	2.8	5.6	29
DATE		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)	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, DIS- SOLVED (TONS PER AC-FT)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)
MAY 06...		.5	.9	20	11	2.9	.1	22	74	.10	1.1
DATE		NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH4)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (MG/L AS AL)	BARIUM, DIS- SOLVED (MG/L AS BA)	BERYL- LIUM, DIS- SOLVED (MG/L AS BE)	CADMIUM DIS- SOLVED (MG/L AS CD)
MAY 06...		.000	.00	.38	.38	1.5	.010	100	20	0	4
DATE		COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	NESE, DIS- SOLVED (UG/L AS MN)	DENUM, DIS- SOLVED (UG/L AS MO)	TIUM, DIS- SOLVED (UG/L AS SR)	DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)
MAY 06...		0	150	41	0	0	19	0	36	.0	13

GROUND-WATER LEVELS

463

MASON COUNTY--Continued

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.
 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, 23.26 ft (7.09 m) below land-surface datum, Aug. 22-25, 1980; 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 1979 TO SEPTEMBER 1980
 NOON VALUES FROM GRAPHIC RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.64	23.72	23.87	23.90	23.95	23.94	23.61	23.57	23.81	23.98	23.40	23.35
10	23.61	23.72	23.89	23.90	23.97	23.90	23.58	23.62	23.83	23.81	23.33	23.40
15	23.62	23.75	23.86	23.89	24.00	23.85	23.52	23.67	23.88	23.67	23.38	23.46
20	23.66	23.80	23.88	23.90	23.98	23.79	23.57	23.70	23.91	23.66	23.31	23.55
25	23.68	23.83	23.86	23.87	23.97	23.73	23.57	23.71	23.97	23.61	23.27	23.59
EOM	23.71	23.83	23.90	23.92	23.96	23.66	23.53	23.77	24.01	23.43	23.30	23.63

WTR YR 1980 HIGH 23.26 AUG 22 AND OTHERS LOW 24.03 JUL 2

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 (weekly water-level measurements).
 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.
 REVISED RECORDS.--WDR WV-79-1: 1977-78 (water levels).

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 10, 1979	2.29	JAN 09, 1980	0.00	APR 09, 1980	0.00	JUL 09, 1980	0.00
17	0.68	16	0.00	16	0.00	16	0.00
24	1.03	23	0.00	23	0.00	23	0.00
31	0.00	30	0.00	30	0.00	30	0.00
NOV 07	0.00	FEB 06	0.00	MAY 07	0.00	AUG 06	0.00
14	0.29	13	0.00	14	0.00	13	0.00
21	0.00	20	0.00	21	0.00	20	0.00
28	0.00	27	0.00	28	0.00	27	0.00
DEC 05	0.00	MAR 05	0.00	JUN 04	0.00	SEP 03	0.00
12	0.00	12	0.00	11	0.00	10	0.00
19	0.00	19	0.00	18	0.00	17	0.00
26	0.00	26	0.00	25	0.00	24	0.00
JAN 02, 1980	0.00	APR 02	0.00	JUL 02	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. 4, 1979, 0.03 ft above land-surface datum. Water-level measurement Mar. 19, 1980, 0.46 ft above land-surface datum.

GROUND-WATER LEVELS

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 (weekly water-level measurements).

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 1979 TO SEPTEMBER 1980

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 02, 1979	7.72	JAN 08, 1980	7.68	APR 15, 1980	7.70	JUL 22, 1980	7.57
09	7.46	15	7.61	22	7.82	29	7.66
16	7.49	22	7.59	29	7.96	AUG 05	7.09
23	7.67	29	7.95	MAY 06	8.03	12	7.23
30	8.06	FEB 05	8.16	13	8.36	19	6.36
NOV 06	8.00	12	8.13	20	7.68	26	6.65
13	7.96	19	8.38	27	7.83	SEP 02	6.37
20	8.08	26	7.85	JUN 03	7.53	09	7.09
27	7.83	MAR 04	7.35	10	7.48	16	6.66
DEC 04	7.89	11	7.27	17	7.98	23	6.42
11	7.86	18	7.06	24	8.05	30	6.87
18	7.59	25	7.46	JUL 01	8.71		
24	7.69	APR 01	7.24	08	8.02		
JAN 01, 1980	7.69	08	7.54	15	7.79		

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.--Doubtful-or-no water-level record Nov. 27-30, Dec. 13-28, June 1-3, July 27-29 and Aug. 28, 29.

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 1979 TO SEPTEMBER 1980
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	49.07	49.32	54.00	51.85	60.35	50.01	49.47	50.85	49.24	67.67	50.91	68.47
10	46.94	50.51	54.31	53.31	60.93	47.72	49.25	55.16	49.78	68.46	62.60	70.43
15	47.64	51.39	*56.70	47.18	64.70	49.65	50.16	50.15	52.07	65.50	54.96	70.38
20	58.47	57.21	*57.20	48.26	49.66	48.76	50.93	49.03	53.43	71.16	45.85	70.42
25	65.08	48.35	*48.80	51.60	48.60	50.21	53.92	49.47	61.65	71.86	51.81	70.69
EOM	66.70	50.35	49.23	54.26	50.96	49.52	49.80	53.05	64.68	49.68	65.71	70.28

WTR YR 1980 HIGH 45.85 AUG 20 LOW 72.03 JUL 27

* Estimated.

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 (weekly water-level measurements).

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 1979 TO SEPTEMBER 1980

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1979	52.10	JAN 02, 1980	52.10	APR 02, 1980	51.20	JUL 02, 1980	51.80
10	51.90	09	52.00	09	51.30	09	51.70
17	51.80	16	52.10	16	51.30	16	51.90
24	51.90	23	51.90	23	51.40	23	52.00
31	52.00	30	51.70	30	51.20	30	51.90
NOV 07	52.10	FEB 06	51.80	MAY 07	51.50	AUG 06	52.00
14	51.90	13	51.60	14	51.30	13	51.80
21	52.00	20	51.90	21	51.40	20	51.90
28	52.10	27	51.70	28	51.20	27	52.10
DEC 05	52.20	MAR 05	51.50	JUN 04	51.40	SEP 03	51.90
12	52.00	12	51.30	11	51.50	10	52.00
19	51.90	19	51.40	18	51.60	17	52.10
26	52.20	26	51.30	25	51.70	24	52.00

GROUND-WATER LEVELS

465

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 Feb. 28 to Apr. 28. Records fair.

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, 29.14 ft (8.88 m) below land-surface datum, May 21, 1980; 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 1979 TO SEPTEMBER 1980
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	32.25	33.24	33.57	33.48	33.62	*32.58	*33.00	33.06	33.20	33.60	33.89	33.70
10	32.30	33.40	33.65	33.58	33.57	*33.15	*32.82	33.24	33.07	33.11	33.70	34.05
15	33.23	33.48	33.60	32.73	33.56	*32.50	*32.72	33.21	33.24	33.47	33.85	34.76
20	33.38	33.58	33.66	33.39	33.60	*32.52	*33.12	32.99	33.35	33.30	33.49	34.08
25	33.41	33.58	32.34	33.49	33.42	*33.02	*33.00	32.01	33.42	33.60	33.74	33.76
EOM	33.51	33.50	33.53	33.56	*33.62	*32.50	32.35	32.95	33.52	33.46	33.99	34.38

WTR YR 1980 HIGH 30.07 JUL 8 LOW 34.85 SEP 16

* Estimated.

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", long 80°15'53", 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), cased with steel.

DATUM.--Land-surface datum is about 3,000 ft (914 m) National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, 0.65 ft (0.20 m) above land-surface datum. Prior to May 28, 1980 measuring point was top of casing at land-surface datum.

PERIOD OF RECORD.--December 1970 to January 1976 (weekly water-level measurements), April 1978 to May 1980 (periodic water-level measurements), May 1980 to current year (water-level recorder). Published as local well number "44-4-1", 1973-78.

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 Oct. 24, 1979, 66.81 ft below land-surface datum. Water-level measurement Mar. 10, 1980, 68.54 ft below land-surface datum.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5								---	69.53	69.83	69.91	69.69
10								---	69.52	69.80	69.90	69.72
15								---	69.65	69.84	69.94	69.70
20								---	69.74	69.87	69.63	69.76
25								---	69.78	69.87	69.63	69.77
EOM								69.38	69.81	69.89	69.69	69.78

WTR YR 1980 HIGH 69.27 AUG 19 LOW 69.95 AUG 17

GROUND-WATER LEVELS

POCAHONTAS COUNTY--Continued

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. Well discontinued this water year. Well sealed during September 1980.
 PERIOD OF RECORD.--December 1970 to November 1975 (weekly water-level measurements), April 1978 to September 1980 (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.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

OCT 24, 1979 18.74; MAR 10, 1980 18.22; MAY 28, 1980 18.65; SEP 04, 1980 20.71.

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 1979 TO SEPTEMBER 1980

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 25, 1979	67.42	JAN 28, 1980	66.80	APR 29, 1980	67.19	JUL 29, 1980	66.65
NOV 28	66.28	FEB 25	65.57	MAY 27	67.24	AUG 19	64.03
DEC 28	66.67	MAR 23	66.48	JUN 20	66.75	SEP 29	94.98

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 to current year.
 PERIOD OF RECORD.--April 1971 to January 1977 (water-level recorder), January 1977 to June 1978 (periodic 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, Mabscoff.
 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.--No water-level measurements this year.

GROUND-WATER LEVELS

467

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 Oct. 4, 1979, 11.61 ft below land-surface datum. Water-level measurement Mar. 23, 1980, 11.47 ft below land-surface datum.

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.--U.S. Geological Survey Test Well No. 1. Geologic log, aquifer test data, and periodic water-quality data available.

PERIOD OF RECORD.--November 1978 to current year (periodic water-level measurements).

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	FLOW RATE, INSTAN- TANEOUS (GPM)	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE, WATER (DEG C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS, NONCAR- BONATE (MG/L CACO3)
NOV 01...	0830	1.85	30	460	7.3	13.0	110	0
JAN 03...	0800	1.57	30	560	7.1	11.0	110	0
APR 22...	1130	1.63	20	500	6.8	12.0	110	0
AUG 26...	0900	1.63	20	510	6.0	13.0	120	0

DATE	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	ALKA- LINITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)
NOV 01...	.0	.0	31	7.5	79	3.3	260	.7	22
JAN 03...	.0	.0	32	8.0	73	3.0	250	1.7	22
APR 22...	--	--	29	7.9	62	2.6	230	.9	15
AUG 26...	.3	15	35	8.4	71	2.8	250	1.7	17

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS PER AC-FT)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDED 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- PENDED RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 01...	325	.44	10000	--	1600	120	20	100
JAN 03...	310	.42	5400	3600	1800	150	40	110
APR 22...	293	.40	3700	1000	2700	140	10	130
AUG 26...	318	.43	3400	1300	2100	110	10	100

RANDOLPH COUNTY--Continued

385100079522901. Project number, H-63.

LOCATION.--Lat 38°51'00", 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 98 ft (29.9 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 edge of recorder shelter base, flush with top of casing 3.0 ft (0.91 m) above land-surface datum.

REMARKS.--U.S. Geological Survey Test Well No. 2. Geologic log and aquifer test data available. At times, water level affected by nearby pump tests and by stage of Tygart Valley River. No water-level record Aug. 6-26.

PERIOD OF RECORD.--November 1978 to November 1979 (periodic water-level measurements), November 1979 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.37 ft (0.72 m) above land-surface datum, May 21, 1980; lowest, 2.30 ft (0.70 m) below land surface datum, July 2, 3, 1980.

WATER LEVEL, IN FEET ABOVE OR BELOW (-) LAND-SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5		-0.88	-1.00	-1.12	-1.17	-0.05	-0.75	-0.98	-0.96	-1.77	-1.76	-0.52
10		-0.74	-1.16	-1.07	-1.20	-0.82	-0.54	-1.31	-0.08	-0.05	*-1.40	-1.27
15		-0.85	-0.90	-0.75	-1.33	-0.58	-0.56	-1.31	-1.24	-1.26	*-1.00	-0.95
20		-1.05	-1.06	-0.74	-0.89	-0.70	-1.01	-1.31	-1.32	-1.78	*-0.15	-1.47
25		-1.06	-0.20	-0.60	-0.63	-0.64	-1.22	-0.64	-1.82	-1.91	*-1.15	-1.09
EOM		-0.83	-1.04	-0.96	-0.93	-0.38	.05	-1.18	-2.12	-1.38	-1.02	-1.27

WTR YR 1980 MAX 1.73 MAY 21 MIN -2.26 JUL 2

* Estimated.

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.

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 1979 TO SEPTEMBER 1980
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	18.08	18.81	18.51	18.79	19.26	18.41	18.56	18.97	18.39	19.23	19.04	19.07
10	17.98	18.74	19.00	18.78	19.20	18.23	18.34	19.44	18.09	18.54	18.65	19.25
15	18.42	18.74	18.45	18.58	19.32	18.63	18.16	19.74	18.71	18.56	18.75	19.37
20	18.74	19.11	18.89	18.66	19.01	18.29	18.81	19.37	18.84	19.21	18.19	19.63
25	19.04	18.69	18.39	18.74	18.51	18.69	19.29	18.48	19.19	19.08	18.39	19.55
EOM	19.10	18.45	18.55	18.93	19.01	18.34	18.92	18.93	19.38	18.89	18.90	19.62

WTR YR 1980 HIGH 17.89 OCT 11 LOW 19.80 MAY 16

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 recorder shelter base, 1.6 ft (0.49 m) above land-surface datum. Prior to May 29, 1980 measuring point was 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 May 1980 (periodic water-level measurements), May 1980 to current year (water-level recorder).

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 Oct. 2, 1979, 9.98 ft below land-surface datum. Water-level measurement, Mar. 26, 1980, 8.68 ft below land-surface datum.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5								---	8.61	10.36	10.02	10.01
10								---	8.87	9.70	10.10	10.43
15								---	9.62	9.99	10.14	10.63
20								---	9.30	10.30	8.66	10.64
25								---	10.02	10.33	9.63	10.48
EOM								9.49	10.30	10.30	10.18	10.52

WTR YR 1980 HIGH 8.32 JUN 4 LOW 10.66 SEP 17 AND OTHERS

GROUND-WATER LEVELS

469

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 cover, 1.33 ft (0.41 m) above land-surface datum. Prior to Nov. 27, 1979 measuring point was top of casing, 1.30 ft (0.40 m) above land-surface datum.

REMARKS.--Doubtful water-level measurements Oct. 26 and Nov. 27.

PERIOD OF RECORD.--May 1971 to current year (weekly water-level measurements).

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, Aug. 27 and Sept. 24, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16, 1979	28.52	JAN 09, 1980	28.82	APR 02, 1980	28.57	JUL 02, 1980	29.00
19	28.89	16	28.97	09	28.47	09	29.20
26	29.90	23	28.92	16	28.47	16	29.70
NOV 07	29.20	30	28.92	23	28.77	23	29.90
14	29.10	FEB 06	28.92	30	28.67	30	30.37
21	29.10	13	29.67	MAY 07	28.47	AUG 06	30.57
27	27.98	20	28.97	14	28.47	27	30.62
28	28.82	27	28.67	21	28.37	SEP 03	30.57
DEC 05	29.07	MAR 05	28.47	28	28.67	10	30.47
12	28.87	12	28.67	JUN 04	28.92	17	30.57
19	28.97	19	28.77	11	29.17	24	30.62
26	28.67	22	28.77	18	29.57		
JAN 02, 1980	29.42	26	28.57	25	29.00		

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 (weekly water-level measurements).

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 1979 TO SEPTEMBER 1980

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1979	5.60	JAN 02, 1980	6.20	APR 02, 1980	5.10	JUL 02, 1980	6.60
10	5.70	09	6.50	09	5.60	09	6.50
17	5.70	16	6.30	16	5.85	16	6.20
24	5.80	23	5.80	23	5.50	23	5.90
30	6.20	30	6.20	30	5.90	30	6.00
NOV 07	6.00	FEB 06	6.00	MAY 07	6.10	AUG 06	6.05
14	6.20	13	5.60	14	6.40	13	5.80
21	6.15	20	4.90	21	5.75	20	6.10
28	6.10	27	5.80	28	6.10	27	7.30
DEC 05	5.95	MAR 05	6.00	JUN 04	6.00	SEP 03	7.45
12	6.00	12	5.60	11	6.30	10	7.50
19	5.90	19	5.10	18	6.50	17	7.60
26	6.00	26	4.90	25	6.55	24	7.40

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 well, 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 (weekly water-level measurements).

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 1979 TO SEPTEMBER 1980

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 03, 1979	12.50	JAN 09, 1980	12.60	APR 09, 1980	17.40	JUL 16, 1980	17.90
10	16.70	16	11.90	16	18.20	24	8.10
17	16.20	23	11.90	25	15.80	30	13.40
24	16.80	30	14.50	30	13.60	AUG 06	14.80
31	17.80	FEB 06	16.10	MAY 07	14.60	13	15.20
NOV 07	10.70	13	16.30	21	14.50	20	17.40
14	11.90	20	14.10	28	15.70	27	15.80
21	14.40	27	16.60	JUN 04	10.90	SEP 03	19.30
28	16.40	MAR 05	12.90	11	14.80	10	19.60
DEC 05	12.70	12	9.80	18	10.80	17	11.50
12	15.50	19	11.90	25	17.80	24	11.80
19	16.20	26	11.80	JUL 02	18.90		
JAN 02, 1980	14.50	APR 02	15.40	09	11.40		

GROUND-WATER LEVELS

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.--No water-level record Apr. 29 to May 5, July 24 to Aug. 25 and Aug. 30 to Sept. 30. Records fair. Water level affected by local pumping and by stage of the Ohio River. Water-quality sample taken on Apr. 29, 1980, water level 25.35 ft (7.73 m) below land-surface datum. Well dewatered during August and September due to construction.

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), estimated, 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 1979 TO SEPTEMBER 1980
NOON VALUES FROM GRAPHIC RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	25.56	25.68	26.18	26.70	27.47	27.85	24.26	*26.12	26.27	26.32	*23.76	*25.28
10	25.12	25.82	26.47	26.90	27.55	27.14	23.86	26.66	25.73	26.00	*24.28	*25.84
15	24.45	25.99	26.54	26.67	27.75	26.63	23.27	26.35	25.90	26.28	*24.80	*26.40
20	24.82	26.21	26.65	26.88	27.78	25.91	23.38	26.81	25.85	24.17	*24.06	*26.96
25	25.27	26.40	26.86	27.10	27.57	25.41	24.74	26.68	26.29	*22.64	24.10	*27.50
EOM	25.58	25.89	26.28	27.32	27.58	25.03	*25.51	27.05	26.47	*23.24	*24.70	*28.00

WTR YR 1980 HIGH 22.56 JUL 23 LOW 28.00 SEP 30

* Estimated.

WATER QUALITY DATA, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (MICRO- MHOS)	PH FIELD (UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS (MG/L 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)
APR 29...	1300	215	5.6	17.0	32	0	7.7	3.0	35	69	2.9	1.7
DATE	ALKA- LITY (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L SiO2)	SOLIDS, SUM OF AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, CONSTITU- ENTS, DIS- SOLVED (MG/L)	SOLIDS, DIS- SOLVED (TONS AC-Ft)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	BARIUM, DIS- SOLVED (MG/L AS BA)	BERYL- LIUM, DIS- SOLVED (MG/L AS BE)
APR 29...	55	2.2	35	.0	.6	118	119	.16	.03	.020	30	<0
DATE	CADMIUM DIS- SOLVED (UG/L AS CD)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	
APR 29...	2	<3	<10	160	<10	5	60	<10	46	<6.0	17	

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 affected by nearby pumping at times.

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, 19.19 ft (5.85 m) below land-surface datum, Mar. 13, 1980; 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 1979 TO SEPTEMBER 1980
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	24.24	23.26	20.79	20.58	20.22	19.96	20.08	21.16	26.58	33.14	28.91	26.61
10	23.84	22.18	21.08	21.04	19.81	19.34	20.76	22.34	28.03	32.86	27.67	27.33
15	23.70	21.53	21.17	21.03	20.14	19.91	20.51	24.26	28.94	30.17	27.12	27.27
20	23.11	21.34	20.89	20.39	19.65	20.19	20.50	23.12	30.41	29.92	26.96	27.47
25	23.04	20.62	20.09	19.72	19.63	20.11	22.90	22.78	31.17	29.19	26.23	27.94
EOM	23.12	20.82	20.65	19.70	19.88	19.72	21.19	22.90	33.23	28.85	26.83	28.45

WTR YR 1980 HIGH 19.27 MAR 13 LOW 33.87 JUL 2

GROUND-WATER LEVELS

471

WYOMING COUNTY--Continued

373554081493401.

LOCATION.--Lat 37°35'54", long 81°49'34", Hydrologic Unit 05070101, downstream of toe of R.D. Bailey Dam northeast of Justice.

Owner: U.S. Army Corps of Engineers.

AQUIFER.--Pottsville Formation of Lower Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, 8 in (0.20 m), depth 66 ft (20.1 m), cased with steel.

DATUM.--Land-surface datum is about 920 ft (280 m) National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, flush with top of casing, 1.0 ft (0.30 m) above land-surface datum.

PERIOD OF RECORD.--March to June 1980 (periodic water-level measurements), June 1980 to current year (water-level recorder).

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 31.52 ft (9.61 m) below land-surface datum, July 11, 1980; lowest 38.06 ft (11.60 m) below land-surface datum, Aug. 13, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1979 TO SEPTEMBER 1980
NOON VALUES FROM DIGITAL RECORDER

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5							---		36.48	37.04	37.43	36.67
10							---		36.69	33.96	36.63	36.19
15							---		36.89	34.36	37.15	37.14
20							---		36.97	36.84	35.50	37.25
25							---		37.07	36.28	35.43	36.66
EOM							---		37.23	36.38	37.10	36.88
WTR YR 1980	HIGH	31.61	JUL 11	LOW	37.97	AUG 13						

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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	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons



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