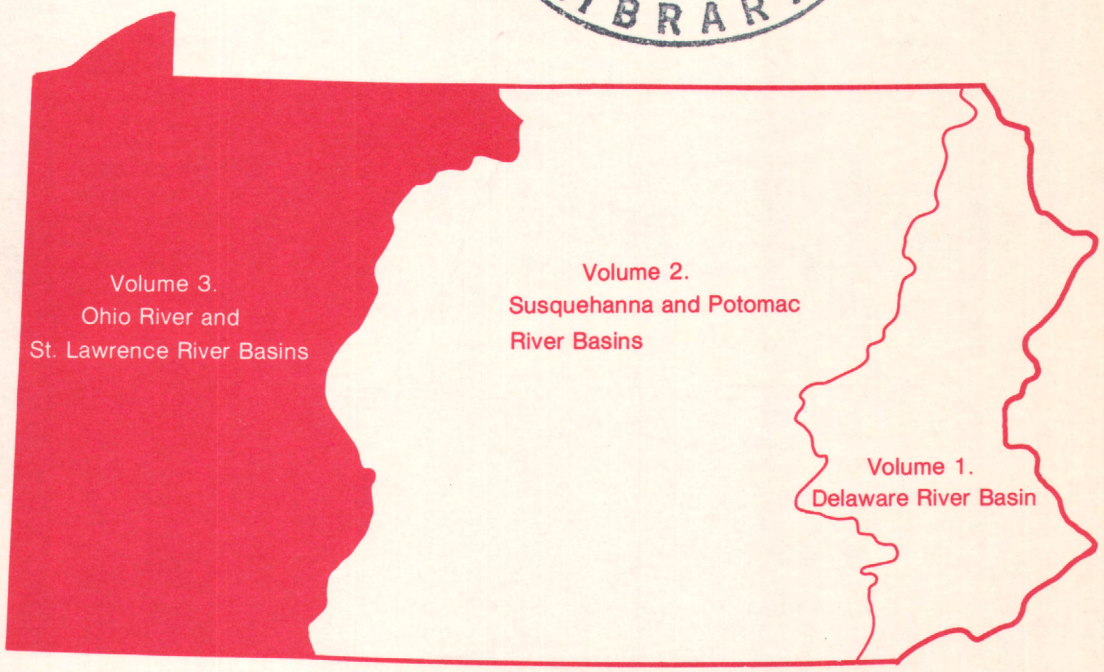
Water Resources Data Pennsylvania Water Year 1987

Volume 3. Ohio River and St. Lawrence River Basins



U.S. GEOLOGICAL SURVEY WATER -DATA REPORT PA-87-3
Prepared in cooperation with the Pennsylvania Department of Environmental Resources, the U.S. Army Corps of Engineers, Pittsburgh District, and with other State, municipal and Federal agencies

October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

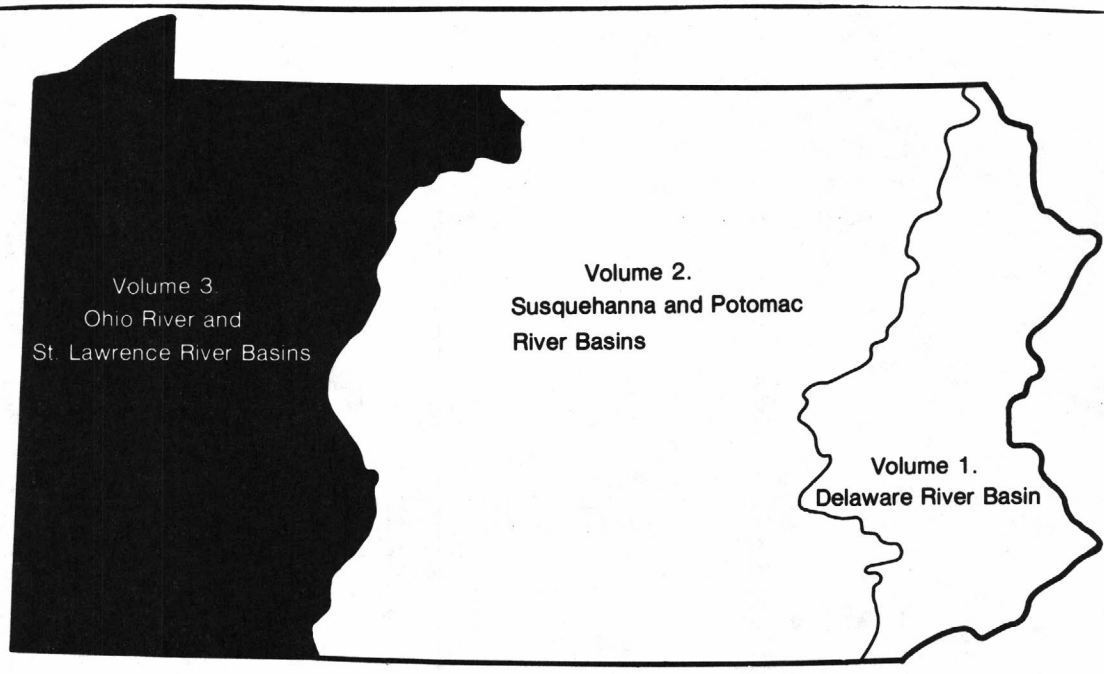
The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI).

Multiply inch-pound units	By	To obtain SI units
	Length	
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)
	Area	
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)
	Volume	
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)
	Flow	
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)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

Water Resources Data Pennsylvania Water Year 1987

Volume 3. Ohio River and St. Lawrence River Basins

by Joseph B. Lescinsky, Martin B. Coll, Jr., Raymond W. Siwicki



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT PA-87-3
Prepared in cooperation with the Pennsylvania Department of Environmental Resources, the U.S. Army Corps of Engineers, Pittsburgh District, and with other State, municipal and Federal agencies

DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

For additional information write to
District Chief, Water Resources Division
U.S. Geological Survey
P.O. Box 1107
Harrisburg, Pennsylvania 17108

1988

PREFACE

This volume of the annual hydrologic data report of Pennsylvania is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface-and groundwater data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for Pennsylvania are contained in three volumes:

Volume 1. Delaware River Basin
Volume 2. Susquehanna and Potomac River Basins
Volume 3. Ohio River and St. Lawrence River Basins

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

Donald R. Williams	Kenn L. Pattison	Michael D. Lichte
Theodore F. Buckwalter	Emitt C. Witt III	Thomas M. Noonan
James I. Sams III	Steven R. Frum	Henry J. Oswick Jr.
Gregory M. Wehner	Lonnie J. Fekula	Michael Janiszewski

Thomas Sinwell typed the text of the report.

This report was prepared in cooperation with the State of Pennsylvania and with other agencies under the general supervision of David E. Click, District Chief.

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15. Supplementary Notes

Prepared in cooperation with the State of Pennsylvania and with other agencies.

16. Abstract (Limit: 200 words)

Water resources data for the 1987 water year for Pennsylvania consists of records of discharge and water quality of streams; elevation and contents of lakes and reservoirs; and water levels of ground-water wells. This volume contains records for water discharge at 81 gaging stations; elevations and contents at 3 lakes and reservoirs; and water levels at 35 observation wells. Also included are data for 3 crest-stage, 7 partial-record or miscellaneous streamflow stations and water-quality records for 8 streamflow-gaging stations and 25 water-quality stations. Location of these sites are shown on figures 4, 5 and 6. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements and analysis. These data together with the data in Volume 1 and 2 represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local and Federal agencies in Pennsylvania.

17. Document Analysis a. Descriptors

*Pennsylvania, *Hydrologic data, *Ground water, *Surface water, *Water Quality, Gaging Stations, Streamflow, Flow rates, Lakes, Reservoirs, Chemical analysis, Sediments, Water Temperature, Water analysis, Water levels, Water wells, Data collection, Sites.

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

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CONTENTS

ILLUSTRATIONS

(Letter after station name designates type of data: (d) discharge, (c) chemical, (b) biological, (t) water temperature, (s) sediment, (r) radiochemical)

OHIO RIVER BASIN--Continued

GROUND-WATER LEVELS

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State and Federal agencies, obtains a large amount of data pertaining to the water resources of Pennsylvania each water year. These data, accumulated during many water years, constitute a valuable data base for developing an improved understanding of the water resources of the State. To make these data readily available to interested parties outside the Geological Survey, the data are published annually in this report series entitled "Water Resources Data - Pennsylvania, Volume 1, 2, and 3."

This report, Volume 3, includes records on both surface and ground water in the Ohio and St. Lawrence River Basins. Specifically, it contains: (1) Discharge records for 81 streamflow-gaging stations, for 7 partial-record or miscellaneous streamflow stations, and for 3 crest-stage, partial-record streamflow stations; (2) elevation and content records for 3 lakes and reservoirs; (3) water-quality records for 8 streamflow-gaging stations, and for 22 ungaged streamsites; and (4) water-level records for 35 observation wells.

This series of annual reports for Pennsylvania began with the 1961 water year report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground-water, and ground-water levels.

Prior to the introduction of this series and for several years concurrent with it, water-resources data for Pennsylvania were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States," which was released in numbered parts as determined by natural drainage basins. For the 1961 through 1970 water years, the data were published in two 5-year reports. Data prior to 1961 are included in two reports: "Compilation of Records of Surface Waters of the United States through 1950," and "Compilation of Records of Surface Waters of the United States, October 1950 to September 1960." Data for Pennsylvania are published in Parts 1, 3, 4. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from Distribution Branch, Text Products Section, U.S. Geological Survey, 604 South Pickett Street, Alexandria, VA 22304.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have 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 volume is identified as "U.S. Geological Survey Water-Data Report PA-87-3." For archiving and general distribution, the reports for 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 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 title page or by contacting the Hydrologic Information Specialist, telephone (717) 782-3851.

COOPERATION

The U.S. Geological Survey and organizations of the Commonwealth of Pennsylvania have had cooperative agreements for the systematic collection of surface-water records during the periods 1919-21 and 1931 to date, water-quality records from 1944 to date, and ground-water records from 1925 to date. Organizations that provided data are acknowledged in station descriptions. Organizations that assisted in collecting data through cooperative agreement with the Survey are:

The Pennsylvania State Department of Environmental Resources, Arthur A. Davis, Secretary through the following:

Office of Resources Management, James R. Grace, Deputy Secretary;
  Bureau of Water Resources Management, John E. McSparran, Director;
  Bureau of Topographic and Geologic Survey, Donald M. Hoskins, Director;
Office of Environmental Protection, Mark McClellan, Deputy Secretary;
  Bureau of Water Quality Management, Daniel B. Drawbaugh, Acting Director;
  Bureau of Mining and Reclamation, Ernest F. Giovannitti, Director.

New York State Department of Environmental Conservation, Thomas C. Jorling, commissioner.

Indiana County Commissioners.

Assistance in the form of funds or services was given by: Corps of Engineers, U.S. Army, in collecting records for 60 gaging stations. Assistance was also furnished by the National Weather Service, NOAA, U.S. Department of Commerce.

The following organizations aided in collecting records:

Allegheny Power Service Corp.; Greater Johnstown Water Authority: Latrobe Municipal Authority: Manufactures Water Co.; Municipal Authority of Westmoreland County; and Pennsylvania Electric Co.

Streamflow

Streamflow in western Pennsylvania in the Upper Ohio and St. Lawrence River basins was normal. At the index station for the Ohio River basin--Oil Creek at Rouseville--the mean discharge for the 1987 water year was 105 percent of the median discharge for the 1951-80 reference period. The monthly mean streamflow was in the normal range during November, April, May and June, whereas the monthly mean streamflow was excessive during October, December, July, August and September. The monthly mean streamflow was deficient during January, February and March.

A comparison of the monthly and yearly mean discharge for the 1987 water year with that of the 1951-80 reference period for Oil Creek at Rouseville is shown in figure 1.

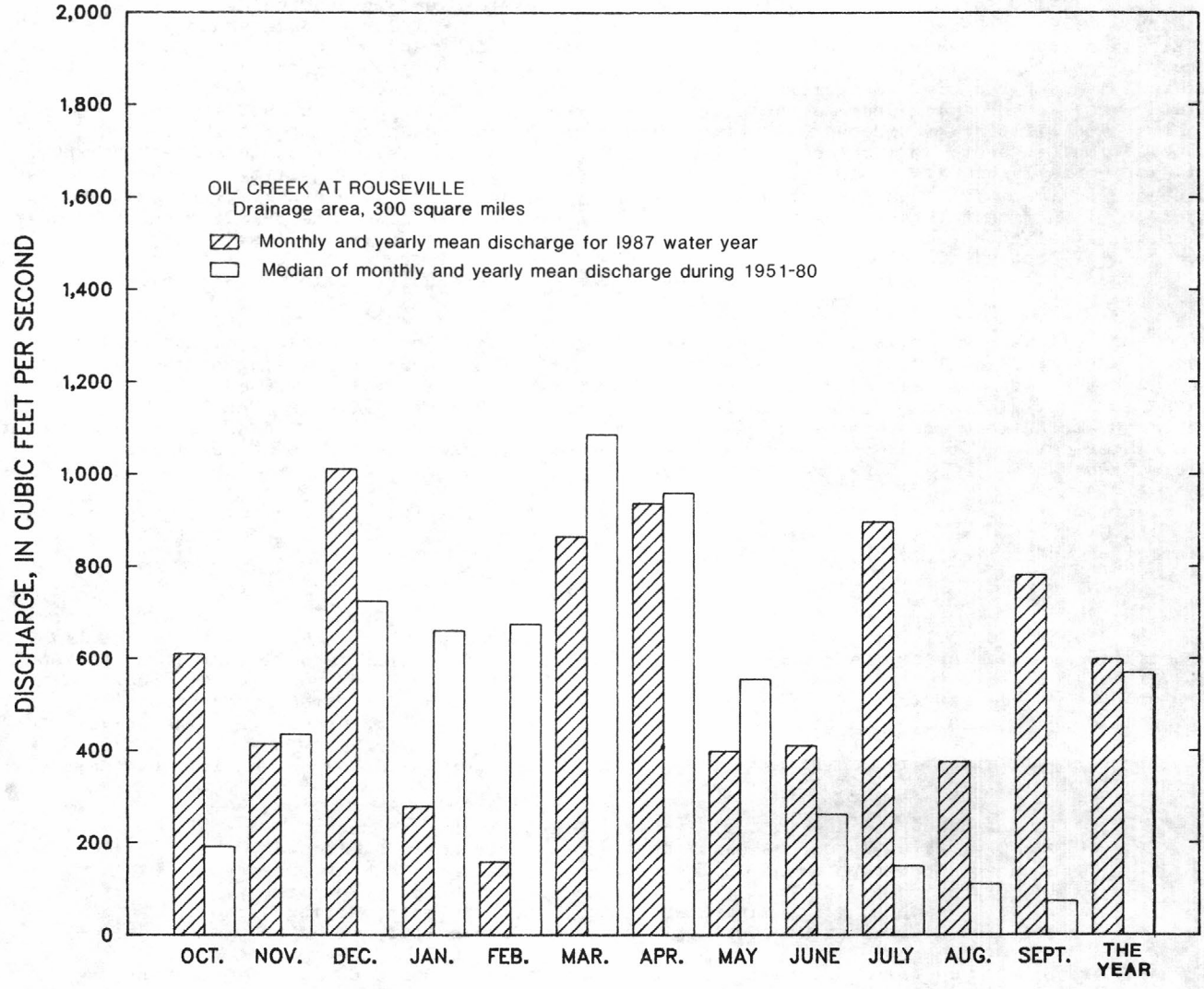

Figure 1.--Comparison of discharge at Oil Creek at Rouseville during 1987 water year with median discharge for period 1951-80.

Ground Water

During the 1987 water year, ground-water levels reached annual highs at most observation wells during April. Water levels were at or above normal levels over most of the upper Ohio River basin in Pennsylvania. At most observation wells, ground-water levels reached annual lows during October 1986 and August 1987. Most wells in the observation well network tap bedrock which consists mostly of sandstone and shale. Water levels in the Butler and Warren County observation wells reached a new record high this year. The Greene County observation well reached a new record low during August. This unusually low ground-water level is attributed to below-normal recharge in the spring and summer.

Figure 2 shows the seasonal distribution of normal, below-normal, and above-normal water levels. These maps are based on water-level fluctuations in 15 key wells. The water levels of the 1987 water year are averaged by season and compared to the long-term means for these seasons. Water levels were normal to above normal in the Ohio River Basin for the entire year, the only exception being the water levels in the Greene and Washington county wells, which were normal to below normal for the entire year.

Water Quality

The highest dissolved-solids concentrations generally occurred during periods of low flow at all three NASQAN (National Stream Quality Accounting Network) sites. The ratios of dissolved solids to specific conductance for the Allegheny River at New Kensington, the Monongahela River at Braddock, and the Beaver River at Beaver Falls averaged 0.61, 0.65, and 0.64, respectively. The dissolved-oxygen saturation levels generally were the highest on the Allegheny River at New Kensington, with a range of 78 to 116 percent of saturation and an average of 100 percent of saturation. The dissolved-oxygen saturation levels were lowest on the Beaver River at Beaver Falls, with a range of 53 to 96 percent of saturation and an average of 78 percent of saturation. The saturation levels on the Monongahela River at Braddock ranged from 81 to 106 percent of saturation, with an average of 94 percent of saturation.

Trace-element analyses of samples collected at the three NASQAN sites indicate that all concentrations of arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver were considerably less than U.S. Environmental Protection Agency recommended limits for domestic water supply. Dissolved-manganese concentrations exceeded the recommended limit of 50 micrograms per liter in all samples collected at all three sites.

The following table gives the range and median pH values and the range and mean values for specific conductance and dissolved-solids concentrations at the three NASQAN sites.

	pH			Specific conductance (microsiemens per centimeter at 25° C)			Dissolved solids (milligrams per liter)		
Site	Max	Min	Median	Max	Min	Mean	Max	Min	Mean
Allegheny River at New Kensington	7.2	6.8	7.0	290	200	264	170	160	162
Monongahela River at Braddock	7.9	6.7	7.4	490	235	371	300	180	242
Beaver River at Beaver Falls	7.8	7.1	7.5	490	310	400	280	230	255

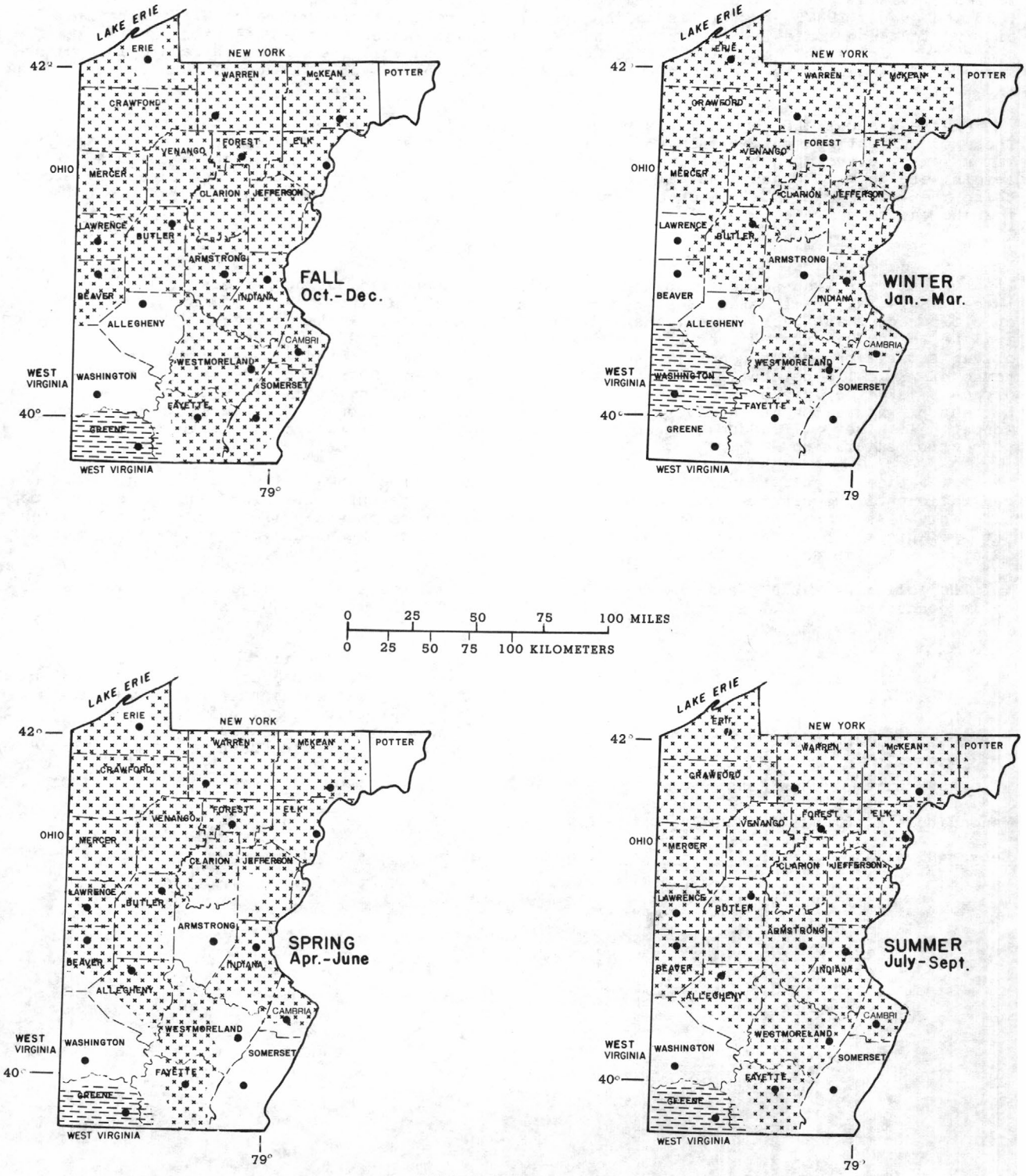

Figure 2.--Relation between mean 1987 seasonal water levels and long-term water levels.

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 Inch-pound 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 bacterial 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-enterrococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

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 as for ash mass and dry mass.

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

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism 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 flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons or 2,447 cubic meters.

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

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

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

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

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

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

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

Cubic foot per second (FT^3/s, ft^3/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 or 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 that material in a representative water sample which passes through a 0.45 um membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

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 specific 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 (µg/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, µg/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.

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.

Organisms 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	0.004 - 0.062	Sedimentation.
Sand	0.062 - 2.0	Sedimentation or sieve.
Gravel	2.0 - 64.0	Sieve.

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

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 ($1x10^{-12}$) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields 3.7×10^{10} radioactive disintegrations per second. A picocurie yields 2.22 dpm (disintegrations per minute).

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

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

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

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

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

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

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

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.

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

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

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

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

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

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 (UMHOS). In the future specific conductance will be expressed in microsiemens per centimeter at 25°C (µS/cm). Specific conductance is related to the type and concentration of ions in the 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 lives.

Natural substrate refers to any naturally occurring emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

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 USGS 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, 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 um 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 um membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

Determinations of "suspended, total" constituents are made either by analyzing portions of the material collected on the filter or, more commonly, by difference, based on determinations of (1) dissolved and (2) total concentrations of the constituent.

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

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

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

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

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

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

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

Total 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. 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 in bottom material."

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

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

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1971.

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

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.

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 RECORDS

Downstream order and station number

Since October 1, 1950, the order of listing hydrologic-station 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 indention in a list of stations in the front of the report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned in downstream order. 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. A station number can be from 8 to 15 digits and normally appears to the left of the station name. For example, an 8-digit number for a station such as 03041000, includes a 2-digit part number "03" plus a 6-digit downstream order number "041000." The part number designates the major river basin; for example, part "03" is the Ohio River basin.

Numbering system for wells and miscellaneous sites

The 8-digit downstream order station numbers are not assigned to wells and some 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 the degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells or other sites with a 1-second grid. See figure 3 below.

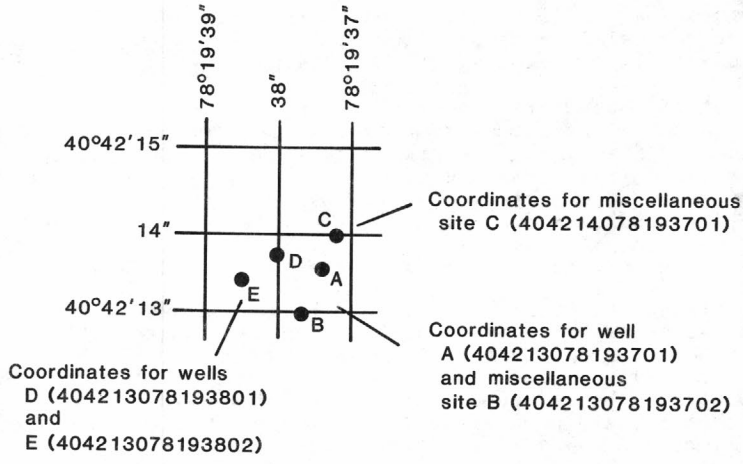

Figure 3.--System for numbering wells and miscellaneous sites (latitude and longitude).

A local well number is also assigned to the wells and consists of a 2-letter abbreviation of the county in which the well is located and a sequential number assigned at the time the well was scheduled.

Records of Stage and Water Discharge

Records of stage and water discharge may be continuous or partial. Continuous records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharges may be computed for any time, or any period of time, during the period of record. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations" or "continuous record stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of the partial record is indicated by table titles such as "Crest-stage partial records," or "Low-flow partial records." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all continuous-record and partial record stations for which data are given in this report are shown in figures 4 and 5.

Data Collection and Computation

The data obtained at a continuous-record gaging station on a stream consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relationships between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges.

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage or with digital recorders that punch stage values on paper tapes at selected time intervals. Measurements of discharge are made with current meters using methods adapted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

In computing discharge records, results of individual measurements are plotted against the corresponding stages, and stage-discharge relation curves are then constructed. From these curves, rating tables indicating the approximate discharge for any stage within the range of the measurements are prepared. If it is necessary to define extremes of discharge outside the range of the current-meter measurements, the curves are extended using: (1) logarithmic plotting; (2) velocity-area studies; (3) results of indirect measurements of peak discharge, such as slope-area or contracted-opening measurements, and computations of flow-over-dams or weirs; or (4) step-backwater techniques.

Daily mean discharges are computed by applying the daily mean stages (gage heights) to the stage-discharge curves or tables. 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 determined by the shifting-control method, in which correction factors based on the individual discharge measurements and notes of the personnel making the measurements are applied to the gage heights before the discharges are determined from the curves or tables. This shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and records for other stations in the same or nearby basins for comparable periods.

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.

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relationship of stage and content. The application of stage to the stage-content curves or tables gives the contents from which daily, monthly, or yearly changes then are determined. If the stage-content relationship changes because of deposition of sediment in the lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly in error as time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

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 from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

The records published for each gaging station and reservoir consist of two parts, the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge; historical extremes; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

DRAINAGE AREA.--Drainage areas are measured using the most accurate maps available. Because the type of maps available varies from one drainage basin to another, the accuracy of drainage areas likewise varies. Drainage areas are updated as better maps become available.

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not, and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORD.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted 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 most recently revised figure was first published is given.

GAGE.--The type of gage in current use, the datum of the current gage referred to National Geodetic Vertical Datum of 1929 (see Definition of Terms), and a condensed history of the types, locations, and datums of previous gages are given under this heading.

REMARKS.--All periods of estimated daily-discharge record will either be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily-discharge table. (See next section, "Identifying Estimated Daily Discharge.") If a remarks statement is used to identify estimated record, the paragraph will begin with this information presented as the first entry. The paragraph is also used to present information relative to the accuracy of the records, to special methods of computation, to conditions that affect natural flow at the station and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, outlet works and spillway, and purpose and use of the reservoir.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at a station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development. The median of yearly mean discharges also is given under this heading for stations having 10 or more water years of record, if the median differs from the average given by more than 10 percent.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages and maximum and minimum discharges or content. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

EXTREMES OUTSIDE PERIOD OF RECORD.--Included here is information concerning major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the U.S. Geological Survey.

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

REVISIONS.--If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because, for these stations, there would be no current or, possibly, future station manuscript published to document the revision in a "Revised Records" entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District office to determine if the published records were ever revised after the station was discontinued. Of course, if the data were obtained by computer retrieval, the data would be current and there would be no need to check because any published revision of data is always accompanied by revision of the corresponding data in computer storage.

The daily table for stream-gaging stations gives 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 is usually 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 ommitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

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 annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record 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. 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.

Identifying Estimated Daily Discharge

Estimated daily-discharge values published in the water-discharge tables of annual State data reports are identified either by flagging individual daily values with the letter symbol "e" and printing a table footnote, "e Estimated," or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of the Records

The accuracy of streamflow records 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 measurements of stage, measurements of discharge, and interpretation of records.

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true; "good," within 10 percent; and "fair," within 15 percent. Records that do not meet the criteria mentioned, are rated "poor." Different accuracies may be attributed to different parts of a given record.

Daily mean discharges in this report are given to the nearest hundredth of a cubic foot per second for values less than 1 ft^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to 3 significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

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 Records Available

Information of a more detailed nature than that published for most of the gaging stations such as observations of water temperatures, discharge measurements, 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 (telephone number: 717-782-3851).

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of records

Water-quality data for surface-water sites are grouped into one of three classifications. A continuing-record station is a site where data are collected on a regularly scheduled basis. Frequency may be once or more times daily, weekly, monthly, or quarterly. A partial-record station is a site where limited water-quality data are collected systematically over a period of years. Frequency of sampling is usually less than quarterly. A miscellaneous sampling site is a location other than a continuing or partial-record station, where random samples are collected to give better areal coverage to define water-quality conditions in the river basin.

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Location of stations for which records on the quality of surface water appear in this report are shown in figures .

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. 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. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern needs to be assuring that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for onsite measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations," Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed on a following page in this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey District Office.

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. All samples obtained for the National Stream Quality Accounting Network (see definitions) are obtained from at least several verticals. Whether samples are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors which must be evaluated by the collector.

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 determined from data recorded at 15, 30, or 60 minute intervals for each day. More detailed records (hourly values) may be obtained from the U.S.G.S. District Office whose address is given on the back of the title page of this report.

Water temperature

Water temperatures are measured at most of the water-quality stations. At stations where recording instruments are used, maximum, minimum and mean temperatures for each day are published. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations and are on file in the District Office. 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 diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

Sediment

Suspended-sediment concentrations are determined from samples collected by hand or by pumping samplers. Samples are collected by hand using depth-integrating samplers at single or multiple verticals in the cross section. Samples are collected by pumping samplers using an intake set to a fixed location in the cross section. The intake is located at a site that best represents the entire cross section based on simultaneous samples collected at various stages by the pumping sampler and by hand. During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, every 15 minutes). 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 discharges 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 and in predicting long-term sediment-discharge characteristics of the stream.

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

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. All other samples are analyzed in the Geological Survey laboratories in Arvada, Colo., or Doraville, Ga. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the Geological Survey laboratories are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4.

Data Presentation

For continuing-record stations, information pertinent to the history of station operation is provided in descriptive headings preceding the tabular data. These descriptive headings give details regarding location, drainage area, period of record, type of data available, instrumentation, general remarks, cooperation, and extremes for parameters currently measured daily. Tables of chemical, physical, biological, radiochemical data, and so forth, obtained at a frequency less than daily are presented first. Tables of "daily values" of specific conductance, pH, water temperature, dissolved oxygen, and suspended sediment then follow in sequence.

In the descriptive headings, if the location is identical to that of the discharge gaging station, neither the LOCATION nor the DRAINAGE AREA statements are repeated. The following information, as appropriate, is provided with each continuous-record station. Comments that follow clarify information presented under the various headings of the station description.

LOCATION.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

DRAINAGE AREA.--See Data Presentation under "Records of Stage and Water Discharge;" same comments apply.

PERIOD OF RECORD.--This indicates the periods for which there are published water-quality records for the station. The periods are shown separately for records of parameters measured daily or continuously and those measured less than daily. For those measured daily or continuously, periods of record are given for the parameters individually.

INSTRUMENTATION.--Information on instrumentation is given only if a water-quality monitor temperature record, sediment pumping sampler, or other sampling device is in operation at a station.

REMARKS.--Remarks provide added information pertinent to the collection, analysis, or computation of the records.

COOPERATION.--Records provided by a cooperating organization or obtained for the Geological Survey by a cooperating organization are identified here.

EXTREMES.--Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this report:

PRINTED OUTPUT	REMARK
E	Estimated value
>	Actual value is known to be greater than the value shown
<	Actual value is known to be less than the value shown
K	Results based on colony count outside the acceptance range (non-ideal colony count)
L	Biological organism count less than 0.5 percent (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant

Records of Ground-Water Levels

Ground-water level data from a basic network of observation wells and from ground-water projects are published herein. Location of observation wells in the basic network and observation wells for projects are shown in figure 4.

Data Collection and Computation

Measurements of water levels are made in many types of wells under varying conditions, but the methods of measurement are standardized to the extent possible. The equipment and measuring techniques used at each observation well ensure that measurements at each well are of consistent accuracy and reliability.

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is the 15-digit number that appears in the upper left corner of the table. The secondary identification number is the local well number, an alphanumeric number, derived from the county location of the well.

Water-level records are obtained from direct measurements with a steel tape or from the graph or punched tape of a water-stage recorder. The 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. If known, the elevation of the land-surface datum 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 each day.

Water levels are reported to as many significant figures as can be justified by the local conditions. Accordingly, most measurements are reported to a hundredth of a foot, but some are given to a tenth of a foot or a larger unit.

Data Presentation

Each well record consists of two parts, the station description and the data table of water levels observed during the water year. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); the hydrologic-unit number; a geographic point of reference; and the owner's name.

AQUIFER.--This entry designates by name (if a name exists) and geologic age the aquifer(s) open to the well.

WELL CHARACTERISTICS.--This entry describes the well in terms of depth, diameter, casing depth and/or screened interval, method of construction, use, and additional information such as casing breaks, collapsed screen, and other changes since construction.

INSTRUMENTATION.--This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on weekly, monthly, or some other frequency of measurement.

DATUM.--This entry describes both the measuring point and the land-surface elevation at the well. The measuring point is described physically (such as top of collar, notch in top of casing, plug in pump base and so on), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above (or below) National Geodetic Vertical Datum of 1929 (NGVD of 1929); it is reported with a precision depending on the method of determination.

REMARKS.--This entry describes factors that may influence the water level in a well or the measurement of the water level. It should identify wells that also are water-quality observation wells, and may be used to acknowledge the assistance of local (non-Survey) observers.

PERIOD OF RECORD.--This entry indicates the period for which there are published records for the well. It reports the month and year of the start of publication of water-level records by the U.S. Geological Survey and the words "to current year" if the records are to be continued into the following year. Periods for which water-level records are available, but are not published by the Geological Survey, may be noted.

EXTREMES FOR PERIOD OF RECORD.--This entry contains the highest and lowest water levels of the period of published record, with respect to land-surface datum, and the dates of their occurrence.

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum. Wells equipped with recording gages have water levels reported for each day. Missing records are indicated by dashes in place of the water level.

Records of Ground-Water Quality

Records of ground-water quality are obtained at wells and springs included in ground-water projects. Records of ground-water quality in this report may involve a variety of types of data and measurement frequencies.

Data Collection and Computation

The records of ground-water quality in this report were obtained mostly as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some counties but none are presented for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide. Such a view can be attained only by considering records for this year in context with similar records obtained for these and other counties in earlier years.

Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed on a following page. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples were obtained by trained personnel.

A variety of sampling techniques are used for collecting ground-water samples for chemical analyses. Techniques for sampling springs are the same as those used for sampling surface water. An appropriate well-sampling technique is selected at each site so that the chemical samples are representative of the water in the aquifer. Wells are pumped, when possible, until a constant water temperature, specific conductance, and pH are obtained before collecting water samples. Pumping rate, length of pumping, and sampling depth depend on the characteristics of the well and aquifer being sampled. Samples are collected either by a submersible pump or a bailer.

Data Presentation

Ground-water-quality data are published with ground-water-level data at stations where level data is collected. Data collected at partial-record stations and miscellaneous sites follow the information for continuous ground-water record stations. Data for each section are listed alphabetically by county, and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

ACCESS TO WATSTORE DATA

The National WATer Data STOrage and RETrieval system (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, Virginia.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from each of the Water Resources Division's District offices (see address given on the back of the title page).

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, Virginia 22092

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting 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) pertains to 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, Books and Open- File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for 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-A9. *Measurement of time of travel and dispersion in streams by dye tracing,* by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 pages.

3-A10. *Discharge ratings at gaging stations,* by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 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-A13. *Computation of continuous records of streamflow,* by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.

3-A14. *Use of flumes in measuring discharge,* by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.

3-A15. *Computation of water-surface profiles in open channels,* by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 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-B3. *Type curves for selected problems of flow to wells in confined aquifers,* by J. E. Reed: USGS-TWRI Book 3, Chapter B3. 1980. 106 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-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sedments*, by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 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.

7-C3. *A model for simulation of flow in singular and interconnected channels* by R. W. Schaffrannek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 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-A2. *Installation and service manual for U.S. Geological Survey manometers* by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 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.

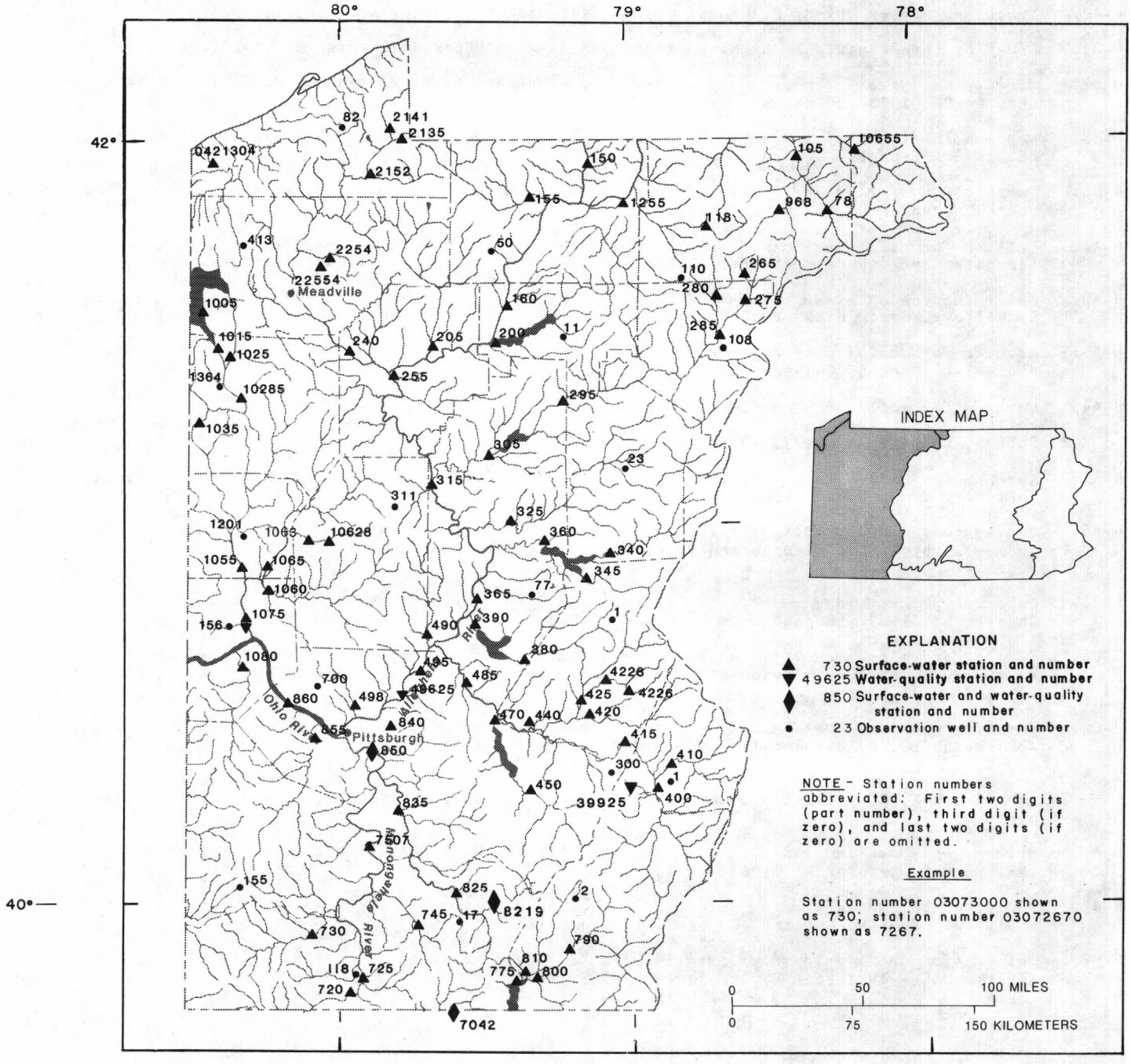

Figure 4.--Location of data-collection stations and observation wells.

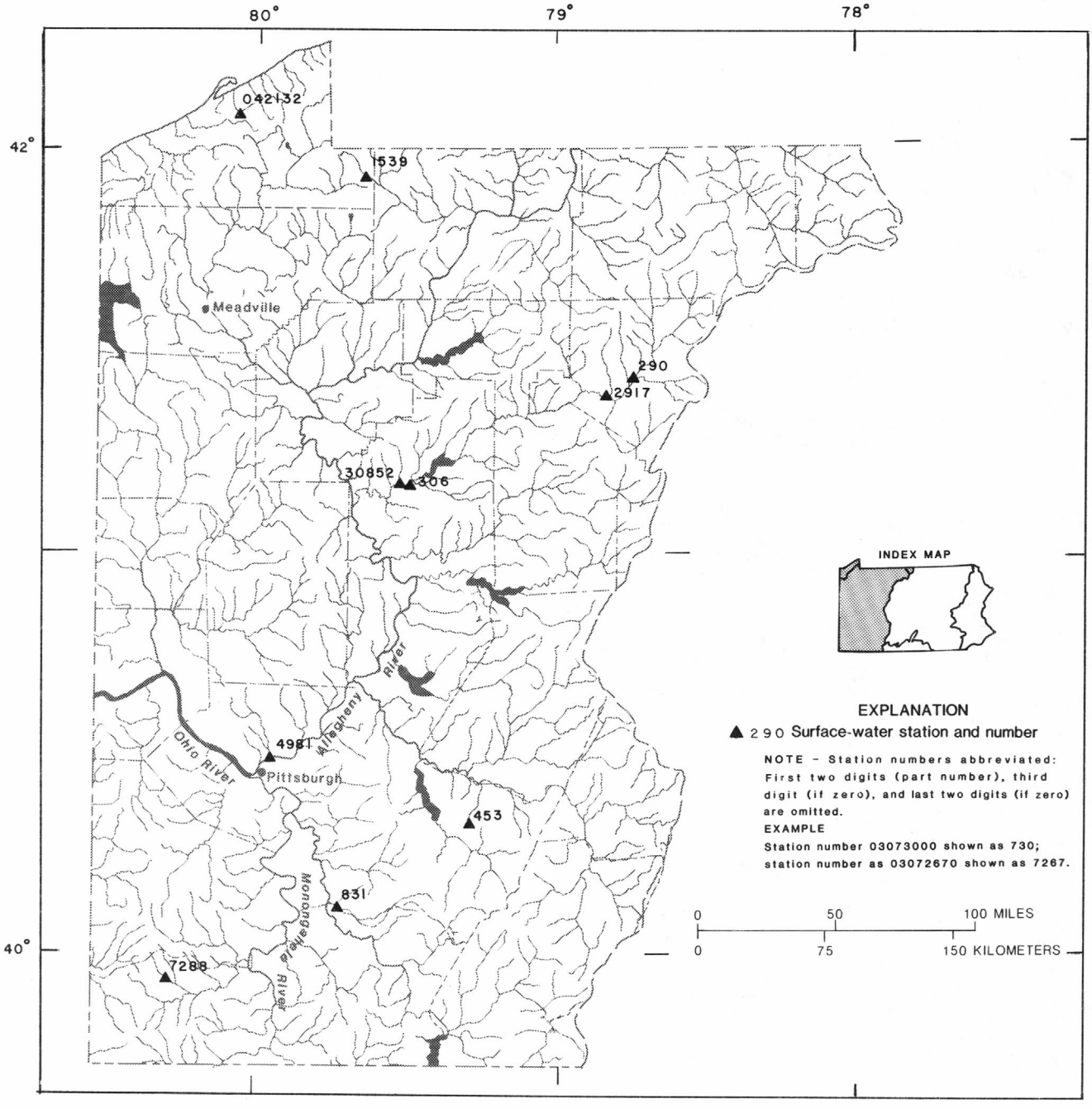

Figure 5.--Location of partial-record data-collection stations.

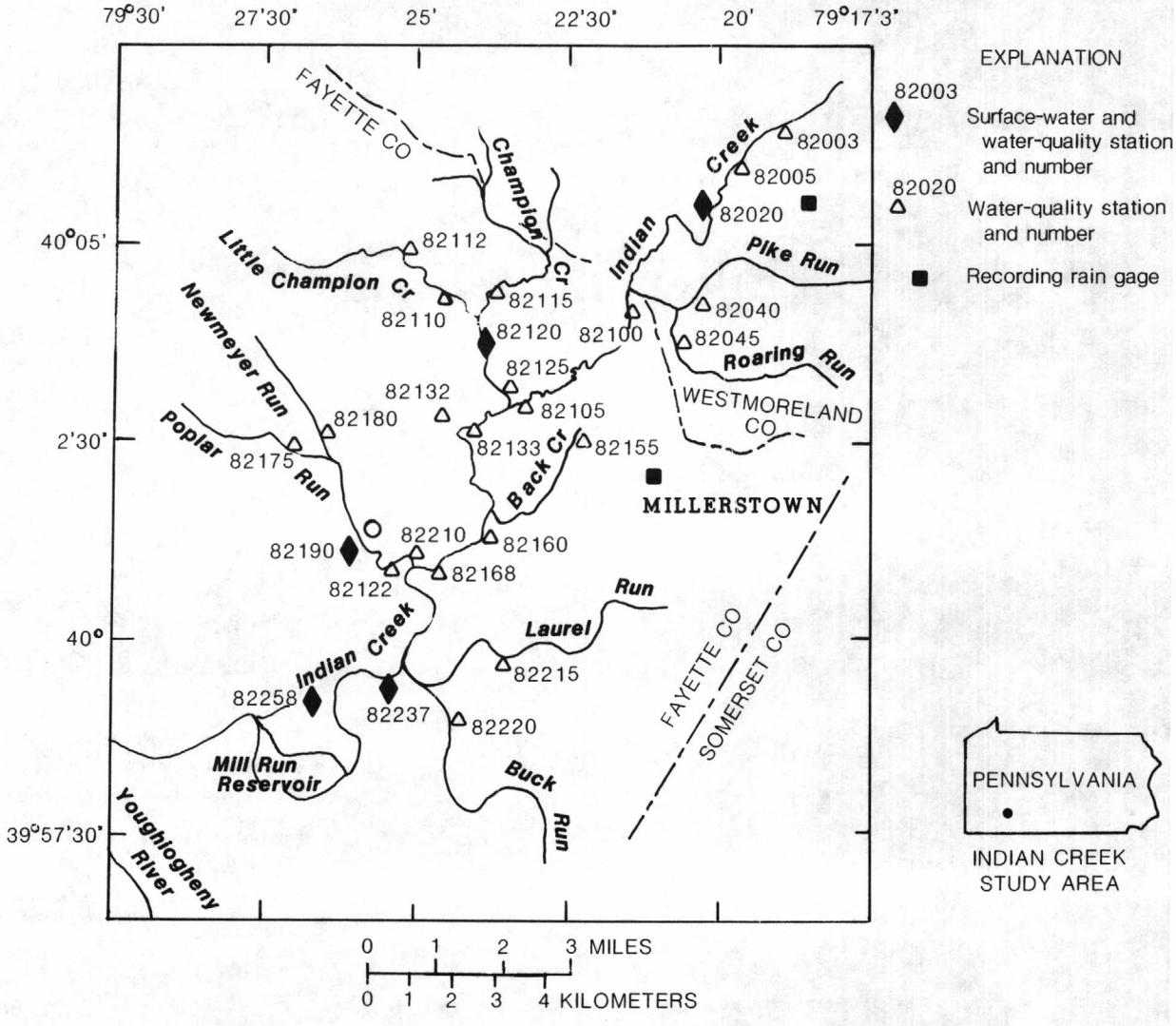

Figure 6.--Location of data-collection stations for Indian Creek study area.

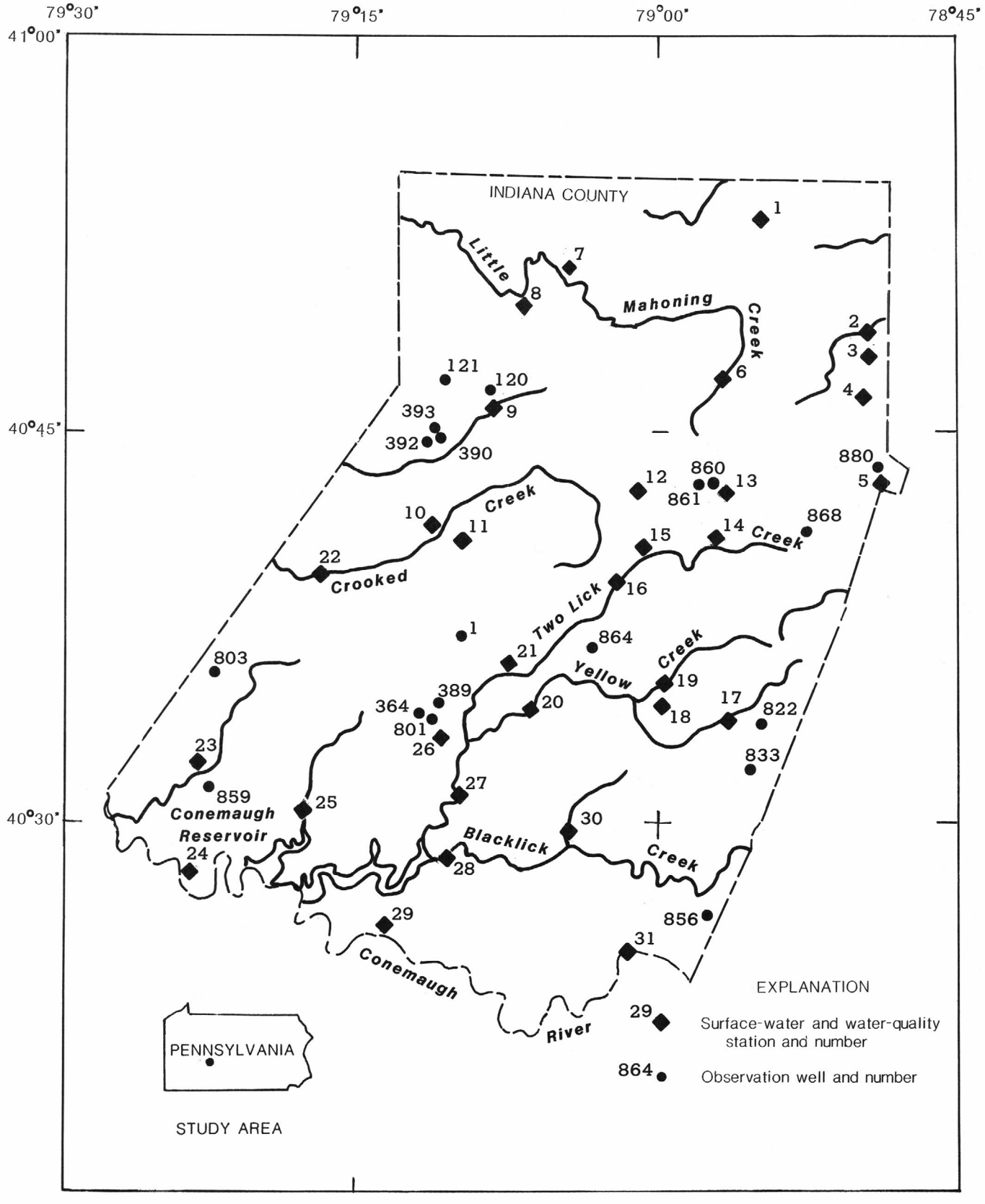

Figure 7.--Location of data-collection stations for Indiana County study.

OHIO RIVER MAIN STEM

03007800 ALLEGHENY RIVER AT PORT ALLEGANY, PA

LOCATION.--Lat 41°49'07", long 78°17'35", McKean County, Hydrologic Unit 05010001, on right bank 40 ft upstream from bridge on U.S. Highway 6 at Port Allegany, 1.1 mi upstream from Twomile Creek, 1.4 mi downstream from Allegheny Portage Creek, and at mile 285.5.

DRAINAGE AREA.--248 mi².

PERIOD OF RECORD.--October 1974 to current year. Discharge measurements obtained by Corps of Engineers since March 1971.

GAGE.--Water-stage recorder. Datum of gage is 1,454.88 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--13 years, 474 ft³/s, 25.96 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,900 ft³/s, Feb. 14, 1984, gage height, 12.93 ft; minimum, 16 ft³/s, Sept. 13, 14, 1982, gage height, 1.49 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 23, 1972, reached a stage of at least 17.5 ft, discharge, 21,700 ft³/s, from Corps of Engineers discharge measurement.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 31	Unknown	3,100	8.37	Sept. 17	2400	2,740	7.91
Sept. 13	0400	*3,910	*9.39				

Minimum discharge, 26 ft³/s, Aug. 17, 22, 26 gage height, 1.54 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	153	223	789	296	e150	e140	2390	744	122	227	64	67
2	127	229	744	e270	e150	e420	2050	628	254	811	59	59
3	206	225	1210	e250	e145	571	1540	756	207	970	81	54
4	1060	219	1100	e230	e140	458	1460	824	343	782	66	47
5	845	209	976	e210	e130	423	2200	736	313	593	62	41
6	694	265	855	e200	e125	401	2270	700	295	467	55	45
7	542	236	745	e190	e120	620	2410	616	281	414	49	69
8	441	255	682	e180	e115	1290	2430	508	255	958	45	209
9	370	331	695	e170	e110	1980	1790	433	241	670	45	171
10	314	337	859	e160	e105	1590	1270	367	195	541	51	115
11	270	367	740	e160	e105	1180	1010	312	168	438	44	116
12	241	391	716	e150	e100	962	920	334	213	354	39	2290
13	240	389	636	e150	e98	785	940	265	432	296	35	3110
14	303	346	533	e150	e94	624	780	228	385	278	32	1710
15	294	324	505	e200	e92	512	740	300	325	245	30	1050
16	267	320	443	e250	e90	433	684	225	288	201	28	777
17	265	309	401	e230	e88	377	604	191	249	175	35	1160
18	257	304	402	e210	e86	340	519	178	214	154	50	2330
19	236	343	373	e200	e84	320	445	182	188	138	36	2600
20	224	303	321	e190	e82	311	388	225	169	124	32	2370
21	214	374	290	e180	e80	307	340	182	160	112	28	1830
22	203	356	255	e170	e84	303	308	172	240	100	42	1380
23	191	373	237	e160	e88	300	308	193	219	93	49	1150
24	180	550	243	e160	e84	305	768	164	160	87	33	902
25	166	667	495	e150	e80	439	836	152	135	82	28	724
26	200	977	412	e170	e76	848	760	142	202	88	27	561
27	220	1680	386	e170	e74	808	720	168	251	97	324	456
28	257	1630	376	e170	e80	804	1010	160	191	73	226	379
29	228	1270	358	e170	---	724	908	148	162	66	159	324
30	239	1000	343	e160	---	948	860	135	253	63	101	369
31	228	---	322	e160	---	2370	---	126	---	80	76	---
TOTAL	9675	14802	17442	5866	2855	21893	33658	10494	7110	9777	2031	26465
MEAN	312	493	563	189	102	706	1122	339	237	315	65.5	882
MAX	1060	1680	1210	296	150	2370	2430	824	432	970	324	3110
MIN	127	209	237	150	74	140	308	126	122	63	27	41
CFSM	1.26	1.99	2.27	.76	.41	2.85	4.52	1.36	.96	1.27	.26	3.56
IN.	1.45	2.22	2.62	.88	.43	3.28	5.05	1.57	1.07	1.47	.30	3.97

CAL YR 1986 TOTAL 168974 MEAN 463 MAX 4170 MIN 41 CFSM 1.87 IN. 25.35
WTR YR 1987 TOTAL 162068 MEAN 444 MAX 3110 MIN 27 CFSM 1.79 IN. 24.31

e Estimated

03009680 POTATO CREEK AT SMETHPORT, PA

LOCATION.--Lat 41°48'35", long 78°25'50", McKean County, Hydrologic Unit 05010001, on left bank 30 ft upstream from U.S. Highway 6 at east borough limits of Smethport, and 500 ft downstream from Marvin Creek.

DRAINAGE AREA.--160 mi².

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,454.84 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years, 313 ft³/s, 26.31 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,350 ft³/s, Feb. 14, 1984, gage height, 11.29 ft; minimum, 12 ft³/s, Sept. 7, 1982, gage height, 1.87 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 22, 1972, reached a stage of 15.54 ft, discharge, 12,800 ft³/s, on basis of contracted-opening measurement of peak flow.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Sept. 13	0730	*4,310	*10.46	Sept. 17	2230	3,260	9.46

Minimum discharge, 21 ft³/s, Aug. 17, gage height, 1.92 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	131	e380	206	e115	e115	1360	458	134	320	48	61
2	100	134	e600	e190	e120	e620	1210	396	192	1120	49	53
3	529	129	e1100	e170	e105	417	908	558	156	1060	91	51
4	721	125	e840	e160	e94	282	1130	561	163	710	59	44
5	402	e130	e720	e150	e76	268	1690	422	121	509	50	39
6	306	e170	e580	e140	e62	272	1540	385	104	455	46	42
7	234	e140	e500	e130	e58	504	1510	349	103	500	40	65
8	182	e160	e400	e125	e54	931	1250	305	95	875	37	319
9	170	e200	768	e115	e54	1080	971	263	101	532	37	199
10	155	e180	890	e110	e52	805	748	228	84	455	45	107
11	150	e190	626	e105	e54	645	595	199	77	363	37	115
12	150	e200	555	e105	e52	519	601	281	267	289	32	869
13	155	e200	470	e110	e50	443	597	196	823	232	28	2930
14	250	e190	415	e130	e48	367	458	162	503	351	26	910
15	208	e180	367	e160	e45	315	418	473	307	253	24	569
16	160	e180	313	e170	e46	270	381	257	220	185	23	437
17	149	e180	279	e120	e48	235	349	213	169	152	25	1110
18	141	e200	319	e110	e52	216	312	205	137	130	56	1970
19	126	e210	295	e100	e52	213	269	211	118	116	35	1200
20	121	e190	234	e96	e54	212	235	274	107	104	29	1050
21	116	e200	203	e88	e54	214	210	214	109	93	25	803
22	111	e190	173	e96	e54	213	192	227	286	85	67	701
23	106	e200	168	e105	e58	213	244	327	213	78	58	639
24	102	e250	191	e94	e56	227	909	227	122	73	33	490
25	95	e330	629	e110	e52	360	718	201	101	69	27	405
26	125	e600	413	e110	e50	892	587	184	290	69	25	327
27	169	e1100	343	e110	e52	588	533	310	334	62	549	267
28	200	e900	310	e115	e62	528	892	212	210	54	216	222
29	157	e700	277	e120	---	458	620	176	171	50	135	192
30	154	e520	254	e120	---	865	534	153	460	51	86	259
31	138	---	231	e115	---	1940	---	141	---	60	66	---
TOTAL	6031	8409	13843	3885	1729	15227	21971	8768	6277	9455	2104	16445
MEAN	195	280	447	125	61.7	491	732	283	209	305	67.9	548
MAX	721	1100	1100	206	120	1940	1690	561	823	1120	549	2930
MIN	95	125	168	88	45	115	192	141	77	50	23	39
CFSM	1.22	1.75	2.79	.78	.39	3.07	4.58	1.77	1.31	1.91	.42	3.43
IN.	1.40	1.96	3.22	.90	.40	3.54	5.11	2.04	1.46	2.20	.49	3.82

CAL YR 1986 TOTAL 104525 MEAN 286 MAX 2030 MIN 22 CFSM 1.79 IN. 24.30
WTR YR 1987 TOTAL 114144 MEAN 313 MAX 2930 MIN 23 CFSM 1.95 IN. 26.54

e Estimated

03010500 ALLEGHENY RIVER AT ELDRED, PA

LOCATION.--Lat 41°57'48", long 78°23'11", McKean County, Hydrologic Unit 05010001, on right bank at site of former highway bridge, 600 ft upstream from bridge on State Highway 346, 1,000 ft upstream from Knapp Creek, 0.5 mi north of Eldred, and at mile 267.8.

DRAINAGE AREA.--550 mi^2.

PERIOD OF RECORD.--July 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,416.53 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--48 years, 952 ft^3/s, 23.50 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 65,400 ft^3/s, June 23, 1972, gage height, 29.05 ft from floodmark, from rating curve extended above 21,000 ft^3/s on basis of slope-area measurement at gage height 27.6 ft; minimum, 22 ft^3/s, Sept. 29, 30, 1959, gage height, 1.27 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Sept. 14	1300	*5,300	*13.30	No other peak greater than base discharge.			

Minimum discharge, 64 ft^3/s, Aug. 17, gage height, 1.84 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	266	437	1500	694	e330	e480	3920	1630	339	942	180	210
2	365	435	1310	e600	e320	e1950	4280	1400	432	1810	148	184
3	482	443	2320	e560	e300	1950	4030	1310	459	3130	195	161
4	2420	426	2800	e500	e290	1410	3310	1900	503	2410	223	146
5	1940	419	2210	e460	e280	1110	3530	1490	540	1600	170	126
6	1370	487	1810	e430	e270	945	4190	1360	460	1200	151	116
7	1070	545	1540	e420	e260	1260	4520	1240	431	1440	135	131
8	840	481	1480	e400	e250	2590	4650	1090	420	1630	121	401
9	712	629	1500	e380	e240	3360	4350	925	408	1530	113	693
10	618	707	2290	e370	e230	3250	3480	811	364	1190	121	400
11	524	665	1980	e350	e220	2490	2340	717	317	976	124	303
12	461	718	1670	e340	e215	1950	1880	717	317	797	105	1570
13	444	740	1480	e330	e210	1570	2060	716	1160	671	95	3990
14	562	686	1140	e320	e205	1280	1690	559	1380	693	85	5070
15	708	627	1190	e480	e200	1070	1500	751	871	771	77	4050
16	560	625	989	808	e195	905	1410	771	677	543	71	2080
17	514	617	882	650	e190	795	1270	574	549	453	68	1720
18	510	600	855	e620	e185	723	1150	508	456	400	99	3740
19	465	714	919	e460	e180	689	985	518	401	360	132	4590
20	437	673	771	e430	e180	670	862	545	363	329	95	4670
21	417	707	681	e420	e175	664	773	573	344	299	79	4100
22	403	753	588	e400	e170	656	703	476	436	271	91	3240
23	386	741	510	e390	e170	656	657	572	705	249	180	2470
24	371	971	519	e410	e170	675	1310	524	452	230	124	1850
25	349	1300	1360	e430	e170	744	2350	455	348	215	85	1490
26	349	1420	1370	e410	e170	1830	1820	426	404	258	70	1200
27	437	2570	1090	e400	e165	1940	1580	496	923	244	598	973
28	519	2710	972	e380	e180	1650	2180	499	657	205	914	813
29	500	2380	879	e370	---	1510	2240	413	511	172	561	708
30	482	1900	815	e360	---	1520	1900	376	807	159	354	824
31	468	---	761	e340	---	3120	---	361	---	162	257	---
TOTAL	19949	27126	40181	13912	6120	45412	70920	24703	16434	25339	5821	52019
MEAN	644	904	1296	449	219	1465	2364	797	548	817	188	1734
MAX	2420	2710	2800	808	330	3360	4650	1900	1380	3130	914	5070
MIN	266	419	510	320	165	480	657	361	317	159	68	116
CFSM	1.17	1.64	2.36	.82	.40	2.66	4.30	1.45	.99	1.49	.34	3.15
IN.	1.35	1.83	2.72	.94	.41	3.07	4.80	1.67	1.11	1.71	.39	3.52

CAL YR 1986 TOTAL 341944 MEAN 937 MAX 6620 MIN 82 CFSM 1.70 IN. 23.12
WTR YR 1987 TOTAL 347936 MEAN 953 MAX 5070 MIN 68 CFSM 1.73 IN. 23.52

e Estimated

03010655 OSWAYO CREEK AT SHINGLEHOUSE, PA

LOCATION.--Lat 41°57'42", long 78°11'54", Potter County, Hydrologic Unit 05010001, on right bank 200 ft upstream from bridge on State Highway 44 at Shinglehouse and 0.7 mi upstream from Honeoye Creek.

DRAINAGE AREA.--98.7 mi².

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,460.34 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Gage-height telemeter at station.

AVERAGE DISCHARGE.--13 years, 162 ft³/s, 22.29 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,300 ft³/s, Oct. 28, 1981, gage height, 11.05 ft; maximum gage height, 11.82 ft, Jan. 20, 1986 (backwater from ice); minimum discharge, 5.1 ft³/s, Oct. 10, 1980, gage height, 3.12 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Apr. 7	1200	1,200	7.88	Sept. 13	0500	*1,550	*8.51

Minimum discharge, 15 ft³/s, Aug. 26, gage height, 3.49 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	64	238	98	e64	e110	667	338	52	157	36	32
2	45	71	225	98	e60	e370	648	281	106	365	35	29
3	94	72	353	97	e56	382	525	275	99	418	40	27
4	559	71	346	95	e52	347	520	253	132	348	34	24
5	417	70	326	e88	e48	309	744	224	117	265	32	23
6	325	88	293	e80	e42	216	952	217	111	211	31	24
7	238	80	258	e74	e43	244	1160	201	109	213	29	28
8	185	88	237	e70	e40	505	1000	177	97	206	28	48
9	149	108	234	e66	e38	788	701	152	88	187	28	46
10	119	109	266	e60	e36	621	514	130	79	172	31	37
11	99	120	242	e58	e39	469	411	111	70	148	26	33
12	86	132	245	e56	e37	380	364	126	81	123	24	507
13	86	131	224	e54	e35	304	379	95	109	109	23	1100
14	91	117	210	e52	e33	239	326	82	103	101	21	585
15	80	112	179	e66	e32	200	323	101	90	86	20	364
16	72	112	158	e96	e34	167	296	80	82	72	18	262
17	69	105	141	e96	e39	144	260	71	74	65	17	256
18	66	102	136	e88	e37	125	222	67	68	61	22	687
19	61	107	125	e80	e36	115	188	68	62	63	19	774
20	57	95	106	e72	e35	108	162	71	58	57	22	678
21	55	118	94	e64	e37	104	140	61	56	53	18	537
22	54	111	83	e66	e38	101	122	55	83	51	24	437
23	51	121	77	e68	e43	99	116	52	107	45	24	341
24	49	171	77	e70	e42	101	220	47	85	40	19	269
25	46	199	150	e70	e40	120	248	44	91	41	17	217
26	54	286	122	e70	e38	267	272	42	117	91	17	175
27	54	380	121	e70	e39	268	260	45	117	64	76	145
28	57	394	123	e68	e41	269	405	40	99	49	66	119
29	55	362	120	e68	---	246	408	36	90	43	55	103
30	66	303	116	e66	---	296	398	48	167	40	41	116
31	62	---	109	e64	---	589	---	63	---	40	35	---
TOTAL	3543	4399	5734	2288	1154	8603	12951	3653	2799	3984	928	8023
MEAN	114	147	185	73.8	41.2	278	432	118	93.3	129	29.9	267
MAX	559	394	353	98	64	788	1160	338	167	418	76	1100
MIN	42	64	77	52	32	99	116	36	52	40	17	23
CFSM	1.16	1.49	1.87	.75	.42	2.81	4.37	1.19	.95	1.30	.30	2.71
IN.	1.34	1.66	2.16	.86	.43	3.24	4.88	1.38	1.05	1.50	.35	3.02

CAL YR 1986 TOTAL 55820 MEAN 153 MAX 1660 MIN 17 CFSM 1.55 IN. 21.04
WTR YR 1987 TOTAL 58059 MEAN 159 MAX 1160 MIN 17 CFSM 1.61 IN. 21.87

e Estimated

03011020 ALLEGHENY RIVER AT SALAMANCA, NY

LOCATION.--Lat 42°09'23", long 78°42'56", Cattaraugus County, Hydrologic Unit 05010001, on left bank 230 ft upstream from Main Street bridge in Salamanca, 1.3 mi downstream from Great Valley Creek, and 1.6 mi upstream from Little Valley Creek.

DRAINAGE AREA.--1,608 mi^2.

PERIOD OF RECORD.--September 1903 to current year. Monthly discharge only for some periods, published in WSP 1305. Prior to October 1964, published as "at Red House."

REVISED RECORDS.--WSP 1385: 1907, 1909-12, 1913(M), 1914-15, 1916-17(M), 1925, 1927. WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,358.00 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Sept. 3, 1917, nonrecording gage and Sept. 4, 1917 to Sept. 30, 1964, water-stage recorder at site 7.5 mi downstream at different datum. Oct. 1, 1964 to Sept. 30, 1967, at present site at datum 0.04 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and gage height telemeters at station.

AVERAGE DISCHARGE.--84 years, 2,784 ft^3/s, 23.51 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 73,000 ft^3/s June 23, 1972, gage height, 24.01 ft from floodmarks; minimum daily, 79 ft^3/s Sept. 10, 11, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 17,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage Height (ft)	Date	Time	Discharge (ft^3/s)	Gage Height (ft)
July 3	0500	*15,800	*9.53	No peak greater than base discharge.			

Minimum discharge, 267 ft^3/s Aug. 26, gage height, 2.86 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2660	1530	3930	2080	e760	e1000	10300	4350	963	4110	595	676
2	2240	1440	3750	1920	e740	e6200	9830	3720	2030	7760	581	592
3	2420	1450	8170	e1700	e720	5830	9530	3260	1880	14500	659	548
4	9960	1380	9660	e1500	e700	4180	8110	3760	1870	9300	609	497
5	8800	1280	7010	1100	e680	e3000	10200	3410	1660	5680	613	447
6	5800	1390	5480	e1200	e660	e2800	12900	2920	1360	4050	513	409
7	4250	1540	4610	1530	e640	e3800	14100	2680	1180	6260	454	408
8	3180	1420	4440	e1500	e620	e9200	12800	2400	1080	5090	420	800
9	2480	1480	4470	e1300	e600	e12000	10700	2090	981	5000	421	1880
10	2050	1670	7980	1270	e580	e9600	8640	1830	885	4080	491	1490
11	1670	1600	6890	1230	e580	7110	6540	1640	773	3160	472	991
12	1420	1650	5350	1170	e560	5620	5260	1540	816	2640	440	2730
13	1440	1770	e4400	e1100	e560	4540	5680	1610	1780	2050	387	7520
14	1690	1710	e3300	e1000	e540	3650	5110	1400	4370	2260	351	8710
15	1900	1560	e3200	1600	e520	3060	4380	1610	2690	2950	326	7480
16	1770	1560	e3000	2940	e500	2600	4070	1900	1780	1980	304	4960
17	1580	1660	2750	e2200	e480	2250	3650	1480	1360	1510	283	3570
18	1490	1680	2730	e1900	e470	2010	3270	1280	1110	1250	328	9740
19	1350	1820	2980	e1800	e460	1920	2850	1240	936	1070	313	10900
20	1220	1830	2600	e1500	e500	1910	2470	1240	826	949	357	10600
21	1320	1770	e2100	e1400	e490	1940	2170	1270	773	853	321	9190
22	1220	1880	e1800	e1100	e480	1950	1930	1190	1050	774	356	7650
23	1100	1880	e1600	e960	e470	2010	1760	1100	2850	714	406	6160
24	1150	2780	1620	e920	e470	2290	2340	1210	2030	685	380	4760
25	1050	3650	4670	e880	e460	2950	4460	1080	1250	657	327	3780
26	989	4160	5240	e880	e450	7040	4040	1020	1270	816	276	3050
27	1120	7170	4020	e860	e450	7050	3560	1130	2270	1110	1220	2480
28	1510	6850	3360	e840	e440	5570	5160	1150	2020	908	2600	2050
29	1680	5900	2920	e820	---	4760	5980	1010	1530	708	2140	1730
30	1780	4900	2600	e800	---	4560	5070	885	2860	643	1250	2790
31	1750	---	2330	e780	---	8530	---	1130	---	623	841	---
TOTAL	74039	72360	128960	41780	15580	140930	186860	57535	48233	94140	19034	118588
MEAN	2388	2412	4160	1348	556	4546	6229	1856	1608	3037	614	3953
MAX	9960	7170	9660	2940	760	12000	14100	4350	4370	14500	2600	10900
MIN	989	1280	1600	780	440	1000	1760	885	773	623	276	408
CFSM	1.49	1.50	2.59	.84	.35	2.83	3.87	1.15	1.00	1.89	.38	2.46
IN.	1.71	1.67	2.98	.97	.36	3.26	4.32	1.33	1.12	2.18	.44	2.7

CAL YR 1986 TOTAL 1017890 MEAN 2789 MAX 15000 MIN 273 CFSM 1.73 IN. 23.5
WTR YR 1987 TOTAL 998039 MEAN 2734 MAX 14500 MIN 276 CFSM 1.70 IN. 23.1

e Estimated

03011800 KINZUA CREEK NEAR GUFFEY, PA

LOCATION.--Lat 41°45'59", long 78°43'08", McKean County, Hydrologic Unit 05010001, in Allegheny National Forest, on right bank 130 ft upstream from bridge on U.S. Highway 219, 0.2 mi upstream from Wintergreen Run, 1.0 mi downstream from Pine Run, and 1.5 mi west of Guffey.

DRAINAGE AREA.--46.4 mi^2.

PERIOD OF RECORD.--Occasional low-flow measurements, published as "at Tallyho," water years 1959-65. October 1965 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,540 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--22 years, 78.4 ft^3/s, 22.95 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 5,220 ft^3/s, June 22, 1972, gage height, 8.99 ft, from rating curve extended above 1,300 ft^3/s on basis of slope-area measurement at gage height 8.33 ft; minimum, 2.0 ft^3/s, July 29, 1978, minimum gage height, 1.82 ft, Sept. 11, 12, 13, 14, 1982.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 31	1330	650	4.60	Sept. 18	0200	*1,580	*5.99
Sept. 13	0730	655	4.61				

Minimum discharge, 9.9 ft^3/s, Aug. 21, 22, gage height, 1.83 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	37	86	56	e27	e30	303	94	46	71	18	23
2	45	36	97	54	e30	e140	259	83	110	128	17	20
3	70	36	232	52	e30	97	198	110	71	184	31	18
4	334	36	202	46	e24	75	193	129	72	115	22	16
5	196	36	143	e42	e20	72	354	88	55	91	19	14
6	135	50	122	e39	e20	67	359	77	47	83	17	14
7	104	46	108	e37	e19	98	351	71	45	124	15	20
8	85	47	105	e36	e19	214	285	64	41	117	13	64
9	72	60	133	e34	e17	259	217	57	38	94	13	69
10	63	53	248	e33	e20	172	167	51	34	92	15	42
11	54	48	150	e32	e18	141	135	46	30	76	14	33
12	49	50	124	e32	e17	121	130	62	74	67	12	116
13	54	52	109	e31	e16	111	139	49	131	59	11	415
14	88	48	e96	e36	e18	96	110	41	128	72	11	203
15	76	49	e84	e45	e16	83	98	109	92	72	11	141
16	61	47	e74	62	e18	76	90	64	73	54	10	112
17	56	49	e68	42	e16	69	83	51	60	47	10	490
18	54	53	e64	e35	e15	65	77	49	51	41	11	733
19	49	63	73	e31	e14	66	69	51	45	37	10	333
20	46	54	61	e29	e13	68	62	66	41	35	11	258
21	44	55	55	e34	e14	71	56	56	40	32	10	184
22	42	53	49	e37	e14	72	51	54	54	29	23	151
23	40	53	55	e27	e15	73	55	63	55	26	18	134
24	38	86	49	e23	e16	80	150	49	39	24	11	106
25	35	90	142	e30	e17	99	130	44	33	23	11	91
26	40	108	108	e30	e18	268	99	43	38	22	10	78
27	45	170	86	e29	e15	173	93	77	66	20	128	69
28	49	129	78	e28	e20	141	180	54	59	18	93	62
29	44	115	71	e27	---	120	138	50	44	17	66	57
30	45	101	66	e26	---	167	110	45	61	16	40	88
31	41	---	61	e27	---	443	---	46	---	21	27	---
TOTAL	2216	1910	3199	1122	516	3827	4741	1993	1773	1907	728	4154
MEAN	71.5	63.7	103	36.2	18.4	123	158	64.3	59.1	61.5	23.5	138
MAX	334	170	248	62	30	443	359	129	131	184	128	733
MIN	35	36	49	23	13	30	51	41	30	16	10	14
CFSM	1.54	1.37	2.22	.78	.40	2.66	3.41	1.39	1.27	1.33	.51	2.98
IN.	1.78	1.53	2.56	.90	.41	3.07	3.80	1.60	1.42	1.53	.58	3.33

CAL YR 1986 TOTAL 27377 MEAN 75.0 MAX 760 MIN 11 CFSM 1.62 IN. 21.96
WTR YR 1987 TOTAL 28086 MEAN 76.9 MAX 733 MIN 10 CFSM 1.66 IN. 22.51

e Estimated

03012550 ALLEGHENY RIVER AT KINZUA DAM, PA

LOCATION.--Lat 41°50'29", long 79°00'44", Warren County, Hydrologic Unit 05010001, in Allegheny National Forest, on left bank 0.5 mi downstream from Kinzua Dam, 2.5 mi east of Hemlock, and at mile 197.6.

DRAINAGE AREA.--2,180 mi².

PERIOD OF RECORD.--October 1935 to current year. Published as "near Kinzua" (station 03012500) prior to October 1968 and as "at Warren" (station 03012600) October 1968 to September 1972.

REVISED RECORDS.--WSP 1275: 1936-37. WDR PA-73-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,192.55 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Nov. 1, 1964, water-stage recorder at site 1.0 mi upstream at different datum. Nov. 1, 1964, to Aug. 4, 1966, non-recording gage, and Aug. 5, 1966, to Sept. 30, 1972, water-stage recorder at site 6.4 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since October 1965 by Allegheny Reservoir, 0.5 mi upstream. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--52 years, 3,832 ft³/s, 23.87 in/yr, adjusted for storage since October 1965.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,500 ft³/s, Mar. 8, 1956, gage height, 19.95 ft, site and datum then in use; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,800 ft³/s, Apr. 12, gage height, 13.34 ft; minimum daily, 595 ft³/s, Oct. 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1690	2120	2150	5260	2040	705	5550	7600	1280	3630	1320	1720
2	1690	2130	2170	4570	2060	715	7910	8880	1280	4460	1350	1070
3	1780	2140	2460	4010	2060	1440	11200	8080	1950	5790	1110	721
4	1860	1860	5170	3980	2060	2440	10400	6450	2740	10200	815	725
5	2620	2840	8610	3340	2050	2680	4560	2980	2860	13600	710	709
6	5250	4030	10700	2270	2050	2690	4900	909	2840	13400	710	728
7	7270	4390	10700	2050	2040	2700	9820	2890	2810	13500	717	714
8	8070	4190	10700	2040	2050	2720	11300	4440	2420	13300	717	720
9	7930	2880	9860	2030	2060	4420	14300	4400	2200	10600	703	1430
10	8200	2520	9980	2030	2040	7190	17600	3940	2170	7470	719	2040
11	8450	3060	10700	2030	2040	8450	19000	3100	1580	5780	715	2020
12	8420	3510	11200	2040	2050	6950	19000	2630	881	4290	723	2040
13	8380	3460	10900	2040	2040	5810	18800	2210	652	3740	725	2080
14	8330	3490	10500	2030	2030	4730	15200	1830	1320	3650	727	3690
15	8130	3480	10600	2040	2020	4260	11800	1660	2610	3700	715	7970
16	8280	3440	10500	2040	2020	3300	9920	1650	3050	3690	713	10800
17	8240	3470	10300	2040	2010	2370	7910	1640	2920	3700	726	10800
18	6790	3520	10300	2050	2010	1670	7230	1790	3050	3120	712	11400
19	4850	3500	10200	2060	1670	982	7270	1940	2090	1820	709	11900
20	3540	3570	10200	2050	1340	725	5590	2160	1340	1140	887	12000
21	2810	3570	10000	1340	1330	721	4010	2260	1330	993	1180	12200
22	2810	3490	8970	729	1330	724	3330	2270	1340	1030	1320	12200
23	2810	3480	6570	728	1060	723	2230	2070	2070	842	1310	12000
24	2800	3550	5060	721	699	730	2930	1920	2860	718	1320	12000
25	2790	3540	4760	713	690	741	3270	1540	3040	712	1120	11300
26	2800	3510	5270	716	701	1190	3640	1340	2560	707	978	9200
27	1620	3450	5700	1130	695	1450	3790	1350	2290	704	1010	8140
28	595	3510	5600	1400	687	1460	4010	1340	2310	885	1010	6640
29	1110	3050	5590	1780	---	1450	4880	1340	2310	1210	1550	4230
30	1690	2150	5630	2060	---	1930	5880	1330	2570	1350	2020	3510
31	2120	---	5640	2030	---	3460	---	1290	---	1360	2000	---
TOTAL	143725	96900	246690	65347	46932	81526	257230	89229	64723	141091	31041	176697
MEAN	4636	3230	7958	2108	1676	2630	8574	2878	2157	4551	1001	5890
MAX	8450	4390	11200	5260	2060	8450	19000	8880	3050	13600	2020	12200
MIN	595	1860	2150	713	687	705	2230	909	652	704	703	709
†	-948	+229	-1670	+43.9	-578	+4200	+228	-433	+90.8	-71.6	-78.1	-136
MEAN‡	3688	3459	6288	2152	1098	6830	8802	2445	2248	4479	923	5754
CFSM‡	1.69	1.59	2.88	.99	.50	3.13	4.04	1.12	1.03	2.05	.42	2.64
IN.‡	1.95	1.77	3.32	1.14	.52	3.61	4.51	1.29	1.15	2.36	.48	2.94

CAL YR 1986 TOTAL 1484620 MEAN 4067 MAX 17200 MIN 595 ADJ -12.4 MEAN‡ 4055 CFSM‡ 1.86 IN.‡ 25.42
WTR YR 1987 TOTAL 1441130 MEAN 3948 MAX 19000 MIN 595 ADJ -78.0 MEAN‡ 3870 CFSM‡ 1.78 IN.‡ 25.04

† Change in contents, equivalent in cubic feet per second, in Allegheny Reservoir.
‡ Adjusted for change in reservoir contents.

03015000 CONEWANGO CREEK AT RUSSELL, PA

LOCATION.--Lat 41°56'17", long 79°08'00", Warren County, Hydrologic Unit 05010002, on left bank at highway bridge at Russell, 0.5 mi upstream from Akeley Run, and 8.0 mi upstream from mouth.

DRAINAGE AREA.--816 mi².

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for October, November 1939, published in WSP 1305.

REVISED RECORDS.--WSP 1083: 1936 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,221.77 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 10, 1941, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Chautauqua Lake. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--48 years, 1,526 ft³/s, 25.39 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,400 ft³/s, Apr. 7, 1947, gage height, 10.69 ft; minimum not determined; minimum daily, 57 ft³/s, Oct. 17, 1960.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of 10.9 ft from floodmark, discharge, 14,600 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,510 ft³/s, Oct. 7, gage height, 7.17 ft; minimum daily, 156 ft³/s, Aug. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2870	1300	2250	1560	e760	3700	3850	835	261	556	211	370
2	3270	1320	2100	1480	e740	3780	3900	698	307	2260	217	304
3	4050	1280	4140	1430	e720	3590	3830	661	385	4240	406	302
4	5140	975	4500	1340	e700	3370	3680	689	362	3130	352	289
5	5270	959	4510	1190	e680	3000	4080	570	309	1860	299	262
6	5390	1200	4500	1170	e680	2890	4460	506	271	1240	265	233
7	5490	1190	4330	1210	e700	3760	4630	476	249	1810	237	215
8	5350	1130	4040	1270	e740	4160	4740	440	242	1040	232	317
9	5070	1120	3890	1290	e760	4230	4780	402	239	861	218	1380
10	4640	1120	4370	1240	841	4280	4680	383	221	955	242	1450
11	3980	1090	4260	1210	891	4160	4330	360	203	824	244	858
12	3020	1080	4230	1200	882	3730	3660	360	218	604	231	790
13	2330	1100	4100	1170	840	2970	3070	355	289	493	209	989
14	2230	1120	3610	1130	780	2280	2550	335	302	489	192	951
15	2160	1100	2780	1610	730	1810	2130	418	278	1140	181	640
16	1990	1110	2230	2330	785	1530	1920	470	241	1310	171	465
17	2190	1250	1950	2210	705	1400	1760	409	215	851	167	768
18	2250	1400	1990	1930	674	1320	1510	358	198	556	182	3490
19	2070	1500	2300	1680	635	1300	1320	335	186	449	177	2900
20	1830	1400	2260	1460	598	1320	1200	331	174	381	167	2390
21	1640	1300	2050	1340	599	1270	955	316	168	332	159	1950
22	1240	1260	1810	1220	615	1270	847	297	215	299	194	1440
23	886	1250	1620	1160	624	1340	770	281	387	274	226	985
24	798	1820	1530	e1050	584	1410	828	278	492	256	183	701
25	751	2020	3140	e980	548	1760	945	268	418	251	165	513
26	760	2190	3470	e960	535	2350	852	280	324	275	156	445
27	950	3550	3370	e920	546	2400	744	629	273	282	776	398
28	1080	3440	3030	e880	1170	2270	955	465	256	289	1240	357
29	1320	3280	2440	e840	---	1970	1130	362	241	258	1060	330
30	1320	2870	1950	e820	---	2460	1010	313	343	230	692	1040
31	1270	---	1690	e780	---	3930	---	281	---	216	470	---
TOTAL	82605	46724	94440	40060	20062	81010	75116	13161	8267	28011	9921	27522
MEAN	2665	1557	3046	1292	716	2613	2504	425	276	904	320	917
MAX	5490	3550	4510	2330	1170	4280	4780	835	492	4240	1240	3490
MIN	751	959	1530	780	535	1270	744	268	168	216	156	215
†	-107	-110	+65.2	-187	-135	+330	-13.5	+19.5	+36.0	-43.6	+43.6	+49.4
MEAN‡	2558	1447	3111	1105	581	2943	2490	444	312	860	364	966
CFSM‡	3.13	1.77	3.81	1.35	.71	3.61	3.05	.54	.38	1.05	.45	1.18
IN.‡	3.61	1.97	4.39	1.56	.74	4.16	3.40	.62	.42	1.21	.52	1.32

CAL YR 1986 TOTAL 725765 MEAN 1988 MAX 6320 MIN 204 ADJ +6.8 MEAN‡ 1995 CFSM‡ 2.44 IN.‡ 33.17
WTR YR 1987 TOTAL 526899 MEAN 1444 MAX 5490 MIN 156 ADJ -3.1 MEAN‡ 1441 CFSM‡ 1.77 IN.‡ 23.92

† Change in contents, equivalent in cubic feet per second, in Chautauqua Lake.
‡ Adjusted for change in reservoir contents.

e Estimated

03015500 BROKENSTRAW CREEK AT YOUNGSVILLE, PA

LOCATION.--Lat 41°51'09", long 79°19'03", Warren County, Hydrologic Unit 05010001, on right bank 150 ft downstream from bridge on Main Street at Youngsville, 500 ft upstream from Matthews Run, and 3.7 mi upstream from mouth. Records include flow of Matthews Run.

DRAINAGE AREA.--321 mi^2, including that of Matthews Run.

PERIOD OF RECORD.--October 1909 to current year. Monthly discharge only for some periods, published in WSP 1305. Flow of Matthews Run included in records since October 1938.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1083: 1913 (M). WSP 1275: 1920, 1932, 1936. WSP 1305: 1910-15, 1928-29.

GAGE.--Water-stage recorder. Datum of gage is 1,186.92 ft above National Geodetic Vertical Datum, adjustment of 1907. Prior to Sept. 30, 1933, nonrecording gage at site 150 ft upstream at datum 2.00 ft higher. Oct. 1, 1933, to June 15, 1939, nonrecording gage at site 150 ft upstream, and June 16, 1939, to Sept. 30, 1961, water-stage recorder at present site, both at datum 1.00 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--77 years, 587 ft^3/s, 24.84 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 18,000 ft^3/s, Mar. 25, 1913, gage height, 14.2 ft, present datum; minimum observed, 19 ft^3/s, Oct. 14, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 4	0100	6,280	8.16	July 2	2130	*7,900	*9.17

Minimum discharge, 69 ft^3/s, Oct. 4, 10, gage height, 1.58 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1330	317	590	e460	e215	e740	2750	367	203	1230	98	227
2	1170	298	984	e400	e210	e2870	1940	325	203	5250	151	190
3	2200	297	3450	e360	e200	2640	1420	376	514	5530	650	174
4	5040	292	3790	e320	e195	1770	1210	515	302	3390	500	159
5	4720	272	2480	e300	e190	1050	2030	421	206	1610	271	140
6	2520	284	1280	e280	e185	849	3040	341	167	1300	188	125
7	1290	283	864	e270	e180	1400	3940	300	155	2140	150	119
8	780	272	998	e260	e175	2760	3260	267	142	1200	133	703
9	562	279	1910	e240	e170	3320	1930	238	133	781	130	1350
10	463	269	3580	e230	e170	2140	1100	218	123	748	195	801
11	398	261	2810	e220	e165	1140	814	203	113	493	172	545
12	347	275	1510	e220	e160	761	761	278	333	374	132	565
13	393	304	858	e215	e155	597	847	234	441	310	112	615
14	634	308	624	e210	e155	498	683	200	297	368	101	568
15	605	309	654	e600	e150	431	586	306	200	578	91	372
16	477	338	555	1230	e150	401	530	402	146	394	85	315
17	430	469	522	813	e145	365	481	265	119	282	92	591
18	382	580	807	623	e145	343	437	209	105	228	117	2340
19	337	628	1140	501	e140	350	391	196	97	199	96	2380
20	305	541	848	428	e140	367	352	199	104	175	79	2070
21	280	476	638	398	e140	375	322	184	114	161	72	1400
22	268	448	518	351	e140	376	297	182	476	149	161	860
23	256	477	448	e330	e140	403	319	246	1050	140	158	613
24	246	1020	477	e310	e140	431	474	180	465	130	115	497
25	235	1140	2010	e290	e140	560	507	157	250	133	91	399
26	247	1450	2230	e270	e135	1150	397	187	175	136	84	332
27	292	2920	1510	e260	e135	1040	351	724	163	126	1530	284
28	475	2410	909	e250	e135	759	525	693	179	114	1380	252
29	522	136	701	e240	---	572	530	362	176	116	841	245
30	421	786	597	e230	---	1280	446	247	751	110	458	1060
31	366	---	530	e220	---	3630	---	218	---	109	296	---
TOTAL	27991	18139	40822	11329	4500	35368	32670	9240	7902	28004	8729	20291
MEAN	903	605	1317	365	161	1141	1089	298	263	903	282	676
MAX	5040	2920	3790	1230	215	3630	3940	724	1050	5530	1530	2380
MIN	235	136	448	210	135	343	297	157	97	109	72	119
CFSM	2.81	1.88	4.10	1.14	.50	3.55	3.39	.93	.82	2.81	.88	2.11
IN.	3.24	2.10	4.73	1.31	.52	4.10	3.79	1.07	.92	3.25	1.01	2.35

CAL YR 1986 TOTAL 286915 MEAN 786 MAX 7550 MIN 93 CFSM 2.45 IN. 33.24
WTR YR 1987 TOTAL 244985 MEAN 671 MAX 5530 MIN 72 CFSM 2.09 IN. 28.39

e Estimated

03016000 ALLEGHENY RIVER AT WEST HICKORY, PA

LOCATION.--Lat 41°34'15", long 79°24'29", Forest County, Hydrologic Unit 05010003, on right bank at downstream side of bridge on State Highway 127 at West Hickory, 0.6 mi upstream from Siggins Run, 0.8 mi downstream from East Hickory Creek, and at mile 158.9.

DRAINAGE AREA.--3,660 mi².

PERIOD OF RECORD.--October 1941 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,059.90 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 12, 1941, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Allegheny Reservoir 39 mi upstream since October 1965 and since 1949 by Chautauqua Lake. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--46 years, 6,662 ft³/s, 24.72 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 101,000 ft³/s, Mar. 8, 1956, gage height, 17.20 ft; maximum gage height, 17.83 ft, Jan. 25, 1964 (backwater from ice); minimum discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 25,900 ft³/s, Apr. 11, gage height, 8.80 ft; minimum daily, 987 ft³/s, Aug. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6750	3760	5970	8260	e3300	2930	14300	8820	2330	5350	1970	2880
2	6980	3800	5920	7410	e3400	9620	14900	10700	2350	16000	2030	2210
3	8040	3780	12500	6450	e3400	8660	16800	10700	2760	20000	2930	1570
4	17700	3540	14700	6010	e3400	8510	19100	9540	3880	17300	2420	1320
5	14200	3290	16600	5630	e3400	7880	15700	6980	3920	18900	1830	1250
6	13800	5060	18000	4300	3470	7230	13200	2730	3720	17000	1460	1170
7	15000	5900	17100	3890	3330	7610	20800	2540	3630	19600	1310	1170
8	15400	5870	17100	3890	3260	11000	22900	5540	3500	16800	1240	2170
9	14700	5480	18400	3880	3230	13200	21500	5630	2790	14700	1220	4250
10	14200	3730	21900	3830	3310	14300	24200	5420	2710	10200	1320	4940
11	13700	4280	20500	3760	3130	15000	25500	4630	2630	8750	1250	4350
12	12700	4840	18700	3730	3170	13900	24700	3940	2190	6440	1180	5190
13	11800	4990	17200	3670	3090	11000	24100	3690	1970	4910	1130	4660
14	11800	4960	15900	3610	3000	9620	21900	3000	1650	5130	1080	4420
15	11600	4950	15100	4130	3050	7450	16300	3250	2510	5370	1040	7690
16	11200	5000	14100	6110	3230	6710	13900	3220	3530	5660	1010	11700
17	11100	5160	13400	5690	3220	4770	11800	3050	3500	5200	990	12200
18	10800	5590	13700	5180	2870	4000	10100	2920	3420	4620	1090	19500
19	8570	6150	14600	4760	2780	3300	9750	3140	3330	3520	1020	20200
20	6690	5890	14100	4340	2180	2650	9070	3230	1920	2150	987	19700
21	4900	5810	13500	4000	2100	2630	6200	3490	1760	1760	1190	17300
22	4590	5620	12600	2780	2100	2580	5200	3480	2210	1630	1770	15800
23	4120	5470	10300	2590	2120	2600	4340	3590	4070	1620	1860	14500
24	3930	6830	8140	1890	1720	2730	4210	3120	4080	1330	1710	13800
25	3850	7830	11600	e2200	1520	3150	4930	3000	4020	1240	1620	12900
26	3880	8190	12600	e2500	1440	6830	5400	2450	3760	1280	1340	11300
27	3910	12200	12200	e2700	1440	6590	5330	3980	2950	1250	4390	9540
28	2460	11000	11000	e2900	1450	5770	6160	3780	2900	1250	4590	8950
29	2480	9780	10000	e2900	---	5060	7120	3050	2860	1530	3830	6100
30	3590	7220	9240	e3100	---	5710	7990	2630	4580	1910	3670	5860
31	3480	---	8730	e3200	---	13500	---	2540	---	2000	3150	---
TOTAL	277920	175970	425400	129290	77110	226490	407400	137780	91430	224400	57627	248590
MEAN	8965	5866	13720	4171	2754	7306	13580	4445	3048	7239	1859	8286
MAX	17700	12200	21900	8260	3470	15000	25500	10700	4580	20000	4590	20200
MIN	2460	3290	5920	1890	1440	2580	4210	2450	1650	1240	987	1170
†	-1060	+119	-1600	-143	-713	+4530	+214	-414	+127	-115	-34.5	-86.6
MEAN‡	7905	5985	12120	4028	2041	11840	13790	4031	3175	7124	1824	8199
CFSM‡	2.16	1.64	3.31	1.10	.56	3.23	3.77	1.10	.87	1.95	.50	2.24
IN.‡	2.49	1.83	3.82	1.27	.58	3.72	4.21	1.27	.97	2.25	.58	2.50

CAL YR 1986 TOTAL 2749110 MEAN 7532 MAX 26400 MIN 1260 ADJ -5.6 MEAN‡ 7526 CFSM‡ 2.06 IN.‡ 28.01
WTR YR 1987 TOTAL 2479410 MEAN 6793 MAX 25500 MIN 987 ADJ -81.0 MEAN‡ 6712 CFSM‡ 1.83 IN.‡ 24.95

† Change in contents, equivalent in cubic feet per second, in Allegheny Reservoir and Chautauqua Lake.
‡ Adjusted for change in reservoir contents.

e Estimated

03020000 TIONESTA CREEK AT TIONESTA DAM, PA

LOCATION.--Lat 41°28'44", long 79°26'26", Forest County, Hydrologic Unit 05010003, on left bank 100 ft downstream from outlet tunnel at Tionesta Dam, 1.5 mi southeast of Tionesta, and 1.2 mi upstream from mouth.

DRAINAGE AREA.--479 mi².

PERIOD OF RECORD.--June 1940 to current year. Prior to October 1970, published as "at Tionesta Creek Dam."

GAGE.--Water-stage recorder. Datum of gage is 1,043.43 ft above National Geodetic Vertical Datum of 1929, unadjusted. July 1, 1954, to Dec. 6, 1960, water-stage recorder at present site and at datum 1.5 ft higher. See WSP 1305 or 1725 for history of changes prior to July 1, 1954.

REMARKS.--Records good. Flow completely regulated since 1941 by Tionesta Lake 0.2 mi upstream. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--47 years, 891 ft³/s, 25.26 in/yr, adjusted for storage since January 1941.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 13,500 ft³/s, Mar. 12, 1964; maximum gage height, 11.31 ft, Mar. 13, 1964 (backwater from Allegheny River); minimum daily discharge, 0.4 ft³/s, Feb. 28, 29, May 22 to June 16, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,760 ft³/s, Apr. 9, gage height, 6.93 ft; minimum daily, 76 ft³/s, Feb. 18.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	474	400	2070	1040	407	177	3130	1070	526	2080	206	552
2	699	397	1430	709	404	538	3750	808	527	2860	206	262
3	805	397	1340	533	404	1680	4050	946	531	4000	246	355
4	852	328	2460	537	402	2050	2470	1100	699	4440	432	409
5	905	249	3170	487	400	1770	947	1110	698	4330	539	271
6	1580	340	3310	397	306	1390	2320	1100	523	3400	449	187
7	2060	479	2990	468	249	1250	4240	1090	356	2920	265	188
8	2000	528	2710	539	250	1690	4650	940	248	2230	185	998
9	1550	527	2260	539	249	2650	5270	802	384	1920	185	2130
10	928	527	2650	474	249	3240	5310	621	479	1890	185	1510
11	560	528	3600	407	249	2880	3680	513	400	1350	185	809
12	262	529	3870	407	249	2140	2260	519	400	910	182	1410
13	263	608	3290	407	249	1680	2100	671	404	645	182	2160
14	408	659	2320	407	249	907	1850	811	670	1060	139	2830
15	536	504	1680	407	249	535	1220	808	1020	2110	110	3140
16	536	470	1510	489	248	714	1070	817	1090	1480	109	2580
17	535	531	1210	543	e165	819	890	814	892	730	108	2050
18	531	532	922	542	e76	813	787	810	404	522	108	2650
19	444	538	1130	543	133	639	787	807	254	531	108	3520
20	387	715	1250	542	135	536	782	802	254	531	108	3830
21	323	828	1040	540	135	538	613	797	348	531	108	3390
22	257	831	676	468	135	539	518	789	492	531	108	3110
23	257	831	528	329	135	539	520	788	1110	342	109	2230
24	259	971	532	262	135	539	712	623	1250	254	201	1510
25	259	1270	968	262	159	542	1250	524	670	254	259	985
26	259	1110	1790	262	175	1200	1560	527	442	254	165	706
27	342	1160	2250	262	175	2430	1540	810	531	254	103	748
28	400	1810	2330	264	175	2640	1760	1100	795	257	295	745
29	401	2150	2250	354	---	2540	1890	986	920	259	818	567
30	400	2120	1700	407	---	1920	1700	801	1290	145	963	413
31	400	---	1190	407	---	2300	---	631	---	161	943	---
TOTAL	19872	22867	60426	14234	6546	43825	63626	25335	18607	43181	8309	46245
MEAN	641	762	1949	459	234	1414	2121	817	620	1393	268	1541
MAX	2060	2150	3870	1040	407	3240	5310	1110	1290	4440	963	3830
MIN	257	249	528	262	76	177	518	513	248	145	103	187
†	+9.8	+92.4	-110	+20.8	+5.4	+82.9	-92.4	-4.9	+60.5	-55.3	+17.9	-10.1
MEAN‡	651	854	1839	480	239	1497	2029	812	680	1338	286	1531
CFSM‡	1.36	1.78	3.84	1.00	.50	3.12	4.24	1.70	1.42	2.79	.60	3.20
IN.‡	1.57	1.99	4.43	1.15	.52	3.60	4.73	1.96	1.58	3.22	.69	3.57

CAL YR 1986 TOTAL 340025 MEAN 932 MAX 4360 MIN 59 ADJ -1.6 MEAN‡ 930 CFSM‡ 1.94 IN.‡ 26.38
WTR YR 1987 TOTAL 373073 MEAN 1022 MAX 5310 MIN 76 ADJ +1.2 MEAN‡ 1023 CFSM‡ 2.14 IN.‡ 29.01

† Change in contents, equivalent in cubic feet per second, in Tionesta Lake.
‡ Adjusted for change in reservoir contents.

e Estimated

03020500 OIL CREEK AT ROUSEVILLE, PA

LOCATION.--Lat 41°28'54", long 79°41'44", Venango County, Hydrologic Unit 05010003, on right bank 100 ft downstream from bridge on State Highway 8, about 300 ft upstream from Cherrytree Run, and 1 mi north of Rouseville. Records include flow of Cherrytree Run.

DRAINAGE AREA.--300 mi^2, including that of Cherrytree Run.

PERIOD OF RECORD.--June 1932 to current year.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1053: 1936-37(M), 1943(M).

GAGE.--Water-stage recorder. Datum of gage is 1,028.32 ft above National Geodetic Vertical Datum of 1929. Prior to June 9, 1941, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--55 years, 538 ft^3/s, 24.36 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,000 ft^3/s, Jan. 22, 1959, gage height, 11.97 ft; minimum observed, 22 ft^3/s, July 29, Sept. 5, 7, 1934; minimum gage height, 1.48 ft, Aug. 20, 1971.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 4	0600	5,730	7.53	July 2	1630	*8,930	*9.16

Minimum discharge, 100 ft^3/s, Aug 20, 25, 26, gage height, 1.85 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1590	181	430	e360	e200	e920	2030	405	279	1410	128	264
2	974	169	624	e330	e170	2870	1490	361	378	5680	178	236
3	1110	169	3170	e300	e160	1600	1280	362	1060	6090	1130	242
4	4390	163	2670	e270	e150	906	1060	453	677	2420	340	208
5	2360	163	1160	e250	e140	644	2090	368	388	974	242	181
6	1160	178	778	e235	e140	625	2580	315	281	799	194	163
7	764	181	624	e230	e135	1070	2720	294	234	1700	166	158
8	514	169	890	e220	e130	2140	1850	273	217	1000	150	175
9	395	197	1960	e220	e130	1970	1200	254	205	701	155	3120
10	320	181	3070	e210	e130	1010	891	246	178	544	332	1090
11	276	163	1440	e210	e125	684	723	242	164	465	242	592
12	242	178	918	e200	e125	577	697	298	318	380	175	1840
13	260	194	694	e200	e120	479	874	268	465	332	150	897
14	420	187	490	e200	e120	417	657	234	287	841	138	960
15	410	178	538	e500	e120	370	591	476	209	1000	128	580
16	395	178	510	1030	e150	369	567	404	172	440	120	496
17	355	236	466	508	e170	324	483	294	152	336	118	460
18	260	256	779	e400	e160	305	436	252	141	284	148	785
19	225	430	1080	e410	e150	305	388	247	133	253	125	1220
20	208	336	709	e270	e140	303	356	241	211	232	108	1630
21	197	312	567	e240	e145	298	332	248	228	218	102	2060
22	187	308	456	e220	e150	290	300	295	752	197	e260	911
23	163	332	426	e210	e170	298	313	357	1690	184	e230	757
24	148	771	427	e190	e190	298	760	251	624	175	e170	799
25	138	631	1680	e180	e220	334	712	215	362	211	e120	592
26	148	995	1630	e170	e210	852	491	300	260	190	e120	455
27	172	2560	952	e170	e220	654	417	2360	216	158	e2500	385
28	336	1170	732	e160	e260	508	718	879	209	142	e1500	328
29	332	743	583	e170	---	422	618	510	190	135	e1050	304
30	246	550	e480	e190	---	1130	479	357	1660	132	e700	1540
31	211	---	e400	e210	---	3840	---	296	---	138	e400	---
TOTAL	18906	12459	31333	8663	4430	26812	28103	12355	12340	27761	11619	23428
MEAN	610	415	1011	279	158	865	937	399	411	896	375	781
MAX	4390	2560	3170	1030	260	3840	2720	2360	1690	6090	2500	3120
MIN	138	163	400	160	120	290	300	215	133	132	102	158
CFSM	2.03	1.38	3.37	.93	.53	2.88	3.12	1.33	1.37	2.99	1.25	2.60
IN.	2.34	1.54	3.89	1.07	.55	3.32	3.48	1.53	1.53	3.44	1.44	2.91

CAL YR 1986 TOTAL 207817 MEAN 569 MAX 4390 MIN 76 CFSM 1.90 IN. 25.77
WTR YR 1987 TOTAL 218209 MEAN 598 MAX 6090 MIN 102 CFSM 1.99 IN. 27.04

e Estimated

03021350 FRENCH CREEK NEAR WATTSBURG, PA

LOCATION.--Lat 42°00'55", long 79°46'58", Erie County, Hydrologic Unit 05010004, on right bank at downstream side of bridge on Tanner Road, 1,200 ft east of State Highway 74, 1.1 mi west of Pennsylvania-New York border, 1.5 mi northwest of Wattsburg, and 2.4 mi above confluence with West Branch French Creek.

DRAINAGE AREA.--92.0 mi².

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,304.84 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--13 years, 230 ft³/s, 33.95 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,350 ft³/s, Sept. 14, 1979, gage height, 11.95 ft; minimum, 6.0 ft³/s, July 24, 1979, gage height, 2.95 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 4	0630	*2,360	7.72	Mar. 2	---	ice jam	*10.78

Minimum discharge, 5.3 ft³/s, Aug. 22, gage height, 3.48 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	788	102	154	113	e82	e220	529	61	24	184	6.9	51
2	407	101	584	107	e90	e1300	424	53	26	269	51	44
3	927	111	2140	104	e90	771	355	73	43	293	398	49
4	1940	99	1190	92	e88	423	295	77	36	140	157	41
5	706	94	379	e84	e82	313	842	53	24	76	67	31
6	478	94	245	e80	e82	281	1580	47	18	72	43	25
7	262	90	220	e78	e80	735	1490	43	16	111	30	22
8	172	81	348	e74	e80	1620	795	39	16	83	22	119
9	138	94	933	e72	e68	1330	364	35	16	436	22	254
10	127	99	1820	e72	e82	362	237	31	14	144	47	133
11	104	87	476	e70	e88	226	184	30	12	70	41	83
12	88	101	250	e68	e84	182	173	48	78	48	26	210
13	138	114	189	e66	e80	162	189	41	112	41	19	605
14	245	116	165	e64	e78	135	155	34	52	503	14	213
15	233	122	159	e400	e74	119	143	164	32	362	11	112
16	414	152	147	522	e80	118	131	103	21	120	9.4	88
17	250	306	148	221	e72	111	113	60	15	69	7.5	270
18	181	272	333	166	e72	113	101	45	12	48	8.1	802
19	138	223	358	136	e68	134	87	47	10	39	7.1	579
20	121	164	219	e96	e60	150	78	41	9.1	31	6.4	731
21	102	146	174	e100	e60	157	68	37	9.8	25	5.8	313
22	92	143	142	e98	e62	162	62	31	135	20	16	170
23	87	180	122	e70	e68	204	63	36	135	17	26	123
24	82	628	136	e54	e74	210	93	29	69	15	18	96
25	75	318	1080	e88	e78	214	88	27	40	16	12	80
26	92	840	575	e90	e72	566	66	81	27	33	9.5	66
27	111	1370	266	e84	e66	372	61	175	21	19	741	56
28	228	422	195	e80	e64	246	105	120	25	13	491	50
29	170	232	155	e80	---	180	99	57	28	10	249	64
30	148	181	138	e82	---	421	74	38	132	8.5	126	638
31	126	---	123	e82	---	1160	---	29	---	8.1	69	---
TOTAL	9170	7082	13563	3593	2124	12697	9044	1785	1207.9	3323.6	2756.7	6118
MEAN	296	236	438	116	75.9	410	301	57.6	40.3	107	88.9	204
MAX	1940	1370	2140	522	90	1620	1580	175	135	503	741	802
MIN	75	81	122	54	60	111	61	27	9.1	8.1	5.8	22
CFSM	3.22	2.57	4.76	1.26	.82	4.45	3.28	.63	.44	1.17	.97	2.22
IN.	3.71	2.86	5.48	1.45	.86	5.13	3.66	.72	.49	1.34	1.11	2.47

CAL YR 1986 TOTAL 99384.0 MEAN 272 MAX 3580 MIN 13 CFSM 2.96 IN. 40.18
WTR YR 1987 TOTAL 72464.2 MEAN 199 MAX 2140 MIN 5.8 CFSM 2.16 IN. 29.28

e Estimated

03021410 WEST BRANCH FRENCH CREEK NEAR LOWVILLE, PA

LOCATION.--Lat 42°04'54", long 79°51'02", Erie County, Hydrologic Unit 05010004, on left bank on upstream side of highway bridge on Knoyle Road, 1,000 ft downstream from Townley Run, 2.5 mi southwest of Hornby, and 4.2 mi northwest of Lowville.

DRAINAGE AREA.--52.3 mi^2.

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,300 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--13 years, 132 ft^3/s, 34.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,390 ft^3/s, Mar. 21, 1978, Aug. 5, 1983, gage height, 10.81 ft; minimum observed, 2.4 ft^3/s, June 27, 1979, gage height, 2.96 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 3	1700	1,640	10.03	July 14	1230	2,510	*10.32

Minimum discharge, 5.8 ft^3/s, Aug. 21, gage height, 3.32 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	488	57	71	57	e49	e400	283	30	11	86	7.7	36
2	276	59	309	55	e48	1100	213	26	14	115	22	34
3	339	65	1080	e52	e47	652	172	27	50	118	166	40
4	996	57	663	e50	e46	364	141	28	29	46	53	30
5	563	54	217	e48	e44	254	501	25	20	30	30	25
6	328	52	139	e46	e42	201	954	23	15	26	23	22
7	159	48	178	e45	e41	495	987	21	14	54	19	20
8	76	45	330	e43	e36	946	583	20	13	54	15	71
9	59	53	626	e42	e46	734	224	19	14	62	22	163
10	53	54	989	e41	e62	266	126	18	13	39	52	88
11	43	49	355	e41	e52	132	92	18	10	29	36	61
12	37	58	160	e40	e50	93	91	21	86	24	26	239
13	58	61	124	e40	e47	81	96	20	76	57	22	677
14	135	62	e92	e40	e46	69	74	19	31	1040	16	264
15	221	62	e76	e270	e45	66	76	47	21	546	14	109
16	446	86	e64	304	e43	61	77	36	16	149	12	84
17	307	182	e56	155	e41	55	65	28	13	50	8.8	141
18	181	150	e150	84	e40	55	58	24	11	38	8.0	429
19	150	123	177	e66	e38	62	47	25	9.3	31	7.3	321
20	110	77	116	e60	e37	68	42	27	8.4	26	7.7	305
21	87	72	81	e48	e35	72	34	24	8.1	22	6.4	191
22	78	78	63	e40	e35	76	29	21	137	19	11	115
23	92	132	60	e37	e35	91	29	19	150	17	15	89
24	75	376	66	e35	e36	92	39	19	52	14	9.9	71
25	64	210	608	e40	e37	89	37	18	29	20	8.0	55
26	68	420	386	e39	e37	240	30	18	22	28	7.5	44
27	77	607	165	e38	e36	189	28	20	20	20	309	36
28	210	249	105	e38	e38	110	50	18	23	16	221	32
29	114	123	75	e38	---	74	46	15	26	13	161	40
30	98	91	67	e39	---	183	35	13	58	11	91	328
31	72	---	60	e50	---	568	---	12	---	8.8	47	---
TOTAL	6060	3812	7708	2021	1189	7938	5259	699	999.8	2808.8	1454.3	4160
MEAN	195	127	249	65.2	42.5	256	175	22.5	33.3	90.6	46.9	139
MAX	996	607	1080	304	62	1100	987	47	150	1040	309	677
MIN	37	45	56	35	35	55	28	12	8.1	8.8	6.4	20
CFSM	3.74	2.43	4.75	1.25	.81	4.90	3.35	.43	.64	1.73	.90	2.65
IN.	4.31	2.71	5.48	1.44	.85	5.65	3.74	.50	.71	2.00	1.03	2.96

CAL YR 1986 TOTAL 61309.0 MEAN 168 MAX 2820 MIN 3.5 CFSM 3.21 IN. 43.60
WTR YR 1987 TOTAL 44108.9 MEAN 121 MAX 1100 MIN 6.4 CFSM 2.31 IN. 31.38

e Estimated

03021520 FRENCH CREEK NEAR UNION CITY, PA

LOCATION.--Lat 41°54'28", long 79°53'49", Erie County, Hydrologic Unit 05010004, on left bank at upstream side of bridge on State Highway 97, 0.4 mi upstream from South Branch French Creek, 0.9 mi downstream from Union City Dam, and 3.2 mi west of Union City.

DRAINAGE AREA.--221 mi^2.

PERIOD OF RECORD.--October 1909 to current year. Published as North Branch French Creek at Kimmeytown May 1910 to September 1914, as "at Kimmeytown" October 1915 to September 1932, and as "at Carters Corners" (station 03021500) October 1932 to September 1971. Monthly discharge only for some periods published in WSP 1305.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1275: 1934, 1936-37 (M), 1939 (M), 1942 (M). WSP 1305: 1910-11, 1913, 1914 (M), 1915-16, 1925. 1928. WDR PA-79-3: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,191.16 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Dec. 22, 1948, nonrecording gage at site 4.5 mi upstream at datum 43.4 ft higher. Dec. 22, 1948, to Sept. 30, 1971, water-stage recorder at site 4.6 mi upstream at datum 43.4 ft higher. Oct. 1, 1971 to Oct. 10, 1974, at present site at different datum. Oct. 11, 1974 to Nov. 4, 1977 at site 0.7 mi upstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flood flow regulated beginning October 1971 by Union City Reservoir 0.9 mi upstream, serving as a retarding basin. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--78 years, 439 ft^3/s, 26.98 in/yr, adjusted for storage since 1971.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,000 ft^3/s, Apr. 5, 1947, gage height, 13.50 ft, site and datum then in use, by slope-area measurement of peak flow; maximum gage height observed, 16.0 ft, Feb. 20, 1918 (backwater from ice), site and datum then in use; minimum discharge observed, 3.9 ft^3/s, Aug. 15, 18-21, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,390 ft^3/s, Dec. 11, gage height, 5.11 ft; minimum daily, 51 ft^3/s, July 30, 31, Aug. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	998	253	1040	445	e145	e370	1000	168	67	489	51	202
2	1050	219	995	314	e150	e960	1010	148	88	727	70	124
3	1130	238	1190	276	e155	1040	1000	169	283	925	485	122
4	1330	228	1300	238	e150	1070	986	252	181	700	551	114
5	1360	207	1300	e240	e145	1070	1020	175	101	429	331	91
6	1370	199	1280	e245	e140	1030	1130	142	74	191	124	76
7	1350	193	1240	259	e140	1020	1220	130	64	274	90	69
8	1320	178	1220	309	e140	1100	1280	120	58	292	73	216
9	1270	180	1240	296	e120	1200	1290	112	58	619	70	537
10	1210	207	1320	263	e135	1230	1250	105	55	772	103	530
11	1140	188	1370	255	e145	1230	1210	100	53	489	126	355
12	1030	201	1350	247	e135	1200	1180	114	160	203	89	373
13	880	235	1290	243	e130	1160	1150	124	341	134	68	916
14	701	243	1260	232	e120	1120	1110	105	220	485	59	1050
15	629	251	1230	417	e115	1070	1070	229	107	995	57	1020
16	687	282	1190	839	e110	996	1010	275	73	1030	57	902
17	830	444	1140	874	e115	902	937	171	59	962	57	700
18	811	579	1100	763	e110	774	838	122	55	689	57	981
19	633	606	1080	529	e105	546	635	110	55	291	57	1130
20	487	536	1050	348	e100	422	380	106	55	115	57	1220
21	337	421	997	e230	e98	357	206	99	55	96	57	1210
22	257	337	915	e160	e100	341	168	88	285	82	57	1180
23	238	357	737	e120	e105	371	158	87	485	71	57	1130
24	235	658	497	e100	e110	402	213	77	397	66	57	1030
25	209	881	811	e130	e110	410	223	69	168	64	57	893
26	216	929	1040	e150	e110	553	174	82	100	80	57	599
27	250	1130	1050	e145	e100	740	152	314	82	72	490	292
28	373	1180	1020	e135	e94	719	213	249	85	59	900	157
29	497	1150	961	e135	---	583	250	138	101	52	895	139
30	407	1100	851	e140	---	513	206	93	300	51	766	563
31	325	---	634	e140	---	884	---	75	---	51	484	---
TOTAL	23560	13810	33698	9217	3432	25383	22669	4348	4265	11555	6509	17921
MEAN	760	460	1087	297	123	819	756	140	142	373	210	597
MAX	1370	1180	1370	874	155	1230	1290	314	485	1030	900	1220
MIN	209	178	497	100	94	341	152	69	53	51	51	69
†	-35.1	+74.7	-66.6	-7.6	-0.1	+60.9	-63.2	-0.6	+6.3	-6.2	+2.6	+19.1
MEAN‡	725	535	1020	289	123	880	693	139	148	367	213	616
CFSM‡	3.28	2.42	4.62	1.31	.56	3.98	3.14	63	.67	1.66	.96	2.79
IN.‡	3.78	2.70	5.33	1.51	.58	4.59	3.50	.73	.75	1.91	1.11	3.11

CAL YR 1986 TOTAL 235679 MEAN 646 MAX 2650 MIN 30 ADJ +0.4 MEAN‡ 646 CFSM‡ 2.92 IN.‡ 39.69
WTR YR 1987 TOTAL 176367 MEAN 483 MAX 1370 MIN 51 ADJ -1.4 MEAN‡ 482 CFSM‡ 2.18 IN.‡ 29.60

† Change in contents, equivalent in cubic feet per second, in Union City Reservoir.
‡ Adjusted for change in reservoir contents.

e Estimated

03022540 WOODCOCK CREEK AT BLOOMING VALLEY, PA

LOCATION.--Lat 41°41'26", long 80°02'54", Crawford County, Hydrologic Unit 05010004, on left bank at upstream side of bridge, 0.7 mi northeast of Blooming Valley, and 3.4 mi upstream from Woodcock Creek Dam.

DRAINAGE AREA.--31.1 mi^2.

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,200 ft, above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--13 years, 58.2 ft^3/s, 25.41 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,980 ft^3/s, Feb. 17, 1976, gage height, 11.48 ft, from rating curve extended above 600 ft^3/s on basis of slope-area measurement of peak flow; maximum gage height, 12.27 ft, Feb. 25, 1977 (backwater from ice); minimum daily discharge, 2.4 ft^3/s, Aug. 27, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 2	2300	1,500	9.47	No other peak greater than base discharge.			

Minimum discharge, 4.5 ft^3/s, Aug. 20, gage height, 5.80 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116	26	42	e34	e27	e200	124	24	12	113	8.7	25
2	82	25	168	e32	e26	288	124	23	166	859	98.6	22
3	230	25	497	e31	e20	107	108	27	56	583	295	23
4	488	25	236	e30	e16	69	94	29	29	118	54	18
5	154	25	95	e29	e14	62	217	22	20	67	29	16
6	76	27	68	e30	e13	77	306	20	16	50	21	15
7	57	25	65	e30	e13	153	286	18	14	44	18	16
8	41	25	134	e28	e13	179	158	17	12	43	16	83
9	34	27	220	e28	e13	131	89	15	11	34	18	101
10	30	25	244	e30	e12	65	63	14	10	32	27	40
11	26	24	100	e29	e12	56	49	13	8.8	32	19	175
12	24	28	69	e29	e12	40	59	20	23	24	16	274
13	44	28	56	e27	e12	35	67	15	22	25	12	190
14	54	27	105	e29	e11	33	47	13	15	110	10	85
15	42	26	79	e120	e11	34	44	29	11	62	9.0	55
16	32	33	44	96	e11	33	41	20	11	34	7.9	54
17	28	36	43	66	e12	29	36	15	15	26	7.8	52
18	25	37	146	43	e12	28	33	13	8.1	22	8.6	113
19	23	60	106	e37	e13	29	28	13	6.9	18	7.4	135
20	22	40	66	e31	e13	29	26	14	13	16	5.7	370
21	21	48	52	e28	e15	28	24	12	20	13	5.4	120
22	20	50	50	e26	e16	27	22	10	116	12	18	116
23	20	68	100	e25	e18	28	26	12	88	10	16	91
24	20	117	113	e24	e20	26	65	10	33	9.6	9.8	66
25	19	66	265	e23	e22	27	42	8.9	21	33	7.6	53
26	24	196	132	e21	e23	36	29	11	16	49	7.2	43
27	28	285	76	e20	e22	33	28	63	14	21	204	34
28	93	99	59	e20	e30	28	51	24	20	15	128	29
29	49	65	47	e22	---	25	36	16	16	12	62	40
30	36	51	e42	e26	---	116	29	12	252	9.6	32	254
31	29	---	e37	e26	---	286	---	13	---	8.9	25	---
TOTAL	1987	1639	3556	1070	452	2337	2351	565.9	1075.8	2505.1	1203.7	2708
MEAN	64.1	54.6	115	34.5	16.1	75.4	78.4	18.3	35.9	80.8	38.8	90.3
MAX	488	285	497	120	30	288	306	63	252	859	295	370
MIN	19	24	37	20	11	25	22	8.9	6.9	8.9	5.4	15
CFSM	2.06	1.76	3.69	1.11	.52	2.42	2.52	.59	1.15	2.60	1.25	2.90
IN.	2.38	1.96	4.25	1.28	.54	2.80	2.81	.68	1.29	3.00	1.44	3.24

CAL YR 1986 TOTAL 22046.9 MEAN 60.4 MAX 646 MIN 3.5 CFSM 1.94 IN. 26.37
WTR YR 1987 TOTAL 21450.5 MEAN 58.8 MAX 859 MIN 5.4 CFSM 1.89 IN. 25.67

e Estimated

03022554 WOODCOCK CREEK AT WOODCOCK CREEK DAM, PA

LOCATION.--Lat 41°41'45", long 80°06'30", Crawford County, Hydrologic Unit 05010004, on left bank 0.5 mi downstream from Woodcock Creek Dam, 2.6 mi southeast of Saegertown, and 3.0 mi upstream from mouth.

DRAINAGE AREA.--45.6 mi².

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,126.92 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Nov. 4, 1976, water-stage recorder at site 0.5 mi downstream at datum 10.08 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow completely regulated by Woodcock Creek Lake 0.5 mi upstream. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--13 years, 9.3 ft³/s, 26.59 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,040 ft³/s, June 17, 1986, gage height, 5.41 ft; minimum daily, 4.2 ft³/s, Apr. 21, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 685 ft³/s, Dec. 11, gage height, 4.71 ft; minimum daily, 8.3 ft³/s, July 23.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	59	107	112	26	30	61	58	40	307	15	106
2	167	59	84	110	26	54	122	42	58	252	23	43
3	145	58	85	109	36	202	173	30	104	103	80	31
4	42	e58	177	83	42	268	130	30	112	256	182	31
5	12	e58	258	43	42	261	60	30	92	351	195	24
6	40	e56	284	22	42	176	113	30	61	348	193	17
7	202	e56	280	42	42	125	234	29	43	346	167	16
8	358	e56	306	62	42	209	428	29	23	342	113	18
9	350	e56	322	62	41	260	479	29	14	338	54	65
10	344	e54	414	52	41	177	364	21	11	334	36	126
11	336	e54	606	42	41	84	174	16	11	328	39	144
12	330	e54	631	42	41	49	103	16	12	219	39	135
13	324	53	508	42	32	48	102	16	11	127	34	133
14	230	52	338	43	21	48	102	14	11	84	30	228
15	126	52	179	73	21	48	88	16	11	80	22	340
16	110	52	118	111	e21	40	65	18	e11	90	16	350
17	98	52	103	111	16	29	46	18	e11	73	16	350
18	86	53	91	109	11	20	39	18	e11	45	16	348
19	86	76	109	108	e11	14	39	18	e11	25	16	348
20	84	102	120	95	e11	13	32	18	e11	15	16	352
21	70	102	119	79	e11	13	29	18	e11	11	16	450
22	56	101	119	47	11	13	29	18	e24	9.5	16	399
23	57	100	117	22	11	13	29	18	101	8.3	16	322
24	57	101	117	e22	11	13	36	18	117	8.5	16	184
25	57	101	174	22	17	13	57	18	97	12	17	57
26	57	82	229	22	23	13	79	18	61	23	17	28
27	59	56	224	22	25	13	68	25	45	35	24	28
28	60	80	203	22	25	13	58	36	45	35	89	28
29	59	107	163	24	---	13	58	40	31	29	252	30
30	59	107	139	26	---	16	58	40	142	22	293	102
31	59	---	122	26	---	17	---	40	---	15	210	---
TOTAL	4253	2107	6846	1807	740	2305	3455	785	1343	4271.3	2268	4833
MEAN	137	70.2	221	58.3	26.4	74.4	115	25.3	44.8	138	73.2	161
MAX	358	107	631	112	42	268	479	58	142	351	293	450
MIN	12	52	84	22	11	13	29	14	11	8.3	15	16
†	-32.2	+8.4	-36.9	-4.2	+0.7	+47.2	+11.6	-0.2	+7.1	-6.0	-0.2	+8.1
MEAN‡	105	78.6	184	54.1	27.1	122	127	25.1	51.9	132	73.0	169
CFSM‡	2.30	1.72	4.04	1.19	.59	2.68	2.78	.55	1.14	2.89	1.60	3.71
IN.‡	2.65	1.92	4.66	1.37	.61	3.09	3.10	.63	1.27	3.33	1.84	4.14

CAL YR 1986 TOTAL 37048.0 MEAN 102 MAX 986 MIN 5.8 ADJ +0.2 MEAN‡ 102 CFSM‡ 2.24 IN.‡ 30.23
WTR YR 1987 TOTAL 35013.3 MEAN 95.9 MAX 631 MIN 8.3 ADJ +0.2 MEAN‡ 96.1 CFSM‡ 2.11 IN.‡ 28.61

† Change in contents, equivalent in cubic feet per second, in Woodcock Creek Lake.
‡ Adjusted for change in reservoir contents.

e Estimated

FRENCH CREEK BASIN

03024000 FRENCH CREEK AT UTICA, PA

LOCATION.--Lat 41°21'15", long 79°57'22", Venango County, Hydrologic Unit 05010004, on right bank at upstream side of bridge on Legislative Route 60019 at Utica and 2,000 ft upstream from Mill Creek.

DRAINAGE AREA.--1,028 mi².

PERIOD OF RECORD.--August 1932 to current year.

REVISED RECORDS.--WSP 743: Drainage area. WSP 823: 1936 (M). WSP 1275: 1933, 1936.

GAGE.--Water-stage recorder. Datum of gage is 1,019.44 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 27, 1933, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated since 1971 by Union City Reservoir 50 mi upstream, serving as a retarding basin, and since January 1974 by Woodcock Creek Lake, 25 mi upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--55 years, 1,837 ft³/s, 24.27 in/yr, adjusted for storage since 1971.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,800 ft³/s, Mar. 7, 1964, gage height, 13.2 ft, from floodmark in gage well; minimum, 43 ft³/s, July 30, 1934, gage height, 1.03 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1912, 15.7 ft in March 1913, discharge 35,600 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,600 ft³/s, July 3, gage height, 9.62 ft; minimum daily, 268 ft³/s, Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3100	1240	2780	2090	e720	e2100	5180	1130	723	3270	308	1860
2	3120	1080	3140	1880	e740	5270	4850	998	1210	6960	451	1400
3	3250	979	6730	1700	e760	6160	4790	931	2280	12200	3500	1100
4	6390	960	8260	1540	e780	5070	4320	1010	2550	11700	2730	932
5	6820	928	7460	1260	e740	4070	4970	1170	1370	7290	2040	820
6	5750	899	5250	1120	e720	3680	6720	1010	857	3860	1510	708
7	4320	869	4110	e1050	e680	3860	7990	848	640	3070	1040	625
8	3580	860	4260	e980	e660	5080	7920	758	513	2720	813	795
9	2960	843	5180	e940	e640	5610	6430	689	430	2340	706	1890
10	2610	805	6540	e920	e600	4830	4980	631	374	2250	820	2330
11	2380	806	6480	e880	e640	3580	3850	570	338	2240	961	2280
12	2180	828	5270	e880	e700	2910	3200	584	408	1930	823	3490
13	2140	853	4320	e860	e740	2600	3060	559	601	1510	648	3280
14	2300	928	3390	e840	e700	2410	2860	549	937	1670	533	3340
15	2200	927	3050	e1750	e640	2260	2650	628	738	2810	462	3100
16	1950	976	2770	3170	e620	2170	2490	690	513	2730	405	e1900
17	1840	1140	2600	3010	e560	2040	2310	790	392	2260	364	e1800
18	1870	1480	3060	2670	e540	1880	2130	662	324	1950	353	e3000
19	1740	1900	3870	2340	e520	1720	1950	569	283	1560	316	e4000
20	1510	1960	3520	1950	e490	1520	1720	508	852	1140	292	e5400
21	1310	1910	3060	1690	e480	1360	1420	479	750	795	268	e3700
22	1110	1820	2620	1470	e490	1240	1130	452	1660	653	1000	e2400
23	956	1830	2260	1240	e520	1180	1020	476	2480	570	738	e2000
24	865	2170	2080	824	e540	1190	1400	651	2580	508	470	e2100
25	816	2630	4010	786	e560	1220	1550	547	1860	527	425	e1600
26	803	3120	5450	e780	e580	1400	1390	446	1220	811	422	e1450
27	859	5430	4710	e740	e620	1800	1200	720	816	556	1620	e1300
28	1410	5200	4010	e720	e640	1860	1400	1720	752	487	4530	e1250
29	1880	4170	3230	e700	---	1720	1390	1050	738	422	3560	e1200
30	1750	3460	2720	e680	---	1830	1300	717	1850	375	3000	e4100
31	1490	---	2390	e700	---	4610	---	695	---	350	2410	---
TOTAL	75259	53001	128580	42160	17620	88230	97570	23237	31039	81514	37518	65150
MEAN	2428	1767	4148	1360	629	2846	3252	750	1035	2629	1210	2172
MAX	6820	5430	8260	3170	780	6160	7990	1720	2580	12200	4530	5400
MIN	803	805	2080	680	480	1180	1020	446	283	350	268	625
†	-67.3	+83.1	-104	-11.8	+0.6	+108	-51.6	-0.8	+13.4	-12.2	+2.4	+27.2
MEAN‡	2361	1850	4044	1348	630	2954	3200	7490	1048	2617	1212	2199
CFSM‡	2.30	1.80	3.93	1.31	.61	2.87	3.11	.73	1.02	2.55	1.18	2.14
IN.‡	2.65	2.01	4.53	1.51	.64	3.31	3.47	.84	1.14	2.94	1.36	2.39

CAL YR 1986 TOTAL 844541 MEAN 2314 MAX 12300 MIN 153 ADJ +0.6 MEAN‡ 2315 CFSM‡ 2.25 IN.‡ 30.51
WTR YR 1987 TOTAL 740878 MEAN 2030 MAX 12200 MIN 268 ADJ -1.2 MEAN‡ 2029 CFSM‡ 1.97 IN.‡ 26.79

† Change in contents, equivalent in cubic feet per second, in Union City Reservoir and Woodcock Creek Lake.
‡ Adjusted for change in reservoir contents.

e Estimated

03025500 ALLEGHENY RIVER AT FRANKLIN, PA

LOCATION.--Lat 41°23'22", long 79°49'14", Venango County, Hydrologic Unit 05010003, on right bank at upstream side of Eighth Street bridge on U.S. Highway 322 at Franklin, 1,000 ft downstream from French Creek, and at mile 124.4.

DRAINAGE AREA.--5,982 mi².

PERIOD OF RECORD.--October 1914 to current year. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected at same site since April 1905 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 743: Drainage area. WSP 783: 1913 (M). WSP 1003: 1920 (M). WSP 1305: 1926 (M) 1928-29 (M). WSP 1385: 1920, 1932.

GAGE.--Water-stage recorder. Datum of gage is 955.84 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 16, 1932, nonrecording gage, and Sept. 16-30, 1932, water-stage recorder, at present site at datum 2.00 ft higher.

REMARKS.--Records fair. Flow regulated by Allegheny Reservoir 74 mi upstream since 1965, by Chautauqua Lake since 1949, by Tionesta Lake since 1940, by Union City Reservoir since 1971, and by Woodcock Creek Lake since January 1974. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--73 years, 10,550 ft³/s, 23.95 in/yr, adjusted for storage 1940-75.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 138,000 ft³/s, Mar. 13, 1920; maximum gage height observed, 26.0 ft, Feb. 27, 1917 (backwater from ice) and Feb. 26, 1926 (backwater from ice); minimum discharge, 334 ft³/s, July 30, 1934, gage height, 1.63 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 17, 1865, reached a stage of 25.0 ft, and that of Mar. 26, 1913, a stage of 24.6 ft, from graph based on gage readings, discharge, 196,000 ft³/s and 191,000 ft³/s, respectively, from rating curve extended above 120,000 ft³/s. Maximum discharge since at least 1864 is that of Mar. 17, 1865.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 50,800 ft³/s, July 3; minimum 1,690 ft³/s, Aug. 21, gage height, 2.59 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6900	6410	12800	12600	e5200	6740	27800	12200	5210	12700	2850	6490
2	7890	6250	12600	11500	e5400	18800	26500	13100	e5800	27500	3020	5050
3	8200	6140	23700	10400	e5600	20100	28200	13700	e6800	48600	8860	4080
4	16600	6070	30700	9430	e5600	18100	29100	13400	8760	38800	6920	3350
5	23400	5380	29400	8760	e5400	15800	27800	11800	7620	32300	5660	2950
6	21500	6420	27700	e8400	e5400	14400	27100	8200	6560	25500	4450	2630
7	e23000	8000	25700	e6600	e5200	14700	35900	5650	e5600	26200	3480	2340
8	e25000	8370	25600	e6600	e5200	20400	39800	7400	e4900	24100	2900	2930
9	e23000	8230	28800	e6400	e5300	24100	35000	8480	e4500	20900	2690	8090
10	e23000	6770	36600	e6400	e5400	24000	35300	8240	e4200	16400	3030	10100
11	e22000	6480	33700	e6400	e5200	23100	33900	7370	e3800	14000	3190	9090
12	e20000	7050	30000	e6200	e5200	21800	31400	7000	e4400	10900	2900	11400
13	e19000	7580	26900	e6200	e5200	17500	30400	e6200	5240	8690	2580	12600
14	e19000	7660	e23800	e6000	e5200	15100	28700	e5600	4610	9380	2360	12300
15	e18500	7620	e22000	7450	e5100	12200	22800	e5400	e4200	11900	2150	12400
16	e18000	7490	19700	11400	4990	11400	19500	e5600	5850	11600	2010	14400
17	e18000	7820	18500	e9400	5440	9710	17100	e4700	6000	9770	1920	16100
18	e15000	8600	18800	e8600	e4800	8400	14600	e5200	5510	8270	1970	20100
19	11100	10100	21200	e8000	e4300	7440	13700	e5200	4930	6940	1950	28000
20	10100	9980	20500	e7200	e4000	6360	13200	e5100	5340	5300	1800	31900
21	8710	10100	19100	e6600	e3500	5860	10600	e5000	4470	4090	1720	29800
22	7390	9810	17500	e4700	e3400	5700	8600	5980	6800	3540	2610	25800
23	6470	9710	14800	e4500	e3300	5610	7760	6930	10200	3310	3550	23500
24	6040	11200	12000	3940	e2800	5660	8500	6230	10200	2900	2970	20600
25	5840	13200	17300	3510	e2300	5970	9970	5480	8350	2650	2730	18100
26	5880	14500	23000	4560	e2600	10600	10200	5400	7040	3350	2640	15700
27	6030	22900	21600	e4500	e2200	12700	9900	11500	5860	2710	3900	13200
28	6120	21200	19700	e4600	e2200	12200	11400	10300	5560	2480	10500	11500
29	5980	18600	17400	e4800	---	11200	11900	7970	5660	2410	10200	9920
30	6180	15300	15300	e5000	---	11700	12400	6360	9730	2660	8750	9360
31	6420	---	13500	e5200	---	25000	---	5660	---	2870	7610	---
TOTAL	420250	294940	679900	215850	125430	422350	639030	236350	183700	402720	123870	393780
MEAN	13560	9831	21930	6963	4480	13620	21300	7624	6123	12990	3996	13130
MAX	25000	22900	36600	12600	5600	25000	39800	13700	10200	48600	10500	31900
MIN	5840	5380	12000	3510	2200	5610	7760	4700	3800	2410	1720	2340

CAL YR 1986 TOTAL 4496930 MEAN 12320 MAX 40800 MIN 2280
WTR YR 1987 TOTAL 4138170 MEAN 11340 MAX 48600 MIN 1720

e Estimated

03026500 SEVENMILE RUN NEAR RASSELAS, PA

LOCATION.--Lat 41°37'52", long 78°34'37", McKean County, Hydrologic Unit 05010005, on right bank 300 ft upstream from highway bridge, 600 ft upstream from Fivemile Run, and 3.2 mi northeast of Rasselas.

DRAINAGE AREA.--7.84 mi^2.

PERIOD OF RECORD.--October 1951 to current year.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 1,690.73 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--36 years, 14.6 ft^3/s, 25.29 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,300 ft^3/s, Sept. 13, 1987, gage height, 5.30 ft. from rating curve extended above 600 ft^3/s on basis of slope-area measurement at gage height 4.60 ft; minimum, 0.07 ft^3/s, Sept. 21, 1955.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Sept. 13	0015	2,300	5.30	No other peak greater than base discharge.			

Minimum daily discharge, 1.6 ft^3/s, Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	8.5	19	9.7	e4.7	e13	60	18	6.6	26	2.2	3.7
2	8.1	8.3	23	e8.4	e3.8	e37	48	16	6.4	96	2.6	3.3
3	26	7.7	51	e7.8	e2.8	26	38	21	6.5	76	4.1	3.1
4	48	7.6	40	e7.0	e2.3	21	45	23	6.5	47	2.4	2.4
5	26	7.5	30	e6.4	e2.2	15	75	17	5.0	32	2.2	2.2
6	19	11	24	e5.8	e2.2	11	85	15	4.2	35	2.2	2.4
7	15	9.2	21	e5.4	e2.2	22	74	14	4.5	42	2.1	3.5
8	12	11	19	e5.0	e2.2	47	52	12	3.9	51	2.1	25
9	10	15	32	e4.8	e2.1	52	38	11	3.7	34	2.1	17
10	8.6	13	53	e4.5	e2.0	36	30	9.9	3.1	26	2.2	10
11	7.2	13	34	e4.2	e2.2	26	24	8.7	2.7	20	2.1	11
12	6.4	12	27	e4.0	e2.1	22	23	14	8.6	16	2.0	100
13	8.0	12	22	e3.9	e2.0	19	22	10	14	14	1.9	363
14	15	11	e17	e3.7	e1.9	16	17	8.4	14	26	1.8	75
15	13	9.9	e15	e4.7	e1.8	14	15	27	8.8	21	1.8	43
16	11	9.9	e13	e6.8	e2.0	13	14	16	6.7	15	1.7	33
17	10	10	e12	e5.8	e2.1	12	13	13	5.7	12	1.8	80
18	9.3	11	14	e5.0	e2.1	12	12	12	4.9	10	2.1	104
19	8.1	13	13	e4.5	e2.0	12	10	12	4.2	8.7	1.9	61
20	7.3	11	11	e5.2	e1.9	13	9.2	15	4.0	7.6	1.8	51
21	6.7	11	9.8	e6.4	e2.0	14	8.3	12	4.0	6.6	1.6	39
22	6.3	11	8.7	e6.0	e2.1	14	7.6	11	20	5.6	4.7	33
23	5.8	11	12	e5.4	e2.1	14	9.1	12	16	4.9	2.4	27
24	5.3	19	8.2	e5.0	e2.0	14	31	10	9.2	4.5	1.9	22
25	4.8	20	24	e5.8	e1.9	20	27	8.8	7.3	4.0	1.8	18
26	6.3	43	19	e5.6	e1.8	55	21	8.3	16	5.0	1.8	15
27	7.8	55	16	e5.4	e1.8	33	19	16	16	3.9	28	12
28	13	38	14	e5.6	e1.9	27	36	11	13	3.2	13	10
29	10	30	13	e5.6	---	22	26	9.1	11	2.9	8.4	9.2
30	10	24	12	e5.8	---	42	21	7.9	37	2.7	5.4	12
31	9.2	---	11	e5.4	---	99	---	7.3	---	2.5	4.1	---
TOTAL	364.2	473.6	637.7	174.6	62.2	793	910.2	406.4	273.5	661.1	116.2	1190.8
MEAN	11.7	15.8	20.6	5.63	2.22	25.6	30.3	13.1	9.12	21.3	3.75	39.7
MAX	48	55	53	9.7	4.7	99	85	27	37	96	28	363
MIN	4.8	7.5	8.2	3.7	1.8	11	7.6	7.3	2.7	2.5	1.6	2.2
CFSM	1.50	2.01	2.62	.72	.28	3.26	3.87	1.67	1.16	2.72	.48	5.06
IN.	1.73	2.25	3.03	.83	.30	3.76	4.32	1.93	1.30	3.14	.55	5.65

CAL YR 1986 TOTAL 5253.5 MEAN 14.4 MAX 143 MIN .49 CFSM 1.84 IN. 24.93
WTR YR 1987 TOTAL 6063.5 MEAN 16.6 MAX 363 MIN 1.6 CFSM 2.12 IN. 28.79

e Estimated

03027500 EAST BRANCH CLARION RIVER AT EAST BRANCH CLARION RIVER DAM, PA

LOCATION.--Lat 41°33'11", long 78°35'47", Elk County, Hydrologic Unit 05010005, on left bank 700 ft upstream from Middle Fork, 0.5 mi downstream from East Branch Clarion River Dam, and 1.2 mi northeast of Glen Hazel.

DRAINAGE AREA.--73.2 mi².

PERIOD OF RECORD.--October 1948 to current year.

REVISED RECORDS.--WSP 1235: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,517.58 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Records fair. Flow completely regulated since June 1952 by East Branch Clarion River Lake 0.5 mi upstream. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--39 years, 138 ft³/s, 25.60 in/yr, adjusted for storage since 1952.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,590 ft³/s, May 10, 1957, gage height, 7.25 ft; minimum, 0.20 ft³/s, July 25, 1969, gage height, 1.06 ft; minimum daily, 0.40 ft³/s, July 24-27, 1969.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 28, 1946, reached a stage of 8.3 ft, from graph based on gage readings at site 1,000 ft downstream and at different datum, discharge, 4,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 921 ft³/s, July 9, gage height, 4.55 ft; minimum daily, 25 ft³/s, Feb. 26, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	199	124	164	255	35	e28	e32	e35	116	303	116	163
2	319	122	e124	255	35	e30	e32	e35	101	e263	117	162
3	e298	112	e78	254	35	32	e33	e35	101	e243	117	163
4	e178	120	e148	253	34	32	e33	e35	101	408	116	162
5	271	120	211	223	35	31	e33	e35	101	561	116	162
6	456	121	235	193	34	32	e33	e54	101	555	130	162
7	510	120	264	220	34	e33	e34	125	101	237	139	163
8	550	122	263	250	34	e33	e34	166	83	329	139	140
9	613	123	e265	297	34	e33	e34	165	53	741	139	122
10	610	122	e265	e399	34	e34	e34	164	41	895	139	122
11	606	123	e238	e429	34	e34	e34	162	54	893	139	e122
12	603	124	267	e429	34	e34	e34	e162	e64	889	139	e124
13	601	91	265	e310	34	e34	e34	143	e64	702	139	e90
14	603	67	263	157	34	e34	e34	129	e65	302	152	104
15	599	67	262	83	34	34	e34	e90	65	124	160	125
16	595	67	260	62	34	33	e34	71	56	124	160	151
17	592	67	260	63	34	32	e34	70	64	105	159	178
18	589	e67	260	63	34	32	e34	71	77	93	151	180
19	585	e67	258	62	34	32	e34	70	82	93	162	223
20	299	68	257	62	34	32	35	86	82	93	169	267
21	62	70	256	62	34	32	34	95	82	92	169	347
22	58	69	255	64	34	32	34	e94	e82	91	171	397
23	58	70	255	65	34	32	e34	e94	e82	106	153	393
24	58	e70	e188	65	34	32	e34	95	e82	116	142	469
25	58	e70	e132	65	29	e32	e34	94	e81	116	154	515
26	e58	e70	210	51	e25	e32	e35	95	e81	118	167	513
27	e58	e71	260	35	e25	e32	e35	116	104	116	e137	510
28	e82	e71	260	35	e26	e32	e35	129	125	116	124	507
29	124	e99	258	35	---	e32	e35	129	125	116	122	506
30	124	e134	257	35	---	e32	e35	129	e203	116	147	504
31	124	---	256	35	---	e32	---	129	---	116	163	---
TOTAL	10540	2808	7194	4866	925	1001	1018	3102	2619	9172	4447	7746
MEAN	340	93.6	232	157	33.0	32.3	33.9	100	87.3	296	143	258
MAX	613	134	267	429	35	34	35	166	203	895	171	515
MIN	58	67	78	35	25	28	32	35	41	91	116	90
†	-166	+87.4	+8.1	-74.8	0	+198	+294	+29.3	+15.1	-97.3	-120	-70.6
MEAN‡	174	181	240	82.2	33.0	230	328	129	102	199	23.0	187
CFSM‡	2.38	2.47	3.28	1.12	.45	3.14	4.48	1.76	1.39	2.72	.31	2.55
IN.‡	2.74	2.76	3.78	1.29	.47	3.62	5.00	2.03	1.55	3.14	.36	2.84

CAL YR 1986 TOTAL 55839 MEAN 153 MAX 613 MIN 25 ADJ +7.2 MEAN‡ 160 CFSM‡ 2.19 IN.‡ 27.82
WTR YR 1987 TOTAL 55438 MEAN 152 MAX 895 MIN 25 ADJ +5.5 MEAN‡ 158 CFSM‡ 2.16 IN.‡ 29.58

† Change in contents, equivalent in cubic feet per second, in East Branch Clarion River Lake.
‡ Adjusted for change in reservoir contents.

e Estimated

03028000 WEST BRANCH CLARION RIVER AT WILCOX, PA

LOCATION.--Lat 41°34'31", long 78°41'33", Elk County, Hydrologic Unit 05010005, on right bank 20 ft downstream from highway bridge at Wilcox, 100 ft downstream from Wilson Run, and 0.1 mi upstream from Penn Central Railroad bridge.

DRAINAGE AREA.--63.0 mi^2.

PERIOD OF RECORD.--October 1953 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,502.02 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 18, 1953, nonrecording gage at site 20 ft upstream at same datum. Nov. 18 to Dec. 8, 1953, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--34 years, 126 ft^3/s, 27.16 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,490 ft^3/s, Sept. 28, 1967, gage height, 10.01 ft, from rating curve extended above 3,000 ft^3/s; minimum, 4.2 ft^3/s, Sept. 21, 1955, gage height, 1.27 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Mar. 31	1200	1,530	5.45	Sept. 13	0300	*2,760	*7.35
July 2	1200	1,130	4.63	Sept. 17	1930	1,030	4.43
July 9	2300	1,230	4.82				

Minimum discharge, 13 ft^3/s, Aug. 22, gage height, 1.32 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	60	181	113	e43	e120	677	177	58	241	28	41
2	82	60	224	e94	e48	e280	544	153	80	665	32	36
3	209	57	463	e84	e45	193	393	193	64	522	53	34
4	358	58	364	e76	e37	154	435	182	68	347	31	29
5	205	59	289	e70	e32	134	646	145	53	243	28	26
6	157	81	236	e66	e27	132	645	137	46	255	25	29
7	121	65	205	e60	e27	203	586	126	51	251	23	53
8	101	80	197	e58	e27	358	462	112	45	290	21	235
9	89	99	296	e54	e25	423	347	102	44	373	24	140
10	78	89	436	e52	e23	320	268	94	39	421	25	105
11	68	92	325	e50	e25	256	215	83	35	280	20	108
12	61	95	277	e48	e24	216	214	130	96	213	19	383
13	75	94	225	e46	e23	186	201	87	173	173	17	1240
14	150	83	185	e48	e22	160	160	76	153	226	16	469
15	109	81	172	e72	e20	139	148	219	102	166	15	303
16	97	81	148	e74	e24	122	137	129	87	135	15	230
17	94	81	133	e56	e28	111	124	114	73	115	17	450
18	88	90	156	e48	e26	105	111	108	63	101	33	587
19	80	100	139	e44	e25	105	100	102	55	89	17	437
20	74	88	118	e38	e24	106	91	114	55	81	15	382
21	69	94	108	e36	e25	108	83	93	53	63	14	295
22	64	90	94	e43	e26	109	78	90	189	56	66	251
23	57	93	91	e38	e28	111	102	95	137	53	27	208
24	54	150	110	e43	e25	117	294	79	95	49	18	176
25	49	152	267	e46	e23	179	243	72	83	45	16	149
26	60	354	199	e44	e22	425	217	71	126	62	16	126
27	66	466	186	e43	e23	288	204	116	103	46	278	110
28	83	351	172	e46	e27	253	322	79	93	38	108	97
29	67	278	153	e47	---	213	234	70	82	34	75	89
30	67	221	140	e47	---	378	207	65	416	32	54	109
31	62	---	126	e44	---	959	---	63	---	31	45	---
TOTAL	3108	3842	6415	1728	774	6963	8488	3476	2817	5696	1191	6927
MEAN	100	128	207	55.7	27.6	225	283	112	93.9	184	38.4	231
MAX	358	466	463	113	48	959	677	219	416	665	278	1240
MIN	49	57	91	36	20	105	78	63	35	31	14	26
CFSM	1.59	2.03	3.28	.88	.44	3.57	4.49	1.78	1.49	2.92	.61	3.67
IN.	1.84	2.27	3.79	1.02	.46	4.11	5.01	2.05	1.66	3.36	.70	4.09

CAL YR 1986 TOTAL 45223 MEAN 124 MAX 731 MIN 12 CFSM 1.97 IN. 26.70
WTR YR 1987 TOTAL 51425 MEAN 141 MAX 1240 MIN 14 CFSM 2.24 IN. 30.36

e Estimated

03028500 CLARION RIVER AT JOHNSONBURG, PA

LOCATION.--Lat 41°29'10", long 78°40'43", Elk County, Hydrologic Unit 05010005, on left bank at downstream side of highway bridge at Johnsonburg, 0.1 mi downstream from Johnson Run, and 0.4 mi downstream from confluence of East and West Branches.

DRAINAGE AREA.--204 mi².

PERIOD OF RECORD.--October 1945 to current year.

REVISED RECORDS.--WSP 1235: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,423.03 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 8, 1951, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated since June 1952 by East Branch Clarion River Lake 7.9 mi upstream and at low flow by industrial plants above station. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--42 years, 385 ft³/s, 25.63 in/yr, adjusted for storage since 1952.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft³/s, May 28, 1946, gage height, 9.2 ft, from graph based on gage readings; maximum gage height, 9.94 ft, June 22, 1972; minimum discharge, 6 ft³/s, Sept. 18, 1952, gage height, 0.68 ft, result of regulation above station; minimum daily, 20 ft³/s, Oct. 5, 1948, Nov. 6, 1951.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1942 reached a stage of 16.7 ft, from floodmark.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,290 ft³/s, Sept. 13, gage height, 5.95 ft; minimum daily, 57 ft³/s, Feb. 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	354	250	489	427	107	304	1250	395	219	683	161	e245
2	456	247	551	419	112	588	1080	347	230	1810	166	e234
3	531	231	993	400	112	408	850	409	201	1670	212	e231
4	965	232	884	364	104	330	876	432	211	1220	174	e220
5	874	235	772	324	92	290	1290	340	182	1090	166	e214
6	711	291	677	301	86	291	1210	328	171	1060	169	e220
7	756	252	637	336	93	422	1080	358	177	916	179	e269
8	728	286	622	348	91	712	886	384	174	833	176	e610
9	720	341	742	360	79	860	701	358	157	1150	180	e402
10	744	314	1000	463	72	679	553	335	104	1680	186	e332
11	715	320	806	504	85	544	456	314	102	1360	177	e338
12	690	327	747	501	78	455	440	449	238	1230	174	e890
13	675	303	651	428	75	388	424	335	369	1010	170	e2570
14	708	248	554	271	70	334	343	286	409	690	177	e1040
15	867	236	537	255	63	293	317	422	275	409	188	e731
16	779	236	487	252	63	260	296	298	223	345	188	e611
17	739	230	458	176	66	232	276	272	187	295	e193	e1080
18	721	255	497	196	66	216	252	262	186	252	e217	e1360
19	702	301	476	e180	61	212	226	264	181	230	e196	e1100
20	516	266	432	e160	60	210	206	283	180	214	e200	e1030
21	200	302	409	e145	61	209	189	264	178	192	e197	e937
22	174	279	383	e135	63	209	174	269	450	177	e303	e899
23	162	286	371	e120	66	208	210	294	469	181	211	e809
24	151	411	369	e115	64	216	684	249	303	190	175	e821
25	142	424	671	e140	59	286	609	232	263	183	e186	e813
26	179	761	564	143	64	753	519	226	416	204	e200	e765
27	234	1050	585	112	57	535	458	314	378	197	e693	e730
28	300	814	553	109	60	477	698	272	364	182	e340	e701
29	289	668	512	114	---	418	521	250	323	176	e272	e684
30	278	568	481	114	---	588	459	235	757	170	e255	e722
31	262	---	453	115	---	1640	---	240	---	165	e253	---
TOTAL	16322	10964	18363	8027	2129	13567	17533	9716	8077	20164	6734	21608
MEAN	527	365	592	259	76.0	438	584	313	269	650	217	720
MAX	965	1050	1000	504	112	1640	1290	449	757	1810	693	2570
MIN	142	230	369	109	57	208	174	226	102	165	161	214
†	-166	+87.4	+8.1	-74.8	0	+198	+294	+29.3	+15.1	-97.3	-120	-70.6
MEAN‡	361	452	600	184	76.0	636	878	342	284	553	97.0	649
CFSM‡	1.77	2.22	2.94	.90	.37	3.12	4.30	1.68	1.39	2.71	.48	3.18
IN.‡	204	2.48	3.39	1.04	.39	3.60	4.80	1.94	1.55	3.12	.55	3.55

CAL YR 1986 TOTAL 139790 MEAN 383 MAX 1300 MIN 105 ADJ +7.2 MEAN‡ 390 CFSM‡ 1.91 IN.‡ 25.28
WTR YR 1987 TOTAL 153204 MEAN 420 MAX 2570 MIN 57 ADJ +5.5 MEAN‡ 426 CFSM‡ 2.09 IN.‡ 28.45

† Change in contents, equivalent in cubic feet per second, in East Branch Clarion River Lake.
‡ Adjusted for change in reservoir contents.

e Estimated

03029500 CLARION RIVER AT COOKSBURG, PA

LOCATION.--Lat 41°19'50", long 79°12'33", Jefferson County, Hydrologic Unit 05010005, on left bank at downstream side of bridge on State Highway 36 at Cooksburg, 300 ft downstream from Toms Run, and 2.7 mi upstream from Cathers Run.

DRAINAGE AREA.--807 mi².

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for October, November 1938, published in WSP 1305.

REVISED RECORDS.--WSP 1305: 1939 (M). WDR PA-85-3: 1979 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,147.00 ft above National Geodetic Vertical Datum of 1929. Prior to May 17, 1939, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by East Branch Clarion River Lake since June 1952 and at low flow by industrial plants above station. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--49 years, 1,462 ft³/s, 24.60 in/yr, adjusted for storage since 1952.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 53,300 ft³/s, June 23, 1972, gage height, 18.84 ft; minimum, 41 ft³/s, Aug. 30, 1939, gage height, 1.22 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1935, 19 ft, Mar. 17, 1936, from floodmarks, discharge, about 56,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 31	2200	*11,600	*9.48	July 3	0100	11,300	9.38

Minimum daily discharge, 290 ft³/s, Feb. 17, 21, 27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	542	758	2450	1500	e540	e570	7810	2180	715	2000	334	471
2	923	720	2240	e1350	e520	e3400	5630	1870	741	4530	333	461
3	986	702	4850	e1250	e480	2790	5010	1690	721	9370	521	426
4	3080	676	6020	e1100	e470	2000	4160	2520	686	5180	621	414
5	2260	675	4100	e1000	e440	1580	7700	1970	702	3610	536	384
6	1600	798	3230	e900	e420	1440	6590	1640	568	2790	452	370
7	1410	1040	2730	e800	e400	1680	5500	1510	509	3280	384	424
8	1240	892	2580	e740	e390	3360	4370	1430	507	2680	362	1220
9	1160	1270	2850	e680	e380	4670	3470	1310	830	2880	364	1800
10	1140	1600	4780	e640	e360	3730	2800	1190	772	3110	698	1020
11	1060	1270	3960	e880	e350	2860	2330	1090	521	2760	628	757
12	1010	1260	3210	e1000	e410	2360	2090	1230	533	2330	434	1080
13	1010	1300	2750	e900	e390	1990	2400	1540	1650	2040	377	3220
14	1310	1180	2220	e800	e360	1690	1960	1090	1610	1710	342	2650
15	1930	1020	2010	e680	e330	1450	1690	1050	1200	1500	322	1600
16	1430	989	1790	e640	e310	1290	1600	1220	894	1040	327	1310
17	1270	1000	1600	e1000	e290	1130	1450	929	735	881	320	1490
18	1200	1000	1590	901	e360	1030	1340	861	621	771	312	3570
19	1130	1510	1920	e700	e340	969	1200	1070	564	678	320	4380
20	1070	1520	1600	e600	e320	936	1080	1200	662	616	306	3820
21	857	1720	1400	e520	e290	912	991	1310	683	566	312	3320
22	584	1940	1270	e450	e300	886	915	1040	1220	510	388	2700
23	528	1670	1150	e410	e320	869	870	989	2580	471	633	2460
24	502	2010	1160	e380	e310	851	2750	936	1600	446	454	2060
25	474	2790	3020	e450	e310	906	4900	825	1070	454	335	1910
26	468	2910	3340	e600	e300	3260	3250	767	1050	442	311	1680
27	647	8090	2690	e760	e290	2960	2650	926	1890	459	493	1470
28	933	5310	2390	e720	e350	2310	3660	1030	1460	450	1420	1320
29	1020	3870	2110	e620	---	1990	3190	836	1170	387	930	1210
30	892	3030	1870	e560	---	1890	2610	744	1210	363	635	1290
31	824	---	1680	e580	---	7660	---	710	---	352	495	---
TOTAL	34490	54520	80560	24111	10330	65419	95966	38703	29674	58656	14699	50287
MEAN	1113	1817	2599	778	369	2110	3199	1248	989	1892	474	1676
MAX	3080	8090	6020	1500	540	7660	7810	2520	2580	9370	1420	4380
MIN	468	675	1150	380	290	570	870	710	507	352	306	370
†	-166	+87.4	+8.1	-74.8	0	+198	+294	+29.3	+15.1	-97.3	-120	-70.6
MEAN‡	947	1904	2607	703	369	2308	3493	1277	1004	1795	354	1605
CFSM‡	1.17	2.36	3.23	.87	.46	2.86	4.33	1.58	1.24	2.22	.44	1.99
IN.‡	1.35	2.63	3.72	1.00	.48	3.30	4.03	1.82	1.38	2.56	.51	2.22

CAL YR 1986 TOTAL 541006 MEAN 1482 MAX 8920 MIN 270 ADJ +7.2 MEAN‡ 1489 CFSM‡ 1.85 IN.‡ 24.86
WTR YR 1987 TOTAL 557415 MEAN 1527 MAX 9370 MIN 290 ADJ +5.5 MEAN‡ 1532 CFSM‡ 1.90 IN.‡ 25.80

† Change in contents, equivalent in cubic feet per second, in East Branch Clarion River Lake.
‡ Adjusted for change in reservoir contents.

e Estimated

03030500 CLARION RIVER NEAR PINEY, PA

LOCATION.--Lat 41°11'33", long 79°26'25", Clarion County, Hydrologic Unit 05010005, on left bank 0.2 mi downstream from hydroelectric plant of Pennsylvania Electric Co., 2.3 mi northeast of Piney, 2.4 mi upstream from Piney Creek, and 3 mi southwest of Clarion.

DRAINAGE AREA.--951 mi².

PERIOD OF RECORD.--October 1944 to current year (monthly discharge only October 1944 to September 1947).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,002.06 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Electric Co. bench mark). Prior to Dec. 23, 1947, records from hydroelectric plant 0.2 mi upstream.

REMARKS.--Records fair. Flow regulated by East Branch Clarion River Lake since June 1952 and by hydroelectric plant at Piney Dam 0.2 mi upstream since 1924, combined capacity of reservoirs, 113,200 acre-ft. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--43 years, 1,787 ft³/s, 25.52 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 74,500 ft³/s, June 23, 1972, gage height, 28.24 ft, from flood-mark, from rating curve extended above 17,000 ft³/s on basis of slope-area measurement at gage height 20.70 ft, in gage well, 21.8 ft, from outside high-water profile; minimum not determined.

EXTREMES OUTSIDE PERIOD OF RECORD.--The flood of Mar. 18, 1936 reached a discharge of 50,000 ft³/s, as determined by Pennsylvnia Electric Co., elevation, 1,028.5 ft, at lower pool of dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,800 ft³/s, July 3, gage height, 11.62 ft; minimum daily, 27 ft³/s, Oct. 25, 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	585	632	e3330	2010	385	794	9890	3470	1410	2200	65	762
2	982	718	e3050	1360	1180	3370	7150	2420	853	5510	66	573
3	1870	1020	4610	1610	1160	4560	e5620	e1740	1250	12100	603	601
4	e2390	782	e6680	1460	802	2740	e5150	2790	1600	e6290	762	388
5	e3120	871	e4530	1470	796	1890	9920	2910	858	e5020	788	39
6	2490	e541	e3660	1410	759	2940	8690	2420	475	3700	623	212
7	3090	e1460	e3460	1510	42	1900	e6260	2020	477	4090	833	1180
8	1430	1150	e3340	1540	42	3730	e5370	2000	1040	3380	245	2690
9	1280	e1430	3590	1520	1120	5560	4910	637	861	3280	457	2670
10	1190	e1980	5160	641	939	4800	3800	1060	899	3370	1220	1630
11	1280	1520	e4470	e338	748	2540	2930	1650	864	3410	1300	793
12	1070	e1490	e3600	e1640	582	2970	2690	1630	1010	2780	610	1320
13	856	1670	e3390	e1340	577	2840	3070	2020	1810	2310	591	4280
14	548	e753	3110	1170	49	1880	3010	1020	1770	2290	603	3360
15	2140	1230	3050	1390	56	1860	3000	2410	1810	1980	68	1270
16	1650	1230	2520	2290	390	1150	2120	460	1040	1320	72	1780
17	1740	e1050	2100	1890	770	1570	1160	1230	845	784	793	2600
18	1470	1870	1890	42	586	1540	1010	1630	832	776	608	3930
19	1330	e1490	1840	1190	900	1130	1380	1630	856	406	410	6330
20	850	1940	1590	1250	397	1530	1410	1620	475	e727	404	5180
21	1060	2000	1570	1150	39	401	1200	1200	1060	e821	389	4530
22	e1050	e1800	1840	1160	39	771	1590	1620	2270	612	58	3660
23	e1330	e2240	1720	1160	766	1540	2010	1000	3570	751	233	3570
24	389	2180	1910	52	393	1150	e3040	846	2060	641	1350	1760
25	27	3190	3280	60	428	1130	4790	707	1260	215	407	2930
26	27	3570	e3290	947	388	4090	4660	1630	1840	217	409	2450
27	617	e9040	3310	928	392	3970	e3670	842	2470	605	406	1170
28	1100	e6090	3200	964	39	2260	4290	1070	1250	607	1540	1550
29	1380	e4050	3170	571	---	2350	4230	1570	1730	591	963	1890
30	e850	e3350	2220	730	---	2950	2440	658	1900	605	592	1590
31	998	---	2380	42	---	6800	---	453	---	629	759	---
TOTAL	40189	62337	96860	34835	14764	78706	120460	48363	40445	72017	18227	66688
MEAN	1296	2078	3125	1124	527	2539	4015	1560	1348	2323	588	2223
MAX	3120	9040	6680	2290	1180	6800	9920	3470	3570	12100	1540	6330
MIN	27	541	1570	42	39	401	1010	453	475	215	58	39
†	-171	+131	-13.9	-66.4	-13.4	+229	+276	+41.9	-8.0	-98.7	-107	-77.6
MEAN‡	1125	2209	3111	1058	514	2768	4291	1602	1340	2224	481	2145
CFSM‡	1.18	2.32	3.27	1.11	.54	2.91	4.51	1.68	1.41	2.34	.51	2.26
IN.‡	1.36	2.59	3.77	1.28	.56	3.35	5.03	1.94	1.57	2.70	.59	2.52

CAL YR 1986 TOTAL 691797 MEAN 1895 MAX 11800 MIN 27 ADJ +9.3 MEAN‡ 1904 CFSM‡ 2.00 IN.‡ 27.03
WTR YR 1987 TOTAL 693891 MEAN 1901 MAX 12100 MIN 27 ADJ +7.1 MEAN‡ 1908 CFSM‡ 2.01 IN.‡ 27.26

† Change in contents, equivalent in cubic feet per second, in East Branch Clarion River Lake and Piney Reservoir. Records of contents in Piney Reservoir furnished by Pennsylvania Electric Co.
‡ Adjusted for change in reservoir contents.

e Estimated

03031500 ALLEGHENY RIVER AT PARKER, PA

LOCATION.--Lat 41°06'02", long 79°40'53", Armstrong County, Hydrologic Unit 05010006, on right bank 500 ft downstream from bridge on State Highway 368 at Parker, 1.1 mi downstream from Clarion River, and at mile 83.4.

DRAINAGE AREA.--7,671 mi^2.

PERIOD OF RECORD.--October 1932 to current year. Prior to October 1963, published as "at Parkers Landing." Gage-height records collected at same site since 1885 are contained in reports of U.S. Weather Bureau.

GAGE.--Water-stage recorder. Datum of gage is 845.14 ft above National Geodetic Vertical Datum, adjustment of 1907. Prior to Oct. 1, 1932, U.S. Weather Bureau gages at different datums. Oct. 1-28, 1932, nonrecording gage at datum 27.00 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated since 1965 by Allegheny Reservoir, since 1949 by Chautauqua Lake, since 1941 by Tionesta Lake, since 1971 by Union City Reservoir, since 1974 by Woodcock Creek Lake, since 1952 by East Branch Clarion River Lake, and since 1924 by Piney Reservoir. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--55 years, 13,584 ft^3/s, 24.05 in/yr, adjusted for storage from October 1940 to September 1975.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 175,000 ft^3/s, Jan. 22, 1959; maximum gage height, 29.60 ft, Jan. 21, 1959 (backwater from ice); minimum discharge, 409 ft^3/s, July 30, 1934, gage height, 0.67 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 17, 1865, reached a stage of 29.4 ft, present datum, discharge, 250,000 ft^3/s, from rating curve extended above 137,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 69,600 ft^3/s, July 3, gage height, 13.08 ft; minimum discharge, 2,130 ft^3/s, Aug. 21, gage height, 1.56 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATEP YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12900	6710	18600	16100	e6200	5810	45000	15700	6170	15000	3740	8410
2	14400	6730	18300	14900	7230	22100	38200	15900	7010	32400	3250	6810
3	15200	7020	33500	12900	7830	28400	38600	16700	8670	66200	8090	5680
4	31900	6730	46100	11800	7890	24500	38900	18000	10900	52400	10100	4560
5	34200	6540	39400	10900	e6800	20100	45200	16300	10000	42200	8520	3880
6	27900	6380	35700	10100	e6400	18900	42600	13100	7700	33300	6570	3380
7	27300	8670	33000	8970	e6000	17900	46000	9060	6790	32100	5320	3320
8	25200	9690	31900	e8000	e5800	24500	49100	8060	6380	31900	4290	11000
9	23700	9910	34900	e7400	e5400	31200	43900	9610	6720	26900	3690	17300
10	21400	10100	44500	e7200	e6400	31900	41100	9160	5660	23600	7900	15400
11	20000	8020	43600	e7000	6880	27900	39900	9880	5480	19500	5480	12100
12	18400	8430	38300	e7000	6770	26400	36400	8790	5700	15700	4790	17600
13	17100	9250	34400	e7000	6160	23000	36200	8650	6370	12800	3890	19300
14	16300	9200	29400	e7000	e5600	19300	34200	7660	6740	13200	3540	19200
15	17600	9010	26800	e8200	e5000	15400	29600	7450	6430	15000	3180	16300
16	17700	8810	24500	13000	e4600	14100	25000	7890	6420	15100	2510	19300
17	16600	8940	22500	14400	e4700	12000	21900	6440	7130	12300	2590	23300
18	16200	9910	22300	12200	e5600	10700	17300	7760	6280	10600	2970	33400
19	14700	12900	25000	11300	5880	9450	16300	7760	5680	8720	2890	43100
20	12900	13200	24600	11400	5310	8310	15900	7470	6130	7220	2670	42600
21	9760	13300	22800	9840	4710	6820	13800	7110	7390	5720	2480	40300
22	8400	12900	21200	8660	4250	6280	11100	7140	8040	4970	2950	34400
23	8670	13200	18500	7610	4420	7160	10200	7390	12600	4440	4890	30700
24	6550	13700	15900	4860	4810	6980	13800	7140	14000	4240	4470	26200
25	6120	17000	21200	3470	4340	7180	17500	6280	11300	3790	4270	24200
26	5940	20200	29900	e4000	4040	14300	16400	6210	9280	3970	3770	20300
27	6080	35300	28200	e4500	3900	18700	15000	10500	8380	3770	3640	17100
28	7370	33400	25800	e4800	3530	15900	16900	11600	7940	3540	14000	15000
29	7270	27300	23200	e5000	---	14400	17800	10100	7180	3340	13100	13700
30	6950	22800	19900	e5400	---	14900	16400	7730	9210	3370	11200	13900
31	7380	---	17700	e5800	---	34800	---	6220	---	3520	9750	---
TOTAL	482090	385250	871600	270710	156450	539290	850200	298760	233680	530810	170500	561740
MEAN	15550	12840	28120	8733	5587	17400	28340	9637	7789	17120	5500	18720
MAX	34200	35300	46100	16100	7890	34800	49100	18000	14000	66200	14000	43100
MIN	5940	6380	15900	3470	3530	5810	10200	6210	5480	3340	2480	3320

CAL YR 1986 TOTAL 5655010 MEAN 15490 MAX 54000 MIN 2730
WTR YR 1987 TOTAL 5351080 MEAN 14660 MAX 66200 MIN 2480

e Estimated

03032500 REDBANK CREEK AT ST. CHARLES, PA

LOCATION.--Lat 40°59'40", long 79°23'40", Armstrong County, Hydrologic Unit 05010006, on left bank 400 ft downstream from highway bridge on Legislative Route 03117 at St. Charles, 0.3 mi downstream from Leatherwood Creek, and 3 mi west of New Bethlehem.

DRAINAGE AREA.--528 mi².

PERIOD OF RECORD.--Annual maximums, water years 1910-18. October 1918 to current year. Monthly discharge only for some periods, published in WSP 1305. Figures of daily discharge for November 1920 to June 1921, published in WSP 523, are unreliable and should not be used.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1385: 1919, 1936-39, WDR PA-72-1: 1923 (M), 1926 (M), 1928 (M), 1936, 1937 (M), 1938 (M), 1943, 1945 (P), 1952 (M), 1953 (M), 1955 (M), 1956 (P), 1958 (M), 1959 (M), 1964, 1966 (M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 973.14 ft above National Geodetic Vertical Datum of 1912. Prior to July 10, 1940, nonrecording gage at site 500 ft upstream at datum 3.10 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--69 years, 873 ft³/s, 22.45 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,000 ft³/s, Mar. 18, 1936, gage height, 18.60 ft, from floodmarks, site and datum then in use; minimum observed, 19 ft³/s, Oct. 1, 1918.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 27	0030	*13,600	*12.81	July 2	2000	8,520	10.61
Mar. 31	1900	7,280	9.93				

Minimum discharge, 87 ft³/s, Aug. 21, gage height, 2.43 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1570	445	1610	e640	e410	e800	4440	1210	383	1010	112	192
2	1360	416	1810	e580	e380	e2800	3430	1050	476	5070	192	177
3	2840	395	4000	e520	e350	2130	2930	1120	365	5870	316	155
4	4780	385	3780	e480	e330	1430	2990	2050	311	3290	255	140
5	3870	387	2680	e440	e310	1090	5260	1530	407	2000	192	130
6	2410	545	2000	e400	e300	1020	4040	1200	307	1360	222	129
7	1780	679	1620	e380	e380	1210	3060	1050	242	1300	160	190
8	1230	703	1450	e370	428	2180	2400	924	206	1170	135	518
9	976	1510	1970	e360	393	2610	e1650	799	.189	957	179	692
10	815	1690	3380	e350	327	2080	e1300	701	207	771	873	469
11	670	1360	2460	e350	e280	1530	e1000	631	187	670	458	329
12	579	1310	1900	e340	e270	1230	e1200	570	241	555	244	377
13	563	1270	1530	e340	e250	1040	e1300	530	1030	485	177	630
14	1000	1080	1170	e330	e240	903	e1000	463	1130	485	146	715
15	1250	931	1100	e600	e230	816	e920	492	626	500	129	475
16	911	881	969	1060	e220	761	e1180	481	408	425	117	408
17	743	836	873	909	e270	678	e1000	407	317	344	109	502
18	648	910	969	e700	296	611	e900	391	254	300	104	1060
19	571	1910	1160	e560	248	572	827	527	218	264	95	1990
20	509	1620	963	e490	238	570	738	571	610	242	92	2020
21	468	2140	825	e440	244	559	667	540	2100	218	89	1630
22	441	1980	711	e400	262	531	612	422	5120	199	174	1140
23	414	1650	600	e380	291	512	576	365	4190	178	209	913
24	384	1860	693	e350	e260	498	2470	332	2450	162	164	776
25	347	1910	3000	e320	e220	562	3100	295	1430	160	126	650
26	377	4740	2470	e300	e190	2450	2160	294	1160	175	115	574
27	550	8280	1800	e290	e200	1910	1600	409	1170	153	121	466
28	757	4760	1460	e280	e210	1360	2290	374	921	136	497	388
29	667	2960	1220	e280	---	1140	1910	314	729	127	511	343
30	568	2140	e880	e350	---	1180	1480	275	681	122	303	421
31	500	---	e740	440	---	4540	---	285	---	118	218	---
TOTAL	34548	51683	51793	14029	8027	41303	58430	20602	28065	28816	6834	18599
MEAN	1114	1723	1671	453	287	1332	1948	665	935	930	220	620
MAX	4780	8280	4000	1060	428	4540	5260	2050	5120	5870	873	2020
MIN	347	385	600	280	190	498	576	275	187	118	89	129
CFSM	2.11	3.26	3.16	.86	.54	2.52	3.69	1.26	1.77	1.76	.42	1.17
IN.	2.43	3.64	3.65	.99	.57	2.91	4.12	1.45	1.98	2.03	.48	1.31

CAL YR 1986 TOTAL 404476 MEAN 1108 MAX 8400 MIN 86 CFSM 2.10 IN. 28.50
WTR YR 1987 TOTAL 362729 MEAN 994 MAX 8280 MIN 89 CFSM 1.88 IN. 25.56

e Estimated

03034000 MAHONING CREEK AT PUNXSUTAWNEY, PA

LOCATION.--Lat 40°56'21", long 79°00'31", Jefferson County, Hydrologic Unit 05010006, on right bank 75 ft downstream from Williams Run, 1.9 mi downstream from Sawmill Run, and 2 mi west of Punxsutawney.

DRAINAGE AREA.--158 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 1,206.14 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Oct. 1, 1946, at site 2.9 mi upstream at datum 13.30 ft higher.

REMARKS.--Records good except for estimated daily discharges, Dec. 20 to Jan. 20, Jan. 26 to Feb. 3, Feb. 12-21, and Mar. 2-9, which are fair. Diurnal fluctuations at low flow by mine pumpage into stream above station. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--49 years, 277 ft³/s, 23.81 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,300 ft³/s, June 23, 1972, gage height, 15.94 ft, from floodmark in gage well, from rating curve extended above 4,300 ft³/s on basis of slope-area measurement at gage height 13.01 ft; maximum gage height, 16.22 ft, July 20, 1977; minimum discharge, 2.6 ft³/s, Sept. 26, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 15.6 ft, from floodmark at former site and datum, discharge, 12,500 ft³/s, from rating curve extended above 4,300 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 4	0300	3,340	6.82	June 22	0830	3,420	6.91
Nov. 26	2330	*5,840	*9.20				

Minimum discharge, 35 ft³/s, Sept. 6, gage height, 0.99 ft.

REVISIONS.--The peak discharges and annual maximum (*) reported for water years 1977-1986 have been revised as shown in the following table. These figures supersede those published in the reports for 1977-1986.

Water Year	Date	Time	Discharge (ft³/s)	Gage height (ft)
1977	July 20	0930	*17,900	*16.22
1978	aDec. 15	0430	3,430	6.93
	aMar. 15	0530	2,880	6.32
	Mar. 22	0130	*4,550	*8.16
	aMay 17	1430	3,200	6.68
1979	Jan. 2	0530	4,620	8.23
	Mar. 5	1200	*5,150	*8.76
1980	aMar. 31	2130	2,510	5.91
	Apr. 9	0930	*2,930	*6.38
	aAug. 15	0800	2,690	6.11
1981	Feb. 21	0500	*3,540	*7.05
	aApr. 29	1330	2,580	5.99
1982	aMar. 13	2130	*3,500	7.01
1983	June 29	0100	*3,860	*7.41
1984	Feb. 14	2300	3,780	7.32
	Apr. 5	0800	*5,730	*9.30
	June 19	0630	5,110	8.72
1985	aFeb. 24	2330	3,000	6.45
	aMar. 12	1230	3,130	6.60
	Mar. 29	0900	*4,430	*8.04
1986	Nov. 16	2400	*4,660	*8.27
	Nov. 28	1600	4,180	7.77
	Jan. 20	1330	4,560	8.17
	Feb. 5	0830	3,520	7.03
	June 12	1100	3,100	6.57

(a) Not previously published.

03034000 MAHONING CREEK AT PUNXSUTAWNEY, PA--Continued

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	448	138	534	264	e105	e450	1300	367	102	412	61	60
2	332	136	583	260	e130	925	1080	327	114	875	63	48
3	864	131	1200	239	e180	592	965	421	103	1050	130	42
4	2360	134	1070	209	178	439	1130	719	95	613	88	39
5	1720	143	785	177	162	353	1920	510	84	430	84	36
6	972	215	615	e155	153	339	1410	441	77	343	81	43
7	610	189	512	e140	e140	464	1050	383	73	1310	64	49
8	448	297	454	e130	e135	700	767	331	71	776	58	94
9	364	1080	620	e120	e130	743	592	284	71	545	61	90
10	302	820	823	e115	e130	551	479	248	64	415	91	59
11	245	652	635	170	e125	426	411	223	60	335	68	56
12	217	621	544	160	e120	364	442	206	142	268	56	75
13	225	512	460	152	e115	313	447	186	701	229	51	88
14	287	418	373	147	e110	267	366	169	397	237	47	66
15	257	372	361	252	e105	250	350	247	216	222	44	54
16	209	343	315	393	e100	229	348	185	164	179	42	56
17	192	306	288	311	e105	207	314	160	129	157	44	104
18	177	305	342	285	e100	194	286	165	108	141	50	247
19	161	468	332	e250	e96	187	254	229	97	129	44	278
20	153	397	273	e220	e94	180	234	210	245	119	40	412
21	146	719	247	e200	e92	173	218	192	266	110	38	236
22	140	603	222	e180	e90	165	206	164	2170	102	64	174
23	133	532	209	e160	e96	160	220	148	1530	96	71	150
24	127	553	248	e150	e94	155	851	134	795	91	47	125
25	119	485	751	e135	e92	181	801	124	490	85	41	107
26	148	2160	613	e125	e92	494	590	115	375	85	42	92
27	175	3600	506	e120	e94	363	482	145	296	82	50	82
28	204	1560	442	e110	e98	316	661	120	232	77	57	75
29	177	969	380	e105	---	276	506	107	197	69	67	72
30	162	694	341	e110	---	348	431	100	196	66	49	126
31	148	---	301	e115	---	1470	---	124	---	64	48	---
TOTAL	12222	19552	15379	5659	3261	12274	19111	7484	9660	9712	1841	3235
MEAN	394	652	496	183	116	396	637	241	322	313	59.4	108
MAX	2360	3600	1200	393	180	1470	1920	719	2170	1310	130	412
MIN	119	131	209	105	90	155	206	100	60	64	38	36
CFSM	2.50	4.12	3.14	1.16	.74	2.51	4.03	1.53	2.04	1.98	.38	.68
IN.	2.88	4.60	3.62	1.33	.77	2.89	4.50	1.76	2.27	2.29	.43	.76

CAL YR 1986 TOTAL 131897 MEAN 361 MAX 3600 MIN 41 CFSM 2.29 IN. 31.05
WTR YR 1987 TOTAL 119390 MEAN 327 MAX 3600 MIN 36 CFSM 2.07 IN. 28.10

e Estimated

03034500 LITTLE MAHONING CREEK AT McCORMICK, PA

LOCATION.--Lat 40°50'10", long 79°06'37", Indiana County, Hydrologic Unit 05010006, on left bank 200 ft upstream from highway bridge at McCormick, 1 mi west of Georgeville, 1.7 mi upstream from Ross Run, and 4 mi southeast of Smicksburg.

DRAINAGE AREA.--87.4 mi².

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,164.88 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to May 10, 1940, nonrecording gage at site 200 ft upstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--48 years, 153 ft³/s, 23.77 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,200 ft³/s, June 23, 1972, maximum gage height, 14.03 ft, Feb. 25, 1977 (backwater from ice); minimum discharge, 0.3 ft³/s, Sept. 28, 1959.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 4	0900	2,060	8.23	Nov. 26	2400	*3,770	*10.71

Minimum daily discharge, 18 ft³/s, Aug. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	344	75	201	105	e41	e350	561	128	40	203	e18	45
2	180	72	320	e90	e39	589	527	111	43	755	20	38
3	424	69	714	e82	e44	310	501	205	42	570	64	34
4	1500	71	521	e74	e45	215	663	570	40	268	38	31
5	834	80	347	e68	e54	163	1190	322	33	150	44	30
6	413	157	250	e64	e70	155	791	236	30	101	48	34
7	244	115	208	e60	e74	212	578	181	27	539	31	47
8	168	243	184	e56	e70	304	399	136	27	226	28	92
9	129	1020	356	e52	e68	303	282	109	39	137	50	89
10	106	580	578	e50	e68	217	206	91	34	100	164	60
11	88	442	368	e49	e66	158	158	79	28	88	55	97
12	79	449	270	e48	e66	131	171	71	41	64	43	169
13	81	301	208	e46	e64	111	221	63	66	55	37	101
14	120	222	150	e70	e50	95	151	56	49	58	32	76
15	135	186	150	e150	e42	93	140	108	35	61	29	60
16	92	162	122	260	e35	89	188	78	31	45	26	56
17	82	135	108	184	e45	79	165	60	27	39	24	62
18	76	133	128	154	e40	74	137	55	24	34	35	130
19	70	396	134	e120	e34	71	115	353	23	31	30	129
20	66	246	103	e105	e36	68	100	156	31	29	25	320
21	63	468	91	e84	e37	66	90	109	68	28	24	172
22	61	308	75	e74	e38	63	82	86	536	25	34	115
23	59	243	83	e68	e45	61	78	72	375	24	49	104
24	57	217	118	e56	e42	58	444	63	163	24	33	82
25	55	181	539	e50	e37	65	411	53	93	26	27	70
26	70	1310	371	e45	e37	222	264	49	76	25	25	61
27	90	1810	262	e42	e36	148	198	80	65	e23	28	55
28	122	641	212	e38	e35	121	296	60	53	e21	36	50
29	107	393	174	e38	---	103	217	48	44	e20	124	48
30	90	268	148	e39	---	134	171	42	44	e19	52	79
31	80	---	125	e43	---	672	---	47	---	e19	41	---
TOTAL	6085	10993	7618	2464	1358	5500	9495	3877	2227	3807	1314	2536
MEAN	196	366	246	79.5	48.5	177	316	125	74.2	123	42.4	84.5
MAX	1500	1810	714	260	74	672	1190	570	536	755	164	320
MIN	55	69	75	38	34	58	78	42	23	19	18	30
CFSM	2.25	4.19	2.81	.91	.55	2.03	3.62	1.43	.85	1.41	.48	.97
IN.	2.59	4.68	3.24	1.05	.58	2.34	4.04	1.65	.95	1.62	.56	1.08

CAL YR 1986 TOTAL 67691 MEAN 185 MAX 2220 MIN 18 CFSM 2.12 IN. 28.81
WTR YR 1987 TOTAL 57274 MEAN 157 MAX 1810 MIN 18 CFSM 1.80 IN. 24.38

e Estimated

03036000 MAHONING CREEK AT MAHONING CREEK DAM, PA

LOCATION.--Lat 40°55'39", long 79°17'29", Armstrong County, Hydrologic Unit 05010006, on left bank at downstream side of highway bridge at McCrea Furnace, 700 ft downstream from Camp Run, 0.9 mi downstream from Mahoning Creek Dam, 1 mi southwest of Eddyville, and 2.1 upstream from Pine Run.

DRAINAGE AREA.--344 mi².

PERIOD OF RECORD.--August 1938 to current year. Monthly discharge only for August 1938, published in WSP 1305.

REVISED RECORDS.--WSP 1305: 1941 (adjusted monthly runoff).

GAGE.--Water-stage recorder. Datum of gage is 1,003.39 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Feb. 1, 1940, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow completely regulated since 1941 by Mahoning Creek Lake 0.9 mi upstream. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--49 years, 601 ft³/s, 23.73 in/yr, adjusted for storage since June 1941.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft³/s, Mar. 8, 1942, gage height, 8.10 ft; minimum daily, 4.6 ft³/s, July 26, 1978.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,520 ft³/s, Apr. 9, gage height, 6.11 ft; minimum daily, 39 ft³/s, Aug. 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	366	317	2640	513	361	e220	2200	864	259	428	e70	176
2	688	317	1790	511	364	542	2470	732	262	807	e70	159
3	912	317	1280	510	366	1410	2430	595	294	1670	e84	113
4	996	317	2160	507	453	1690	1650	581	260	2380	e140	77
5	1430	318	2640	394	507	1350	1010	623	207	1450	e180	77
6	2510	467	2560	273	426	1000	1920	901	176	785	e180	78
7	2810	572	2230	413	281	903	2740	1410	175	1080	e180	78
8	2750	579	1780	395	422	1180	2690	1360	137	1760	e133	152
9	2650	612	1650	277	400	1370	3110	999	92	1470	e60	324
10	2070	1110	2020	278	281	1360	2800	711	135	971	314	290
11	1140	1660	2000	280	278	1090	1930	591	167	778	314	180
12	316	2260	1570	348	349	667	1190	587	168	646	144	426
13	315	2050	1050	390	391	645	1040	501	164	455	105	632
14	480	1710	874	389	388	767	1110	367	436	312	e84	399
15	747	1550	658	395	e340	612	908	396	642	324	e72	219
16	690	1240	525	744	337	505	929	442	440	339	e60	206
17	496	922	525	978	208	420	901	440	309	289	e60	157
18	366	784	529	848	170	365	622	369	247	255	e60	419
19	317	1120	684	653	e170	345	520	638	205	255	e60	646
20	293	1200	777	1040	e170	330	525	582	207	209	e60	798
21	313	1240	763	984	171	330	438	297	267	186	e49	966
22	315	1340	548	706	173	308	403	297	744	174	e50	957
23	293	1330	335	513	173	293	372	319	1980	173	125	701
24	209	1200	e260	505	174	293	501	313	2570	115	200	361
25	210	971	e820	313	204	306	839	270	1670	e70	129	252
26	211	1010	1560	295	223	683	1450	249	773	e70	e50	229
27	262	1990	1630	371	223	879	1380	251	641	e70	e39	212
28	357	2790	1320	e360	e220	536	1350	252	483	e82	e39	182
29	514	2770	1110	362	---	536	1360	253	313	e94	e81	168
30	483	2710	984	362	---	671	1010	256	314	e94	159	168
31	317	---	695	361	---	1290	---	263	---	e80	202	---
TOTAL	25826	36773	39967	15268	8223	22896	41798	16709	14737	17871	3553	9802
MEAN	833	1226	1289	493	294	739	1393	539	491	576	115	327
MAX	2810	2790	2640	1040	507	1690	3110	1410	2570	2380	314	966
MIN	209	317	260	273	170	220	372	249	92	70	39	77
†	-5.7	+162	-224	+2.1	+0.5	+73.5	-7.2	+7.0	-8.9	+5.4	0	-1.7
MEAN‡	827	1388	1065	495	294	812	1386	546	482	581	115	325
CFSM‡	2.40	4.03	3.10	1.44	.85	2.36	4.03	1.59	1.40	1.69	.33	.94
IN.‡	2.77	4.50	3.57	1.66	.89	2.72	4.50	1.83	1.56	1.95	.38	1.05

CAL YR 1986 TOTAL 290406 MEAN 796 MAX 3630 MIN 33 ADJ -1.3 MEAN‡ 795 CFSM‡ 2.31 IN.‡ 31.34
WTR YR 1987 TOTAL 253423 MEAN 694 MAX 3110 MIN 39 ADJ -1.3 MEAN‡ 693 CFSM‡ 2.01 IN.‡ 27.38

† Change in contents, equivalent in cubic feet per second, in Mahoning Creek Lake.
‡ Adjusted for change in reservoir contents.

e Estimated

03036500 ALLEGHENY RIVER AT KITTANNING, PA

LOCATION.--Lat 40°49'13", long 79°31'54", Armstrong County, Hydrologic Unit 05010006, on right bank 600 ft upstream from dam at lock 7 at Kittanning, 5.7 mi upstream from Crooked Creek, 9.7 mi downstream from Mahoning Creek, and at mile 45.8.

DRAINAGE AREA.--8,973 mi^2.

PERIOD OF RECORD.--August 1904 to September 1928, October 1934 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 873: Drainage area. WSP 1305: 1906 (M), 1914, 1925. WSP 1435: 1936-37, 1939.

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 771.32 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to Sept. 30, 1928, nonrecording gage at site 4,000 ft downstream at different datum. Oct. 1, 1934, to Apr. 19, 1939, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1965 by Allegheny Reservoir, since 1949 by Chautauqua Lake, since 1941 by Tionesta Lake, since 1971 by Union City Reservoir, since 1974 by Woodcock Creek Lake, since 1952 by East Branch Clarion River Lake, since 1924 by Piney Reservoir, and since 1941 by Mahoning Creek Lake. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--77 years (1904-28, 1934-87), 15,820 ft^3/s, 23.94 in/yr, adjusted for storage 1940-75.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 269,000 ft^3/s, Mar. 26, 1913, gage height, 30.7 ft, from flood-mark, site and datum then in use; minimum observed, 570 ft^3/s, Sept. 15-17, 1913.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 75,300 ft^3/s, July 3, gage height, 18.32 ft; minimum, 2,450 ft^3/s, Aug. 21, gage height, 11.70 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12900	8380	25100	18700	7450	6120	55100	19100	6900	16100	4020	9760
2	17200	8050	24100	17500	8140	21300	46800	19000	7920	30700	3670	8380
3	17900	8020	37900	15100	9600	33600	45500	19900	9640	71300	6200	6700
4	36000	8200	53200	13800	9710	29800	45300	22000	10900	60300	11800	5670
5	44400	7900	46800	12400	9000	24600	54900	20500	11800	47000	9940	4650
6	34900	7720	41800	11200	8560	22000	52300	17300	9510	37300	8180	4080
7	32300	9250	38400	10800	8500	21600	51900	13400	7960	33800	6410	4030
8	29900	11600	35700	10600	7610	26100	55100	11300	7420	35400	5450	10100
9	27900	13000	38000	10300	7290	34300	51000	12600	7560	30500	4430	19000
10	25300	14100	48800	10100	6940	36500	46100	11500	6670	27300	8060	17900
11	22700	12500	50400	9210	7650	32000	44000	11200	6340	21700	7840	14800
12	20000	12900	43400	8700	7910	29500	40700	10700	6360	18400	6430	16600
13	18600	13700	38400	9470	7600	26400	38900	10200	7450	15300	4900	20400
14	18400	13300	33100	9140	7140	22800	37600	9630	9270	14100	4230	22100
15	19500	12100	29800	9530	6150	19300	34200	8650	8260	16000	3890	17400
16	20100	11800	27000	13400	5820	16300	29000	9880	8040	16500	3040	19000
17	18400	11500	24800	17600	5810	14800	26400	7860	7940	14500	2790	23700
18	17800	11600	24300	15900	5850	12900	21600	8470	7620	12000	3510	31000
19	16900	17000	26800	13700	5900	11600	19000	9320	6940	10400	3320	45400
20	14500	17400	27200	15400	5850	10200	18300	9370	7060	8590	3030	44600
21	11500	17800	25200	13400	5600	9480	17000	8820	10100	7350	2850	43700
22	10100	18000	23500	11400	4850	7920	13400	8130	13200	6010	3210	37500
23	9870	17100	21000	9690	5000	8020	12200	8540	20700	5180	4910	33100
24	8260	17600	18600	6950	5470	8650	18200	8510	21200	5000	5100	29000
25	7360	20400	24600	4180	5140	8630	25500	7540	16800	4530	5440	24800
26	7000	27300	34600	3850	4660	16500	22500	6910	12400	4190	4250	22100
27	7220	49900	33500	5940	4670	23500	20300	9980	11400	4500	4140	19500
28	8340	45400	30300	6300	4660	20000	21700	13400	10500	4150	10100	16200
29	8900	35700	27100	6860	---	18000	23100	11500	8630	3840	15900	15300
30	8900	30100	23600	7450	---	17400	20500	9800	9250	3700	12500	14500
31	8520	---	21000	7500	---	35800	---	7790	---	3860	10800	---
TOTAL	561570	509320	998000	336070	188530	625620	1008100	362800	295740	589500	190340	600970
MEAN	18120	16980	32190	10840	6733	20180	33600	11700	9858	19020	6140	20030
MAX	44400	49900	53200	18700	9710	36500	55100	22000	21200	71300	15900	45400
MIN	7000	7720	18600	3850	4660	6120	12200	6910	6340	3700	2790	4030

CAL YR 1986 TOTAL 6729450 MEAN 18440 MAX 77100 MIN 3000
WTR YR 1987 TOTAL 6266560 MEAN 17170 MAX 71300 MIN 2790

03037400 SOUTH BRANCH PLUM CREEK NEAR HOME, PA

LOCATION.--Lat 40°45'35", long 79°08'20", Indiana County, Hydrologic Unit 05010006, on right bank at downstream side of bridge abutment on State Highway 85, 0.9 mi downstream of Leisure Run, 2.3 mi northwest of Home, and 3.1 mi southeast of Plumville.

DRAINAGE AREA.--9.38 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,116.11 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 714 ft^3/s, Nov. 26, 1986, gage height, 7.27 ft; minimum, 0.11 ft^3/s, Aug. 21, 1987, gage height, 1.15 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft^3/s and maximum (*).

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 4	0100	430	6.05	July 7	0030	292	5.25
Nov. 26	1715	*714	*7.27	Sept. 11	2130	476	6.28
Apr. 4	1830	408	5.89				

Minimum discharge, 0.11 ft^3/s, Aug. 21, gage height, 1.15 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	3.0	19	9.6	e4.9	e18	63	11	7.4	49	.20	2.7
2	7.4	2.8	48	9.7	e7.6	34	58	9.9	7.2	134	1.6	1.6
3	50	2.4	78	7.9	e11	26	48	33	5.9	76	4.2	1.2
4	159	3.6	51	6.5	e9.4	19	159	44	4.9	28	.80	.86
5	55	6.8	33	6.3	e7.0	16	148	30	3.9	14	2.3	.68
6	26	12	25	5.9	e6.0	13	68	22	3.4	18	1.0	3.6
7	16	9.7	21	e5.6	e5.4	13	41	17	2.9	64	.53	2.4
8	11	34	19	e5.2	e4.8	13	28	12	4.3	32	.64	19
9	7.8	143	51	e5.0	e4.7	14	20	9.7	12	20	16	16
10	5.9	51	57	e4.8	e4.3	11	15	7.7	5.2	17	11	9.3
11	4.2	50	37	e4.7	e4.1	9.1	13	6.2	4.2	15	2.9	95
12	3.3	39	28	e4.5	e3.9	7.7	19	5.6	9.1	9.7	1.7	83
13	4.8	28	20	e4.3	e3.7	6.7	19	4.5	8.1	6.9	1.1	34
14	8.8	20	17	e7.0	e3.6	6.1	16	3.8	5.9	7.3	.79	19
15	5.8	16	14	25	e3.4	6.8	19	9.3	4.9	4.7	.57	14
16	4.1	14	11	26	e3.3	6.0	23	5.0	4.1	3.3	.46	10
17	3.4	11	11	20	e3.2	5.3	22	4.1	3.3	2.5	.70	11
18	2.6	19	14	17	e3.1	5.0	18	18	2.7	2.1	1.1	13
19	2.1	29	11	42	e3.1	4.8	14	24	2.4	1.8	.38	15
20	2.0	28	9.4	46	e2.9	4.5	12	15	2.7	1.6	.25	23
21	1.8	32	8.1	31	e2.9	4.4	9.6	11	3.0	1.3	.17	17
22	1.7	25	7.1	23	e2.8	4.2	8.1	8.4	20	1.1	7.5	15
23	1.5	20	6.7	e17	e2.8	4.0	8.7	7.0	17	.95	2.3	13
24	1.4	18	27	e13	e2.7	3.9	45	5.8	8.3	.82	.97	10
25	1.2	14	59	e11	e2.7	8.9	35	5.0	6.1	.70	.61	8.1
26	4.9	287	39	e9.4	e2.6	24	25	8.4	6.7	.69	1.2	6.2
27	5.4	165	29	e8.0	e2.6	17	20	17	5.4	.60	1.2	4.8
28	6.0	55	22	e7.2	e6.0	13	25	9.4	4.7	.46	11	3.8
29	5.0	34	18	e6.4	---	11	18	7.2	3.7	.39	8.5	4.6
30	4.3	24	15	e6.0	---	16	14	6.0	8.2	.30	3.5	10
31	3.3	---	12	e5.4	---	90	---	12	---	.23	2.7	---
TOTAL	432.7	1196.3	817.3	400.4	124.5	435.4	1031.4	389.0	187.6	514.44	87.87	466.84
MEAN	14.0	39.9	26.4	12.9	4.45	14.0	34.4	12.5	6.25	16.6	2.83	15.6
MAX	159	287	78	46	11	90	159	44	20	134	16	95
MIN	1.2	2.4	6.7	4.3	2.6	3.9	8.1	3.8	2.4	.23	.17	.68
CFSM	1.49	4.25	2.81	1.38	.47	1.50	3.67	1.34	.67	1.77	.30	1.66
IN.	1.72	4.74	3.24	1.59	.49	1.73	4.09	1.54	.74	2.04	.35	1.85

WTR YR 1987 TOTAL 6083.69 MEAN 16.7 MAX 287 MIN .17 CFSM 1.78 IN. 24.12

e Estimated

03037400 SOUTH BRANCH PLUM CREEK NEAR HOME, PA--Continued

PERIOD OF RECORD.--October 1986 to September 1987.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
NOV											
04...	1215	4.7	182	7.40	9.0	61	0	15	5.8	6.1	3.0
MAY											
11...	1950	5.6	147	7.40	20.0	44	0	11	4.2	4.1	1.5

DATE	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	SULFATE (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)
NOV										
04...	36	24	--	15	<0.1	5.8	142	1.59	--	<130
MAY										
11...	22	--	31	7.0	<0.1	6.8	202	1.63	--	220

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC 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 DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
NOV										
04...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY										
11...	<130	--	--	20	--	17	--	--	--	--

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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, DIS-SOLVED (UG/L AS MN)
NOV										
04...	<30	<30	<10	<10	660	240	<4	<4	180	160
MAY										
11...	--	--	--	--	630	360	--	--	100	80

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV										
04...	<1.0	<1.0	<25	<25	<6	<6	180	150	<10	<10
MAY										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10

03038000 CROOKED CREEK AT IDAHO, PA

LOCATION.--Lat 40°39'17", long 79°20'56", Armstrong County, Hydrologic Unit 05010006, on right bank at downstream end of old bridge abutment at Idaho, 0.4 mi downstream from Keystone Generation Station, 1.5 mi downstream from Plum Creek, and 2.4 mi west of Shelocta.

DRAINAGE AREA.--191 mi^2.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods published in WSP 1305.

REVISED RECORDS.--WSP 1385: 1938, 1945.

GAGE.--Water-stage recorder and concrete weir control. Datum of gage is 961.04 ft above National Geodetic Vertical Datum of 1929 (Baltimore and Ohio Railroad bench mark).

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated to some extent since March 1968 by Keystone Lake 7 mi upstream, usable capacity, 22,010 acre-ft. Evaporation from operation of steam-electric plant 0.4 mi upstream, which began during July 1967, can amount to as much as 30 ft^3/s. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--50 years, 295 ft^3/s, 20.97 in/yr, adjusted for storage since March 1968.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,200 ft^3/s, June 23, 1972, gage height, 15.93 ft; minimum daily, 1.0 ft^3/s, Oct. 22, 1966, result of abnormal regulation.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of 18.6 ft, from floodmark, discharge, 19,400 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 4	0430	4,420	8.82	Apr. 5	0300	4,750	9.29
Nov. 9	1530	2,800	6.63	July 7	0500	2,870	6.71
Nov. 27	0800	*6,280	*11.03	Sept. 11	2300	2,930	6.79

Minimum discharge, 15 ft^3/s, Aug. 4, gage height, 2.15 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	83	87	428	e230	e115	e300	1430	237	268	134	38	78
2	62	80	806	e190	e180	727	1240	209	300	935	38	47
3	321	74	1610	e170	e360	577	1100	423	207	901	47	33
4	3820	91	1110	e150	e310	432	2190	986	161	438	24	36
5	1520	125	814	e140	e240	326	3960	712	119	243	301	27
6	769	251	619	e130	e180	284	2020	529	115	189	98	67
7	441	216	465	e160	e170	262	1200	372	118	2070	26	68
8	278	517	373	204	e160	255	820	288	83	774	29	258
9	202	2120	796	178	e160	260	599	225	153	436	30	308
10	155	1420	1190	177	e150	218	409	186	95	266	248	171
11	119	1030	877	194	e140	187	324	155	72	291	60	695
12	95	1080	698	179	e160	182	433	138	103	181	30	1680
13	98	767	508	163	e150	164	492	115	114	134	31	738
14	194	534	343	162	e120	146	360	92	83	119	22	386
15	205	378	300	366	e96	163	482	183	59	111	29	242
16	143	317	255	507	e80	160	714	137	59	70	29	180
17	121	261	231	382	e100	137	637	97	42	52	33	202
18	108	223	252	331	e90	122	509	225	45	40	30	398
19	87	543	247	e270	e84	118	365	825	39	34	36	336
20	73	387	204	e230	e80	120	293	405	40	28	32	418
21	65	645	180	e190	e76	117	241	261	53	39	29	295
22	59	542	151	e180	e74	121	204	194	136	30	150	226
23	53	430	136	e160	e88	114	197	153	220	39	140	206
24	48	368	310	e150	e82	101	1070	124	87	28	32	175
25	44	314	1440	e145	e72	121	941	99	48	40	29	158
26	71	1710	981	e140	e68	542	663	568	61	32	32	125
27	127	e5940	747	e135	e66	372	471	1500	61	26	35	99
28	144	e1250	586	e130	e64	310	557	616	61	28	149	81
29	123	883	415	e125	---	257	369	334	36	35	545	72
30	114	638	340	e120	---	331	300	236	33	31	147	134
31	99	---	284	e115	---	1600	---	412	---	39	84	---
TOTAL	9841	23221	17696	6103	3715	9126	24590	11036	3071	7813	2583	7939
MEAN	317	774	571	197	133	294	820	356	102	252	83.3	265
MAX	3820	5940	1610	507	360	1600	3960	1500	300	2070	545	1680
MIN	44	74	136	115	64	101	197	92	33	26	22	27

CAL YR 1986 TOTAL 133955 MEAN 367 MAX 5940 MIN 18
WTR YR 1987 TOTAL 126734 MEAN 347 MAX 5940 MIN 22

e Estimated

03039000 CROOKED CREEK AT CROOKED CREEK DAM, PA

LOCATION.--Lat 40°43'13", long 79°30'42", Armstrong County, Hydrologic Unit 05010006, on right bank 0.4 mi downstream from Crooked Creek Dam, 3.5 mi south of Ford City, and 6.7 mi upstream from mouth.

DRAINAGE AREA.--278 mi^2.

PERIOD OF RECORD.--October 1909 to current year. Published as "at Hileman's Farm" 1910-29 and as "near Ford City" 1930-39. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1305: 1910-12, 1915-16, 1917 (M), 1918, 1922-27, 1928 (M), 1930 (M). WSP 1435: 1919-21, 1932-33, 1935.

GAGE.--Water-stage recorder. Datum of gage is 799.51 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers). Prior to Aug. 1, 1933, nonrecording gage at site 2 mi downstream at different datum. July 31, 1933, to Dec. 5, 1939, nonrecording gage at site 1.5 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow completely regulated since 1940 by Crooked Creek Lake 0.4 mi upstream and since 1968 by Keystone Lake, combined capacity, 115,910 acre-ft. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--78 years, 423 ft^3/s, 20.66 in/yr, adjusted for storage from May 1940 to September 1968.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,000 ft^3/s, Mar. 18, 1936, gage height, 17.86 ft, from flood-mark, site and datum then in use, from rating curve extended above 8,000 ft^3/s on basis of contracted-opening measurement of peak flow; minimum observed, 0.1 ft^3/s, Sept. 8, 11, 20, 25, 26, 1932.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,620 ft^3/s, Dec. 6, gage height, 5.88 ft; minimum daily, 13 ft^3/s, Aug. 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	143	2120	409	328	103	1050	274	629	75	30	96
2	76	112	1320	299	328	251	1600	186	177	330	30	96
3	125	105	951	190	512	705	1870	304	180	938	73	96
4	215	105	1760	191	761	1050	1210	439	272	1280	100	67
5	701	105	2020	192	823	683	775	452	147	706	99	48
6	1800	118	1950	190	609	430	1190	692	93	135	299	49
7	2090	195	1850	191	410	428	1980	1040	93	446	425	48
8	1980	381	1510	193	411	426	2270	1080	94	1180	120	171
9	1550	494	1040	193	411	287	2390	789	126	1300	13	501
10	947	759	1460	193	284	278	2390	499	147	725	64	493
11	453	1530	1690	196	183	248	2280	414	115	200	133	208
12	215	1990	1250	272	186	200	2140	269	94	201	120	738
13	212	1930	747	317	284	200	1570	161	93	203	69	1240
14	161	1340	589	315	413	200	861	148	93	165	36	1210
15	188	784	412	315	308	200	707	137	93	114	20	894
16	203	643	302	383	196	200	761	125	87	97	16	574
17	138	632	302	430	137	200	1100	126	84	61	15	318
18	120	501	303	530	101	200	812	126	62	37	15	386
19	120	427	305	634	169	135	624	603	47	39	13	497
20	108	530	305	915	208	91	512	1060	48	34	21	496
21	118	636	303	1220	156	91	346	687	48	30	25	495
22	82	636	239	1200	100	91	309	355	49	32	25	494
23	48	634	200	1030	100	119	310	253	137	32	119	322
24	36	507	202	601	100	165	543	168	212	23	204	158
25	36	432	641	200	100	174	981	157	137	16	174	98
26	37	463	1120	200	100	512	1290	161	65	41	119	98
27	68	944	1530	200	99	671	1330	357	50	27	96	98
28	128	1840	1330	200	99	434	1150	989	51	27	72	98
29	200	2260	912	200	---	433	917	1370	50	27	295	98
30	218	2190	717	264	---	433	570	1310	51	28	498	98
31	182	---	510	328	---	680	---	1240	---	29	298	---
TOTAL	12583	23366	29890	12191	7916	10318	35838	15971	3624	8578	3636	10283
MEAN	406	779	964	393	283	333	1195	515	121	277	117	343
MAX	2090	2260	2120	1220	823	1050	2390	1370	629	1300	498	1240
MIN	28	105	200	190	99	91	309	125	47	16	13	48

CAL YR 1986 TOTAL 182273 MEAN 499 MAX 2260 MIN 14
WTR YR 1987 TOTAL 174194 MEAN 477 MAX 2390 MIN 13

03039925 NORTH FORK BENS CREEK AT NORTH FORK RESERVOIR, PA

LOCATION.--Lat 40°15'58", long 79°01'01", Somerset County, Hydrologic Unit 05010007, at old concrete bridge, 1800 ft upstream from North Fork Reservoir, 3.2 mi northwest on LR55102 from Thomas Mills.

DRAINAGE AREA.--3.45 mi² .

PERIOD OF RECORD.--Water years 1984-1985, October 1986 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	ACIDITY (MG/L AS H)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY GRAN PLOT (UEQ/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)
OCT 1986												
22...	0930	3.9	43	6.05	8.0	<0.0	3.6	0.90	2.2	0.80	28	9.2
NOV												
21...	0945	10	47	5.21	5.5	0.0	2.8	0.90	1.0	0.55	2	11
DEC												
16...	1130	6.6	50	5.34	4.0	<0.5	3.3	1.0	1.6	0.78	4	9.9
JAN 1987												
28...	1115	3.0	48	5.40	0.0	<0.1	2.8	0.84	1.4	0.61	8	10
FEB												
23...	1400	2.8	48	6.23	1.0	0.0	2.9	0.87	1.5	0.53	--	9.3
MAR												
23...	1230	6.2	48	5.71	5.5	0.0	3.4	0.95	2.0	0.71	14	9.0
APR												
20...	1100	7.0	44	5.70	10.0	0.0	2.2	0.73	1.2	0.57	24	10
MAY												
28...	0830	7.2	46	5.95	12.0	0.0	2.7	0.81	1.4	0.61	22	9.7
JUN												
25...	1100	7.7	45	5.95	14.0	0.0	2.8	0.79	1.6	0.39	22	9.8
JUL												
29...	1030	1.3	50	6.32	16.0	0.0	2.9	0.81	2.5	0.58	16	7.9
AUG												
31...	1330	0.84	50	6.19	14.5	0.0	2.9	0.77	1.9	0.52	24	8.5
SEP												
29...	0915	4.4	46	5.90	11.5	0.0	3.0	0.81	1.8	0.54	--	8.7

DATE	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	BROMIDE DIS-SOLVED (MG/L AS BR)	SILICA, DIS-SOLVED (MG/L AS SIO2)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	IRON, DIS-SOLVED (UG/L AS FE)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)
OCT 1986											
22...	4.2	0.06	0.020	4.1	0.006	<0.001	40	18	9	0.9	0.520
NOV											
21...	2.6	0.04	0.030	3.6	0.055	0.005	10	17	44	1.8	0.470
DEC											
16...	3.5	0.05	0.020	4.1	0.014	<0.001	70	10	20	0.8	0.600
JAN 1987											
28...	3.5	0.06	0.020	3.4	0.002	<0.001	50	10	18	0.8	0.630
FEB											
23...	3.9	0.05	0.020	3.2	0.020	<0.001	40	3	13	1.2	0.620
MAR											
23...	3.9	0.06	0.040	4.4	0.007	<0.001	70	10	17	0.8	0.650
APR											
20...	3.8	0.05	0.020	3.5	0.014	<0.001	60	<2	<1	1.3	0.530
MAY											
28...	3.0	0.07	<0.010	3.4	0.007	<0.001	50	7	16	1.3	0.540
JUN											
25...	3.9	0.08	<0.010	3.0	0.011	0.001	40	11	14	1.3	0.550
JUL											
29...	6.1	0.08	0.020	3.6	0.017	0.002	30	10	6	2.6	0.510
AUG											
31...	4.5	0.07	<0.010	3.4	0.018	<0.001	20	5	6	1.2	0.450
SEP											
29...	4.5	0.07	0.020	3.7	0.019	0.006	30	2	9	1.5	0.550

03040000 STONYCREEK RIVER AT FERNDALE, PA

LOCATION.--Lat 40°17'08", long 78°55'15", Cambria County, Hydrologic Unit 05010007, on right bank 50 ft upstream from highway bridge at Ferndale, 0.4 mi downstream from Bens Creek, 1.2 mi upstream from Johnstown city limits, and 5.2 mi upstream from confluence with Little Conemaugh River.

DRAINAGE AREA.--451 mi^2.

PERIOD OF RECORD.--October 1913 to March 1936, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1305. Monthly figures adjusted for storage and diversion for October 1918 to September 1921, published in WSP 503, 523, have been found in error and should not be used. Published as "at Johnstown" 1914-36, and as "Stony Creek at Ferndale" 1938-79. Gage-height records collected in this vicinity since 1885 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1305: 1915, 1918, 1923-26. WSP 1435: 1920-21, 1932, 1941 (M), 1943 (M), 1945-46 (M). WDR PA-78-3: 1977 (M). See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 1,184.06 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 19, 1936, nonrecording gage at site 3.5 mi downstream at different datum. Dec. 8, 1938, to Jan. 30, 1940, nonrecording gage at site 50 ft downstream at present datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Regulation by mine pumpage and reservoirs and diversion above station; the four largest reservoirs have a combined capacity of 42,360 acre-ft. Figures of daily discharge do not include diversion from Stoney-creek River and Quemahoning Creek Reservoir to plants of Bethlehem Steel Co., and from Mill Creek, Dalton Run, and North Fork Bens Creek Reservoirs for water supply of city of Johnstown. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--49 years, 771 ft^3/s, 23.21 in/yr, adjusted for storage and diversion 1938-81.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,000 ft^3/s, Mar. 18, 1936, gage height, 30.26 ft, from high-water mark, site and datum then in use, from rating curve extended above 13,000 ft^3/s on the basis of slope-area and contracted-opening measurements of peak flow; minimum observed, 5 ft^3/s, Sept. 8, 1929.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,970 ft^3/s, Apr. 4, gage height, 9.26 ft; minimum, 51 ft^3/s, Aug. 20, gage height, 2.12 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	158	1010	e620	441	773	1700	679	303	162	76	104
2	392	152	912	e540	526	2140	1440	727	355	323	97	94
3	510	148	2190	e500	922	1390	1260	987	309	351	126	86
4	574	178	1690	e470	930	1030	4900	1670	267	267	132	80
5	759	259	1210	e420	757	795	6050	1390	230	223	139	115
6	482	606	e1150	e390	629	771	4830	1100	207	204	112	133
7	305	482	e1000	e450	e540	1320	6750	932	196	637	96	274
8	217	654	e940	e540	e470	2320	5260	799	190	313	89	373
9	184	2780	e1600	e500	e450	2690	3660	699	242	242	87	203
10	162	2100	2500	e450	e400	2150	2550	623	262	205	80	160
11	155	1640	1960	e430	e360	1520	1910	556	206	180	74	144
12	145	1860	e1500	e420	e340	1170	1910	500	195	209	72	148
13	155	1300	1010	e400	e320	979	2240	459	221	162	68	132
14	229	966	960	287	e300	839	1630	422	650	164	65	117
15	310	795	e900	666	e280	784	1460	e380	518	173	58	110
16	217	710	e800	1600	e260	677	1560	e350	330	154	58	107
17	184	614	e740	e1400	e320	639	3050	e330	239	133	61	235
18	172	590	e840	e1100	292	598	2620	e300	199	125	60	1310
19	165	1320	e1000	e1300	262	576	1830	388	174	114	59	587
20	155	1280	e1100	e1650	246	565	1460	517	177	108	54	483
21	150	2570	e800	e1200	254	559	1210	502	304	103	117	421
22	142	1870	e700	865	255	550	1030	387	276	94	166	370
23	140	1350	e620	776	304	535	905	330	344	89	119	366
24	135	1190	e680	582	291	529	1010	296	243	88	92	288
25	135	1090	e960	564	261	552	986	269	206	86	84	240
26	184	1030	e1400	e516	255	576	797	277	182	82	98	214
27	202	2590	e1250	424	263	527	695	560	192	82	159	190
28	199	2070	e1050	399	257	548	976	718	176	81	316	169
29	187	1670	e900	410	---	518	934	490	150	81	180	160
30	175	1140	e740	428	---	625	782	373	162	85	124	383
31	165	---	e680	484	---	1740	---	329	---	80	119	---
TOTAL	7414	35162	34792	20781	11185	30985	67395	18339	7705	5400	3237	7796
MEAN	239	1172	1122	670	399	1000	2246	592	257	174	104	260
MAX	759	2780	2500	1650	930	2690	6750	1670	650	637	316	1310
MIN	128	148	620	287	246	518	695	269	150	80	54	80

CAL YR 1986 TOTAL 259868 MEAN 712 MAX 9000 MIN 48
WTR YR 1987 TOTAL 250191 MEAN 685 MAX 6750 MIN 54

e Estimated

03041000 LITTLE CONEMAUGH RIVER AT EAST CONEMAUGH, PA

LOCATION.--Lat 40°20'37", long 78°53'07", Cambria County, Hydrologic Unit 05010007, on right bank 100 ft downstream from bridge on State Highway 271 at East Conemaugh, 0.3 mi downstream from Clapboard Run, and 2.5 mi upstream from confluence with Stonycreek River.

DRAINAGE AREA.--183 mi².

PERIOD OF RECORD.--April 1939 to current year.

REVISED RECORDS.--WSP 1305: 1939-50 (adjusted monthly runoff). WDR PA-78-3: 1977 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,211.29 ft above National Geodetic Vertical Datum of 1929. Prior to February 1, 1940, July 21, 1977 to December 13, 1979, and February 7, 1984 to September 30, 1984, nonrecording gage at site 100 ft upstream at datum 3.0 ft lower. February 2, 1940 to July 20, 1977, December 14, 1979 to February 6, 1984 and October 1, 1984 to current year, water-stage recorder at same site and datum.

REMARKS.--Records fair. Flow regulated by reservoirs and diversion above station; the two most effective reservoirs have a combined capacity of 5,640 acre-ft. Figures of daily discharge do not include diversion at South Fork intake to Cambria plant of Bethlehem Steel Co., from Saltlick Run Reservior to city of Johnstown, and from Wilmore Reservior, capacity 3,145 acre-ft, to Franklin plant of Bethlehem Steel Co. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--48 years, 328 ft³/s, 24.34 in/yr, adjusted for storage and diversion 1940-81.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 40,000 ft³/s, July 20, 1977, gage height, 18.85 ft, from high-water mark, from rating curve extended above 5,200 ft³/s on basis of slope-area measurements of peak flow and at gage height 8.86 ft; minimum, 3.4 ft³/s, Sept. 28, Oct. 8, 9, 11, 1963, gage height, 1.08 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 17, 18, 1936, reached a discharge of 28,800 ft³/s, by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,070 ft³/s, Apr. 4, gage height, 4.38 ft; minimum daily, 56 ft³/s, Oct. 24, Nov. 2, 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67	e58	320	e180	e135	329	833	225	158	e180	e74	e94
2	119	e56	369	e160	e190	739	728	236	e220	e320	e70	e84
3	128	e56	934	e150	e270	453	637	392	e200	e320	e60	e76
4	237	67	657	e130	e370	367	1660	1120	e180	e230	e84	e72
5	335	79	480	e125	e300	309	2090	692	e160	e170	e90	e78
6	147	109	399	e140	e260	315	2020	518	e145	e125	118	110
7	95	91	358	e170	e230	542	2210	417	e130	e1000	e100	118
8	80	158	332	e200	e200	1030	1850	346	e120	e500	e82	176
9	73	1070	739	e180	e190	1240	1370	293	e150	e230	e90	189
10	71	471	987	e160	e175	945	1020	262	e155	e200	124	140
11	68	426	654	e150	e165	658	763	236	e140	e180	e94	e120
12	66	505	532	e140	e155	529	781	214	e120	e230	e80	e105
13	68	333	419	e125	e150	434	803	196	e210	e180	e74	e100
14	84	240	322	e115	e140	377	567	179	e330	e175	e68	e96
15	e130	205	327	e270	e135	360	519	423	e300	e180	e62	e86
16	e110	193	e270	e580	e125	315	534	253	e240	e165	e58	e72
17	e90	174	e250	e410	e125	272	996	203	e190	e140	e62	103
18	e80	162	e240	e320	e120	261	815	207	e140	e125	e64	970
19	e72	353	e400	e470	e115	261	648	468	e110	e110	e62	292
20	e66	278	e320	e620	e110	250	524	434	e170	e105	e58	214
21	e60	875	e260	e470	e110	250	434	348	e240	e98	e58	182
22	e58	464	e220	e380	e105	241	374	295	e220	e94	177	172
23	e58	376	e200	e280	e125	235	320	257	e330	e88	157	149
24	e56	345	e220	e230	123	248	331	230	e260	e86	107	128
25	e60	314	e340	e180	114	271	293	208	e200	e84	e84	118
26	e80	708	e520	e230	116	298	240	195	e140	e82	e72	109
27	e98	1110	e420	e220	117	268	219	241	e150	e82	109	105
28	e98	674	e330	e190	116	263	334	218	e140	e80	148	98
29	e80	498	e290	e170	---	243	286	188	e120	e78	286	96
30	e70	387	e240	e160	---	344	266	170	e125	e74	142	207
31	e62	---	e210	e145	---	959	---	161	---	e76	e110	---
TOTAL	2966	10835	12559	7450	4586	13606	24465	9825	5493	5787	3024	4659
MEAN	95.7	361	405	240	164	439	815	317	183	187	97.5	155
MAX	335	1110	987	620	370	1240	2210	1120	330	1000	286	970
MIN	56	56	200	115	105	235	219	161	110	74	58	72

CAL YR 1986 TOTAL 108073 MEAN 296 MAX 5870 MIN 55
WTR YR 1987 TOTAL 105255 MEAN 288 MAX 2210 MIN 56

e Estimated

03041500 CONEMAUGH RIVER AT SEWARD, PA

LOCATION.--Lat 40°25'09", long 79°01'35", Westmoreland County, Hydrologic Unit 05010007, on left bank at upstream side of bridge on State Highway 56 at Seward, 2.0 mi downstream from Findley Run, and 9 mi northwest of Johnstown.

DRAINAGE AREA.--715 mi^2.

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

REVISED RECORDS.--WDR PA-78-3: 1936 (M), 1977 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,076.01 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by steel mills and reservoirs above station, the eight most effective reservoirs have a combined capacity of 51,850 acre-ft. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--49 years, 1,281 ft^3/s, 24.33 in/yr, adjusted for storage 1938-75.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 115,000 ft^3/s, July 20, 1977, gage height, 27.06 ft, from high-water mark, from slope-area measurement of peak flow; minimum not determined; minimum daily, 105 ft^3/s, Dec. 28, 29, 31, 1938.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936 reached a stage of 26.4 ft, from floodmarks, discharge, 75,000 ft^3/s, by contracted-opening measurement at site 6.7 mi downstream, adjusted for inflow.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,500 ft^3/s, Apr. 4, gage height, 10.40 ft; minimum, 185 ft^3/s, Aug. 20, 21, gage height, 2.08 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	332	348	1640	e960	e930	e1050	3160	1330	620	471	240	342
2	707	336	1640	e880	e1000	3420	2790	1360	677	882	237	300
3	915	329	3480	e800	1610	2500	2470	1840	624	909	300	268
4	1250	428	3000	e720	e1500	1930	8160	3530	551	631	295	257
5	1610	571	2290	e680	e1300	1560	9370	2900	499	499	336	243
6	1060	1020	1850	e620	e1100	1480	7270	2320	450	415	350	328
7	725	919	1620	e780	e1000	2130	9660	1960	440	3400	285	347
8	548	1160	1540	e860	e960	3690	7350	1670	427	1240	264	614
9	463	4500	3040	e800	e920	4290	5340	1440	511	832	323	880
10	404	3330	4550	e720	e900	3650	4040	1280	534	684	336	526
11	372	2620	3290	e700	e880	2760	3230	1170	431	574	278	415
12	337	2940	2570	e680	e860	2200	3150	1090	421	749	256	374
13	377	2220	2040	e640	e860	1870	3540	966	650	561	238	376
14	521	1710	1620	e600	e700	1630	2810	862	1030	545	229	352
15	650	1420	1510	e1000	e620	1550	2540	1150	895	558	213	317
16	520	1280	1300	2710	e580	1370	2620	975	641	466	205	308
17	435	1140	1200	2090	e580	1270	4080	815	495	406	210	419
18	394	1100	1440	1610	e520	1190	3810	784	414	365	225	3620
19	360	2050	1700	2000	e480	1150	2970	1150	384	332	203	1630
20	341	1950	1380	2900	e440	1120	2490	1240	448	315	192	1270
21	344	3820	1190	2100	e470	1090	2140	1180	734	309	193	1070
22	333	2890	1010	1660	e500	1070	1870	959	647	291	550	959
23	331	2240	931	e1400	e540	1060	1640	821	946	276	518	832
24	323	2020	1040	e1100	e540	1070	1780	731	642	274	318	712
25	310	1880	1900	e940	e470	1110	1740	660	506	270	262	590
26	415	2780	2350	e1250	e420	1180	1440	670	451	264	262	539
27	448	4610	1830	1070	e430	1080	1340	1040	512	263	275	462
28	444	3220	1540	946	e450	1080	1850	1240	434	263	470	426
29	417	2480	1340	913	---	1050	1770	926	380	257	972	392
30	397	1990	e1200	e900	---	1220	1530	736	400	243	462	844
31	369	---	e1100	e1070	---	3080	---	651	---	252	343	---
TOTAL	16452	59301	58131	36099	21560	55900	107950	39446	16794	17796	9840	20012
MEAN	531	1977	1875	1164	770	1803	3598	1272	560	574	317	667
MAX	1610	4610	4550	2900	1610	4290	9660	3530	1030	3400	972	3620
MIN	310	329	931	600	420	1050	1340	651	380	243	192	243

CAL YR 1986 TOTAL 430959 MEAN 1181 MAX 13200 MIN 185
WTR YR 1987 TOTAL 459281 MEAN 1258 MAX 9660 MIN 192

e Estimated

03042000 BLACKLICK CREEK AT JOSEPHINE, PA

LOCATION.--Lat 40°28'24", long 79°11'01", Indiana County, Hydrologic Unit 05010007, on right bank on upstream side of old concrete dam at Josephine, 0.9 mi upstream from Two Lick Creek, and 5 mi northeast of Blairsville.

DRAINAGE AREA.--192 mi².

PERIOD OF RECORD.--January 1952 to current year.

REVISED RECORDS.--WSP 1385: 1952-54 (M). WDR PA-78-3: 1977 (M).

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 975.82 ft above National Geodetic Vertical Datum of 1912. Prior to Aug. 25, 1953, nonrecording gage at same site and datum.

REMARKS.--Records fair. Some regulation at low flow by mine pumpage above station. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--35 years, 370 ft³/s, 26.17 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 45,700 ft³/s, July 20, 1977, gage height, 19.89 ft, from floodmark in gage well, from rating curve extended above 16,000 ft³/s on basis of contracted-opening measurement at gage height 11.35 ft in gage well, 12.67 ft from outside floodmark and slope-area measurement at gage height 10.93 ft; minimum, 19 ft³/s, Sept. 14, 1952, Nov. 4, 1953; minimum gage height, 3.15 ft, Oct. 15, 1969.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 9	1000	4,200	6.60	Apr. 4	2300	4,650	*6.82
Nov. 26	2330	2,800	5.80	Apr. 7	0200	2,980	5.94

Minimum daily discharge, 41 ft³/s, July 27, 28.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	108	119	477	e230	e105	e125	838	331	e150	e94	51	109
2	231	115	512	e200	e100	e800	727	301	e170	e190	53	91
3	213	111	981	e180	e98	609	706	404	e160	e420	91	75
4	1290	109	845	e170	e96	e500	1900	1090	e140	e170	79	67
5	1320	e200	650	e160	e125	e380	3060	611	e125	e94	73	64
6	590	e330	594	e150	e160	e360	2210	561	e115	e82	144	84
7	e330	e240	519	e145	e210	e330	2600	486	e110	502	70	102
8	e230	243	467	e140	e170	633	1710	423	e100	e380	58	166
9	e170	2860	898	e130	e140	785	991	363	e110	e310	88	219
10	e140	1410	1460	e125	e130	639	633	313	e130	e230	233	149
11	e120	925	760	e120	e120	e500	587	275	e100	e200	144	112
12	e100	990	e600	e110	e115	e420	556	250	e94	e160	84	104
13	e130	680	e490	e110	e110	e360	611	229	e200	e140	69	126
14	e170	e560	e380	e105	e105	e330	528	210	e460	e130	62	104
15	220	e450	e350	e180	e105	e310	471	205	e210	e140	58	86
16	e190	e400	e300	342	e100	e290	470	226	e150	e120	56	84
17	e150	e360	e270	440	e130	e280	423	198	e120	e90	57	133
18	e125	e330	352	e250	e120	e260	389	170	e100	e74	58	1190
19	e110	412	383	440	e110	e250	334	176	e84	e64	50	856
20	e100	425	342	620	e115	e230	297	e340	e170	e56	47	584
21	e100	882	e300	e500	e120	e230	270	e260	e370	e50	51	510
22	e96	622	e250	e420	e125	e220	251	233	e320	e48	170	387
23	e94	586	e220	e350	e150	e210	267	e210	e450	e44	197	335
24	e92	558	e200	e300	e140	e200	356	e180	e230	e42	93	266
25	e90	526	e300	e230	e125	208	419	e160	e100	e42	69	230
26	116	1230	e640	e190	e120	301	313	e160	e88	e42	67	192
27	120	1830	e520	e160	e120	265	275	e200	e220	e41	70	156
28	125	816	440	e130	e120	234	491	e350	e120	e41	97	136
29	127	658	390	e120	---	215	474	e260	e78	e42	336	124
30	127	591	e310	e110	---	255	389	e190	e84	e44	187	223
31	124	---	e290	e105	---	1010	---	e140	---	52	114	---
TOTAL	7248	19568	15490	6962	3484	11739	23546	9505	5058	4134	3076	7064
MEAN	234	652	500	225	124	379	785	307	169	133	99.2	235
MAX	1320	2860	1460	620	210	1010	3060	1090	460	502	336	1190
MIN	90	109	200	105	96	125	251	140	78	41	47	64
CFSM	1.22	3.40	2.60	1.17	.65	1.97	4.09	1.60	.88	.69	.52	1.23
IN.	1.40	3.79	3.00	1.35	.68	2.27	4.56	1.84	.98	.80	.60	1.37

CAL YR 1986 TOTAL 132448 MEAN 363 MAX 4570 MIN 41 CFSM 1.89 IN. 25.66
WTR YR 1987 TOTAL 116874 MEAN 320 MAX 3060 MIN 41 CFSM 1.67 IN. 22.64

e Estimated

03042200 LITTLE YELLOW CREEK NEAR STRONGSTOWN, PA

LOCATION.--40°33'44", long 78°56'44", Indiana County, Hydrologic Unit 05010007, on right bank 100 ft downstream from concrete box culvert on U.S. Highway 422, 1.4 mi northwest of Strongstown, 6 mi upstream from mouth, and 11 mi southeast of Indiana.

DRAINAGE AREA.--7.36 mi^2.

PERIOD OF RECORD.--September 1960 to September 1978, October 1986 to current year. Occasional low-flow measurement, water years 1959-60, and annual maximum, water year 1960.

GAGE.--Water-stage recorder. Datum of gage is 1,586.83 ft above National Geodetic Vertical Datum of 1929. Aug. 25, 1959 to Aug. 31, 1960, low-flow partial record station and Nov. 6, 1959 to Aug. 31, 1960, crest-stage gage at site 100 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--19 years (1960-78, 1987), 12.6 ft^3/s, 23.15 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,250 ft^3/s, July 20, 1977, gage height, 9.31 ft; minimum, 0.1 ft^3/s, Aug 17, 1965; minimum gage height, 1.10 ft, Sept. 1, 1962.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 180 ft^3/s and maximum (*).

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 4	0345	215	4.11	Apr. 4	1730	260	4.29
Nov. 9	0515	*322	*4.51	Sept. 17	2215	276	4.35

Minimum discharge, 0.74 ft^3/s, July 28, gage height, 1.93 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	4.3	13	8.8	e5.0	34	29	12	2.6	3.9	1.0	4.8
2	2.1	4.1	25	8.9	e6.4	39	30	11	2.9	8.1	1.7	3.4
3	13	3.9	68	7.8	e7.2	23	26	25	2.8	4.6	5.8	2.9
4	80	8.8	43	7.1	e6.0	17	114	32	2.4	2.7	1.7	2.6
5	47	11	28	e6.4	e5.2	16	98	22	2.0	2.0	14	2.5
6	18	15	22	e6.0	e4.7	14	86	18	1.9	2.3	4.0	5.1
7	11	10	18	e5.4	e4.4	27	79	15	1.9	22	2.3	4.7
8	7.7	37	17	e5.2	e4.2	36	47	12	1.9	5.8	2.3	12
9	5.9	175	39	e4.8	e4.0	35	31	10	2.7	4.0	10	8.7
10	4.8	54	38	e4.7	e3.8	24	23	8.7	2.1	5.7	17	6.3
11	3.9	47	27	e4.5	e3.5	19	18	7.6	1.9	21	5.0	4.9
12	3.4	39	22	e4.3	e3.3	14	21	6.8	2.1	6.1	3.5	4.8
13	4.0	28	17	e4.2	e3.2	11	18	6.1	2.3	4.2	2.7	4.3
14	12	21	23	e6.0	e3.1	9.9	15	5.4	2.2	5.0	2.2	3.6
15	7.9	18	12	e20	e3.0	9.6	14	8.2	2.4	3.8	1.9	3.1
16	5.4	15	10	25	e2.9	8.5	12	5.9	2.5	2.7	1.7	3.0
17	4.7	12	9.4	18	e2.8	7.7	11	4.9	1.8	2.2	1.8	69
18	4.0	15	14	15	e2.7	7.1	9.9	5.9	1.6	1.8	2.4	75
19	3.6	24	12	25	e2.6	6.8	8.8	9.1	1.5	1.6	1.7	43
20	3.4	24	9.6	22	e2.5	6.6	8.0	8.2	4.6	1.4	1.4	45
21	3.1	36	8.3	16	e2.4	6.3	7.5	6.2	4.7	1.3	1.2	31
22	3.0	24	7.8	15	e2.4	5.9	8.0	5.2	3.7	1.2	8.4	22
23	2.8	19	8.4	e12	e2.3	5.6	9.1	4.7	3.6	1.2	4.8	17
24	2.6	20	11	e11	e2.3	5.4	18	4.1	2.3	1.0	2.6	12
25	2.6	16	40	e9.2	e2.3	7.0	16	3.7	1.8	.98	2.0	9.3
26	5.2	52	27	e8.0	e2.3	13	12	3.8	1.5	1.1	2.0	7.6
27	5.8	42	21	e7.2	e3.0	8.5	12	6.0	1.5	1.0	2.1	6.2
28	12	28	17	e6.6	e4.0	7.5	26	4.1	1.4	.91	11	5.1
29	7.4	22	14	e6.4	---	6.7	17	3.2	1.2	.91	19	5.2
30	5.9	17	12	e5.8	---	15	15	2.8	2.0	.92	6.3	12
31	4.8	---	10	e5.4	---	41	---	2.7	---	1.0	4.8	---
TOTAL	299.1	842.1	643.5	311.7	101.5	487.1	839.3	280.3	69.8	122.42	148.3	436.1
MEAN	9.65	28.1	20.8	10.1	3.62	15.7	28.0	9.04	2.33	3.95	4.78	14.5
MAX	80	175	68	25	7.2	41	114	32	4.7	22	19	75
MIN	2.1	3.9	7.8	4.2	2.3	5.4	7.5	2.7	1.2	.91	1.0	2.5
CFSM	1.31	3.81	2.82	1.37	.49	2.13	3.80	1.23	.32	.54	.65	1.98
IN.	1.51	4.26	3.25	1.58	.51	2.46	4.24	1.42	.35	.62	.75	2.20

WTR YR 1987 TOTAL 4581.18 MEAN 12.6 MAX 175 MIN .91 CFSM 1.71 IN. 23.15

e Estimated

03042200 LITTLE YELLOW CREEK NEAR STRONGSTOWN, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1986 to September 1987.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
NOV											
03...	0945	3.9	350	7.20	6.5	140	0.1	38	11	8.8	1.6
MAY											
11...	1200	8.0	275	7.10	14.0	110	0	30	8.5	8.7	1.1

DATE	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	SULFATE (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)
NOV										
03...	46	110	--	14	<0.1	10	290	0.220	--	<130
MAY										
11...	40	--	90	9.0	<0.1	5.9	312	0.320	--	<130

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC 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 DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
NOV										
03...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY										
11...	<130	--	--	50	--	51	--	--	--	--

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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, DIS-SOLVED (UG/L AS MN)
NOV										
03...	<30	<30	<10	<10	440	260	<4	<4	480	480
MAY										
11...	--	--	--	--	420	<100	--	--	180	160

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV										
03...	<1.0	<1.0	<25	<25	<6	<6	250	250	15	17
MAY										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10

03042260 YELLOW CREEK LAKE AT YELLOW CREEK STATE PARK, PA

LOCATION.--Lat 40°35'27", long 79°03'11", Indiana County, Hydrologic Unit 05010007, in gatehouse at right end of dam on Yellow Creek, at Yellow Creek State Park, 3 mi southwest of Penn Run.

DRAINAGE AREA.--52.5 mi².

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

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical datum of 1929 (Pennsylvania Department of Environmental Resources bench mark).

REMARKS.--Lake is formed by an earthfill dam with concrete spillway. Storage began July 11, 1971. Usable capacity, 13,800 acre-ft between elevation 1,245.5 ft, sill of 4-foot and 1.5 foot outlet gates, and 1,280.00 (spillway crest). No dead storage. Figures given herein represent usable contents. Lake is used for recreation. Dam built by Pennsylvania Department of Forests and Waters and now maintained by Pennsylvania Department of Environmental Resources.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 24,100 acre-ft, July 20, 1977, elevation, 1,290.29 ft; minimum (after first filling), 2,810 acre-ft, Apr. 14, 1975, elevation, 1,261.47 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,400 acre-ft, Apr. 5, elevation, 1,281.78 ft; minimum, 12,770 acre-ft, Aug. 2, elevation, 1,278.84 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in cfs)
	03042260 Yellow Creek Lake		
Sept. 30	1,279.15	13,000	-
Oct. 31	1,279.44	13,300	+ 4.2
Nov. 30	1,280.39	14,200	+ 15.1
Dec. 31	1,279.99	13,800	- 6.6
CAL YR 1986	-	-	+ 0.6
Jan. 31	1,279.72	13,500	- 4.9
Feb. 28	1,279.44	13,300	- 3.6
Mar. 31	1,280.43	14,200	+ 14.6
Apr. 30	1,280.17	14,000	- 3.4
May 31	1,279.49	13,300	- 11.4
June 30	1,279.18	13,100	- 3.4
July 31	1,278.89	12,800	- 4.9
Aug. 31	1,279.55	13,400	+ 9.8
Sept. 30	1,279.66	13,500	+ 1.5
WTR YR 1987	-	-	+ 0.6

03042280 YELLOW CREEK NEAR HOMER CITY, PA

LOCATION.--Lat 40°34'18", long 79°06'13", Indiana County, Hydrologic Unit 0510007, on left bank 0.3 mi upstream from Central Indiana County Water Authority dam, 0.4 mi upstream from Ferrier Run, which has been diverted, and 3.5 mi northeast of Homer City.

DRAINAGE AREA.--57.4 mi^2, excludes that of Ferrier Run.

PERIOD OF RECORD.--October 1967 to current year.

REVISED RECORDS.--WDR PA-76-3: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,140 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good. Flow regulated since 1971 by Yellow Creek Lake (station 03042260) 4.2 mi upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--20 years, 107 ft^3/s, 25.32 in/yr, adjusted for storage beginning June 1971.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft^3/s, July 20, 1977, gage height 12.60 ft, from rating curve extended above 810 ft^3/s on basis of computation of peak flow over dam and flow over dam measurement at gage height 7.46 ft; minimum, 1.4 ft^3/s, July 19, 1969, gage height, 1.99 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,120 ft^3/s, Apr. 5, gage height, 4.65 ft; minimum daily, 9.4 ft^3/s, July 31.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.6	38	171	108	70	69	243	144	38	17	9.5	54
2	9.5	36	176	103	71	139	271	136	49	26	9.5	48
3	19	32	308	95	84	155	277	140	45	35	11	39
4	194	42	366	84	94	153	466	223	36	33	10	30
5	323	51	304	74	94	148	1010	235	27	28	9.9	24
6	251	66	241	64	92	140	748	207	22	23	19	20
7	173	73	193	61	90	128	604	175	19	50	13	24
8	132	116	161	64	89	146	437	149	18	62	12	25
9	101	726	196	62	86	161	338	140	19	62	12	48
10	81	658	303	61	77	160	259	123	18	55	15	49
11	65	435	286	61	73	148	202	104	16	52	29	48
12	53	406	243	61	73	129	180	88	16	54	27	48
13	48	317	196	58	71	112	175	76	15	48	22	44
14	57	246	155	55	66	99	152	64	15	40	19	38
15	67	193	141	74	60	93	145	64	14	36	16	34
16	64	157	123	128	e52	84	143	61	14	30	14	30
17	59	140	108	142	47	74	136	54	14	19	13	54
18	54	125	97	145	43	68	123	54	13	19	13	216
19	48	134	99	167	37	63	110	72	12	18	12	283
20	43	138	95	230	33	59	99	79	12	13	11	278
21	37	184	84	226	29	53	89	72	13	14	10	271
22	32	197	79	195	28	49	82	62	14	14	9.9	218
23	28	181	72	168	31	46	84	55	14	12	16	175
24	24	162	72	e140	28	42	115	48	14	11	16	141
25	23	150	122	e120	26	43	142	41	13	11	15	117
26	28	255	167	e100	24	62	142	221	12	10	14	95
27	32	425	178	e88	24	68	140	149	12	9.9	13	78
28	38	359	167	95	26	68	153	89	11	9.9	13	66
29	43	277	148	73	---	66	157	69	10	9.7	26	58
30	43	215	136	73	---	74	150	56	11	9.5	62	63
31	43	---	122	74	---	169	---	47	---	9.4	61	---
TOTAL	2222.1	6534	5309	3249	1618	3068	7372	3297	556	840.4	552.8	2716
MEAN	71.7	218	171	105	57.8	99.0	246	106	18.5	27.1	17.8	90.5
MAX	323	726	366	230	94	169	1010	235	49	62	62	283
MIN	9.5	32	72	55	24	42	82	41	10	9.4	9.5	20
MEAN‡	75.9	233	164	100	54.2	114	243	94.6	15.1	22.2	27.6	92.0
CFSM‡	1.32	4.06	2.86	1.74	.94	1.99	4.23	1.65	.26	.39	.48	1.60
IN‡	1.52	4.53	3.30	2.01	.98	2.29	4.72	1.90	.29	.45	.55	1.79

CAL YR 1986 TOTAL 40814.7 MEAN 112 MAX 1430 MIN 8.9 ADJ +0.6 MEAN‡ 113 CFSM‡ 1.97 IN.‡ 26.56
WTR YR 1987 TOTAL 37334.3 MEAN 102 MAX 1010 MIN 9.4 ADJ +0.6 MEAN‡ 103 CFSM‡ 1.79 IN.‡ 24.33

‡ Adjusted for change in contents in Yellow Creek Lake.

e Estimated

03042500 TWO LICK CREEK AT GRACETON, PA

LOCATION.--Lat 40°31'02", long 79°10'19", Indiana County, Hydrologic Unit 05010007, on right bank 0.8 mi upstream from highway bridge on road leading west from Graceton, 1.1 mi downstream from Tearing Run, 1.5 mi upstream from Cherry Run, and 8 mi northeast of Blairsville.

DRAINAGE AREA.--171 mi^2.

PERIOD OF RECORD.--September 1951 to current year.

GAGE.--Water-stage recorder. Datum of gage is 981.63 ft above National Geodetic Vertical Datum of 1929.

REVISED RECORDS.--WDR PA-78-3: 1977 (M).

REMARKS.--No estimated daily discharges. Records good. Diurnal fluctuation caused by mine pumpage and by sewage-disposal plant above station. Flow regulated since December 1968 by Two Lick Creek Reservoir 10 mi upstream, capacity, 16,240 acre-ft and since July 1971 by Yellow Creek Lake (station 03042260) 11 mi upstream. Several observations of water temperature were made during the year. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--36 years, 284 ft^3/s, 22.55 in/yr, adjusted for storage since December 1968.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,000 ft^3/s, July 20, 1977, gage height, 18.65 ft (backwater), from highwater mark, from rating curve extended above 4,500 ft^3/s on basis of slope-area measurement of peak flow and contracted-opening measurement at gage height 12.71 ft at site 1.6 mi above gage, adjusted to gage site; minimum, 2.0 ft^3/s, Sept. 14, 15, 1952, gage height, 1.27 ft; minimum daily, 8.7 ft^3/s, Sept. 14, 1952.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,040 ft^3/s, Apr. 4, gage height, 8.13 ft; minimum daily, 45 ft^3/s, Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	71	464	247	191	235	745	318	138	106	63	132
2	68	70	690	226	190	396	757	305	204	214	62	96
3	121	66	1010	216	271	413	869	448	164	264	93	76
4	753	92	959	198	304	396	1780	870	162	125	60	68
5	1210	100	787	171	264	380	2770	572	107	87	178	63
6	641	143	556	137	284	397	1730	497	93	75	77	95
7	380	165	479	154	280	373	1490	444	90	1090	54	85
8	257	422	427	185	243	347	931	377	83	397	50	216
9	249	2370	625	168	151	369	801	276	99	235	62	245
10	226	1380	850	183	214	358	555	248	73	217	113	154
11	151	1100	664	185	184	283	483	228	70	200	72	164
12	92	1130	513	178	203	223	487	212	76	205	65	190
13	128	652	452	172	191	210	464	180	74	147	59	202
14	212	527	382	168	180	244	407	149	75	102	55	131
15	226	442	311	236	160	245	423	175	84	104	54	98
16	180	386	286	429	98	199	408	186	74	120	49	92
17	140	309	256	437	93	136	382	120	67	82	64	301
18	132	301	239	366	91	128	319	201	60	66	90	694
19	117	356	228	510	97	127	266	417	67	55	49	616
20	92	395	215	633	94	153	284	339	70	54	46	592
21	128	609	199	562	93	148	214	191	64	53	45	535
22	227	511	186	513	92	133	195	178	70	51	184	406
23	193	451	176	438	107	119	205	167	115	68	94	312
24	67	388	246	306	112	124	548	153	52	69	61	267
25	65	362	607	271	85	118	546	129	50	68	56	236
26	96	1170	623	247	83	154	372	557	51	68	55	197
27	124	1500	432	214	82	138	331	765	50	67	55	148
28	111	859	386	206	89	135	502	352	51	65	146	130
29	79	619	359	185	---	130	427	222	64	65	242	121
30	84	528	305	203	---	175	378	177	75	64	128	183
31	74	---	279	207	---	551	---	148	---	64	108	---
TOTAL	6702	17474	14191	8551	4526	7537	20069	9601	2572	4647	2589	6845
MEAN	216	582	458	276	162	243	669	310	85.7	150	83.5	228
MAX	1210	2370	1010	633	304	551	2770	870	204	1090	242	694
MIN	65	66	176	137	82	118	195	120	50	51	45	63
†	+47.9	+25.2	-31.7	-5.7	-0.9	+39.0	-6.8	-12.2	-2.6	-13.8	+17.9	+3.2
MEAN‡	264	607	426	270	161	282	662	298	83.1	136	101	231
CFSM‡	1.54	3.55	2.49	1.58	.94	1.65	3.87	1.74	.49	.80	.59	1.35
IN.‡	1.78	3.96	2.87	1.82	.98	1.90	4.32	2.01	.55	.92	.68	1.51

CAL YR 1986 TOTAL 115389 MEAN 316 MAX 3670 MIN 47 ADJ +0.5 MEAN‡ 316 CFSM‡ 1.85 IN.‡ 25.13
WTR YR 1987 TOTAL 105304 MEAN 289 MAX 2770 MIN 45 ADJ +5.0 MEAN‡ 294 CFSM‡ 1.72 IN.‡ 23.29

† Change in contents, equivalent in cubic feet per second, in Two Lick Creek Reservoir and Yellow Creek Lake. Records of contents in Two Lick Creek Reservoir furnished by Pennsylvania Electric Co.
‡ Adjusted for change in reservoir contents.

03042700 CHERRY RUN NEAR HOMER CITY, PA

LOCATION.--Lat 40°33'15", long 79°11'31", Indiana County, Hydrologic Unit 05010007, on left bank at upstream side of bridge on township road T-568, 0.2 mi west of intersection with State Highway 56, 1.1 mi upstream of Cherry Run Dam, and 1.9 mi northwest of Homer City.

DRAINAGE AREA.--10.5 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1986 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,020 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 547 ft³/s, Nov. 26, 1986, gage height, 5.69 ft; minimum, 0.12 ft³/s, Aug. 1, 2, 17, 1987, gage height, 1.40 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*).

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 9	0245	398	4.99	Apr. 4	1715	500	5.50
Nov. 26	1415	*547	*5.69				

Minimum discharge, 0.12 ft³/s, Aug. 1, 2, 17, gage height, 1.40 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	1.9	13	8.3	e5.2	22	52	9.0	11	3.2	.13	3.1
2	.60	1.8	42	8.5	e5.0	24	50	8.7	13	11	.13	2.3
3	5.4	1.7	60	6.8	e11	19	40	33	8.8	9.3	.39	1.7
4	25	4.4	38	5.2	e10	15	186	40	6.5	4.2	.38	1.1
5	34	5.1	25	4.4	e8.8	12	143	26	5.0	2.9	.97	.77
6	10	8.3	18	e5.0	e7.4	11	78	20	3.9	2.3	1.5	1.6
7	5.8	6.2	15	e4.7	e6.8	9.8	49	16	3.4	4.0	.60	2.3
8	3.9	71	14	e4.4	e6.2	9.1	32	12	2.9	2.5	.33	5.8
9	2.9	174	51	e4.1	e5.6	8.6	23	9.8	5.0	2.0	.33	13
10	2.3	48	47	e4.0	e5.2	6.3	18	7.8	2.8	1.8	1.7	10
11	1.9	68	30	e4.1	e4.9	5.4	15	6.5	2.2	1.5	1.1	8.1
12	1.7	45	22	e4.8	e4.6	5.2	20	5.6	2.6	1.1	.51	18
13	2.5	27	15	e6.0	e4.3	4.6	17	4.5	3.5	.99	.25	14
14	5.8	17	12	e8.0	e4.0	4.5	13	3.6	2.7	.96	.17	11
15	3.6	13	10	19	e3.8	6.1	26	5.9	2.5	1.4	.15	8.1
16	2.6	11	8.3	17	e3.6	5.4	29	3.5	2.6	.97	.15	e6.8
17	2.3	8.4	7.7	14	e3.4	4.5	24	2.9	1.7	.66	.13	e9.0
18	2.0	10	10	13	e3.3	4.0	19	12	1.2	.57	.42	e12
19	1.7	13	8.0	50	e3.1	3.8	15	16	1.1	.41	.47	e15
20	1.5	14	6.4	45	e3.0	3.5	12	13	1.2	.28	.37	e23
21	1.4	20	5.4	29	e2.9	3.3	10	8.2	1.8	.26	.28	e19
22	1.4	16	4.3	22	e2.9	3.1	8.8	6.2	1.9	.22	5.8	e15
23	1.3	14	4.0	17	e2.8	2.8	8.5	5.2	2.0	.19	5.5	e11
24	1.1	13	22	e14	e2.7	2.8	30	4.2	1.5	.15	2.1	e9.0
25	1.1	11	52	e11	e2.7	5.3	19	3.5	1.2	.15	1.2	7.0
26	3.9	196	32	e9.2	e2.9	13	15	59	1.1	.16	.89	5.5
27	3.8	87	23	e8.0	e3.3	8.0	13	74	.94	.19	.88	4.4
28	3.9	41	18	e6.6	e3.8	7.0	17	31	.88	.19	4.2	3.4
29	2.9	25	14	e6.2	---	6.1	13	19	.83	.19	16	2.9
30	2.5	18	12	e5.6	---	12	11	14	.88	.19	6.6	4.4
31	2.0	---	9.6	e5.2	---	84	---	10	---	.16	3.8	---
TOTAL	142.00	989.8	648.7	370.1	133.2	331.2	1006.3	490.1	96.63	54.09	57.43	248.27
MEAN	4.58	33.0	20.9	11.9	4.76	10.7	33.5	15.8	3.22	1.74	1.85	8.28
MAX	34	196	60	50	11	84	186	74	13	11	16	23
MIN	.60	1.7	4.0	4.0	2.7	2.8	8.5	2.9	.83	.15	.13	.77
CFSM	.44	3.14	1.99	1.14	.45	1.02	3.19	1.51	.31	.17	.18	.79
IN.	.50	3.51	2.30	1.31	.47	1.17	3.57	1.74	.34	.19	.20	.88

WTR YR 1987 TOTAL 4567.76 MEAN 12.5 MAX 196 MIN .13 CFSM 1.19 IN. 16.18

e Estimated

03042700 CHERRY RUN NEAR HOMER CITY, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORDS.--October 1986 to September 1987.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
NOV											
03...	1425	1.7	555	6.90	11.0	140	0.4	39	11	47	4.7
MAY											
11...	1435	6.6	245	7.60	20.5	75	0.1	19	6.6	15	1.8

DATE	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	SULFATE (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, TOTAL (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	NITRO-GEN, NITRATE TOTAL (MG/L AS N)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)
NOV										
03...	58	200	--	21	<0.1	6.5	382	1.87	--	450
MAY										
11...	28	--	68	9.0	<0.1	5.6	180	3.00	--	<130

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC 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 DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)
NOV										
03...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY										
11 ..	<130	-	-	30	--	31	--	--	--	--

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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, DIS-SOLVED (UG/L AS MN)
NOV										
03...	<30	<30	<10	<10	11000	8700	<4	<4	410	430
MAY										
11...	--	--	--	--	2100	590	--	--	90	80

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
NOV										
03...	<1.0	<1.0	<25	<25	<6	<6	450	350	20	19
MAY										
11...	<1.0	<1.0	--	--	--	--	--	--	30	<10

03044000 CONEMAUGH RIVER AT TUNNELTON, PA

LOCATION.--Lat 40°27'16", long 79°23'28", Indiana County, Hydrologic Unit 05010007, on right bank at downstream side of highway bridge at Tunnelton, 0.9 mi downstream from Boatyard Run, 2.0 mi downstream from Conemaugh River Dam, 3.8 mi southeast of Saltsburg, and 5.5 mi upstream from confluence with Loyalhanna Creek.

DRAINAGE AREA.--1,358 mi².

PERIOD OF RECORD.--October 1939 to current year.

GAGE.--Water-stage recorder. Datum of gage is 844.64 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1952, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow regulated since 1971 by Yellow Creek Lake (station 03042260) since 1952 by Conemaugh River Lake 2 mi upstream and by reservoirs above station, the nine most effective of which have a combined capacity of 68,090 acre-ft. Evaporation from operation of Homer City and Conemaugh generating stations, which began during 1969 and 1970 respectively, can amount to as much as 45 ft³/s. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--48 years, 2,382 ft³/s, 23.82 in/yr, adjusted for storage 1952-75.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,200 ft³/s, Mar. 7, 1945, gage height, 21.0 ft from graph based on gage readings; minimum, 1 ft³/s, Sept. 10, 1954, gage height, 1.20 ft; minimum daily, 1 ft³/s, Sept. 10, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,400 ft³/s, Apr. 13, gage height, 9.76 ft; minimum daily, 345 ft³/s, Aug. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	383	694	5630	2090	1900	951	3870	3420	1930	1160	345	1100
2	869	684	3900	1720	1440	2030	3990	2840	1610	1310	354	986
3	1430	616	3840	1390	1990	4300	5090	2330	1600	1410	625	780
4	1520	571	7430	1410	2670	4980	4800	2540	1580	1660	550	613
5	1770	653	8260	1400	2870	3920	3270	2720	1550	1610	502	493
6	3470	915	6810	1380	2820	2960	5530	2780	1520	1310	643	500
7	4100	1550	4200	1380	2740	2730	7050	3890	1320	1750	694	505
8	2090	2020	3370	1400	2390	3440	7210	5540	1090	3770	552	680
9	1860	2440	3400	1410	1910	4590	9480	4440	1070	3210	491	1720
10	1480	4460	5880	1410	1400	4960	13100	3660	852	1580	649	1920
11	1390	5930	7860	1410	1420	4870	14100	3520	752	1310	769	1180
12	911	5940	7380	1410	1510	4300	13500	2400	776	978	606	976
13	650	5890	4930	1400	1560	3850	15000	1290	775	801	490	976
14	826	5760	3140	1390	1560	3370	14000	1210	785	811	447	962
15	1200	5560	2550	1410	1540	2450	9670	1230	1030	1020	377	673
16	1210	4480	2480	3320	1250	2130	5490	1260	1310	1160	348	441
17	936	3680	2390	4630	934	1690	5100	1270	987	1030	357	472
18	911	3540	2120	3820	1050	1470	5150	1270	764	913	356	2070
19	746	3410	2450	3080	1120	1530	5100	1480	760	669	356	5800
20	650	3670	2620	4890	1010	1540	4930	1760	678	490	356	6450
21	650	4300	2240	5560	929	1550	3890	2150	626	492	360	4720
22	652	4890	1610	3710	931	1540	3260	2370	723	490	370	4000
23	663	4760	1360	3190	938	1540	2860	1930	873	490	669	2170
24	667	4140	1750	e1850	939	1540	1930	1490	1090	446	960	1910
25	604	3000	3340	e1400	939	1540	1290	1190	1150	412	857	1870
26	550	2130	4580	e1400	941	1710	3010	1100	1100	412	714	837
27	630	2370	4440	e1400	938	1810	3520	1220	1190	595	567	1030
28	632	4420	3410	e1400	939	1800	2840	1050	1160	600	522	1030
29	705	5890	2460	1430	---	1770	2720	1030	635	404	839	1010
30	709	5790	2090	1800	---	1760	3510	1880	386	405	1140	767
31	704	---	2120	2190	---	2100	---	2220	---	368	1130	---
TOTAL	35568	104153	120040	67080	42578	80721	184260	68480	31672	33066	17995	48641
MEAN	1147	3472	3872	2164	1521	2604	6142	2209	1056	1067	580	1621
MAX	4100	5940	8260	5560	2870	4980	15000	5540	1930	3770	1140	6450
MIN	383	571	1360	1380	929	951	1290	1030	386	368	345	441

CAL YR 1986 TOTAL 849525 MEAN 2327 MAX 14100 MIN 122
WTR YR 1987 TOTAL 834254 MEAN 2286 MAX 15000 MIN 345

e Estimated

03045000 LOYALHANNA CREEK AT KINGSTON, PA

LOCATION.--Lat 40°17'33", long 79°20'27", Westmoreland County, Hydrologic Unit 05010008, on right bank 60 ft downstream from bridge on State Highway 217, at Kingston, 100 ft downstream from Miller Run, 1.9 mi upstream from Ninemile Run, and 3 mi southeast of Latrobe.

DRAINAGE AREA.--172 mi².

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only October to December 1939, published in WSP 1305.

REVISED RECORDS.--WSP 1335: Drainage area.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,013.16 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Oct. 1, 1969, at datum 1.00 ft higher.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated by Latrobe Reservoir, capacity, 3,670 acre-ft, and diversion works at Kingston. Figures of daily discharge do not include diversion from reservoir and at Kingston intake to borough of Latrobe. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--48 years, 303 ft³/s, 23.92 in/yr, adjusted for storage and diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,700 ft³/s, Oct. 15, 1954, gage height, 15.8 ft, present datum, from floodmarks, from rating curve extended above 8,700 ft³/s on basis of contracted-opening measurement of peak flow; minimum, 0.1 ft³/s, Sept. 4, 1953; minimum daily, 0.2 ft³/s, Oct. 23, 24, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1918, 15.8 ft, present datum, Oct. 15, 1954. Flood of Mar. 17 or 18, 1936 reached a stage of about 15.5 ft, present datum, from information by local residents, discharge, 21,000 ft³/s, from rating curve extended above 8,700 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 9	0930	3,920	7.14	July 2	1130	3,600	6.91
Apr. 4	1730	4,030	7.22	Sept. 18	0600	*7,520	*9.19
June 13	2030	3,680	6.97				

Minimum daily discharge, 10 ft³/s, Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	101	310	218	e190	299	675	293	173	349	29	66
2	488	98	441	e190	e400	489	702	340	167	1440	27	45
3	400	91	714	e170	746	399	636	411	139	631	186	36
4	527	199	575	e150	551	336	1920	763	119	337	59	29
5	983	374	441	e130	416	285	1900	542	99	240	68	25
6	427	508	362	e140	350	257	1780	436	85	183	100	34
7	261	365	315	e180	e280	254	2000	363	77	192	47	49
8	187	634	311	e220	e240	329	1640	305	69	144	35	539
9	142	2450	1210	e210	e210	417	1200	258	233	120	42	461
10	114	1130	1630	e190	e180	372	872	220	132	116	50	195
11	92	1010	935	e170	e160	300	638	190	87	91	33	137
12	79	856	641	e160	e190	258	629	170	91	80	27	158
13	86	562	449	e160	e220	224	603	149	1030	69	25	128
14	171	403	343	e150	e170	200	464	131	1240	123	20	91
15	170	335	303	e400	e140	204	449	138	642	103	18	70
16	113	288	259	765	e120	184	442	114	531	69	16	62
17	105	244	236	500	e135	159	410	102	289	60	15	260
18	128	231	270	400	e130	147	360	102	203	53	24	3590
19	98	329	271	995	e115	141	311	185	162	48	22	1180
20	87	296	220	1230	e105	136	277	258	158	44	15	756
21	81	607	193	672	e100	132	250	165	243	45	10	557
22	76	422	169	487	e110	128	226	128	205	35	84	438
23	70	350	155	e320	e130	124	213	112	367	35	105	383
24	66	400	296	e220	114	123	837	101	235	31	35	288
25	62	374	1000	e190	108	133	645	91	170	35	24	250
26	107	1120	613	e210	101	178	433	560	150	34	23	187
27	117	1260	461	e150	101	149	356	1440	138	30	38	149
28	139	727	378	e145	102	148	537	511	119	28	196	120
29	134	516	319	e160	---	134	404	325	100	23	385	107
30	121	391	287	e200	---	162	344	243	194	21	103	340
31	113	---	248	e240	---	779	---	204	---	38	62	---
TOTAL	5893	16671	14355	9722	5914	7580	22153	9350	7647	4847	1923	10730
MEAN	190	556	463	314	211	245	738	302	255	156	62.0	358
MAX	983	2450	1630	1230	746	779	2000	1440	1240	1440	385	3590
MIN	62	91	155	130	100	123	213	91	69	21	10	25
†	+2.1	+14.6	+16.9	+7.8	+10.7	+8.3	+14.1	+2.9	+9.1	+4.2	+2.8	+14.6
MEAN‡	192	571	480	322	222	253	752	305	264	160	64.8	373
CFSM‡	1.12	3.32	2.79	1.87	1.29	1.47	4.37	1.77	1.53	.93	.38	2.17
IN.‡	1.29	3.70	3.22	2.16	1.34	1.69	4.88	2.04	1.71	1.07	.44	2.42

CAL YR 1986 TOTAL 124300 MEAN 341 MAX 6360 MIN 9.8 ADJ +9.2 MEAN‡ 350 CFSM‡ 2.03 IN.‡ 27.64
WTR YR 1987 TOTAL 116785 MEAN 320 MAX 3590 MIN 10 ADJ +8.9 MEAN‡ 329 CFSM‡ 1.91 IN.‡ 25.96

† Diversion from and change in contents in Latrobe Reservoir and diversion from Kingston intake, equivalent in cubic feet per second, furnished by Latrobe Municipal Authority.
‡ Adjusted for diversion and change in reservoir contents.

e Estimated

03047000 LOYALHANNA CREEK AT LOYALHANNA DAM, PA

LOCATION.--Lat 40°27'53", long 79°27'05", Westmoreland County, Hydrologic Unit 05010008, on left bank at downstream side of highway bridge, 0.7 mi downstream from Loyalhanna Dam, 1.5 mi south of Saltsburg, and 4.0 mi upstream from confluence with Conemaugh River.

DRAINAGE AREA.--292 mi².

PERIOD OF RECORD.--October 1939 to current year. Prior to October 1970, published as "at Loyalhanna Creek Dam." Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1435: 1941.

GAGE.--Water-stage recorder. Datum of gage is 861.15 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--No estimated daily discharges. Records good. Flow completely regulated since 1942 by Loyalhanna Lake 0.7 mi upstream and Latrobe Reservoir, combined capacity, 99,000 acre-ft. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--48 years, 487 ft³/s, 22.65 in/yr, adjusted for storage since June 1942.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,700 ft³/s, June 5, 1941, gage height, 10.30 ft; from rating curve extended above 5,200 ft³/s; no flow on Aug. 9, 1979; minimum gage height, -0.18 ft, Aug. 23, 1974.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,160 ft³/s, Apr. 13, gage height, 5.56 ft; minimum daily, 46 ft³/s, Apr. 17-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	151	253	1420	434	444	215	366	421	926	568	67	141
2	467	221	1210	432	447	420	821	339	485	730	70	103
3	725	145	976	431	1110	711	1240	577	245	1060	163	102
4	563	192	1570	325	1450	705	894	726	245	1570	202	102
5	474	316	1650	218	981	531	519	739	203	892	172	102
6	793	575	1630	218	709	423	974	742	131	296	151	102
7	1030	590	1020	351	702	423	1220	914	132	320	151	102
8	582	467	444	438	534	422	1240	1010	127	430	119	139
9	238	507	621	438	431	423	2000	816	174	325	84	712
10	249	1120	1270	435	370	425	2720	415	310	218	149	666
11	247	1870	1900	435	335	426	2830	235	193	219	122	265
12	184	2190	1980	434	336	425	2740	309	108	215	73	189
13	140	2140	1590	298	384	422	2970	284	109	161	73	209
14	141	1930	966	218	435	295	2970	238	595	116	73	209
15	201	1330	553	354	432	214	1730	238	1020	185	65	209
16	244	861	450	791	326	215	800	238	1170	225	51	178
17	167	707	449	1010	215	215	709	238	1120	138	46	165
18	112	554	448	1000	216	215	706	227	567	85	46	960
19	112	435	448	988	218	216	548	342	218	86	46	1680
20	113	501	447	1740	218	216	451	389	221	105	46	1910
21	127	580	443	1690	218	218	384	350	219	122	46	2440
22	145	705	303	1150	218	217	324	282	290	120	48	2520
23	145	701	218	863	218	216	334	241	580	121	140	1610
24	146	585	224	550	217	215	345	176	732	107	201	566
25	147	435	622	436	215	216	748	144	559	100	141	205
26	149	462	1420	436	215	352	1190	146	385	90	88	276
27	207	622	1290	435	215	361	1320	231	338	79	77	321
28	250	943	1030	431	214	316	1130	595	338	79	80	224
29	256	1130	1010	364	---	250	1010	987	232	80	262	162
30	256	1120	721	328	---	213	822	1100	272	75	429	262
31	255	---	435	385	---	218	---	1070	---	68	293	---
TOTAL	9016	24187	28758	18056	12023	10349	36055	14759	12244	8985	3774	16831
MEAN	291	806	928	582	429	334	1202	476	408	290	122	561
MAX	1030	2190	1980	1740	1450	711	2970	1100	1170	1570	429	2520
MIN	112	145	218	218	214	213	324	144	108	68	46	102
†	+2.6	+110	-96.5	+13.0	-14.0	+24.4	-19.0	+32.2	-24.7	-10.2	-4.5	+17.0
MEAN‡	294	916	832	595	415	358	1183	508	383	280	118	578
CFSM‡	1.01	3.14	2.85	2.04	1.42	1.23	4.05	1.74	1.31	.96	.40	1.98
IN.‡	1.16	3.50	3.29	2.35	1.48	1.42	4.52	2.01	1.46	1.11	.46	2.21

CAL YR 1986 TOTAL 204818 MEAN 561 MAX 4460 MIN 33 ADJ -1.0 MEAN‡ 560 CFSM‡ 1.92 IN.‡ 33.98
WTR YR 1987 TOTAL 195037 MEAN 534 MAX 2970 MIN 46 ADJ +2.5 MEAN‡ 536 CFSM‡ 1.84 IN.‡ 24.97

† Change in contents, equivalent in cubic feet per second, in Latrobe Reservoir and Loyalhanna Lake. Records of contents in Latrobe Reservoir furnished by the Latrobe Municipal Authority.
‡ Adjusted for change in reservoir contents.

03048500 KISKIMINETAS RIVER AT VANDERGRIFT, PA

LOCATION.--Lat 40°36'16", long 79°33'08", Westmoreland County, Hydrologic Unit 05010008, on left bank 0.5 mi upstream from bridge on State Highway Alternate 66 at Vandergrift, and 2.2 mi upstream from Pine Run.

DRAINAGE AREA.--1,825 mi^2.

PERIOD OF RECORD.--August 1937 to current year. Monthly discharge only for some periods, published in WSP 1305. October 1920 to September 1932 (gage heights and discharge measurements only) in reports of Pennsylvania Department of Forest and Waters.

GAGE.--Water-stage recorder. Datum of gage is 769.40 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Oct. 1, 1920, to Sept. 30, 1930, nonrecording gage, Oct. 1, 1930, to Sept. 30, 1932, water-stage recorder, at site 0.6 mi downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1971 by Yellow Creek Lake (station 03042260), since 1952 by Conemaugh River Lake, 23 mi upstream, since 1942 by Loyalhanna Lake, 20 mi upstream, and by other reservoirs above station, the 11 most effective of which have a combined capacity of 105,700 acre-ft. Figures of daily discharge do not include diversion from Beaver Run Reservoir to plants and communities downstream, nor into the Monongahela River basin. Evaporation from operation of Homer City and Conemaugh generating stations, which began during 1969 and 1970, respectively, can amount to as much as 45 ft^3/s. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--50 years, 3,106 ft^3/s, 23.11 in/yr, adjusted for storage and diversion, 1938-75.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 71,900 ft^3/s, Mar. 31, 1940, gage height, 25.70 ft; minimum, 56 ft^3/s, Oct. 15, 16, 1952; minimum daily, 60 ft^3/s, Oct. 15, 1952.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 18, 1936, reached a stage of 41.64 ft, from floodmark at present site, discharge, 185,000 ft^3/s, by slope-area measurement.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 20,700 ft^3/s, Apr. 13, gage height, 13.83 ft; minimum daily, 373 ft^3/s, Aug. 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	485	944	7750	2870	2990	1410	4300	4440	3520	1250	384	1390
2	688	930	6850	2750	2370	1900	5580	3810	2750	2600	404	1230
3	2390	787	5300	2100	3110	5190	6960	3400	2160	2370	673	935
4	2330	708	9530	2070	4530	6420	8750	4200	2090	3390	893	847
5	2550	899	11000	1850	4510	5490	6090	4180	2010	3000	952	588
6	3460	1340	9970	1830	4050	3940	7320	4150	1840	2030	741	643
7	6300	2050	6510	1920	3940	3530	9600	4730	1710	1680	915	625
8	3110	2990	4330	2130	3600	3930	9590	7360	1420	3900	760	860
9	2480	3850	4720	2130	2960	5250	11400	6290	1270	4870	589	1830
10	1860	5170	6940	2140	2160	6000	16000	4650	1420	1970	649	3410
11	1780	8620	10700	2160	2070	5880	18200	4150	1120	1800	970	1960
12	1500	8940	10400	2140	2180	5440	17600	3520	939	1390	803	1320
13	775	8730	8300	2050	2280	4700	18500	1920	963	1040	552	1320
14	854	8410	4680	1870	2350	4270	19100	1640	1090	943	542	1290
15	1230	7670	3850	2060	2310	3250	13600	1750	2020	1030	473	1180
16	1690	6370	3160	3580	2160	2590	8000	1690	2500	1440	396	705
17	1230	4820	3370	6350	1360	2380	6720	1690	2530	1350	383	698
18	1040	4580	2920	5790	1400	1840	6680	1880	1680	1010	413	2010
19	968	4290	3090	4760	1540	1960	6510	2520	1040	942	379	7730
20	725	4470	3450	6520	1480	1960	6130	2640	1020	564	373	8900
21	728	5100	3180	8950	1320	1960	5260	2670	915	586	374	6970
22	755	6240	2480	5990	1320	1960	4010	3050	977	579	553	6520
23	769	6150	1780	4700	1340	1950	3760	2680	1290	576	580	4130
24	786	5600	2070	3980	1330	1950	4010	2090	1920	568	1210	2950
25	777	4160	4380	2690	1310	2000	2090	1500	1950	476	1150	2120
26	679	5200	6800	2150	1280	2370	4570	1610	1710	472	887	1110
27	714	4480	6690	2200	1280	2580	5550	2400	1580	469	720	1470
28	913	5520	5420	2190	1280	2450	4930	2590	1630	846	647	1410
29	925	8000	4160	2210	---	2360	3930	1900	1420	468	944	1210
30	956	7780	3320	2290	---	2330	4920	3030	575	457	1740	1070
31	951	---	2910	3000	---	2900	---	3640	---	444	1650	---
TOTAL	46398	144798	170010	99420	63810	102140	249660	97770	49059	44510	22699	68431
MEAN	1497	4827	5484	3207	2279	3295	8322	3154	1635	1436	732	2281
MAX	6300	8940	11000	8950	4530	6420	19100	7360	3520	4870	1740	8900
MIN	485	708	1780	1830	1280	1410	2090	1500	575	444	373	588

CAL YR 1986 TOTAL 1174910 MEAN 3219 MAX 18500 MIN 189
WTR YR 1987 TOTAL 1158700 MEAN 3175 MAX 19100 MIN 373

03049000 BUFFALO CREEK NEAR FREEPORT, PA

LOCATION.--Lat 40°42'57", long 79°41'59", Butler County, Hydrologic Unit 05010009, on right bank 0.6 mi upstream from Little Buffalo Creek and 3 mi north of Freeport.

DRAINAGE AREA.--137 mi^2.

PERIOD OF RECORD.--October 1940 to current year. Monthly discharge only for October 1940, published in WSP 1305.

GAGE.--Water-stage recorder. Elevation of gage is 792 ft, by barometer. Prior to July 19, 1962, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--47 years, 194 ft^3/s, 19.23 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft^3/s, Oct. 15, 1954, gage height, 13.60 ft, from floodmarks, from rating curve extended above 4,300 ft^3/s on basis of slope-area measurement of peak flow; minimum observed, 1.3 ft^3/s, Oct. 16-18, 1960; minimum gage height, 0.69 ft, Sept. 1, 1962.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 4	0600	3,080	5.68	Apr. 5	0030	2,060	4.66
Nov. 26	2130	*4,000	*6.60	Sept. 8	1100	2,050	4.65
Dec. 3	0100	2,200	4.80				

Minimum discharge, 14 ft^3/s, Aug. 1, gage height, 0.96 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44	37	273	166	e70	e210	783	242	75	140	15	70
2	81	36	1100	e145	e90	357	803	210	82	999	39	42
3	164	36	1720	e125	e170	296	691	303	70	724	235	34
4	1740	38	1020	e115	e150	248	898	496	57	323	55	29
5	753	41	653	e110	e115	204	1590	329	48	189	49	26
6	353	73	472	e100	e110	186	1250	285	41	137	50	45
7	206	71	366	e96	e105	178	900	245	39	206	32	210
8	145	102	314	e90	e98	179	631	204	39	115	25	1730
9	110	210	486	e84	e94	183	445	170	169	93	183	897
10	94	171	778	e80	e94	150	332	147	71	77	497	373
11	76	157	567	e78	e92	129	272	132	48	65	124	242
12	65	197	444	e74	e90	129	269	140	64	56	76	177
13	63	160	331	e72	e88	115	277	111	85	51	53	145
14	120	132	254	e68	e76	107	212	97	57	68	41	150
15	117	121	221	e86	e64	115	214	233	44	64	34	107
16	83	117	185	e105	e56	114	262	144	37	45	28	93
17	72	104	167	e94	e88	106	351	115	33	39	25	177
18	64	106	199	e80	e74	103	310	109	29	34	27	388
19	55	424	190	e150	e62	101	270	187	26	31	26	455
20	50	281	153	e260	e56	96	232	130	32	30	21	374
21	47	354	135	e190	e54	92	199	109	89	27	18	264
22	45	266	117	e140	e56	87	175	94	72	26	211	196
23	43	226	119	e100	e58	84	166	85	252	23	210	171
24	41	200	160	e82	e64	80	1110	78	86	22	68	138
25	39	163	647	e160	e74	134	1140	71	55	21	45	113
26	43	1410	468	e190	e64	855	709	143	46	27	40	95
27	55	1820	371	e170	e56	501	467	348	40	25	50	82
28	51	822	308	e140	e54	360	535	161	36	20	47	72
29	47	520	253	e105	---	276	366	114	32	17	47	67
30	42	358	221	e78	---	323	299	89	40	16	35	112
31	42	---	189	e90	---	817	---	97	---	15	33	---
TOTAL	4950	8753	12881	3623	2322	6915	16158	5418	1894	3725	2439	7074
MEAN	160	292	416	117	82.9	223	539	175	63.1	120	78.7	236
MAX	1740	1820	1720	260	170	855	1590	496	252	999	497	1730
MIN	39	36	117	68	54	80	166	71	26	15	15	26
CFSM	1.17	2.13	3.03	.85	.61	1.63	3.93	1.28	.46	.88	.57	1.72
IN.	1.34	2.38	3.50	.98	.63	1.88	4.39	1.47	.51	1.01	.66	1.92

CAL YR 1986 TOTAL 76549 MEAN 210 MAX 1820 MIN 9.2 CFSM 1.53 IN. 20.78
WTR YR 1987 TOTAL 76152 MEAN 209 MAX 1820 MIN 15 CFSM 1.52 IN. 20.67

e Estimated

03049500 ALLEGHENY RIVER AT NATRONA, PA

LOCATION.--Lat 40°36'55", long 79°43'07", Allegheny County, Hydrologic Unit 05010009, on right bank 520 ft upstream from dam at lock 4 at Natrona, 5.8 mi downstream from Kiskiminetas River, and at mile 24.3.

DRAINAGE AREA.--11,410 mi^2, approximately.

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

REVISED RECORDS.--WSP 1435: 1939.

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 737.11 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Apr. 14, 1940, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Allegheny Reservoir, Chautauqua and Tionesta Lakes, Union City Reservoir, Woodcock Creek, East Branch Clarion River, Mahoning Creek, Crooked Creek, Yellow Creek, Conemaugh River, and Loyalhanna Lakes and by 15 smaller reservoirs, combined capacity, excluding of Chautauqua Lake, 2,069,000 acre-ft. Slight diversion since 1952 from Beaver Run Reservoir into the Monongahela River basin. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--49 years, 19,670 ft^3/s, 23.41 in/yr, adjusted for storage from 1940 to 1975.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 238,000 ft^3/s, Dec. 30, 1942, gage height, 27.46 ft; minimum, 895 ft^3/s, Oct. 22, 1963; minimum gage height, 8.82 ft, July 25, 26, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 32.06 ft, discharge, 365,000 ft^3/s, determined by Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 76,000 ft^3/s, July 3, gage height, 15.80 ft; minimum, 2,550 ft^3/s, Aug. 17, gage height, 9.17 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13100	9640	34800	22500	11400	7120	59600	24000	12000	15800	4030	11800
2	18000	9080	33900	21500	11400	20100	54200	23500	11700	28200	3900	9950
3	20400	8930	43000	18700	13900	38100	53300	23300	12100	70100	5960	7930
4	37500	9100	62200	17100	15800	37300	55700	26600	13100	66600	12500	6680
5	48500	8870	59600	15400	15300	31300	62800	25700	14400	52300	15000	5340
6	40400	8970	53500	14000	14000	26500	61200	23200	12100	41200	9690	4860
7	40200	10900	46900	13600	13500	25600	61600	19800	10100	35500	7930	5080
8	35300	15000	41700	13600	12500	28300	64900	19900	8900	39300	6510	12000
9	31900	17600	43100	13300	11300	37900	63100	19800	9210	37200	5050	21500
10	28400	19200	54600	13000	9920	41900	61800	17100	8640	30400	8420	23300
11	25100	22500	62100	12000	9840	38000	61800	15600	7580	24300	9650	18500
12	22400	23200	54900	11400	10700	34700	58500	15400	7310	20900	7400	17300
13	20100	23800	47700	12300	10800	31200	56300	12900	8170	17500	5790	23100
14	19800	22900	39000	11600	10400	27400	55600	11700	10100	15400	4770	24800
15	20900	20400	34300	12200	9290	23600	48000	11100	10200	16900	4190	20400
16	22400	19200	30600	16300	7770	19500	37700	11700	10400	18200	3410	19900
17	20300	17200	28600	24400	7230	18000	33900	10000	10700	16600	2800	23900
18	19500	16800	27300	22900	7870	15600	29500	10100	9550	13700	3210	30600
19	18700	21300	29200	20000	8370	14300	26200	12500	8100	11800	3290	50900
20	16100	22600	30600	23400	8150	12700	24900	13500	7580	9550	2970	52300
21	13200	23700	28700	24800	7310	11800	23200	12600	10800	8090	2810	50600
22	11500	25100	26400	19800	6500	10000	18600	11800	12500	6420	3670	44500
23	10600	23800	23600	16600	6590	9980	17000	11600	21900	5720	5290	37900
24	9790	23700	21400	12700	6930	10800	22900	10900	23700	5280	6280	32500
25	8190	24500	27900	7680	6830	10800	29600	9550	20000	4870	6650	26900
26	7670	33000	41200	6450	6330	18600	28700	9410	15100	4400	5400	24200
27	7830	56200	41800	7850	6190	26900	27800	14600	13300	4680	4920	21900
28	9130	54100	37400	8800	6130	24100	27300	18300	12500	4410	8060	18200
29	10100	46400	32500	9580	---	21500	28000	15800	10400	4040	17600	17200
30	10300	40200	28400	10400	---	20500	26500	14900	9790	3730	15300	15800
31	9470	---	25000	11500	---	35800	---	13600	---	3880	13300	---
TOTAL	626780	677890	1191900	465360	272250	729900	1280200	490460	351930	636970	215750	679840
MEAN	20220	22600	38450	15010	9723	23550	42670	15820	11730	20550	6960	22660
MAX	48500	56200	62200	24800	15800	41900	64900	26600	23700	70100	17600	52300
MIN	7670	8870	21400	6450	6130	7120	17000	9410	7310	3730	2800	4860

CAL YR 1986 TOTAL 8156300 MEAN 22350 MAX 94000 MIN 3030
WTR YR 1987 TOTAL 7619230 MEAN 20870 MAX 70100 MIN 2800

03049625 ALLEGHENY RIVER AT NEW KENSINGTON, PA

LOCATION.--Lat 40°33'52", long 79°46'22", Allegheny County, Hydrologic Unit 05010009, at New Kensington highway bridge, 5.1 mi downstream from dam at lock 4 at Natrona, 5.3 mi downstream from gaging station at Natrona, and 19.0 mi from mouth.

DRAINAGE AREA.--11,500 mi².

PERIOD OF RECORD.--July 1972 to December 1973, October 1974 to current year.

REMARKS.--Composite samples taken as part of the USGS-EPA surveillance network. Records of discharge are given for 03049500 Allegheny River at Natrona, Pa.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	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 CACO3)
DEC											
18...	1000	28100	200	6.8	3.0	4.2	739	12.8	80	23	69
MAR											
04...	0900	37400	280	6.6	2.0	12	754	14.8	K160	280	93
JUN											
17...	1200	11100	288	7.0	24.0	4.2	744	6.4	130	K16	100
SEP											
03...	0930	8110	290	7.2	19.0	3.8	750	10.6	730	63	96

DATE	HARD-NESS NONCARB WH WAT TOT FLD 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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE IT-FLD (MG/L AS HCO3)	CAR-BONATE IT-FLD (MG/L AS CO3)	ALKA-LINITY WH WAT TOTAL LAB MG/L AS CACO3	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
DEC											
18...	0	19	5.2	7.3	1.4	29	24	23	7.3	50	10
MAR											
04...	67	26	6.8	14	1.8	32	--	--	13	64	22
JUN											
17...	78	28	8.0	12	1.9	31	--	--	4.8	88	13
SEP											
03...	68	27	6.9	13	2.4	34	--	--	3.0	74	14

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 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)
DEC											
18...	<.10	5.1	115	160	.16	8730	.620	.030	.50	.020	.020
MAR											
04...	.10	3.3	149	160	.20	15000	.850	.130	1.3	.090	.010
JUN											
17...	.10	3.8	194	170	.26	5820	.570	.060	.90	.020	.170
SEP											
03...	.20	4.9	163	160	.22	3570	.780	.120	<.20	.020	.030

03049625 ALLEGHENY RIVER AT NEW KENSINGTON, PA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)
DEC											
18...	<.010	30	1	44	<0.5	1	<1	<3	1	290	<5
MAR											
04...	<.010	20	<1	47	<.5	<1	<1	4	2	170	<5
JUN											
17...	<.010	20	<1	51	<.5	<1	<1	<3	1	7	<5
SEP											
03...	<.010	30	<1	45	<.5	<1	<1	<3	2	47	<5

DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
DEC										
18...	7	280	<.1	<10	10	<1	<1	74	<6	16
MAR										
04...	8	450	<.1	<10	13	<1	<1	130	<6	27
JUN										
17...	16	300	3.3	<10	6	<1	<1	130	<6	12
SEP										
03...	<4	210	<.1	<10	7	2	<1	120	<6	9

03049800 LITTLE PINE CREEK NEAR ETNA, PA

LOCATION.--Lat 40°31'13", long 79°56'18", Allegheny County, Hydrologic Unit 05010009, on right bank at downstream side of highway bridge on Saxonburg Boulevard, 0.7 mi upstream from mouth, and 1.5 mi northeast of Etna.

DRAINAGE AREA.--5.78 mi^2.

PERIOD OF RECORD.--October 1962 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 775.26 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records poor. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--25 years, 6.43 ft^3/s, 15.11 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,190 ft^3/s, May 30, 1986, gage height, 10.28 ft in gage well, 10.41 ft from floodmarks, from rating curve extended above 150 ft^3/s on basis of slope-area measurement of peak flow at site 0.6 mi downstream datum then in use; no flow on many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 26	1515	423	3.56	May 26	2145	*1,380	a*6.06
Dec. 2	0930	215	3.00	July 2	---	Unknown	5.20
Apr. 4	1700	335	3.34				

(a) 6.35 ft, from outside floodmark.

Minimum daily discharge, 0.15 ft^3/s, Aug. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2.0	.90	19	2.8	55	e5.0	43	e5.6	e60	e25	e1.0	e.84
2	e.70	.90	128	e2.1	43	e15	40	e4.7	e35	e84	e2.9	e.70
3	e5.6	.90	93	e1.6	51	e13	32	e18	e20	e35	e1.3	e.58
4	e33	3.3	53	e1.4	26	e10	95	e32	e9.7	e18	e.58	e.47
5	e5.4	4.6	30	e1.2	e13	e8.2	78	e19	e5.0	e9.4	e2.3	e.50
6	e2.8	6.2	20	e1.1	8.2	e6.6	59	e14	e2.8	e17	e.90	e2.3
7	e2.0	2.1	17	e1.1	6.4	e5.6	37	e10	e1.3	e12	e.58	e1.3
8	e1.5	21	15	e1.0	5.5	e5.2	23	e8.0	e3.5	e9.0	e.48	e3.7
9	e1.3	25	55	e.96	e4.7	e4.8	14	e6.2	e9.0	e6.0	e.84	e1.7
10	e1.2	6.4	58	e.92	e4.1	e7.2	e12	e5.0	e3.4	e4.5	e.70	e1.1
11	e1.1	9.7	33	e.88	e3.6	e8.0	e11	e4.0	e1.7	e3.8	e.50	e.90
12	e1.1	6.7	16	e.86	e3.1	e4.5	e11	e3.2	e6.8	e3.2	e.38	e.74
13	e2.1	4.4	e7.6	e.84	e2.9	e3.1	e13	e2.8	e3.5	e2.7	e.33	e1.5
14	e3.9	2.9	e40	e.82	e2.6	e4.0	e11	e2.4	e1.7	e3.6	e.37	e.94
15	e2.1	2.5	e6.4	e3.0	e2.4	e6.2	e12	e14	e6.4	e3.0	e.28	e.88
16	e1.7	2.3	e6.4	e8.5	e2.3	e4.5	e17	e6.0	e3.0	e2.3	e.22	e.80
17	e1.5	1.9	e6.4	5.6	e2.1	e4.8	e17	e3.6	e1.5	e1.7	e.15	e8.0
18	e1.3	3.4	e17	4.4	e2.0	e4.0	e12	e2.5	e.74	e1.3	e.96	e5.2
19	e1.2	4.1	e11	3.9	e1.9	e3.0	e10	e13	e23	e1.2	e.37	e3.7
20	e1.2	8.3	e8.4	53	e1.7	e2.5	e8.0	e6.0	e12	e1.1	e.56	e2.4
21	e1.1	12	e5.6	31	e1.6	e1.9	e6.0	e3.8	e7.0	e.90	e.33	e1.6
22	e1.1	6.3	e7.1	17	e1.6	e1.5	e4.7	e3.0	e25	e.72	e1.7	e1.8
23	e.94	4.9	e12	12	e1.6	e1.3	e3.7	e2.5	e24	e.72	e.86	e1.4
24	e.76	4.4	e25	7.3	e1.8	e5.0	e58	e2.0	e7.8	e.56	e.58	e2.0
25	e1.1	3.1	60	e5.6	e2.1	22	e31	e1.7	e8.0	e.64	e.46	e1.5
26	1.7	106	30	e4.0	e2.0	40	e18	e184	e6.0	e.92	e1.4	e1.3
27	1.0	67	16	e3.1	e1.8	20	e14	e25	e4.3	e.60	e.70	e1.2
28	1.1	39	9.4	e2.5	e1.6	11	e10	e7.0	e3.2	e.45	e2.7	e1.1
29	.94	28	6.2	e4.0	---	6.3	e8.0	e2.8	e10	e.45	e1.3	e3.4
30	.93	21	4.7	e12	---	20	e6.6	e10	e9.8	e1.0	e.68	e2.3
31	.90	---	3.5	e45	---	68	---	e25	---	e.42	e1.2	---
TOTAL	84.27	409.20	819.7	239.48	255.6	322.2	715.0	446.8	315.14	251.18	27.61	55.85
MEAN	2.72	13.6	26.4	7.73	9.13	10.4	23.8	14.4	10.5	8.10	.89	1.86
MAX	33	106	128	53	55	68	95	184	60	84	2.9	8.0
MIN	.70	.90	3.5	.82	1.6	1.3	3.7	1.7	.74	.42	.15	.47
CFSM	.47	2.36	4.57	1.34	1.58	1.80	4.12	2.49	1.82	1.40	.15	.32
IN.	.54	2.63	5.28	1.54	1.65	2.07	4.60	2.88	2.03	1.62	.18	.36

CAL YR 1986 TOTAL 3226.34 MEAN 8.84 MAX 525 MIN .27 CFSM 1.53 IN. 20.76
WTR YR 1987 TOTAL 3942.00 MEAN 10.8 MAX 184 MIN .15 CFSM 1.87 IN. 25.38

e Estimated

03070420 STONY FORK TRIBUTARY NEAR GIBBON GLADE, PA.

LOCATION.--Lat 39°45'51", long 79°35'16", Fayette County, Hydrologic Unit 05020004, on left bank 1.5 mi upstream from mouth, 1.7 mi north of Gibbon Glade, and 3.2 mi southwest of Farmington.

DRAINAGE AREA.--0.93 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and V-notch concrete weir. Elevation of gage is 1,750 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--10 years, 1.70 ft^3/s, 24.82 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 126 ft^3/s, July 16, 1978, gage height, 3.61 ft; no flow part of Aug. 6, 1977, and Aug. 18, 19, 21, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 40 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 4	0425	*37	*2.43				

Minimum daily discharge, no flow, Aug. 18, 19, 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.8	.61	1.9	1.6	1.8	2.4	1.4	1.0	1.5	.58	.03	.10
2	2.5	.55	2.3	e1.1	5.5	2.7	1.5	.95	1.4	2.1	.02	.04
3	2.8	.59	2.6	e.96	4.8	2.1	1.4	.90	.97	1.5	.12	.04
4	17	1.2	2.3	e.90	3.8	1.8	1.8	.86	.71	.74	.03	.03
5	9.8	4.0	1.9	e.88	2.9	1.5	1.7	.72	.53	.48	.13	.03
6	4.7	4.3	1.8	e.86	2.4	1.4	3.0	.73	.40	.41	.05	.29
7	2.9	2.6	1.7	e.85	2.0	1.3	7.9	.64	.33	.44	.03	.17
8	2.0	2.9	2.2	e.82	1.8	1.2	13	.57	.29	.30	.03	.39
9	1.5	14	15	e.77	1.6	1.1	9.5	.56	.41	.26	.02	.21
10	1.2	5.6	11	e.72	1.5	.91	5.6	.48	.24	.26	.03	.11
11	1.0	7.2	5.7	e.66	1.4	.89	3.7	.46	.21	.20	.02	.14
12	.74	5.2	4.1	e.66	2.1	.82	4.5	.42	.68	.18	.02	.12
13	1.1	3.5	2.9	e.72	1.8	.78	3.5	.32	.29	.19	.03	.10
14	2.2	2.4	2.4	1.2	1.7	.83	2.7	.28	.19	.44	.02	.09
15	1.6	1.9	2.0	3.3	1.4	.83	7.7	.29	.15	.21	.02	.06
16	1.3	1.7	1.9	3.3	1.5	.72	7.8	.24	.14	.16	.02	.06
17	1.0	1.5	1.8	2.5	1.2	.55	5.4	.21	.11	.12	.02	.15
18	.86	2.3	2.6	2.0	1.1	.66	4.1	.50	.10	.09	.00	.29
19	.90	2.5	2.3	8.3	.90	e.29	3.7	.82	.13	.07	.00	.43
20	.70	6.0	2.0	5.9	.79	e.29	3.4	.46	.58	.11	.01	.40
21	.69	6.1	1.9	3.9	.80	e.29	3.4	.35	2.5	.07	.00	.21
22	.59	4.1	1.7	3.0	.85	e.29	3.0	.31	.77	.04	.27	.33
23	.61	3.1	1.6	2.4	.92	e.29	2.7	.28	.69	.04	.11	.34
24	.57	3.0	5.6	e1.2	.79	e.29	8.7	.26	.41	.04	.02	.22
25	.67	2.6	5.8	e.94	.72	e.29	4.6	.24	.31	.03	.04	.15
26	.80	7.6	4.1	e.80	.68	e.29	3.0	.69	.29	.05	.11	.09
27	.67	5.9	3.2	e.70	.60	e.29	2.2	2.8	.21	.04	.06	.07
28	.79	4.2	2.5	e.63	.92	.32	2.0	1.2	.17	.04	.08	.06
29	.61	3.1	2.0	e.58	---	.29	1.6	.76	.18	.03	.30	.12
30	.42	2.4	1.9	e.56	---	.45	1.4	.54	.54	.02	.06	.38
31	.34	---	1.7	e.62	---	1.9	---	2.4	---	.04	.07	---
TOTAL	66.36	112.65	102.4	53.33	48.27	28.06	125.9	21.24	15.43	9.28	1.77	5.22
MEAN	2.14	3.75	3.30	1.72	1.72	.91	4.20	.69	.51	.30	.06	.17
MAX	17	14	15	8.3	5.5	2.7	13	2.8	2.5	2.1	.30	.43
MIN	.34	.55	1.6	.56	.60	.29	1.4	.21	.10	.02	.00	.03
CFSM	2.30	4.04	3.55	1.85	1.85	.97	4.51	.74	.55	.32	.06	.19
IN.	2.65	4.51	4.10	2.13	1.93	1.12	5.04	.85	.62	.37	.07	.21

CAL YR 1986 TOTAL 689.09 MEAN 1.89 MAX 29 MIN .02 CFSM 2.03 IN. 27.6
WTR YR 1987 TOTAL 589.90 MEAN 1.62 MAX 17 MIN .00 CFSM 1.74 IN. 23.6

e Estimated

03070420 STONY FORK TRIBUTARY NEAR GIBBON GLADE, PA--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1977 to current year.
pH: October 1977 to current year.
WATER TEMPERATURES: October 1977 to current year.
SUSPENDED SEDIMENT DISCHARGE: October 1977 to current year.

INSTRUMENTATION.--Water-quality monitor and sediment pumping sampler since October 1977.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 991 microsiemans Sept. 3, 1982; minimum, 15 microsiemans Nov. 2, 1983.
pH: Maximum, 8.8 Aug. 21, 1987, minimum, 5.3 Nov. 18, 1986.
WATER TEMPERATURES: Maximum, 31°C Aug. 18, 1987; minimum, 0.0°C on many days during winter months.
SEDIMENT CONCENTRATIONS: Maximum daily, 1,460 mg/L July 3, 1983; minimum daily, 2 mg/L Oct. 25, 26, 27, 1979.
SEDIMENT DISCHARGES: Maximum daily, 110 tons Apr. 12, 1981; minimum daily, 0.0 ton on many days.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 931 microsiemens Aug. 13; minimum, 59 microsiemens Mar. 5.
pH: Maximum, 8.8 Aug.21; minimum, 5.3 Nov. 18.
WATER TEMPERATURES: Maximum, 31°C Aug. 18; minimum, 0.5°C on many days during winter months.
SEDIMENT CONCENTRATIONS: Maximum daily, 644 mg/L June 21; minimum daily, 4 mg/L Nov. 3.
SEDIMENT DISCHARGES: Maximum daily, 13 tons Apr. 8; minimum daily, 0.0 ton on many days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	ACIDITY TOTAL HEATED (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	SODIUM, DIS-SOLVED (MG/L AS NA)
FEB												
27...	1040	0.54	183	7.00	2.0	18	--	20	--	4.9	--	4.9
MAR												
27...	1200	0.29	230	7.10	9.0	0.0	--	--	--	--	--	--
APR												
15...	1130	6.5	104	6.90	9.0	6.0	--	--	--	--	--	--
MAY												
19...	1215	0.54	130	7.00	16.0	0.0	--	--	--	--	--	--
JUN												
30...	1225	0.20	465	7.20	21.0	0.0	62	60	15	15	3.2	3.1
JUL												
28...	1245	0.05	430	7.24	21.5	0.0	--	--	--	--	--	--
AUG												
25...	1430	0.03	283	7.05	15.0	0.0	--	--	--	--	--	--
SEP												
29...	1445	0.19	1050	6.78	17.0	0.0	--	--	--	--	--	--

DATE	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL LAB MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)
FEB												
27...	--	1.3	24	49	9.0	86	28	--	<130	--	<4	<250
MAR												
27...	--	--	28	96	6.0	136	18	<130	<130	--	--	--
APR												
15...	--	--	30	42	9.0	384	842	52000	710	--	--	--
MAY												
19...	--	--	32	34	6.0	76	8	420	<130	--	--	--
JUN												
30...	2.9	2.9	50	160	--	380	4	<130	2400	<4	<4	<250
JUL												
28...	--	--	58	150	--	344	16	<130	<130	--	--	--
AUG												
25...	--	--	46	97	--	180	<2	<130	<130	--	--	--
SEP												
29...	--	--	38	470	--	726	6	140	850	--	--	--

03070420 STONY FORK TRIBUTARY NEAR GIBBON GLADE, PA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, TOTAL RECOVERABLE (UG/L AS CO)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	COPPER, DISSOLVED (UG/L AS CU)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DISSOLVED (UG/L AS FE)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN)
FEB 27...	--	<50	--	<30	--	<10	--	130	--	<50	--
MAR 27...	--	--	--	--	--	--	850	890	--	--	500
APR 15...	--	--	--	--	--	--	41000	660	--	--	700
MAY 19...	--	--	--	--	--	--	790	180	--	--	140
JUN 30...	<50	<50	<30	<30	<10	<10	610	91	<50	<50	430
JUL 28...	--	--	--	--	--	--	1000	34	--	--	490
AUG 25...	--	--	--	--	--	--	930	150	--	--	350
SEP 29...	--	--	--	--	--	--	330	160	--	--	950

DATE	MANGANESE, DISSOLVED (UG/L AS MN)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)	NICKEL, DISSOLVED (UG/L AS NI)	STRONTIUM, TOTAL RECOVERABLE (UG/L AS SR)	STRONTIUM, DISSOLVED (UG/L AS SR)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	ZINC, DISSOLVED (UG/L AS ZN)	SELENIUM, TOTAL (UG/L AS SE)	SELENIUM, DISSOLVED (UG/L AS SE)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	MERCURY DISSOLVED (UG/L AS HG)
FEB 27...	270	--	<25	--	54	--	<10	--	<6	--	<1.0
MAR 27...	500	--	--	--	--	20	15	--	--	--	--
APR 15...	100	--	--	--	--	150	49	--	--	--	--
MAY 19...	140	--	--	--	--	20	17	--	--	--	--
JUN 30...	400	<25	<25	150	150	<10	<10	<6	<6	<1.0	<1.0
JUL 28...	450	--	--	--	--	<10	<10	--	--	--	--
AUG 25...	340	--	--	--	--	20	16	--	--	--	--
SEP 29...	1000	--	--	--	--	50	72	--	--	--	--

03070420 STONY FORK TRIBUTARY NEAR GIBBON GLADE, PA--Continued

SPECIFIC CONDUCTANCE,(MICROSIEMENS PER CENTIMETER AT 25°C) WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	364	128	174	331	189	256	103	97	101	147	139	144
2	148	136	143	328	96	206	163	96	114	144	134	140
3	170	128	143	318	93	205	132	97	112	157	135	148
4	139	80	94	303	136	229	98	82	88	186	151	161
5	88	72	76	164	108	132	99	90	95	182	149	167
6	92	70	77	108	76	91	99	94	97	268	141	179
7	119	93	109	85	71	77	113	98	104	258	159	196
8	174	119	135	---	---	---	146	108	116	193	170	178
9	208	135	191	---	---	---	127	71	87	184	167	173
10	245	196	212	---	---	---	79	72	75	233	162	192
11	251	100	220	---	---	---	---	---	---	192	166	173
12	99	82	86	---	---	---	---	---	---	169	162	165
13	276	83	159	---	---	---	---	---	---	237	166	187
14	266	128	170	---	---	---	---	---	---	217	177	192
15	194	87	144	---	---	---	---	---	---	197	123	165
16	193	80	133	---	---	---	---	---	---	123	100	106
17	159	78	104	---	---	---	---	---	---	101	98	99
18	309	75	125	170	68	97	---	---	---	109	100	103
19	320	123	291	98	78	90	---	---	---	178	87	114
20	222	103	179	120	82	92	---	---	---	92	82	86
21	276	97	218	152	75	81	---	---	---	96	87	91
22	257	97	200	78	74	75	---	---	---	98	95	97
23	294	100	227	90	74	75	154	143	147	119	101	108
24	303	99	225	98	83	90	219	87	135	120	114	117
25	382	110	289	84	79	81	99	85	91	118	69	89
26	357	116	244	109	78	91	92	89	90	72	67	69
27	353	97	207	82	74	79	100	91	94	291	69	94
28	323	114	201	83	80	82	109	99	104	159	136	149
29	219	111	190	91	83	87	118	109	114	179	157	165
30	111	91	97	98	90	94	129	117	121	440	151	258
31	185	85	97	---	---	---	151	128	140	189	139	152
MONTH	382	70	166	331	68	116	219	71	107	440	67	144

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	189	133	145	160	100	126	126	114	119	182	98	113
2	203	110	158	109	84	98	145	110	120	130	76	109
3	110	100	105	84	71	77	224	110	155	139	114	122
4	100	95	97	71	65	68	209	128	154	137	119	124
5	107	97	101	68	59	64	207	139	164	128	80	113
6	111	103	106	69	59	64	249	136	176	350	70	115
7	117	108	112	69	62	65	---	---	---	78	67	71
8	126	112	117	70	65	67	104	70	88	74	67	69
9	140	116	128	71	67	69	71	66	68	77	66	70
10	216	132	158	70	64	67	---	---	---	74	67	71
11	180	147	161	264	61	121	---	---	---	76	69	73
12	256	147	176	243	68	126	---	---	---	77	70	74
13	155	138	145	---	---	---	---	---	---	146	71	102
14	145	132	137	270	203	224	---	---	---	154	113	133
15	186	132	143	225	190	206	---	---	---	180	152	165
16	155	138	147	217	188	202	146	69	92	169	123	152
17	184	140	149	322	159	185	93	75	86	210	105	126
18	163	147	155	370	157	291	237	69	80	207	141	172
19	201	152	168	370	121	215	230	82	110	171	127	135
20	189	158	175	533	118	220	288	87	113	145	124	131
21	192	163	175	456	117	161	309	87	199	125	110	119
22	236	159	178	555	174	258	88	67	72	127	116	121
23	286	199	234	521	105	280	107	66	73	195	117	128
24	268	224	240	431	99	247	120	73	88	201	158	177
25	276	195	222	424	99	232	73	68	71	175	147	159
26	254	188	210	290	205	272	74	68	72	261	125	174
27	204	175	184	---	---	---	88	72	75	184	94	114
28	232	155	173	552	184	255	190	69	91	105	94	98
29	---	---	---	451	223	262	220	66	89	112	100	105
30	---	---	---	267	217	252	258	72	107	109	93	100
31	---	---	---	239	126	157	---	---	---	175	100	115
MONTH	286	95	157	555	59	170	309	66	107	350	66	118

03070420 STONY FORK TRIBUTARY NEAR GIBBON GLADE, PA--Continued

SPECIFIC CONDUCTANCE,(MICROSIEMENS PER CENTIMETER AT 25°C) WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	200	93	110	242	166	186	576	386	448	252	217	235
2	116	97	104	186	128	153	401	265	327	588	214	313
3	105	95	101	130	101	116	327	188	217	595	456	526
4	111	97	103	101	97	99	231	197	215	549	472	504
5	138	102	111	103	95	99	740	207	312	499	335	410
6	130	101	118	114	98	102	403	332	371	322	202	226
7	409	77	123	531	104	216	355	286	328	725	211	319
8	199	141	161	199	117	147	304	249	279	324	248	272
9	220	159	171	124	110	116	282	242	261	282	202	236
10	242	164	187	584	112	215	311	203	234	452	199	292
11	234	189	219	139	110	123	253	210	235	454	212	268
12	310	129	184	139	109	123	266	229	245	256	200	224
13	133	100	113	153	119	133	931	240	550	207	190	199
14	114	90	103	594	125	206	826	624	703	884	189	439
15	114	93	104	530	131	234	642	528	587	588	283	410
16	119	96	108	545	128	250	627	333	491	631	258	366
17	129	99	112	234	128	155	739	583	669	646	199	356
18	680	106	133	150	127	139	708	475	597	258	195	210
19	665	292	395	156	132	146	466	327	357	237	197	215
20	391	140	222	850	151	409	332	296	317	222	195	211
21	235	120	163	498	269	380	315	275	292	889	197	393
22	269	149	153	272	170	206	511	148	274	321	235	286
23	174	138	157	212	170	189	304	268	286	235	183	212
24	206	119	143	390	203	306	403	215	242	375	171	239
25	444	109	160	339	223	291	420	244	328	321	181	227
26	410	115	159	573	140	241	583	235	412	180	166	174
27	139	109	119	583	377	473	354	240	284	184	170	176
28	129	110	117	460	384	433	540	190	401	209	177	184
29	640	120	256	536	423	485	227	173	214	---	---	---
30	505	133	210	451	338	382	423	206	248	798	197	309
31	---	---	---	781	303	495	485	228	293	---	---	---
MONTH	680	77	154	850	95	234	931	148	355	889	166	291
YEAR	931	59	182									

PH (STANDARD UNITS), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.25	6.42	6.80	6.71	6.62	6.68	6.76	6.68	6.72	6.86	6.82	6.84
2	6.60	6.41	6.52	6.72	6.62	6.67	6.80	6.64	6.74	6.89	6.84	6.86
3	6.74	6.50	6.59	6.73	6.66	6.68	6.82	6.64	6.71	6.91	6.86	6.89
4	6.58	6.15	6.26	6.77	6.63	6.69	6.73	6.66	6.69	6.96	6.90	6.92
5	6.26	6.15	6.20	6.79	6.45	6.61	6.70	6.66	6.68	6.90	6.79	6.85
6	6.34	6.22	6.28	6.45	6.39	6.41	6.71	6.69	6.70	6.92	6.78	6.86
7	6.44	6.31	6.35	6.50	6.43	6.46	6.76	6.68	6.72	6.98	6.90	6.94
8	6.48	6.21	6.44	---	---	---	6.90	6.73	6.78	6.96	6.93	6.94
9	6.54	6.11	6.48	---	---	---	6.77	6.29	6.47	6.96	6.92	6.94
10	6.66	6.54	6.60	---	---	---	6.45	6.33	6.37	6.95	6.90	6.93
11	6.74	6.66	6.69	---	---	---	---	---	---	6.94	6.91	6.93
12	6.78	6.72	6.74	---	---	---	---	---	---	6.96	6.93	6.94
13	6.91	6.68	6.76	---	---	---	---	---	---	6.99	6.92	6.95
14	7.02	6.60	6.73	---	---	---	---	---	---	6.97	6.86	6.94
15	6.65	6.60	6.63	---	---	---	---	---	---	6.87	6.63	6.74
16	6.71	6.64	6.68	---	---	---	---	---	---	6.64	6.58	6.61
17	6.76	6.69	6.72	---	---	---	---	---	---	6.68	6.63	6.65
18	6.81	6.70	6.75	6.79	5.34	6.45	---	---	---	6.70	6.67	6.68
19	6.81	6.74	6.77	6.62	6.52	6.56	---	---	---	7.02	6.45	6.70
20	6.83	6.77	6.81	6.74	6.34	6.58	---	---	---	6.52	6.44	6.47
21	6.86	6.76	6.82	8.40	6.34	6.69	---	---	---	6.62	6.51	6.56
22	6.83	6.73	6.80	6.56	6.47	6.50	---	---	---	6.65	6.61	6.63
23	6.85	6.71	6.79	6.55	6.50	6.52	7.21	6.88	6.92	6.80	6.71	6.76
24	6.82	6.70	6.77	6.65	6.56	6.60	7.10	6.47	6.82	6.75	6.67	6.71
25	6.77	6.66	6.72	6.58	6.53	6.56	6.53	6.44	6.49	6.73	6.62	6.67
26	6.80	6.66	6.74	6.68	6.35	6.51	6.57	6.49	6.53	6.69	6.64	6.66
27	6.75	6.66	6.72	6.43	6.35	6.39	6.64	6.56	6.60	6.70	6.48	6.60
28	6.87	6.71	6.79	6.52	6.40	6.48	6.70	6.63	6.66	6.77	6.66	6.70
29	6.75	6.71	6.73	6.61	6.52	6.57	6.74	6.69	6.72	6.85	6.76	6.81
30	6.76	6.68	6.72	6.68	6.61	6.65	6.77	6.73	6.75	6.84	6.66	6.74
31	6.77	6.66	6.74	---	---	---	6.84	6.76	6.80	6.74	6.71	6.72
MONTH	7.25	6.11	6.65	8.40	5.34	6.56	7.21	6.29	6.68	7.02	6.44	6.78

03070420 STONY FORK TRIBUTARY NEAR GIBBON GLADE, PA--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

	FEBRUARY			MARCH			APRIL			MAY		
1	6.77	6.72	6.75	6.95	6.71	6.82	7.05	6.93	6.99	7.01	6.83	6.94
2	6.78	6.46	6.66	6.74	6.60	6.71	7.06	6.94	6.98	7.03	6.77	6.89
3	6.56	6.45	6.52	6.67	6.60	6.63	7.17	6.98	7.05	7.00	6.85	6.92
4	6.54	6.52	6.53	6.67	6.63	6.65	7.13	6.84	7.04	7.02	6.90	6.96
5	6.64	6.54	6.59	6.69	6.60	6.64	7.18	6.96	7.04	7.05	6.80	6.96
6	6.68	6.57	6.63	6.71	6.63	6.68	7.16	6.82	7.00	7.27	6.79	6.91
7	6.74	6.64	6.68	6.74	6.67	6.70	---	---	---	6.88	6.75	6.81
8	6.78	6.70	6.74	6.77	6.72	6.74	6.43	6.09	6.29	6.88	6.75	6.82
9	6.79	6.69	6.74	6.82	6.73	6.78	6.31	6.14	6.25	6.92	6.73	6.83
10	6.83	6.71	6.77	6.85	6.77	6.82	---	---	---	6.90	6.70	6.80
11	6.87	6.76	6.80	7.03	6.71	6.82	---	---	---	6.88	6.69	6.78
12	7.00	6.72	6.81	7.08	6.85	6.94	---	---	---	6.90	6.70	6.80
13	6.79	6.70	6.74	---	---	---	---	---	---	7.13	6.74	6.91
14	6.78	6.63	6.74	7.27	7.19	7.22	---	---	---	7.17	6.90	7.03
15	6.86	6.75	6.80	7.25	7.17	7.21	---	---	---	7.27	6.87	7.04
16	6.83	6.74	6.79	7.23	7.14	7.19	6.78	6.35	6.53	7.34	6.94	7.14
17	6.87	6.79	6.84	7.24	7.09	7.18	6.66	6.56	6.61	7.35	6.97	7.10
18	6.94	6.84	6.88	7.21	7.10	7.16	6.89	6.52	6.57	7.74	6.92	7.16
19	6.96	6.86	6.90	7.24	6.58	7.07	6.89	6.59	6.68	7.07	6.87	6.97
20	6.97	6.88	6.92	8.77	6.87	7.17	6.93	6.63	6.70	7.18	6.95	7.04
21	7.01	6.92	6.96	7.29	7.10	7.18	7.03	6.62	6.83	7.17	6.91	7.02
22	7.04	6.91	6.98	7.32	7.11	7.22	6.75	6.60	6.66	7.21	6.82	6.99
23	7.08	7.00	7.03	7.34	7.07	7.25	6.91	6.63	6.72	7.23	6.82	6.98
24	7.11	6.98	7.06	7.36	7.06	7.26	6.92	6.37	6.52	7.33	6.92	7.08
25	7.09	6.96	7.03	7.27	7.06	7.19	6.52	6.43	6.48	7.26	6.95	7.09
26	7.07	6.96	7.02	7.34	7.23	7.27	6.64	6.51	6.59	7.76	6.94	7.11
27	7.24	6.99	7.05	---	---	---	6.75	6.59	6.66	7.00	6.53	6.68
28	7.08	6.95	7.02	7.36	7.19	7.25	6.96	6.70	6.79	6.77	6.59	6.68
29	---	---	---	7.33	7.22	7.29	6.99	6.63	6.79	6.85	6.68	6.76
30	---	---	---	7.36	7.24	7.28	7.09	6.64	6.84	6.87	6.70	6.78
31	---	---	---	7.42	7.04	7.16	---	---	---	7.28	6.66	6.73
MONTH	7.24	6.45	6.82	8.77	6.58	7.02	7.18	6.09	6.72	7.76	6.53	6.93

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.00	6.67	6.75	7.08	6.87	6.96	7.37	7.15	7.28	7.09	6.89	7.00
2	6.77	6.65	6.72	6.96	6.59	6.80	7.28	7.06	7.16	7.11	6.92	7.00
3	6.80	6.66	6.72	6.71	6.58	6.65	7.08	6.71	6.93	7.16	6.93	7.03
4	6.88	6.68	6.79	6.77	6.65	6.70	7.14	6.94	7.03	7.24	6.91	7.05
5	6.97	6.79	6.89	6.81	6.72	6.76	7.01	6.79	6.96	7.20	6.79	7.06
6	7.04	6.86	6.96	6.85	6.67	6.76	7.18	6.95	7.05	6.99	6.76	6.88
7	7.14	6.83	6.92	7.20	6.41	6.89	7.26	6.99	7.10	6.89	6.76	6.83
8	7.10	6.92	7.02	6.96	6.76	6.87	7.30	7.03	7.14	6.90	6.75	6.82
9	7.08	6.86	7.00	6.94	6.77	6.84	7.25	7.04	7.14	7.38	6.62	6.75
10	7.20	7.02	7.13	7.23	6.80	6.96	7.31	6.78	7.06	6.91	6.71	6.81
11	7.24	7.11	7.17	7.04	6.83	6.92	7.76	7.09	7.33	7.06	6.69	6.86
12	7.38	6.96	7.10	7.04	6.85	6.93	8.08	7.19	7.49	6.86	6.69	6.80
13	6.98	6.84	6.93	6.97	6.85	6.89	7.41	6.72	7.19	6.82	6.71	6.76
14	6.95	6.82	6.87	7.23	6.87	7.00	7.68	7.01	7.27	6.97	6.70	6.82
15	6.97	6.80	6.88	7.25	6.99	7.09	7.71	7.08	7.32	6.98	6.72	6.86
16	6.95	6.77	6.85	7.24	6.99	7.09	7.85	6.85	7.20	6.91	6.71	6.81
17	6.94	6.82	6.87	7.16	6.98	7.07	7.64	6.95	7.19	6.88	6.61	6.76
18	7.14	6.86	6.94	7.16	6.97	7.04	8.39	6.95	7.45	6.85	6.67	6.79
19	7.25	6.98	7.11	7.18	6.96	7.05	8.52	7.18	7.68	6.82	6.68	6.77
20	7.55	6.95	7.03	7.36	6.52	7.08	8.34	7.22	7.64	6.85	6.70	6.78
21	7.20	6.59	6.81	7.27	7.06	7.15	8.78	7.32	7.87	6.82	6.71	6.76
22	6.99	6.70	6.79	7.26	7.01	7.11	8.02	6.60	7.09	6.91	6.69	6.76
23	6.99	6.74	6.84	7.28	6.98	7.10	6.88	6.73	6.83	6.73	6.64	6.68
24	6.90	6.74	6.81	7.31	6.97	7.13	7.01	6.88	6.95	6.66	6.59	6.63
25	7.03	6.75	6.86	7.43	7.06	7.19	7.09	6.18	6.93	6.75	6.59	6.69
26	7.06	6.77	6.87	7.14	6.92	7.06	6.99	6.70	6.91	6.79	6.66	6.74
27	7.02	6.84	6.93	7.28	7.04	7.16	7.02	6.81	6.90	6.78	6.68	6.74
28	7.08	6.91	6.99	7.39	6.80	7.20	7.06	6.62	6.95	6.81	6.67	6.74
29	7.39	6.93	7.10	7.40	7.16	7.27	7.06	6.82	6.87	6.91	6.56	6.76
30	7.57	6.91	7.06	7.48	7.22	7.33	6.98	6.85	6.92	6.89	6.74	6.82
31	---	---	---	7.33	6.86	7.20	7.14	6.74	6.96	---	---	---
MONTH	7.57	6.59	6.92	7.48	6.41	7.01	8.78	6.18	7.15	7.38	6.56	6.82
YEAR	8.78	5.34	6.85									

03070420 STONY FORK TRIBUTARY NEAR GIBBON GLADE, PA--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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

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

03070420 STONY FORK TRIBUTARY NEAR GIBBON GLADE, PA--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	20.0	15.5	17.0	19.5	18.0	19.0	22.5	17.5	20.0	17.5	14.5	16.0
2	19.5	16.0	17.0	20.5	18.0	18.5	25.0	18.0	21.5	17.0	11.5	14.5
3	19.5	15.5	17.5	21.0	17.5	19.0	22.5	19.0	20.5	18.5	14.0	16.0
4	19.5	16.0	17.0	22.0	17.5	19.0	24.0	19.0	21.0	19.0	13.0	15.5
5	20.5	13.0	16.5	22.5	16.5	19.0	21.0	19.5	20.5	16.0	13.5	15.0
6	19.5	13.0	16.0	23.0	17.5	20.0	23.0	18.5	20.5	17.5	15.0	16.5
7	22.0	13.0	17.0	26.0	19.5	22.0	23.0	18.0	20.5	18.0	16.0	17.0
8	23.0	16.0	19.0	24.5	19.5	21.5	24.5	18.0	21.0	19.5	17.5	18.0
9	21.0	15.5	18.5	23.5	19.5	21.5	23.0	19.0	21.0	25.5	17.5	18.5
10	21.0	11.5	15.5	24.5	19.5	22.0	22.5	19.5	21.0	20.0	16.5	18.0
11	21.5	11.0	16.0	24.0	19.0	21.0	25.0	16.5	20.0	21.0	16.0	18.0
12	17.5	15.5	16.5	24.0	19.5	21.5	26.0	16.5	20.5	19.0	17.5	18.0
13	23.0	16.5	19.0	23.5	19.0	21.5	23.5	17.5	20.0	19.5	18.0	18.5
14	23.5	16.5	19.5	22.0	17.5	20.0	25.5	17.0	20.5	20.5	16.0	18.0
15	23.5	15.5	19.5	20.5	14.5	17.5	25.5	16.5	20.5	18.0	15.0	16.5
16	21.5	18.0	19.5	21.0	14.5	17.5	26.0	18.5	21.5	18.0	16.0	17.0
17	25.0	17.5	20.5	21.0	14.5	18.0	26.0	18.5	22.0	19.5	16.5	18.0
18	23.5	15.5	19.5	23.0	15.5	19.0	31.0	20.0	24.0	18.5	18.0	18.0
19	25.0	17.5	21.5	22.5	16.0	19.0	29.5	17.5	22.5	18.0	17.5	18.0
20	23.5	19.0	21.0	25.5	17.0	21.0	26.5	17.5	21.5	18.0	16.0	17.0
21	20.5	19.0	19.5	25.5	20.0	22.5	26.0	15.5	20.0	18.0	15.0	16.5
22	20.5	18.0	19.0	24.5	18.5	21.5	20.0	17.5	19.0	16.0	14.0	15.0
23	20.5	18.5	19.5	24.5	18.5	21.0	19.0	16.0	17.5	16.0	14.5	15.0
24	23.0	17.5	19.5	24.5	19.5	21.5	17.5	13.0	15.5	16.5	14.0	15.0
25	23.5	16.0	19.0	25.0	18.5	21.5	15.0	12.5	14.0	15.5	12.0	14.0
26	22.0	18.0	19.5	22.5	19.0	20.5	16.5	14.5	15.0	15.0	10.0	12.5
27	21.5	15.5	18.0	24.0	19.5	21.5	18.5	16.0	17.0	16.0	11.0	13.5
28	20.5	14.0	17.0	24.0	17.0	20.0	18.5	17.5	18.0	16.5	11.0	13.5
29	22.5	13.5	18.0	23.5	16.5	19.5	18.5	16.0	17.5	17.5	12.0	14.5
30	21.0	17.0	19.0	24.5	16.0	20.0	18.5	14.0	16.0	16.0	13.5	15.5
31	---	---	---	24.5	18.0	21.0	19.5	14.0	16.0	---	---	---
MONTH	25.0	11.0	18.5	26.0	14.5	20.5	31.0	12.5	19.5	25.5	10.0	16.0
YEAR	31.0	.5	11.5									

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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	3.8	208	4.2	.61	7	.01	1.9	11	.06
2	2.5	35	.24	.55	5	.01	2.3	11	.07
3	2.8	41	.38	.59	4	.01	2.6	11	.08
4	17	152	8.1	1.2	13	.04	2.3	11	.07
5	9.8	64	2.2	4.0	78	1.1	1.9	10	.05
6	4.7	15	.19	4.3	38	.48	1.8	10	.05
7	2.9	14	.11	2.6	18	.13	1.7	10	.05
8	2.0	14	.08	2.9	22	.17	2.2	12	.07
9	1.5	13	.05	14	198	10	15	112	4.9
10	1.2	12	.04	5.6	30	.45	11	35	1.0
11	1.0	12	.03	7.2	50	.97	5.7	22	.34
12	.74	11	.02	5.2	16	.22	4.1	12	.13
13	1.1	15	.04	3.5	14	.13	2.9	12	.09
14	2.2	18	.11	2.4	12	.08	2.4	15	.10
15	1.6	15	.06	1.9	12	.06	2.0	20	.11
16	1.3	10	.04	1.7	12	.06	1.9	12	.06
17	1.0	6	.02	1.5	12	.05	1.8	15	.07
18	.86	6	.01	2.3	39	.24	2.6	20	.14
19	.90	6	.01	2.5	17	.11	2.3	12	.07
20	.70	6	.01	6.0	48	1.6	2.0	10	.05
21	.69	6	.01	6.1	14	.23	1.9	9	.05
22	.59	10	.02	4.1	12	.13	1.7	9	.04
23	.61	10	.02	3.1	15	.13	1.6	9	.04
24	.57	10	.02	3.0	18	.15	5.6	77	1.5
25	.67	11	.02	2.6	13	.09	5.8	34	.53
26	.80	12	.03	7.6	90	2.5	4.1	20	.22
27	.67	12	.02	5.9	16	.25	3.2	15	.13
28	.79	12	.03	4.2	14	.16	2.5	13	.09
29	.61	9	.01	3.1	13	.11	2.0	10	.05
30	.42	5	.01	2.4	11	.07	1.9	10	.05
31	.34	5	.00	---	---	---	1.7	10	.05
TOTAL	66.36	---	16.13	112.65	---	19.74	102.4	---	10.31

03070420 STONY FORK TRIBUTARY NEAR GIBBON GLADE, PA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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)
		JANUARY			FEBRUARY			MARCH	
1	1.6	13	.06	1.8	25	.12	2.4	25	.16
2	1.1	15	.04	5.5	74	1.2	2.7	64	.47
3	.96	15	.04	4.8	25	.32	2.1	40	.23
4	.90	15	.04	3.8	20	.21	1.8	30	.15
5	.88	14	.03	2.9	21	.16	1.5	23	.09
6	.86	14	.03	2.4	21	.14	1.4	23	.09
7	.85	32	.07	2.0	22	.12	1.3	22	.08
8	.82	14	.03	1.8	22	.11	1.2	21	.07
9	.77	14	.03	1.6	22	.10	1.1	20	.06
10	.72	15	.03	1.5	21	.09	.91	20	.05
11	.66	14	.02	1.4	21	.08	.89	20	.05
12	.66	24	.04	2.1	77	.50	.82	20	.04
13	.72	14	.03	1.8	26	.13	.78	20	.04
14	1.2	15	.05	1.7	25	.11	.83	20	.04
15	3.3	30	.27	1.4	20	.08	.83	20	.04
16	3.3	15	.13	1.5	25	.10	.72	20	.04
17	2.5	15	.10	1.2	25	.08	.55	20	.03
18	2.0	23	.12	1.1	24	.07	.66	20	.04
19	8.3	168	5.8	.90	23	.06	.29	20	.02
20	5.9	40	.64	.79	22	.05	.29	20	.02
21	3.9	30	.32	.80	22	.05	.29	20	.02
22	3.0	20	.16	.85	22	.05	.29	20	.02
23	2.4	20	.13	.92	22	.05	.29	20	.02
24	1.2	20	.06	.79	22	.05	.29	20	.02
25	.94	20	.05	.72	20	.04	.29	20	.02
26	.80	20	.04	.68	20	.04	.29	20	.02
27	.70	20	.04	.60	14	.02	.29	35	.03
28	.63	20	.03	.92	14	.03	.32	10	.01
29	.58	20	.03	---	---	---	.29	10	.01
30	.56	20	.03	---	---	---	.45	9	.01
31	.62	20	.03	---	---	---	1.9	25	.13
TOTAL	53.33	---	8.52	48.27	---	4.16	28.06	---	2.12
		APRIL			MAY			JUNE	
1	1.4	20	.08	1.0	11	.03	1.5	25	.10
2	1.5	20	.08	.95	11	.03	1.4	20	.08
3	1.4	93	.35	.90	27	.07	.97	18	.05
4	1.8	85	.41	.86	27	.06	.71	14	.03
5	1.7	60	.28	.72	27	.05	.53	12	.02
6	3.0	51	.41	.73	44	.09	.40	11	.01
7	7.9	280	6.0	.64	22	.04	.33	10	.01
8	13	352	13	.57	22	.03	.29	10	.01
9	9.5	273	7.0	.56	22	.03	.41	18	.02
10	5.6	54	.82	.48	21	.03	.24	15	.01
11	3.7	45	.45	.46	21	.03	.21	15	.01
12	4.5	196	2.6	.42	20	.02	.68	242	.82
13	3.5	55	.52	.32	9	.01	.29	20	.02
14	2.7	45	.33	.28	9	.01	.19	20	.01
15	7.7	373	8.1	.29	9	.01	.15	20	.01
16	7.8	54	1.1	.24	8	.01	.14	15	.01
17	5.4	25	.36	.21	8	.00	.11	10	.00
18	4.1	20	.22	.50	8	.01	.10	10	.00
19	3.7	20	.20	.82	34	.08	.13	15	.01
20	3.4	20	.18	.46	12	.01	.58	133	1.2
21	3.4	20	.18	.35	11	.01	2.5	644	12
22	3.0	20	.16	.31	11	.01	.77	40	.08
23	2.7	20	.15	.28	11	.01	.69	30	.06
24	8.7	291	7.2	.26	11	.01	.41	27	.03
25	4.6	25	.31	.24	11	.01	.31	24	.02
26	3.0	25	.20	.69	180	3.8	.29	21	.02
27	2.2	25	.15	2.8	270	3.0	.21	19	.01
28	2.0	35	.19	1.2	20	.06	.17	19	.01
29	1.6	11	.05	.76	19	.04	.18	19	.01
30	1.4	11	.04	.54	19	.03	.54	200	.93
31	---	---	---	2.4	199	5.0	---	---	---
TOTAL	125.9	---	51.12	21.24	---	12.63	15.43	---	15.60

03070420 STONY FORK TRIBUTARY NEAR GIBBON GLADE, PA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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)
		JULY			AUGUST			SEPTEMBER	
1	.58	71	.16	.03	8	.00	.10	10	.00
2	2.1	164	1.4	.02	8	.00	.04	10	.00
3	1.5	48	.19	.12	50	.02	.04	10	.00
4	.74	30	.06	.03	17	.00	.03	12	.00
5	.48	25	.03	.13	12	.00	.03	13	.00
6	.41	23	.03	.05	12	.00	.29	27	.02
7	.44	18	.02	.03	9	.00	.17	13	.01
8	.30	18	.01	.03	7	.00	.39	20	.02
9	.26	19	.01	.02	7	.00	.21	12	.01
10	.26	20	.01	.03	15	.00	.11	12	.00
11	.20	20	.01	.02	14	.00	.14	35	.01
12	.18	21	.01	.02	13	.00	.12	10	.00
13	.19	21	.01	.03	12	.00	.10	11	.00
14	.44	30	.04	.02	12	.00	.09	12	.00
15	.21	15	.01	.02	11	.00	.06	12	.00
16	.16	15	.01	.02	11	.00	.06	12	.00
17	.12	12	.00	.02	11	.00	.15	30	.01
18	.09	11	.00	.00	10	.00	.29	19	.01
19	.07	11	.00	.00	10	.00	.43	13	.02
20	.11	11	.00	.01	10	.00	.40	13	.01
21	.07	11	.00	.00	10	.00	.21	12	.01
22	.04	11	.00	.27	166	4.4	.33	10	.01
23	.04	8	.00	.11	25	.01	.34	7	.01
24	.04	8	.00	.02	15	.00	.22	7	.00
25	.03	8	.00	.04	10	.00	.15	7	.00
26	.05	9	.00	.11	15	.00	.09	7	.00
27	.04	6	.00	.06	30	.00	.07	7	.00
28	.04	6	.00	.08	19	.00	.06	7	.00
29	.03	6	.00	.30	69	.15	.12	7	.00
30	.02	6	.00	.06	17	.00	.38	10	.01
31	.04	10	.00	.07	29	.01	---	---	---
TOTAL	9.28	---	2.01	1.77	---	4.59	5.22	---	0.16

TOTAL DISCHARGE FOR YEAR 589.90 TOTAL LOAD FOR YEAR 147.09 TONS

03072000 DUNKARD CREEK AT SHANNOPIN, PA

LOCATION.--Lat 39°45'33", long 79°58'15", Greene County, Hydrologic Unit 05020005, on left bank at Shannopin, 1,300 ft upstream from highway bridge at mine buildings, 1.2 mi north of Dunkard, 3.5 mi upstream from mouth, and 4 mi southwest of Greensboro.

DRAINAGE AREA.--229 mi².

PERIOD OF RECORD.--October 1940 to current year. Prior to December 1940 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 1505: 1955.

GAGE.--Water-stage recorder. Datum of gage is 806.25 ft above National Geodetic Vertical Datum of 1929 (levels by Corps of Engineers).

REMARKS.--Records good except for estimated daily discharges, which are fair. Some regulation at low flow by mine pumpage above station. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--47 years, 276 ft³/s, 16.37 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,600 ft³/s, Aug. 18, 1980, gage height, 14.27 ft; minimum, 0.4 ft³/s, Aug. 28, 1944, gage height, 0.75 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft³/s and maximum (*).

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Apr. 8	0700	*3,840	*8.34				

Minimum discharge, 3.9 ft³/s, Aug. 19, gage height, 1.08 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	17	224	184	e300	134	631	213	104	54	10	8.9
2	219	15	253	e150	e600	205	442	187	120	172	7.8	13
3	155	14	668	e130	931	213	394	180	124	468	9.8	16
4	217	16	536	e110	547	192	415	191	89	259	11	13
5	673	30	374	e100	378	170	479	184	71	142	12	11
6	286	240	288	e94	306	155	853	164	60	95	20	13
7	137	252	234	e110	264	142	2580	145	48	71	34	12
8	85	189	205	e160	234	131	3240	128	40	62	26	15
9	60	1630	292	e150	207	128	1700	108	45	57	15	22
10	42	895	1180	e130	162	125	797	95	46	48	12	24
11	31	454	767	e115	166	106	491	85	40	38	10	21
12	25	739	463	e110	184	93	399	82	50	29	17	16
13	21	384	328	e100	222	90	402	76	167	24	17	13
14	23	247	236	e98	204	85	335	65	128	28	12	9.6
15	29	173	208	e94	189	81	302	60	76	34	8.1	7.9
16	52	144	183	e90	144	89	359	65	56	40	7.1	11
17	43	121	167	e88	161	95	701	60	47	34	6.0	16
18	31	112	165	e86	154	83	545	59	38	28	4.7	14
19	25	114	176	e180	139	78	405	806	35	22	8.7	11
20	20	130	150	1400	113	69	334	1630	32	19	15	12
21	18	474	137	724	107	63	287	1310	75	15	12	10
22	19	377	121	444	103	59	243	457	284	15	26	9.3
23	15	269	109	361	126	57	218	255	316	17	40	11
24	13	224	305	191	154	63	1220	174	294	16	90	13
25	13	230	2400	e170	128	66	1680	127	159	18	38	12
26	15	708	1090	e150	116	81	743	111	119	14	27	10
27	15	2090	539	e140	107	92	459	711	76	9.6	23	8.1
28	14	718	379	e135	108	77	377	446	57	8.1	14	6.7
29	20	406	299	e130	---	72	313	242	43	15	11	6.3
30	20	294	258	e135	---	76	261	165	39	16	11	13
31	19	---	222	e180	---	306	---	126	---	12	9.6	---
TOTAL	2383	11706	12956	6439	6554	3476	21605	8707	2878	1879.7	564.8	378.8
MEAN	76.9	390	418	208	234	112	720	281	95.9	60.6	18.2	12.6
MAX	673	2090	2400	1400	931	306	3240	1630	316	468	90	24
MIN	13	14	109	86	103	57	218	59	32	8.1	4.7	6.3
CFSM	.34	1.70	1.83	.91	1.02	.49	3.14	1.23	.42	.26	.08	.06
IN.	.39	1.90	2.10	1.05	1.06	.56	3.51	1.41	.47	.31	.09	.06

CAL YR 1986 TOTAL 88538.8 MEAN 243 MAX 4610 MIN 3.4 CFSM 1.06 IN. 14.38
WTR YR 1987 TOTAL 79527.2 MEAN 218 MAX 3240 MIN 4.7 CFSM .95 IN. 12.91

e Estimated

03072500 MONONGAHELA RIVER AT GREENSBORO, PA

LOCATION.--Lat 39°47'15", long 79°55'26", Greene County, Hydrologic Unit 05020005, on left bank on land guide wall, 950 ft upstream from dam at lock 7 at Greensboro, 0.4 mi upstream from Georges Creek, 2.0 mi downstream from Dunkard Creek, 4.3 mi downstream from Cheat River, and at mile 85.2.

DRAINAGE AREA.--4,407 mi².

PERIOD OF RECORD.--October 1938 to current year. Prior to January 1939 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 1113: 1939 (M), 1941 (M). WSP 1435: 1939. WSP 1907: 1936 (M), 1955 (M).

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 767.55 ft above National Geodetic Vertical Datum, adjustment of 1912.

REMARKS.--No estimated daily discharges. Records good above 5,000 ft³/s and fair below except those below 1,000 ft³/s, which are poor. Flow regulated since 1938 by Tygart Lake 66 mi upstream and since 1926 by Lake Lynn 8 mi upstream combined capacity, 357,300 acre-ft. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--49 years, 8,247 ft³/s, 25.41 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 220,000 ft³/s, Nov. 5, 1985, gage height, 39.39 ft; from outside flood marks; minimum daily, 204 ft³/s, Sept. 1-3, 5, 1946; minimum gage height, 10.23 ft, Apr. 29, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1888 reached a stage of about 36 ft, from high-water profile by Corps of Engineers. Flood of Mar. 18, 1936, reached a stage of 28.4 ft, discharge, 130,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 46,200 ft³/s, Nov. 10, gage height, 17.46 ft, minimum daily, 251 ft³/s, Aug. 17 .

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9710	2180	15200	4650	14200	8810	16100	7910	2950	2150	311	1820
2	10100	2050	11600	6000	23000	15100	12400	6970	3340	4710	552	1150
3	8070	4860	10100	3530	26900	17600	10400	4510	2550	5370	755	1070
4	9590	5050	11300	2920	23900	16300	9500	5990	2050	1940	1190	1390
5	11900	9920	12000	3410	19800	11100	9220	7780	2470	1670	2310	530
6	8890	26300	9110	4590	13100	9520	9030	6760	1090	2310	1510	1040
7	4520	28400	5190	6280	9140	4630	16000	7650	1280	2110	987	960
8	5620	24300	6550	3280	7410	3750	32800	6840	1740	1640	539	2190
9	4460	36600	13500	2950	6900	8340	30500	4590	1040	1250	513	3430
10	2770	35300	31700	2740	6680	11300	26900	3110	2040	1480	489	3080
11	2070	28800	26500	3290	5600	9330	28600	3660	904	1070	678	2390
12	1790	31900	22600	5540	4310	6700	30800	4270	1560	746	695	1280
13	2600	26400	18000	4730	6450	5240	24000	3200	2190	491	367	2350
14	5370	21000	12000	5060	8620	2890	21400	2250	2160	1260	1140	4270
15	6760	13100	12200	4010	6250	1980	17700	2000	3350	1790	465	2740
16	5160	7980	8920	6640	8890	4120	17600	1990	1840	1620	500	1890
17	4550	9960	6420	8920	7490	4100	20900	1070	1550	1410	251	2820
18	3280	9060	6250	6980	7140	4130	20600	2590	1970	919	509	2220
19	1930	9900	6210	20200	4870	3730	17100	6850	2700	271	784	5070
20	3360	12300	4790	36500	4500	4170	11400	8300	1910	842	511	5150
21	2510	25300	2980	31100	2900	1620	7980	8000	6120	868	588	5210
22	2050	21700	5160	23600	3020	1310	7980	7700	5230	439	901	4670
23	2580	15200	5090	19900	5560	3850	6400	3190	10200	495	2070	3810
24	2340	13200	9320	10300	7940	4630	16700	2450	11100	1040	1190	4190
25	1210	15400	34100	4670	6460	4360	25100	2300	5190	398	2050	3700
26	1540	21200	23700	6150	9420	5310	22100	3040	4760	629	1330	2690
27	2490	31200	17200	5230	7330	4280	21300	8360	3490	952	1910	916
28	1790	24500	11500	5360	4920	2330	15400	4240	1160	867	1370	1890
29	2890	20500	11000	3940	---	1370	11500	4640	2530	438	479	1590
30	3050	15400	12600	11800	---	3000	9040	2480	2070	343	973	2530
31	2710	---	7080	19000	---	7050	---	2480	---	1060	650	---
TOTAL	137660	548960	389870	283270	262700	191950	526450	147170	92534	42578	28567	78036
MEAN	4441	18300	12580	9138	9382	6192	17550	4747	3084	1373	922	2601
MAX	11900	36600	34100	36500	26900	17600	32800	8360	11100	5370	2310	5210
MIN	1210	2050	2980	2740	2900	1310	6400	1070	904	271	251	530
†	-397	-193	-430	-4.0	-196	+114	+1460	+58.5	-25.2	-162	-202	-578
MEAN‡	4044	18110	12150	9134	9186	6306	19010	4806	3059	1211	720	2023
CFSM‡	.92	4.11	2.76	2.07	2.08	1.43	4.31	1.09	.69	.27	.16	.46
IN.‡	1.06	4.59	3.18	2.39	2.17	1.65	4.81	1.26	.77	.31	.18	.51

CAL YR 1986 TOTAL 3251420 MEAN 8908 MAX 75300 MIN 457 ADJ +2.2 MEAN‡ 8910 CFSM‡ 2.02 IN.‡ 27.58
WTR YR 1987 TOTAL 2729740 MEAN 7479 MAX 36600 MIN 251 ADJ -47.4 MEAN‡ 7432 CFSM‡ 1.69 IN.‡ 22.88

† Change in contents, equivalent in cubic feet per second, in Tygart Lake and Lake Lynn. Records of contents in Lake Lynn furnished by Allegheny Power Service Corp.
‡ Adjusted for change in reservoir contents.

03073000 SOUTH FORK TENMILE CREEK AT JEFFERSON, PA

LOCATION.--Lat 39°55'23", long 80°04'22", Greene County, Hydrologic Unit 05020005, on right bank at downstream side of bridge on State Highway 188, 1 mi southwest of Jefferson, and 3.1 mi downstream from Ruff Creek.

DRAINAGE AREA.--180 mi².

PERIOD OF RECORD.--October 1931 to current year. Monthly discharge only for October 1931, published in WSP 1305.

REVISED RECORDS.--WSP 1305: 1949. WSP 1435: 1932-34, 1935 (M).

GAGE.--Water-stage recorder and masonry control. Datum of gage is 852.54 ft above National Geodetic Vertical Datum, adjustment of 1907. Prior to Oct. 21, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Slight diversion into basin during winter months from Monongahela River for Waynesburg water supply. Some regulation from reservoirs and pumpage above station. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--56 years, 201 ft³/s, 15.16 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,200 ft³/s, Nov. 27, 1985, gage height, 18.63 ft, from rating curve extended above 7,600 ft³/s on basis of slope-area measurement at gage height 18.45 ft, from floodmark in gage house; minimum observed, 0.05 ft³/s, Sept. 3, 1938, gage height, 0.36 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 26	1830	*3,970	*8.52	Apr. 24	1530	3,530	7.97
Apr. 7	2330	3,850	8.37				

Minimum discharge, 0.54 ft³/s, Aug. 21, gage height, 0.62 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	13	176	119	e250	90	410	193	54	113	3.2	20
2	188	12	534	e105	e550	153	361	180	54	321	3.1	15
3	64	12	748	e90	588	143	393	184	72	188	9.9	12
4	628	16	463	e80	384	116	461	266	94	97	10	9.8
5	388	93	305	e64	263	101	578	203	70	60	6.6	8.3
6	142	270	222	e74	212	96	1480	167	41	42	8.6	14
7	77	164	184	e90	e170	89	2830	145	31	32	6.2	19
8	52	476	156	e125	e130	85	2330	126	25	26	4.2	44
9	34	1980	238	e115	e115	86	1000	107	28	22	3.4	50
10	25	612	614	e100	e105	76	626	92	34	19	3.0	28
11	19	560	423	e90	e100	63	448	80	22	16	2.8	19
12	16	552	304	e84	e120	63	387	71	86	14	3.2	14
13	15	310	215	e76	178	60	351	64	233	13	2.9	13
14	24	190	148	e70	141	56	275	55	91	15	2.5	12
15	52	142	140	e68	122	59	249	51	51	17	2.3	11
16	35	117	120	e64	91	62	341	45	34	15	2.0	9.5
17	25	99	112	e62	106	51	633	40	26	14	1.7	9.4
18	21	87	111	e64	93	47	462	37	21	11	1.6	50
19	17	117	104	e300	79	45	348	283	16	8.8	1.1	59
20	13	115	89	799	69	43	279	376	42	7.5	.86	34
21	11	368	79	440	71	41	233	283	275	6.9	.75	23
22	12	247	70	309	72	40	199	144	186	5.6	115	19
23	12	185	61	250	88	39	189	99	112	4.4	199	16
24	11	160	379	161	77	36	2290	72	78	4.1	38	15
25	10	127	1350	e140	64	37	1250	55	48	3.5	17	13
26	15	1680	585	e125	58	109	645	49	276	3.9	13	12
27	23	1230	377	e115	56	86	444	163	82	3.9	12	10
28	23	542	270	e105	56	75	387	108	48	3.4	83	8.6
29	21	346	206	e98	---	65	297	65	32	3.2	246	8.4
30	18	237	177	e110	---	67	250	47	62	3.0	65	111
31	16	---	142	e120	---	320	---	44	---	3.1	31	---
TOTAL	2023	11059	9102	4612	4408	2499	20426	3894	2324	1096.3	898.91	687.0
MEAN	65.3	369	294	149	157	80.6	681	126	77.5	35.4	29.0	22.9
MAX	628	1980	1350	799	588	320	2830	376	276	321	246	111
MIN	10	12	61	62	56	36	189	37	16	3.0	.75	8.3
CFSM	.36	2.05	1.63	.83	.87	.45	3.78	.70	.43	.20	.16	.13
IN.	.42	2.29	1.88	.95	.91	.52	4.22	.80	.48	.23	.19	.14

CAL YR 1986 TOTAL 61276.85 MEAN 168 MAX 3110 MIN 1.5 CFSM .93 IN. 12.67
WTR YR 1987 TOTAL 63029.09 MEAN 173 MAX 2830 MIN .75 CFSM .96 IN. 13.03

e Estimated

03074500 REDSTONE CREEK AT WALTERSBURG, PA

LOCATION.--Lat 39°58'48", long 79°45'52", Fayette County, Hydrologic Unit 05020005, on right bank, 15 ft upstream from highway bridge at Waltersburg, 400 ft upstream from Bolden Run, and 0.9 mi upstream from Allen Run.

DRAINAGE AREA.--73.7 mi².

PERIOD OF RECORD.--October 1942 to current year. Monthly discharge only for October 1942, published in WSP 1305.

REVISED RECORDS.--WSP 1435: 1943-45 (M), 1946, 1947 (M), 1948 (P), 1949-50 (M), 1951 (P), 1952 (M).

GAGE.--Water-stage recorder. Datum of gage is 883.28 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 15, 1973, nonrecording gage 15 ft downstream at same datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Some regulation at low flow by mine pumpage into stream above station. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--45 years, 101 ft³/s, 18.61 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,660 ft³/s, June 23, 1972, gage height, 14.83 ft; minimum observed, 4.2 ft³/s, Aug. 2, 1962; minimum gage height, 0.16 ft, Sept. 17, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 4	0900	1,360	4.71	May 27	0015	*3,140	*7.85
Nov. 9	0615	1,180	5.60				

Minimum daily discharge, 13 ft³/s, Aug. 18-21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	170	33	119	98	140	75	74	117	e105	104	e20	e35
2	173	33	188	103	195	85	76	114	e110	185	e21	e27
3	74	33	252	97	181	76	82	113	e115	111	e135	e24
4	767	61	194	86	153	71	128	111	91	82	e78	e21
5	322	113	159	76	132	68	188	93	81	68	e74	e19
6	168	142	135	75	123	67	411	86	73	59	e60	e60
7	114	108	122	99	117	65	746	80	66	57	e48	e130
8	91	206	116	101	114	65	562	76	61	54	e37	e260
9	76	941	238	95	102	66	419	71	76	46	e29	e540
10	65	334	371	98	91	61	293	66	58	43	e22	e230
11	56	347	256	98	86	58	226	62	53	53	e19	e110
12	52	269	201	90	113	57	231	60	96	44	e18	e140
13	58	198	157	84	100	56	194	57	69	40	e17	e100
14	100	152	130	82	90	54	162	53	55	107	e16	e78
15	71	131	120	87	83	55	227	74	48	58	e15	e62
16	59	117	110	92	74	53	246	53	45	45	e14	e54
17	54	103	104	88	77	48	209	47	42	e36	e14	e50
18	49	101	106	88	74	47	172	156	39	e31	e13	e100
19	44	105	95	299	68	47	142	331	38	e27	e13	e160
20	43	137	86	313	64	45	126	172	126	e24	e13	e280
21	41	179	80	210	65	44	115	117	128	e22	e13	e300
22	39	134	75	e160	63	43	105	96	86	e21	e30	e250
23	38	120	71	e130	82	45	102	87	97	e35	e110	e370
24	36	135	224	e105	66	41	502	75	76	e27	e60	e330
25	35	123	333	e92	61	50	301	68	62	e22	e27	e270
26	57	354	213	e84	58	53	210	369	67	e20	e16	e210
27	44	290	172	e76	57	43	171	1770	57	e29	e60	e170
28	44	207	143	e70	58	42	187	386	47	e44	e150	e140
29	39	167	125	e68	---	39	146	229	46	e28	e350	e100
30	39	137	118	e150	---	46	132	170	74	e30	e110	200
31	35	---	106	181	---	92	---	136	---	e35	e50	---
TOTAL	3053	5510	4919	3575	2687	1757	6885	5495	2187	1587	1652	4820
MEAN	98.5	184	159	115	96.0	56.7	229	177	72.9	51.2	53.3	161
MAX	767	941	371	313	195	92	746	1770	128	185	350	540
MIN	35	33	71	68	57	39	74	47	38	20	13	19
CFSM	1.34	2.49	2.15	1.56	1.30	.77	3.11	2.41	.99	.69	.72	2.18
IN.	1.54	2.78	2.48	1.80	1.36	.89	3.48	2.77	1.10	.80	.83	2.43

CAL YR 1986 TOTAL 42863 MEAN 117 MAX 1610 MIN 16 CFSM 1.59 IN. 21.63
WTR YR 1987 TOTAL 44127 MEAN 121 MAX 1770 MIN 13 CFSM 1.64 IN. 22.26

e Estimated

03075070 MONONGAHELA RIVER AT ELIZABETH, PA

LOCATION.--Lat 40°15'44", long 79°54'05", Allegheny County, Hydrologic Unit 05020005, on right bank 30 ft landward from upstream end of guide wall, 1,050 ft upstream from dam at lock 3 at Elizabeth, 0.4 mi downstream from Lobbs Creek, and at mile 24.0.

DRAINAGE AREA.--5,340 mi².

PERIOD OF RECORD.--October 1933 to current year. Published as "at Charleroi" (station 03075000) October 1933 to September 1976. Monthly discharge prior to 1940, adjusted for reservoir contents, published in WSP 1305. Records for March 1886 to March 1905 (high-water periods, only), published in WSP 169, are unreliable and should not be used (peak discharge of July 11, 1888, as published in WSP 783, is still considered reliable).

REVISED RECORDS.--WSP 758: Drainage area. WSP 783: 1888 (M). WSP 1435: 1934, 1936. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder and concrete dam. Datum of gage is 725.50 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). From Oct. 1, 1967, to Sept. 30, 1976, at site 17.5 mi upstream at datum 8.10 ft higher. Prior to Oct. 1, 1967, water-stage recorder at site 17.9 mi upstream at datum 9.83 ft higher. Oct. 1, 1965, to Sept. 30, 1967, auxiliary staff gage and Apr. 14, 1966, to Sept. 30, 1967, auxiliary water-stage recorder at present site.

REMARKS.--No estimated daily discharges. Records good except those below 1,000 ft³/s, which are fair. Flow regulated by locks above station, since 1938 by Tygart Lake, and since 1926 by Lake Lynn, combined capacity, 357,000 acre-ft. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--54 years, 9,145 ft³/s, 23.26 in/yr, adjusted for storage 1940-75.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 178,000 ft³/s, Nov. 6, 1985, gage height, 23.60 ft; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 46,200 ft³/s, Nov. 9, gage height, 8.21 ft; minimum daily, 504 ft³/s, Aug. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8840	2800	15700	6520	18900	7890	17800	9530	4110	2950	970	1510
2	12300	1710	15900	5720	17200	13800	12500	8610	4470	3840	671	1620
3	8280	4240	13900	5710	28900	17300	10800	6100	3070	8210	688	1220
4	12100	5420	13400	4130	25600	16300	10700	7280	3020	2740	1200	1200
5	14800	8050	13700	3870	20500	12400	12100	8300	2900	2520	2320	1350
6	9730	19900	10900	4490	14400	9480	15500	7840	1610	2180	2660	1030
7	6830	31000	8030	6160	10300	6690	29100	8060	2010	2580	1050	1180
8	5510	25800	6590	5960	9590	4940	41500	7720	1740	2050	747	2590
9	5160	37000	11200	3140	7350	6840	34900	5990	2160	1530	627	3060
10	3500	41200	31300	3650	6970	11500	29000	4070	2120	1840	504	3840
11	2330	30200	30800	4070	6820	9470	29000	4380	1660	1610	978	2660
12	2500	33300	24200	5720	6000	6970	32500	4440	1700	721	670	1990
13	2870	29300	19100	5470	5550	6980	26200	4370	3320	1170	554	1910
14	3940	22600	14900	5950	10100	3960	22900	2700	2290	1160	674	4540
15	6280	16700	12500	4210	7070	2860	19200	2780	3110	2030	1130	3160
16	6500	9890	10900	6840	7770	3290	18400	2290	3100	1610	677	2330
17	5070	9350	7600	6460	8960	4530	22500	1770	2030	2030	546	2680
18	3690	9480	7420	10400	7460	4490	22600	2270	1840	1350	532	2720
19	3110	10300	6170	10200	6620	4070	19300	8360	2670	715	710	4740
20	2720	11000	6460	31500	4680	3970	13000	10100	2990	623	709	5410
21	2840	23500	4440	34700	3920	3300	9750	9690	6880	1010	508	5640
22	2600	23800	4640	27800	3710	1650	9600	8490	6250	982	1060	5220
23	2590	17700	5370	21400	4860	3040	8190	4590	9380	684	2950	4600
24	2650	12600	8110	13300	7840	4560	19100	3200	11900	678	1580	4480
25	2270	16000	35200	6980	7590	4970	32000	3470	6290	1120	2050	4050
26	1430	21700	29200	5770	8430	5460	25900	3360	4660	735	1870	3350
27	2290	37000	19100	7070	8840	5380	23200	14100	4840	577	1980	1930
28	2660	27800	14600	6480	5750	3000	18000	8230	2170	1020	1910	1440
29	2650	22800	11800	5950	---	2350	13400	5310	2330	994	1680	1140
30	3230	16300	12800	8480	---	4500	10500	3740	2470	608	1400	3070
31	3030	---	9490	20600	---	9780	---	2880	---	626	1010	---
TOTAL	154300	578440	435420	298700	281680	205720	609140	184020	109090	52493	36615	85660
MEAN	4977	19280	14050	9635	10060	6636	20300	5936	3636	1693	1181	2855
MAX	14800	41200	35200	34700	28900	17300	41500	14100	11900	8210	2950	5640
MIN	1430	1710	4440	3140	3710	1650	8190	1770	1610	577	504	1030

CAL YR 1986 TOTAL 3649840 MEAN 10000 MAX 82600 MIN 632
WTR YR 1987 TOTAL 3031280 MEAN 8305 MAX 41500 MIN 504

03076500 YOUGHIOGHENY RIVER AT FRIENDSVILLE, MD

LOCATION.--Lat 39°39'13", long 79°24'31", Garrett County, Hydrologic Unit 05020006, on left bank 0.7 mi upstream from bridge on State Highway 42 at Friendsville, and 1.5 mi upstream from Bear Creek.

DRAINAGE AREA.--295 mi^2.
PERIOD OF RECORD.--August 1898 to December 1904 and October 1940 to current year. Annual maximum, water years 1905, 1923-31, 1940, published in WSP 1675. October, November 1940 monthly discharge only, published in WSP 1305. September 1922 to September 1926 (gage heights only) in reports of Pennsylvania Department of Forests and Waters.
REVISED RECORDS.--WSP 1385: Drainage area at former site, 1898-1905, 1941(M), 1942, 1944-45, 1948-49, 1951(M).
GAGE.--Water-stage recorder. Datum of gage is 1,487.33 ft above National Geodetic Vertical Datum of 1929. Aug. 17, 1898, to Dec. 31, 1904, and Sept. 1, 1922, to Sept. 30, 1926, nonrecording gages at bridge 0.7 mi downstream at datum 16.24 ft and 16.29 ft lower, respectively.
REMARKS.--Estimated daily discharges: Nov. 7 to Jan. 14. Records good except those for period of partially plugged intake, Nov. 7 to Jan. 14, which are fair. Low and medium flow regulated since July 1925 by Deep Creek Reservoir, 12 mi upstream from station (see station 03076000). U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--53 years (water years 1899-1904, 1941-87), 646 ft^3/s, 29.74 in/yr, adjusted for storage since October 1940.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,600 ft^3/s, Mar. 29, 1924, gage height, 14.2 ft, from flood-marks, site and datum then in use or 10.2 ft, present site and datum, from rating curve extended above 5,800 ft^3/s on basis of slope-area measurement of peak flow; minimum daily discharge, 8.2 ft^3/s, Sept. 11, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,730 ft^3/s, Dec. 10, gage height, 5.10 ft; minimum discharge, 30 ft^3/s, Aug. 12, gage height, 1.88 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	176	154	750	479	472	864	699	714	353	156	61	201
2	532	154	612	785	949	2060	688	553	315	217	46	335
3	320	166	1110	786	1410	1190	710	566	276	355	99	210
4	505	172	1290	429	1130	897	746	843	253	212	93	292
5	1140	454	1030	691	910	676	619	900	236	156	83	174
6	645	2260	563	701	786	606	593	756	161	176	250	72
7	379	2350	491	694	561	690	898	654	143	121	173	334
8	279	1680	770	675	524	931	1910	592	181	106	84	410
9	224	1380	1920	651	615	1040	2770	452	177	141	63	521
10	178	1630	3380	325	599	991	2110	356	182	124	95	416
11	153	1420	2480	290	525	783	1460	367	163	94	63	526
12	140	1770	2080	526	508	640	1290	354	161	125	35	356
13	150	1580	1660	557	715	553	1460	406	202	156	76	364
14	349	1310	1400	529	450	431	1120	398	171	106	93	554
15	449	1060	1220	740	393	398	1560	394	174	109	53	469
16	308	900	1020	1470	333	435	2090	352	153	136	39	236
17	250	784	944	839	411	425	2190	252	145	132	109	290
18	223	627	1010	648	379	410	1720	275	147	76	62	541
19	194	789	1110	1530	336	393	1280	446	135	68	35	663
20	173	880	585	2380	319	391	1060	1560	88	107	147	628
21	167	2260	524	1420	262	330	997	857	458	65	79	607
22	144	1730	824	1070	246	318	868	610	703	60	109	640
23	131	1220	780	938	376	357	795	440	851	78	361	490
24	123	1030	889	522	328	348	1040	367	762	104	256	614
25	118	1030	1020	477	299	350	936	372	460	67	159	576
26	145	1150	1510	488	292	360	715	347	351	57	202	413
27	165	2550	989	341	243	333	892	559	278	70	170	393
28	181	1530	776	253	236	276	868	442	221	68	177	395
29	190	1110	927	251	---	263	770	457	224	58	129	217
30	195	905	1040	441	---	283	802	278	168	54	87	364
31	173	---	889	553	---	577	---	319	---	91	161	---
TOTAL	8499	36035	35593	22479	14607	18599	35656	16238	8292	3645	3649	12301
MEAN	274	1201	1148	725	522	600	1189	524	276	118	118	410
MAX	1140	2550	3380	2380	1410	2060	2770	1560	851	355	361	663
MIN	118	154	491	251	236	263	593	252	88	54	35	72
(†)	+50.4	+197	-76.6	-81.2	0	+110	+178	-24.4	-11.7	-42.3	-60.0	-218
MEAN≠	324	1400	1071	644	522	710	1367	500	264	75.7	58.0	192
CFSM≠	1.10	4.75	3.63	2.18	1.77	2.41	4.63	1.69	0.89	0.26	0.20	0.65
IN≠	1.27	5.30	4.19	2.51	1.84	2.78	5.17	1.95	0.99	0.30	0.23	0.73

CAL YR 1986 TOTAL 248248 MEAN 680 MAX 6380 MIN 64 MEAN≠ 687 CFSM≠ 2.33 IN≠ 31.63
WTR YR 1987 TOTAL 215600 MEAN 591 MAX 3380 MIN 35 MEAN≠ 592 CFSM≠ 2.01 IN≠ 27.28

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir, provided by Pennsylvania Electric Co.
≠ Adjusted for change in contents.

03077500 YOUGHIOGHENY RIVER AT YOUGHIOGHENY RIVER DAM, PA

LOCATION.--Lat 39°48'19", long 79°21'52", Somerset County, Hydrologic Unit 05020006, on right bank 800 ft upstream from bridge on State Highway 281, 0.2 mi downstream from Youghiogheny River Dam, 0.2 mi south of Confluence, 0.7 mi upstream from Casselman River, and at mile 73.2.

DRAINAGE AREA.--436 mi².

PERIOD OF RECORD.--September 1904 to September 1913 (gage heights only), October 1939 to current year. Monthly discharge only for October 1939 to April 1940, published in WSP 1305. Figures of daily discharge prior to January 1911, published in WSP 169, 205, 243, 263, and 283 are unreliable and should not be used. September 1904 to September 1922 (gage heights only) in reports of Water Supply Commission of Pennsylvania or Pennsylvania Department of Forests and Waters. Published as "at Confluence" 1904-22.

REVISED RECORDS.--WSP 893: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,310.17 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark).

REMARKS.--Records good. Flow regulated since 1925 by Deep Creek Reservoir and since 1943 by Youghiogheny River Lake 0.2 mi upstream. Several observations of water temperature were made during the year. Corps of Engineers gage-height telemeter at station.

AVERAGE DISCHARGE.--48 years (1939-87), 878 ft³/s, 27.35 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,700 ft³/s, Mar. 5, 1948, gage height, 11.28 ft; maximum gage height, 19.08 ft, Oct. 15, 1954 (backwater from Casselman River); practically no flow at times during May and June 1950 when reservoir gates were closed.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,820 ft³/s, Apr. 14, gage height, 5.87 ft; maximum gage height, 5.94 ft, Apr. 13 (backwater from Casselman River); minimum daily discharge, 101 ft³/s, Mar. 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	673	867	1270	946	1200	145	262	1050	389	632	599	577
2	669	858	695	820	1220	146	442	1050	292	632	599	577
3	573	856	499	687	1020	145	589	828	292	632	599	577
4	501	848	1080	687	1300	145	e380	610	292	635	497	577
5	428	856	1340	687	1430	145	e268	610	417	643	515	578
6	544	856	1400	687	1470	148	e260	610	654	643	588	581
7	749	856	1390	812	1460	160	e260	829	654	643	588	578
8	868	857	1390	944	1460	159	e260	1060	489	638	588	583
9	924	e540	e1090	944	1450	157	e260	1050	380	639	588	578
10	924	375	e1180	944	1450	162	1160	1050	380	643	588	588
11	922	382	1740	944	1160	164	2020	880	380	645	588	592
12	921	382	1860	944	784	142	e1990	459	474	639	588	588
13	912	335	1830	944	686	141	e2570	268	654	634	588	588
14	910	510	1820	936	687	141	2520	268	653	633	587	606
15	964	797	1810	890	687	141	1820	338	543	632	581	588
16	1030	867	1810	944	687	101	1870	418	470	632	577	581
17	1020	657	1800	944	505	134	e2010	429	470	632	577	581
18	1020	672	1790	848	390	172	e2010	318	470	632	577	588
19	1020	729	1800	e687	390	169	e2010	257	553	624	577	590
20	1010	768	1820	e698	390	186	2000	923	643	621	577	592
21	1010	849	1810	864	390	176	1970	1510	643	621	577	594
22	1000	1120	1740	970	391	136	1960	1500	551	621	577	601
23	997	1240	1750	1100	392	136	1760	923	490	621	577	596
24	995	1300	1510	1230	294	118	1280	804	490	621	577	599
25	984	1360	1380	1230	174	136	855	751	490	620	577	599
26	979	934	1380	1220	136	136	1100	533	539	614	529	599
27	983	294	1360	1220	136	136	1660	500	632	606	566	602
28	976	752	1350	1210	137	173	1340	388	632	600	566	606
29	926	1280	1300	1200	---	236	1060	300	632	599	572	608
30	867	1270	1250	1210	---	236	1050	408	632	599	577	602
31	867	---	1140	1210	---	250	---	480	---	599	577	---
TOTAL	27166	24267	45384	29601	21876	4872	38996	21402	15280	19425	17838	17694
MEAN	876	809	1464	955	781	157	1300	690	509	627	575	590
MAX	1030	1360	1860	1230	1470	250	2570	1510	654	645	599	608
MIN	428	294	499	687	136	101	260	257	292	599	497	577
†	-330	+842	-273	-45.5	+90.0	+745	+602	-24.4	-197	-554	-540	-319
MEAN ‡	546	1651	1191	910	871	902	1902	666	312	73.0	35.0	271
CFSM ‡	1.25	3.79	2.73	2.09	2.00	2.07	4.36	1.53	.72	.17	.08	.62
IN.‡	1.44	4.23	3.15	2.41	2.08	2.39	4.86	1.76	.80	.20	.09	.69

CAL YR 1986 TOTAL 320010 MEAN 877 MAX 4130 MIN 116 ADJ +31.1 MEAN‡ 908 CFSM‡ 2.08 IN.‡ 28.27
WTR YR 1987 TOTAL 283801 MEAN 778 MAX 2570 MIN 101 ADJ -3.7 MEAN‡ 774 CFSM‡ 1.78 IN.‡ 24.10

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir and Youghiogheny River Lake. Records for Deep Creek Reservoir furnished by Pennsylvania Electric Co.
‡ Adjusted for change in reservoir contents.

e Estimated

03078000 CASSELMAN RIVER AT GRANTSVILLE, MD

LOCATION.--Lat 39°42'08", long 79°08'12", Garrett County, Hydrologic Unit 05020006, on left bank at downstream side of highway bridge, 0.3 mi upstream from Slaubaugh Run, 0.7 mi downstream from U.S. Highway 40, and 1.0 mi northeast of Grantsville.

DRAINAGE AREA.--62.5 mi^2.

PERIOD OF RECORD.--July 1947 to current year.

REVISED RECORDS.--WSP 1143: 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 2,088.97 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan 4-9, 23-29, Feb. 5-27, July 21 to Aug. 4, Aug. 8-10, 12-22. Records good except those for periods with ice effect, Jan. 4-9, 23-29, Feb. 5-27, period of missing record, July 21-28, and periods of indeterminate stage-discharge relationship, July 29 to Aug. 4, Aug. 8-10, 12-22, which are fair. U.S. Army Corps of Engineers satellite telemeter at station. Several measurements of water temperature were made during the year. Water-quality records for some prior periods have been collected at this location.

AVERAGE DISCHARGE.--40 years, 119 ft^3/s, 25.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,400 ft^3/s, Oct. 15, 1954, gage height, 10.70 ft, from rating curve extended above 1,600 ft^3/s on basis of contracted-opening measurement at gage height 8.13 ft; no flow Aug. 31, 1962, result of regulation from unknown source.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 4	1100	*1,460	*4.26	Apr. 8	2145	1,050	3.79

Minimum discharge, 3.5 ft^3/s, Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	35	131	77	102	222	306	98	47	15	4.4	5.5
2	167	36	176	76	147	309	259	94	47	29	4.4	5.7
3	66	36	368	68	208	169	223	101	42	34	5.0	4.7
4	774	41	248	60	155	139	264	207	39	20	5.3	3.8
5	468	239	177	55	120	113	258	169	36	14	6.0	3.9
6	196	383	143	54	105	131	260	129	30	11	7.2	18
7	118	196	125	53	90	247	473	108	26	11	6.9	28
8	84	154	117	52	80	349	721	97	22	8.2	5.7	100
9	65	234	386	52	72	387	674	85	23	6.8	5.3	55
10	51	197	355	52	70	323	467	76	24	6.5	5.3	23
11	43	283	225	50	68	214	366	68	19	6.1	7.7	19
12	39	301	183	48	66	172	389	63	20	7.4	5.3	64
13	43	196	149	48	64	150	367	60	24	6.1	4.5	70
14	129	148	132	50	62	130	265	52	27	6.0	4.3	33
15	93	129	116	129	60	122	234	83	19	8.1	4.1	19
16	61	118	98	239	58	115	368	72	15	6.4	4.0	14
17	49	103	91	144	56	110	660	52	14	5.3	3.9	13
18	45	107	122	109	55	110	418	50	12	5.0	3.8	17
19	40	230	129	338	53	115	293	178	11	4.9	3.7	35
20	37	195	94	266	51	119	234	192	17	4.8	3.6	117
21	35	406	80	164	50	117	194	120	44	4.7	3.5	85
22	33	224	73	131	48	114	165	95	33	4.6	7.0	50
23	31	179	107	110	50	112	142	80	39	4.5	28	66
24	29	177	115	95	50	108	152	70	30	4.4	14	40
25	29	160	324	80	55	111	151	59	19	4.4	7.4	34
26	55	341	238	70	50	109	120	56	15	4.8	6.1	26
27	53	429	156	60	46	94	104	129	13	5.5	7.0	23
28	56	242	127	55	40	86	148	102	12	8.5	7.8	19
29	52	191	108	60	---	78	119	68	11	6.0	7.4	18
30	42	157	97	91	---	200	116	59	10	5.0	6.0	73
31	37	---	85	128	---	452	---	54	---	4.8	5.2	---
TOTAL	3079	5867	5075	3064	2131	5327	8910	2926	740	272.8	199.8	1082.6
MEAN	99.3	196	164	98.8	76.1	172	297	94.4	24.7	8.80	6.45	36.1
MAX	774	429	386	338	208	452	721	207	47	34	28	117
MIN	29	35	73	48	40	78	104	50	10	4.4	3.5	3.8
CFSM	1.59	3.14	2.62	1.58	1.22	2.75	4.75	1.51	.40	.14	.10	.58
IN.	1.83	3.49	3.02	1.82	1.27	3.17	5.30	1.74	.44	.16	.12	.64

CAL YR 1986 TOTAL 45400.8 MEAN 124 MAX 1390 MIN 4.3 CFSM 1.98 IN 27.02
WTR YR 1987 TOTAL 38674.2 MEAN 106 MAX 774 MIN 3.5 CFSM 1.70 IN 23.02

03079000 CASSELMAN RIVER AT MARKLETON, PA

LOCATION.--Lat 39°51'35", long 79°13'40", Somerset County, Hydrologic Unit 05020006, on right bank at downstream side of highway bridge at Markleton, 2 mi southwest of Casselman, and 7 mi downstream from Coxes Creek.

DRAINAGE AREA.--382 mi².

PERIOD OF RECORD.--August to September 1913 (gage heights and discharge measurement only), October 1920 to current year. Monthly discharge only for some periods, published in WSP 1305. October 1913 to September 1920 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1305: 1923-31. WSP 1435: 1932-34, 1935 (M), 1936-38. WSP 1625: 1924 (M).

GAGE.--Water-stage recorder. Datum of gage is 1,655.29 ft above National Geodetic Vertical Datum, adjustment of 1907. Prior to Nov. 19, 1940, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Slight diversion above station to city of Frostburg, Md., in the Potomac River basin. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--67 years (1920-87), 661 ft³/s, 23.50 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,000 ft³/s, estimated, Oct. 15, 1954, gage height, 14.06 ft, on basis of summation of peak flows at nearby stations; minimum, 10 ft³/s, Sept. 9, 1957; minimum gage height, 0.81 ft, Sept. 30, Oct. 1, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Apr. 17	1600	*4,430	*5.32				

Minimum discharge, 43 ft³/s, Aug. 21, gage height, 0.97 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	348	262	814	499	537	1130	1790	542	392	141	68	88
2	1070	252	882	e430	761	2350	1430	530	381	235	59	83
3	667	251	2340	e370	1470	1330	1210	601	326	241	252	73
4	2200	281	1670	e330	1150	1070	2200	1080	288	186	132	65
5	2260	688	1160	e270	855	804	2840	1030	253	145	104	61
6	1260	1590	921	e300	727	836	2440	801	229	123	128	85
7	813	1060	784	451	714	1390	3670	678	211	133	97	149
8	631	924	709	e400	686	2090	3860	594	194	135	80	429
9	505	2080	1950	e360	533	2250	3500	524	211	109	72	499
10	424	1540	2480	e330	501	1940	2480	468	208	101	67	238
11	356	1590	1560	e300	e470	1290	1900	418	177	95	64	163
12	318	1890	1200	e280	e430	1010	1920	382	175	89	60	156
13	330	1320	946	e300	e560	855	2120	352	190	87	57	309
14	672	1030	701	316	465	713	1480	318	198	93	55	218
15	734	881	701	907	e350	670	1230	357	168	118	52	158
16	497	812	595	1710	e260	598	1360	414	148	96	48	131
17	409	734	548	1060	e300	574	3700	309	134	88	47	132
18	386	721	683	792	e280	548	2900	292	125	83	57	198
19	339	1550	807	1710	e260	536	1910	770	116	77	56	195
20	308	1280	587	2150	e230	532	1440	846	119	73	47	434
21	288	2230	508	1260	e220	526	1130	631	392	71	43	579
22	276	1430	423	972	e250	510	957	512	295	68	76	360
23	263	1180	402	e660	e320	496	814	441	228	65	166	360
24	248	1100	546	e490	358	485	888	380	235	61	106	288
25	239	1010	1760	e420	287	489	841	330	181	59	88	235
26	290	1960	1660	e370	292	505	661	334	160	60	76	200
27	394	2890	1100	e330	319	462	567	1530	178	98	94	170
28	366	1710	892	e310	293	433	785	1280	144	76	136	148
29	357	1260	727	e300	---	399	698	671	124	68	297	136
30	325	1010	647	e360	---	519	619	510	119	64	140	298
31	288	---	566	e500	---	1940	---	449	---	73	98	---
TOTAL	17861	36516	31269	19237	13878	29280	53340	18374	6299	3211	2922	6638
MEAN	576	1217	1009	621	496	945	1778	593	210	104	94.3	221
MAX	2260	2890	2480	2150	1470	2350	3860	1530	392	241	297	579
MIN	239	251	402	270	220	399	567	292	116	59	43	61
CFSM	1.51	3.19	2.64	1.62	1.30	2.47	4.65	1.55	.55	.27	.25	.58
IN.	1.74	3.56	3.05	1.87	1.35	2.85	5.19	1.79	.61	.31	.28	.65

CAL YR 1986 TOTAL 257744 MEAN 706 MAX 8080 MIN 56 CFSM 1.85 IN. 25.12
WTR YR 1987 TOTAL 238825 MEAN 654 MAX 3860 MIN 43 CFSM 1.71 IN. 23.25

e Estimated

03080000 LAUREL HILL CREEK AT URSINA, PA

LOCATION.--Lat 39°49'13", long 79°19'18", Somerset County, Hydrologic Unit 05020006, on right bank 500 ft downstream from bridge on State Highway 281 at Ursina, and 2.7 mi upstream from mouth.

DRAINAGE AREA.--121 mi².

PERIOD OF RECORD.--August to September 1913 (gage heights and discharge measurement only). October 1918 to current year. Monthly discharge only for some periods, published in WSP 1305. October 1913 to September 1918 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania.

REVISED RECORDS.--WSP 743: Drainage area. WSP 893: 1919-21, 1932-34. WSP 1305: 1922-31. WSP 1435: 1919-20. WSP 1625: 1932 (M).

GAGE.--Water-stage recorder and masonry control. Datum of gage is 1,335.26 ft above National Geodetic Vertical Datum of 1929, unadjusted. Prior to July 18, 1939, nonrecording gage at bridge 0.5 mi downstream at datum 6.20 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--69 years (1918-87), 266 ft³/s, 29.85 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,900 ft³/s, Oct. 15, 1954, gage height, 10.63 ft, from rating curve extended above 6,100 ft³/s on basis of slope-area measurement of peak flow; minimum, 2.2 ft³/s, Sept. 26, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,000 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
May 27	1400	*2,260	*3.74				

Minimum discharge, 4.0 ft³/s, Aug. 18, 19, 20, 21, gage height, 0.80 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	220	114	287	173	e170	379	626	209	157	32	6.8	46
2	650	108	274	e150	e220	880	567	205	162	64	9.1	39
3	377	97	430	e130	e310	597	509	250	117	72	103	29
4	1560	160	422	e110	e270	449	726	384	93	44	77	23
5	1210	475	322	e90	e240	338	950	320	75	40	35	19
6	700	810	224	e110	e210	306	858	277	60	34	54	30
7	406	520	247	e140	e190	504	1280	244	52	37	30	81
8	280	493	236	e120	e170	886	1490	213	45	40	21	240
9	215	1490	820	e110	e140	1010	1270	180	55	28	16	404
10	165	1110	1210	e100	e130	832	910	157	68	25	14	187
11	122	900	789	e92	e135	547	666	131	43	50	13	122
12	104	880	547	e88	e125	393	679	113	49	32	10	143
13	114	610	393	e84	e130	309	793	99	71	26	7.0	101
14	230	422	321	e90	e110	253	565	84	63	29	5.8	79
15	230	336	256	e275	e90	229	545	92	48	48	5.1	63
16	160	280	215	778	e76	196	590	76	36	30	4.4	55
17	135	343	190	495	e110	182	616	63	31	22	4.9	55
18	125	236	237	e310	e92	163	599	64	25	19	4.2	107
19	108	422	304	e500	e80	154	463	221	21	16	4.7	199
20	97	414	223	844	e68	158	378	171	23	14	4.6	307
21	87	840	193	519	e72	161	306	133	42	15	4.0	327
22	78	590	181	393	e84	159	259	100	48	12	12	250
23	72	430	177	316	e90	157	225	86	39	8.6	79	330
24	66	422	218	210	84	153	357	73	60	7.1	42	236
25	60	406	757	e160	84	161	376	62	39	6.3	22	199
26	125	760	722	e130	86	190	279	85	36	7.6	15	159
27	180	1030	474	e110	80	162	248	1120	46	9.7	18	123
28	170	690	363	e100	88	148	305	762	36	14	49	100
29	180	484	291	e92	---	130	273	377	26	9.0	263	86
30	155	366	248	e120	---	180	244	243	27	6.0	105	227
31	130	---	207	e180	---	661	---	193	---	13	57	---
TOTAL	8511	16238	11778	7119	3734	11027	17952	6787	1693	810.3	1095.6	4366
MEAN	275	541	380	230	133	356	598	219	56.4	26.1	35.3	146
MAX	1560	1490	1210	844	310	1010	1490	1120	162	72	263	404
MIN	60	97	177	84	68	130	225	62	21	6.0	4.0	19
CFSM	2.27	4.47	3.14	1.90	1.10	2.94	4.95	1.81	.47	.22	.29	1.20
IN.	2.62	4.99	3.62	2.19	1.15	3.39	5.52	2.09	.52	.25	.34	1.34

CAL YR 1986 TOTAL 99016.0 MEAN 271 MAX 3770 MIN .77 CFSM 2.24 IN. 30.88
WTR YR 1987 TOTAL 91110.8 MEAN 250 MAX 1560 MIN 4.0 CFSM 2.06 IN. 28.02

e Estimated

03081000 YOUGHIOGHENY RIVER BELOW CONFLUENCE, PA

LOCATION.--Lat 39°49'39", long 79°22'22", Fayette County, Hydrologic Unit 05020006, on left bank 1.0 mi downstream from Casselman River, 1.5 mi northwest of Confluence, and at mile 72.0.

DRAINAGE AREA.--1,029 mi².

PERIOD OF RECORD.--June 1940 to current year. Monthly discharge only for June 1940, published in WSP 1305.

GAGE.--Water-stage recorder. Datum of gage is 1,302.77 ft above National Geodetic Vertical Datum of 1929, unadjusted.

REMARKS.--No estimated daily discharge. Records good. Flow regulated since 1925 by Deep Creek Reservoir and since 1943 by Youghiogheny River Lake 1.7 mi upstream. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--47 years, 2,005 ft³/s, 26.46 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,500 ft³/s, Oct. 15, 1954, gage height, 19.92 ft, from rating curve extended above 25,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 40 ft³/s, Oct. 14, 1943, gage height, 0.31 ft; minimum daily, 121 ft³/s, Sept. 27, 1943.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 17, or 18, 1936, reached a stage of 21.6 ft, from floodmarks, discharge, 85,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,360 ft³/s, Apr. 17, gage height, 6.95 ft; minimum daily, 560 ft³/s, Feb. 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1020	1330	2960	1800	2110	1360	2980	2030	1090	807	657	679
2	2540	1300	2150	1620	2340	3950	2630	1970	975	950	647	660
3	1680	1290	3460	1400	3420	2390	2560	1870	860	1040	834	643
4	5130	1330	3760	1270	3320	1920	3330	2120	780	887	749	628
5	5200	1820	3440	1100	2960	1480	4900	2180	819	819	617	620
6	2960	3490	3140	1090	2800	1390	3930	1880	1010	783	741	638
7	2210	2690	2920	1240	2750	1980	6050	1940	965	773	714	740
8	1960	2380	2820	1470	2680	3360	7170	2100	769	789	673	1050
9	1820	4860	4150	1540	2470	3800	6610	1980	648	754	655	1550
10	1670	3720	5930	1510	2300	3380	5440	1880	677	736	648	1030
11	1550	3090	4800	1500	2060	2330	5420	1580	622	791	642	859
12	1480	3800	4210	1430	1660	1820	5250	1060	761	735	635	849
13	1480	2610	3700	1400	1610	1540	6340	776	944	716	627	939
14	1900	2250	3240	1370	1420	1320	5370	720	923	730	622	908
15	2170	2290	3170	1780	1390	1230	4270	874	779	768	619	786
16	1900	2140	2990	4040	1150	1090	4310	1030	658	737	616	736
17	1770	1710	2880	3410	1080	1010	6970	894	634	710	612	723
18	1720	1740	2890	2240	933	971	6490	750	610	705	612	814
19	1650	3040	3120	3020	840	944	5020	1390	684	690	615	934
20	1590	2720	3020	4610	814	954	4410	2180	780	680	613	1220
21	1540	4980	2840	3130	845	938	3980	2640	1150	675	604	1520
22	1520	3930	2670	2700	835	875	3690	2420	936	668	625	1200
23	1490	3510	2550	2550	925	860	3250	1630	758	662	773	1280
24	1460	3300	2410	2230	818	830	2830	1380	788	658	714	1130
25	1440	3320	4120	2140	619	855	2360	1250	700	652	666	1020
26	1510	3960	4890	2140	560	903	2260	1110	779	667	606	932
27	1670	5470	3780	1960	596	850	2790	3830	860	670	647	860
28	1650	3790	2970	1900	583	825	2700	3190	823	688	672	811
29	1580	3760	2670	1920	---	853	2280	1690	787	660	1080	779
30	1440	3300	2510	2000	---	891	2140	1370	776	650	836	988
31	1380	---	2160	2180	---	2710	---	1300	---	652	712	---
TOTAL	60080	88920	102320	63690	45888	49609	127730	53014	24345	22902	21083	27526
MEAN	1938	2964	3301	2055	1639	1600	4258	1710	811	739	680	918
MAX	5200	5470	5930	4610	3420	3950	7170	3830	1150	1040	1080	1550
MIN	1020	1290	2150	1090	560	825	2140	720	610	650	604	620
†	-330	+842	-273	-45.5	+90.0	+745	+602	-24.4	-197	-55.4	-540	-319
MEAN ‡	1608	3806	3028	2010	1729	2345	4860	1686	614	185	140	599
CFSM ‡	1.56	3.70	2.94	1.95	1.68	2.28	4.72	1.64	.60	.18	.14	.58
IN.‡	1.80	4.13	3.39	2.25	1.75	2.63	5.27	1.89	.67	.21	.16	.65

CAL YR 1986 TOTAL 766895 MEAN 2101 MAX 15300 MIN 503 ADJ +31.1 MEAN‡ 2132 CFSM‡ 2.07 IN.‡ 28.14
WTR YR 1987 TOTAL 687107 MEAN 1882 MAX 7170 MIN 560 ADJ -3.7 MEAN‡ 1878 CFSM‡ 1.83 IN.‡ 24.80

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir and Youghiogheny River Lake. Records of contents in Deep Creek Reservoir furnished by Pennsylvania Electric Co.
‡ Adjusted for change in reservoir contents.

03082020 INDIAN CREEK AT JONES MILLS, PA

LOCATION.--Lat 40°05'21", long 79°20'04", Westmoreland County, Hydrologic Unit 05020006, on right bank 200 ft downstream from State Highway 381 bridge, 400 ft upstream from State Highway 31 bridge, 0.2 mi northeast of Jones Mills and 0.8 mi downstream from Camp Run.

DRAINAGE AREA.--17.4 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to June 1987 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 1,530 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 972 ft³/s, Feb. 5, 1986, gage height, 4.62 ft; minimum, 2.3 ft³/s, Oct. 1, 1985, Sept. 18, 1986; minimum gage height, 1.04 ft Sept. 18, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft³/s and maximum (*).

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 9	0615	*448	*3.57				

Minimum discharge, 7.2 ft³/s, June 19, 20, gage height, 1.28 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	20	40	27	27	47	77	33	18	---	---	---
2	49	19	63	28	66	63	78	41	17	---	---	---
3	46	17	78	25	64	55	68	46	14	---	---	---
4	100	34	65	22	49	45	123	55	12	---	---	---
5	162	50	56	48	39	37	116	47	11	---	---	---
6	78	52	47	37	36	33	141	43	9.7	---	---	---
7	50	44	40	25	33	35	210	39	9.0	---	---	---
8	35	72	40	23	31	50	205	33	8.5	---	---	---
9	27	277	110	20	29	73	182	29	23	---	---	---
10	22	141	113	21	47	68	139	25	11	---	---	---
11	18	127	86	22	31	53	106	23	9.0	---	---	---
12	16	96	70	20	30	41	102	21	17	---	---	---
13	18	73	54	18	28	34	82	18	18	---	---	---
14	32	57	43	21	25	30	69	17	28	---	---	---
15	23	47	37	68	20	28	65	16	14	---	---	---
16	19	40	32	74	38	24	57	14	11	---	---	---
17	19	33	29	56	19	21	56	13	9.8	---	---	---
18	18	37	37	48	17	20	47	19	8.7	---	---	---
19	16	43	32	90	20	18	41	25	8.0	---	---	---
20	15	48	27	83	23	18	37	41	40	---	---	---
21	14	67	24	59	17	17	34	21	41	---	---	---
22	14	55	24	50	15	17	31	18	24	---	---	---
23	13	48	26	44	16	17	30	17	28	---	---	---
24	12	60	54	119	14	17	118	15	20	---	---	---
25	11	54	96	133	e14	20	75	14	15	---	---	---
26	20	108	70	81	e13	21	60	20	16	---	---	---
27	18	103	59	58	13	19	50	41	12	---	---	---
28	26	81	48	38	15	18	57	20	10	---	---	---
29	24	65	40	28	---	17	43	17	9.0	---	---	---
30	23	52	35	47	---	25	38	15	9.4	---	---	---
31	21	---	30	40	---	87	---	19	---	---	---	---
TOTAL	1015	2020	1605	1473	789	1068	2537	815	481.1	---	---	---
MEAN	32.7	67.3	51.8	47.5	28.2	34.5	84.6	26.3	16.0	---	---	---
MAX	162	277	113	133	66	87	210	55	41	---	---	---
MIN	11	17	24	18	13	17	30	13	8.0	---	---	---
CFSM	1.88	3.87	2.98	2.73	1.62	1.98	4.87	1.51	.92	---	---	---
IN.	2.17	4.32	3.44	3.15	1.69	2.29	5.43	1.74	1.03	---	---	---

e Estimated

03082020 INDIAN CREEK AT JONES MILLS, PA.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1985 to June 1987 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1985 to June 1987.
pH: October 1985 to June 1987.
WATER TEMPERATURE: October 1985 to June 1987.
SUSPENDED-SEDIMENT DISCHARGE: October 1985 to June 1987.

INSTRUMENTATION.--Water-quality monitor and sediment pumping sampler since October 1985.

REMARKS.--Interruptions in the record were due to malfunction of the recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,080 microsiemens, Jan. 3, 1987; minimum, 100 microsiemens, Dec. 16, 1986.
pH: Maximum, 8.4 units, Sept. 2, 1986; minimum, 6.0 units, May 27, 1987.
WATER TEMPERATURES: Maximum, 23.0°C, July 7, 8, 1986, May 27, 1987; minimum, 0.0°C, on many days.
SEDIMENT CONCENTRATIONS: Maximum daily, 311 mg/L, July 9, 1986; minimum daily, 1 mg/L, on several days.
SEDIMENT DISCHARGES: Maximum daily, 459 tons, Feb. 5, 1986; minimum daily, 0.01 ton, on several days.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 2,080 microsiemens, Jan. 3; minimum, 100 microsiemens, Dec. 16.
pH: Maximum, 8.2 units, June 19; minimum, 6.0 units, May 27.
WATER TEMPERATURES: Maximum, 23.0°C, May 27; minimum, 0.0°C, on many days.
SEDIMENT CONCENTRATIONS: Maximum daily, 222 mg/L, Oct. 1; minimum daily, 1 mg/L, Oct. 13, 25.
SEDIMENT DISCHARGES: Maximum daily, 54 tons, Oct. 1; minimum daily, 0.03 ton, Oct 25.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	ACIDITY (MG/L AS H)	ACIDITY TOTAL HEATED (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)
FEB										
25...	1000	12	800	7.50	0.5	0	6.0	--	16	--
MAR										
26...	0930	22	380	7.40	7.5	--	0.0	--	--	--
APR										
14...	0800	71	190	7.26	7.0	--	16	--	--	--
MAY										
18...	0810	13	220	7.13	12.0	--	0.0	--	--	--
JUN										
29...	1110	9.1	285	7.60	15.0	--	10	15	15	2.8

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	ALKA-LINITY WH WAT TOTAL LAB MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)
FEB										
25...	2.9	--	130	--	0.82	16	24	43	220	310
MAR										
26...	--	--	--	--	--	--	28	21	84	164
APR										
14...	--	--	--	--	--	--	16	22	36	114
MAY										
18...	--	--	--	--	--	--	30	22	42	150
JUN										
29...	2.9	33	32	0.9	0.92	--	28	20	--	150

03082020 INDIAN CREEK AT JONES MILLS, PA.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
FEB 25...	18	--	<130	--	<4	<250	0	--	<50	--
MAR 26...	10	290	<130	--	--	--	--	--	--	--
APR 14...	6	<130	<130	--	--	--	--	--	--	--
MAY 18...	8	<130	<130	--	--	--	--	--	--	--
JUN 29...	10	<130	370	<4	<4	<250	0	<50	<50	<30

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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, DIS-SOLVED (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
FEB 25...	<30	--	<10	--	87	--	<50	--	97	--
MAR 26...	--	--	--	300	<10	--	--	66	49	--
APR 14...	--	--	--	40	10	--	--	47	46	--
MAY 18...	--	--	--	100	44	--	--	56	55	--
JUN 29...	<30	<10	<10	130	48	<50	<50	62	60	<25

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
FEB 25...	<25	--	63	--	<10	--	<6	--	<1.0
MAR 26...	--	--	--	10	<10	--	--	--	--
APR 14...	--	--	--	20	18	--	--	--	--
MAY 18...	--	--	--	70	67	--	--	--	--
JUN 29...	<25	60	57	<10	<10	<6	<6	<1.0	<1.0

03082020 INDIAN CREEK AT JONES MILLS, PA.--Continued

SPECIFIC CONDUCTANCE,(MICROSIEMENS PER CENTIMETER AT 25 °C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	239	220	233	191	174	181	155	151	153	246	206	227
2	232	193	217	194	178	182	970	149	372	1600	206	795
3	209	110	187	197	183	191	320	280	305	2080	1490	1710
4	171	110	148	229	178	201	290	200	229	1540	487	1050
5	163	117	156	233	205	217	200	180	190	677	507	601
6	168	160	162	214	181	196	190	170	179	608	478	541
7	157	146	152	182	148	171	180	180	180	908	478	615
8	---	---	---	178	148	162	460	180	297	900	400	694
9	---	---	---	149	126	138	310	190	251	540	430	479
10	---	---	---	155	140	148	200	150	169	1280	410	623
11	---	---	---	337	150	187	170	160	162	1300	830	1100
12	---	---	---	174	148	161	160	150	159	1320	800	1070
13	---	---	---	195	148	172	210	160	164	920	430	835
14	---	---	---	170	140	155	200	160	159	730	400	597
15	---	---	---	175	148	169	170	170	170	810	400	621
16	---	---	---	173	165	168	180	100	90	600	220	381
17	227	204	215	167	165	166	270	180	214	330	200	234
18	231	212	221	250	156	177	370	180	203	310	200	274
19	221	211	216	274	199	231	460	110	370	880	200	395
20	220	209	214	608	151	223	290	160	177	710	400	484
21	215	204	210	407	219	285	210	150	180	530	340	395
22	210	201	205	237	171	187	250	210	215	560	300	360
23	213	204	208	172	155	162	230	190	197	---	---	---
24	211	203	206	243	152	205	830	190	359	---	---	---
25	216	207	212	186	142	160	901	271	429	---	---	---
26	258	207	231	215	166	180	262	202	226	---	---	---
27	233	207	225	166	145	156	223	200	193	---	---	---
28	254	234	242	145	141	143	194	180	185	---	---	---
29	236	203	219	146	143	144	185	175	123	---	---	---
30	208	184	192	151	146	148	425	165	209	---	---	---
31	197	191	197	---	---	---	426	246	287	---	---	---
MONTH	258	110	203	608	126	179	970	100	219	2080	200	640

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	940	510	700	610	330	445	200	180	193
2	---	---	---	1040	480	735	680	300	385	230	180	203
3	---	---	---	870	490	583	700	260	379	250	190	213
4	660	520	578	510	410	442	1570	720	1240	240	210	225
5	530	470	495	410	360	377	---	---	---	210	180	197
6	490	430	461	400	330	362	---	---	---	200	170	185
7	470	420	445	420	340	378	370	310	353	190	170	183
8	500	410	432	360	260	304	310	240	271	190	180	185
9	---	---	---	260	220	230	240	200	220	200	170	186
10	---	---	---	220	210	217	200	170	191	200	170	184
11	---	---	---	230	210	221	190	180	185	200	180	187
12	---	---	---	230	180	202	300	170	211	200	180	197
13	---	---	---	200	190	193	230	200	212	210	190	202
14	---	---	---	340	190	206	200	190	197	210	190	199
15	---	---	---	670	360	478	290	190	216	220	200	205
16	---	---	---	440	280	326	270	220	232	230	200	217
17	---	---	---	290	260	275	270	220	244	230	210	216
18	---	---	---	270	250	262	240	210	228	250	190	213
19	---	---	---	270	240	257	220	200	212	---	---	---
20	---	---	---	270	250	262	210	190	204	---	---	---
21	---	---	---	270	250	261	210	190	201	---	---	---
22	---	---	---	260	240	252	210	190	202	---	---	---
23	---	---	---	250	230	242	210	200	203	220	210	216
24	---	---	---	250	220	234	---	---	---	220	210	218
25	1020	730	835	340	210	239	---	---	---	230	210	221
26	790	610	687	660	270	381	---	---	---	230	190	196
27	650	560	599	280	240	257	---	---	---	---	---	---
28	560	460	525	270	240	247	---	---	---	251	242	246
29	---	---	---	260	220	241	---	---	---	245	239	242
30	---	---	---	650	220	342	---	---	---	242	238	240
31	---	---	---	---	---	---	---	---	---	262	220	244
MONTH	1020	410	562	1040	180	324	1570	170	297	262	170	208

03082020 INDIAN CREEK AT JONES MILLS, PA.--Continued

SPECIFIC CONDUCTANCE,(MICROSIEMENS PER CENTIMETER AT 25°C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	253	209	241									
2	262	252	256									
3	259	244	251									
4	261	252	256									
5	261	257	259									
6	264	258	261									
7	267	261	264									
8	268	262	265									
9	359	260	319									
10	---	---	---									
11	---	---	---									
12	---	---	---									
13	---	---	---									
14	---	---	---									
15	---	---	---									
16	---	---	---									
17	---	---	---									
18	---	---	---									
19	---	---	---									
20	---	---	---									
21	---	---	---									
22	---	---	---									
23	---	---	---									
24	---	---	---									
25	---	---	---									
26	---	---	---									
27	---	---	---									
28	---	---	---									
29	---	---	---									
30	---	---	---									
31	---	---	---									
MONTH	359	209	264									

PH (STANDARD UNITS), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.13	6.85	7.02	7.42	7.25	7.31	7.16	7.05	7.09	7.29	7.15	7.22
2	7.10	7.01	7.07	7.38	7.27	7.32	7.25	7.08	7.13	7.31	7.17	7.24
3	7.09	6.83	7.01	7.46	7.28	7.37	7.13	6.98	7.09	7.34	7.28	7.30
4	6.85	6.37	6.81	7.35	7.21	7.30	7.13	7.02	7.06	7.38	7.26	7.31
5	6.93	6.80	6.85	7.34	7.26	7.31	7.08	6.99	7.02	7.30	7.23	7.26
6	6.90	6.86	6.89	7.31	7.16	7.24	7.14	7.01	7.07	7.35	7.26	7.30
7	7.25	7.10	7.15	7.28	7.16	7.22	7.23	7.11	7.15	7.38	7.33	7.36
8	---	---	---	7.24	7.09	7.18	7.23	7.11	7.16	7.37	7.24	7.31
9	---	---	---	7.08	6.58	6.80	7.81	7.04	7.17	7.35	7.25	7.31
10	---	---	---	6.92	6.73	6.83	7.09	6.95	7.01	7.36	7.30	7.34
11	---	---	---	6.98	6.90	6.95	7.09	6.95	7.02	7.39	7.23	7.35
12	---	---	---	7.04	6.94	6.98	7.11	7.03	7.06	7.42	7.28	7.37
13	---	---	---	7.50	6.93	7.03	7.06	6.99	7.02	7.41	7.22	7.34
14	---	---	---	7.21	7.01	7.09	7.22	7.03	7.14	7.43	7.28	7.35
15	---	---	---	7.21	7.12	7.17	7.28	7.16	7.21	7.38	7.01	7.19
16	---	---	---	7.24	7.18	7.21	7.32	6.36	7.16	7.18	7.00	7.08
17	7.11	6.92	7.08	7.28	7.17	7.23	7.28	7.13	7.21	7.12	7.00	7.04
18	7.33	7.11	7.21	7.33	7.16	7.22	7.38	6.75	7.24	7.23	7.03	7.15
19	7.37	7.19	7.28	7.28	7.18	7.22	7.32	7.19	7.25	7.22	6.99	7.10
20	7.39	7.26	7.32	7.38	7.23	7.30	7.39	7.12	7.25	7.01	6.99	7.00
21	7.40	7.26	7.31	7.23	7.19	7.21	7.37	7.07	7.26	7.16	7.07	7.10
22	7.40	7.21	7.29	7.26	7.19	7.22	7.33	7.11	7.21	7.21	7.12	7.18
23	7.41	7.20	7.27	7.31	7.19	7.24	7.38	7.21	7.29	---	---	---
24	7.41	7.19	7.28	7.24	7.18	7.21	7.35	7.01	7.21	---	---	---
25	7.34	7.24	7.27	7.18	6.55	7.12	7.04	6.96	7.00	---	---	---
26	7.35	7.16	7.25	7.23	7.05	7.15	7.03	6.97	6.99	---	---	---
27	7.33	7.13	7.21	7.13	6.97	7.04	7.07	6.97	7.01	---	---	---
28	7.29	7.14	7.19	7.10	6.93	7.01	7.08	7.00	7.04	---	---	---
29	7.28	7.10	7.18	7.09	6.99	7.03	7.16	7.05	7.10	---	---	---
30	7.27	7.09	7.19	7.13	7.00	7.05	7.16	7.09	7.11	---	---	---
31	7.09	7.05	7.06	---	---	---	7.23	7.11	7.15	---	---	---
MONTH	7.41	6.37	7.15	7.50	6.55	7.15	7.81	6.36	7.13	7.43	6.99	7.24

03082020 INDIAN CREEK AT JONES MILLS, PA.--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	---	---	---	7.44	7.24	7.36	7.22	7.02	7.12	7.32	7.02	7.15
2	---	---	---	7.24	7.15	7.19	7.16	7.08	7.13	7.27	7.08	7.15
3	---	---	---	7.21	7.09	7.16	7.16	7.06	7.11	7.22	7.04	7.10
4	7.17	7.07	7.10	7.15	7.05	7.10	7.18	7.14	7.17	7.19	7.04	7.10
5	7.23	7.08	7.15	7.22	7.06	7.15	---	---	---	7.29	6.99	7.12
6	7.29	7.18	7.23	7.26	7.13	7.18	---	---	---	7.30	6.98	7.12
7	7.31	7.23	7.27	7.29	7.11	7.19	7.08	6.81	6.96	7.24	6.96	7.10
8	7.33	7.19	7.27	7.27	7.10	7.18	6.85	6.73	6.81	7.33	6.99	7.04
9	---	---	---	7.11	6.96	7.04	6.87	6.65	6.76	7.39	7.01	7.08
10	---	---	---	7.09	6.91	6.99	6.96	6.67	6.81	7.53	6.94	7.15
11	---	---	---	7.16	6.97	7.07	6.96	6.74	6.85	7.57	6.92	7.21
12	---	---	---	7.13	6.43	7.05	7.12	6.86	6.96	7.16	6.97	7.03
13	---	---	---	7.22	7.12	7.16	7.04	6.90	6.95	7.55	7.04	7.27
14	---	---	---	7.29	7.14	7.21	7.13	6.92	7.05	7.79	7.12	7.41
15	---	---	---	7.33	7.23	7.29	7.20	7.07	7.13	7.60	7.19	7.36
16	---	---	---	7.33	7.18	7.27	7.22	7.09	7.15	7.62	7.05	7.30
17	---	---	---	7.35	7.16	7.25	7.28	7.10	7.18	7.71	7.09	7.37
18	---	---	---	7.40	7.20	7.28	7.31	7.02	7.16	7.48	7.10	7.26
19	---	---	---	7.41	7.20	7.30	7.34	6.98	7.15	---	---	---
20	---	---	---	7.43	7.20	7.29	7.43	6.99	7.20	---	---	---
21	---	---	---	7.44	7.26	7.33	7.56	7.00	7.25	---	---	---
22	---	---	---	7.41	7.24	7.32	7.62	7.00	7.29	---	---	---
23	---	---	---	7.45	7.25	7.33	7.44	7.19	7.32	7.74	7.03	7.35
24	---	---	---	7.47	7.24	7.33	---	---	---	7.67	7.25	7.45
25	7.47	7.31	7.39	7.40	7.08	7.29	---	---	---	7.65	7.15	7.40
26	7.49	7.01	7.39	7.49	7.28	7.39	---	---	---	7.70	6.66	7.40
27	7.49	7.41	7.45	7.46	7.23	7.34	---	---	---	7.83	6.00	7.04
28	7.51	7.40	7.46	7.50	7.23	7.36	---	---	---	7.72	7.13	7.40
29	---	---	---	7.51	7.17	7.33	---	---	---	7.85	7.24	7.53
30	---	---	---	7.45	7.34	7.39	---	---	---	7.88	7.29	7.56
31	---	---	---	7.82	6.19	6.98	---	---	---	7.64	7.30	7.46
MONTH	7.51	7.01	7.30	7.82	6.19	7.23	7.62	6.65	7.07	7.88	6.00	7.26

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.79	7.22	7.40									
2	7.58	7.22	7.37									
3	7.60	7.22	7.42									
4	7.59	7.26	7.42									
5	7.54	7.17	7.36									
6	7.59	7.20	7.39									
7	7.69	7.26	7.46									
8	7.77	7.28	7.50									
9	7.69	7.18	7.38									
10	---	---	---									
11	---	---	---									
12	---	---	---									
13	---	---	---									
14	---	---	---									
15	---	---	---									
16	---	---	---									
17	---	---	---									
18	7.97	7.33	7.62									
19	8.16	7.44	7.76									
20	---	---	---									
21	---	---	---									
22	---	---	---									
23	---	---	---									
24	---	---	---									
25	---	---	---									
26	---	---	---									
27	---	---	---									
28	---	---	---									
29	---	---	---									
30	---	---	---									
31	---	---	---									
MONTH	8.16	7.17	7.46									

03082020 INDIAN CREEK AT JONES MILLS, PA.--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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

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

03082020 INDIAN CREEK AT JONES MILLS, PA.--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	20.0	16.0	17.5									
2	18.5	16.5	17.5									
3	19.0	16.0	17.5									
4	18.5	16.5	17.5									
5	18.0	13.5	16.0									
6	17.0	13.5	15.5									
7	19.5	14.0	16.5									
8	20.5	15.5	18.0									
9	---	---	---									
10	---	---	---									
11	---	---	---									
12	---	---	---									
13	---	---	---									
14	---	---	---									
15	---	---	---									
16	---	---	---									
17	---	---	---									
18	20.5	16.0	18.5									
19	21.0	16.5	19.0									
20	---	---	---									
21	---	---	---									
22	---	---	---									
23	---	---	---									
24	---	---	---									
25	---	---	---									
26	---	---	---									
27	---	---	---									
28	---	---	---									
29	---	---	---									
30	---	---	---									
31	---	---	---									
MONTH	21.0	13.5	17.5									

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	56	222	54	20	2	.11	40	8	.86
2	49	30	4.0	19	2	.10	63	33	5.6
3	46	42	5.2	17	2	.09	78	14	2.9
4	100	22	5.9	34	12	1.1	65	8	1.4
5	162	29	13	50	13	1.8	56	6	.91
6	78	19	4.0	52	9	1.3	47	6	.76
7	50	2	.27	44	8	.95	40	7	.76
8	35	6	.57	72	19	3.7	40	12	1.3
9	27	8	.58	277	40	30	110	23	26
10	22	5	.30	141	27	10	113	22	6.7
11	18	4	.19	127	26	8.9	86	12	2.8
12	16	2	.09	96	10	2.6	70	13	2.5
13	18	1	.05	73	9	1.8	54	16	2.3
14	32	4	.35	57	7	1.1	43	15	1.7
15	23	3	.19	47	5	.63	37	14	1.4
16	19	2	.10	40	5	.54	32	12	1.0
17	19	2	.10	33	5	.45	29	13	1.0
18	18	2	.10	37	5	.50	37	21	2.1
19	16	3	.13	43	5	.58	32	17	1.5
20	15	4	.16	48	30	5.8	27	14	1.0
21	14	4	.15	67	22	4.0	24	8	.52
22	14	5	.19	55	10	1.5	24	16	1.0
23	13	3	.11	48	9	1.2	26	16	1.1
24	12	2	.06	60	12	1.9	54	6	21
25	11	1	.03	54	4	.58	96	47	12
26	20	5	.27	108	59	21	70	14	2.6
27	18	4	.19	103	28	7.8	59	9	1.4
28	26	6	.42	81	9	2.0	48	10	1.3
29	24	2	.13	65	7	1.2	40	9	.97
30	23	2	.12	52	6	.84	35	8	.76
31	21	2	.11	---	---	---	30	11	.89
TOTAL	1015	---	91.06	2020	---	114.07	1605	---	108.03

03082020 INDIAN CREEK AT JONES MILLS, PA.--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	27	9	.66	27	20	1.5	47	36	5.6
2	28	9	.68	66	22	3.9	63	25	4.3
3	25	9	.61	64	24	4.1	55	23	3.4
4	22	11	.65	49	18	2.4	45	22	2.7
5	48	15	1.9	39	15	1.6	37	19	1.9
6	37	14	1.4	36	15	1.5	33	18	1.6
7	25	14	.95	33	13	1.2	35	13	1.2
8	23	12	.75	31	16	1.3	50	15	2.0
9	20	14	.76	29	22	1.7	73	20	3.9
10	21	19	1.1	47	26	3.3	68	21	3.9
11	22	20	1.2	31	25	2.1	53	16	2.3
12	20	15	.81	30	17	1.4	41	9	1.0
13	18	11	.53	28	14	1.1	34	9	.83
14	21	11	.62	25	14	.95	30	10	.81
15	68	50	9.2	20	15	.81	28	10	.76
16	74	27	5.4	38	14	1.4	24	9	.58
17	56	14	2.1	19	15	.77	21	9	.51
18	48	15	1.9	17	14	.64	20	10	.54
19	90	59	19	20	17	.92	18	10	.49
20	83	25	5.6	23	17	1.1	18	10	.49
21	59	15	2.4	17	16	.73	17	13	.60
22	50	14	1.9	15	9	.36	17	18	.83
23	44	13	1.5	16	5	.22	17	14	.64
24	119	15	4.8	14	5	.19	17	10	.46
25	133	15	5.4	14	5	.19	20	26	1.4
26	81	18	3.9	13	10	.35	21	7	.40
27	58	22	3.4	13	14	.49	19	6	.31
28	38	25	2.6	15	17	.69	18	4	.19
29	28	24	1.8	---	---	---	17	4	.18
30	47	23	2.9	---	---	---	25	16	1.1
31	40	22	2.4	---	---	---	87	111	34
TOTAL	1473	---	88.82	789	---	36.91	1068	---	78.92
		APRIL			MAY			JUNE	
1	77	19	4.0	33	10	.89	18	18	.87
2	78	13	2.7	41	20	2.2	17	10	.46
3	68	13	2.4	46	24	3.0	14	9	.34
4	123	25	8.3	55	15	2.2	12	8	.26
5	116	24	7.5	47	10	1.3	11	7	.21
6	141	27	10	43	9	1.0	9.7	7	.18
7	210	55	31	39	10	1.1	9.0	7	.17
8	205	48	27	33	14	1.2	8.5	7	.16
9	182	33	16	29	15	1.2	23	84	8.1
10	139	24	9.0	25	15	1.0	11	10	.30
11	106	20	5.7	23	12	.75	9.0	10	.24
12	102	24	6.6	21	8	.45	17	25	1.1
13	82	13	2.9	18	9	.44	18	46	5.3
14	69	14	2.6	17	9	.41	28	73	9.1
15	65	14	2.5	16	9	.39	14	10	.38
16	57	14	2.2	14	9	.34	11	9	.27
17	56	14	2.1	13	9	.32	9.8	8	.21
18	47	14	1.8	19	10	.51	8.7	8	.19
19	41	14	1.5	25	22	1.5	8.0	9	.19
20	37	16	1.6	41	85	14	40	120	28
21	34	16	1.5	21	12	.68	41	30	3.3
22	31	16	1.3	18	10	.49	24	20	1.3
23	30	8	.65	17	9	.41	28	25	1.9
24	118	57	25	15	8	.32	20	10	.54
25	75	24	4.9	14	8	.30	15	10	.41
26	60	20	3.2	20	41	5.7	16	13	.56
27	50	17	2.3	41	53	8.0	12	13	.42
28	57	15	2.3	20	9	.49	10	14	.38
29	43	11	1.3	17	9	.41	9.0	13	.32
30	38	9	.92	15	9	.36	9.4	12	.30
31	---	---	---	19	25	1.3	---	---	---
TOTAL	2537	---	190.77	815	---	52.66	481.1	---	65.46

03082120 CHAMPION CREEK AT MELCROFT, PA

LOCATION.--Lat 40°03'55", long 79°23'55", Fayette County, Hydrologic Unit 05020006, on left bank 0.2 mi downstream from Little Champion Creek, 1.1 mi upstream from mouth, 1.0 mi northwest of Melcroft, and 3.2 mi southwest of Donegal.

DRAINAGE AREA.--13.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to June 1987 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 1,490 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,020 ft³/s, Nov. 26, 1985, gage height, 4.91 ft; minimum, 0.73 ft³/s, Oct. 1, 1985, gage height, 0.65 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 470 ft³/s and maximum (*).

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 9	0430	*446	*3.74				

Minimum discharge, 2.4 ft³/s, on several days, gage height, 0.79 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	114	9.4	25	15	28	52	51	21	8.4	---	---	---
2	69	8.9	38	15	126	50	53	26	7.6	---	---	---
3	55	8.1	52	14	73	36	45	29	6.6	---	---	---
4	168	33	40	13	52	28	80	38	5.6	---	---	---
5	166	57	30	28	39	23	79	28	4.5	---	---	---
6	63	50	24	33	32	19	134	24	3.8	---	---	---
7	42	33	21	25	27	18	175	20	3.4	---	---	---
8	25	76	25	20	24	17	103	17	3.3	---	---	---
9	17	241	139	18	22	17	64	14	7.1	---	---	---
10	13	84	137	18	34	14	44	12	3.7	---	---	---
11	11	93	67	19	21	13	34	11	2.9	---	---	---
12	9.4	68	46	17	31	11	41	9.6	12	---	---	---
13	12	48	32	15	27	10	35	8.5	11	---	---	---
14	37	37	29	22	21	9.8	27	7.6	17	---	---	---
15	23	28	22	92	16	10	35	7.7	6.8	---	---	---
16	15	24	19	71	23	9.4	34	6.2	5.0	---	---	---
17	13	20	17	44	15	8.2	29	5.5	3.9	---	---	---
18	11	25	31	35	12	7.7	24	25	3.2	---	---	---
19	8.9	33	26	117	12	7.4	20	44	2.7	---	---	---
20	8.4	45	20	91	12	6.9	17	22	41	---	---	---
21	9.0	56	17	53	11	6.6	15	14	34	---	---	---
22	7.4	40	16	41	9.8	6.1	14	11	17	---	---	---
23	6.5	32	17	32	10	5.7	14	9.4	34	---	---	---
24	6.4	61	52	e28	8.9	6.0	148	7.5	19	---	---	---
25	6.1	46	87	e29	9.6	7.4	68	6.8	12	---	---	---
26	15	113	50	e31	9.4	8.9	42	11	10	---	---	---
27	13	82	36	e35	8.4	6.8	32	38	8.8	---	---	---
28	25	52	28	e40	14	6.9	45	15	9.0	---	---	---
29	17	40	23	e54	---	6.1	31	10	8.8	---	---	---
30	14	33	20	82	---	9.6	25	7.9	13	---	---	---
31	11	---	17	56	---	71	---	13	---	---	---	---
TOTAL	1011.1	1576.4	1203	1203	728.1	508.5	1558	519.7	325.1	---	---	---
MEAN	32.6	52.5	38.8	38.8	26.0	16.4	51.9	16.8	10.8	---	---	---
MAX	168	241	139	117	126	71	175	44	41	---	---	---
MIN	6.1	8.1	16	13	8.4	5.7	14	5.5	2.7	---	---	---
CFSM	2.37	3.82	2.82	2.82	1.89	1.19	3.77	1.22	.79	---	---	---
IN.	2.73	4.26	3.25	3.25	1.97	1.37	4.21	1.40	.88	---	---	---

e Estimated

03082120 CHAMPION CREEK AT MELCROFT, PA.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1985 to June 1987 (discontinued).

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: October 1985 to June 1987.

REMARKS.--Suspended-sediment samples were collected by a local observer periodically during low flow and more frequently during periods of higher flow and storm events.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, 470 mg/L, Feb. 4, 1986; minimum daily, 1 mg/L, on several days.
SEDIMENT DISCHARGES: Maximum daily, 537 tons, Feb. 4, 1986; minimum daily, 0.0 ton, on several days.

EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily, 173 mg/L, Jan. 19; minimum daily, 2 mg/L, on several days.
SEDIMENT DISCHARGES: Maximum daily, 86 tons, Jan. 19; minimum daily, 0.03 ton, Oct. 24, 25.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	ACIDITY TOTAL HEATED (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	SODIUM, DIS-SOLVED (MG/L AS NA)
FEB												
26...	1100	13	295	--	1.0	0.0	--	25	--	8.3	--	12
MAR												
27...	0800	6.7	250	7.30	5.0	0.0	--	--	--	--	--	--
APR												
14...	1300	28	--	7.43	9.0	10	--	--	--	--	--	--
MAY												
19...	0800	53	175	7.16	14.0	0.0	--	--	--	--	--	--
JUN												
29...	1510	5.3	295	7.20	19.5	0.0	30	29	9.6	9.4	7.6	7.4

DATE	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL LAB MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)
FEB												
26...	--	1.2	42	75	--	96	12	--	<130	--	<4	<250
MAR												
27...	--	--	38	54	16	186	6	<130	<130	--	--	--
APR												
14...	--	--	24	41	10	114	2	<130	<130	--	--	--
MAY												
19...	--	--	32	34	14	132	24	1500	<130	--	--	--
JUN												
29...	2.0	1.9	52	71	--	206	10	<130	<130	<4	<4	<250

03082120 CHAMPION CREEK AT MELCROFT, PA.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	BORON, DIS-SOLVED (UG/L AS B)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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)
FEB												
26...	0	--	<50	--	<30	--	<10	--	28	--	<50	--
MAR												
27...	--	--	--	--	--	--	--	230	36	--	--	46
APR												
14...	--	--	--	--	--	--	--	170	50	--	--	45
MAY												
19...	--	--	--	--	--	--	--	1800	160	--	--	120
JUN												
29...	0	<50	<50	<30	<30	<10	<10	420	69	<50	<50	45

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
FEB											
26...	78	--	<25	--	85	--	<10	--	<6	--	<1.0
MAR											
27...	26	--	--	--	--	<10	<10	--	--	--	--
APR											
14...	53	--	--	--	--	<10	<10	--	--	--	--
MAY											
19...	68	--	--	--	--	40	38	--	--	--	--
JUN											
29...	34	<25	<25	100	93	<10	<10	<6	<6	<1.0	<1.0

03082120 CHAMPION CREEK AT MELCROFT, PA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	114	87	38	9.4	2	.05	25	2	.14
2	69	32	6.0	8.9	2	.05	38	5	.51
3	55	19	2.8	8.1	2	.04	52	10	1.4
4	168	75	39	33	9	.80	40	8	.86
5	166	39	17	57	37	5.7	30	6	.49
6	63	13	2.2	50	9	1.2	24	3	.19
7	42	9	1.0	33	5	.45	21	2	.11
8	25	7	.47	76	30	6.2	25	3	.20
9	17	6	.28	241	105	83	139	114	58
10	13	6	.21	84	16	3.6	137	25	9.2
11	11	5	.15	93	25	6.3	67	14	2.5
12	9.4	5	.13	68	10	1.8	46	8	.99
13	12	11	.36	48	5	.65	32	3	.26
14	37	42	4.2	37	4	.40	29	2	.16
15	23	8	.50	28	4	.30	22	2	.12
16	15	6	.24	24	4	.26	19	2	.10
17	13	4	.14	20	3	.16	17	2	.09
18	11	3	.09	25	13	.88	31	34	2.8
19	8.9	2	.05	33	15	1.3	26	10	.70
20	8.4	2	.05	45	17	2.1	20	7	.38
21	9.0	3	.07	56	19	2.9	17	6	.28
22	7.4	2	.04	40	16	1.7	16	6	.26
23	6.5	2	.04	32	15	1.3	17	7	.32
24	6.4	2	.03	61	20	3.3	52	19	2.7
25	6.1	2	.03	46	18	2.2	87	26	6.1
26	15	10	.41	113	26	7.9	50	12	1.6
27	13	4	.14	82	23	5.1	36	9	.87
28	25	11	.74	52	19	2.7	28	8	.60
29	17	3	.14	40	17	1.8	23	8	.50
30	14	3	.11	33	15	1.3	20	8	.43
31	11	2	.06	---	---	---	17	8	.37
TOTAL	1011.1	---	114.68	1576.4	---	145.44	1203	---	93.23
		JANUARY			FEBRUARY			MARCH	
1	15	8	.32	28	12	.91	52	35	4.9
2	15	8	.32	126	72	32	50	24	3.2
3	14	8	.30	73	32	6.3	36	16	1.6
4	13	8	.28	52	14	2.0	28	14	1.1
5	28	12	.91	39	13	1.4	23	13	.81
6	33	33	2.9	32	12	1.0	19	13	.67
7	25	20	1.4	27	12	.87	18	13	.63
8	20	9	.49	24	11	.71	17	14	.64
9	18	8	.39	22	10	.59	17	14	.64
10	18	8	.39	34	18	1.7	14	10	.38
11	19	10	.51	21	12	.68	13	10	.35
12	17	9	.41	31	18	1.5	11	10	.30
13	15	8	.32	27	14	1.0	10	10	.27
14	22	7	.42	21	11	.62	9.8	10	.26
15	92	75	19	16	10	.43	10	10	.27
16	71	21	4.0	23	15	.93	9.4	10	.25
17	44	14	1.7	15	11	.45	8.2	10	.22
18	35	8	.76	12	10	.32	7.7	11	.23
19	117	173	86	12	10	.32	7.4	11	.22
20	91	28	6.9	12	10	.32	6.9	11	.20
21	53	20	2.9	11	8	.24	6.6	10	.18
22	41	10	1.1	9.8	6	.16	6.1	10	.16
23	32	10	.86	10	6	.16	5.7	10	.15
24	28	10	.76	8.9	6	.14	6.0	10	.16
25	29	10	.78	9.6	6	.16	7.4	10	.20
26	31	10	.84	9.4	6	.15	8.9	10	.24
27	35	11	1.0	8.4	8	.18	6.8	10	.18
28	40	12	1.3	14	16	.60	6.9	10	.19
29	54	16	2.3	---	---	---	6.1	10	.16
30	82	35	7.7	---	---	---	9.6	21	.54
31	56	20	3.0	---	---	---	71	36	6.9
TOTAL	1203	---	150.26	728.1	---	55.84	508.5	---	26.20

03082120 CHAMPION CREEK AT MELCROFT, PA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	51	26	3.6	21	7	.40	8.4	14	.32
2	53	24	3.4	26	10	.70	7.6	16	.33
3	45	21	2.6	29	10	.78	6.6	11	.20
4	80	31	6.7	38	14	1.4	5.6	12	.18
5	79	24	5.1	28	8	.60	4.5	10	.12
6	134	74	27	24	6	.39	3.8	10	.10
7	175	74	35	20	6	.32	3.4	10	.09
8	103	32	8.9	17	6	.28	3.3	10	.09
9	64	22	3.8	14	6	.23	7.1	19	.36
10	44	18	2.1	12	6	.19	3.7	10	.10
11	34	15	1.4	11	6	.18	2.9	8	.06
12	41	20	2.2	9.6	6	.16	12	30	.97
13	35	16	1.5	8.5	6	.14	11	19	.56
14	27	13	.95	7.6	6	.12	17	50	2.3
15	35	18	1.7	7.7	6	.12	6.8	35	.64
16	34	16	1.5	6.2	5	.08	5.0	30	.41
17	29	10	.78	5.5	5	.07	3.9	23	.24
18	24	9	.58	25	20	1.4	3.2	19	.16
19	20	9	.49	44	35	4.2	2.7	13	.09
20	17	8	.37	22	20	1.2	41	75	8.3
21	15	8	.32	14	13	.49	34	60	5.5
22	14	8	.30	11	10	.30	17	38	1.7
23	14	7	.26	9.4	8	.20	34	80	7.3
24	148	134	85	7.5	7	.14	19	36	1.8
25	68	36	6.6	6.8	6	.11	12	19	.62
26	42	28	3.2	11	11	.33	10	13	.35
27	32	22	1.9	38	33	3.4	8.8	13	.31
28	45	35	4.3	15	17	.69	9.0	13	.32
29	31	9	.75	10	13	.35	8.8	28	.67
30	25	8	.54	7.9	9	.19	13	27	.95
31	---	---	---	13	20	.70	---	---	---
TOTAL	1558	---	212.84	519.7	---	19.86	325.1	---	35.14

03082190 POPLAR RUN NEAR NORMALVILLE, PA

LOCATION.--Lat 40°01'09", long 79°25'39", Fayette County, Hydrologic Unit 05020006, on right bank about 0.2 mi upstream from bridge on State Highway 711 and 381, 0.9 mi upstream from mouth, 2.0 mi northeast of Normalville, and 6.9 mi southwest of Donegal.

DRAINAGE AREA.--8.83 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year. Records for September 1961 to September 1978 at site 0.2 mi downstream published under station number 03082200 are not equivalent because of difference in drainage areas.

GAGE.--1Water-state recorder. Elevation of gage is 1,420 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 785 ft³/s, Nov. 26, 1985, gage height, 6.35 ft; minimum, 0.10 ft³/s, June 27, 1986, gage height, 2.63 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*).

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 9	0215	*305	*4.58	No other peak greater than base discharge.			

Minimum discharge, 0.29 ft³/s, Aug. 19-22, gage height, 2.60 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	10	16	11	16	41	30	14	7.9	25	1.7	7.2
2	48	9.8	20	11	54	38	33	16	7.0	68	1.2	4.0
3	35	9.5	34	9.6	48	25	29	18	5.9	30	21	2.9
4	149	27	27	8.0	33	19	46	24	4.9	16	12	2.1
5	99	46	20	8.5	26	15	46	18	4.0	11	3.5	1.7
6	40	43	16	8.6	21	13	75	15	3.5	8.2	22	7.1
7	24	27	14	13	18	12	132	12	3.2	8.5	8.4	5.9
8	16	57	15	12	e15	12	92	11	2.9	5.8	4.7	86
9	12	169	87	9.9	e13	11	58	8.9	6.8	4.7	3.1	39
10	9.1	62	95	e9.0	e11	8.9	35	7.7	3.9	4.1	2.1	18
11	7.4	64	48	e8.2	e10	7.9	26	6.9	2.9	3.4	1.6	20
12	6.3	48	32	e7.6	e20	7.3	31	6.1	8.3	3.1	1.4	21
13	9.5	32	23	e7.2	18	6.5	26	5.2	6.3	3.1	.81	14
14	27	23	18	e8.0	14	6.4	20	4.7	4.6	8.2	.76	9.8
15	17	19	15	e40	11	6.6	37	5.1	3.4	3.7	.52	7.6
16	11	16	13	54	e9.8	5.9	36	4.1	2.8	3.1	.45	6.2
17	9.5	13	12	31	e8.0	5.4	28	3.7	2.5	2.3	.64	12
18	8.0	14	22	24	e7.4	4.9	21	15	2.0	1.9	.58	26
19	6.7	19	19	82	e6.8	4.8	17	43	1.9	1.7	.63	18
20	6.4	30	15	67	e6.4	4.5	14	18	29	1.7	.52	17
21	5.9	40	13	37	e6.0	4.2	12	11	18	1.7	.48	13
22	5.5	28	11	28	e5.6	4.1	11	8.4	9.8	1.5	7.8	18
23	5.1	22	10	e20	e7.0	3.9	10	6.7	8.9	1.3	4.0	19
24	5.1	48	32	e17	6.0	3.7	95	5.5	6.6	1.2	1.3	14
25	5.2	35	61	e15	5.9	5.4	47	4.8	4.6	.82	1.3	11
26	13	74	34	e13	e5.6	7.6	29	5.8	4.7	.86	2.0	8.5
27	11	58	25	e11	e5.2	5.2	22	42	3.8	2.1	2.3	7.1
28	19	36	20	e10	e7.0	4.9	33	17	3.0	1.3	53	5.8
29	14	27	16	e13	---	4.6	22	11	3.5	1.1	28	5.2
30	12	20	14	e20	---	6.6	17	7.9	11	.75	10	31
31	11	---	12	29	---	46	---	12	---	2.5	6.2	---
TOTAL	715.7	1126.3	809	642.6	414.7	351.3	1130	388.5	187.6	228.63	203.99	458.1
MEAN	23.1	37.5	26.1	20.7	14.8	11.3	37.7	12.5	6.25	7.38	6.58	15.3
MAX	149	169	95	82	54	46	132	43	29	68	53	86
MIN	5.1	9.5	10	7.2	5.2	3.7	10	3.7	1.9	.75	.45	1.7
CFSM	2.61	4.25	2.96	2.35	1.68	1.28	4.27	1.42	.71	.84	.75	1.73
IN.	3.02	4.74	3.41	2.71	1.75	1.48	4.76	1.64	.79	.96	.86	1.93

CAL YR 1986 TOTAL 7439.30 MEAN 20.4 MAX 338 MIN .20 CFSM 2.31 IN. 31.3
WTR YR 1987 TOTAL 6656.37 MEAN 18.2 MAX 169 MIN .45 CFSM 2.07 IN. 28.0

e Estimated

03082190 POPLAR RUN NEAR NORMALVILLE, PA.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1985 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1985 to current year.
pH: October 1985 to current year.
WATER TEMPERATURE: October 1985 to current year.
SUSPENDED-SEDIMENT DISCHARGE: October 1985 to current year.

INSTRUMENTATION.--Water-quality monitor and sediment pumping sampler since October 1985.

REMARKS.--Interruptions in the record were due to malfunctions of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 1,530 microsiemens July 27, 1987; minimum, 61 microsiemens Nov. 26, 1985.
pH: Maximum, 7.5 Apr. 29, 1986 and May 3, 1986; minimum, 4.4 on June 29, 1987.
WATER TEMPERATURES: Maximum, 24.0°C June 28, 1986; minimum, 0.0°C on many days during winter months.
SEDIMENT CONCENTRATIONS: Maximum daily, 474 mg/L Aug. 3, 1987; minimum daily, 1 mg/L on several days.
SEDIMENT DISCHARGES: Maximum daily, 440 tons Nov. 26, 1986; minimum daily, 0.0 ton on several days.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,530 microsiemens July 27; minimum, 106 microsiemens Sept. 8.
pH: Maximum, 7.4 Feb. 15; minimum, 4.4 on June 29.
WATER TEMPERATURES: Maximum, 24.0°C June 20; minimum, 0.0°C on many days during winter months.
SEDIMENT CONCENTRATIONS: Maximum daily, 474 mg/L Aug. 3; minimum daily, 3 mg/L on several days.
SEDIMENT DISCHARGES: Maximum daily, 75 tons Nov. 9; minimum daily, 0.01 ton on several days.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	ACIDITY (MG/L AS H)	ACIDITY TOTAL HEATED (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)
FEB										
25...	0825	6.1	400	7.30	0.0	0.2	36	--	43	--
MAR										
26...	1310	6.3	410	6.60	9.5	--	8.0	--	--	--
APR										
14...	1405	19	245	6.60	9.0	--	24	--	--	--
MAY										
18...	1645	10	560	6.55	16.0	--	2.0	--	--	--
JUN										
30...	0815	5.4	520	4.92	17.0	--	38	53	54	27
JUL										
28...	1800	0.96	900	5.11	22.0	--	36	--	--	--
AUG										
25...	1230	1.0	877	6.10	14.0	--	24	--	--	--
SEP										
28...	1745	5.1	522	6.52	15.0	--	12	--	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	ALKA-LINITY WH WAT TOTAL LAB MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)
FEB										
25...	23	--	12	--	1.5	6	12	220	5.0	336
MAR										
26...	--	--	--	--	--	--	12	180	5.0	304
APR										
14...	--	--	--	--	--	--	10	120	2.0	180
MAY										
18...	--	--	--	--	--	--	16	270	3.0	466
JUN										
30...	25	4.9	5.4	2.3	2.1	--	8	210	--	386
JUL										
28...	--	--	--	--	--	--	8	440	--	734
AUG										
25...	--	--	--	--	--	--	10	430	--	676
SEP										
28...	--	--	--	--	--	--	12	240	--	362

03082190 POPLAR RUN NEAR NORMALVILLE, PA.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
FEB										
25...	18	--	<130	--	<4	<250	0	--	<50	--
MAR										
26...	16	2700	520	--	--	--	--	--	--	--
APR										
14...	16	1100	<130	--	--	--	--	--	--	--
MAY										
18...	44	150	<130	--	--	--	--	--	--	--
JUN										
30...	22	4000	1300	<4	<4	<250	0	<50	<50	30
JUL										
28...	14	760	260	--	--	--	--	--	--	--
AUG										
25...	6	470	140	--	--	--	--	--	--	--
SEP										
28...	4	640	150	--	--	--	--	--	--	--

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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, DIS-SOLVED (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
FEB										
25...	<30	--	<10	--	970	--	<50	--	4100	--
MAR										
26...	--	--	--	2100	290	--	--	3600	3700	--
APR										
14...	--	--	--	640	270	--	--	1500	1600	--
MAY										
18...	--	--	--	260	280	--	--	490	3300	--
JUN										
30...	30	<10	<10	2000	250	<50	<50	5300	4500	<25
JUL										
28...	--	--	--	310	130	--	--	5500	5500	--
AUG										
25...	--	--	--	640	660	--	--	4100	4100	--
SEP										
28...	--	--	--	580	400	--	--	3100	3100	--

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
FEB									
25...	<25	--	99	--	120	--	<6	--	<1.0
MAR									
26...	--	--	--	160	<10	--	--	--	--
APR									
14...	--	--	--	80	66	--	--	--	--
MAY									
18...	--	--	--	40	68	--	--	--	--
JUN									
30...	<25	100	97	260	100	<6	<6	<1.0	<1.0
JUL									
28...	--	--	--	180	180	--	--	--	--
AUG									
25...	--	--	--	150	150	--	--	--	--
SEP									
28...	--	--	--	110	120	--	--	--	--

03082190 POPLAR RUN NEAR NORMALVILLE, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	460	170	217	690	440	486	590	270	365	450	380	417
2	320	170	185	460	370	660	560	270	368	450	400	423
3	340	170	246	870	360	680	400	220	278	480	410	444
4	260	110	142	660	210	276	410	270	301	540	430	471
5	240	110	151	400	170	8890	470	300	338	570	460	505
6	270	190	204	330	170	213	540	330	379	540	490	516
7	350	240	283	340	190	225	660	350	389	500	440	476
8	420	270	308	300	140	192	790	260	399	630	320	397
9	450	280	344	180	110	132	330	150	191	440	310	385
10	500	310	397	280	150	181	280	140	173	750	310	434
11	630	340	469	270	170	197	430	190	232	430	390	404
12	760	350	488	250	180	197	380	230	273	440	400	414
13	940	320	508	310	210	243	470	300	346	680	350	452
14	740	200	373	390	260	287	620	350	378	480	390	438
15	440	240	327	440	280	318	590	300	392	380	170	228
16	540	280	366	590	310	355	890	300	495	220	170	194
17	600	290	882	830	270	380	760	320	437	260	210	239
18	660	450	1040	860	270	405	790	270	377	290	260	274
19	500	460	481	500	260	338	740	280	371	440	150	223
20	760	480	544	600	210	366	590	280	362	260	160	189
21	750	510	561	320	190	231	750	370	415	240	210	225
22	760	510	574	380	240	277	830	300	424	560	230	283
23	760	540	600	290	270	279	870	420	526	340	300	320
24	790	580	634	410	190	257	430	190	346	380	350	366
25	810	630	700	320	180	218	250	180	209	410	370	389
26	640	400	399	310	220	241	290	220	246	720	330	434
27	640	400	446	410	160	206	300	230	265	580	360	453
28	530	340	391	400	210	256	400	280	306	580	470	503
29	520	350	387	390	230	301	800	270	393	520	350	447
30	570	350	415	610	300	346	480	290	379	640	360	446
31	570	360	448	---	---	---	530	380	412	580	340	369
MONTH	940	110	436	870	110	588	890	140	347	750	150	379
		FEBRUARY			MARCH			APRIL			MAY	
1	520	370	408	500	180	278	240	190	219	---	---	---
2	490	200	278	240	180	191	430	210	231	---	---	---
3	240	210	227	270	220	248	290	190	216	---	---	---
4	270	240	258	290	250	272	240	190	215	---	---	---
5	300	270	285	330	290	300	230	200	207	---	---	---
6	720	260	327	380	300	328	250	160	195	---	---	---
7	610	270	341	360	320	337	210	130	153	---	---	---
8	550	270	342	580	260	333	170	140	155	---	---	---
9	390	290	344	630	280	383	340	170	184	---	---	---
10	750	300	440	400	280	346	310	210	220	---	---	---
11	750	310	383	420	360	384	500	220	288	---	---	---
12	740	270	377	410	370	399	460	250	299	520	370	444
13	630	290	353	430	400	422	400	230	274	790	380	515
14	440	350	377	490	430	441	440	260	296	550	440	521
15	760	320	411	450	440	445	610	190	336	560	510	541
16	730	310	484	1000	380	510	430	200	247	590	540	571
17	470	340	393	500	380	429	350	220	251	620	590	608
18	1030	350	515	650	390	456	460	240	305	640	360	524
19	580	400	466	530	390	470	470	320	357	---	---	---
20	630	390	484	640	400	494	360	280	308	---	---	---
21	580	480	515	610	370	467	650	280	380	---	---	---
22	820	410	555	390	360	369	830	300	412	---	---	---
23	860	380	489	980	390	544	670	280	416	---	---	---
24	710	390	537	890	430	587	560	110	233	---	---	---
25	570	380	515	960	400	534	210	170	181	---	---	---
26	680	380	454	860	350	445	260	230	249	---	---	---
27	510	480	496	560	360	396	420	230	271	290	190	212
28	870	450	557	660	370	460	410	210	242	460	250	291
29	---	---	---	380	370	378	410	230	276	360	310	337
30	---	---	---	790	320	473	460	240	308	410	370	390
31	---	---	---	450	170	244	---	---	---	410	330	368
MONTH	1030	200	415	1000	170	399	830	110	264	790	190	444

03082190 POPLAR RUN NEAR NORMALVILLE, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	430	380	409	---	---	---	748	646	661	822	394	460
2	580	360	441	---	---	---	1090	750	907	766	398	543
3	490	390	457	---	---	---	---	---	---	714	466	564
4	520	460	485	---	---	---	---	---	---	658	498	536
5	860	450	630	---	---	---	---	---	---	658	508	552
6	640	440	528	---	---	---	---	---	---	530	324	428
7	650	500	620	---	---	---	---	---	---	768	354	529
8	1100	590	846	560	300	387	---	---	---	1140	106	366
9	590	350	477	510	320	401	---	---	---	372	186	209
10	820	370	592	560	320	430	---	---	---	370	282	306
11	590	460	532	530	340	432	942	662	793	428	194	323
12	600	360	490	420	380	399	838	664	747	292	244	264
13	670	360	476	710	390	531	820	610	657	362	252	321
14	640	490	541	570	270	419	824	636	691	604	296	382
15	650	580	617	650	300	523	842	724	795	418	304	352
16	710	610	654	500	370	415	722	676	695	522	342	411
17	780	670	723	540	290	421	942	672	760	970	254	355
18	750	620	676	480	350	413	1000	930	960	624	222	267
19	660	570	608	450	380	402	1360	944	1110	300	240	269
20	660	320	577	---	---	---	1370	1160	1260	698	300	346
21	---	---	---	---	---	---	1340	1170	1270	418	270	312
22	---	---	---	---	---	---	1200	468	905	648	270	340
23	---	---	---	---	---	---	664	470	553	580	234	293
24	---	---	---	1030	840	932	1100	668	886	492	232	333
25	---	---	---	1020	790	928	978	792	885	338	250	285
26	---	---	---	1260	742	802	1060	650	801	330	260	292
27	---	---	---	1530	1040	1270	1040	678	856	610	312	462
28	---	---	---	1050	856	950	838	292	443	874	364	590
29	1070	540	830	1090	964	1030	344	234	276	724	376	479
30	720	510	572	1160	770	1050	498	346	418	452	186	251
31	---	---	---	772	668	713	546	412	501	---	---	---
MONTH	1100	320	581	1530	270	642	1370	234	775	1140	106	381
YEAR	1530	106	457									

PH (STANDARD UNITS), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	6.43	4.97	5.88	6.75	5.34	6.33	6.70	5.29	6.38	6.69	6.22	6.53
2	6.37	5.74	6.01	6.47	6.27	6.40	6.97	5.91	6.61	6.70	6.39	6.57
3	6.42	5.12	5.81	6.36	5.09	5.73	6.52	5.52	6.34	6.77	6.47	6.62
4	6.26	6.08	6.17	6.43	5.79	6.16	6.50	5.43	6.32	6.84	6.48	6.66
5	6.44	6.16	6.29	6.57	6.27	6.37	6.52	5.40	6.33	6.83	6.40	6.61
6	6.61	6.02	6.29	6.54	6.23	6.42	6.54	5.33	6.24	6.74	6.30	6.61
7	6.61	6.42	6.49	6.50	6.11	6.39	6.65	6.46	6.49	6.71	6.31	6.51
8	6.75	5.83	6.56	6.51	6.36	6.44	6.69	6.23	6.44	7.08	6.53	6.78
9	6.75	5.72	6.47	6.47	6.35	6.39	6.63	5.48	6.37	6.83	6.36	6.59
10	6.68	5.74	6.46	6.55	6.30	6.41	6.96	5.71	6.27	6.80	6.39	6.59
11	6.70	5.49	6.42	6.57	6.47	6.53	6.83	5.59	6.48	6.76	5.74	6.42
12	6.75	6.56	6.66	6.57	6.49	6.53	6.78	5.54	6.49	6.82	5.75	6.48
13	6.65	6.18	6.44	6.75	6.45	6.63	6.64	5.42	6.33	6.79	5.66	6.50
14	6.57	6.05	6.42	6.77	5.70	6.61	6.38	5.38	6.20	6.79	6.13	6.47
15	6.56	5.94	6.41	6.74	5.55	6.52	6.44	5.22	6.04	6.72	6.00	6.28
16	6.61	5.81	6.37	6.66	6.07	6.57	6.84	5.23	6.27	6.25	5.96	6.10
17	6.70	5.45	6.47	6.71	5.57	6.39	7.06	5.35	6.41	6.46	6.24	6.36
18	6.75	5.32	6.45	6.67	5.22	5.94	6.46	5.25	6.19	6.50	6.40	6.45
19	6.79	6.57	6.69	6.64	5.29	6.29	7.25	5.41	6.38	6.54	5.87	6.35
20	6.74	5.33	6.38	6.72	5.17	6.33	7.37	5.17	6.24	6.37	6.14	6.24
21	6.77	5.49	6.36	6.65	5.81	6.47	6.84	6.49	6.57	6.44	6.37	6.41
22	6.73	5.27	6.31	6.70	5.58	6.50	6.87	5.38	6.38	6.96	6.55	6.66
23	6.69	5.24	6.25	6.72	6.69	6.71	6.64	5.46	6.18	6.61	6.27	6.47
24	6.57	5.32	6.25	6.72	5.50	6.39	6.65	6.04	6.35	6.44	5.88	6.23
25	6.60	5.39	6.29	6.65	5.55	6.28	6.36	6.04	6.14	5.99	5.70	5.87
26	6.73	6.34	6.54	6.52	6.49	6.50	6.74	5.80	6.45	6.73	5.33	6.04
27	6.73	5.33	6.36	6.35	5.53	6.16	6.47	5.63	6.04	6.81	6.19	6.47
28	6.74	5.32	6.40	6.62	5.46	6.31	6.48	5.61	6.39	6.97	6.66	6.78
29	6.72	5.53	6.50	6.71	5.69	6.49	6.82	5.61	6.33	6.87	6.42	6.73
30	6.77	5.36	6.45	6.71	6.44	6.65	6.94	5.42	5.94	6.81	5.90	6.38
31	6.81	5.55	6.49	---	---	---	6.46	5.98	6.32	7.20	6.66	6.82
MONTH	6.81	4.97	6.37	6.77	5.09	6.39	7.37	5.17	6.32	7.20	5.33	6.47

03082190 POPLAR RUN NEAR NORMALVILLE, PA--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.18	6.68	6.87	7.14	5.74	6.32	6.57	6.35	6.50	---	---	---
2	7.05	6.30	6.63	6.42	5.77	6.05	6.96	6.51	6.56	---	---	---
3	6.42	6.31	6.36	6.52	6.19	6.37	7.08	6.60	6.74	---	---	---
4	6.52	6.42	6.45	6.47	6.37	6.42	6.76	6.58	6.65	---	---	---
5	6.66	6.47	6.56	6.64	6.36	6.49	6.65	6.58	6.60	---	---	---
6	7.09	6.46	6.56	6.62	6.34	6.48	6.69	6.62	6.64	---	---	---
7	7.18	6.37	6.67	6.63	6.33	6.49	6.63	6.09	6.34	---	---	---
8	6.79	5.29	6.11	6.73	6.36	6.56	6.34	6.20	6.26	---	---	---
9	6.56	5.46	6.05	6.74	6.42	6.57	6.50	5.34	6.26	---	---	---
10	6.64	6.13	6.47	6.72	6.44	6.55	6.53	5.85	6.38	---	---	---
11	6.58	6.00	6.35	6.73	6.48	6.59	6.55	6.28	6.48	---	---	---
12	6.58	6.25	6.38	6.64	6.25	6.58	6.59	6.14	6.40	6.35	5.17	5.63
13	6.67	6.35	6.54	6.69	6.63	6.66	6.73	6.35	6.50	6.36	5.67	5.99
14	6.63	6.32	6.57	6.73	6.63	6.70	6.54	6.41	6.49	6.51	6.15	6.36
15	7.45	6.19	6.71	6.63	6.41	6.58	6.58	5.91	6.37	6.50	6.39	6.44
16	6.37	5.40	5.83	7.28	6.26	6.71	6.53	5.98	6.27	6.52	6.42	6.47
17	6.64	6.26	6.45	6.77	6.59	6.70	6.51	6.33	6.41	6.56	6.45	6.50
18	6.62	5.55	6.21	6.75	6.28	6.61	6.54	6.40	6.45	6.56	6.35	6.50
19	6.75	6.42	6.54	6.79	6.74	6.76	6.52	5.61	6.34	---	---	---
20	6.80	6.27	6.56	6.79	6.75	6.77	6.47	5.71	6.32	---	---	---
21	6.74	6.47	6.58	6.84	6.74	6.78	6.52	6.21	6.39	---	---	---
22	7.41	6.60	6.98	6.77	6.66	6.74	6.55	6.22	6.42	---	---	---
23	7.37	6.57	6.77	6.68	5.56	6.40	6.54	6.22	6.34	---	---	---
24	6.76	6.59	6.71	6.70	6.41	6.55	6.34	5.39	5.81	---	---	---
25	6.67	6.44	6.63	6.84	6.62	6.75	6.26	5.63	5.91	---	---	---
26	6.76	6.61	6.66	6.65	6.32	6.52	6.28	5.56	5.76	---	---	---
27	6.71	6.67	6.68	6.57	6.51	6.54	6.21	5.31	5.66	6.45	6.25	6.36
28	6.78	6.28	6.67	6.58	5.38	6.03	6.03	5.34	5.63	6.56	6.35	6.45
29	---	---	---	6.55	6.42	6.51	6.05	5.26	5.58	6.61	6.52	6.56
30	---	---	---	6.54	4.88	5.49	6.07	5.15	5.33	6.67	6.55	6.62
31	---	---	---	6.52	5.81	6.32	---	---	---	6.81	6.48	6.68
MONTH	7.45	5.29	6.52	7.28	4.88	6.50	7.08	5.15	6.26	6.81	5.17	6.38

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	6.70	6.59	6.62	---	---	---	5.93	5.44	5.73	6.86	5.28	6.32
2	6.76	6.63	6.69	---	---	---	5.85	5.11	5.69	6.78	6.57	6.70
3	6.70	6.54	6.62	---	---	---	---	---	---	6.82	6.62	6.75
4	6.64	6.56	6.60	---	---	---	---	---	---	6.85	6.58	6.75
5	6.60	5.41	5.98	---	---	---	---	---	---	6.77	6.49	6.68
6	6.41	5.86	6.27	---	---	---	---	---	---	6.84	6.45	6.69
7	6.35	5.18	5.95	---	---	---	---	---	---	6.55	4.88	5.80
8	5.18	4.66	4.84	6.49	4.86	5.75	---	---	---	6.19	4.57	5.50
9	5.51	4.96	5.29	6.44	4.98	5.62	---	---	---	6.58	5.43	6.10
10	5.78	4.91	5.27	6.40	4.76	5.43	---	---	---	6.70	5.29	6.34
11	5.51	5.13	5.37	6.27	4.81	5.42	5.63	4.70	4.97	6.71	6.01	6.48
12	5.40	5.20	5.29	6.12	5.07	5.85	5.69	4.72	5.05	6.47	5.72	6.16
13	5.38	4.89	5.12	6.19	4.52	5.29	5.89	4.82	5.34	6.47	5.13	5.71
14	5.01	4.83	4.94	5.40	4.70	5.06	6.19	5.61	6.06	6.27	4.70	5.35
15	4.94	4.81	4.87	5.34	4.65	4.81	5.57	5.11	5.25	6.46	6.21	6.36
16	4.91	4.76	4.85	5.59	4.84	5.17	6.13	5.49	5.91	6.46	5.04	5.70
17	4.92	4.74	4.81	6.11	4.73	5.16	6.31	5.82	6.20	6.37	5.83	6.22
18	5.23	4.83	4.95	5.45	4.74	5.03	5.77	4.84	4.97	6.54	6.26	6.46
19	5.88	5.19	5.53	5.54	4.88	5.26	4.89	4.68	4.76	6.61	6.54	6.58
20	6.41	5.84	6.08	---	---	---	4.84	4.68	4.78	6.63	6.36	6.60
21	---	---	---	---	---	---	4.97	4.83	4.92	6.58	6.34	6.50
22	---	---	---	---	---	---	5.43	4.94	5.07	6.65	6.57	6.62
23	---	---	---	---	---	---	5.10	4.97	5.01	6.59	6.52	6.57
24	---	---	---	4.86	4.68	4.79	5.63	5.00	5.34	6.58	5.81	6.12
25	---	---	---	4.98	4.73	4.85	6.69	5.64	6.20	6.52	6.34	6.44
26	---	---	---	5.45	4.85	5.15	6.73	6.58	6.66	6.69	6.49	6.61
27	---	---	---	4.90	4.74	4.83	6.69	6.12	6.43	6.64	5.44	5.80
28	---	---	---	5.56	4.76	5.05	6.75	6.15	6.46	6.52	5.57	6.06
29	7.12	4.38	6.18	5.31	5.15	5.24	6.67	6.27	6.52	6.61	6.07	6.46
30	5.59	4.75	4.90	5.43	5.02	5.32	6.88	6.67	6.80	6.61	5.27	6.09
31	---	---	---	6.14	5.46	5.84	6.83	6.42	6.60	---	---	---
MONTH	7.12	4.38	5.59	6.49	4.52	5.25	6.88	4.68	5.68	6.86	4.57	6.28
YEAR	7.45	4.38	6.21									

03082190 POPLAR RUN NEAR NORMALVILLE, PA--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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

03082190 POPLAR RUN NEAR NORMALVILLE, PA--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	19.0	16.0	17.0	---	---	---	21.0	18.5	20.0	16.0	14.0	15.5
2	18.0	16.5	17.0	---	---	---	22.0	19.0	20.5	15.5	12.0	14.0
3	19.0	16.5	17.5	---	---	---	---	---	---	16.0	13.0	14.5
4	18.5	16.5	17.5	---	---	---	---	---	---	16.5	13.0	15.0
5	17.5	14.0	16.0	---	---	---	---	---	---	16.0	14.5	15.0
6	17.0	14.0	15.5	---	---	---	---	---	---	16.5	15.0	16.0
7	19.0	14.0	16.5	---	---	---	---	---	---	17.0	16.0	16.5
8	20.0	16.0	18.0	22.5	19.0	20.5	---	---	---	17.5	17.0	17.0
9	19.0	16.5	18.0	22.5	19.5	21.0	---	---	---	17.5	16.5	17.0
10	16.5	12.5	14.5	22.5	20.0	21.0	---	---	---	17.5	15.5	16.5
11	17.0	11.5	14.5	23.0	20.0	21.5	20.0	17.0	19.0	18.0	16.0	17.0
12	16.5	14.5	15.5	23.0	20.0	21.5	20.5	17.5	19.0	17.5	16.5	17.5
13	20.0	16.5	18.0	23.0	20.0	21.5	21.0	18.0	19.5	18.5	17.0	17.5
14	20.5	16.5	18.5	21.5	17.5	20.0	21.0	17.5	19.5	18.0	16.0	17.0
15	21.0	16.5	19.0	17.5	15.0	16.0	21.0	17.5	19.5	17.0	15.0	16.0
16	21.0	18.5	19.5	17.5	14.5	16.0	22.0	19.0	20.5	17.5	16.0	17.0
17	21.0	17.5	19.0	19.0	14.5	17.0	22.5	19.0	20.5	18.5	16.5	17.5
18	20.5	16.5	18.5	20.0	16.0	18.0	22.0	20.0	21.0	17.5	17.0	17.0
19	21.0	17.0	19.0	20.5	16.5	18.5	21.0	18.0	19.5	17.0	16.5	17.0
20	24.0	18.5	19.0	---	---	---	20.0	17.5	19.0	16.5	16.0	16.5
21	---	---	---	---	---	---	19.0	15.5	17.5	16.0	14.5	15.5
22	---	---	---	---	---	---	18.0	17.5	18.0	15.0	13.5	14.0
23	---	---	---	---	---	---	18.0	16.0	17.0	14.5	13.5	14.0
24	---	---	---	23.5	20.5	22.0	16.0	13.5	14.5	15.5	13.5	14.5
25	---	---	---	23.0	20.0	22.0	14.5	12.5	13.5	15.0	12.0	13.0
26	---	---	---	22.5	21.0	22.0	15.0	13.5	14.5	13.0	10.0	11.5
27	---	---	---	22.0	20.5	21.5	18.5	15.0	17.0	14.5	11.5	13.0
28	---	---	---	21.0	18.0	20.0	20.5	17.5	18.0	15.0	12.0	13.5
29	18.5	17.5	20.5	20.5	17.0	19.0	18.0	16.0	17.0	15.5	12.5	14.0
30	20.0	17.0	18.5	21.0	17.0	19.5	17.0	14.5	15.5	15.0	13.0	14.5
31	---	---	---	22.0	19.0	20.5	17.0	14.0	15.5	---	---	---
MONTH	24.0	11.5	17.5	23.5	14.5	20.0	22.5	12.5	18.0	18.5	10.0	15.5
YEAR	24.0	.0	9.5									

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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	68	166	42	10	4	.11	16	9	.39
2	48	23	3.6	9.8	4	.11	20	10	.54
3	35	27	3.2	9.5	4	.10	34	10	.92
4	149	128	66	27	22	2.1	27	10	.73
5	99	25	6.7	46	30	3.7	20	10	.54
6	40	8	.86	43	10	1.2	16	10	.43
7	24	5	.32	27	3	.22	14	10	.38
8	16	7	.30	57	58	10	15	10	.41
9	12	8	.26	169	117	75	87	55	18
10	9.1	8	.20	62	18	3.0	95	32	10
11	7.4	8	.16	64	30	5.2	48	10	1.3
12	6.3	8	.14	48	18	2.3	32	9	.78
13	9.5	13	.33	32	4	.35	23	8	.50
14	27	20	1.5	23	4	.25	18	11	.53
15	17	13	.60	19	6	.31	15	10	.41
16	11	13	.39	16	6	.26	13	10	.35
17	9.5	13	.33	13	6	.21	12	10	.32
18	8.0	10	.22	14	10	.38	22	25	1.5
19	6.7	3	.05	19	10	.51	19	10	.51
20	6.4	3	.05	30	32	5.0	15	8	.32
21	5.9	4	.06	40	25	2.7	13	12	.42
22	5.5	4	.06	28	6	.45	11	12	.36
23	5.1	4	.06	22	5	.30	10	15	.41
24	5.1	4	.06	48	26	4.8	32	39	5.6
25	5.2	5	.07	35	4	.38	61	20	3.3
26	13	7	.25	74	45	13	34	12	1.1
27	11	6	.18	58	10	1.6	25	8	.54
28	19	6	.31	36	5	.49	20	8	.43
29	14	10	.38	27	5	.36	16	9	.39
30	12	7	.23	20	9	.49	14	10	.38
31	11	3	.09	---	---	---	12	12	.39
TOTAL	715.7	---	128.96	1126.3	---	134.88	809	---	52.18

03082190 POPLAR RUN NEAR NORMALVILLE, PA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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)
		JANUARY			FEBRUARY			MARCH	
1	11	15	.45	16	16	.69	41	90	14
2	11	20	.59	54	21	3.1	38	20	2.1
3	9.6	23	.60	48	11	1.4	25	15	1.0
4	8.0	23	.50	33	14	1.2	19	15	.77
5	8.5	23	.53	26	14	.98	15	15	.61
6	8.6	23	.53	21	13	.74	13	15	.53
7	13	22	.77	18	11	.53	12	14	.45
8	12	20	.65	15	9	.36	12	14	.45
9	9.9	14	.37	13	9	.32	11	14	.42
10	9.0	14	.34	11	10	.30	8.9	12	.29
11	8.2	14	.31	10	55	1.5	7.9	10	.21
12	7.6	14	.29	20	30	1.6	7.3	9	.18
13	7.2	14	.27	18	22	1.1	6.5	9	.16
14	8.0	14	.30	14	22	.83	6.4	10	.17
15	40	22	2.4	11	22	.65	6.6	10	.18
16	54	21	3.1	9.8	22	.58	5.9	10	.16
17	31	18	1.5	8.0	25	.54	5.4	14	.20
18	24	17	1.1	7.4	25	.50	4.9	10	.13
19	82	23	5.1	6.8	25	.46	4.8	10	.13
20	67	22	4.0	6.4	30	.52	4.5	10	.12
21	37	19	1.9	6.0	30	.49	4.2	10	.11
22	28	18	1.4	5.6	35	.53	4.1	10	.11
23	20	17	.92	7.0	25	.47	3.9	10	.11
24	17	16	.73	6.0	24	.39	3.7	10	.10
25	15	16	.65	5.9	23	.37	5.4	25	.36
26	13	15	.53	5.6	22	.33	7.6	25	.51
27	11	14	.42	5.2	20	.28	5.2	20	.28
28	10	14	.38	7.0	---	.90	4.9	19	.25
29	13	15	.53	---	---	---	4.6	19	.24
30	20	17	.92	---	---	---	6.6	20	.36
31	29	18	1.4	---	---	---	46	96	14
TOTAL	642.6	---	33.48	414.7	---	21.66	351.3	---	38.69
		APRIL			MAY			JUNE	
1	30	20	1.6	14	15	.57	7.9	10	.21
2	33	22	2.0	16	19	.82	7.0	8	.15
3	29	20	1.6	18	20	.97	5.9	7	.11
4	46	20	2.5	24	20	1.3	4.9	7	.09
5	46	20	2.5	18	15	.73	4.0	7	.08
6	75	23	4.7	15	13	.53	3.5	9	.09
7	132	26	9.3	12	11	.36	3.2	11	.10
8	92	24	6.0	11	11	.33	2.9	13	.10
9	58	33	5.2	8.9	12	.29	6.8	40	.73
10	35	29	2.7	7.7	13	.27	3.9	15	.16
11	26	25	1.8	6.9	12	.22	2.9	15	.12
12	31	32	2.7	6.1	12	.20	8.3	27	.61
13	26	15	1.1	5.2	12	.17	6.3	14	.24
14	20	13	.70	4.7	12	.15	4.6	13	.16
15	37	52	5.2	5.1	20	.28	3.4	10	.09
16	36	25	2.4	4.1	13	.14	2.8	7	.05
17	28	24	1.8	3.7	14	.14	2.5	7	.05
18	21	22	1.2	15	75	8.1	2.0	7	.04
19	17	20	.92	43	57	7.2	1.9	7	.04
20	14	18	.68	18	24	1.2	29	230	59
21	12	18	.58	11	20	.59	18	30	1.5
22	11	18	.53	8.4	15	.34	9.8	22	.58
23	10	25	.68	6.7	9	.16	8.9	16	.38
24	95	24	6.2	5.5	9	.13	6.6	16	.29
25	47	40	5.1	4.8	9	.12	4.6	13	.16
26	29	25	2.0	5.8	40	1.6	4.7	13	.16
27	22	20	1.2	42	110	14	3.8	13	.13
28	33	20	1.8	17	18	.83	3.0	13	.11
29	22	15	.89	11	18	.53	3.5	15	.14
30	17	11	.50	7.9	18	.38	11	25	.74
31	---	---	---	12	30	.97	---	---	---
TOTAL	1130	---	76.08	388.5	---	43.62	187.6	---	66.41

03082190 POPLAR RUN NEAR NORMALVILLE, PA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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)
		JULY			AUGUST			SEPTEMBER	
1	25	59	4.0	1.7	13	.06	7.2		
2	68	82	15	1.2	13	.04	4.0		
3	30	18	1.5	21	474	27	2.9		
4	16	16	.69	12	10	.32	2.1		
5	11	14	.42	3.5	25	.24	1.7		
6	8.2	13	.29	22	15	.89	7.1		
7	8.5	13	.30	8.4	12	.27	5.9		
8	5.8	12	.19	4.7	10	.13	86		
9	4.7	24	.30	3.1	10	.08	39		
10	4.1	24	.27	2.1	10	.06	18		
11	3.4	24	.22	1.6	10	.04	20		
12	3.1	20	.17	1.4	10	.04	21		
13	3.1	17	.14	.81	10	.02	14		
14	8.2	30	.66	.76	10	.02	9.8		
15	3.7	20	.20	.52	10	.01	7.6		
16	3.1	16	.13	.45	10	.01	6.2		
17	2.3	16	.10	.64	10	.02	12		
18	1.9	15	.08	.58	10	.02	26		
19	1.7	15	.07	.63	10	.02	18		
20	1.7	15	.07	.52	10	.01	17		
21	1.7	15	.07	.48	10	.01	13		
22	1.5	14	.06	7.8	---	---	18		
23	1.3	13	.05	4.0	---	---	19		
24	1.2	12	.04	1.3	---	---	14		
25	.82	12	.03	1.3	---	---	11		
26	.86	12	.03	2.0	---	---	8.5		
27	2.1	15	.09	2.3	---	---	7.1		
28	1.3	14	.05	53	---	---	5.8		
29	1.1	13	.04	28	---	---	5.2		
30	.75	17	.03	10	---	---	31		
31	2.5	15	.10	6.2	---	---	---		
TOTAL	228.63	---	25.39	203.99	---	29.31	458.1		

TOTAL DISCHARGE FOR YEAR 6656.37 TOTAL LOAD FOR YEAR 650.66 TONS

03082237 INDIAN CREEK AT WHITE BRIDGE, PA

LOCATION.--Lat 39°59'40", long 79°25'59", Fayette County, Hydrologic Unit 05020006, on left bank 200 ft downstream from State Highway 653 bridge at White Bridge, 0.2 mi upstream from Stony Run, 1.0 mi southeast of Normalville, and 4.6 mi upstream from Mill Run Reservoir.

DRAINAGE AREA.--91.2 Mi^2.

WATER DISCHARGE REOCRDS

PERIOD OF RECORD.--October 1985 to June 1987 (discontinued). Occasional discharge measurements, water years 1979-1981, published under incorrect station number 03082837.

GAGE.--Water-stage recorder. Elevation of gage is 1,320 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except for estimated daily discharges, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,910 ft^3/s, Nov. 26, 1985, gage height, 9.07 ft; minimum, 14 ft^3/s, Oct. 8, 9, 10, 11, 1985, gage height, 2.16 ft, minimum gage height, 2.13 ft, Sept. 18, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,100 ft^3/s and maximum (*).

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 9	0615	*2,110	*6.45				

Minimum discharge, 41 ft^3/s, June 20, gage height, 2.38 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	328	88	209	147	152	243	365	177	120	---	---	---
2	389	86	264	149	371	338	384	191	124	---	---	---
3	257	83	365	136	382	272	337	199	99	---	---	---
4	900	163	309	118	292	228	510	258	86	---	---	---
5	927	257	261	108	236	192	554	215	75	---	---	---
6	448	296	224	e100	204	172	701	199	68	---	---	---
7	284	236	199	e90	188	169	1020	181	62	---	---	---
8	208	394	194	e84	178	202	915	162	57	---	---	---
9	164	1450	598	e92	155	258	784	143	90	---	---	---
10	135	715	714	e105	e130	248	591	129	66	---	---	---
11	114	645	479	e110	e128	207	451	118	55	---	---	---
12	101	521	369	e94	177	179	441	110	83	---	---	---
13	114	382	278	e90	176	155	380	99	84	---	---	---
14	192	287	225	e110	149	140	313	90	107	---	---	---
15	160	243	197	353	131	135	332	89	69	---	---	---
16	129	210	173	422	111	122	319	80	58	---	---	---
17	117	181	159	298	e102	109	294	75	52	---	---	---
18	110	171	203	248	e98	102	259	101	47	---	---	---
19	96	213	193	531	96	97	230	225	43	---	---	---
20	90	229	162	562	88	92	205	149	149	---	---	---
21	86	369	145	358	87	89	186	112	172	---	---	---
22	81	279	132	283	85	87	170	94	112	---	---	---
23	76	245	130	239	96	86	159	86	130	---	---	---
24	73	323	263	179	84	86	630	78	106	---	---	---
25	69	290	598	e155	81	93	431	72	77	---	---	---
26	104	542	399	e140	80	115	309	72	75	---	---	---
27	95	563	309	e125	79	99	255	303	68	---	---	---
28	130	410	253	e110	82	98	289	176	56	---	---	---
29	114	323	214	e101	---	91	230	132	50	---	---	---
30	105	258	191	e102	---	107	204	109	67	---	---	---
31	94	---	165	e120	---	413	---	144	---	---	---	---
TOTAL	6290	10452	8574	5859	4218	5024	12248	4368	2507	---	---	---
MEAN	203	348	277	189	151	162	408	141	83.6	---	---	---
MAX	927	1450	714	562	382	413	1020	303	172	---	---	---
MIN	69	83	130	84	79	86	159	72	43	---	---	---
CFSM	2.23	3.82	3.03	2.07	1.65	1.78	4.48	1.55	.92	---	---	---
IN.	2.57	4.26	3.50	2.39	1.72	2.05	5.00	1.78	1.02	---	---	---

e Estimated

03082237 INDIAN CREEK AT WHITE BRIDGE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1985 to June 1987 (discontinued). Water years 1979-1981 published under incorrect station number 03082837.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1985 to June 1987.
pH: October 1985 to June 1987.
WATER TEMPERATURE: October 1985 to June 1987.
SUSPENDED-SEDIMENT DISCHARGE: October 1985 to June 1987.

INSTRUMENTATION.--Water-quality monitor and sediment pumping sampler since October 1985.

REMARKS.--Interruptions in the record were due to malfunction of the recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 693 microsiemens, Feb. 24, 1987; minimum, 79 microsiemens, Nov. 26, 27, 1985.
pH: Maximum, 8.9 units, May 5, 1986; minimum, 5.1 units, Sept. 18, 1986.
WATER TEMPERATURES: Maximum, 28.0°C, July 7, 1986; minimum, 0.0°C, Feb. 12-16, 1986.
SEDIMENT CONCENTRATIONS: Maximum daily, 1,280 mg/L, July 9, 1986; minimum daily, 1 mg/L, on several days.
SEDIMENT DISCHARGES: Maximum daily, 6,170 tons, July 9, 1986; minimum daily, 0.05 ton, Sept. 22, 1986.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 693 microsiemens, Feb. 24; minimum, 84 microsiemens, Mar. 22.
pH: Maximum, 7.2 units, Apr 30; minimum, 6.1 units, Oct 1.
WATER TEMPERATURES: Maximum, 20.5°C, Oct. 1; minimum, 0.5°C, on several days.
SEDIMENT CONCENTRATIONS: Maximum daily, 458 mg/L, June 20; minimum daily, 3 mg/L, May 25, June 8.
SEDIMENT DISCHARGES: Maximum daily, 630 tons, Nov. 9; minimum daily, 0.46 ton, June 8.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	ACIDITY (MG/L AS H)	ACIDITY TOTAL HEATED (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)
DEC												
09...	1400	--	--	--	--	--	--	--	--	--	--	--
FEB												
26...	1110	0.45	1700	2.82	11.0	6.0	26	--	21	--	6.7	--
MAR												
26...	1540	95	230	6.90	12.0	--	0.0	--	--	--	--	--
APR												
14...	1100	310	140	6.65	8.0	--	18	--	--	--	--	--
MAY												
18...	1630	94	238	6.83	16.0	--	0.0	--	--	--	--	--
JUN												
29...	1130	51	250	6.00	19.0	--	18	23	22	7.1	6.9	10

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL LAB MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)
DEC												
09...	--	--	--	--	--	--	--	--	--	--	--	--
FEB												
26...	35	--	1.3	16	89	62	104	12	--	<130	--	<4
MAR												
26...	--	--	--	16	51	22	130	6	240	<130	--	--
APR												
14...	--	--	--	12	42	10	106	6	330	<130	--	--
MAY												
18...	--	--	--	16	82	11	180	4	<130	<130	--	--
JUN												
29...	10	1.6	1.6	16	66	--	202	10	<130	<130	<4	<4

03082237 INDIAN CREEK AT WHITE BRIDGE, PA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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)
DEC 09...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 26...	<250	0	--	<50	--	<30	--	<10	--	400	--	<50
MAR 26...	--	--	--	--	--	--	--	--	350	250	--	--
APR 14...	--	--	--	--	--	--	--	--	510	140	--	--
MAY 18...	--	--	--	--	--	--	--	--	200	<10	--	--
JUN 29...	<250	0	<50	<50	<30	<30	<10	<10	230	33	<50	<50

DATE	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
DEC 09...	--	--	--	--	--	--	--	--	--	--	--	--
FEB 26...	--	550	--	33	--	90	--	37	--	<6	--	<1.0
MAR 26...	470	460	--	--	--	--	30	<26	--	--	--	--
APR 14...	240	290	--	--	--	--	<10	<10	--	--	--	--
MAY 18...	490	480	--	--	--	--	<10	<10	--	--	--	--
JUN 29...	500	480	<25	<25	100	100	20	50	<6	<6	<1.0	<1.0

03082237 INDIAN CREEK AT WHITE BRIDGE, PA--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS PER CENTIMETER AT 25°C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	321	144	186	224	204	210	178	154	163	207	192	196
2	162	144	157	223	205	209	514	152	208	195	183	187
3	180	152	166	241	202	217	486	187	241	489	184	384
4	170	121	131	226	175	197	188	165	178	565	425	514
5	128	109	120	199	157	174	172	159	163	454	295	396
6	131	125	128	177	150	156	177	160	165	327	278	310
7	143	129	137	165	147	152	169	164	166	277	253	269
8	160	141	150	169	132	144	206	166	179	339	256	310
9	174	151	163	140	100	110	216	137	173	320	256	289
10	182	163	174	116	109	113	154	130	135	272	246	251
11	204	173	190	150	117	125	154	131	135	386	242	307
12	223	187	200	132	123	125	153	136	141	408	335	376
13	254	193	212	138	124	130	160	143	149	410	329	363
14	238	165	197	149	134	140	171	151	158	353	313	334
15	203	170	186	159	142	148	185	162	172	315	231	258
16	203	180	189	160	150	156	217	163	179	253	184	217
17	207	180	189	181	160	169	209	181	190	184	177	179
18	219	192	200	209	163	176	230	177	189	178	176	177
19	210	204	205	205	171	184	225	180	205	232	152	177
20	229	204	209	204	151	189	264	187	215	232	180	195
21	231	210	219	254	145	178	196	187	193	224	181	201
22	232	219	223	208	159	175	231	182	201	205	170	180
23	235	218	224	160	158	159	234	180	206	356	171	227
24	234	225	229	180	155	160	202	143	189	368	328	353
25	252	231	243	178	149	160	277	146	205	340	260	287
26	260	213	237	162	132	145	187	150	158	269	249	261
27	242	215	226	140	132	134	152	147	150	264	251	257
28	232	210	221	149	131	135	155	149	152	266	250	256
29	215	210	213	152	139	145	198	156	161	254	225	239
30	225	211	214	155	146	150	202	160	169	314	221	238
31	219	204	210	---	---	---	222	167	195	534	324	472
MONTH	321	109	192	254	100	159	514	130	177	565	152	279

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	459	379	425	312	221	253	---	---	---	189	163	172
2	376	246	297	268	193	216	---	---	---	185	159	171
3	317	245	283	321	211	267	---	---	---	203	165	180
4	245	223	237	230	197	212	---	---	---	187	167	177
5	223	214	219	201	185	193	---	---	---	180	162	169
6	227	210	215	195	185	189	---	---	---	---	---	---
7	252	212	221	199	187	192	---	---	---	---	---	---
8	240	204	214	197	160	181	---	---	---	---	---	---
9	245	206	225	175	135	154	---	---	---	---	---	---
10	503	247	339	136	132	133	---	---	---	---	---	---
11	501	262	350	141	131	136	---	---	---	---	---	---
12	318	241	275	151	141	146	---	---	---	---	---	---
13	460	263	370	160	151	156	---	---	---	226	194	206
14	352	274	311	169	159	164	---	---	---	218	201	209
15	322	243	275	271	168	192	169	143	152	224	211	218
16	311	224	255	271	212	240	174	159	174	226	215	221
17	259	231	247	212	199	203	---	---	---	229	223	227
18	299	235	253	211	196	201	---	---	---	---	---	---
19	276	218	245	210	195	203	---	---	---	---	---	---
20	299	217	251	212	162	197	---	---	---	---	---	---
21	280	221	255	197	128	153	---	---	---	---	---	---
22	286	241	267	197	84	130	---	---	---	---	---	---
23	287	238	255	---	---	---	---	---	---	---	---	---
24	693	246	408	---	---	---	---	---	---	---	---	---
25	683	383	520	230	194	201	---	---	---	---	---	---
26	386	325	361	248	205	222	---	---	---	---	---	---
27	347	291	318	265	200	220	---	---	---	162	156	157
28	313	286	299	212	187	199	---	---	---	191	161	173
29	---	---	---	199	188	193	---	---	---	190	175	183
30	---	---	---	215	180	195	168	162	166	200	190	195
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	693	204	293	321	84	191	174	143	164	229	156	190

03082237 INDIAN CREEK AT WHITE BRIDGE, PA--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	6.89	6.12	6.70	6.95	6.83	6.92	6.72	6.63	6.67	6.71	6.64	6.68
2	6.74	6.56	6.67	6.93	6.81	6.88	6.71	6.60	6.65	6.68	6.65	6.66
3	6.83	6.65	6.73	6.92	6.81	6.89	6.77	6.68	6.71	6.69	6.66	6.68
4	6.80	6.47	6.58	6.88	6.72	6.81	6.78	6.73	6.76	6.74	6.62	6.71
5	6.56	6.47	6.52	6.89	6.80	6.86	6.74	6.69	6.72	6.77	6.35	6.65
6	6.63	6.52	6.57	6.84	6.78	6.80	6.72	6.57	6.67	6.72	6.52	6.64
7	6.84	6.60	6.68	6.81	6.75	6.77	6.66	6.64	6.65	6.87	6.59	6.69
8	6.82	6.75	6.78	6.75	6.61	6.69	6.74	6.65	6.69	6.96	6.86	6.93
9	6.87	6.79	6.83	6.69	6.52	6.57	6.78	6.40	6.68	6.93	6.86	6.91
10	6.96	6.86	6.91	6.59	6.52	6.56	6.66	6.54	6.59	6.87	6.82	6.85
11	6.95	6.87	6.92	6.59	6.52	6.56	6.66	6.58	6.61	6.92	6.85	6.90
12	6.94	6.87	6.91	6.62	6.55	6.58	6.63	6.60	6.61	6.92	6.89	6.91
13	6.89	6.81	6.85	6.65	6.50	6.62	6.66	6.55	6.62	6.92	6.88	6.90
14	6.95	6.83	6.88	6.67	6.62	6.64	6.66	6.51	6.60	6.90	6.82	6.86
15	6.98	6.90	6.94	6.63	6.58	6.61	6.63	6.49	6.57	6.95	6.82	6.88
16	6.93	6.86	6.89	6.66	6.60	6.64	6.65	6.54	6.62	6.82	6.79	6.80
17	6.95	6.85	6.89	6.70	6.58	6.64	6.69	6.59	6.64	6.80	6.74	6.78
18	6.98	6.90	6.94	6.69	6.62	6.65	6.80	6.60	6.66	6.77	6.69	6.73
19	6.96	6.92	6.93	6.82	6.61	6.77	6.81	6.71	6.76	6.81	6.69	6.74
20	6.93	6.90	6.92	6.81	6.57	6.74	6.87	6.59	6.71	6.69	6.58	6.62
21	6.96	6.89	6.93	6.76	6.69	6.74	6.74	6.67	6.70	6.67	6.61	6.64
22	6.96	6.86	6.92	6.74	6.67	6.71	6.80	6.58	6.73	6.77	6.65	6.71
23	6.91	6.86	6.88	6.73	6.64	6.68	6.75	6.36	6.66	6.74	6.66	6.70
24	6.91	6.70	6.86	6.78	6.64	6.69	6.75	6.63	6.68	6.71	6.56	6.63
25	6.99	6.86	6.93	6.80	6.65	6.73	6.72	6.62	6.65	6.69	6.54	6.62
26	7.02	6.86	6.93	6.74	6.56	6.66	6.69	6.64	6.66	6.73	6.53	6.62
27	7.04	6.96	7.00	6.67	6.62	6.65	6.65	6.59	6.62	6.75	6.51	6.64
28	7.06	6.96	7.03	6.63	6.53	6.60	6.67	6.63	6.65	6.69	6.55	6.64
29	7.06	7.04	7.05	6.61	6.57	6.59	6.69	6.63	6.66	6.69	6.64	6.67
30	7.02	6.92	6.98	6.63	6.60	6.62	6.69	6.61	6.64	6.76	6.60	6.65
31	7.00	6.94	6.98	---	---	---	6.72	6.62	6.67	6.95	6.76	6.87
MONTH	7.06	6.12	6.86	6.95	6.50	6.70	6.87	6.36	6.66	6.96	6.35	6.74

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6.87	6.83	6.85	7.12	6.85	6.94	---	---	---	6.77	6.53	6.70
2	6.86	6.81	6.84	6.96	6.91	6.93	---	---	---	6.83	6.67	6.73
3	6.85	6.57	6.72	6.93	6.87	6.91	---	---	---	6.81	6.58	6.74
4	6.73	6.68	6.70	6.93	6.89	6.91	---	---	---	6.92	6.67	6.84
5	6.75	6.71	6.73	6.92	6.79	6.87	---	---	---	6.88	6.79	6.84
6	6.74	6.68	6.72	6.90	6.80	6.86	---	---	---	---	---	---
7	6.85	6.70	6.75	6.94	6.82	6.87	---	---	---	---	---	---
8	6.78	6.66	6.72	6.94	6.84	6.88	6.87	6.62	6.76	---	---	---
9	6.81	6.66	6.73	6.89	6.83	6.86	6.95	6.84	6.91	---	---	---
10	6.87	6.54	6.75	6.92	6.81	6.87	7.02	6.87	6.96	---	---	---
11	6.87	6.65	6.78	6.88	6.77	6.84	7.08	6.94	7.01	---	---	---
12	6.82	6.70	6.76	6.86	6.44	6.77	7.08	6.96	7.02	---	---	---
13	6.87	6.82	6.84	6.81	6.75	6.77	7.02	6.94	7.00	6.86	6.71	6.78
14	6.86	6.74	6.80	6.84	6.75	6.80	7.04	6.46	6.79	6.87	6.73	6.79
15	7.04	6.75	6.83	6.84	6.78	6.81	6.67	6.56	6.61	6.91	6.67	6.78
16	6.79	6.14	6.65	6.98	6.84	6.89	---	---	---	6.91	6.81	6.85
17	6.78	6.72	6.76	6.97	6.84	6.89	---	---	---	6.82	6.79	6.80
18	6.77	6.67	6.73	6.95	6.85	6.89	---	---	---	---	---	---
19	6.79	6.53	6.74	6.95	6.87	6.91	---	---	---	---	---	---
20	6.84	6.39	6.74	6.97	6.88	6.93	---	---	---	---	---	---
21	6.87	6.52	6.76	7.02	6.96	6.98	---	---	---	---	---	---
22	6.85	6.73	6.80	7.01	6.97	6.99	---	---	---	---	---	---
23	6.92	6.77	6.84	7.04	6.97	7.00	---	---	---	---	---	---
24	6.87	6.81	6.85	---	---	---	---	---	---	---	---	---
25	6.90	6.72	6.86	---	---	---	---	---	---	---	---	---
26	7.02	6.80	6.96	6.99	6.89	6.94	---	---	---	---	---	---
27	7.02	6.95	6.99	7.03	6.92	6.99	---	---	---	6.77	6.44	6.55
28	6.95	6.90	6.94	6.96	6.90	6.93	---	---	---	7.03	6.74	6.87
29	---	---	---	6.98	6.93	6.95	---	---	---	7.15	6.79	6.94
30	---	---	---	6.97	6.84	6.92	7.22	6.62	7.02	7.14	6.80	6.95
31	---	---	---	---	---	---	---	---	---	7.14	6.27	6.47
MONTH	7.04	6.14	6.79	7.12	6.44	6.90	7.22	6.46	6.90	7.15	6.27	6.78

03082237 INDIAN CREEK AT WHITE BRIDGE, PA--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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

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

03082237 INDIAN CREEK AT WHITE BRIDGE, PA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	328	248	331	88	4	.95	209	21	12
2	389	152	248	86	4	.93	264	30	21
3	257	52	42	83	5	1.1	365	52	51
4	900	103	250	163	43	24	309	40	33
5	927	106	265	257	47	37	261	32	23
6	448	54	65	296	27	22	224	29	18
7	284	8	6.1	236	10	6.4	199	19	10
8	208	8	4.5	394	48	51	194	20	10
9	164	8	3.5	1450	161	630	598	117	251
10	135	8	2.9	715	84	162	714	65	133
11	114	8	2.5	645	76	132	479	30	39
12	101	8	2.2	521	62	87	369	30	30
13	114	30	9.2	382	10	10	278	30	23
14	192	35	18	287	10	7.7	225	27	16
15	160	25	11	243	10	6.6	197	20	11
16	129	20	7.0	210	10	5.7	173	19	8.9
17	117	16	5.1	181	8	3.9	159	17	7.3
18	110	16	4.8	171	30	14	203	15	8.2
19	96	16	4.1	213	40	23	193	20	10
20	90	13	3.2	229	76	69	162	15	6.6
21	86	12	2.8	369	123	125	145	7	2.7
22	81	10	2.2	279	100	75	132	7	2.5
23	76	10	2.1	245	50	33	130	11	3.9
24	73	10	2.0	323	40	35	263	50	70
25	69	10	1.9	290	10	7.8	598	59	109
26	104	15	4.2	542	91	179	399	18	19
27	95	6	1.5	563	41	67	309	18	15
28	130	12	4.2	410	20	22	253	15	10
29	114	6	1.8	323	20	17	214	13	7.5
30	105	5	1.4	258	20	14	191	---	---
31	94	4	1.0	---	---	---	165	---	---
TOTAL	6290	---	1310.2	10452	---	1869.08	8574	---	961.6
		JANUARY			FEBRUARY			MARCH	
1	147	19	7.5	152	20	8.2	243	57	47
2	149	19	7.6	371	97	122	338	34	32
3	136	18	6.6	382	44	45	272	14	10
4	118	16	5.1	292	17	13	228	12	7.4
5	108	14	4.1	236	17	11	192	12	6.2
6	100	13	3.5	204	19	10	172	11	5.1
7	90	50	12	188	17	8.6	169	12	5.5
8	84	20	4.5	178	16	7.7	202	14	7.6
9	92	16	4.0	155	19	8.0	258	14	9.8
10	105	16	4.5	130	17	6.0	248	12	8.0
11	110	15	4.5	128	17	5.9	207	10	5.6
12	94	13	3.3	177	23	11	179	7	3.4
13	90	12	2.9	176	25	12	155	7	2.9
14	110	20	5.9	149	20	8.0	140	7	2.6
15	353	59	64	131	25	8.8	135	7	2.6
16	422	35	42	111	20	6.0	122	21	6.9
17	298	18	14	102	17	4.7	109	7	2.1
18	248	16	11	98	15	4.0	102	5	1.4
19	531	63	90	96	14	3.6	97	4	1.0
20	562	67	102	88	13	3.1	92	4	.99
21	358	15	14	87	14	3.3	89	4	.96
22	283	15	11	85	16	3.7	87	5	1.2
23	239	15	9.7	96	17	4.4	86	5	1.2
24	179	15	7.2	84	15	3.4	86	5	1.2
25	155	15	6.3	81	14	3.1	93	20	5.0
26	140	15	5.7	80	14	3.0	115	9	2.8
27	125	15	5.1	79	14	3.0	99	8	2.1
28	110	20	5.9	82	20	4.4	98	7	1.9
29	101	20	5.5	---	---	---	91	7	1.7
30	102	22	6.1	---	---	---	107	15	4.3
31	120	25	8.1	---	---	---	413	126	177
TOTAL	5859	---	483.6	4218	---	334.9	5024	---	367.45

03082237 INDIAN CREEK AT WHITE BRIDGE, PA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)	DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	365	36	35	177	20	9.6	120	20	6.5
2	384	27	28	191	32	17	124	15	5.0
3	337	20	18	199	32	17	99	8	2.1
4	510	61	84	258	30	21	86	7	1.6
5	554	66	99	215	20	12	75	6	1.2
6	701	82	155	199	17	9.1	68	4	.73
7	1020	116	319	181	16	7.8	62	4	.67
8	915	105	259	162	15	6.6	57	3	.46
9	784	91	193	143	15	5.8	90	15	3.6
10	591	70	112	129	14	4.9	66	9	1.6
11	451	54	66	118	10	3.2	55	7	1.0
12	441	53	63	110	10	3.0	83	15	3.4
13	380	46	47	99	10	2.7	84	10	2.3
14	313	39	33	90	9	2.2	107	60	17
15	332	41	37	89	9	2.2	69	17	3.2
16	319	39	34	80	9	1.9	58	12	1.9
17	294	56	44	75	9	1.8	52	9	1.3
18	259	33	23	101	28	2.0	47	7	.89
19	230	29	18	225	65	45	43	6	.70
20	205	26	14	149	29	12	149	458	447
21	186	24	12	112	6	1.8	172	80	37
22	170	22	10	94	6	1.5	112	40	12
23	159	21	9.0	86	6	1.4	130	74	33
24	630	156	358	78	5	1.1	106	25	7.2
25	431	52	61	72	3	.58	77	10	2.1
26	309	38	32	72	7	1.4	75	12	2.4
27	255	32	22	303	143	136	68	9	1.7
28	289	36	28	176	15	7.1	56	8	1.2
29	230	25	16	132	10	3.6	50	6	.81
30	204	25	14	109	6	1.8	67	10	1.8
31	---	---	---	144	48	19	---	---	---
TOTAL	12248	---	2243.0	4368	---	362.08	2507	---	601.36

03082258 FLUME DISCHARGE TO CHARLES RUN AT NORMALVILLE, PA

LOCATION.--Lat 39°59'20", long 79°27'12", Fayette County, Hydrologic Unit 05020006, on right bank 100 ft downstream from flume portal, 200 ft upstream from mouth, 0.2 mi upstream from Indian Creek, 0.5 mi north from Mill Run Reservoir, and 0.7 mi southwest of Normalville.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to June 1987 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 1,290 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2.1 ft^3/s, Feb. 5, 1986, gage height, 1.20 ft; minimum, 0.32 ft^3/s, Oct. 1, 1985, gage height, 1.07 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1.6 ft^3/s and maximum (*).

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 10	0045	*0.90	*1.12				

Minimum daily discharge, 0.47 ft^3/s, Oct. 7-13.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.53	.60	.72	.81	.79	.70	.75	.71	.60	---	---	---
2	.60	.60	.80	.81	.81	.74	.76	.69	.60	---	---	---
3	.60	.55	.80	.81	.81	.74	.77	.68	.60	---	---	---
4	.75	.59	.81	.74	.81	.74	.77	.68	.60	---	---	---
5	.69	.60	.81	.78	.81	.74	.77	.68	.60	---	---	---
6	.68	.60	.81	.74	.81	.74	.78	.68	.60	---	---	---
7	.61	.60	.81	.74	.83	.74	.76	.70	.60	---	---	---
8	.47	.61	.81	.74	.84	.74	.80	.68	.60	---	---	---
9	.47	.74	.83	.74	.86	.74	.72	.68	.60	---	---	---
10	.47	.73	.90	.74	.81	.77	.75	.68	.60	---	---	---
11	.47	.71	.88	.74	.81	.74	.76	.68	.60	---	---	---
12	.47	.74	.90	.74	.83	.69	.77	.65	.60	---	---	---
13	.47	.74	.89	.74	.86	.42	.77	.61	.60	---	---	---
14	.54	.72	.81	.74	.81	.60	.77	.60	---	---	---	---
15	.60	.74	.81	.74	.85	.56	.78	.60	---	---	---	---
16	.60	.74	.81	.74	.82	.56	.81	.60	---	---	---	---
17	.60	.69	.81	.74	.81	.61	.76	.60	---	---	---	---
18	.60	.68	.81	.75	.81	.63	.74	.60	---	---	---	---
19	.60	.70	.81	.84	.81	.67	.71	.60	---	---	---	---
20	.60	.69	.81	.87	.81	.63	.68	.60	---	---	---	---
21	.60	.71	.77	.81	.81	.66	.68	.60	---	---	---	---
22	.60	.68	.75	.81	.81	.66	.68	.60	---	---	---	---
23	.60	.68	.78	.90	.81	.68	.68	.60	---	---	---	---
24	.60	.69	.79	.83	.81	.68	.72	.60	---	---	---	---
25	.60	.68	.81	.81	.81	.69	.74	.59	---	---	---	---
26	.60	.69	.81	.81	.76	.70	.74	.57	---	---	---	---
27	.60	.72	.81	.81	.68	.73	.73	.64	---	---	---	---
28	.68	.69	.81	.81	.68	.74	.74	.63	---	---	---	---
29	.60	.72	.81	.78	---	.73	.74	.60	---	---	---	---
30	.60	.71	.81	.79	---	.75	.74	.60	---	---	---	---
31	.60	---	.81	.81	---	.75	---	.60	---	---	---	---
TOTAL	18.10	20.34	25.20	24.26	22.57	21.27	22.37	19.63	---	---	---	---
MEAN	.58	.68	.81	.78	.81	.69	.75	.63	---	---	---	---
MAX	.75	.74	.90	.90	.86	.77	.81	.71	---	---	---	---
MIN	.47	.55	.72	.74	.68	.42	.68	.57	---	---	---	---

03082258 FLUME DISCHARGE TO CHARLES RUN AT NORMALVILLE, PA.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--November 1985 to June 1987 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: November 1985 to June 1987.
pH: November 1985 to June 1987.
WATER TEMPERATURE: November 1985 to June 1987.

INSTRUMENTATION.--Water-quality monitor since November 1985.

REMARKS.--Interruptions in the record were due to malfunction of the recording instruments.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 2,150 microsiemens, Jan. 15, 1986; minimum, 1,140 microsiemens, Dec. 9, 1986.
pH: Maximum, 3.4 units, Feb. 7, 8, 1986; minimum, 2.5 units, Mar. 6, 1986.
WATER TEMPERATURES: Maximum, 15.5°C, July 19, 1986; minimum, 8.5°C, Feb. 4, 1986.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 1,880 microsiemens, Oct. 1-3; minimum, 1,140 microsiemens, Dec. 9.
pH: Maximum, 3.1 units, Jan. 19; minimum, 2.8 units, Apr. 16.
WATER TEMPERATURES: Maximum, 14.0°C, Oct. 4; minimum, 9.5°C, Jan. 19, Apr. 4.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	ACIDITY TOTAL HEATED (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	SODIUM, DIS-SOLVED (MG/L AS NA)
FEB												
26...	1415	--	--	--	--	320	--	120	--	38	--	2.7
MAR												
26...	1615	0.47	1700	2.80	11.5	294	--	--	--	--	--	--
APR												
14...	0935	0.69	1490	2.88	11.0	260	--	--	--	--	--	--
MAY												
18...	0900	0.48	1630	2.87	11.5	282	--	--	--	--	--	--
JUN												
29...	1200	0.60	1650	2.90	13.0	380	130	130	41	41	2.6	2.6

DATE	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL LAB MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)
FEB												
26...	--	3.2	--	680	--	1100	14	--	19000	--	12	<250
MAR												
26...	--	--	0	550	5.0	1200	10	21000	21000	--	--	--
APR												
14...	--	--	--	520	2.0	1080	6	14000	16000	--	--	--
MAY												
18...	--	--	--	590	3.0	1110	8	18000	18000	--	--	--
JUN												
29...	3.4	3.3	--	600	--	1510	8	20000	20000	17	16	<250

03082258 FLUME DISCHARGE TO CHARLES RUN AT NORMALVILLE, PA.--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	BORON, DIS-SOLVED (UG/L AS B)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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)
FEB												
26...	0	--	<50	--	120	--	<10	--	36000	--	<50	--
MAR												
26...	--	--	--	--	--	--	--	40000	37000	--	--	3000
APR												
14...	--	--	--	--	--	--	--	29000	32000	--	--	2200
MAY												
18...	--	--	--	--	--	--	--	37000	35000	--	--	2500
JUN												
29...	0	<50	<50	120	110	<10	<10	40000	40000	<50	<50	2700

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)	NICKEL, DIS-SOLVED (UG/L AS NI)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
FEB											
26...	2600	--	230	--	880	--	510	--	8	--	<1.0
MAR											
26...	2700	--	--	--	--	690	610	--	--	--	--
APR											
14...	2400	--	--	--	--	600	550	--	--	--	--
MAY											
18...	2500	--	--	--	--	530	530	--	--	--	--
JUN											
29...	2700	230	230	950	950	580	580	<6	<6	<1.0	<1.0

03082258 FLUME DISCHARGE TO CHARLES RUN AT NORMALVILLE, PA.--Continued

SPECIFIC CONDUCTANCE, (MICROSIEMENS PER CENTIMETER AT 25°C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	1880	1820	1860	1850	1840	1840	1270	1250	1260	1250	1240	1240
2	1880	1840	1860	1860	1850	1850	1260	1240	1250	1250	1240	1250
3	1880	1730	1860	1860	1840	1850	1250	1240	1240	1240	1230	1240
4	1750	1330	1630	1830	1800	1810	1250	1240	1250	1250	1240	1240
5	1840	1740	1800	1810	1740	1770	1260	1240	1250	1270	1250	1250
6	1850	1840	1850	1800	1740	1770	1260	1240	1250	1720	1250	1450
7	1850	1840	1840	1800	1790	1800	1280	1240	1260	1730	1710	1720
8	1850	1780	1840	1800	1700	1740	1280	1270	1270	1730	1730	1730
9	1850	1780	1830	1760	1460	1620	1270	1140	1200	1740	1720	1730
10	1830	1800	1830	1790	1760	1780	1250	1190	1210	1740	1700	1710
11	1830	1800	1810	1770	1670	1720	1250	1190	1230	1710	1680	1690
12	1830	1800	1830	1740	1710	1730	1240	1190	1220	1720	1680	1700
13	1830	1770	1810	1720	1690	1710	1230	1210	1210	1730	1720	1720
14	1830	1770	1790	1690	1680	1680	1220	1200	1210	1730	1710	1720
15	1840	1830	1830	1690	1640	1680	1220	1210	1210	1720	1700	1710
16	1840	1830	1830	1660	1640	1650	1220	1210	1220	1720	1700	1710
17	1830	1780	1800	1650	1630	1640	1230	1210	1220	1730	1710	1720
18	1830	1820	1830	1650	1590	1610	1230	1210	1220	1740	1720	1730
19	1840	1820	1830	1640	1620	1630	1230	1220	1230	1730	1450	1640
20	1850	1830	1840	1640	1580	1620	1230	1220	1230	1680	1600	1660
21	1850	1840	1840	1670	1590	1630	1250	1230	1240	1680	1660	1670
22	1840	1830	1830	1670	1640	1670	1250	1230	1240	1660	1650	1650
23	1840	1830	1830	1700	1670	1680	1290	1260	1280	1650	1620	1640
24	1840	1830	1840	1700	1260	1470	1290	1200	1260	1630	1600	1610
25	1840	1830	1840	1300	1270	1280	1280	1210	1250	1610	1590	1600
26	1840	1820	1830	1290	1190	1240	1280	1270	1270	1600	1590	1600
27	1840	1830	1840	1290	1240	1270	1280	1270	1270	1600	1510	1540
28	1840	1830	1840	1290	1280	1280	1270	1240	1260	1560	1530	1540
29	1840	1830	1840	1290	1260	1280	1250	1240	1250	1570	1540	1560
30	1840	1830	1840	1270	1240	1260	1250	1240	1250	1570	1540	1550
31	1850	1840	1840	---	---	---	1260	1250	1250	1580	1550	1570
MONTH	1880	1330	1830	1860	1190	1620	1290	1140	1240	1740	1230	1580

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	1580	1570	1570	1700	1690	1700	1680	1650	1670	1580	1560	1570
2	1570	1500	1540	1700	1680	1690	1680	1660	1670	1570	1550	1560
3	1630	1520	1560	1690	1650	1670	1690	1670	1680	1580	1550	1560
4	1660	1630	1650	---	---	---	1680	1580	1630	1580	1550	1560
5	1670	1650	1660	---	---	---	1650	1600	1630	1610	1580	1590
6	1660	1650	1660	---	---	---	1610	1530	1560	1610	1590	1600
7	1670	1650	1660	---	---	---	1580	1540	1560	1620	1600	1610
8	1650	1640	1650	---	---	---	1600	1580	1590	1620	1610	1610
9	1640	1630	1640	---	---	---	1590	1570	1580	1620	1600	1610
10	1630	1610	1620	---	---	---	1570	1540	1560	1620	1610	1610
11	1630	1610	1620	---	---	---	1550	1520	1530	1620	1600	1620
12	1630	1610	1620	---	---	---	1520	1480	1500	---	---	---
13	1640	1620	1630	1700	1680	1700	1490	1470	1480	---	---	---
14	1640	1630	1640	1700	1690	1700	1490	1470	1480	---	---	---
15	1650	1630	1640	1710	1700	1700	1500	1440	1470	---	---	---
16	1640	1630	1630	1710	1700	1710	1520	1470	1500	---	---	---
17	1670	1630	1650	1710	1700	1700	1540	1510	1520	---	---	---
18	1660	1640	1650	1710	1700	1710	1540	1530	1530	---	---	---
19	1660	1630	1650	1710	1700	1710	1540	1520	1530	---	---	---
20	1650	1630	1640	1720	1710	1710	1530	1520	1530	---	---	---
21	1650	1640	1650	1720	1710	1710	1550	1520	1540	---	---	---
22	1680	1650	1660	---	---	---	1570	1540	1560	---	---	---
23	1680	1670	1680	---	---	---	1580	1560	1570	---	---	---
24	1690	1670	1680	---	---	---	1570	1420	1500	---	---	---
25	1680	1670	1670	---	---	---	1570	1530	1560	---	---	---
26	1690	1670	1680	---	---	---	1590	1570	1580	---	---	---
27	1690	1670	1680	1720	1710	1710	1590	1580	1590	---	---	---
28	1700	1690	1690	1720	1710	1710	1590	1570	1580	---	---	---
29	---	---	---	1720	1710	1720	1580	1560	1570	---	---	---
30	---	---	---	1720	1710	1710	1580	1570	1570	---	---	---
31	---	---	---	1710	1610	1650	---	---	---	---	---	---
MONTH	1700	1500	1640	1720	1610	1700	1690	1420	1560	1620	1550	1590

03082258 FLUME DISCHARGE TO CHARLES RUN AT NORMALVILLE, PA.--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	2.94	2.92	2.93	2.98	2.96	2.97	3.04	3.02	3.03	3.07	3.05	3.06
2	2.94	2.92	2.93	2.98	2.96	2.97	3.04	3.03	3.04	3.06	3.05	3.06
3	2.96	2.93	2.93	2.98	2.96	2.97	3.04	3.03	3.04	3.07	3.06	3.06
4	3.06	2.96	2.98	2.98	2.97	2.98	3.04	3.03	3.03	3.07	3.05	3.06
5	2.96	2.93	2.94	2.99	2.98	2.98	3.04	3.03	3.04	3.07	3.05	3.06
6	2.94	2.93	2.94	2.99	2.98	2.99	3.05	3.03	3.04	3.07	3.05	3.06
7	2.95	2.93	2.94	2.99	2.98	2.98	3.04	3.03	3.03	3.07	3.05	3.06
8	2.95	2.93	2.94	3.01	2.98	2.99	3.04	3.03	3.03	3.06	3.05	3.06
9	2.95	2.94	2.95	3.05	2.99	3.01	3.06	3.04	3.05	3.06	3.05	3.05
10	2.96	2.94	2.95	3.00	2.99	2.99	3.05	3.04	3.04	3.06	3.05	3.05
11	2.96	2.95	2.95	3.02	2.99	3.01	3.05	3.04	3.04	3.07	3.05	3.06
12	2.96	2.95	2.95	3.02	3.00	3.01	3.05	3.04	3.04	3.07	3.05	3.06
13	2.96	2.95	2.96	3.02	3.01	3.02	3.05	3.04	3.05	3.07	3.06	3.06
14	2.96	2.95	2.96	3.03	3.01	3.02	3.05	3.04	3.05	3.07	3.05	3.06
15	2.96	2.95	2.96	3.02	3.01	3.02	3.05	3.04	3.05	3.08	3.05	3.07
16	2.96	2.95	2.96	3.02	3.01	3.01	3.05	3.04	3.05	3.07	3.06	3.07
17	2.96	2.96	2.96	3.02	3.01	3.02	3.05	3.04	3.05	3.08	3.06	3.07
18	2.97	2.96	2.96	3.02	3.01	3.02	3.05	3.04	3.04	3.08	3.06	3.07
19	2.97	2.95	2.96	3.03	3.01	3.02	3.05	3.04	3.04	3.12	3.06	3.09
20	2.97	2.96	2.96	3.03	3.01	3.02	3.05	3.04	3.04	3.10	2.87	3.01
21	2.97	2.95	2.96	3.03	3.01	3.02	3.05	3.04	3.04	2.90	2.87	2.88
22	2.97	2.96	2.97	3.02	3.01	3.01	3.05	3.04	3.04	2.90	2.88	2.89
23	2.97	2.96	2.96	3.02	3.00	3.01	3.05	3.04	3.04	2.90	2.88	2.88
24	2.97	2.95	2.96	3.02	3.01	3.02	3.06	3.04	3.05	2.91	2.89	2.90
25	2.97	2.96	2.96	3.02	3.01	3.02	3.06	3.04	3.05	2.91	2.89	2.90
26	2.97	2.95	2.96	3.03	3.01	3.02	3.06	3.05	3.05	2.90	2.88	2.89
27	2.97	2.95	2.96	3.03	3.01	3.02	3.06	3.05	3.05	2.89	2.87	2.88
28	2.97	2.95	2.96	3.03	3.01	3.02	3.07	3.06	3.06	2.88	2.87	2.87
29	2.97	2.96	2.96	3.03	3.02	3.03	3.07	3.06	3.06	2.88	2.86	2.88
30	2.97	2.96	2.96	3.04	3.02	3.03	3.07	3.06	3.06	2.90	2.87	2.88
31	2.97	2.96	2.96	---	---	---	3.07	3.06	3.06	2.89	2.88	2.88
MONTH	3.06	2.92	2.95	3.05	2.96	3.01	3.07	3.02	3.04	3.12	2.86	3.00

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	2.89	2.87	2.88	2.91	2.90	2.91	2.90	2.88	2.89	2.89	2.85	2.87
2	2.90	2.88	2.89	2.92	2.90	2.91	2.90	2.88	2.89	2.88	2.85	2.87
3	2.90	2.87	2.89	2.92	2.91	2.91	2.89	2.88	2.88	2.87	2.85	2.86
4	2.91	2.90	2.90	---	---	---	2.90	2.88	2.89	2.88	2.85	2.87
5	2.91	2.89	2.90	---	---	---	2.91	2.89	2.90	2.89	2.87	2.88
6	2.92	2.89	2.90	---	---	---	2.92	2.90	2.91	2.88	2.87	2.87
7	2.92	2.91	2.91	---	---	---	2.92	2.91	2.92	2.88	2.86	2.87
8	2.91	2.91	2.91	---	---	---	2.92	2.90	2.91	2.88	2.86	2.87
9	2.92	2.91	2.91	---	---	---	2.93	2.91	2.92	2.88	2.86	2.87
10	2.92	2.91	2.92	---	---	---	2.93	2.91	2.92	2.88	2.86	2.87
11	2.91	2.90	2.91	---	---	---	2.93	2.92	2.93	2.89	2.87	2.88
12	2.92	2.90	2.91	---	---	---	2.94	2.92	2.93	---	---	---
13	2.92	2.90	2.91	2.89	2.88	2.89	2.94	2.92	2.93	---	---	---
14	2.92	2.90	2.91	2.89	2.88	2.88	2.94	2.88	2.90	---	---	---
15	2.92	2.90	2.91	2.89	2.87	2.87	2.89	2.85	2.87	---	---	---
16	2.92	2.90	2.91	2.88	2.86	2.87	2.86	2.84	2.85	---	---	---
17	2.91	2.90	2.91	2.88	2.87	2.87	2.86	2.85	2.85	---	---	---
18	2.91	2.90	2.91	2.88	2.87	2.87	2.87	2.85	2.85	---	---	---
19	2.92	2.90	2.91	2.88	2.86	2.87	2.88	2.85	2.86	---	---	---
20	2.91	2.89	2.90	2.87	2.87	2.87	2.89	2.85	2.88	---	---	---
21	2.91	2.89	2.90	2.88	2.87	2.87	2.89	2.87	2.88	---	---	---
22	2.90	2.89	2.90	---	---	---	2.89	2.87	2.88	---	---	---
23	2.91	2.89	2.90	---	---	---	2.88	2.87	2.87	---	---	---
24	2.90	2.89	2.90	---	---	---	2.89	2.87	2.88	---	---	---
25	2.91	2.90	2.90	---	---	---	2.88	2.86	2.87	---	---	---
26	2.91	2.89	2.90	---	---	---	2.88	2.86	2.87	---	---	---
27	2.91	2.90	2.91	2.89	2.86	2.88	2.87	2.85	2.86	---	---	---
28	2.91	2.90	2.91	2.89	2.87	2.88	2.86	2.85	2.86	---	---	---
29	---	---	---	2.89	2.87	2.88	2.89	2.85	2.87	---	---	---
30	---	---	---	2.89	2.87	2.88	2.87	2.86	2.86	---	---	---
31	---	---	---	2.89	2.87	2.88	---	---	---	---	---	---
MONTH	2.92	2.87	2.90	2.92	2.86	2.88	2.94	2.84	2.89	2.89	2.85	2.87

03082258 FLUME DISCHARGE TO CHARLES RUN AT NORMALVILLE, PA.--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	12.0	11.5	12.0	11.5	11.0	11.5	11.0	10.5	11.0	11.0	10.5	11.0
2	12.0	11.5	12.0	11.5	11.0	11.5	11.0	10.5	11.0	11.0	10.5	10.5
3	12.5	11.5	12.0	11.5	11.0	11.5	11.0	11.0	11.0	11.0	10.5	11.0
4	14.0	12.0	13.0	11.5	10.5	11.5	11.0	11.0	11.0	11.0	10.5	10.5
5	12.0	11.5	12.0	11.5	11.0	11.5	11.0	10.5	11.0	11.0	10.0	10.5
6	11.5	11.5	11.5	11.5	11.0	11.5	11.0	10.5	11.0	11.5	10.5	11.0
7	11.5	11.5	11.5	11.5	11.0	11.5	11.5	11.0	11.0	11.0	11.0	11.0
8	12.0	11.0	11.5	12.0	11.5	11.5	11.0	11.0	11.0	11.0	11.0	11.0
9	12.0	11.5	11.5	11.5	11.0	11.5	11.0	11.0	11.0	11.5	11.0	11.0
10	11.5	11.5	11.5	11.5	11.0	11.0	11.0	11.0	11.0	11.5	11.0	11.0
11	11.5	11.5	11.5	11.0	11.0	11.0	11.0	10.5	11.0	11.0	11.0	11.0
12	12.0	11.5	11.5	11.5	11.0	11.0	11.0	10.5	11.0	11.0	11.0	11.0
13	11.5	11.5	11.5	11.0	11.0	11.0	11.0	10.5	10.5	11.5	11.0	11.0
14	11.5	11.5	11.5	11.0	10.5	11.0	11.0	10.5	10.5	11.5	11.0	11.0
15	11.5	11.5	11.5	11.5	11.0	11.0	11.0	10.5	11.0	11.5	11.0	11.0
16	11.5	11.5	11.5	11.5	11.0	11.0	11.0	10.5	11.0	11.5	11.0	11.0
17	11.5	11.5	11.5	11.5	11.0	11.5	11.0	11.0	11.0	11.0	11.0	11.0
18	11.5	11.0	11.5	11.5	11.0	11.0	11.0	11.0	11.0	11.5	11.0	11.0
19	11.5	11.0	11.5	11.5	11.0	11.0	11.0	11.0	11.0	11.0	9.5	11.0
20	11.5	11.0	11.5	11.0	11.0	11.0	11.0	11.0	11.0	11.0	10.5	11.0
21	11.5	11.0	11.5	11.0	11.0	11.0	11.0	10.5	11.0	11.0	11.0	11.0
22	12.0	11.5	11.5	11.5	11.0	11.0	11.0	10.5	10.5	11.0	11.0	11.0
23	11.5	11.5	11.5	11.5	11.0	11.0	11.0	10.5	10.5	11.0	10.5	11.0
24	12.0	11.5	11.5	11.5	11.0	11.0	11.0	10.5	11.0	11.0	10.5	10.5
25	11.5	11.5	11.5	11.5	11.0	11.0	11.0	10.5	11.0	11.0	10.5	11.0
26	11.5	11.5	11.5	11.5	11.0	11.0	11.0	11.0	11.0	11.0	10.5	11.0
27	11.5	11.5	11.5	11.5	11.0	11.0	11.0	10.5	11.0	11.0	10.5	10.5
28	12.0	11.0	11.5	11.5	11.0	11.0	11.0	11.0	11.0	11.0	10.5	10.5
29	12.0	11.0	11.5	11.0	11.0	11.0	11.0	10.5	11.0	11.0	10.5	11.0
30	11.5	11.0	11.5	11.5	11.0	11.0	11.0	10.5	11.0	11.0	10.5	11.0
31	12.0	11.0	11.5	---	---	---	11.0	10.5	11.0	11.0	10.5	11.0
MONTH	14.0	11.0	11.5	12.0	10.5	11.0	11.5	10.5	11.0	11.5	9.5	11.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	11.0	11.0	11.0	11.5	11.0	11.5	11.5	10.5	11.0	12.0	11.0	11.5
2	11.0	10.5	11.0	11.5	11.0	11.0	11.0	11.0	11.0	11.5	11.0	11.5
3	11.0	10.5	11.0	11.5	11.0	11.0	11.0	10.5	11.0	11.5	11.5	11.5
4	11.0	11.0	11.0	---	---	---	11.0	9.5	10.5	11.5	11.0	11.5
5	11.5	11.0	11.0	---	---	---	11.0	10.5	11.0	12.0	11.0	11.5
6	11.5	11.0	11.0	---	---	---	11.0	10.5	10.5	12.0	11.0	11.5
7	11.5	11.0	11.0	---	---	---	11.0	10.5	11.0	12.0	11.0	11.5
8	11.0	10.5	11.0	---	---	---	11.5	11.0	11.0	12.0	11.0	11.5
9	11.0	10.5	11.0	---	---	---	11.5	11.0	11.5	12.0	11.0	11.5
10	11.5	10.5	11.0	---	---	---	12.0	11.0	11.5	12.5	11.0	11.5
11	11.5	10.5	11.0	---	---	---	11.5	11.0	11.5	12.0	11.5	11.5
12	11.0	11.0	11.0	---	---	---	11.5	11.0	11.0	---	---	---
13	11.0	10.5	11.0	11.5	11.0	11.0	11.5	11.0	11.0	---	---	---
14	11.0	10.5	11.0	11.0	11.0	11.0	11.5	11.0	11.5	---	---	---
15	11.0	10.5	11.0	11.5	11.0	11.0	11.0	11.0	11.0	---	---	---
16	11.0	10.5	11.0	11.5	11.0	11.0	11.0	11.0	11.0	---	---	---
17	11.0	11.0	11.0	11.5	11.0	11.0	11.5	11.0	11.0	---	---	---
18	11.5	11.0	11.0	11.5	11.0	11.0	12.0	11.0	11.5	---	---	---
19	11.5	10.5	11.0	12.0	11.0	11.0	12.0	11.0	11.5	---	---	---
20	11.5	10.5	11.0	12.0	11.0	11.0	12.0	11.0	11.5	---	---	---
21	11.5	11.0	11.0	12.0	11.0	11.0	12.0	11.0	11.5	---	---	---
22	11.5	11.0	11.0	---	---	---	12.0	11.0	11.5	---	---	---
23	11.0	11.0	11.0	---	---	---	11.5	11.5	11.5	---	---	---
24	11.5	11.0	11.0	---	---	---	11.5	11.0	11.5	---	---	---
25	11.5	10.5	11.0	---	---	---	12.0	11.0	11.5	---	---	---
26	11.5	11.0	11.0	---	---	---	12.0	11.0	11.5	---	---	---
27	11.0	11.0	11.0	12.0	11.0	11.5	12.0	11.0	11.5	---	---	---
28	11.5	11.0	11.0	12.0	11.0	11.5	11.5	11.0	11.5	---	---	---
29	---	---	---	12.0	11.0	11.5	12.0	11.0	11.5	---	---	---
30	---	---	---	11.5	11.5	11.5	12.0	11.0	11.5	---	---	---
31	---	---	---	11.5	10.5	11.0	---	---	---	---	---	---
MONTH	11.5	10.5	11.0	12.0	10.5	11.0	12.0	9.5	11.5	12.5	11.0	11.5

03082500 YOUGHIOGHENY RIVER AT CONNELLSVILLE, PA

LOCATION.--Lat 40°01'03", long 79°35'38", Fayette County, Hydrologic Unit 05020006, on left bank at downstream side of Crawford Avenue bridge at Connellsville, 1.2 mi upstream from Mounts Creek, and at mile 44.0.

DRAINAGE AREA.--1,326 mi².

PERIOD OF RECORD.--July 1908 to current year. Monthly discharge only for periods, published in WSP 1305.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1305: 1912 (M), 1914 (M), 1916-17 (M), 1918, 1922-25, WSP 1435: 1919-20. WSP 1725: 1916, 1932 (monthly, yearly summaries).

GAGE.--Water-stage recorder. Datum of gage is 860.13 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 15, 1928, nonrecording gage, and Aug. 15, 1928, to July 7, 1958, water-stage recorder at same site and datum. July 8, 1958, to Sept. 8, 1959, nonrecording gage at site 0.4 mi downstream at different datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated since 1925 by Deep Creek Reservoir, since 1943 by Youghiogheny River Lake 29.4 mi upstream, and by several smaller reservoirs above station. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--79 years, 2,580 ft³/s, 26.42 in/yr, adjusted for storage since August 1925.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 103,000 ft³/s, Oct. 16, 1954, gage height, 21.96 ft, from rating curve extended above 55,000 ft³/s; minimum, 11 ft³/s, Sept. 23, 26, 27, 1908, Oct. 18, 1910, gage height, 0.11 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,300 ft³/s, Oct. 4, gage height, 7.69 ft; minimum daily, 612 ft³/s, Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1340	1550	4130	e2600	e2900	1330	4820	e2700	2000	1080	691	818
2	3770	1510	e3000	e2300	e3300	5050	e3400	e2600	1820	e1200	691	764
3	2770	1470	e3500	e2100	e4480	4180	e3400	e2600	1470	e1300	1020	725
4	8330	1590	5290	e1800	e4100	3130	4100	e2800	1220	e1150	1090	692
5	9640	2260	4810	e1700	e3900	2520	6750	e2900	1050	e1050	718	671
6	5450	4570	4360	e1600	e3600	2150	6040	e2600	1280	1010	911	726
7	3650	4250	3980	e1900	e3500	2400	8630	e2500	1240	992	831	806
8	2850	3720	3750	e2100	e3400	3850	11000	2830	1130	974	754	1330
9	2530	8050	4990	2210	e3300	4680	10600	2630	879	926	718	2310
10	2210	7320	9260	2130	e2800	4590	7720	2460	905	871	711	1550
11	1970	5110	7350	2170	e2700	3430	7380	2230	799	e1000	689	1150
12	1820	6220	e6200	2100	2550	2600	6700	1710	815	e960	674	1180
13	1810	4640	e5000	2000	2560	2180	8020	1090	1200	904	657	1110
14	2220	3580	e4600	1960	e2100	1870	7090	988	1170	962	642	1160
15	2930	3300	e4200	2420	e1900	1710	6200	1070	1090	983	637	977
16	2500	3170	e4100	e5000	e1700	1570	6490	1330	815	913	631	902
17	2240	e2500	e3900	e4000	e1500	1380	7780	1180	758	847	630	855
18	2110	e2400	e3900	e3100	e1300	1360	8570	e1050	717	804	635	1170
19	2020	e3900	e4300	e3400	e1200	e1350	6470	e2000	687	784	627	1370
20	1900	3490	e4100	e5600	e1100	e1350	5650	2910	969	761	633	1590
21	1830	6020	e3900	e4000	e1100	e1300	5100	3650	1610	752	612	2050
22	1780	5800	e3700	e3500	e1100	e1250	4720	e2800	e1200	735	757	1870
23	1740	4930	e3600	e2200	e1200	e1200	4340	e2300	e980	722	934	1970
24	1680	e4400	e3500	e3000	1240	e1200	4910	1900	e1000	705	867	1790
25	1620	e4400	e3500	e2800	1000	e1250	4590	e1650	e900	698	727	1520
26	1710	5010	e5800	e2600	815	e1300	3500	e1550	e800	703	706	1340
27	1950	8190	e4200	e2500	824	e1200	4140	6350	1010	736	665	1180
28	2000	5810	e3700	e2400	849	e1200	4210	e3900	1020	738	1190	1060
29	2000	5490	e3300	e2300	---	e1250	e3200	e2600	942	713	1500	987
30	1770	4720	e3100	e2300	---	e1300	e2900	e3000	954	690	1200	1340
31	1650	---	e2900	e2500	---	2810	---	2440	---	695	892	---
TOTAL	83790	129370	135920	82290	62018	67940	178420	74318	32430	27358	24640	36963
MEAN	2703	4312	4385	2655	2215	2192	5947	2397	1081	883	795	1232
MAX	9640	8190	9260	5600	4480	5050	11000	6350	2000	1300	1500	2310
MIN	1340	1470	2900	1600	815	1200	2900	988	687	690	612	671
†	-330	+842	-273	-45.5	+90.0	+745	+602	-24.4	-197	-554	-540	-319
MEAN‡	2373	5154	4112	2610	2305	2937	6549	2373	884	329	255	913
CFSM‡	1.79	3.89	3.10	1.97	1.74	2.21	4.94	1.79	.67	.25	.19	.69
IN.‡	2.06	4.34	3.57	2.27	1.81	2.55	5.51	2.06	.75	.29	.22	.77

CAL YR 1986 TOTAL 1052490 MEAN 2884 MAX 26500 MIN 532 ADJ +31.1 MEAN‡ 2915 CFSM‡ 2.20 IN.‡ 29.83
WTR YR 1987 TOTAL 935457 MEAN 2563 MAX 11000 MIN 612 ADJ -3.7 MEAN‡ 2559 CFSM‡ 1.93 IN.‡ 26.20

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir and Youghiogheny River Lake. Records of contents in Deep Creek Reservoir furnished by Pennsylvania Electric Co.
‡ Adjusted for change in reservoir contents.

e Estimated

03083500 YOUGHIOGHENY RIVER AT SUTERSVILLE, PA

LOCATION.--Lat 40°14'24", long 79°48'24", Allegheny County, Hydrologic Unit 05020006, on left bank 500 ft upstream from highway bridge at Sutersville, 2.1 mi downstream from Sewickley Creek, and at mile 15.2.

DRAINAGE AREA.--1,715 mi².

PERIOD OF RECORD.--October 1920 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORD.--WSP 743: Drainage area. WSP 1305: 1924, 1926 (M), 1931 (M). WSP 1435: 1935-36.

GAGE.--Water-stage recorder. Datum of gage is 733.36 ft above National Geodetic Vertical Datum of 1929. Prior to June 1, 1939, nonrecording gage at site 500 ft downstream at same datum.

REMARKS.--Records good. Flow regulated since 1925 by Deep Creek Reservoir, since 1943 by Youghiogheny River Lake 58 mi upstream, and by several smaller reservoirs above station. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--67 years, 3,043 ft³/s, 24.10 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 108,000 ft³/s, Oct. 16, 1954, gage height, 32.5 ft, from floodmark; minimum observed, 57 ft³/s, Sept. 29, 30, 1922.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 14,700 ft³/s, Nov. 9, gage height, 10.26 ft; minimum daily, 733 ft³/s, Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1580	1750	4610	3190	3570	1290	5160	3420	2460	1590	824	1150
2	3920	1690	4780	3010	3940	e6600	4290	3310	2230	2280	824	1020
3	3590	1650	5560	2750	5620	e5400	4410	3420	1920	2540	1610	933
4	e10500	1820	6350	2430	5450	3430	5190	3580	1630	1900	1400	884
5	11800	2530	5580	2140	4900	2920	8930	3720	1380	1520	1270	840
6	6530	4510	4910	1920	4440	2470	8660	3360	1350	1320	1310	921
7	4170	4750	4430	2180	4150	2450	10200	3040	1490	1330	1120	971
8	3280	4850	4210	2880	4010	e4000	12500	3140	1390	1230	987	1240
9	2870	11600	5740	2820	3850	e5400	e14000	3040	1380	1190	967	2740
10	2530	10500	11900	2710	3400	e5800	e10000	2840	1200	1150	1030	2290
11	2270	6760	9220	2830	3340	e4200	e9400	2670	1090	1080	899	1570
12	2080	7640	7080	2710	3020	2920	e8400	2260	1040	1480	851	1470
13	2000	5830	5910	2510	3040	2480	e10500	1680	1320	1150	816	1410
14	2220	4320	5010	2460	2760	2180	e10000	1350	1510	1160	792	1410
15	3050	3790	4580	2680	2470	2000	e8400	1300	1430	1300	773	1290
16	2820	3660	4330	5030	2250	1880	e8200	1530	1500	1160	767	1130
17	2470	3370	4080	5190	2060	1640	e9200	1560	1030	1070	756	1110
18	2310	2870	4010	4150	1880	1580	e11000	1390	950	1000	798	3820
19	2200	3560	4470	4690	1660	1530	e9000	2910	892	961	753	2810
20	2080	4070	4220	10500	1470	1470	e7400	3290	937	933	743	2390
21	1990	6150	3840	6680	1430	1460	e6800	3760	1830	922	733	2540
22	1930	6440	3620	5300	1440	1430	e6200	3450	2120	902	1110	2430
23	1880	5330	3420	4640	1540	1350	e5400	2970	1650	885	1430	2340
24	1840	4900	4160	4060	1610	1320	7570	2270	1430	869	1120	2200
25	1760	5100	7750	3460	1400	1300	6980	2030	1290	847	951	1870
26	1900	7780	7580	e3200	1170	1550	4740	1870	1150	841	899	1620
27	2090	11000	6000	e3000	1070	1470	4560	6370	1110	868	904	1420
28	2200	7290	5010	e2800	1100	1360	4800	7850	1240	859	1330	1280
29	2200	6210	4400	e2900	---	1310	4220	4080	1170	864	2670	1190
30	2030	5330	4030	e3000	---	1350	3740	2830	1210	834	1920	1780
31	1860	---	3760	e3300	---	2270	---	2660	---	823	1310	---
TOTAL	95950	157050	164550	111120	78040	77810	229850	92950	42329	36858	33667	50069
MEAN	3095	5235	5308	3585	2787	2510	7662	2998	1411	1189	1086	1669
MAX	11800	11600	11900	10500	5620	6600	14000	7850	2460	2540	2670	3820
MIN	1580	1650	3420	1920	1070	1290	3740	1300	892	823	733	840
†	-330	+842	-273	-45.5	+90.0	+745	+602	-24.4	-197	-554	-540	-319
MEAN‡	2765	6077	5035	3540	2877	3255	8264	2974	1214	635	546	1350
CFSM‡	1.61	3.54	2.94	2.06	1.68	1.90	4.82	1.73	.71	.37	.32	.79
IN.‡	1.86	3.95	3.39	2.37	1.75	2.19	5.38	1.99	.79	.43	.37	.88

CAL YR 1986 TOTAL 1258150 MEAN 3447 MAX 36900 MIN 500 ADJ +31.1 MEAN‡ 3478 CFSM‡ 2.03 IN.‡ 27.54
WTR YR 1987 TOTAL 1170240 MEAN 3206 MAX 14000 MIN 733 ADJ -3.7 MEAN‡ 3202 CFSM‡ 1.87 IN.‡ 25.35

† Change in contents, equivalent in cubic feet per second, in Deep Creek Reservoir and Youghiogheny River Lake. Records of contents in Deep Creek Reservoir furnished by Pennsylvania Electric Co.
‡ Adjusted for change in contents.

e Estimated

03084000 ABERS CREEK NEAR MURRYSVILLE, PA

LOCATION.--Lat 40°27'01", long 79°42'50", Allegheny County, Hydrologic Unit 05020005, on right bank at downstream side of highway bridge, 30 ft upstream from small tributary, 2 mi northwest of Murrysville, and 5 mi northwest of Export.

DRAINAGE AREA.--4.39 mi².

PERIOD OF RECORD.--October 1948 to current year.

GAGE.--Water-stage recorder and log control. Datum of gage is 936.73 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Department of Transportation bench mark). Prior to Oct. 1, 1950, water-stage recorder at site 800 ft upstream at differnt datum. Oct. 1, 1950 to Apr. 26, 1984, water-stage recorder at present site and datum. Apr. 27, 1984 to Sept. 30, 1985, nonrecording gage at site 800 ft upstream at same datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--39 years, 5.38 ft³/s, 16.64 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,600 ft³/s, July 5, 1950, gage height, 7.72 ft, from flood-marks, from rating curve extended above 910 ft³/s on basis of contracted-opening measurement of peak flow; maximum gage height, 11.65 ft, Mar. 29, 1985; no flow at times during some years.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 200 ft³/s and maximum (*).

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 4	2145	282	4.01	June 22	2115	372	4.49
Nov. 26	1300	*439	*4.77	July 2	0615	390	4.57
Apr. 4	1615	233	3.81	Aug. 2	2115	378	4.52
June 19	1930	387	4.56	Sept. 17	1930	307	4.19

Minimum daily discharge, 0.26 ft³/s July 27, 28, 29, 30, gage height, 1.97 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.3	.88	4.6	3.9	5.4	13	14	4.5	7.1	16	.70	2.1
2	1.5	.95	32	e3.8	16	8.2	16	6.8	4.2	51	17	1.6
3	12	.86	25	e3.4	11	5.6	11	23	2.8	15	8.2	1.4
4	25	4.0	13	e3.2	7.7	4.4	52	17	1.8	7.9	2.3	1.2
5	10	4.1	8.3	e2.9	6.0	3.9	34	9.8	1.4	5.7	14	1.3
6	4.2	3.3	6.4	e3.1	5.2	3.4	22	7.2	1.1	10	3.9	9.6
7	2.1	1.7	5.6	e3.4	4.7	3.3	14	6.0	.74	6.5	2.3	5.0
8	1.6	19	7.9	e3.7	4.9	3.2	10	5.0	3.2	4.1	2.0	11
9	1.3	19	21	e3.4	11	3.0	7.9	4.5	4.2	3.1	3.5	4.2
10	1.1	6.0	16	e3.4	15	4.2	6.7	3.8	1.5	2.6	2.4	2.6
11	1.0	14	9.7	e3.7	14	4.6	5.8	3.3	1.0	2.3	1.7	2.1
12	1.0	7.1	7.3	e3.5	7.3	2.1	9.4	2.8	3.0	2.0	1.4	1.8
13	2.7	4.5	5.6	e3.4	4.3	1.8	6.7	2.4	2.5	1.7	1.2	3.1
14	4.7	3.1	e4.5	e3.2	3.8	2.8	5.7	2.1	1.0	2.4	1.3	1.8
15	1.5	2.6	e3.9	e3.6	e3.1	4.0	10	4.3	2.8	1.5	1.1	1.7
16	1.2	2.2	e3.6	e3.5	e2.6	2.6	12	2.0	1.2	1.3	.78	1.6
17	1.1	1.8	e3.4	e3.2	e2.2	3.0	9.7	1.7	.54	1.1	3.6	27
18	1.0	3.4	e4.5	e2.7	e2.0	2.1	7.4	4.7	.45	.75	2.0	20
19	1.0	2.2	3.7	e7.6	e3.0	1.8	6.2	5.3	13	.73	.78	9.3
20	.99	5.6	3.0	e5.6	e5.2	1.8	5.4	2.5	6.3	.67	1.0	6.0
21	.96	5.9	2.7	e3.7	e8.0	1.8	4.8	1.8	4.5	.52	.58	4.5
22	1.0	4.2	3.8	e2.8	4.3	1.8	4.4	1.6	14	.43	17	4.9
23	.81	3.7	7.6	e2.6	3.0	1.6	13	1.4	14	.43	2.6	3.5
24	.70	3.8	19	e2.4	2.2	1.5	32	1.1	4.7	.37	1.6	4.4
25	1.0	2.4	19	e2.2	e1.7	19	14	1.0	5.0	.38	1.2	2.9
26	2.0	78	10	e2.0	e1.3	14	9.2	11	3.7	.58	3.3	2.3
27	1.0	20	7.1	e1.9	e1.1	7.1	8.9	7.4	3.1	.33	1.8	2.0
28	1.0	10	5.9	e1.7	e3.0	5.4	7.3	2.8	2.0	.26	8.2	2.0
29	.91	7.4	4.9	e1.6	---	4.5	6.4	1.8	6.5	.26	3.3	5.2
30	.87	5.6	4.6	e7.0	---	8.5	5.1	4.5	6.0	.63	1.8	4.7
31	.83	---	4.3	7.0	---	24	---	3.8	---	.43	3.2	---
TOTAL	90.37	247.29	277.9	109.1	159.0	168.0	371.0	156.9	123.33	140.97	115.74	150.8
MEAN	2.92	8.24	8.96	3.52	5.68	5.42	12.4	5.06	4.11	4.55	3.73	5.03
MAX	25	78	32	7.6	16	24	52	23	14	51	17	27
MIN	.70	.86	2.7	1.6	1.1	1.5	4.4	1.0	.45	.26	.58	1.2
CFSM	.66	1.88	2.04	.80	1.29	1.23	2.82	1.15	.94	1.04	.85	1.15
IN.	.77	2.10	2.35	.92	1.35	1.42	3.14	1.33	1.05	1.19	.98	1.28

CAL YR 1986 TOTAL 1630.43 MEAN 4.47 MAX 78 MIN .20 CFSM 1.02 IN. 13.83
WTR YR 1987 TOTAL 2110.38 MEAN 5.78 MAX 78 MIN .26 CFSM 1.32 IN. 17.88

e Estimated

03085000 MONONGAHELA RIVER AT BRADDOCK, PA
(National stream quality accounting network)

LOCATION.--Lat 40°23'28", long 79°51'30", Allegheny County, Hydrologic Unit 05020005, near right bank on river guide wall 300 ft upstream from dam at lock 2 at Braddock, 1,700 ft downstream from Turtle Creek, and 11.2 mi upstream from confluence with Allegheny River. Water-quality sampling site at Rankin bridge, 1.7 mi downstream.

DRAINAGE AREA.--7,337 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only for some periods, published in WSP 1305.

GAGE.--Water-stage recorder and fixed-crest concrete dam control with streamward lock chamber usable as floodway during high flow since 1951. Datum of gage is 707.16 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 13, 1951, at site 700 ft upstream at same datum.

REMARKS.--Records good. Flow regulated by locks and hydroelectric plants, since 1938 by Tygart Lake, since 1926 by Lake Lynn, since 1925 by Deep Creek Reservoir, and since 1943 by Youghiogheny River Lake, combined capacity, 704,300 acre-ft. Figures of daily discharge include slight diversion from Beaver Run Reservoir in the Kiskiminetas River basin to the borough of Jeannette in the Monongahela River basin.

AVERAGE DISCHARGE.--49 years, 12,500 ft³/s, 23.14 in/yr, adjusted for storage and diversion 1938-75.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 201,000 ft³/s, June 5, 1941, gage height, 31.20 ft; maximum gage height, 31.39 ft, June 24, 1972 (backwater from Allegheny River); minimum discharge, 559 ft³/s, Sept. 20, 22, 23, 1946; minimum daily, 703 ft³/s, Sept. 3, 4, 22, 1946; minimum gage height, 12.01 ft, Oct. 7-13, 1943.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 38.8 ft from floodmarks, discharge, 210,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 57,500 ft³/s, Nov. 10, gage height, 19.25 ft; minimum daily, 1,290 ft³/s, Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10500	4640	19700	10300	22800	8830	21700	13500	6460	4390	e1860	e2800
2	15400	3530	21100	8790	19900	16200	17900	12400	6150	6350	e1580	e2720
3	12700	5270	20300	9220	32200	21500	15700	10800	3770	12300	e2840	e2250
4	16700	7210	19800	6880	30200	19300	17300	11500	3520	5590	e2910	e2170
5	26600	9900	19300	6160	24900	15800	22200	12200	3090	3680	e3890	e2200
6	17600	21500	16600	6340	19000	12300	24700	12000	2520	2970	e4210	e2140
7	11700	33800	13500	8200	14900	9990	36200	11500	2530	3860	e2360	e2670
8	9040	30000	10700	9280	14000	8120	51500	11200	2590	3150	e1880	3560
9	8140	44700	15800	6320	11500	10500	45700	9670	3380	e2790	e1710	4570
10	6400	51000	38900	6560	10800	15700	37200	7390	2820	e3160	e1620	6120
11	4810	36000	39800	7090	10500	13600	35100	7100	2860	e2900	e1950	4060
12	4530	38700	30800	8240	9510	10400	37400	7070	2490	e2330	e1590	3350
13	4520	34100	25100	8220	8850	9940	33500	6630	4110	e2360	e1440	2690
14	5650	26700	20400	8720	12800	6700	30000	4590	3140	e2750	e1530	4830
15	9120	20400	16800	7210	10000	5130	25700	4270	3920	e3560	e1960	4130
16	9380	14400	15700	10800	9800	4780	25600	3990	5270	e2930	e1500	3550
17	7780	12100	12100	12200	11400	6590	28600	3740	2930	e3240	e1360	3250
18	6160	12800	11700	14700	9520	6150	31200	3680	2610	e2470	e1380	7080
19	5300	13400	10900	13800	8950	5950	26400	9990	3120	e1780	e1520	7330
20	4480	15200	11100	38200	6560	5420	19600	13700	3440	e1650	e1500	8400
21	5070	26400	9000	40800	5780	5450	15800	13400	7460	e2010	e1290	7730
22	4320	29700	8130	32100	5430	3450	14600	12200	9210	e1950	e2200	7740
23	4370	23000	8880	25900	6090	3900	13600	8840	12900	e1710	e4820	7070
24	4520	17200	10900	18300	9250	5750	24400	5850	15000	e1660	e2940	6340
25	4060	20200	39300	11100	9640	6600	39200	5560	8970	e2090	e3110	5750
26	3230	28700	36800	9100	9270	7420	30400	4910	6020	e1660	e2830	4930
27	4090	47200	25500	10200	10600	7570	26600	17700	6280	e1560	e3120	3140
28	4820	35500	19700	9040	7390	4990	22900	17000	3340	e2060	e3840	2510
29	4550	28500	16600	9290	---	4310	18400	10300	2890	e1920	e5750	2320
30	5180	22100	16200	11000	---	5000	14800	7390	3430	e1560	e3760	3730
31	4830	---	14400	23300	---	11400	---	5660	---	e1640	e2500	---
TOTAL	245550	713850	595510	407360	361540	278740	803900	285730	146220	94030	76750	131130
MEAN	7921	23790	19210	13140	12910	8992	26800	9217	4874	3033	2476	4371
MAX	26600	51000	39800	40800	32200	21500	51500	17700	15000	12300	5750	8400
MIN	3230	3530	8130	6160	5430	3450	13600	3680	2490	1560	1290	2140

CAL YR 1986 TOTAL 4865280 MEAN 13330 MAX 108000 MIN 1860
WTR YR 1987 TOTAL 4140310 MEAN 11340 MAX 51500 MIN 1290

e Estimated

03085000 MONONGAHELA RIVER AT BRADDOCK, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1958 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	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 CACO3)
DEC											
16...	1000	13700	235	7.9	4.0	6.9	748	12.8	700	100	84
MAR											
05...	0930	14900	300	6.7	5.0	10	755	13.4	300	72	100
JUN											
18...	1100	3300	460	7.0	26.0	8.9	747	7.0	2000	180	160
SEP											
01...	0915	2600	490	7.4	22.0	6.5	746	6.9	3100	160	160

DATE	HARD-NESS NONCARB WH WAT TOT FLD 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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE IT-FLD (MG/L AS HCO3)	CAR-BONATE IT-FLD (MG/L AS CO3)	ALKA-LINITY WH WAT TOTAL LAB MG/L AS CACO3	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
DEC											
16...	0	23	6.3	8.5	1.6	31	25	23	0.6	71	7.3
MAR											
05...	83	29	7.5	14	1.4	25	--	--	8.1	93	15
JUN											
18...	110	44	11	26	2.7	51	--	--	8.1	170	18
SEP											
01...	110	44	11	33	3.3	53	--	--	3.3	160	20

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 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)
DEC											
16...	.10	5.9	145	190	.20	5360	.770	.070	.60	.040	.030
MAR											
05...	.10	5.1	162	180	.22	6520	.770	.140	.60	.050	.010
JUN											
18...	.20	5.7	294	300	.40	2620	1.10	.210	1.3	.080	.010
SEP											
01...	.20	4.5	312	300	.42	2190	--	--	--	--	--

DATE	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	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)
DEC											
16...	.010	10	<1	36	<0.5	1	<1	<3	<1	16	<5
MAR											
05...	<.010	<10	<1	36	<0.5	1	<1	4	2	14	<5
JUN											
18...	<.010	20	<1	47	<0.5	<1	2	<3	1	14	<5
SEP											
01...	--	30	<1	43	<.05	<1	<1	<3	3	10	<5

DATE	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC										
16...	8	180	<0.1	<10	9	<1	<1	130	<6	17
MAR										
05...	9	250	<0.1	<10	11	<1	<1	150	<6	33
JUN										
18...	19	140	<0.1	<10	11	<1	<1	300	<6	150
SEP										
01...	5	81	0.1	<10	3	<1	<1	290	<6	27

03085500 CHARTIERS CREEK AT CARNEGIE, PA

LOCATION.--Lat 40°24'02", long 80°05'48", Allegheny County, Hydrologic Unit 05030101, on left bank 100 ft downstream from Hammond Street bridge, 0.3 mi downstream from Robinson Run, 0.8 mi upstream from Campbells Run, and 8.9 mi upstream from mouth.

DRAINAGE AREA.--257 mi².

PERIOD OF RECORD.--October 1919 to September 1933, October 1940 to current year. Published as "at Crafton" October 1971 to September 1975. Monthly discharge only for some periods, published in WSP 1305. June 1915 to September 1919 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania.

GAGE.--Water-stage recorder and concrete weir control. Datum of gage is 755.45 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 15, 1931, nonrecording gage at site 0.5 mi downstream at different datum. Jan. 8, 1932, to Sept. 30, 1933, nonrecording gage at site 1.0 mi downstream at different datum. Nov. 20, 1940, to Aug. 18, 1967, water-stage recorder at site 400 ft upstream at datum 1.00 ft higher. Oct. 1, 1971, to Sept. 30, 1975, nonrecording gage at site 4.6 mi downstream, at datum 725.99 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except for estimated daily discharges, which are fair. Some regulations at low flow by mine drainage, reservoirs, and industrial usage above station. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--61 years, 292 ft³/s, 15.43 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,500 ft³/s, Aug. 6, 1956, gage height, 16.37 ft, site and datum then in use; minimum observed, 16 ft³/s, Aug. 9, 1926, and at times in September 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 2, 1912 reached a discharge of 20,000 ft³/s, from Corps of Engineers.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Nov. 26	1900	*3,650	*5.65	Apr. 7	2100	3,160	5.16
Dec. 2	1800	3,200	5.20				

Minimum discharge, 61 ft³/s, Aug. 14, 15, 20, 21, 22, gage height, 1.07 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	217	105	268	257	e300	213	782	394	176	264	68	107
2	206	104	1860	271	e450	280	533	512	243	719	87	83
3	296	103	1560	263	708	243	608	854	176	296	358	75
4	347	157	774	232	506	208	550	1080	160	183	89	71
5	556	219	533	199	409	191	1220	655	135	143	327	70
6	205	283	426	209	368	184	1740	538	127	127	171	165
7	143	178	376	242	344	179	2520	468	126	126	91	217
8	126	792	372	263	329	176	2260	420	119	121	79	697
9	119	1150	569	243	292	176	1440	378	266	106	96	220
10	111	446	727	245	261	168	962	343	180	100	148	139
11	105	518	516	270	257	157	756	318	132	97	92	108
12	105	478	428	251	330	154	644	296	191	92	76	97
13	111	301	355	235	323	152	667	271	250	139	72	93
14	161	230	300	234	269	146	547	253	148	133	63	88
15	132	205	289	255	246	167	471	260	149	111	63	86
16	113	193	271	250	208	163	642	237	141	94	69	86
17	107	178	266	225	231	147	820	218	112	90	112	262
18	105	176	285	222	214	142	603	220	105	84	112	506
19	104	186	260	598	202	144	497	473	104	78	77	213
20	101	182	232	720	189	142	439	298	438	78	65	166
21	101	268	218	442	189	139	400	231	440	77	62	120
22	102	221	204	379	187	137	368	206	216	78	283	116
23	102	196	195	354	216	135	478	195	299	75	406	139
24	101	189	400	265	197	133	1760	183	170	75	109	106
25	110	173	1020	310	174	131	1150	171	133	75	81	98
26	150	1620	574	293	167	332	733	180	174	74	122	89
27	130	1420	432	235	163	283	604	373	143	72	128	83
28	121	546	369	e200	162	202	609	225	122	74	296	77
29	110	395	324	e170	---	182	502	197	157	70	286	96
30	107	319	306	e150	---	170	455	176	304	69	115	146
31	104	---	277	e190	---	309	---	167	---	73	93	---
TOTAL	4708	11531	14986	8672	7891	5685	25760	10790	5636	3993	4296	4619
MEAN	152	384	483	280	282	183	859	348	188	129	139	154
MAX	556	1620	1860	720	708	332	2520	1080	440	719	406	697
MIN	101	103	195	150	162	131	368	167	104	69	62	70
CFSM	.59	1.50	1.88	1.09	1.10	.71	3.34	1.35	.73	.50	.54	.60
IN.	.68	1.67	2.17	1.26	1.14	.82	3.73	1.56	.82	.58	.62	.67

CAL YR 1986 TOTAL 109594 MEAN 300 MAX 2400 MIN 69 CFSM 1.17 IN. 15.87
WTR YR 1987 TOTAL 108567 MEAN 297 MAX 2520 MIN 62 CFSM 1.16 IN. 15.72

e Estimated

03086000 OHIO RIVER AT SEWICKLEY, PA

LOCATION.--Lat 40°32'57", long 80°12'21", Allegheny County, Hydrologic Unit 05030101, near left bank 50 ft upstream from Dashields Dam, 1.0 mi downstream from Narrows Run, 1.0 mi northwest of Sewickley, and 13.3 mi downstream from confluence of Allegheny and Monongahela Rivers.

DRAINAGE AREA.--19,500 mi^2, approximately.

PERIOD OF RECORD.--October 1933 to current year.

REVISED RECORDS.--WSP 1305: 1938-40 (adjusted monthly runoff). WSP 1435: 1934.

GAGE.--Water-stage recorder and fixed-crest concrete dam control. Datum of gage is 690.41 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 22, 1933 nonrecording gage, Nov. 22, 1933 to May 1981 water-stage recorder at site 1.5 mi upstream, at same datum.

REMARKS.--Records good. Some regulation by locks, and by many reservoirs above station. Combined capacity of reservoirs and lakes excluding that of Chautauqua Lake but including Lake Lynn and Deep Creek Reservoir and 15 smaller reservoirs, 2,773,000 acre-ft. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--54 years, 33,040 ft^3/s, 23.01 in/yr, adjusted for storage May 1938 to September 1975.

EXTREMES FOR PERIOD OF RECORD.--Maxmium discharge, 574,000 ft^3/s, Mar. 18, 1936, gage height, 34.75 ft, from flood-mark in gage house; minimum, 1,800 ft^3/s, Sept. 4, 1957, gage height, 2.60 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 123,000 ft^3/s, Apr. 8, gage height, 8.77 ft; minimum daily, 4,190 ft^3/s, Aug. 17.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24500	e14600	e55300	36300	38900	16300	86300	e38700	e19000	e21000	e6090	14400
2	34800	e12900	e60600	33700	34600	35300	88400	e37400	e18600	e36700	e5950	12600
3	35700	e14500	e68000	31200	51000	61600	80900	e36700	e16400	e83300	e9770	10400
4	52800	e16800	e84300	26200	51500	60200	77000	e41300	e17100	e72700	e15300	8040
5	80600	e19400	e80500	24100	45500	52300	94800	e39900	e17900	e56400	e19200	7480
6	60200	e31500	e71400	22100	37200	42400	95600	e36800	e15000	e44700	e14200	7180
7	54600	e45700	e61500	23800	32800	39300	104000	e32700	e13000	e39700	e10500	6380
8	47700	49100	e53500	25400	30000	37500	120000	e32400	e11800	e42800	e8730	19800
9	42800	65700	e60500	21500	25800	49900	118000	e30600	e13400	e40300	e7170	27800
10	37600	75200	e95700	21600	23500	60600	109000	e25500	e12000	e33500	e10800	33400
11	31900	63500	e103000	20900	23200	56300	105000	e23700	e10800	e27300	e11800	25500
12	28900	e64000	e87000	21400	23000	49000	104000	e23400	e10400	e23500	9300	20400
13	25300	e59500	e73900	23000	21700	44900	95900	e20300	e13000	e20300	7240	27600
14	26500	e51000	e60300	22500	26100	37800	91800	e17000	e13700	e18000	5830	31600
15	31300	e42100	e52000	21500	22800	32100	80600	e16200	e14600	e20100	5480	27600
16	34200	e34900	e47100	27600	19100	26300	69500	e16400	e16100	e21400	5190	24800
17	29700	e30400	e41500	40300	20900	27400	66900	e14400	e14000	e19800	4190	29700
18	27000	e30700	42300	41600	19600	24100	65300	e14400	e12500	e16300	4290	39800
19	28200	e35900	42800	37700	19100	21800	57200	e23900	e11500	e14000	4340	e60100
20	e20900	e38900	45900	65600	16200	19600	48400	e28100	e12300	e11600	4880	e61200
21	e18600	e51200	41700	73000	14700	18700	43700	e26700	e19600	e10300	4360	e58700
22	e16100	e55500	37400	57500	12800	14200	36800	e24600	e22400	e8600	7600	e52600
23	e15300	e47400	36300	47500	13000	13300	35000	e21000	e35700	e7840	9320	e45400
24	e14600	e41500	35900	35900	17700	17600	52700	e17300	e39200	e7260	9080	e39200
25	e12600	e45200	69300	21900	19000	19500	78600	e15600	e29400	e7190	8300	e32900
26	e11400	e66600	84400	17400	16200	27300	77500	e14900	e21600	e6420	8620	e29400
27	e12300	e108000	73300	18800	19700	37500	77500	e33400	e20000	e6620	7220	e25300
28	e14300	e91200	61900	19700	14700	33100	77500	e36000	e16200	e6560	10800	e20900
29	e15000	e76100	53700	20700	---	27100	62000	e26700	e13800	e6170	24500	e19800
30	e15800	e63500	49000	24800	---	27600	e42700	e22800	e14100	e5670	18800	e20000
31	e14600	---	44100	38400	---	46400	---	e19800	---	e5740	16200	---
TOTAL	915800	1442500	1874100	963600	710300	1077000	2342600	808600	515100	741770	295050	839980
MEAN	29540	48080	60450	31080	25370	34740	78090	26080	17170	23930	9518	28000
MAX	80600	108000	103000	73000	51500	61600	120000	41300	39200	83300	24500	61200
MIN	11400	12900	35900	17400	12800	13300	35000	14400	10400	5670	4190	6380

CAL YR 1986 TOTAL 13602500 MEAN 37270 MAX 186000 MIN 4870
WTR YR 1987 TOTAL 12526400 MEAN 34320 MAX 120000 MIN 4190

e Estimated

03101500 SHENANGO RIVER AT PYMATUNING DAM, PA

LOCATION.--Lat 41°29'53", long 80°27'37", Crawford County, Hydrologic Unit 05030102, on left bank 500 ft downstream from Sugar Run, 900 ft downstream from Pymatuning Dam, 1.5 mi northwest of Jamestown, and at mile 84.9.

DRAINAGE AREA.--167 mi^2.

PERIOD OF RECORD.--June 1934 to current year.

REVISED RECORDS.--WSP 823: 1934-36. WSP 1083: 1936 (M), 1937, 1940 (M), 1941-45. WSP 1335: 1940.

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 970.00 ft above National Geodetic Vertical Datum, adjustment of 1907.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1933 by Pymatuning Reservoir (station 03100500). Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--53 years, 208 ft^3/s, 16.91 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,540 ft^3/s, Sept. 4, 1937, gage height, 9.2 ft; minimum, 0.1 ft^3/s, June 30 to July 3, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 919 ft^3/s, July 3, gage height, 6.93 ft; minimum daily, 7.8 ft^3/s, June 26.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	118	107	760	736	220	109	59	17	39	30	95	597
2	110	107	729	445	220	72	89	16	39	359	95	592
3	143	107	685	274	220	42	65	18	39	561	111	591
4	144	108	571	271	120	33	49	19	39	783	98	588
5	111	108	690	221	25	32	132	18	39	774	95	308
6	408	109	770	156	25	36	183	18	39	771	93	130
7	764	109	769	116	26	41	117	18	38	769	92	131
8	759	109	778	95	28	39	58	17	37	766	92	142
9	757	109	796	93	27	35	37	17	38	765	96	139
10	754	108	804	93	25	28	33	18	37	766	150	132
11	752	109	774	94	25	26	28	18	37	766	103	130
12	751	109	767	93	26	25	29	16	39	766	96	130
13	757	109	764	92	25	25	29	16	30	766	95	133
14	759	109	762	95	24	25	28	15	19	766	95	131
15	753	109	760	140	23	25	25	18	19	763	95	131
16	749	109	758	150	22	26	26	17	41	762	95	133
17	747	449	758	157	22	27	27	17	60	532	95	140
18	745	745	781	157	23	27	26	17	46	194	95	510
19	744	760	770	159	22	26	24	18	49	76	95	701
20	742	744	760	203	22	25	23	19	35	76	110	692
21	349	755	756	223	22	24	21	22	20	71	120	688
22	107	748	750	222	23	24	19	22	32	68	247	687
23	107	742	747	221	25	24	20	21	23	68	369	686
24	107	741	749	220	24	23	25	20	13	68	362	686
25	107	736	829	220	24	25	23	20	9.8	68	361	684
26	108	666	773	220	24	32	19	21	7.8	72	362	681
27	109	633	756	219	24	28	20	20	8.0	77	383	678
28	111	748	751	217	25	26	26	33	17	82	565	429
29	110	770	745	217	---	25	22	40	20	84	609	169
30	109	765	742	219	---	55	19	40	29	91	600	140
31	108	---	739	219	---	126	---	39	---	95	598	---
TOTAL	12999	11737	23343	6257	1361	1136	1301	645	938.6	12655	6567	11709
MEAN	419	391	753	202	48.6	36.6	43.4	20.8	31.3	408	212	390
MAX	764	770	829	736	220	126	183	40	60	783	609	701
MIN	107	107	571	92	22	23	19	15	7.8	30	92	130

CAL YR 1986 TOTAL 112419.0 MEAN 308 MAX 829 MIN 17
WTR YR 1987 TOTAL 90648.6 MEAN 248 MAX 829 MIN 7.8

03102500 LITTLE SHENANGO RIVER AT GREENVILLE, PA

LOCATION.--Lat 41°25'19", long 80°22'35", Mercer County, Hydrologic Unit 05030102, on left bank 1,700 ft downstream from Williamson Crossing bridge, 1 mi northeast of Greenville, and 2.0 mi upstream from mouth.

DRAINAGE AREA.--104 mi^2.

PERIOD OF RECORD.--October 1913 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1305: 1914, 1922-23, 1926-29. WSP 1335: 1923 (m).

GAGE.--Water-stage recorder. Datum of gage is 953.46 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to Nov. 4, 1915, nonrecording gage; Nov. 4, 1915, to Sept. 30, 1918, water-stage recorder; Nov. 7, 1919, to Aug. 31, 1923, and Nov. 19, 1925, to June 20, 1934, nonrecording gage at site 1 mi downstream at datum 8.96 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are fair. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--74 years, 142 ft^3/s, 18.54 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,540 ft^3/s, Jan. 22, 1959, gage height, 14.30 ft, from rating curve extended above 3,200 ft^3/s on basis of slope-area measurement at gage height 12.26 ft; minimum, 2.9 ft^3/s, July 31, 1934, gage height, 0.58 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 3	1945	*1,460	*5.92				

Minimum discharge, 12 ft^3/s, June 19, gage height, 1.02 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	254	44	123	107	e62	e110	742	112	22	107	14	120
2	175	41	205	102	e58	e350	501	96	21	339	25	91
3	164	40	1070	103	e50	341	490	89	25	985	694	77
4	460	38	1160	93	e42	221	326	90	26	567	862	64
5	295	38	443	84	e37	161	487	91	20	265	205	54
6	162	42	249	e78	e35	169	972	76	18	185	97	46
7	108	46	196	e74	e32	210	931	58	17	117	66	46
8	81	44	240	e100	e33	242	505	51	16	109	50	163
9	66	52	297	95	e36	219	302	47	16	123	44	321
10	57	53	502	90	e50	147	221	44	14	86	193	136
11	48	47	335	100	e43	104	170	42	14	91	117	124
12	42	52	211	94	e34	93	158	49	33	69	69	461
13	59	59	164	86	e30	85	199	54	46	59	48	329
14	98	55	119	88	e40	127	150	43	29	94	39	198
15	93	47	153	238	e49	118	126	55	20	179	32	133
16	72	48	111	342	e58	105	119	49	17	94	28	154
17	60	51	108	185	e50	98	114	39	14	63	25	160
18	51	53	213	148	e40	94	104	41	13	46	23	372
19	44	185	312	e125	e38	92	91	69	13	38	22	589
20	40	153	209	e105	e44	86	79	72	21	32	21	479
21	37	192	156	e90	e52	80	70	70	68	29	20	435
22	36	205	119	e80	e44	73	64	46	191	26	145	272
23	35	168	102	e72	e36	70	62	39	169	24	274	335
24	34	143	95	e68	e32	67	111	36	83	21	125	214
25	32	122	340	e62	e30	64	167	29	48	20	74	154
26	41	227	501	e58	e29	79	126	28	33	25	55	117
27	53	580	276	e54	e28	86	89	28	27	24	125	97
28	64	395	205	e50	e40	78	108	27	27	19	420	82
29	75	222	158	e47	---	71	124	25	26	17	373	77
30	60	161	132	e50	---	117	125	24	44	15	214	506
31	50	---	117	e56	---	753	---	27	---	15	138	---
TOTAL	2946	3603	8621	3124	1152	4710	7833	1646	1131	3883	4637	6406
MEAN	95.0	120	278	101	41.1	152	261	53.1	37.7	125	150	214
MAX	460	580	1160	342	62	753	972	112	191	985	862	589
MIN	32	38	95	47	28	64	62	24	13	15	14	46
CFSM	.91	1.15	2.67	.97	.40	1.46	2.51	.51	.36	1.20	1.44	2.05
IN.	1.05	1.29	3.08	1.12	.41	1.68	2.80	.59	.40	1.39	1.66	2.29

CAL YR 1986 TOTAL 51264 MEAN 140 MAX 1410 MIN 11 CFSM 1.35 IN. 18.33
WTR YR 1987 TOTAL 49692 MEAN 136 MAX 1160 MIN 13 CFSM 1.31 IN. 17.76

e Estimated

03102850 SHENANGO RIVER NEAR TRANSFER, PA

LOCATION.--Lat 41°21'13", long 80°23'53", Mercer County, Hydrologic Unit 05030102, on left bank at downstream side of covered wooden bridge, 200 ft downstream from highway bridge, 0.6 mi downstream from Big Run, 2.5 mi northeast of Transfer, and at mile 71.8.

DRAINAGE AREA.--337 mi^2.

PERIOD OF RECORD.--October 1965 to current year.

REVISED RECORDS.--WDR PA-71-1: 1966, 1967.

GAGE.--Water-stage recorder. Datum of gage is 913.94 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Department of Transportation bench mark).

REMARKS.--Records good except for estimated daily discharges, which are fair. Flow regulated since 1933 by Pymatuning Reservoir (station 03100500) 13 mi upstream and by mills above station. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--22 years, 481 ft^3/s, 19.38 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,390 ft^3/s, Nov. 5, 1985, gage height, 10.47 ft; minimum, 33 ft^3/s, July 20, 21, 22, 1968, gage height, 1.71 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,130 ft^3/s, Dec. 3, gage height, 6.69 ft; minimum daily, 49 ft^3/s, June 16.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	655	167	896	834	e220	701	1000	121	62	286	73	782
2	457	159	1420	714	e230	982	904	102	60	1680	177	739
3	485	158	2940	434	e250	549	836	131	70	2120	1260	719
4	1150	153	2210	e320	e155	339	567	178	74	1690	1080	700
5	584	155	1180	e270	e140	256	1220	112	78	1210	391	543
6	425	164	1070	e230	e130	281	1960	82	74	1100	204	132
7	872	168	996	e260	e120	381	1530	71	66	1020	142	128
8	836	170	1090	262	e115	408	801	62	69	1010	118	428
9	813	182	1260	251	e130	347	492	57	70	1010	124	604
10	797	178	1660	246	e140	225	321	58	73	959	514	316
11	781	186	1190	260	e130	177	232	58	70	962	293	364
12	771	213	1010	248	e100	159	228	70	192	930	163	796
13	832	218	935	236	e96	147	321	74	177	916	118	590
14	887	201	862	244	e94	198	215	69	84	991	100	405
15	852	192	880	645	e88	181	163	82	58	1060	92	323
16	812	197	856	681	e96	171	159	72	49	952	86	365
17	793	311	857	439	e86	169	157	58	97	798	82	391
18	774	834	1160	394	e74	167	130	83	91	402	76	1020
19	762	1110	1200	e350	e82	164	134	136	59	96	71	1540
20	756	966	1010	e310	e92	153	127	142	233	85	72	1430
21	598	1100	921	e290	e82	145	104	116	256	78	83	1280
22	145	1030	860	e270	e76	133	89	77	611	74	421	1120
23	139	955	825	e280	e100	130	95	66	475	71	773	1180
24	134	926	844	e340	110	126	398	61	208	68	566	1010
25	133	887	1810	e400	112	126	436	53	93	84	496	931
26	163	1350	1510	e390	111	168	218	52	61	127	475	879
27	186	1810	1110	e380	112	163	164	52	63	123	600	845
28	218	1230	991	e360	123	146	445	52	66	114	1280	730
29	220	1030	916	e230	---	133	336	78	64	103	1140	352
30	196	951	878	e240	---	250	194	73	117	75	893	874
31	179	---	851	e230	---	1490	---	72	---	74	802	---
TOTAL	17405	17351	36198	11038	3394	9165	13976	2570	3820	20268	12765	21516
MEAN	561	578	1168	356	121	296	466	82.9	127	654	412	717
MAX	1150	1810	2940	834	250	1490	1960	178	611	2120	1280	1540
MIN	133	153	825	230	74	126	89	52	49	68	71	128

CAL YR 1986 TOTAL 195646 MEAN 536 MAX 3840 MIN 43
WTR YR 1987 TOTAL 169466 MEAN 464 MAX 2940 MIN 49

e Estimated

03103500 SHENANGO RIVER AT SHARPSVILLE, PA

LOCATION.--Lat 41°15'58", long 80°28'22", Mercer County, Hydrologic Unit 05030102, on left bank 800 ft upstream from double highway bridge at Sharpsville, 0.7 mi downstream from Shenango River Dam, 1.8 mi upstream from McCullough Run, and at mile 55.1.

DRAINAGE AREA.--584 mi^2.

PERIOD OF RECORD.--March 1938 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 2107: 1970 Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 861.57 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Pymatuning Reservoir (station 03100500) since 1933 and by Shenango River Lake 0.7 mi upstream, since 1967. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

COOPERATION.--One discharge measurement furnished by Corps of Engineers.

AVERAGE DISCHARGE.--49 years, 761 ft^3/s, 17.70 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft^3/s, Jan. 22, 1959, gage height, 15.97 ft; minimum daily, 43 ft^3/s, Sept. 3, 1941.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1913, reached a stage of 19.3 ft, from Pymatuning survey profile map (discharge not determined).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,030 ft^3/s, Apr. 9, gage height, 5.78 ft; minimum daily, 120 ft^3/s, Feb. 25-27.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	434	416	1630	2430	439	123	277	470	183	221	233	1410
2	668	416	1000	2380	440	226	421	420	183	351	236	1410
3	787	416	475	2310	440	436	720	348	203	595	230	1400
4	625	416	872	2220	440	707	667	289	216	1520	669	1270
5	661	416	1370	1570	440	905	449	290	217	2210	1100	942
6	967	570	1860	766	503	935	1180	290	216	2360	774	504
7	1320	663	2190	760	544	937	1710	206	215	2650	344	243
8	1510	662	2340	601	544	1110	2360	156	217	2780	204	244
9	1510	657	2120	440	540	1230	2940	156	216	2740	205	360
10	1500	656	2300	440	537	1220	2980	154	219	2710	331	565
11	1490	653	2740	440	531	969	2940	153	219	2330	428	564
12	1480	649	2840	440	527	614	2880	153	217	1710	428	565
13	1220	649	2890	440	524	481	2090	151	215	1430	322	592
14	971	644	2850	442	524	405	1550	150	217	1420	239	1010
15	1300	639	2810	448	470	351	1070	150	217	1420	239	976
16	1150	633	2760	655	320	352	544	150	218	1410	239	903
17	1070	628	2720	796	196	288	544	147	219	1140	239	1000
18	1500	572	2680	796	171	197	361	147	218	961	221	1010
19	1490	640	2660	796	171	165	381	145	215	632	207	1030
20	1240	695	2630	1030	169	165	524	145	217	310	208	1510
21	1100	730	2600	1270	168	167	519	146	219	239	208	1790
22	825	994	2640	1250	168	168	518	147	219	239	209	1780
23	544	1050	2640	1010	168	168	362	147	219	239	326	1780
24	544	1270	2350	777	139	168	369	148	219	239	428	1930
25	544	1570	1920	769	120	168	496	147	219	219	487	1920
26	540	1120	2340	609	120	168	558	148	220	197	647	1900
27	464	436	2610	442	120	168	558	147	223	198	712	1880
28	416	916	2580	440	121	168	558	148	223	197	806	1820
29	417	1620	2550	440	---	168	558	147	222	219	1090	1020
30	420	1630	2520	439	---	171	558	148	220	235	1140	1440
31	417	---	2470	439	---	176	---	160	---	234	1290	---
TOTAL	29124	23026	70957	28085	9594	13674	31642	5903	6460	33355	14439	34768
MEAN	939	768	2289	906	343	441	1055	190	215	1076	466	1159
MAX	1510	1630	2890	2430	544	1230	2980	470	223	2780	1290	1930
MIN	416	416	475	439	120	123	277	145	183	197	204	243

CAL YR 1986 TOTAL 359218 MEAN 984 MAX 3400 MIN 134
WTR YR 1987 TOTAL 301027 MEAN 825 MAX 2980 MIN 120

03105500 BEAVER RIVER AT WAMPUM, PA

LOCATION.--Lat 40°53'19", long 80°20'14", Lawrence County, Hydrologic Unit 05030104, on right bank at downstream side of bridge on State Highway 288 at Wampum, 2.9 mi upstream from Connoquenessing Creek, and at mile 15.4.

DRAINAGE AREA.--2,235 mi².

PERIOD OF RECORD.--July 1914 to September 1918, August 1932 to current year. Monthly discharge only for some periods, published in WSP 1305. Published as "at Newport" 1914-18.

REVISED RECORDS.--WSP 728: Drainage area. WSP 1385: 1933-40, 1946, 1951-52. WSP 1725: 1960 (adjusted runoff). WDR PA-85-3: 1984 (M).

GAGE.--Water-stage recorder. Datum of gage is 736.24 ft above National Geodetic Vertical Datum of 1929 (Penn Central Railroad bench mark). Prior to Sept. 20, 1914, nonrecording gage at site 500 ft downstream at datum 0.76 ft lower. Oct. 1, 1914, to Sept. 30, 1918, nonrecording gage at site 1 mi upstream at datum 0.84 ft higher. Aug. 26, 1932, to Nov. 16, 1938, nonrecording gage at present site and datum. Since 1932, auxiliary gage 10 mi downstream at Beaver Falls (station 03107500) which is used during periods of backwater from Connoquenessing Creek.

REMARKS.--Records fair. Flow regulated since 1942 by Berlin Lake, since 1916 by Milton Reservoir, since 1966 by Michael J. Kirwan Reservoir, since 1943 by Mosquito Creek Lake, since 1929 by Meander Creek Reservoir, since 1933 by Pymatuning Reservoir, and since 1967 by Shenango River Lake 40 mi upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--59 years (1914-18, 1932-87), 2,494 ft³/s, 15.15 in/yr, adjusted for storage from 1932-75.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,100 ft³/s, May 28, 1946, from slope-rating curve extended above 28,000 ft³/s on basis of contracted-opening measurement at gage height 21.44 ft; maximum gage height, 24.86 ft, Jan. 22, 1959 (backwater from Connoquenessing Creek); minimum discharge observed, 74 ft³/s, July 30, 1933, gage height, 1.70 ft; minimum daily, 97 ft³/s, July 22, Aug. 23, 1933.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1912, 29.9 ft, Mar. 26, 1913, from floodmark, discharge, about 87,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,100 ft³/s, Dec. 3, gage height, 12.07 ft; minimum daily, 740 ft³/s, June 19.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2290	1270	3730	4460	1530	1320	6820	2210	1150	1650	866	2230
2	3100	1220	8240	4320	1610	3950	6270	2060	1090	8700	932	2150
3	3760	1200	16200	4260	2110	4060	6280	2090	1040	12000	6550	e2000
4	13100	1150	11700	3860	2260	3130	5670	2230	1100	7110	2770	e1900
5	8400	1110	6870	3520	2040	2610	7410	1880	1220	4670	2760	e1500
6	4980	1180	4900	2420	1860	2430	12400	1650	1020	3550	2190	e1200
7	3640	1390	4810	2190	1990	2400	13600	1510	939	3530	1470	e1000
8	3670	1510	5240	2400	2090	2440	10500	1360	936	3680	1100	1340
9	3560	1580	6170	2070	1980	2660	7600	1180	1280	3810	1220	1600
10	3450	1460	7160	1850	1750	2440	6460	1050	990	3720	5820	1400
11	3340	1410	7160	1920	1720	2140	5850	965	903	4080	2470	e1250
12	3280	1540	6320	1820	1740	1700	5440	927	939	3090	1630	e1150
13	3440	1540	5870	1660	1860	1320	5120	930	1030	2470	1310	1530
14	3200	1490	5640	1630	1730	1220	3560	951	985	2660	1100	e1400
15	3320	1440	5600	2670	1510	1190	3150	1210	921	2750	1020	e1400
16	3370	1400	5410	3750	1220	1230	2340	1170	e860	2460	979	e1350
17	2580	1390	5120	3190	1070	1310	2300	982	e820	2280	952	1830
18	2690	1570	5060	2660	945	1320	2180	952	e760	1840	940	3290
19	2770	4170	5220	3250	865	1300	1790	2000	e740	1750	903	4720
20	2680	4020	5000	5750	829	1260	1790	1940	e900	1290	876	4080
21	2380	4550	4790	4620	824	1170	1790	e1500	1960	1060	834	3480
22	2340	4170	4570	3530	837	1070	1520	e1100	2060	975	1440	3170
23	1840	3520	4460	3150	873	991	1490	e960	1900	973	2000	e2700
24	1770	3020	4480	2360	879	945	3110	e940	1600	963	1530	e2500
25	1670	3100	6390	2050	827	918	3870	e900	1160	958	1300	e2300
26	1560	4690	7100	2060	788	964	2900	e880	923	1010	1300	e2200
27	1620	8310	6500	1720	775	1020	2430	e1450	883	968	1480	e2150
28	1610	6150	5720	1480	770	1020	3260	e1400	1110	926	1750	e2100
29	1490	4550	5230	1380	---	952	3120	1260	1270	866	1970	2570
30	1410	4000	4890	1420	---	1130	2540	e1150	1190	869	2050	4060
31	1340	---	4660	1630	---	6490	---	1380	---	899	1940	---
TOTAL	99650	79100	190210	85050	39282	58100	142560	42167	33679	87557	55452	65550
MEAN	3215	2637	6136	2744	1403	1874	4752	1360	1123	2824	1789	2185
MAX	13100	8310	16200	5750	2260	6490	13600	2230	2060	12000	6550	4720
MIN	1340	1110	3730	1380	770	918	1490	880	740	866	834	1000

CAL YR 1986 TOTAL 1151350 MEAN 3154 MAX 16200 MIN 786
WTR YR 1987 TOTAL 978357 MEAN 2680 MAX 16200 MIN 740

e Estimated

03106000 CONNOQUENESSING CREEK NEAR ZELIENOPLE, PA

LOCATION.--Lat 40°49'01", long 80°14'33", Beaver County, Hydrologic Unit 05030105, on right bank at downstream side of highway bridge at Hazen, 0.3 mi upstream from Brush Creek, 4 mi southeast of Ellwood City, and 6.0 mi west of Zelienople.

DRAINAGE AREA.--356 mi^2.

PERIOD OF RECORD.--October 1919 to current year. Monthly discharge only for some periods, published in WSP 1305. June 1915 to September 1919 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania. Published as "at Hazen" 1915-16, 1929-63, and as "near Hazen" 1917-28.

REVISED RECORDS.--WSP 743: Drainage area. WSP 893: 1937-38, 1939 (M). WSP 1305: 1922-26, 1928. WSP 1335: 1920-21, 1924 (M). WSP 1385: 1952.

GAGE.--Water-stage recorder. Datum of gage is 852.31 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to June 23, 1941, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Some regulation by mills above station. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--68 years, 466 ft^3/s, 17.78 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,000 ft^3/s, June 29, 1924, gage height, 16.66 ft; minimum observed, 6.0 ft^3/s, July 21-23, 1936; minimum gage height, 0.76 ft, Aug. 8, Sept. 16, 17, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 24	1930	5,180	8.48	Sept. 8	2230	*5,190	*8.49

Minimum discharge, 36 ft^3/s, July 31, gage height, 1.24 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	73	569	369	e620	297	2010	615	169	374	55	130
2	141	68	1940	e320	e660	688	1800	527	163	1640	44	111
3	188	66	3900	e280	e1050	569	1490	634	143	2170	597	86
4	1820	66	2100	e240	e860	488	1500	1150	124	942	208	75
5	1290	111	1230	e210	e760	402	3020	789	112	528	e140	66
6	642	164	902	e190	e600	371	3150	664	94	338	e110	67
7	365	153	716	e260	e470	349	2140	559	85	361	e96	473
8	247	131	642	e280	e400	344	1420	474	81	263	88	3550
9	185	274	805	256	e360	352	1050	392	379	193	136	2800
10	152	265	1490	242	e320	312	844	337	214	171	1120	1160
11	131	201	1110	271	e280	259	703	290	121	673	327	736
12	116	264	909	260	e330	252	645	321	106	255	185	722
13	116	236	714	237	e380	232	702	255	163	176	135	757
14	154	186	521	242	309	216	554	208	121	203	112	643
15	180	163	487	e400	265	245	500	748	92	219	90	437
16	129	159	407	e480	193	270	571	476	80	138	77	353
17	110	152	364	e350	252	260	773	320	70	110	83	347
18	101	153	405	e320	213	260	635	323	62	94	105	839
19	92	571	425	e600	176	256	544	659	56	82	84	730
20	83	467	338	e1000	167	249	472	429	242	74	61	610
21	78	622	295	e560	159	229	420	329	609	68	53	447
22	78	517	249	e420	161	218	371	263	222	63	347	342
23	77	418	213	e350	175	205	412	220	295	56	662	311
24	76	355	242	e320	172	195	3950	190	233	52	199	250
25	74	300	1000	e1150	151	289	3310	166	152	51	125	209
26	74	973	997	e700	135	1240	1690	149	119	74	108	175
27	83	3500	818	e400	138	939	1140	1010	112	70	134	156
28	90	1610	683	e220	134	742	1260	590	108	53	124	138
29	91	1010	565	e160	---	583	940	318	95	43	121	133
30	81	742	487	e400	---	853	763	223	94	40	102	240
31	84	---	421	e920	---	2440	---	187	---	41	87	---
TOTAL	7190	13970	25944	12407	9890	14604	38779	13815	4716	9615	5915	17093
MEAN	232	466	837	400	353	471	1293	446	157	310	191	570
MAX	1820	3500	3900	1150	1050	2440	3950	1150	609	2170	1120	3550
MIN	62	66	213	160	134	195	371	149	56	40	44	66

CAL YR 1986 TOTAL 151862 MEAN 416 MAX 4350 MIN 22
WTR YR 1987 TOTAL 173938 MEAN 477 MAX 3950 MIN 40

e Estimated

03106300 MUDDY CREEK NEAR PORTERSVILLE, PA

LOCATION.--Lat 40°57'47", long 80°07'31", Butler County, Hydrologic Unit 05030105, on left bank 1,000 ft downstream from Lake Arthur Dam, 0.2 mi north of U. S. Highway 422, and 3 mi north of Portersville.

DRAINAGE AREA.--51.2 mi^2.

PERIOD OF RECORD.--March 1963 to current year.

REVISED RECORDS.--WDR PA-79-3: 1978.

GAGE.--Water-stage recorder. Datum of gage is 1,160.91 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Department of Enviromental Resources bench mark). Prior to Apr. 8, 1963 nonrecording gage at site 2,000 ft downstream at different datum. Apr. 8 to May 1, 1963, nonrecording gage and May 2, 1963 to Sept. 30, 1980, water-stage recorder at site 1,000 ft downstream at datum 5.71 ft lower.

REMARKS.--No estimated daily discharges. Records good. Some regulation from October 1966 to May 1969 and completely regulated thereafter by Lake Arthur (station 03106280) 1,000 ft upstream. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--24 years, 74.9 ft^3/s, 19.87 in/yr, adjusted for storage since May 1969.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,640 ft^3/s, Mar. 10, 1964, gage height, 8.18 ft, from rating curve extended above 820 ft^3/s on basis of slope-area measurement of peak flow; minimum, 0.4 ft^3/s, Sept. 17, 1966; minimum gage height, 1.09 ft, Sept. 26, 1972.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 321 ft^3/s, Apr. 29, gage height, 4.68 ft; minimum daily, 1.3 ft^3/s, Aug. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	28	178	148	63	33	87	124	21	25	1.3	7.7
2	20	25	198	150	63	33	116	116	20	43	6.2	6.7
3	42	23	247	150	63	33	138	122	19	54	25	6.3
4	143	23	265	149	63	32	166	133	17	56	30	5.4
5	176	26	265	149	63	32	196	124	14	54	31	4.7
6	165	26	253	148	63	32	222	114	13	50	28	4.9
7	152	26	237	147	63	32	235	105	11	47	24	7.6
8	135	30	225	147	63	31	232	94	12	44	20	25
9	118	31	221	147	63	30	218	85	25	40	25	36
10	106	32	221	147	63	29	201	77	22	36	33	42
11	91	36	217	147	63	27	184	70	20	34	31	42
12	77	38	204	146	63	27	173	65	19	30	29	44
13	76	34	193	146	63	28	161	62	19	27	25	47
14	78	37	183	146	63	27	153	53	17	27	21	46
15	70	35	172	147	62	27	144	55	16	24	17	45
16	66	33	163	147	62	27	139	52	14	21	15	43
17	61	65	156	146	56	27	132	47	12	19	13	44
18	56	116	152	93	47	27	120	47	10	16	12	46
19	50	127	149	49	47	16	112	57	9.0	14	9.6	50
20	47	157	146	61	47	9.4	103	54	13	12	6.9	50
21	43	182	146	61	47	9.5	92	48	17	10	5.7	48
22	41	177	145	61	48	9.7	84	42	20	8.9	15	46
23	38	171	145	62	48	9.9	89	38	25	7.7	17	42
24	37	162	146	64	37	9.9	211	34	27	6.4	15	38
25	38	156	147	64	31	10	261	30	26	5.7	12	35
26	37	164	146	64	31	11	256	31	22	6.6	12	32
27	35	186	146	64	31	8.9	243	33	20	5.1	9.3	29
28	34	191	146	63	32	7.7	238	31	19	2.9	10	27
29	33	187	145	63	---	7.5	179	27	18	1.8	8.9	27
30	31	181	145	63	---	13	133	25	18	1.5	8.4	33
31	32	---	146	63	---	48	---	24	---	1.4	8.2	---
TOTAL	2148	2705	5648	3402	1508	704.5	5018	2019	535.0	731.0	524.5	960.3
MEAN	69.3	90.2	182	110	53.9	22.7	167	65.1	17.8	23.6	16.9	32.0
MAX	176	191	265	150	63	48	261	133	27	56	33	50
MIN	20	23	145	49	31	7.5	84	24	9.0	1.4	1.3	4.7

CAL YR 1986 TOTAL 26464.2 MEAN 72.5 MAX 265 MIN 1.3
WTR YR 1987 TOTAL 25903.2 MEAN 71.0 MAX 265 MIN 1.3

03106500 SLIPPERY ROCK CREEK AT WURTEMBURG, PA

LOCATION.--Lat 40°53'02", long 80°14'02", Lawrence County, Hydrologic Unit 05030105, on left bank at downstream side of highway bridge at Camp Allegheny, 2 mi north of Wurtemburg, and 2.8 mi upstream from mouth.

DRAINAGE AREA.--398 mi².

PERIOD OF RECORD.--October 1911 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 743: Drainage area. WSP 1305: 1914-18, 1920-22, 1923-24 (M), 1925-28, 1930. WSP 1385: 1932, 1935, 1936 (M), 1937-39. WSP 1625: 1955.

GAGE.--Water-stage recorder. Datum of gage is 832.06 ft above National Geodetic Vertical Datum of 1929. Jan. 1, 1912, to Sept. 30, 1922, nonrecording gage at site 1.5 mi downstream at datum 13.77 ft lower and Oct. 1, 1922, to Sept. 30, 1940, nonrecording gage at site 2 mi downstream at datum 18.92 ft lower.

REMARKS.--Records good except for estimated daily discharges, which are fair. Some regulation since May 1969 by Lake Arthur (station 03106280) 13 mi upstream. Several observations of water temperature were made during the year. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--76 years, 572 ft³/s, 19.52 in/yr, adjusted for storage since May 1969.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft³/s, Jan. 25, 1937, gage height, 12.05 ft, from floodmark, site and datum then in use, from rating curve extended above 14,000 ft³/s; minimum observed, 16 ft³/s, Sept. 13, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 4	0500	4,350	5.68	Mar. 31	1230	3,950	5.39
Dec. 3	1900	*4,600	*5.78	July 3	0730	3,670	5.20

Minimum discharge, 83 ft³/s, July 31, Aug. 1, 2, gage height, 0.66 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	386	202	757	e510	e310	848	2900	1060	260	385	83	135
2	536	188	2260	e470	e320	1600	2140	683	260	1680	136	133
3	776	180	4370	e450	e390	2010	1790	735	296	3160	947	119
4	3540	181	3570	e420	e470	1030	1600	2070	250	1900	1180	111
5	2560	194	2030	e400	e420	613	2470	739	309	822	442	100
6	1290	258	1520	e420	e340	589	2970	596	202	443	353	99
7	834	291	2410	e520	e350	633	2360	534	165	343	188	108
8	587	291	2540	720	e360	674	1790	483	159	333	142	215
9	459	383	1610	571	e330	640	1440	443	390	307	230	645
10	399	369	1740	475	e300	502	1930	403	309	248	1340	483
11	357	335	1550	501	e280	379	2050	377	195	221	1470	341
12	317	412	2390	477	e320	349	1350	365	183	191	395	529
13	340	398	1210	444	e340	324	2030	361	296	179	226	499
14	479	334	723	443	314	303	983	329	267	253	169	365
15	496	290	700	1250	266	301	767	415	179	338	142	292
16	388	286	635	2090	286	330	809	375	147	228	127	280
17	329	301	596	1030	271	359	965	323	131	169	115	316
18	294	467	736	641	230	358	740	331	118	146	105	931
19	262	1510	1230	936	214	343	628	756	106	132	99	1480
20	238	1220	770	2020	211	311	556	605	147	122	92	1900
21	224	1400	654	1070	205	282	498	468	333	113	85	829
22	215	1140	568	591	215	261	453	357	447	104	195	477
23	212	903	489	e320	243	248	722	296	669	98	455	377
24	207	791	499	e230	239	240	2510	264	517	94	243	335
25	200	701	1510	e280	220	251	2270	232	272	92	141	278
26	209	1250	1600	e270	220	1060	1520	216	186	118	121	248
27	245	2390	2170	e250	219	781	2210	598	155	147	124	218
28	256	1670	1040	e230	222	580	1500	508	165	114	211	195
29	272	1170	728	e240	---	466	2020	360	179	92	315	187
30	240	908	e620	e250	---	1200	2270	292	172	84	199	569
31	223	---	e540	e290	---	3510	---	315	---	84	141	---
TOTAL	17370	20413	43765	18809	8105	21375	48241	15889	7464	12740	10211	12794
MEAN	560	680	1412	607	289	690	1608	513	249	411	329	426
MAX	3540	2390	4370	2090	470	3510	2970	2070	669	3160	1470	1900
MIN	200	180	489	230	205	240	453	216	106	84	83	99
MEAN‡	568	682	1381	574	276	775	1623	487	249	398	334	436
CFSM‡	1.43	1.71	3.47	1.44	.69	1.95	4.08	1.22	.63	1.00	.84	1.10
IN.‡	1.65	1.91	4.00	1.66	.72	2.25	4.55	1.41	.70	1.15	.97	1.23

CAL YR 1986 TOTAL 231713 MEAN 635 MAX 4670 MIN 54 MEAN‡ 636 CFSM‡ 1.60 IN.‡ 21.69
WTR YR 1987 TOTAL 237176 MEAN 650 MAX 4370 MIN 83 MEAN‡ 651 CFSM‡ 1.64 IN.‡ 22.23

‡ Adjusted for change in reservoir contents.

e Estimated

03107500 BEAVER RIVER AT BEAVER FALLS, PA
(National stream quality accounting network)

LOCATION.--Lat 40°45'48", long 80°18'55", Beaver County, Hydrologic Unit 05030104, on left bank at Beaver Falls, 200 ft upstream from pumping plant of Beaver Falls Municipal Authority, 7.0 mi downstream from Connoquenessing Creek, and at mile 5.5. Water-quality sampling site 0.25 mi upstream.

DRAINAGE AREA.--3,106 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1935 to current year (fragmentary records only prior to October 1956). Gage-height records collected at same site since 1908 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 1725: 1960 (adjusted runoff).

GAGE.--Water-stage recorder and concrete dam control. Datum of gage is 727.48 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). Prior to Dec. 3, 1941, nonrecording gage at site 200 ft downstream at same datum.

REMARKS.--Records good above 2,000 ft³/s and fair below except those below 1,200 ft³/s which are poor. Pumpage from gage pool, averaging 3.4 ft³/s in 1935 and 6.0 ft³/s at present, for local water supply returns to river 2 mi downstream; information furnished by Beaver Falls Municipal Authority. Flow regulated since 1942 by Berlin Lake, since 1916 by Milton Reservoir, since 1966 by Michael J. Kirwan Reservoir, since 1943 by Mosquito Creek Lake, since 1929 by Meander Creek Reservoir, since 1933 by Pymatuning Reservoir, since 1967 by Shenango River Lake, all over 50 mi upstream, and since 1969 by Lake Arthur 29 mi upstream. Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--31 years, (1956-87), 3,758 ft³/s, 16.43 in/yr, adjusted for storage 1957-75.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,900 ft³/s, Jan. 22, 1959, gage height, 14.42 ft; minimum not determined.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 27, 1913, reached a stage of 17.4 ft, discharge, 103,000 ft³/s, from rating curve extended above 60,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 24,100 ft³/s, Dec. 3, gage height, 9.12 ft; minimum daily, 789 ft³/s, Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2410	1720	5210	5530	e2400	2440	12600	4000	1710	2320	941	2340
2	3660	1650	9980	5340	e2700	6310	10800	3500	1600	10400	1020	2310
3	3860	1600	22900	5300	e3200	6090	10100	3550	1600	17000	7210	2210
4	15700	1620	18000	4910	e3700	4930	9010	4760	1570	9930	4210	2120
5	13400	1660	11200	4490	e3200	4200	13000	3830	1750	6120	3330	1900
6	7510	1840	7580	3640	e2800	3950	18300	3300	1390	4590	2880	1590
7	5050	2100	6790	3460	e3000	3910	18100	2970	1220	4370	1910	1250
8	4610	2180	6970	3830	e3100	3970	14500	2630	1220	4430	1370	4630
9	4360	2470	8010	3480	e2800	4170	10600	2300	2080	4390	1490	5580
10	4150	2390	10700	3080	e2600	3780	8670	2040	1760	4200	7310	3110
11	4000	2200	10200	3180	e2600	3240	7660	1930	1360	4820	4210	2360
12	3880	2430	8580	3100	e2600	2750	7060	1880	1340	3780	2380	2350
13	3930	2430	7610	2880	e2800	2320	6860	1750	1620	3020	1760	2580
14	3990	2260	6980	2810	e2400	e1900	5150	1670	1530	3190	1400	2390
15	4090	2110	6870	3980	e2100	e1800	4590	2680	1290	3490	1180	2300
16	4010	2040	6580	5860	e1800	e1900	4050	2390	1150	2990	1060	2250
17	3360	2040	6210	5120	e1600	e1950	4290	1820	1050	2670	1050	2260
18	3160	2220	6150	4470	e1500	e1900	4000	1780	967	2190	1020	4100
19	3280	5750	6600	4800	e1400	e1900	3390	3640	924	2030	934	6110
20	3160	5640	6220	8900	e1350	e1800	3150	3310	1100	1580	848	5220
21	2840	6430	5850	7020	e1350	e1700	3020	2620	3030	1270	789	4420
22	2740	5960	5480	5470	e1400	e1600	2790	2010	2780	1110	1660	3830
23	2430	5050	5240	4900	e1400	e1500	2820	1720	2820	1060	3160	3680
24	2200	4440	5250	3750	e1350	e1400	9700	1630	2380	1020	2020	3380
25	2100	4280	8060	3420	e1300	e1350	10900	1480	1630	1010	1490	3200
26	2000	5750	10100	3490	e1250	3330	6830	1380	1230	1060	1390	3000
27	2070	14800	8570	3050	e1250	3270	5110	2600	1110	1100	1610	2810
28	2130	10300	7440	e2400	1540	2770	6070	2410	1350	1000	1930	2730
29	2000	7160	6690	e2000	---	2390	5440	2160	1560	914	2290	2720
30	1890	5920	6180	e2300	---	3270	4630	1920	1440	937	2270	4300
31	1800	---	5800	e2600	---	12800	---	2090	---	997	2070	---
TOTAL	125770	118440	254000	128560	60490	100590	233190	77750	47561	108988	68192	93030
MEAN	4057	3948	8194	4147	2160	3245	7773	2508	1585	3516	2200	3101
MAX	15700	14800	22900	8900	3700	12800	18300	4760	3030	17000	7310	6110
MIN	1800	1600	5210	2000	1250	1350	2790	1380	924	914	789	1250

CAL YR 1986 TOTAL 1567760 MEAN 4295 MAX 22900 MIN 802
WTR YR 1987 TOTAL 1416560 MEAN 3881 MAX 22900 MIN 789

e Estimated

03107500 BEAVER RIVER AT BEAVER FALLS, PA--Continued

WATER-QUALITY RECORDS

PERIODS OF RECORD.--Water years 1966, 1973, November 1975 to current year.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (NTU)	BARO-METRIC PRES-SURE (MM OF HG)	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 CACO3)
DEC											
17...	0930	6180	310	7.8	3.0	7.2	746	12.6	13000	900	110
MAR											
03...	0900	6220	420	6.9	5.0	12	748	10.8	10000	430	140
JUN											
16...	1200	1160	490	7.6	26.0	3.7	742	6.0	K50	K4	170
SEP											
02...	0930	2320	380	7.4	21.0	6.1	744	4.6	K860	K12	89

DATE	HARD-NESS NONCARB WH WAT TOT FLD 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)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE IT-FLD (MG/L AS HCO3)	CAR-BONATE IT-FLD (MG/L AS CO3)	ALKA-LINITY WH WAT TOTAL LAB MG/L AS CACO3	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
DEC											
17...	0	32	8.2	13	3.4	66	55	52	1.7	59	17
MAR											
03...	80	40	9.4	26	3.1	72	--	--	14	68	46
JUN											
16...	93	51	11	24	4.3	97	--	--	3.9	85	40
SEP											
02...	16	21	8.8	50	4.3	90	--	--	5.6	62	24

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 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS, TOTAL (MG/L AS P)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P)
DEC											
17...	.20	5.8	179	280	.24	2990	1.20	0.220	2.6	.180	.090
MAR											
03...	.20	5.7	242	240	.33	4060	1.40	.390	1.5	.350	.060
JUN											
16...	.30	4.8	302	270	.41	946	2.10	.050	1.4	.270	.200
SEP											
02...	.30	17	222	230	.30	1390	--	--	--	--	--

DATE	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE)	CADMIUM DIS-SOLVED (UG/L AS CD)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	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)
DEC											
17...	.070	20	2	28	<0.5	<1	<1	<3	1	88	<5
MAR											
03...	.050	20	<1	31	<0.5	<1	<1	<3	2	40	<5
JUN											
16...	.140	30	1	35	<0.5	<1	2	<3	1	14	<5
SEP											
02...	--	30	2	79	<0.5	<1	<1	<3	2	42	<5

DATE	LITHIUM DIS-SOLVED (UG/L AS LI)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MERCURY DIS-SOLVED (UG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
DEC										
17...	6	110	<0.1	<10	4	<1	<1	100	<6	15
MAR										
03...	7	220	<0.1	<10	7	<1	<1	130	<6	30
JUN										
16...	15	87	<0.1	20	3	<1	<1	170	<6	30
SEP										
02...	<4	4	<0.1	10	2	<1	<1	220	9	7

LAKES AND RESERVOIRS IN BEAVER RIVER BASIN

03100500 PYMATUNING RESERVOIR.--Lat 41°29'54", long 80°27'47", Crawford County, Hydrologic Unit 05030102, in gatehouse at Pymatuning Dam on Shenango River, 1.8 mi northwest of Jamestown, Pa., and at mile 85.1. DRAINAGE AREA, 158 mi². PERIOD OF RECORD, October 1932 to current year. Contents prior to October 1938 published in WSP 1305. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum, adjustment of 1907. Prior to Nov. 20, 1934, nonrecording gage at same site and datum.

REMARKS.-- Reservoir is formed in two parts. The main dam is earthfill with stone facing, provided with regulating gates (outlet gate sill elevation at 975.3 ft), and a spillway with crest elevation at 1,008.0 ft. An auxiliary dam 15 mi upstream from the main dam with spillway elevation at 1,010 ft has a fixed crest weir section in the earthfill causeway. Storage began Jan. 23, 1934, when all regulating gates were closed. Capacity, 188,040 acre-ft between elevations, 975.3 ft and 1,008.0 ft was reached in March 1936. Dead storage 10,150 acre-ft (93 acre-ft behind main dam below elevation 975.3 ft and 10,060 acre-ft behind upstream dam below elevation 1,010 ft). Upstream pool was filled (all dead storage accumulated) on March 5, 1934. Figures given herein represent usable contents. Reservoir is used for flood control, and for recreation. Dam built by Pennsylvania Department of Forests and Waters and now maintained by Pennsylvania Department of Environmental Resources.

EXTREMES FOR PERIOD OF RECORD: Maximum contents, 210,680 acre-ft, June 26, 1972, elevation, 1,009.53 ft; minimum (after first filling), 110,570 acre-ft, Dec. 4, 1953, elevation, 1,002.17 ft.

EXTREMES FOR CURRENT YEAR: Maximum contents, 204,380 acre-ft, July 4, elevation, 1,009.11 ft; minimum, 132,210 acre-ft, Jan. 7, elevation, 1003.91 ft.

03106280 LAKE ARTHUR.--Lat 40°57'45", long 80°07'17", Butler County, Hydrologic Unit 05030105, in gatehouse at left end of spillway of Lake Arthur Dam on Muddy Creek, at Moraine State Park, 3 mi northeast of Portersville, Pa. DRAINAGE AREA, 50.8 mi². PERIOD OF RECORD, May 1969 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (Pennsylvania Department of Environmental Resources bench mark). Prior to Aug. 23, 1969, nonrecording gage at same site and datum.

REMARKS.--Lake is formed by an earthfill dam with concrete spillway. Storage began May 15, 1969. Usable capacity, 37,000 acre-ft between elevations 1,160 ft, sill of 6 ft outlet gate and 1,189.8 ft (spillway crest). No dead storage. Figures given herein represent usable contents. Lake is used for recreation. Dam built by Pennsylvania Department of Forests and Waters and now maintained by Pennsylvania Department of Environmental Resources.

EXTREMES FOR PERIOD OF RECORD: Maximum contents 44,060 acre-ft, June 26, 1972, elevation, 1,191.96 ft; minimum (after first filling), 21,320 acre-ft, Nov. 30, 1975, elevation, 1,183.88 ft.

EXTREMES FOR CURRENT YEAR: Maximum contents, 41,040 acre-ft, Apr. 7, elevation, 1,191.07 ft; minimum, 33,732 acre-ft, Feb. 26, elevation, 1,188.69 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in cfs)	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in cfs)
	03100500 Pymatuning Reservoir			03106280 Lake Arthur		
Sept. 30	1,007.15	175,900	-	1,190.05	37,800	-
Oct. 31	1,005.96	159,300	- 270	1,190.21	38,300	+ 8.1
Nov. 30	1,005.25	149,700	- 161	1,190.24	38,400	+ 1.7
Dec. 31	1,004.09	135,500	- 247	1,189.64	36,500	- 30.9
CAL YR 1986	-	-	- 52.5	-	-	+ 1.5
Jan. 31	1,004.06	134,100	- 6.5	1,188.97	34,500	- 32.5
Feb. 28	1,004.29	137,100	+ 54.0	1,188.73	33,800	- 12.6
Mar. 31	1,005.78	156,900	+ 322	1,190.43	39,000	+ 84.6
Apr. 30	1,007.33	178,400	+ 361	1,190.72	39,900	+ 15.1
May 31	1,007.30	178,000	- 6.5	1,190.21	38,300	- 26.0
June 30	1,007.91	186,700	+ 146	1,190.21	38,300	0
July 31	1,007.77	184,700	- 32.5	1,189.96	37,500	- 13.0
Aug. 31	1,008.00	188,000	+ 53.7	1,190.05	37,800	+ 4.9
Sept. 30	1,007.66	183,100	- 81.8	1,190.24	38,400	+ 9.6
WTR YR 1987	-	-	+ 10.0	-	-	+ 0.8

03108000 RACCOON CREEK AT MOFFATTS MILL, PA

LOCATION.--Lat 40°37'40", long 80°20'16", Beaver County, Hydrologic Unit 05030101, on left bank at downstream side of highway bridge at Moffatts Mill, 1.4 mi downstream from Gums Run, 4 mi south of Vanport, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--178 mi^2.

PERIOD OF RECORD.--September 1941 to current year. May 1915 to July 1932 (gage heights and discharge measurements only) in reports of Water Supply Commission of Pennsylvania or Pennsylvania Department of Forests and Waters.

REVISED RECORDS.--WSP 1385: 1941-43.

GAGE.--Water-stage recorder. Datum of gage is 719.16 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers bench mark). May 27, 1915 to July 31, 1932, and Sept. 2 to Dec. 3, 1941, nonrecording gage at same site and datum.

REMARKS.--Records good except for estimated daily discharges, which are fair. Normally no regulation from Raccoon Creek Lake. Diversion out of the basin from Cherry Valley and Service Creek Reservoirs upstream increased from an average of 4.0 ft^3/s at the close of 1957 to 6.8 ft^3/s for the present year; diversion began with 2.0 ft^3/s for September 1957. Published records do not include diversion. Records of diversion furnished by Western Pennsylvania Water Company and Ambridge Water Authority. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--46 years, 193 ft^3/s, 14.72 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,590 ft^3/s, Jan. 27, 1952, gage height, 9.71 ft; minimum, 4.5 ft^3/s, Aug. 24, 25, 1965; minimum gage height, 1.28 ft, Aug. 26, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 15, 1922, reached a stage of 9.80 ft, discharge, 10,000 ft^3/s. Flood of Mar. 5, 1920, also reached a stage of 9.80 ft, backwater from ice.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Dec. 2	2200	2,140	4.84	Apr. 24	2130	2,000	4.70
Apr. 7	0400	*2,170	*4.88				

Minimum discharge, 11 ft^3/s, Aug. 1, 2, gage height, 1.37 ft.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	37	159	154	e150	121	934	296	57	112	12	40
2	97	39	1040	158	e260	193	790	308	60	557	14	33
3	113	38	1300	153	495	148	670	438	60	447	100	28
4	181	45	614	124	380	127	679	1020	65	147	53	24
5	381	76	390	110	313	116	1220	606	55	88	205	21
6	165	140	288	128	272	116	1650	469	45	66	161	23
7	91	108	242	134	249	113	1900	387	40	69	58	34
8	67	158	220	139	227	110	1160	332	39	56	44	69
9	57	263	294	125	195	110	731	285	53	48	41	98
10	52	184	482	125	185	98	536	255	69	42	51	54
11	44	144	369	143	159	85	433	228	44	38	49	38
12	40	163	310	136	177	93	385	212	41	35	36	32
13	41	128	240	125	196	88	363	193	67	33	31	34
14	54	98	184	127	157	81	300	172	56	60	27	32
15	56	91	194	168	133	e100	272	166	40	50	24	28
16	43	89	160	180	104	109	318	148	40	38	23	26
17	39	82	154	154	157	104	510	141	36	35	21	30
18	37	78	167	158	127	98	410	135	30	31	26	211
19	36	96	158	290	103	98	353	160	27	28	23	139
20	34	86	133	580	92	95	e300	153	37	25	19	103
21	34	142	122	390	94	92	e250	124	80	24	16	71
22	34	129	105	e290	101	88	e220	105	53	21	32	58
23	33	112	98	e190	107	85	259	98	72	20	79	88
24	36	104	124	e130	94	82	1730	88	49	19	39	75
25	33	92	369	e180	81	106	1400	79	35	17	27	65
26	47	363	329	192	78	330	771	77	32	17	24	58
27	57	784	265	e150	79	246	547	91	40	16	51	54
28	52	357	228	e120	78	199	515	78	28	15	46	51
29	52	251	195	e100	---	166	412	68	26	15	136	50
30	46	192	184	e78	---	256	354	62	151	14	57	70
31	40	---	167	e88	---	1240	---	58	---	14	39	---
TOTAL	2134	4669	9284	5319	4843	5093	20372	7032	1527	2197	1564	1737
MEAN	68.8	156	299	172	173	164	679	227	50.9	70.9	50.5	57.9
MAX	381	784	1300	580	495	1240	1900	1020	151	557	205	211
MIN	33	37	98	78	78	81	220	58	26	14	12	21
CFSM	.39	.87	1.68	.96	.97	.92	3.81	1.27	.29	.40	.28	.33
IN.	.45	.98	1.94	1.11	1.01	1.06	4.26	1.47	.32	.46	.33	.36

CAL YR 1986 TOTAL 60213 MEAN 165 MAX 1520 MIN 15 CFSM .93 IN. 12.59
WTR YR 1987 TOTAL 65771 MEAN 180 MAX 1900 MIN 12 CFSM 1.01 IN. 13.75

e Estimated

04213000 CONNEAUT CREEK AT CONNEAUT, OH

LOCATION.--Lat 41°55'37", long 80°36'15", Ashtabula County, Hydrologic Unit 04120101, on right bank at downstream side of Keefus Road bridge at Conneaut, and 6.4 mi upstream from mouth.

DRAINAGE AREA.--175 mi².

PERIOD OF RECORD.--July 1922 to December 1935, March 1950 to September 1961 (published as "at Amboy"), October 1961 to current year.

REVISED RECORDS.--WSP 714: 1926. WSP 784: 1933. WSP 1437: 1923-25(M), 1926-30, 1931-32(M), 1933, 1935(M). WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 610.30 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 17, 1924, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Jan 5, 6, Jan. 23 to Feb. 27. Records good except for estimated daily discharges which are poor. Water-quality data collected at this site 1965 to 1977. Sediment data collected 1970 to 1974.

AVERAGE DISCHARGE.--50 years, 271 ft³/s, 21.04 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,000 ft³/s Jan. 22, 1959, gage height, 11.70 ft; maximum gage height, 12.94 ft Mar. 4, 1934 (backwater from ice); minimum discharge, 0.2 ft³/s July 31, Aug. 1, 1933, Aug. 1, 2, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft³/s and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Mar. 2	2100	4,010	6.99	July 3	2400	*4,890	*7.56
Apr. 6	2400	3,000	6.23				

Minimum daily discharge, 13 ft³/s June 19, Aug. 21.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	133	127	178	142	190	839	1200	74	40	1230	16	84
2	327	105	291	137	160	2970	744	62	59	798	54	69
3	416	105	1520	134	130	1890	802	68	162	2760	627	58
4	1140	106	1980	126	110	495	640	104	141	2260	611	49
5	963	96	601	87	160	308	1370	116	72	276	155	43
6	381	86	309	80	140	273	2610	84	44	151	78	37
7	265	80	270	126	120	402	2680	65	33	109	52	33
8	185	78	898	164	100	529	1440	55	27	123	42	33
9	125	74	1020	184	110	390	521	48	23	91	38	570
10	90	70	1100	157	140	241	310	44	19	71	36	221
11	75	71	704	160	170	148	225	40	17	58	131	110
12	63	70	325	171	140	113	187	43	30	57	84	74
13	67	90	224	150	110	103	184	42	35	55	51	357
14	192	96	163	141	140	96	174	44	36	105	38	471
15	437	95	179	377	120	90	149	42	32	456	30	185
16	327	115	151	825	100	88	137	44	23	217	25	116
17	266	231	146	375	92	96	125	52	17	102	21	141
18	193	230	272	220	80	89	115	43	14	65	18	574
19	155	251	672	194	72	82	106	40	13	50	16	910
20	115	341	434	168	66	80	93	36	16	42	14	452
21	91	341	277	164	60	78	83	34	16	37	13	468
22	76	438	196	112	56	74	73	33	305	33	24	228
23	67	373	154	92	70	70	65	33	1030	29	18	151
24	60	307	143	86	80	68	68	30	287	27	31	125
25	54	268	1060	82	140	71	81	33	117	28	33	105
26	58	435	1730	78	130	184	85	31	69	24	23	79
27	59	1780	555	74	120	209	70	30	55	29	568	65
28	113	1120	323	72	134	171	75	30	51	37	1060	56
29	442	359	236	70	---	132	108	36	60	26	569	52
30	252	238	187	96	---	223	96	30	196	21	271	84
31	169	---	160	150	---	1290	---	33	---	19	136	---
TOTAL	7356	8176	16458	5194	3240	11892	14616	1499	3039	9386	4883	6000
MEAN	237	273	531	168	116	384	487	48.4	101	303	158	200
MAX	1140	1780	1980	825	190	2970	2680	116	1030	2760	1060	910
MIN	54	70	143	70	56	68	65	30	13	19	13	33
CFSM	1.35	1.56	3.03	.96	.66	2.19	2.78	.28	.58	1.73	.90	1.14
IN.	1.56	1.74	3.50	1.10	.69	2.53	3.11	.32	.65	2.00	1.04	1.28

CAL YR 1986 TOTAL 126550.9 MEAN 347 MAX 7890 MIN 6.5 CFSM 1.98 IN. 26.90
WTR YR 1987 TOTAL 91739 MEAN 251 MAX 2970 MIN 13 CFSM 1.43 IN. 19.50

04213040 RACCOON CREEK NEAR WEST SPRINGFIELD, PA

LOCATION.--Lat 41°56'42", long 80°26'51", Erie County, Hydrologic Unit 04120101, on right bank on upstream side of highway bridge on Sanford Road, 1.4 mi east of West Springfield, 4.4 mi upstream from mouth, and 7 mi southwest of Girard.

DRAINAGE AREA.--2.53 mi^2.

PERIOD OF RECORD.--Annual maximum, water years 1962-68. October 1968 to current year.

REVISED RECORD.--WDR PA-74-1: 1973.

GAGE.--Water-stage recorder, crest-stage gage, and concrete control installed Aug. 2, 1973. Elevation of gage is 715 ft above National Geodetic Vertical Datum of 1929, from topographic map. May 9, 1961, to Oct. 2, 1968, crest-stage gage at same site and datum.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

AVERAGE DISCHARGE.--19 years, 3.56 ft^3/s, 19.11 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 408 ft^3/s, Dec. 28, 1968, gage height, 6.06 ft, from rating curve extended above 76 ft^3/s on basis of computation of flow through culvert at gage height 5.39 ft; no flow on many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Apr. 5	1830	*50	*2.80				

Minimum daily discharge, 0.11 ft^3/s, June 19, 20.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.19	e.70	.39	e1.5	e.66	31	8.3	.76	.21	2.0	.17	.55
2	.23	e.56	14	e1.3	e.90	12	8.9	.72	5.8	7.3	5.9	.53
3	6.2	e.62	12	e1.2	e1.4	4.8	7.1	2.2	2.3	2.5	4.3	.43
4	2.1	e.62	4.0	e1.1	e1.0	2.8	8.6	1.8	.92	1.2	.96	.29
5	.31	e.52	.93	e2.0	e.80	2.1	32	1.2	.55	.73	.46	.21
6	e.32	e.45	.65	e1.2	.85	2.4	30	.94	.37	.46	.27	.17
7	e.25	e.39	8.0	e1.7	e.86	3.1	19	.83	.27	.74	.18	.17
8	e.21	e.33	14	e1.5	1.1	2.5	6.5	.83	.21	.55	.17	.34
9	e.18	e.38	13	e1.2	1.4	1.8	3.5	.77	.18	.34	e.36	.33
10	e.16	e.30	10	e1.0	e1.8	1.2	2.3	.71	.15	.22	e.88	.23
11	e.34	e.30	2.0	e.85	e1.0	.96	2.0	.65	.13	.19	e.34	.27
12	e.80	e.35	.73	e.78	e.80	.99	2.7	.74	.79	.18	.17	.62
13	e2.1	e.48	.53	e.74	e.74	.98	2.2	.65	.48	.46	e.23	.90
14	e5.4	e.54	.43	.91	.67	.98	1.7	.59	.26	7.0	e.31	.53
15	e2.2	e.62	.40	4.8	e.90	1.1	1.6	.87	.16	1.8	e.46	.47
16	e4.3	e.70	.37	e1.6	e1.2	1.1	1.4	.72	.13	.82	e.17	.51
17	e3.5	e.80	.38	e1.3	e.96	.97	1.4	.61	.13	.45	e.20	2.5
18	e2.1	e.84	4.9	e1.0	e.80	.95	1.2	.74	.12	.27	e.26	3.8
19	e1.3	e1.0	5.9	e.90	e.60	.96	1.0	.76	.11	.19	e.31	2.1
20	e.90	e1.1	1.5	e.80	e.50	.92	.96	.67	.11	.17	e.23	1.5
21	e.66	5.0	.75	e.76	e.44	.91	.89	.54	.23	e.16	e.17	1.1
22	e.50	.96	.56	e.70	e.42	.86	.82	.52	3.6	e.14	e.14	2.0
23	e.43	.49	.45	e.66	e.60	.84	.83	.53	1.6	e.16	e.13	1.6
24	e.38	.47	5.8	e.62	e1.0	.84	1.1	.38	.57	e.18	e.12	1.2
25	e.32	.42	28	e.60	e1.6	1.5	.94	.25	.25	e.21	e.14	.84
26	e.46	14	6.5	e.58	1.4	6.5	.82	.20	.34	e.24	.18	.59
27	e.70	8.6	e3.2	e.56	1.5	2.7	.95	.22	.21	e.17	15	.44
28	e1.0	1.2	e2.5	e.54	3.3	1.8	1.3	.21	.25	e.15	2.9	.37
29	e1.2	.55	e2.1	e.52	---	1.4	.99	.20	.15	e.14	2.8	.83
30	e1.0	.46	e1.8	e.50	---	15	.83	.26	1.9	e.13	1.2	3.2
31	e.84	---	e1.6	e.49	---	18	---	.31	---	e.12	.74	---
TOTAL	40.58	43.75	147.37	33.91	29.20	123.96	151.83	21.38	22.48	29.37	39.85	28.62
MEAN	1.31	1.46	4.75	1.09	1.04	4.00	5.06	.69	.75	.95	1.29	.95
MAX	6.2	14	28	4.8	3.3	31	32	2.2	5.8	7.3	15	3.8
MIN	.16	.30	.37	.49	.42	.84	.82	.20	.11	.12	.12	.17
CFSM	.52	.58	1.88	.43	.41	1.58	2.00	.27	.30	.37	.51	.38
IN.	.60	.64	2.17	.50	.43	1.82	2.23	.31	.33	.43	.59	.42

CAL YR 1986 TOTAL 1328.35 MEAN 3.64 MAX 75 MIN .00 CFSM 1.44 IN. 19.52
WTR YR 1987 TOTAL 712.29 MEAN 1.95 MAX 32 MIN .11 CFSM .77 IN. 10.47

e Estimated

04213075 BRANDY RUN NEAR GIRARD, PA

LOCATION.--Lat 41°59'31", long 80°17'29", Erie County, Hydrologic Unit 04120101, on left bank 100 ft upstream from highway bridge on Tannery Road, 0.5 mi upstream from mouth, and 1.8 mi southeast of Girard.

DRAINAGE AREA.--4.45 mi².

PERIOD OF RECORD.--May 14, 1986 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 800 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair. Several observations of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,220 ft³/s, Aug. 2, 1987, gage height, 2.77 ft; minimum daily discharge 0.19 ft³/s, July 11, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge greater than base discharge of 200 ft³/s (revised) and maximum (*):

Date	Time	Discharge (ft³/s)	Gage height (ft)	Date	Time	Discharge (ft³/s)	Gage height (ft)
Oct. 3	1345	550	2.10	Aug. 2	2115	*2,220	*2.77
Mar. 1	---	---	ice jam	Aug. 27	0500	517	2.06
Mar. 31	0130	257	1.85	Sept. 12	2215	450	1.99
Apr. 5	1800	240	1.83	Sept. 17	1145	394	1.96

Minimum daily discharge, 0.65 ft³/s, Aug. 8, 16, 21, 24, 25.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	2.1	3.1	3.5	e1.8	e40	21	3.0	1.4	8.2	.97	5.7
2	5.5	2.3	8.0	4.0	e2.2	41	25	3.0	2.6	17	405	7.5
3	94	2.5	e37	4.2	e2.6	15	22	5.8	3.7	8.5	e38	e5.6
4	22	2.3	13	3.7	e2.0	8.3	20	4.2	1.7	5.5	5.7	e4.4
5	8.1	2.2	e8.0	6.9	e1.6	5.1	110	3.3	1.3	5.1	2.9	e3.0
6	7.8	2.1	e5.0	3.0	e1.2	6.4	80	2.7	1.3	3.3	2.1	e2.4
7	4.3	2.1	e13	5.7	e1.4	8.3	50	2.7	1.3	7.2	.74	e1.8
8	3.3	2.1	e38	4.5	e2.0	7.9	16	2.7	1.3	3.7	.65	e2.3
9	3.0	2.1	e35	2.3	e2.7	5.4	9.1	2.5	1.3	3.0	1.8	2.0
10	2.8	2.1	e29	2.4	e3.4	4.8	5.9	2.5	1.1	1.9	4.3	2.0
11	3.5	2.1	6.2	e2.0	e1.6	5.7	5.3	2.5	1.1	1.5	2.1	2.7
12	e5.2	2.5	4.7	e1.7	e1.7	4.8	6.7	2.7	3.1	1.1	.80	50
13	e8.0	2.5	e4.2	e1.5	e1.6	4.3	5.5	2.3	2.0	1.4	1.2	44
14	e14	2.5	e3.8	e4.0	e1.5	4.5	4.5	2.3	1.5	31	1.7	6.7
15	e4.2	2.5	e3.4	14	e1.9	4.4	4.5	4.2	1.3	7.1	1.7	3.6
16	e11	4.1	e3.2	5.3	e1.8	4.4	4.2	2.8	1.3	3.3	e.65	3.5
17	e8.4	4.0	e5.0	e4.3	e1.6	4.1	4.5	2.4	1.1	1.7	.74	e32
18	e4.8	3.3	14	e3.6	e1.6	3.9	4.0	2.6	.90	1.4	1.2	e16
19	e4.2	5.5	12	e2.8	e1.5	4.5	3.7	2.5	.90	1.3	1.2	e10
20	e2.5	3.8	7.1	e2.3	e1.5	3.8	3.6	2.1	.90	1.3	1.0	9.7
21	e2.5	11	4.9	e2.0	e1.5	3.4	3.5	1.9	1.1	1.1	.65	6.2
22	e1.9	5.2	3.5	e1.7	e1.8	3.3	3.2	1.7	31	1.1	2.3	5.7
23	e1.9	4.0	2.9	e1.6	e2.2	3.4	3.2	1.7	8.2	1.1	1.8	4.9
24	e1.9	3.7	5.7	e1.4	e2.7	3.5	3.4	1.5	4.6	1.1	.65	3.6
25	e1.7	3.3	53	e1.3	e3.4	3.9	3.4	1.5	2.8	1.2	.65	2.9
26	e1.8	37	11	e1.3	e3.4	8.0	3.2	1.5	1.4	1.3	.79	2.6
27	e1.9	20	7.2	e1.2	e3.2	5.0	3.4	1.5	1.3	1.1	e58	2.6
28	e2.0	5.8	5.5	e1.2	e6.4	4.5	4.5	1.5	1.7	1.1	16	2.6
29	e3.3	4.5	4.6	e1.1	---	3.8	3.4	1.3	2.4	1.1	21	2.9
30	2.7	4.0	4.3	e1.0	---	30	3.2	1.3	12	1.1	9.1	6.9
31	2.2	---	4.0	e1.4	---	62	---	1.3	---	1.1	6.3	---
TOTAL	245.7	153.2	359.3	96.9	61.8	317.4	439.9	75.5	97.60	126.9	591.69	255.8
MEAN	7.93	5.11	11.6	3.13	2.21	10.2	14.7	2.44	3.25	4.09	19.1	8.53
MAX	94	37	53	14	6.4	62	110	5.8	31	31	405	50
MIN	1.7	2.1	2.9	1.0	1.2	3.3	3.2	1.3	.90	1.1	.65	1.8
CFSM	1.80	1.16	2.63	.71	.50	2.33	3.33	.55	.74	.93	4.34	1.94
IN.	2.08	1.30	3.04	.82	.52	2.68	3.72	.64	.83	1.07	5.00	2.16

WTR YR 1987 TOTAL 2821.66 MEAN 7.73 MAX 405 MIN .65 CFSM 1.76 IN. 23.86

e Estimated

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 streamflow 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 usuable 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 the 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 made at low-flow partial-record stations during water year 1987

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Measurements Date	Measurements Discharge (ft^3/s)
		Clarion River basin				
03029170	Little Toby Creek at Portland Mills, Pa.	Lat 41°21'53", long 78°49'22", Elk County, at railroad bridge 0.1 mi above State Highway 949 and 0.8 mi south of Portland Mills.	126	1972-87	5-07-87 8-19-87	260 35.9
03030600	Piney Creek at Piney, Pa.	Lat 41°10'12", long 79°28'20", Clarion County, at bridge on State Highway 854 at Piney, 0.1 mile above mouth, and 4 miles northwest of Reidsburg.	72.2	1933 1970-87	5-07-87 8-19-87	83.9 15.7
		Kiskiminetas River basin				
03045300	McCune Run at Keystone State Park, Pa.	Lat 40°22'26", long 79°22'25", Westmoreland County, at culvert in Keystone State Park, 200 ft above head of Keystone Lake, and 3 miles southeast of New Alexandria.	1.73	1970-87	5-07-87 9-23-87	3.47 2.66
		Pine Creek basin				
03049810	Pine Creek at Etna, Pa.	Lat 40°29'42", long 79°56'26", Allegheny County, at highway bridge on ramp leading to 62nd Street Bridge at Etna and 0.8 mile above mouth.	66.8	1950-52 1970-87	5-07-87 9-24-87	118 35.9
		Monongahela River basin				
03083100	Jacobs Creek at Jacobs Creek, Pa.	Lat 40°07'23", long 79°44'14", Westmoreland County, 0.3 mile above highway bridge at Jacobs Creek, and 0.4 mile above mouth.	94.9	1950 1965-67 1970-87	5-06-87 9-24-87	119 94.5

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

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

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Date	Gage height (feet)	Discharge (ft^3/s)
		Brokenstraw Creek basin					
03015390	Hare Creek near Corry, Pa.	Lat 41°56'29", long 79°38'41", Erie County, at concrete dam of Corry Water Co., 1.1 miles above Bear Creek, and 1.5 miles north of Corry.	12.3	1964-87	12-03-86	5.94	990
		Monongahela River basin					
03072880	Browns Creek near Nineveh, Pa.	Lat 39°56'27", long 80°17'21", Greene County, at highway bridge just below Patterson Run 1.8 miles southeast of Nineveh. Datum of gage is 975.60 ft National Geodetic Vertical Datum of 1929.	17.5	1963-87	04-07-87	8.58	700
		Streams tributary to Lake Erie					
04213200	Mill Creek at Erie, Pa.	Lat 42°05'54", long 80°04'35", Erie County, at bridge on West 38th Street, 100 ft west of State Highway 505, at Erie.	9.16	1964-87	12-03-86	12.33	1,240

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

Discharge measurements made at miscellaneous sites during water year 1987

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		Clarion River Basin				
Clarion River	Allegheny River	Lat 41°25'15", long 78°44'10", Elk County, at bridge on State Highway 948 in Ridgeway, 50 ft downstream from Elk Creek.	303	1940-53† 1954-87	10-21-86 12-08-86 2-02-87 3-23-87 5-27-87 7-20-87 9-14-87	281 1,080 194 346 646 268 997
Clarion River	Allegheny River	Lat 41°07'47", long 79°33'18", Clarion County, at bridge on State Highway 58 at Callensburg and 0.3 mi above Licking Creek.	1,163	1970-72† 1979-87	10-06-86 12-18-86 4-16-87 6-04-87 8-13-87	3,150 3,410 500 620 145

† Operated as a continuous record station.

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

INDIAN CREEK BASIN STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	ACIDITY (MG/L AS H)	ACIDITY TOTAL HEATED (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)
03082003 - ABANDONED DEEP MINE DISCHARGE AT KREGAR, PA SITE 1 (LAT 40 04 06N LONG 079 17 52W)										
FEB 1987										
25...	0745	0.01	695	3.10	8.0	3.1	140	--	11	--
MAY										
18...	0845	0.07	580	3.03	13.0	--	112	--	--	--
03082005 - INDIAN CR AT KREGAR, PA SITE 2 (LAT 40 06 52N LONG 079 18 10W)										
FEB 1987										
25...	0900	4.3	1380	6.90	0.5	0	4.0	--	23	--
MAR										
01...	0820	11	400	7.52	7.0	--	0.0	--	--	--
APR										
14...	0905	28	280	7.33	7.0	--	14	--	--	--
MAY										
18...	0945	6.6	340	7.30	13.0	--	0.0	--	--	--
JUN										
29...	0945	4.3	470	6.70	14.0	--	14	17	17	3.1
03082040 - PIKE RN 50FT ABOVE ROARING RN AT HOPEWELL, PA SITE 4 (LAT 40 04 08N LONG 079 20 37W)										
FEB 1987										
25...	1130	5.0	100	6.40	2.0	0	10	--	7.6	--
MAR										
26...	1100	22	380	7.40	7.5	--	0.0	--	--	--
APR										
14...	1010	28	55	6.74	7.0	--	20	--	--	--
MAY										
18...	1030	8.1	75	6.83	14.0	--	0.0	--	--	--
JUN										
29...	1215	3.7	97	7.10	15.0	--	16	8.4	8.2	1.2
03082045 - ROARING RN 50FT ABOVE PIKE RN AT HOPEWELL, PA SITE 5 (LAT 40 04 07N LONG 079 20 40W)										
FEB 1987										
25...	1200	3.5	80	7.20	2.5	0	8.0	--	8.0	--
MAR										
26...	1055	9.4	60	7.53	8.0	--	0.0	--	--	--
APR										
14...	1050	23	55	7.10	7.5	--	18	--	--	--
MAY										
18...	1025	4.8	65	6.86	15.5	--	0.0	--	--	--
JUN										
29...	1245	1.6	87	7.20	15.0	--	12	9.1	8.9	1.3
03082100 - INDIAN CREEK AT NEBO, PA SITE 12 (LAT 40 03 37N LONG 079 21 53W)										
FEB 1987										
25...	1320	32	540	7.10	2.5	0	22	--	14	--
JUN										
29...	0915	20	170	7.05	14.5	--	6.0	12	12	2.5
03082105 - INDIAN CREEK AT COFFMAN, PA SITE 13 (LAT 40 03 07N LONG 079 22 55W)										
FEB 1987										
26...	1440	38	360	7.40	2.5	0	20	--	12	--
JUN										
29...	1015	18	190	4.75	15.5	--	10	13	13	2.5
03082110 - CHAMPION C ABOVE L CHAMPION C NR MELCROFT, PA SITE 7 (LAT 40 04 05N LONG 079 23 57W)										
FEB 1987										
26...	1000	4.2	428	--	1.0	--	0.0	--	32	--
JUN										
29...	1630	2.7	335	7.50	20.0	--	0.0	30	29	10
03082112 - DEEP MINE DISCHARGE NR WHITE, PA SITE 9 (LAT 40 04 30N LONG 079 25 03W)										
FEB 1987										
26...	0820	0.01	390	6.20	9.0	1.0	6.0	--	47	--
JUN										
29...	1715	0.01	385	6.40	11.0	--	0.0	46	46	13

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

INDIAN CREEK BASIN STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	ALKA-LINITY WH WAT TOTAL LAB MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)
03082003 - ABANDONED DEEP MINE DISCHARGE AT KREGAR, PA SITE 1 (LAT 40 04 06N LONG 079 17 52W)										
FEB 1987										
25...	12	--	0.65	--	1.0	--	--	140	--	254
MAY										
18...	--	--	--	--	--	--	--	160	2.0	232
03082005 - INDIAN CR AT KREGAR, PA SITE 2 (LAT 40 06 52N LONG 079 18 10W)										
FEB 1987										
25...	3.9	--	260	--	1.0	14	22	52	430	610
MAR										
01...	--	--	--	--	--	--	28	21	96	210
APR										
14...	--	--	--	--	--	--	16	22	72	168
MAY										
18...	--	--	--	--	--	--	28	33	78	220
JUN										
29...	3.1	65	63	1.1	0.99	--	24	35	--	276
03082040 - PIKE RN 50FT ABOVE ROARING RN AT HOPEWELL, PA SITE 4 (LAT 40 04 08N LONG 079 20 37W)										
FEB 1987										
25...	1.3	--	4.9	--	0.49	12	18	43	10	18
MAR										
26...	--	--	--	--	--	--	16	11	10	38
APR										
14...	--	--	--	--	--	--	12	22	6.0	56
MAY										
18...	--	--	--	--	--	--	20	22	6.0	44
JUN										
29...	1.2	4.1	4.0	0.7	0.68	--	22	13	--	54
03082045 - ROARING RN 50FT ABOVE PIKE RN AT HOPEWELL, PA SITE 5 (LAT 40 04 07N LONG 079 20 40W)										
FEB 1987										
25...	1.3	--	0.67	--	0.52	14	20	45	2.0	2
MAR										
26...	--	--	--	--	--	--	18	10	3.0	30
APR										
14...	--	--	--	--	--	--	14	22	2.0	58
MAY										
18...	--	--	--	--	--	--	24	12	2.0	44
JUN										
29...	1.3	0.6	0.54	0.8	0.77	--	24	15	--	44
03082100 - INDIAN CREEK AT NEBO, PA SITE 12 (LAT 40 03 37N LONG 079 21 53W)										
FEB 1987										
25...	2.8	--	86	--	0.99	18	22	51	130	246
JUN										
29...	2.5	18	18	1.0	0.99	--	30	35	--	90
03082105 - INDIAN CREEK AT COFFMAN, PA SITE 13 (LAT 40 03 07N LONG 079 22 55W)										
FEB 1987										
26...	2.3	--	48	--	0.98	16	22	50	88	168
JUN										
29...	2.5	18	18	1.0	1.0	--	30	27	--	88
03082110 - CHAMPION C ABOVE L CHAMPION C NR MELCROFT, PA SITE 7 (LAT 40 04 05N LONG 079 23 57W)										
FEB 1987										
26...	10	--	27	--	2.1	--	56	73	--	104
JUN										
29...	9.6	13	13	2.2	2.1	--	54	68	--	236
03082112 - DEEP MINE DISCHARGE NR WHITE, PA SITE 9 (LAT 40 04 30N LONG 079 25 03W)										
FEB 1987										
26...	13	--	0.57	--	1.1	26	24	160	--	244
JUN										
29...	13	0.5	0.51	1.2	1.1	--	46	140	--	286

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

INDIAN CREEK BASIN STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
03082003 - ABANDONED DEEP MINE DISCHARGE AT KREGAR, PA SITE 1 (LAT 40 04 06N LONG 079 17 52W)										
FEB 1987										
25...	8	--	8800	--	4	<250	0	--	<50	--
MAY										
18...	<2	6800	6800	--	--	--	--	--	--	--
03082005 - INDIAN CR AT KREGAR, PA SITE 2 (LAT 40 06 52N LONG 079 18 10W)										
FEB 1987										
25...	14	--	<130	--	<4	<250	0	--	<50	--
MAR										
01...	10	<130	<130	--	--	--	--	--	--	--
APR										
14...	<2	<130	<130	--	--	--	--	--	--	--
MAY										
18...	4	170	<130	--	--	--	--	--	--	--
JUN										
29...	8	290	<130	<4	<4	<250	0	<50	<50	<30
03082040 - PIKE RN 50FT ABOVE ROARING RN AT HOPEWELL, PA SITE 4 (LAT 40 04 08N LONG 079 20 37W)										
FEB 1987										
25...	12	--	360	--	<4	<250	0	--	<50	--
MAR										
26...	4	150	<130	--	--	--	--	--	--	--
APR										
14...	8	<130	<130	--	--	--	--	--	--	--
MAY										
18...	6	<130	<130	--	--	--	--	--	--	--
JUN										
29...	10	<130	<130	<4	<4	<250	0	<50	<50	<30
03082045 - ROARING RN 50FT ABOVE PIKE RN AT HOPEWELL, PA SITE 5 (LAT 40 04 07N LONG 079 20 40W)										
FEB 1987										
25...	10	--	<130	--	<4	<250	0	--	<50	--
MAR										
26...	2	<130	<130	--	--	--	--	--	--	--
APR										
14...	<2	<130	<130	--	--	--	--	--	--	--
MAY										
18...	10	<130	<130	--	--	--	--	--	--	--
JUN										
29...	8	<130	<130	<4	<4	<250	0	<50	<50	<30
03082100 - INDIAN CREEK AT NEBO, PA SITE 12 (LAT 40 03 37N LONG 079 21 53W)										
FEB 1987										
25...	12	--	<130	--	<4	<250	0	--	<50	--
JUN										
29...	6	150	<130	<4	<4	<250	0	<50	<50	<30
03082105 - INDIAN CREEK AT COFFMAN, PA SITE 13 (LAT 40 03 07N LONG 079 22 55W)										
FEB 1987										
26...	16	--	<130	--	<4	<250	0	--	<50	--
JUN										
29...	10	190	<130	<4	<4	<250	0	<50	<50	<30
03082110 - CHAMPION C ABOVE L CHAMPION C NR MELCROFT, PA SITE 7 (LAT 40 04 05N LONG 079 23 57W)										
FEB 1987										
26...	10	--	<130	--	<4	<250	0	--	<50	--
JUN										
29...	20	<130	<130	<4	<4	<250	0	<50	<50	<30
03082112 - DEEP MINE DISCHARGE NR WHITE, PA SITE 9 (LAT 40 04 30N LONG 079 25 03W)										
FEB 1987										
26...	32	--	<130	--	<4	<250	0	--	<50	--
JUN										
29...	32	1600	<130	<4	<4	<250	0	180	<50	<30

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

INDIAN CREEK BASIN STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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, DIS-SOLVED (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
03082003 - ABANDONED DEEP MINE DISCHARGE AT KREGAR, PA SITE 1 (LAT 40 04 06N LONG 079 17 52W)										
FEB 1987										
25...	70	--	23	--	14000	--	<50	--	2500	--
MAY										
18...	--	--	--	13000	13000	--	--	2100	2100	--
03082005 - INDIAN CR AT KREGAR, PA SITE 2 (LAT 40 06 52N LONG 079 18 10W)										
FEB 1987										
25...	<30	--	<10	--	37	--	<50	--	150	--
MAR										
01...	--	--	--	120	29	--	--	66	78	--
APR										
14...	--	--	--	60	<10	--	--	54	53	--
MAY										
18...	--	--	--	170	71	--	--	89	76	--
JUN										
29...	<30	<10	<10	160	<10	<50	<50	130	130	<25
03082040 - PIKE RN 50FT ABOVE ROARING RN AT HOPEWELL, PA SITE 4 (LAT 40 04 08N LONG 079 20 37W)										
FEB 1987										
25...	<30	--	<10	--	25	--	<50	--	33	--
MAR										
26...	--	--	--	100	<10	--	--	27	11	--
APR										
14...	--	--	--	40	<10	--	--	40	170	--
MAY										
18...	--	--	--	70	11	--	--	20	14	--
JUN										
29...	<30	<10	<10	100	15	<50	<50	23	15	<25
03082045 - ROARING RN 50FT ABOVE PIKE RN AT HOPEWELL, PA SITE 5 (LAT 40 04 07N LONG 079 20 40W)										
FEB 1987										
25...	<30	--	<10	--	18	--	<85	--	<10	--
MAR										
26...	--	--	--	70	21	--	--	<10	<10	--
APR										
14...	--	--	--	60	16	--	--	<10	<10	--
MAY										
18...	--	--	--	10	<10	--	--	<10	<10	--
JUN										
29...	<30	<10	<10	270	<10	<50	<50	<10	<10	<25
03082100 - INDIAN CREEK AT NEBO, PA SITE 12 (LAT 40 03 37N LONG 079 21 53W)										
FEB 1987										
25...	<30	--	<10	--	47	--	<50	--	72	--
JUN										
29...	<30	<10	<10	260	44	<50	<50	35	24	<25
03082105 - INDIAN CREEK AT COFFMAN, PA SITE 13 (LAT 40 03 07N LONG 079 22 55W)										
FEB 1987										
26...	<30	--	<10	--	140	--	<50	--	68	--
JUN										
29...	<30	<10	<10	430	110	<50	<50	54	43	<25
03082110 - CHAMPION C ABOVE L CHAMPION C NR MELCROFT, PA SITE 7 (LAT 40 04 05N LONG 079 23 57W)										
FEB 1987										
26...	<30	--	<10	--	23	--	<50	--	110	--
JUN										
29...	<30	<10	<10	310	40	<50	<50	32	21	<25
03082112 - DEEP MINE DISCHARGE NR WHITE, PA SITE 9 (LAT 40 04 30N LONG 079 25 03W)										
FEB 1987										
26...	<30	--	<10	--	5200	--	<50	--	150	--
JUN										
29...	<30	53	<10	3300	2100	<50	<50	170	90000	65

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

INDIAN CREEK BASIN STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
03082003 - ABANDONED DEEP MINE DISCHARGE AT KREGAR, PA SITE 1 (LAT 40 04 06N LONG 079 17 52W)									
FEB 1987									
25...	120	--	70	--	270	--	<6	--	<1.0
MAY									
18...	--	--	--	230	230	--	--	--	--
03082005 - INDIAN CR AT KREGAR, PA SITE 2 (LAT 40 06 52N LONG 079 18 10W)									
FEB 1987									
25...	<25	--	92	--	18	--	<6	--	<1.0
MAR									
01...	--	--	--	10	19	--	--	--	--
APR									
14...	--	--	--	10	11	--	--	--	--
MAY									
18...	--	--	--	60	43	--	--	--	--
JUN									
29...	<25	70	<67	10	<10	<6	<6	<1.0	<1.0
03082040 - PIKE RN 50FT ABOVE ROARING RN AT HOPEWELL, PA SITE 4 (LAT 40 04 08N LONG 079 20 37W)									
FEB 1987									
25...	<25	--	25	--	<10	--	<6	--	<1.0
MAR									
26...	--	--	--	20	<10	--	--	--	--
APR									
14...	--	--	--	20	130	--	--	--	--
MAY									
18...	--	--	--	20	<10	--	--	--	--
JUN									
29...	<25	30	25	<10	<10	<6	<6	<1.0	<1.0
03082045 - ROARING RN 50FT ABOVE PIKE RN AT HOPEWELL, PA SITE 5 (LAT 40 04 07N LONG 079 20 40W)									
FEB 1987									
25...	<25	--	21	--	<10	--	<6	--	<1.0
MAR									
26...	--	--	--	<10	<10	--	--	--	--
APR									
14...	--	--	--	<10	15	--	--	--	--
MAY									
18...	--	--	--	<10	<10	--	--	--	--
JUN									
29...	<25	30	24	<10	<10	<6	<6	<1.0	<1.0
03082100 - INDIAN CREEK AT NEBO, PA SITE 12 (LAT 40 03 37N LONG 079 21 53W)									
FEB 1987									
25...	<25	--	54	--	<10	--	<6	--	<1.0
JUN									
29...	<25	50	45	<10	<10	<6	<6	<1.0	<1.0
03082105 - INDIAN CREEK AT COFFMAN, PA SITE 13 (LAT 40 03 07N LONG 079 22 55W)									
FEB 1987									
26...	<25	--	43	--	<10	--	<6	--	<1.0
JUN									
29...	<25	40	43	<10	<10	<6	<6	<1.0	<1.0
03082110 - CHAMPION C ABOVE L CHAMPION C NR MELCROFT, PA SITE 7 (LAT 40 04 05N LONG 079 23 57W)									
FEB 1987									
26...	<25	--	130	--	<10	--	<6	--	<1.0
JUN									
29...	<25	110	100	<10	<10	<6	<6	<1.0	<1.0
03082112 - DEEP MINE DISCHARGE NR WHITE, PA SITE 9 (LAT 40 04 30N LONG 079 25 03W)									
FEB 1987									
26...	<25	--	150	--	81	--	<6	--	<1.0
JUN									
29...	<25	140	140	170	59	<6	<6	<1.0	<1.0

INDIAN CREEK BASIN STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	ACIDITY (MG/L AS H)	ACIDITY TOTAL HEATED (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)
03082115 - L CHAMPION C ABOVE CHAMPION C NR MELCROFT, PA SITE 8 (LAT 40 04 03N LONG 079 23 59W)										
FEB 1987										
26...	0915	3.4	237	--	0.5	--	0.0	--	25	--
JUN										
29...	1600	2.7	273	7.60	19.0	--	0.0	37	29	9.9
03082122 - NUMBER 3 MINE POOL AT MELCROFT, PA SITE 10 (LAT 40 03 24N LONG 079 23 33W)										
FEB 1987										
26...	1215	--	1160	3.50	11.0	7.0	342	--	73	--
03082125 - CHAMPION C (RT 381/711BRIDGE) AT MELCROFT, PA SITE 11 (LAT 40 03 06N LONG 079 23 27W)										
FEB 1987										
26...	1310	11	325	7.10	3.0	0.1	16	--	27	--
JUN										
29...	0815	6.2	240	6.40	14.5	--	14	30	31	12
03082132 - KALP MINE DISCHARGE (LARGE) AT ROMNEY, PA SITE 25 (LAT 40 02 50N LONG 079 24 08W)										
FEB 1987										
26...	1300	1.8	1700	2.86	12.0	8.4	352	--	150	--
JUN										
29...	1630	1.0	1850	2.92	14.0	--	440	150	150	45
03082133 - KALP MINE DISCHARGE (SMALL) AT ROMNEY, PA SITE 26 (LAT 40 02 49N LONG 079 24 11W)										
FEB 1987										
26...	1315	0.00	490	3.21	11.0	1.5	98	--	16	--
03082142 - MATHEWS MINE DISCHARGE AT DAVISTOWN, PA SITE 27 (LAT 40 02 26N LONG 079 24 14W)										
FEB 1987										
26...	1335	--	1750	2.83	11.0	8.4	354	--	150	--
JUN										
29...	1530	--	1800	2.91	14.0	--	440	150	150	45
03082155 - BACK CREEK AT INDIAN HEAD, PA SITE 15 (LAT 40 01 33N LONG 079 23 47W)										
FEB 1987										
25...	1415	8.2	100	6.40	3.0	0.1	20	--	11	--
MAR										
26...	1235	15	90	7.20	9.5	--	0.0	--	--	--
APR										
14...	1355	42	85	7.35	10.0	--	16	--	--	--
MAY										
18...	1435	9.3	105	7.03	16.0	--	0.0	--	--	--
JUN										
29...	1245	5.1	110	7.50	15.5	--	8.0	13	13	2.0
03082160 - INDIAN CREEK AT INDIAN HEAD, PA SITE 14 (LAT 40 01 30N LONG 079 23 49W)										
FEB 1987										
25...	1140	48	260	6.80	2.0	0.2	24	--	16	--
JUN										
29...	1110	30	190	7.00	16.0	--	20	19	19	4.6
03082168 - GALENTINE MINE DISCHARGE NR INDIAN HEAD, PA SITE 20 (LAT 40 00 57N LONG 079 24 47W)										
FEB 1987										
26...	1140	0.36	1670	3.60	11.5	5.2	324	--	130	--
JUN										
29...	1430	0.28	1650	2.94	14.0	--	360	130	130	41
03082175 - POPLAR RUN ABOVE NEWMYER RN NR CLINTON, PA SITE 18 (LAT 40 02 13N LONG 079 26 31W)										
FEB 1987										
25...	1020	4.0	180	6.01	0.0	0.4	36	--	31	--
JUN										
29...	1415	0.91	350	5.80	17.0	--	30	38	38	13

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

INDIAN CREEK BASIN STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	ALKA-LINITY WH WAT TOTAL LAB MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)
03082115 - L CHAMPION C ABOVE CHAMPION C NR MELCROFT, PA SITE 8 (LAT 40 04 03N LONG 079 23 59W)										
FEB 1987										
26...	8.3	--	3.3	--	1.3	--	38	81	--	48
JUN										
29...	9.2	2.4	2.3	1.8	1.7	--	52	78	--	170
03082122 - NUMBER 3 MINE POOL AT MELCROFT, PA SITE 10 (LAT 40 03 24N LONG 079 23 33W)										
FEB 1987										
26...	35	--	10	--	4.4	--	--	520	--	836
03082125 - CHAMPION C (RT 381/711BRIDGE) AT MELCROFT, PA SITE 11 (LAT 40 03 06N LONG 079 23 27W)										
FEB 1987										
26...	9.0	--	13	--	1.7	28	32	100	21	142
JUN										
29...	11	7.1	7.3	2.1	2.0	--	22	130	--	262
03082132 - KALP MINE DISCHARGE (LARGE) AT ROMNEY, PA SITE 25 (LAT 40 02 50N LONG 079 24 08W)										
FEB 1987										
26...	44	--	2.2	--	3.9	--	--	750	--	1270
JUN										
29...	45	2.1	2.0	4.1	4.1	--	--	800	--	1850
03082133 - KALP MINE DISCHARGE (SMALL) AT ROMNEY, PA SITE 26 (LAT 40 02 49N LONG 079 24 11W)										
FEB 1987										
26...	7.9	--	0.69	--	1.2	--	--	150	--	218
03082142 - MATHEWS MINE DISCHARGE AT DAVISTOWN, PA SITE 27 (LAT 40 02 26N LONG 079 24 14W)										
FEB 1987										
26...	45	--	2.2	--	3.9	--	--	420	--	1300
JUN										
29...	45	2.0	2.1	4.2	4.1	--	--	750	--	1710
03082155 - BACK CREEK AT INDIAN HEAD, PA SITE 15 (LAT 40 01 33N LONG 079 23 47W)										
FEB 1987										
25...	2.1	--	3.5	--	0.94	16	24	52	8.0	4
MAR										
26...	--	--	--	--	--	--	20	20	6.0	36
APR										
14...	--	--	--	--	--	--	16	23	4.0	56
MAY										
18...	--	--	--	--	--	--	32	18	5.0	78
JUN										
29...	1.9	3.0	2.9	1.4	1.0	--	30	22	--	66
03082160 - INDIAN CREEK AT INDIAN HEAD, PA SITE 14 (LAT 40 01 30N LONG 079 23 49W)										
FEB 1987										
25...	3.7	--	36	--	1.0	4	20	57	62	126
JUN										
29...	4.5	10	10	1.3	1.3	--	20	35	--	140
03082168 - GALENTINE MINE DISCHARGE NR INDIAN HEAD, PA SITE 20 (LAT 40 00 57N LONG 079 24 47W)										
FEB 1987										
26...	43	--	3.1	--	3.2	0	--	570	3.0	1180
JUN										
29...	41	2.7	2.7	3.7	3.6	--	--	490	--	1520
03082175 - POPLAR RUN ABOVE NEWMYER RN NR CLINTON, PA SITE 18 (LAT 40 02 13N LONG 079 26 31W)										
FEB 1987										
25...	11	--	2.4	--	1.4	4	8	85	--	108
JUN										
29...	13	1.8	1.8	1.5	1.5	--	8	130	--	226

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DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
03082115 - L CHAMPION C ABOVE CHAMPION C NR MELCROFT, PA SITE 8 (LAT 40 04 03N LONG 079 23 59W)										
FEB 1987										
26...	12	--	<130	--	<4	<250	0	--	<50	--
JUN										
29...	10	<130	<130	<4	<4	<250	0	<50	<50	<30
03082122 - NUMBER 3 MINE POOL AT MELCROFT, PA SITE 10 (LAT 40 03 24N LONG 079 23 33W)										
FEB 1987										
26...	14	--	32000	--	19	<250	0	--	<50	--
03082125 - CHAMPION C (RT 381/711BRIDGE) AT MELCROFT, PA SITE 11 (LAT 40 03 06N LONG 079 23 27W)										
FEB 1987										
26...	16	--	<130	--	<4	<250	0	--	<50	--
JUN										
29...	24	2400	<130	<4	<4	<250	0	<50	<50	<30
03082132 - KALP MINE DISCHARGE (LARGE) AT ROMNEY, PA SITE 25 (LAT 40 02 50N LONG 079 24 08W)										
FEB 1987										
26...	18	--	22000	--	14	<250	0	--	<50	--
JUN										
29...	16	24000	24000	23	22	<250	0	<50	<50	210
03082133 - KALP MINE DISCHARGE (SMALL) AT ROMNEY, PA SITE 26 (LAT 40 02 49N LONG 079 24 11W)										
FEB 1987										
26...	10	--	5000	--	<4	<250	0	--	<50	--
03082142 - MATHEWS MINE DISCHARGE AT DAVISTOWN, PA SITE 27 (LAT 40 02 26N LONG 079 24 14W)										
FEB 1987										
26...	14	--	22000	--	10	<250	0	--	<50	--
JUN										
29...	8	24000	24000	22	22	<250	0	<50	<50	210
03082155 - BACK CREEK AT INDIAN HEAD, PA SITE 15 (LAT 40 01 33N LONG 079 23 47W)										
FEB 1987										
25...	12	--	<130	--	<4	<250	0	--	<50	--
MAR										
26...	10	<130	<130	--	--	--	--	--	--	--
APR										
14...	4	<130	<130	--	--	--	--	--	--	--
MAY										
18...	8	510	<130	--	--	--	--	--	--	--
JUN										
29...	<2	210	<130	<4	<4	<250	0	<50	<50	<30
03082160 - INDIAN CREEK AT INDIAN HEAD, PA SITE 14 (LAT 40 01 30N LONG 079 23 49W)										
FEB 1987										
25...	14	--	170	--	<4	<250	0	--	<50	--
JUN										
29...	6	250	<130	<4	<4	<250	0	<50	<50	<30
03082168 - GALENTINE MINE DISCHARGE NR INDIAN HEAD, PA SITE 20 (LAT 40 00 57N LONG 079 24 47W)										
FEB 1987										
26...	16	--	21000	--	13	<250	0	--	<50	--
JUN										
29...	4	19000	19000	16	16	<250	0	<50	<50	160
03082175 - POPLAR RUN ABOVE NEWMYER RN NR CLINTON, PA SITE 18 (LAT 40 02 13N LONG 079 26 31W)										
FEB 1987										
25...	22	--	330	--	<4	<250	0	--	<50	--
JUN										
29...	<2	420	<130	<4	<4	<250	0	<50	<50	<30

INDIAN CREEK BASIN STUDY

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DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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, DIS-SOLVED (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
03082115 - L CHAMPION C ABOVE CHAMPION C NR MELCROFT, PA SITE 8 (LAT 40 04 03N LONG 079 23 59W)										
FEB 1987										
26...	<30	--	<10	--	28	--	<50	--	68	--
JUN										
29...	<30	<10	<10	220	25	<50	<50	43	31	<25
03082122 - NUMBER 3 MINE POOL AT MELCROFT, PA SITE 10 (LAT 40 03 24N LONG 079 23 33W)										
FEB 1987										
26...	220	--	<10	--	78000	--	<50	--	11000	--
03082125 - CHAMPION C (RT 381/711BRIDGE) AT MELCROFT, PA SITE 11 (LAT 40 03 06N LONG 079 23 27W)										
FEB 1987										
26...	<30	--	<10	--	490	--	<50	--	260	--
JUN										
29...	<250	<10	<10	3100	2300	<50	<50	560	630	<25
03082132 - KALP MINE DISCHARGE (LARGE) AT ROMNEY, PA SITE 25 (LAT 40 02 50N LONG 079 24 08W)										
FEB 1987										
26...	190	--	21	--	49000	--	<50	--	2500	--
JUN										
29...	210	11	11	73000	72000	<50	<50	2700	2700	420
03082133 - KALP MINE DISCHARGE (SMALL) AT ROMNEY, PA SITE 26 (LAT 40 02 49N LONG 079 24 11W)										
FEB 1987										
26...	30	--	<10	--	3100	--	<50	--	650	--
03082142 - MATHEWS MINE DISCHARGE AT DAVISTOWN, PA SITE 27 (LAT 40 02 26N LONG 079 24 14W)										
FEB 1987										
26...	200	--	23	--	46000	--	<50	--	2500	--
JUN										
29...	210	12	12	68000	68000	<50	<50	2700	2700	430
03082155 - BACK CREEK AT INDIAN HEAD, PA SITE 15 (LAT 40 01 33N LONG 079 23 47W)										
FEB 1987										
25...	<30	--	<10	--	22	--	<50	--	<10	--
MAR										
26...	--	--	--	110	<10	--	--	<10	<10	--
APR										
14...	--	--	--	130	48	--	--	<10	12	--
MAY										
18...	--	--	--	570	27	--	--	32	<10	--
JUN										
29...	<30	<10	<10	240	14	<50	<50	19	<10	<25
03082160 - INDIAN CREEK AT INDIAN HEAD, PA SITE 14 (LAT 40 01 30N LONG 079 23 49W)										
FEB 1987										
25...	<30	--	<10	--	540	--	<50	--	130	--
JUN										
29...	<30	<10	<10	800	400	<50	<50	210	200	<25
03082168 - GALENTINE MINE DISCHARGE NR INDIAN HEAD, PA SITE 20 (LAT 40 00 57N LONG 079 24 47W)										
FEB 1987										
26...	170	--	11	--	40000	--	<50	--	2700	--
JUN										
29...	150	310	<10	45000	45000	<50	<50	2500	2500	430
03082175 - POPLAR RUN ABOVE NEWMYER RN NR CLINTON, PA SITE 18 (LAT 40 02 13N LONG 079 26 31W)										
FEB 1987										
25...	<30	--	<10	--	380	--	<50	--	1400	--
JUN										
29...	<30	<10	<10	310	130	<50	<50	1400	1400	<25

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INDIAN CREEK BASIN STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
03082115 - L CHAMPION C ABOVE CHAMPION C NR MELCROFT, PA SITE 8 (LAT 40 04 03N LONG 079 23 59W)									
FEB 1987									
26...	<25	--	69	--	<10	--	<6	--	<1.0
JUN									
29...	<25	90	82	<10	<10	<6	<6	<1.0	<1.0
03082122 - NUMBER 3 MINE POOL AT MELCROFT, PA SITE 10 (LAT 40 03 24N LONG 079 23 33W)									
FEB 1987									
26...	160	--	390	--	450	--	<8	--	<1.0
03082125 - CHAMPION C (RT 381/711BRIDGE) AT MELCROFT, PA SITE 11 (LAT 40 03 06N LONG 079 23 27W)									
FEB 1987									
26...	<25	--	98	--	<10	--	<6	--	<1.0
JUN									
29...	<25	120	120	40	36	<6	<6	<1.0	<1.0
03082132 - KALP MINE DISCHARGE (LARGE) AT ROMNEY, PA SITE 25 (LAT 40 02 50N LONG 079 24 08W)									
FEB 1987									
26...	370	--	1600	--	880	--	<6	--	<1.0
JUN									
29...	420	1700	1600	910	910	<6	<6	<1.0	<1.0
03082133 - KALP MINE DISCHARGE (SMALL) AT ROMNEY, PA SITE 26 (LAT 40 02 49N LONG 079 24 11W)									
FEB 1987									
26...	75	--	170	--	140	--	<6	--	<1.0
03082142 - MATHEWS MINE DISCHARGE AT DAVISTOWN, PA SITE 27 (LAT 40 02 26N LONG 079 24 14W)									
FEB 1987									
26...	380	--	1600	--	890	--	9	--	<1.0
JUN									
29...	420	1600	1600	920	920	<6	<6	<1.0	<1.0
03082155 - BACK CREEK AT INDIAN HEAD, PA SITE 15 (LAT 40 01 33N LONG 079 23 47W)									
FEB 1987									
25...	<25	--	32	--	<10	--	<6	--	<1.0
MAR									
26...	--	--	--	30	<10	--	--	--	--
APR									
14...	--	--	--	<10	20	--	--	--	--
MAY									
18...	--	--	--	<10	<10	--	--	--	--
JUN									
29...	<25	30	32	<10	<10	<6	<6	<1.0	<1.0
03082160 - INDIAN CREEK AT INDIAN HEAD, PA SITE 14 (LAT 40 01 30N LONG 079 23 49W)									
FEB 1987									
25...	<25	--	71	--	<10	--	<6	--	<1.0
JUN									
29...	<25	90	89	30	16	<6	<6	<1.0	<1.0
03082168 - GALENTINE MINE DISCHARGE NR INDIAN HEAD, PA SITE 20 (LAT 40 00 57N LONG 079 24 47W)									
FEB 1987									
26...	320	--	1300	--	740	--	9	--	<1.0
JUN									
29...	310	1300	1300	750	700	<6	<6	<1.0	<1.0
03082175 - POPLAR RUN ABOVE NEWMYER RN NR CLINTON, PA SITE 18 (LAT 40 02 13N LONG 079 26 31W)									
FEB 1987									
25...	<25	--	80	--	94	--	<6	--	<1.0
JUN									
29...	<25	100	99	90	93	<6	<6	<1.0	<1.0

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INDIAN CREEK BASIN STUDY

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DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	ACIDITY (MG/L AS H)	ACIDITY TOTAL HEATED (MG/L AS CACO3)	CALCIUM TOTAL RECOV-ERABLE (MG/L AS CA)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, TOTAL RECOV-ERABLE (MG/L AS MG)
03082180 - NEWMYER RUN ABOVE POPLAR RN NR CLINTON, PA SITE 17 (LAT 40 02 13N LONG 079 26 29W)										
FEB 1987										
25...	0900	189	420	7.40	0.0	0.5	52	--	85	--
JUN										
29...	1340	0.68	600	4.80	17.0	--	52	76	76	42
03082210 - POPLAR RUN AT MOUTH NEAR NORMALVILLE, PA SITE 19 (LAT 40 00 57N LONG 079 24 58W)										
FEB 1987										
26...	1115	7.9	350	6.10	0.0	0.1	34	--	40	--
03082215 - LAUREL RUN ABOVE BACK RN AT ROGERS MILL, PA SITE 22 (LAT 39 59 50N LONG 079 24 21W)										
FEB 1987										
26...	1000	3.9	70	7.50	0.5	0.0	0.0	--	9.1	--
MAR										
26...	1345	6.9	55	7.40	10.0	--	0.0	--	--	--
APR										
14...	1300	31	55	7.25	9.5	--	18	--	--	--
MAY										
18...	1520	6.3	70	7.03	14.5	--	0.0	--	--	--
JUN										
30...	1000	1.9	70	--	15.5	--	12	8.9	8.9	1.5
03082220 - BUCK RUN ABOVE LAUREL RN AT ROGERS MILL, PA SITE 21 (LAT 39 59 32N LONG 079 24 33W)										
FEB 1987										
26...	0900	3.6	800	7.50	0.5	0.0	24	--	8.9	--
MAR										
26...	1445	4.8	75	7.20	10.0	--	0.0	--	--	--
APR										
14...	1330	28	58	7.15	9.0	--	20	--	--	--
MAY										
18...	1555	7.1	90	6.95	15.0	--	0.0	--	--	--
JUN										
30...	0920	2.6	110	6.00	16.0	--	20	9.5	9.3	2.1
03082300 - INDIAN CREEK AT MOUTH NEAR MILL RUN, PA SITE 28 (LAT 39 58 12N LONG 079 30 44W)										
FEB 1987										
26...	0930	93	280	6.90	1.0	0.1	28	--	20	--
MAR										
27...	1015	111	195	7.07	9.0	--	0.0	--	--	--
APR										
14...	0845	--	160	6.71	8.5	--	20	--	--	--
MAY										
19...	0945	--	220	7.00	16.0	--	0.0	--	--	--
JUN										
29...	1015	53	200	6.90	19.5	--	14	20	20	6.1

INDIAN CREEK BASIN STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	SOLIDS, RESIDUE AT 105 DEG. C, SUS-PENDED (MG/L)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DIS-SOLVED (UG/L AS AS)	BORON, TOTAL RECOV-ERABLE (UG/L AS B)	BORON, DIS-SOLVED (UG/L AS B)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR)	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)
03082180 - NEWMYER RUN ABOVE POPLAR RN NR CLINTON, PA SITE 17 (LAT 40 02 13N LONG 079 26 29W)										
FEB 1987										
25...	36	--	<130	--	<4	<250	0	--	<50	--
JUN										
29...	10	4900	2100	<4	<4	<250	0	<50	<50	40
03082210 - POPLAR RUN AT MOUTH NEAR NORMALVILLE, PA SITE 19 (LAT 40 00 57N LONG 079 24 58W)										
FEB 1987										
26...	20	--	<130	--	<4	<250	0	--	<50	--
03082215 - LAUREL RUN ABOVE BACK RN AT ROGERS MILL,PA SITE 22 (LAT 39 59 50N LONG 079 24 21W)										
FEB 1987										
26...	8	--	<130	--	<4	<250	0	--	<50	--
MAR										
26...	6	<130	<130	--	--	--	--	--	--	--
APR										
14...	<2	<130	<130	--	--	--	--	--	--	--
MAY										
18...	10	380	<130	--	--	--	--	--	--	--
JUN										
30...	2	160	<130	<4	<4	<250	0	<50	<50	<30
03082220 - BUCK RUN ABOVE LAUREL RN AT ROGERS MILL, PA SITE 21 (LAT 39 59 32N LONG 079 24 33W)										
FEB 1987										
26...	<2	--	<130	--	<4	<250	0	--	<50	--
MAR										
26...	8	290	<130	--	--	--	--	--	--	--
APR										
14...	6	220	<130	--	--	--	--	--	--	--
MAY										
18...	8	470	<130	--	--	--	--	--	--	--
JUN										
30...	6	<130	<130	<4	<4	<250	0	<50	<50	<30
03082300 - INDIAN CREEK AT MOUTH NEAR MILL RUN, PA SITE 28 (LAT 39 58 12N LONG 079 30 44W)										
FEB 1987										
26...	12	--	<130	--	<4	<250	0	--	<50	--
MAR										
27...	6	170	<130	--	--	--	--	--	--	--
APR										
14...	<2	<130	2400	--	--	--	--	--	--	--
MAY										
19...	18	670	<130	--	--	--	--	--	--	--
JUN										
29...	<2	<130	<130	<4	<4	<250	0	<50	<50	<30

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

INDIAN CREEK BASIN STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, TOTAL RECOV-ERABLE (MG/L AS NA)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, TOTAL RECOV-ERABLE (MG/L AS K)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WH WAT TOTAL FIELD MG/L AS CACO3	ALKA-LINITY WH WAT TOTAL LAB MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SOLIDS, RESIDUE AT 105 DEG. C, DIS-SOLVED (MG/L)
03082180 - NEWMYER RUN ABOVE POPLAR RN NR CLINTON, PA SITE 17 (LAT 40 02 13N LONG 079 26 29W)										
FEB 1987										
25...	60	--	39	--	2.1	12	12	560	--	804
JUN										
29...	42	5.9	5.9	2.2	2.2	--	8	350	--	698
03082210 - POPLAR RUN AT MOUTH NEAR NORMALVILLE, PA SITE 19 (LAT 40 00 57N LONG 079 24 58W)										
FEB 1987										
26...	19	--	8.7	--	1.4	7	12	190	--	262
03082215 - LAUREL RUN ABOVE BACK RN AT ROGERS MILL, PA SITE 22 (LAT 39 59 50N LONG 079 24 21W)										
FEB 1987										
26...	1.7	--	0.94	--	0.77	17	22	61	2.0	4
MAR										
26...	--	--	--	--	--	--	16	14	2.0	20
APR										
14...	--	--	--	--	--	--	12	26	1.0	52
MAY										
18...	--	--	--	--	--	--	22	17	2.0	48
JUN										
30...	1.5	0.9	0.85	1	0.95	--	24	<10	--	36
03082220 - BUCK RUN ABOVE LAUREL RN AT ROGERS MILL, PA SITE 21 (LAT 39 59 32N LONG 079 24 33W)										
FEB 1987										
26...	2.3	--	2.6	--	0.73	14	18	6.3	--	4
MAR										
26...	--	--	--	--	--	--	18	21	2.0	34
APR										
14...	--	--	--	--	--	--	12	40	3.0	54
MAY										
18...	--	--	--	--	--	--	22	23	3.0	68
JUN										
30...	2.0	3.1	3.0	1	0.91	--	22	28	--	54
03082300 - INDIAN CREEK AT MOUTH NEAR MILL RUN, PA SITE 28 (LAT 39 58 12N LONG 079 30 44W)										
FEB 1987										
26...	6.7	--	23	--	1.0	7	14	88	36	184
MAR										
27...	--	--	--	--	--	--	16	90000	14	112
APR										
14...	--	--	--	--	--	--	14	48	9.0	98
MAY										
19...	--	--	--	--	--	--	20	81	10	136
JUN										
29...	6.1	8.3	8.2	1.7	1.7	--	20	57	--	166

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

INDIAN CREEK BASIN STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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, DIS-SOLVED (UG/L AS MN)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
03082180 - NEWMYER RUN ABOVE POPLAR RN NR CLINTON, PA SITE 17 (LAT 40 02 13N LONG 079 26 29W)										
FEB 1987										
25...	110	--	<10	--	2000	--	<50	--	12000	--
JUN										
29...	50	<10	<10	1200	880	<50	<50	8400	8300	<25
03082210 - POPLAR RUN AT MOUTH NEAR NORMALVILLE, PA SITE 19 (LAT 40 00 57N LONG 079 24 58W)										
FEB 1987										
26...	<30	--	<10	--	730	--	<50	--	2700	--
03082215 - LAUREL RUN ABOVE BACK RN AT ROGERS MILL, PA SITE 22 (LAT 39 59 50N LONG 079 24 21W)										
FEB 1987										
26...	<30	--	<10	--	44	--	<50	--	20	--
MAR										
26...	--	--	--	100	<10	--	--	10	<10	--
APR										
14...	--	--	--	10	31	--	--	<10	12	--
MAY										
18...	--	--	--	320	210	--	--	31	11	--
JUN										
30...	<30	<10	<10	350	90	<50	<50	22	<10	<25
03082220 - BUCK RUN ABOVE LAUREL RN AT ROGERS MILL, PA SITE 21 (LAT 39 59 32N LONG 079 24 33W)										
FEB 1987										
26...	<30	--	<10	--	20	--	<50	--	250	--
MAR										
26...	--	--	--	80	<10	--	--	140	130	--
APR										
14...	--	--	--	80	32	--	--	130	140	--
MAY										
18...	--	--	--	280	25	--	--	180	130	--
JUN										
30...	<30	<10	<10	120	78	<50	<50	99	86	<25
03082300 - INDIAN CREEK AT MOUTH NEAR MILL RUN, PA SITE 28 (LAT 39 58 12N LONG 079 30 44W)										
FEB 1987										
26...	<30	--	<10	--	150	--	<50	--	570	--
MAR										
27...	--	--	--	280	<10	--	--	380	370	--
APR										
14...	--	--	--	80	190	--	--	150	210	--
MAY										
19...	--	--	--	1000	<10	--	--	500	510	--
JUN										
29...	<30	<10	<10	170	14	<50	<50	140	120	<25

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

INDIAN CREEK BASIN STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	NICKEL, DIS-SOLVED (UG/L AS NI)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)	SELE-NIUM, TOTAL (UG/L AS SE)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	MERCURY DIS-SOLVED (UG/L AS HG)
03082180 - NEWMYER RUN ABOVE POPLAR RN NR CLINTON, PA SITE 17 (LAT 40 02 13N LONG 079 26 29W)									
FEB 1987									
25...	64	--	140	--	310	--	<6	--	<1.0
JUN									
29...	<25	150	150	280	280	<6	<6	<1.0	<1.0
03082210 - POPLAR RUN AT MOUTH NEAR NORMALVILLE, PA SITE 19 (LAT 40 00 57N LONG 079 24 58W)									
FEB 1987									
26...	<25	--	100	--	83	--	<6	--	<1.0
03082215 - LAUREL RUN ABOVE BACK RN AT ROGERS MILL, PA SITE 22 (LAT 39 59 50N LONG 079 24 21W)									
FEB 1987									
26...	<25	--	28	--	<10	--	<6	--	<1.0
MAR									
26...	--	--	--	20	<10	--	--	--	--
APR									
14...	--	--	--	<10	<10	--	--	--	--
MAY									
18...	--	--	--	20	13	--	--	--	--
JUN									
30...	<25	30	30	10	11	<6	<6	<1.0	<1.0
03082220 - BUCK RUN ABOVE LAUREL RN AT ROGERS MILL, PA SITE 21 (LAT 39 59 32N LONG 079 24 33W)									
FEB 1987									
26...	<25	--	30	--	15	--	<6	--	<1.0
MAR									
26...	--	--	--	20	<10	--	--	--	--
APR									
14...	--	--	--	<10	18	--	--	--	--
MAY									
18...	--	--	--	20	13	--	--	--	--
JUN									
30...	<25	30	33	<10	<10	<6	<6	<1.0	<1.0
03082300 - INDIAN CREEK AT MOUTH NEAR MILL RUN, PA SITE 28 (LAT 39 58 12N LONG 079 30 44W)									
FEB 1987									
26...	<25	--	82	--	33	--	<6	--	<1.0
MAR									
27...	--	--	--	20	21	--	--	--	--
APR									
14...	--	--	--	<10	<10	--	--	--	--
MAY									
19...	--	--	--	20	14	--	--	--	--
JUN									
29...	<25	90	85	<10	<10	<6	<6	<1.0	<1.0

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
WEST BRANCH SUSQUEHANNA RIVER BASIN											
01540649 - CUSH CUSHION CREEK AT CHERRY TREE, PA. SITE 5 (LAT 40 43 25N LONG 078 48 58W)											
NOV 1986											
03...	1440	4.7	290	7.40	7.5	110	0	26	10	5.5	1.8
MAY 1987											
11...	1320	9.5	275	7.50	15.5	100	0	24	9.8	4.4	1.3
01540660 - SHRYOCK RUN NEAR ARCADIA, PA. SITE 4 (LAT 40 46 12N LONG 078 49 43W)											
NOV 1986											
03...	1315	0.33	72	6.90	8.0	21	0	6.7	2.2	2.3	0.82
MAY 1987											
11...	1215	0.60	83	6.80	13.0	20	0	5.9	2.1	2.4	0.60
01540670 - ROCK RUN NEAR GLEN CAMPBELL, PA. SITE 3 (LAT 40 48 01N LONG 078 48 28W)											
NOV 1986											
03...	1220	1.5	56	6.90	6.0	17	0	4.4	1.8	1.3	0.88
MAY 1987											
11...	1130	2.4	70	7.00	12.0	16	0	4.1	1.7	1.5	0.83
01540705 - CUSH CREEK AT GLEN CAMPBELL, PA. SITE 2 (LAT 40 48 51N LONG 078 49 28W)											
NOV 1986											
03...	1030	12	322	7.50	6.0	110	0	27	10	14	2.3
MAY 1987											
11...	1030	22	305	7.30	12.0	110	0	26	10	10	1.6
ALLEGHENY RIVER BASIN											
03033350 - TRIBUTARY TO CANOE CR AT ROSSITER, PA. SITE 1 (LAT 40 53 05N LONG 078 55 04W)											
NOV 1986											
03...	0910	0.71	164	7.20	5.5	60	0	15	5.4	3.9	1.6
MAY 1987											
11...	0920	1.3	175	7.00	12.0	56	0	14	5.3	4.1	1.2
03034300 - LITTLE MAHONING CR NR ROCHESTER MILLS, PA. SITE 6 (LAT 40 47 48N LONG 078 55 41W)											
NOV 1986											
04...	0830	15	180	7.00	7.5	57	0	15	4.8	5.5	1.0
MAY 1987											
11...	1715	14	173	7.20	17.5	55	0	14	4.7	3.7	1.2
03034400 - MUDLICK RUN NEAR GEORGEVILLE, PA. SITE 7 (LAT 40 51 15N LONG 079 04 24W)											
NOV 1986											
04...	0945	3.8	145	7.40	8.0	41	0	12	4.0	6.1	1.2
MAY 1987											
11...	1830	4.9	120	7.70	19.5	55	0	8.0	2.8	4.2	1.2
03034500 - LITTLE MAHONING CREEK AT MCCORMICK, PA. SITE 8 (LAT 40 50 10N LONG 079 06 37W)											
NOV 1986											
04...	1010	64	240	7.20	8.0	83	0	19	7.8	7.7	2.0
MAY 1987											
11...	1845	84	223	8.00	19.5	73	0	17	7.0	5.7	1.4
03036995 - CROOKED C ABOVE MCKEE RN AT CREEKSIDE, PA. SITE 10 (LAT 40 40 59N LONG 079 11 27W)											
NOV 1986											
04...	1100	37	550	7.40	9.0	133	0	35	11	65	13
MAY 1987											
11...	1835	59	400	7.80	19.0	127	0	34	11	37	2.0
03036997 - MCKEE RUN AT ERNEST, PA. SITE 11 (LAT 40 40 26N LONG 079 09 20W)											
NOV 1986											
04...	0930	15	260	7.10	9.5	83	0	20	6.5	14	2.2
MAY 1987											
11...	1735	11	160	8.80	19.0	53	--	16	5.1	9.0	1.3

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)
WEST BRANCH SUSQUEHANNA RIVER BASIN										
01540649 - CUSH CUSHION CREEK AT CHERRY TREE, PA. SITE 5 (LAT 40 43 25N LONG 078 48 58W)										
NOV 1986										
03...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	40	--	39	--	--	--	--
01540660 - SHRYOCK RUN NEAR ARCADIA, PA. SITE 4 (LAT 40 46 12N LONG 078 49 43W)										
NOV 1986										
03...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	30	--	33	--	--	--	--
01540670 - ROCK RUN NEAR GLEN CAMPBELL, PA. SITE 3 (LAT 40 48 01N LONG 078 48 28W)										
NOV 1986										
03...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	<500	--	<500	--	--	--	--
01540705 - CUSH CREEK AT GLEN CAMPBELL, PA. SITE 2 (LAT 40 48 51N LONG 078 49 28W)										
NOV 1986										
03...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	50	--	43	--	--	--	--
ALLEGHENY RIVER BASIN										
03033350 - TRIBUTARY TO CANOE CR AT ROSSITER, PA. SITE 1 (LAT 40 53 05N LONG 078 55 04W)										
NOV 1986										
03...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	60	--	50	--	--	--	--
03034300 - LITTLE MAHONING CR NR ROCHESTER MILLS, PA. SITE 6 (LAT 40 47 48N LONG 078 55 41W)										
NOV 1986										
04...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	50	--	47	--	--	--	--
03034400 - MUDLICK RUN NEAR GEORGEVILLE, PA. SITE 7 (LAT 40 51 15N LONG 079 04 24W)										
NOV 1986										
04...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	30	--	26	--	--	--	--
03034500 - LITTLE MAHONING CREEK AT MCCORMICK, PA. SITE 8 (LAT 40 50 10N LONG 079 06 37W)										
NOV 1986										
04...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	40	--	39	--	--	--	--
03036995 - CROOKED C ABOVE MCKEE RN AT CREEKSIDE, PA. SITE 10 (LAT 40 40 59N LONG 079 11 27W)										
NOV 1986										
04...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	50	--	48	--	--	--	--
03036997 - MCKEE RUN AT ERNEST, PA. SITE 11 (LAT 40 40 26N LONG 079 09 20W)										
NOV 1986										
04...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	20	--	23	--	--	--	--

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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, DIS-SOLVED (UG/L AS MN)
WEST BRANCH SUSQUEHANNA RIVER BASIN										
01540649 - CUSH CUSHION CREEK AT CHERRY TREE, PA. SITE 5 (LAT 40 43 25N LONG 078 48 58W)										
NOV 1986										
03...	<30	<30	<10	<10	330	290	<4	<4	80	70
MAY 1987										
11...	--	--	--	--	200	100	--	--	<50	<50
01540660 - SHRYOCK RUN NEAR ARCADIA, PA. SITE 4 (LAT 40 46 12N LONG 078 49 43W)										
NOV 1986										
03...	<30	<30	<10	<10	330	260	<4	<4	60	60
MAY 1987										
11...	--	--	--	--	290	150	--	--	<50	<50
01540670 - ROCK RUN NEAR GLEN CAMPBELL, PA. SITE 3 (LAT 40 48 01N LONG 078 48 28W)										
NOV 1986										
03...	<30	<30	<10	<10	460	190	<4	<4	70	60
MAY 1987										
11...	--	--	--	--	270	130	--	--	<50	<50
01540705 - CUSH CREEK AT GLEN CAMPBELL, PA. SITE 2 (LAT 40 48 51N LONG 078 49 28W)										
NOV 1986										
03...	<30	<30	<10	<10	400	190	<4	<4	280	280
MAY 1987										
11...	--	--	--	--	280	110	--	--	180	170
ALLEGHENY RIVER BASIN										
03033350 - TRIBUTARY TO CANOE CR AT ROSSITER, PA. SITE 1 (LAT 40 53 05N LONG 078 55 04W)										
NOV 1986										
03...	<30	<30	<10	<10	190	110	<4	<4	<50	<50
MAY 1987										
11...	--	--	--	--	200	100	--	--	<50	<50
03034300 - LITTLE MAHONING CR NR ROCHESTER MILLS, PA. SITE 6 (LAT 40 47 48N LONG 078 55 41W)										
NOV 1986										
04...	<30	<30	<10	<10	700	130	<4	<4	100	70
MAY 1987										
11...	--	--	--	--	300	140	--	--	<50	<50
03034400 - MUDLICK RUN NEAR GEORGEVILLE, PA. SITE 7 (LAT 40 51 15N LONG 079 04 24W)										
NOV 1986										
04...	<30	<30	<10	<10	420	230	<4	<4	<50	<50
MAY 1987										
11...	--	--	--	--	240	120	--	--	<50	<50
03034500 - LITTLE MAHONING CREEK AT MCCORMICK, PA. SITE 8 (LAT 40 50 10N LONG 079 06 37W)										
NOV 1986										
04...	<30	<30	<10	<10	490	150	<4	<4	100	90
MAY 1987										
11...	--	--	--	--	260	100	--	--	70	70
03036995 - CROOKED C ABOVE MCKEE RN AT CREEKSIDE, PA. SITE 10 (LAT 40 40 59N LONG 079 11 27W)										
NOV 1986										
04...	<30	<30	<10	<10	960	520	<4	<4	170	170
MAY 1987										
11...	--	--	--	--	820	100	--	--	150	140
03036997 - MCKEE RUN AT ERNEST, PA. SITE 11 (LAT 40 40 26N LONG 079 09 20W)										
NOV 1986										
04...	<30	<30	<10	<10	730	210	<4	<4	120	100
MAY 1987										
11...	--	--	--	--	260	120	--	--	<50	<50

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

WEST BRANCH SUSQUEHANNA RIVER BASIN

DATE	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	SULFATE (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
01540649 - CUSH CUSHION CREEK AT CHERRY TREE, PA. SITE 5 (LAT 40 43 25N LONG 078 48 58W)										
NOV 1986										
03...	22	95	--	11	<0.1	7.7	184	0.760	--	<130
MAY 1987										
11...	18	--	92	6.0	<0.1	6.6	218	0.700	--	<130
01540660 - SHRYOCK RUN NEAR ARCADIA, PA. SITE 4 (LAT 40 46 12N LONG 078 49 43W)										
NOV 1986										
03...	16	20	--	6.0	<0.1	8.8	56	0.120	--	<130
MAY 1987										
11...	14	--	23	4.0	<0.1	6.7	72	0.100	--	<130
01540670 - ROCK RUN NEAR GLEN CAMPBELL, PA. SITE 3 (LAT 40 48 01N LONG 078 48 28W)										
NOV 1986										
03...	12	20	--	4.0	<0.1	7.0	48	0.180	--	<130
MAY 1987										
11...	6	--	24	3.0	<0.1	6.6	80	0.220	--	--
01540705 - CUSH CREEK AT GLEN CAMPBELL, PA. SITE 2 (LAT 40 48 51N LONG 078 49 28W)										
NOV 1986										
03...	40	100	--	9.0	<0.1	7.8	214	0.260	--	<130
MAY 1987										
11...	32	--	100	6.0	<0.1	7.5	218	0.300	--	<130

ALLEGHENY RIVER BASIN

03033350 - TRIBUTARY TO CANOE CR AT ROSSITER, PA. SITE 1 (LAT 40 53 05N LONG 078 55 04W)										
NOV 1986										
03...	20	45	--	9.0	<0.1	6.4	120	0.260	--	<130
MAY 1987										
11...	16	--	51	7.0	<0.1	7.4	170	0.340	--	<130
03034300 - LITTLE MAHONING CR NR ROCHESTER MILLS, PA. SITE 6 (LAT 40 47 48N LONG 078 55 41W)										
NOV 1986										
04...	20	32	--	16	<0.1	4.8	120	0.340	--	<130
MAY 1987										
11...	12	--	45	8.0	<0.1	5.3	114	0.360	--	<130
03034400 - MUDLICK RUN NEAR GEORGEVILLE, PA. SITE 7 (LAT 40 51 15N LONG 079 04 24W)										
NOV 1986										
04...	26	30	--	14	<0.1	5.9	108	1.50	--	<130
MAY 1987										
11...	14	--	26	6.0	<0.1	5.9	104	1.20	--	<130
03034500 - LITTLE MAHONING CREEK AT MCCORMICK, PA. SITE 8 (LAT 40 50 10N LONG 079 06 37W)										
NOV 1986										
04...	26	53	--	17	<0.1	4.9	194	0.720	--	<130
MAY 1987										
11...	18	--	64	9.0	<0.1	4.7	188	0.720	--	<130
03036995 - CROOKED C ABOVE MCKEE RN AT CREEKSIDE, PA. SITE 10 (LAT 40 40 59N LONG 079 11 27W)										
NOV 1986										
04...	76	130	--	38	0.1	7.1	328	0.800	--	<130
MAY 1987										
11...	60	--	130	25	<0.1	5.6	316	0.660	--	<130
03036997 - MCKEE RUN AT ERNEST, PA. SITE 11 (LAT 40 40 26N LONG 079 09 20W)										
NOV 1986										
04...	46	26	--	31	0.2	6.1	314	0.770	--	<130
MAY 1987										
11...	32	--	30	15	<0.1	6.0	124	0.580	--	<130

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
WEST BRANCH SUSQUEHANNA RIVER BASIN										
01540649 - CUSH CUSHION CREEK AT CHERRY TREE, PA. SITE 5 (LAT 40 43 25N LONG 078 48 58W)										
NOV 1986										
03...	<1.0	<1.0	<25	<25	<6	<6	170	170	<10	<10
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
01540660 - SHRYOCK RUN NEAR ARCADIA, PA. SITE 4 (LAT 40 46 12N LONG 078 49 43W)										
NOV 1986										
03...	<1.0	<1.0	<25	<25	<6	<6	<100	<100	<10	<10
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
01540670 - ROCK RUN NEAR GLEN CAMPBELL, PA. SITE 3 (LAT 40 48 01N LONG 078 48 28W)										
NOV 1986										
03...	<1.0	1.0	<25	<25	<6	<6	<100	<100	<10	<10
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
01540705 - CUSH CREEK AT GLEN CAMPBELL, PA. SITE 2 (LAT 40 48 51N LONG 078 49 28W)										
NOV 1986										
03...	<1.0	<1.0	<25	<25	<6	<6	280	270	17	12
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	23	23
ALLEGHENY RIVER BASIN										
03033350 - TRIBUTARY TO CANOE CR AT ROSSITER, PA. SITE 1 (LAT 40 53 05N LONG 078 55 04W)										
NOV 1986										
03...	<1.0	<1.0	<25	<25	<6	<6	130	120	<10	<10
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	14	14
03034300 - LITTLE MAHONING CR NR ROCHESTER MILLS, PA. SITE 6 (LAT 40 47 48N LONG 078 55 41W)										
NOV 1986										
04...	<1.0	<1.0	<25	<25	<6	<6	140	140	13	13
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
03034400 - MUDLICK RUN NEAR GEORGEVILLE, PA. SITE 7 (LAT 40 51 15N LONG 079 04 24W)										
NOV 1986										
04...	<1.0	<1.0	<25	<25	<6	<6	130	130	<10	<10
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
03034500 - LITTLE MAHONING CREEK AT MCCORMICK, PA. SITE 8 (LAT 40 50 10N LONG 079 06 37W)										
NOV 1986										
04...	<1.0	<1.0	<25	<25	<6	<6	160	160	12	<10
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
03036995 - CROOKED C ABOVE MCKEE RN AT CREEKSIDE, PA. SITE 10 (LAT 40 40 59N LONG 079 11 27W)										
NOV 1986										
04...	<1.0	<1.0	<25	<25	<6	<6	460	420	13	13
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
03036997 - MCKEE RUN AT ERNEST, PA. SITE 11 (LAT 40 40 26N LONG 079 09 20W)										
NOV 1986										
04...	<1.0	<1.0	<25	<25	<6	<6	160	150	<10	11
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	18	18

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
ALLEGHENY RIVER BASIN--Continued											
03037150 - CURRY RUN AT SHELOCTA, PA. SITE 22 (LAT 40 39 15N LONG 079 16 53W)											
NOV 1986											
04...	1235	6.9	205	7.70	9.5	62	0	17	5.6	8.6	2.3
MAY 1987											
11...	1930	6.7	130	8.80	19.5	44	--	12	4.1	5.3	1.3
KISKIMINETAS RIVER BASIN											
03041500 - CONEMAUGH RIVER AT SEWARD, PA. SITE 31 (LAT 40 25 09N LONG 079 01 35W)											
NOV 1986											
04...	1320	388	725	4.50	10.0	217	0.3	64	21	21	3.8
MAY 1987											
11...	0745	1160	455	3.90	16.0	176	0.5	41	15	11	2.4
03041675 - TOMS RUN NEAR BLAIRSVILLE, PA. SITE 29 (LAT 40 25 48N LONG 079 13 17W)											
NOV 1986											
04...	1445	3.6	170	7.20	10.0	65	0	16	5.8	6.2	2.7
MAY 1987											
11...	1325	5.0	128	7.90	17.5	41	0	9.7	3.9	3.1	1.5
03041900 - BRUSH CREEK AT CLAGHORN, PA. SITE 30 (LAT 40 29 48N LONG 079 04 03W)											
NOV 1986											
04...	1235	28	210	7.30	8.5	57	0	15	5.6	5.1	1.9
MAY 1987											
11...	1955	21	140	6.40	18.0	38	0.1	8.9	3.7	3.2	1.2
03042000 - BLACKLICK CREEK AT JOSEPHINE, PA. SITE 28 (LAT 40 28 24N LONG 079 11 01W)											
NOV 1986											
03...	1710	120	940	3.70	9.0	279	1.5	90	15	67	2.7
MAY 1987											
11...	0905	269	580	4.30	17.0	185	0.9	44	12	32	1.9
03042040 - S BR TWO LICK C NR WANDIN JUNCTION, PA. SITE 14 (LAT 40 40 29N LONG 078 56 41W)											
NOV 1986											
03...	1300	5.2	185	7.20	8.5	56	0.1	13	4.8	9.5	1.7
MAY 1987											
11...	1615	1.8	95	7.30	16.5	33	0	9.7	3.1	3.2	1.6
03042045 - TRIB TO N BR TWO LICK C AT COMMODORE, PA. SITE 13 (LAT 40 42 44N LONG 078 56 25W)											
NOV 1986											
03...	1520	0.03	73	6.80	9.0	23	0	6.4	2.4	0.79	1.5
MAY 1987											
11...	1415	0.24	85	7.10	19.0	23	0	6.1	2.4	0.86	0.99
03042055 - TRIB. TO DIXON RUN AT DIXONVILLE, PA. SITE 12 (LAT 40 42 45N LONG 079 00 51W)											
NOV 1986											
03...	1630	0.03	140	7.00	11.0	51	0.1	12	4.6	4.9	1.4
MAY 1987											
11...	1515	0.02	100	6.90	18.0	36	0.1	8.7	4.0	2.5	1.1
03042061 - DIXON RUN AT CLYMER, PA. SITE 15 (LAT 40 40 13N LONG 079 00 54W)											
NOV 1986											
03...	1700	5.9	520	7.15	9.0	199	0.1	49	18	15	2.0
MAY 1987											
11...	1435	11	370	6.80	17.5	162	0.1	41	15	7.8	1.7
03042075 - TWO LICK CREEK NEAR CLYMER, PA. SITE 16 (LAT 40 38 44N LONG 079 02 12W)											
NOV 1986											
04...	0800	37	440	6.05	9.0	172	0.2	39	14	12	2.3
MAY 1987											
11...	1330	58	315	5.50	17.5	132	0.2	32	11	7.9	1.7

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	SULFATE (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
ALLEGHENY RIVER BASIN--Continued										
03037150 - CURRY RUN AT SHELOCTA, PA.						SITE 22 (LAT 40 39 15N LONG 079 16 53W)				
NOV 1986										
04...	40	28	--	17	<0.1	4.7	162	0.230	--	510
MAY 1987										
11...	24	--	29	8.0	<0.1	6.5	146	0.340	--	<130
KISKIMINETAS RIVER BASIN										
03041500 - CONEMAUGH RIVER AT SEWARD, PA.						SITE 31 (LAT 40 25 09N LONG 079 01 35W)				
NOV 1986										
04...	0	240	--	19	0.2	9.7	474	0.470	--	1400
MAY 1987										
11...	--	--	200	9.0	0.1	9.2	370	0.800	--	2300
03041675 - TOMS RUN NEAR BLAIRSVILLE, PA.						SITE 29 (LAT 40 25 48N LONG 079 13 17W)				
NOV 1986										
04...	20	68	--	12	<0.1	6.1	128	0.660	--	220
MAY 1987										
11...	10	--	35	6.0	<0.1	7.4	120	0.920	--	<130
03041900 - BRUSH CREEK AT CLAGHORN, PA.						SITE 30 (LAT 40 29 48N LONG 079 04 03W)				
NOV 1986										
04...	22	45	--	12	<0.1	6.8	120	0.240	--	<130
MAY 1987										
11...	8	--	30	6.0	<0.1	6.3	140	0.900	--	<130
03042000 - BLACKLICK CREEK AT JOSEPHINE, PA.						SITE 28 (LAT 40 28 24N LONG 079 11 01W)				
NOV 1986										
03...	--	380	--	11	0.2	11	780	0.440	--	5200
MAY 1987										
11...	--	--	280	7.0	0.1	11	454	0.640	--	3700
03042040 - S BR TWO LICK C NR WANDIN JUNCTION, PA.						SITE 14 (LAT 40 40 29N LONG 078 56 41W)				
NOV 1986										
03...	37	32	--	11	<0.1	6.1	188	0.260	--	<130
MAY 1987										
11...	22	--	23	6.0	<0.1	6.1	92	0.600	--	140
03042045 - TRIB TO N BR TWO LICK C AT COMMODORE, PA.						SITE 13 (LAT 40 42 44N LONG 078 56 25W)				
NOV 1986										
03...	10	25	--	3.0	<0.1	4.6	50	0.240	--	<130
MAY 1987										
11...	12	--	26	1.0	<0.1	6.7	118	0.360	--	190
03042055 - TRIB. TO DIXON RUN AT DIXONVILLE, PA.						SITE 12 (LAT 40 42 45N LONG 079 00 51W)				
NOV 1986										
03...	36	21	--	7.0	<0.1	6.9	188	0.280	--	<130
MAY 1987										
11...	20	--	25	5.0	<0.1	5.2	112	0.700	--	1000
03042061 - DIXON RUN AT CLYMER, PA.						SITE 15 (LAT 40 40 13N LONG 079 00 54W)				
NOV 1986										
03...	42	170	--	28	<0.1	7.1	406	0.390	--	<130
MAY 1987										
11...	24	--	140	14	<0.1	6.3	354	0.560	--	640
03042075 - TWO LICK CREEK NEAR CLYMER, PA.						SITE 16 (LAT 40 38 44N LONG 079 02 12W)				
NOV 1986										
04...	8	170	--	17	<0.1	9.2	350	0.550	--	<130
MAY 1987										
11...	4	--	140	11	<0.1	9.0	566	0.640	--	2100

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)
ALLEGHENY RIVER BASIN--Continued										
03037150 - CURRY RUN AT SHELOCTA, PA.						SITE 22 (LAT 40 39 15N LONG 079 16 53W)				
NOV 1986										
04...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	20	--	18	--	--	--	--
KISKIMINETAS RIVER BASIN										
03041500 - CONEMAUGH RIVER AT SEWARD, PA.						SITE 31 (LAT 40 25 09N LONG 079 01 35W)				
NOV 1986										
04...	1200	<4	<4	<500	<500	--	3	3	<50	<50
MAY 1987										
11...	1200	--	--	30	--	31	--	--	--	--
03041675 - TOMS RUN NEAR BLAIRSVILLE, PA.						SITE 29 (LAT 40 25 48N LONG 079 13 17W)				
NOV 1986										
04...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	80	--	70	--	--	--	--
03041900 - BRUSH CREEK AT CLAGHORN, PA.						SITE 30 (LAT 40 29 48N LONG 079 04 03W)				
NOV 1986										
04...	<130	<4	<4	<500	<500	--	1	1	<50	<50
MAY 1987										
11...	<130	--	--	50	--	47	--	--	--	--
03042000 - BLACKLICK CREEK AT JOSEPHINE, PA.						SITE 28 (LAT 40 28 24N LONG 079 11 01W)				
NOV 1986										
03...	5100	<4	<4	<500	<500	--	3	2	<50	<50
MAY 1987										
11...	2700	--	--	40	--	41	--	--	--	--
03042040 - S BR TWO LICK C NR WANDIN JUNCTION, PA.						SITE 14 (LAT 40 40 29N LONG 078 56 41W)				
NOV 1986										
03...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	30	--	29	--	--	--	--
03042045 - TRIB TO N BR TWO LICK C AT COMMODORE, PA.						SITE 13 (LAT 40 42 44N LONG 078 56 25W)				
NOV 1986										
03...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	30	--	24	--	--	--	--
03042055 - TRIB. TO DIXON RUN AT DIXONVILLE, PA.						SITE 12 (LAT 40 42 45N LONG 079 00 51W)				
NOV 1986										
03...	150	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	40	--	29	--	--	--	--
03042061 - DIXON RUN AT CLYMER, PA.						SITE 15 (LAT 40 40 13N LONG 079 00 54W)				
NOV 1986										
03...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	130	--	--	40	--	39	--	--	--	--
03042075 - TWO LICK CREEK NEAR CLYMER, PA.						SITE 16 (LAT 40 38 44N LONG 079 02 12W)				
NOV 1986										
04...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	40	--	37	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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, DIS-SOLVED (UG/L AS MN)
ALLEGHENY RIVER BASIN--Continued										
03037150 - CURRY RUN AT SHELOCTA, PA. SITE 22 (LAT 40 39 15N LONG 079 16 53W)										
NOV 1986										
04...	<30	<30	<10	<10	740	130	<4	<4	50	<50
MAY 1987										
11...	--	--	--	--	270	110	--	--	<50	<50
KISKIMINETAS RIVER BASIN										
03041500 - CONEMAUGH RIVER AT SEWARD, PA. SITE 31 (LAT 40 25 09N LONG 079 01 35W)										
NOV 1986										
04...	60	50	11	11	1800	1400	7	6	1600	1600
MAY 1987										
11...	--	--	--	--	3700	2200	--	--	1300	1200
03041675 - TOMS RUN NEAR BLAIRSVILLE, PA. SITE 29 (LAT 40 25 48N LONG 079 13 17W)										
NOV 1986										
04...	<30	<30	<10	<10	380	<100	<4	<4	80	50
MAY 1987										
11...	--	--	--	--	230	110	--	--	<50	<50
03041900 - BRUSH CREEK AT CLAGHORN, PA. SITE 30 (LAT 40 29 48N LONG 079 04 03W)										
NOV 1986										
04...	<30	<30	<10	<10	160	<100	<4	<4	<50	<50
MAY 1987										
11...	--	--	--	--	220	130	--	--	<50	<50
03042000 - BLACKLICK CREEK AT JOSEPHINE, PA. SITE 28 (LAT 40 28 24N LONG 079 11 01W)										
NOV 1986										
03...	40	40	22	22	4700	2500	<4	<4	1400	1400
MAY 1987										
11...	--	--	--	--	6700	2800	--	--	950	940
03042040 - S BR TWO LICK C NR WANDIN JUNCTION, PA. SITE 14 (LAT 40 40 29N LONG 078 56 41W)										
NOV 1986										
03...	<30	<30	<10	<10	330	210	<4	<4	<50	<50
MAY 1987										
11...	--	--	--	--	230	<100	--	--	<50	<50
03042045 - TRIB TO N BR TWO LICK C AT COMMODORE, PA. SITE 13 (LAT 40 42 44N LONG 078 56 25W)										
NOV 1986										
03...	<30	<30	<10	<10	410	370	<4	<4	<50	<50
MAY 1987										
11...	--	--	--	--	320	<100	--	--	<50	<50
03042055 - TRIB. TO DIXON RUN AT DIXONVILLE, PA. SITE 12 (LAT 40 42 45N LONG 079 00 51W)										
NOV 1986										
03...	<30	<30	<10	<10	1600	230	5	<4	160	60
MAY 1987										
11...	--	--	--	--	1400	<100	--	--	140	<50
03042061 - DIXON RUN AT CLYMER, PA. SITE 15 (LAT 40 40 13N LONG 079 00 54W)										
NOV 1986										
03...	<30	<30	<10	<10	2100	530	<4	<4	690	640
MAY 1987										
11...	--	--	--	--	1500	<100	--	--	350	340
03042075 - TWO LICK CREEK NEAR CLYMER, PA. SITE 16 (LAT 40 38 44N LONG 079 02 12W)										
NOV 1986										
04...	<30	<30	<10	<10	5000	1800	<4	<4	830	790
MAY 1987										
11...	--	--	--	--	3600	1400	--	--	480	480

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
ALLEGHENY RIVER BASIN--Continued										
03037150 - CURRY RUN AT SHELOCTA, PA.						SITE 22 (LAT 40 39 15N LONG 079 16 53W)				
NOV 1986										
04...	<1.0	<1.0	<25	<25	<6	<6	130	130	<10	<10
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
KISKIMINETAS RIVER BASIN										
03041500 - CONEMAUGH RIVER AT SEWARD, PA.						SITE 31 (LAT 40 25 09N LONG 079 01 35W)				
NOV 1986										
04...	<1.0	<1.0	100	88	<6	<6	290	250	210	210
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	180	180
03041675 - TOMS RUN NEAR BLAIRSVILLE, PA.						SITE 29 (LAT 40 25 48N LONG 079 13 17W)				
NOV 1986										
04...	<1.0	<1.0	28	<25	<6	<6	120	120	10	12
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	20	18
03041900 - BRUSH CREEK AT CLAGHORN, PA.						SITE 30 (LAT 40 29 48N LONG 079 04 03W)				
NOV 1986										
04...	<1.0	<1.0	35	<25	<6	<8	<100	<100	20	22
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	20	16
03042000 - BLACKLICK CREEK AT JOSEPHINE, PA.						SITE 28 (LAT 40 28 24N LONG 079 11 01W)				
NOV 1986										
03...	<1.0	<1.0	72	72	<6	<6	440	400	130	130
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	70	67
03042040 - S BR TWO LICK C NR WANDIN JUNCTION, PA.						SITE 14 (LAT 40 40 29N LONG 078 56 41W)				
NOV 1986										
03...	<1.0	<1.0	<25	<25	<6	<6	200	200	<10	<10
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
03042045 - TRIB TO N BR TWO LICK C AT COMMODORE, PA.						SITE 13 (LAT 40 42 44N LONG 078 56 25W)				
NOV 1986										
03...	<1.0	<1.0	<25	<25	<6	<6	<100	<100	<10	<10
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
03042055 - TRIB. TO DIXON RUN AT DIXONVILLE, PA.						SITE 12 (LAT 40 42 45N LONG 079 00 51W)				
NOV 1986										
03...	<1.0	<1.0	<25	<25	<6	<6	120	120	10	<10
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
03042061 - DIXON RUN AT CLYMER, PA.						SITE 15 (LAT 40 40 13N LONG 079 00 54W)				
NOV 1986										
03...	<1.0	<1.0	30	<25	<6	<6	500	500	30	21
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	13	<10
03042075 - TWO LICK CREEK NEAR CLYMER, PA.						SITE 16 (LAT 40 38 44N LONG 079 02 12W)				
NOV 1986										
04...	<1.0	<1.0	27	<25	<4	<6	460	390	60	48
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	40	37

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	HARD-NESS (MG/L AS CACO3)	ACIDITY (MG/L AS H)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)
KISKIMINETAS RIVER BASIN--Continued											
03042120 - RAMSEY RUN NEAR INDIANA, PA. SITE 21 (LAT 40 35 51N LONG 079 06 35W)											
NOV 1986											
04...	0940	5.3	320	7.70	9.0	104	0	26	8.5	19	2.8
MAY 1987											
11...	1755	2.7	250	6.90	19.0	73	0.3	18	6.5	13	1.7
03042185 - YELLOW CREEK NEAR PIKES PEAK, PA. SITE 19 (LAT 40 34 58N LONG 079 00 10W)											
NOV 1986											
03...	1210	10	340	7.20	8.0	120	0	31	9.9	12	2.1
MAY 1987											
11...	0945	26	180	7.10	13.0	84	0.1	21	7.1	7.8	1.5
03042190 - LAUREL RUN NEAR NOLO, PA. SITE 18 (LAT 40 34 43N LONG 078 59 59W)											
NOV 1986											
03...	1105	1.8	125	7.40	7.5	36	0	9.8	3.6	6.5	1.3
MAY 1987											
11...	1040	6.8	70	6.50	13.5	23	0	5.9	2.5	4.9	1.0
03042280 - YELLOW CREEK NEAR HOMER CITY, PA. SITE 20 (LAT 40 34 18N LONG 079 06 13W)											
NOV 1986											
04...	1035	40	195	7.30	10.5	57	0	15	5.1	6.2	1.9
MAY 1987											
11...	2055	97	138	6.70	17.0	44	0	11	3.8	4.8	1.2
03042500 - TWO LICK CREEK AT GRACETON, PA. SITE 27 (LAT 40 31 02N LONG 079 10 19W)											
NOV 1986											
03...	1635	65	460	4.70	11.0	181	0.7	38	12	19	3.0
MAY 1987											
11...	1425	235	322	4.80	17.0	110	0.5	23	8.1	10	1.9
03043990 - AULTMANS RUN NEAR LEWISVILLE, PA. SITE 25 (LAT 40 30 02N LONG 079 17 39W)											
NOV 1986											
03...	1310	4.4	1000	4.80	8.0	414	1.0	120	39	40	3.8
MAY 1987											
11...	1140	17	570	5.80	15.0	216	0.3	49	18	16	2.1
03044000 - CONEMAUGH RIVER AT TUNNELTON, PA. SITE 24 (LAT 40 27 16N LONG 079 23 28W)											
NOV 1986											
04...	1535	530	750	4.40	10.5	230	0.4	68	17	31	3.5
MAY 1987											
11...	0830	3550	370	4.40	16.0	134	0.3	33	10	13	1.9
03047480 - BLACKLEGS CREEK AT CLARKSBURG, PA. SITE 23 (LAT 40 32 14N LONG 079 22 33W)											
NOV 1986											
03...	1010	4.5	720	8.00	6.5	113	0	78	30	59	3.2
MAY 1987											
11...	0955	26	660	7.00	13.5	238	0.1	57	23	37	2.0

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	ALKALINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	SULFATE (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, TOTAL (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 105 DEG. C, DISSOLVED (MG/L)	NITROGEN, NITRATE TOTAL (MG/L AS N)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL)
KISKIMINETAS RIVER BASIN--Continued										
03042120 - RAMSEY RUN NEAR INDIANA, PA.						SITE 21 (LAT 40 35 51N LONG 079 06 35W)				
NOV 1986										
04...	56	38	--	43	<0.1	3.3	204	0.610	--	190
MAY 1987										
11...	36	--	37	26	<0.1	4.4	184	0.620	--	<130
03042185 - YELLOW CREEK NEAR PIKES PEAK, PA.						SITE 19 (LAT 40 34 58N LONG 079 00 10W)				
NOV 1986										
03...	32	87	--	25	<0.1	5.9	276	0.520	--	<130
MAY 1987										
11...	22	--	67	14	<0.1	6.6	260	0.760	--	<130
03042190 - LAUREL RUN NEAR NOLO, PA.						SITE 18 (LAT 40 34 43N LONG 078 59 59W)				
NOV 1986										
03...	16	21	--	19	<0.1	6.4	120	0.560	--	460
MAY 1987										
11...	8	--	21	11	<0.1	6.7	124	0.740	--	<130
03042280 - YELLOW CREEK NEAR HOMER CITY, PA.						SITE 20 (LAT 40 34 18N LONG 079 06 13W)				
NOV 1986										
04...	20	42	--	13	<0.1	3.1	118	0.380	--	710
MAY 1987										
11...	14	--	34	9.0	<0.1	5.8	142	0.720	--	<130
03042500 - TWO LICK CREEK AT GRACETON, PA.						SITE 27 (LAT 40 31 02N LONG 079 10 19W)				
NOV 1986										
03...	0	190	--	23	0.2	8.2	324	0.810	--	2600
MAY 1987										
11...	0	--	120	14	<0.1	8.7	262	0.810	--	2200
03043990 - AULTMANS RUN NEAR LEWISVILLE, PA.						SITE 25 (LAT 40 30 02N LONG 079 17 39W)				
NOV 1986										
03...	0	430	--	76	0.2	16	894	0.710	--	11000
MAY 1987										
11...	2	--	230	22	<0.1	11	472	0.830	--	3000
03044000 - CONEMAUGH RIVER AT TUNNELTON, PA.						SITE 24 (LAT 40 27 16N LONG 079 23 28W)				
NOV 1986										
04...	--	280	--	18	0.2	9.4	496	0.650	--	2100
MAY 1987										
11...	--	--	160	8.0	<0.1	9.2	302	0.900	--	710
03047480 - BLACKLEGS CREEK AT CLARKSBURG, PA.						SITE 23 (LAT 40 32 14N LONG 079 22 33W)				
NOV 1986										
03...	96	360	--	15	0.2	9.1	628	0.500	--	<130
MAY 1987										
11...	70	--	280	8.0	0.2	11	474	0.500	--	1900

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC TOTAL (UG/L AS AS)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	BARIUM, SUSPENDED RECOVERABLE (UG/L AS BA)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	CHROMIUM, DISSOLVED (UG/L AS CR)
KISKIMINETAS RIVER BAIN--Continued										
03042120 - RAMSEY RUN NEAR INDIANA, PA. SITE 21 (LAT 40 35 51N LONG 079 06 35W)										
NOV 1986										
04...	180	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	40	--	31	--	--	--	--
03042185 - YELLOW CREEK NEAR PIKES PEAK, PA. SITE 19 (LAT 40 34 58N LONG 079 00 10W)										
NOV 1986										
03...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	50	--	47	--	--	--	--
03042190 - LAUREL RUN NEAR NOLO, PA. SITE 18 (LAT 40 34 43N LONG 078 59 59W)										
NOV 1986										
03...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	50	--	53	--	--	--	--
03042280 - YELLOW CREEK NEAR HOMER CITY, PA. SITE 20 (LAT 40 34 18N LONG 079 06 13W)										
NOV 1986										
04...	<130	<4	<4	<500	<500	--	3	2	<50	<50
MAY 1987										
11...	<130	--	--	50	--	44	--	--	--	--
03042500 - TWO LICK CREEK AT GRACETON, PA. SITE 27 (LAT 40 31 02N LONG 079 10 19W)										
NOV 1986										
03...	1600	<4	<4	<500	<500	--	3	2	<50	<50
MAY 1987										
11...	530	--	--	40	--	36	--	--	--	--
03043990 - AULTMANS RUN NEAR LEWISVILLE, PA. SITE 25 (LAT 40 30 02N LONG 079 17 39W)										
NOV 1986										
03...	6700	<4	<4	<500	<500	--	<1	1	<50	<50
MAY 1987										
11...	<130	--	--	80	--	76	--	--	--	--
03044000 - CONEMAUGH RIVER AT TUNNELTON, PA. SITE 24 (LAT 40 27 16N LONG 079 23 28W)										
NOV 1986										
04...	2100	<4	<4	<500	<500	--	2	2	<50	<50
MAY 1987										
11...	610	--	--	40	--	37	--	--	--	--
03047480 - BLACKLEGS CREEK AT CLARKSBURG, PA. SITE 23 (LAT 40 32 14N LONG 079 22 33W)										
NOV 1986										
03...	<130	<4	<4	<500	<500	--	<1	<1	<50	<50
MAY 1987										
11...	<130	--	--	20	--	22	--	--	--	--

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	COBALT, TOTAL RECOV-ERABLE (UG/L AS CO)	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, TOTAL 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, DIS-SOLVED (UG/L AS MN)
KISKIMINETAS RIVER BASIN--Continued										
03042120 - RAMSEY RUN NEAR INDIANA, PA.						SITE 21 (LAT 40 35 51N LONG 079 06 35W)				
NOV 1986										
04...	<30	<30	<10	<10	360	<100	<4	<4	50	<50
MAY 1987										
11...	--	--	--	--	350	100	--	--	<50	<50
03042185 - YELLOW CREEK NEAR PIKES PEAK, PA.						SITE 19 (LAT 40 34 58N LONG 079 00 10W)				
NOV 1986										
03...	<30	<30	<10	<10	110	100	<4	<4	80	80
MAY 1987										
11...	--	--	--	--	20	<100	--	--	80	70
03042190 - LAUREL RUN NEAR NOLO, PA.						SITE 18 (LAT 40 34 43N LONG 078 59 59W)				
NOV 1986										
03...	<30	<30	<10	<10	580	740	7	<4	<50	<50
MAY 1987										
11...	--	--	--	--	130	<100	--	--	<50	<50
03042280 - YELLOW CREEK NEAR HOMER CITY, PA.						SITE 20 (LAT 40 34 18N LONG 079 06 13W)				
NOV 1986										
04...	<30	<30	<10	<10	170	<100	7	<4	<50	<50
MAY 1987										
11...	--	--	--	--	150	<100	--	--	<50	<50
03042500 - TWO LICK CREEK AT GRACETON, PA.						SITE 27 (LAT 40 31 02N LONG 079 10 19W)				
NOV 1986										
03...	<30	<30	<10	<10	14000	12000	<4	<4	750	730
MAY 1987										
11...	--	--	--	--	6300	5700	--	--	510	510
03043990 - AULTMANS RUN NEAR LEWISVILLE, PA.						SITE 25 (LAT 40 30 02N LONG 079 17 39W)				
NOV 1986										
03...	90	90	15	15	3700	2700	<4	5	5000	5000
MAY 1987										
11...	--	--	--	--	2500	1600	--	--	1700	1700
03044000 - CONEMAUGH RIVER AT TUNNELTON, PA.						SITE 24 (LAT 40 27 16N LONG 079 23 28W)				
NOV 1986										
04...	40	30	15	15	550	330	<4	5	1500	1500
MAY 1987										
11...	--	--	--	--	2000	1800	--	--	870	870
03047480 - BLACKLEGS CREEK AT CLARKSBURG, PA.						SITE 23 (LAT 40 32 14N LONG 079 22 33W)				
NOV 1986										
03...	<30	30	<10	17	390	230	<4	5	1700	1700
MAY 1987										
11...	--	--	--	--	590	<100	--	--	1800	1800

ANALYSIS OF SAMPLES COLLECTED AT WATER-QUALITY PARTIAL-RECORD STATIONS

INDIANA COUNTY STUDY

WATER-QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	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)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	STRON-TIUM, TOTAL RECOV-ERABLE (UG/L AS SR)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	ZINC, DIS-SOLVED (UG/L AS ZN)
KISKIMINETAS RIVER BASIN--Continued										
03042120 - RAMSEY RUN NEAR INDIANA, PA.						SITE 21 (LAT 40 35 51N LONG 079 06 35W)				
NOV 1986										
04...	<1.0	<1.0	<25	<25	<6	<6	220	160	10	14
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
03042185 - YELLOW CREEK NEAR PIKES PEAK, PA.						SITE 19 (LAT 40 34 58N LONG 079 00 10W)				
NOV 1986										
03...	<1.0	<1.0	<25	<25	<6	<6	670	630	10	<10
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
03042190 - LAUREL RUN NEAR NOLO, PA.						SITE 18 (LAT 40 34 43N LONG 078 59 59W)				
NOV 1986										
03...	<1.0	<1.0	<25	<25	<6	<6	290	280	210	<10
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
03042280 - YELLOW CREEK NEAR HOMER CITY, PA.						SITE 20 (LAT 40 34 18N LONG 079 06 13W)				
NOV 1986										
04...	<1.0	<1.0	<25	<25	<6	<6	280	300	20	19
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	<10	<10
03042500 - TWO LICK CREEK AT GRACETON, PA.						SITE 27 (LAT 40 31 02N LONG 079 10 19W)				
NOV 1986										
03...	<1.0	<1.0	50	50	<6	<6	310	300	70	71
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	50	45
03043990 - AULTMANS RUN NEAR LEWISVILLE, PA.						SITE 25 (LAT 40 30 02N LONG 079 17 39W)				
NOV 1986										
03...	<1.0	<1.0	130	130	<8	<6	720	730	300	300
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	80	71
03044000 - CONEMAUGH RIVER AT TUNNELTON, PA.						SITE 24 (LAT 40 27 16N LONG 079 23 28W)				
NOV 1986										
04...	<1.0	<1.0	60	54	<6	<6	290	290	150	150
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	120	120
03047480 - BLACKLEGS CREEK AT CLARKSBURG, PA.						SITE 23 (LAT 40 32 14N LONG 079 22 33W)				
NOV 1986										
03...	<1.0	<1.0	29	29	<6	<6	840	740	40	41
MAY 1987										
11...	<1.0	<1.0	--	--	--	--	--	--	50	<10

ALLEGHENY COUNTY

403734080063001. Local number, AG 700.

LOCATION.--Lat 40°37'34", long 80°06'30", Hydrologic Unit 05030101, at State Game Land Number 203, Bradford Woods.
Owner: U.S. Geological Survey.
AQUIFER.--Sandstone and shale of Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 100 ft, cased to 24 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 1,035 ft, from topographic map. Measuring point: Top of casing, 3.45 ft above land-surface datum.
REMARKS.--Missing record Nov. 20-23, and Sept. 18-30.
PERIOD OF RECORD.--November 1967 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.86 ft below land-surface datum, May 30, 1983; lowest, 8.94 ft below land-surface datum, Nov. 14, 1968.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.08	8.10	7.62	6.91	6.51	6.60	5.91	5.25	5.52	6.58	6.95	7.35
2	8.06	7.95	7.52	6.87	6.25	6.75	5.82	5.23	5.56	6.42	6.88	7.41
3	8.02	7.92	7.05	7.09	6.59	6.95	5.85	5.41	5.66	6.33	6.91	7.50
4	7.82	7.89	7.14	7.13	6.78	6.99	5.54	5.51	5.79	6.23	6.92	7.52
5	7.83	7.81	7.31	7.16	6.82	6.90	5.48	5.51	5.86	6.25	7.01	7.50
6	8.02	7.91	7.28	7.00	6.59	6.78	5.39	5.39	5.94	6.19	7.09	7.42
7	8.05	7.93	7.16	6.97	6.27	6.61	5.31	5.32	5.87	6.21	7.09	7.34
8	7.99	7.79	6.99	7.00	6.32	6.38	5.30	5.40	5.88	6.23	7.07	7.24
9	8.07	7.96	6.86	6.98	6.57	6.47	5.31	5.42	6.05	6.23	6.93	7.32
10	8.10	8.04	6.92	6.61	6.64	6.61	5.32	5.41	6.15	6.23	7.12	7.35
11	8.02	7.83	6.95	6.70	6.64	6.60	5.30	5.45	6.11	6.24	7.14	7.33
12	7.94	7.84	6.84	6.92	6.70	6.50	5.41	5.66	5.98	6.25	7.14	7.29
13	7.78	8.05	7.21	7.00	6.75	6.51	5.62	5.71	6.04	6.19	7.22	7.31
14	7.80	8.00	7.16	6.88	6.86	6.40	5.48	5.69	6.08	6.33	7.23	7.39
15	7.89	7.64	6.95	6.99	7.07	6.41	5.46	5.69	6.19	6.41	7.23	7.39
16	7.88	7.49	6.92	7.06	7.03	6.49	5.38	5.69	6.29	6.55	7.20	7.35
17	8.08	7.55	6.94	7.00	6.94	6.50	5.41	5.57	6.46	6.61	7.30	7.25
18	8.16	7.67	6.76	6.70	7.22	6.42	5.55	5.52	6.51	6.59	7.34	---
19	8.14	7.78	6.90	6.70	7.35	6.23	5.65	5.42	6.46	6.60	7.42	---
20	7.91	---	7.00	6.73	7.36	6.15	5.63	5.48	6.40	6.65	7.50	---
21	7.89	---	7.14	6.68	7.22	6.16	5.66	5.48	6.18	6.76	7.51	---
22	7.88	---	7.17	6.46	7.16	6.20	5.61	5.45	6.28	6.78	7.40	---
23	7.89	---	7.06	6.48	7.43	6.24	5.57	5.46	6.38	6.74	7.47	---
24	7.93	7.66	6.87	6.69	7.59	6.21	5.57	5.54	6.39	6.78	7.54	---
25	7.89	7.75	6.94	6.68	7.62	6.14	5.60	5.54	6.32	6.79	7.53	---
26	7.73	7.60	7.01	6.60	7.56	6.09	5.51	5.59	6.30	6.74	7.49	---
27	7.78	7.58	7.03	6.60	7.37	6.09	5.39	5.62	6.42	6.76	7.31	---
28	7.94	7.56	7.00	6.68	7.10	6.05	5.21	5.60	6.56	6.85	7.29	---
29	7.95	7.50	6.91	6.67	---	6.06	5.20	5.55	6.56	6.89	7.46	---
30	8.13	7.54	6.96	6.34	---	5.87	5.26	5.49	6.62	6.90	7.45	---
31	8.15	---	7.05	6.56	---	5.90	---	5.49	---	6.95	7.33	---
MEAN	7.96	7.78	7.05	6.80	6.94	6.40	5.49	5.50	6.16	6.52	7.24	7.37
MAX	8.16	8.10	7.62	7.16	7.62	6.99	5.91	5.71	6.62	6.95	7.54	7.52
MIN	7.73	7.49	6.76	6.34	6.25	5.87	5.20	5.23	5.52	6.19	6.88	7.24

WTR YR 1987 MEAN 6.73 HIGH 5.20 APR 29 LOW 8.16 OCT 18

404626079344001. Local number, AR 77.

LOCATION.--Lat 40°46'26", long 79°34'40", Hydrologic Unit 05010006, at State Game Land Number 247.
Owner: U.S. Geological Survey.
AQUIFER.--Allegheny Group of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 242 ft cased to 43 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 1,050 ft, from topographic map. Measuring point: Top of plywood cover, 1.05 ft above land-surface datum.
REMARKS.--Missing record Nov. 8-11, 18-23, Mar. 11-13, May 21 to June 17, and Aug. 18-21.
PERIOD OF RECORD.--February 1975 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 26.85 ft below land-surface datum, May 27, 1978; lowest, 52.20 ft below land-surface datum, May 1, 1979.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.96	30.47	30.00	29.65	30.11	30.67	29.70	28.51	---	30.33	30.08	30.10
2	32.30	30.37	29.68	29.63	30.08	30.38	29.72	28.47	---	30.35	30.11	29.91
3	32.34	30.35	29.14	29.70	30.05	30.31	29.59	28.79	---	30.27	30.11	30.02
4	32.14	30.36	29.20	29.92	30.03	30.44	29.45	28.79	---	29.93	30.16	30.11
5	31.82	30.34	29.09	30.10	30.10	30.50	29.20	28.65	---	29.61	30.19	30.17
6	31.69	30.36	28.77	30.10	30.09	30.52	29.03	28.62	---	29.48	30.31	30.17
7	31.56	30.35	28.75	30.07	29.87	30.50	28.92	28.43	---	29.36	30.46	30.09
8	31.31	---	28.69	30.00	29.67	30.38	28.77	28.56	---	29.34	30.49	29.93
9	31.19	---	28.66	30.07	29.65	30.20	28.68	28.57	---	29.40	30.51	29.72
10	30.98	---	28.78	30.08	29.71	30.07	28.72	28.69	---	29.53	30.43	29.56
11	31.05	---	28.80	29.99	29.74	---	28.57	28.76	---	29.65	30.37	29.28
12	31.02	29.87	28.79	30.02	29.74	---	27.28	28.79	---	29.66	30.27	29.16
13	30.87	29.88	29.11	30.06	29.80	---	27.47	29.02	---	29.65	30.20	29.12
14	30.85	29.85	29.19	30.09	29.82	30.25	27.61	29.10	---	29.72	30.22	29.16
15	30.96	29.54	29.28	30.14	29.94	30.00	27.68	29.13	---	29.82	30.25	29.18
16	31.14	29.33	29.27	30.27	29.92	30.10	27.65	29.14	---	29.99	30.30	29.19
17	31.14	29.22	29.21	30.28	29.93	30.16	27.86	29.13	---	30.18	30.34	29.23
18	31.30	---	29.12	30.23	29.93	30.15	28.01	29.14	29.05	30.19	---	29.30
19	31.31	---	29.19	30.07	30.07	30.15	28.12	29.13	29.19	30.17	---	29.44
20	31.30	---	29.37	29.82	30.26	30.26	28.27	29.05	29.50	29.96	---	29.44
21	31.17	---	29.57	29.82	30.35	30.24	28.32	---	29.98	29.57	---	29.45
22	30.11	---	29.65	29.81	30.41	30.27	28.32	---	30.09	29.17	30.84	29.39
23	30.15	---	29.72	29.63	30.38	30.33	28.31	---	30.12	29.15	30.73	29.27
24	30.03	30.30	29.72	29.93	30.53	30.37	28.52	---	30.19	29.27	30.64	29.20
25	30.01	30.06	29.68	30.12	30.69	30.40	28.99	---	30.14	29.39	30.56	29.11
26	29.91	30.07	29.77	30.14	30.76	30.39	28.99	---	30.00	29.56	30.49	29.13
27	29.84	29.97	29.78	30.19	30.75	30.38	28.89	---	29.92	29.61	30.37	29.70
28	30.03	29.96	29.67	30.18	30.75	30.24	28.60	---	29.95	29.78	30.28	30.12
29	30.22	29.96	29.64	30.27	---	30.17	28.49	---	30.02	29.91	30.30	30.13
30	30.35	29.96	29.59	30.26	---	30.05	28.49	---	30.13	29.96	30.28	30.05
31	30.46	---	29.62	30.15	---	29.87	---	---	---	30.01	30.19	---
MEAN	30.98	30.03	29.31	30.03	30.11	30.28	28.54	28.82	29.87	29.74	30.35	29.59
MAX	32.34	30.47	30.00	30.28	30.76	30.67	29.72	29.14	30.19	30.35	30.84	30.17
MIN	29.84	29.22	28.66	29.63	29.65	29.87	27.28	28.43	29.05	29.15	30.08	29.11

WTR YR 1987 MEAN 29.82 HIGH 27.28 APR 12 LOW 32.34 OCT 3

403006080252301. Local number, BV 156.

LOCATION.--Lat 40°30'06", long 80°25'23", Hydrologic Unit 05030101, at Raccoon State Park.
Owner: U.S. Geological Survey.
AQUIFER.--Shale of Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 101 ft, cased to 25 ft, open hole.
INSTRUMENTAION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 930 ft, from topographic map. Measuring point: Top of casing, 2.45 ft above land-surface datum.
REMARKS.--Missing record Oct. 23, 24, Dec. 25 to Jan. 5, May 24-26, and June 12-22.
PERIOD OF RECORD.--November 1967 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.75 ft below land-surface datum, Aug. 18, 1980 Apr. 24, 1984; lowest 13.72 ft below land-surface datum, June 5, 1968.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.54	9.46	8.85	---	8.45	8.60	8.21	8.11	8.90	9.13	9.66	9.45
2	9.49	9.37	8.76	---	8.30	8.65	8.18	8.11	8.91	8.96	9.64	9.50
3	9.32	9.35	8.30	---	8.42	8.82	8.21	8.12	8.91	8.70	9.42	9.57
4	9.28	9.28	8.47	---	8.57	8.90	8.05	8.09	8.93	8.78	9.46	9.60
5	9.14	9.27	8.58	---	8.62	8.86	7.93	8.12	9.01	8.83	9.43	9.59
6	9.30	9.15	8.58	8.59	8.56	8.92	7.87	8.09	9.06	8.85	9.47	9.53
7	9.30	9.18	8.59	8.67	8.42	8.80	7.78	8.12	9.04	8.89	9.49	9.48
8	9.28	9.16	8.56	8.73	8.35	8.72	7.82	8.19	9.02	8.92	9.50	9.37
9	9.38	9.08	8.42	8.74	8.57	8.76	7.94	8.20	9.06	8.97	9.43	9.33
10	9.41	9.18	8.42	8.62	8.55	8.87	7.97	8.20	9.14	8.97	9.43	9.36
11	9.35	9.08	8.43	8.65	8.56	8.88	8.06	8.23	9.10	9.00	9.44	9.38
12	9.35	9.02	8.47	8.69	8.49	8.88	8.09	8.32	---	9.01	9.46	9.38
13	9.26	9.17	8.66	8.81	8.56	8.89	8.21	8.40	---	9.03	9.51	9.35
14	9.19	9.17	8.62	8.76	8.52	8.85	8.21	8.40	---	8.99	9.55	9.44
15	9.28	9.05	8.60	8.71	8.65	8.81	8.12	8.44	---	9.08	9.55	9.45
16	9.28	8.86	8.59	8.78	8.66	8.87	8.08	8.50	---	9.15	9.56	9.42
17	9.46	8.91	8.59	8.79	8.58	8.88	8.03	8.49	---	9.26	9.53	9.38
18	9.48	8.95	8.52	8.65	8.70	8.83	8.11	8.51	---	9.29	9.60	9.11
19	9.46	8.97	8.59	8.58	8.77	8.72	8.20	8.49	---	9.31	9.66	9.12
20	9.44	9.07	8.70	8.46	8.81	8.75	8.22	8.58	---	9.33	9.76	9.15
21	9.37	8.94	8.79	8.46	8.77	8.74	8.28	8.65	---	9.35	9.76	9.18
22	9.38	8.93	8.79	8.40	8.62	8.80	8.27	8.70	---	9.40	9.68	9.20
23	---	8.93	8.75	8.38	8.82	8.79	8.26	8.73	9.07	9.41	9.75	9.20
24	---	9.01	8.73	8.51	8.89	8.79	8.13	---	9.14	9.40	9.70	9.19
25	9.37	9.04	---	8.49	8.95	8.75	8.05	---	9.10	9.45	9.70	9.29
26	9.26	8.89	---	8.51	8.98	8.62	8.11	---	9.13	9.49	9.68	9.32
27	9.20	8.73	---	8.52	8.95	8.60	8.08	8.83	9.23	9.51	9.52	9.38
28	9.32	8.72	---	8.56	8.84	8.64	8.06	8.86	9.27	9.55	9.48	9.40
29	9.32	8.77	---	8.58	---	8.64	8.06	8.86	9.28	9.58	9.50	9.36
30	9.44	8.83	---	8.35	---	8.51	8.10	8.86	9.15	9.61	9.52	9.11
31	9.50	---	---	8.45	---	8.18	---	8.88	---	9.65	9.47	---
MEAN	9.35	9.05	8.60	8.59	8.64	8.75	8.09	8.43	9.08	9.19	9.56	9.35
MAX	9.54	9.46	8.85	8.81	8.98	8.92	8.28	8.88	9.28	9.65	9.76	9.60
MIN	9.14	8.72	8.30	8.35	8.30	8.18	7.78	8.09	8.90	8.70	9.42	9.11

WTR YR 1987 MEAN 8.90 HIGH 7.78 APR 7 LOW 9.76 AUG 20, 21

410501079524401. Local number, BT 311.

LOCATION.--Lat 41°05'01", long 79°52'44", Hydrologic Unit 05030105, at State Game Land Number 95.
Owner: U.S. Geological Survey.
AQUIFER.--Kittanning Formation of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 89 ft, cased to 12 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 1,465 ft, from topographic map. Measuring point: Top of casing, 2.30 ft above land-surface datum.
REMARKS.--Missing record Oct. 21 to Nov. 19, Nov. 21-29, and Sept. 4-19.
PERIOD OF RECORD.--November 1970 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.33 ft below land-surface datum, Apr. 6, 1987 lowest, 31.06 ft below land-surface datum, Oct. 16-18, 1983.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.67	---	4.89	4.43	4.83	5.05	3.67	3.77	4.25	7.59	19.67	21.56
2	11.80	---	4.78	4.44	4.71	4.08	3.70	3.79	4.22	7.44	19.70	21.97
3	10.52	---	4.10	4.61	4.87	4.40	3.76	3.82	4.35	4.49	19.45	22.21
4	6.79	---	4.29	4.65	5.04	4.53	3.61	3.78	4.29	4.94	19.30	---
5	5.52	---	4.43	4.69	5.08	4.59	3.44	3.75	4.44	5.26	19.82	---
6	5.56	---	4.40	4.61	4.96	4.56	3.33	3.86	4.59	5.51	20.10	---
7	5.78	---	4.37	4.58	4.81	4.37	3.42	3.98	4.70	5.81	20.19	---
8	6.05	---	4.24	4.62	4.99	4.28	3.47	4.04	4.78	6.08	20.18	---
9	6.46	---	4.09	4.67	5.09	4.53	3.56	4.08	4.52	6.36	20.15	---
10	6.77	---	4.06	4.43	5.13	4.66	3.56	4.13	4.73	6.65	17.48	---
11	7.25	---	4.06	4.53	5.14	4.67	3.58	4.16	4.85	6.97	14.00	---
12	7.70	---	4.29	4.70	5.21	4.68	3.58	4.29	4.80	7.33	15.97	---
13	7.81	---	4.48	4.81	5.24	4.71	3.73	4.34	4.74	7.53	17.89	---
14	7.73	---	4.45	4.68	5.41	4.67	3.72	4.35	5.06	7.77	19.21	---
15	6.96	---	4.42	4.45	5.59	4.72	3.70	4.33	5.36	8.36	19.75	---
16	7.28	---	4.41	4.33	5.58	4.72	3.63	4.38	5.67	9.78	20.10	---
17	7.99	---	4.42	4.41	5.73	4.71	3.67	4.46	6.05	11.64	20.40	---
18	9.21	---	4.17	4.36	6.04	4.67	3.80	4.53	6.37	13.04	20.64	---
19	10.68	---	4.23	4.37	6.28	4.66	3.91	4.21	6.71	14.18	20.64	---
20	11.14	5.74	4.39	4.29	6.34	4.74	3.97	4.48	6.34	15.01	21.05	6.94
21	---	---	4.47	4.34	6.33	4.87	4.00	4.61	5.54	15.85	21.19	7.27
22	---	---	4.49	4.29	6.34	4.95	4.03	4.74	4.54	16.51	21.36	7.47
23	---	---	4.49	4.49	6.36	4.99	4.07	4.88	4.77	17.09	21.64	7.57
24	---	---	4.45	4.65	6.50	4.99	3.41	4.97	5.16	17.64	21.91	7.88
25	---	---	4.10	4.68	6.50	5.03	3.60	5.11	5.45	17.94	22.04	8.37
26	---	---	4.17	4.71	6.52	4.15	3.72	5.16	5.81	18.02	24.65	9.01
27	---	---	4.25	4.72	6.39	4.21	3.71	3.75	6.14	18.39	24.92	9.94
28	---	---	4.31	4.85	6.22	4.38	3.58	3.93	6.62	18.74	24.91	11.36
29	---	---	4.32	4.87	---	4.39	3.59	4.08	7.03	19.03	20.02	11.69
30	---	4.86	4.42	4.63	---	4.29	3.77	4.16	7.47	19.31	20.60	10.62
31	---	---	4.50	4.87	---	3.64	---	4.18	---	19.54	21.26	---
MEAN	8.33	5.30	4.35	4.57	5.62	4.58	3.68	4.26	5.31	11.61	20.33	11.70
MAX	17.67	5.74	4.89	4.87	6.52	5.05	4.07	5.16	7.47	19.54	24.92	22.21
MIN	5.52	4.86	4.06	4.29	4.71	3.64	3.33	3.75	4.22	4.49	14.00	6.94

WTR YR 1987 MEAN 7.45 HIGH 3.33 APR 6 LOW 24.92 AUG 27

CAMBRIA COUNTY

401935078550601. Local number, CA 1.

LOCATION.--Lat 40°19'35", long 78°55'06", Hydrologic Unit 05010007, at Locust and Park Place, Johnstown.
Owner: Johnstown Tribune Publishing Company.
AQUIFER.--Homewood Sandstone of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled water-table well, diameter 12 in to 8 in, depth 180 ft, cased to 45 ft, open hole.
INSTRUMENTATION.--Weekly measurement with chalked tape by observer.
DATUM.--Elevation of land-surface datum is 1,165 ft, from topographic map. Measuring point: Top of casing, 10 ft below land-surface datum.
REMARKS.--None.
PERIOD OF RECORD.--March 1952 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.10 ft below land-surface datum, Sept. 3, 1975; lowest measured, 26.78 ft below land-surface datum, July 23, 1953.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	16.40	---	---	---	---	---	17.10	---	---	---
2	---	---	---	---	17.00	16.40	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	17.50	---
4	---	17.60	---	---	---	---	---	16.20	---	---	---	---
5	---	---	---	17.20	---	---	---	---	---	---	---	---
6	17.30	---	---	---	---	---	14.50	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	16.40	---	---
8	---	---	16.50	---	---	---	---	---	17.40	---	---	17.00
9	---	---	---	---	16.90	16.60	---	---	---	---	---	---
10	---	17.20	---	---	---	---	---	---	---	---	17.40	---
11	---	---	---	---	---	---	---	16.60	---	---	---	---
12	---	---	---	17.20	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	15.50	---	---	17.00	---	---
14	---	---	---	---	---	---	---	---	---	---	---	17.30
15	17.30	---	16.50	---	---	---	---	---	16.80	---	---	---
16	---	---	---	---	17.20	16.60	---	---	---	---	---	---
17	---	16.80	---	---	---	---	---	---	---	---	17.70	---
18	---	---	---	---	---	---	---	17.00	---	---	---	---
19	---	---	---	16.60	---	---	---	---	---	---	---	---
20	17.50	---	---	---	---	---	15.80	---	---	17.40	---	---
21	---	---	---	---	---	---	---	---	---	---	---	16.60
22	---	---	16.90	---	---	---	---	---	17.00	---	---	---
23	---	---	---	---	17.20	16.90	---	---	---	---	---	---
24	---	16.30	---	---	---	---	---	---	---	---	17.40	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	16.80	---	---	---	17.10	---	---	---	---
27	17.50	---	---	---	---	---	16.60	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	17.20
29	---	---	16.70	---	---	---	---	---	17.20	17.50	---	---
30	---	---	---	---	---	16.90	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	17.20	---
MEAN	17.40	16.98	16.60	16.95	17.08	16.68	15.60	16.73	17.10	17.08	17.44	17.03
MAX	17.50	17.60	16.90	17.20	17.20	16.90	16.60	17.10	17.40	17.50	17.70	17.30
MIN	17.30	16.30	16.40	16.60	16.90	16.40	14.50	16.20	16.80	16.40	17.20	16.60

WTR YR 1987 MEAN 16.89 HIGH 14.50 APR 6 LOW 17.70 AUG 17

413542080245001. Local number, CW 413.

LOCATION.--Lat 41°35'42", long 80°24'50", Hydrologic Unit 05030102, at State Game Land Number 214 near Hartstown.
Owner: U.S. Geological Survey.
AQUIFER.--Sandstone of Cussewago Formation of Early Mississippian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 100 ft, cased to 19 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 1,110 ft, from topographic map. Measuring point: Top of casing, 2.7 ft above land-surface datum.
REMARKS.--Since the June 9, 1981 well pumping and clean out, the monthly mean water levels have generally been from 12 to 24 feet lower. Missing record Dec. 22 to Jan. 19, Jan 28 to Feb. 19, Apr. 25, 26, and June 22, 23.
PERIOD OF RECORD.--July 1967 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.02 ft below land-surface datum, Feb. 23, 1975; lowest, 55.99 ft below land-surface datum, Oct. 30, 1983.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52.56	49.98	49.29	---	---	48.95	48.81	48.21	51.01	50.56	49.46	47.00
2	52.45	49.95	48.87	---	---	48.99	48.34	48.42	51.09	50.13	49.51	46.91
3	52.28	49.99	48.48	---	---	48.90	48.20	48.64	51.19	49.15	49.44	46.87
4	51.90	50.03	48.37	---	---	49.48	47.54	48.72	51.25	48.44	49.29	46.79
5	51.52	49.97	48.32	---	---	49.38	47.29	48.76	51.37	48.20	49.29	46.80
6	51.28	50.13	48.11	---	---	49.20	46.83	48.74	51.43	47.84	49.28	46.81
7	50.95	50.14	47.86	---	---	48.95	46.35	48.95	51.36	47.74	49.17	46.88
8	50.65	50.17	47.83	---	---	48.66	46.12	49.02	51.43	47.69	49.19	46.94
9	50.53	50.42	47.51	---	---	48.65	46.07	49.08	51.58	47.71	49.14	46.67
10	50.45	50.46	47.46	---	---	48.73	46.00	49.33	51.63	47.72	49.26	46.67
11	50.28	50.38	47.20	---	---	48.56	45.97	49.27	51.55	47.72	49.24	46.35
12	50.18	50.44	47.42	---	---	48.59	46.32	49.53	51.56	47.65	49.29	46.32
13	50.10	50.58	47.52	---	---	48.55	46.48	49.56	51.72	47.57	49.33	46.22
14	50.02	50.51	47.26	---	---	48.52	46.40	49.62	51.71	47.58	49.44	46.16
15	50.03	50.39	47.29	---	---	48.66	46.47	49.80	51.80	47.54	49.49	46.11
16	49.92	50.44	47.43	---	---	48.74	46.57	49.82	51.92	47.64	49.51	46.00
17	49.96	50.47	47.35	---	---	48.75	46.90	49.86	51.97	47.71	49.73	45.95
18	49.99	50.69	47.31	---	---	48.76	47.10	49.97	51.96	47.71	49.79	45.62
19	49.90	50.72	47.33	---	---	48.72	47.20	50.07	51.91	47.84	49.96	45.39
20	49.71	50.38	47.40	46.92	49.07	48.77	47.28	50.23	51.88	47.89	50.10	44.99
21	49.77	50.46	47.40	47.05	49.05	48.80	47.38	50.28	51.86	48.15	50.04	44.48
22	49.79	50.36	---	46.91	49.13	48.87	47.46	50.35	---	48.15	50.01	44.22
23	49.83	50.21	---	47.03	49.34	48.94	47.70	50.48	---	48.40	49.87	44.08
24	49.92	50.21	---	47.29	49.37	48.96	47.76	50.58	51.58	48.54	49.56	44.17
25	49.95	50.15	---	47.31	49.42	49.02	---	50.57	51.23	48.63	49.29	44.27
26	49.99	50.01	---	47.42	49.42	49.03	---	50.65	51.07	48.78	49.06	44.46
27	50.01	49.89	---	47.43	49.27	48.98	47.96	50.74	51.06	48.86	48.73	44.48
28	50.12	49.60	---	---	49.15	49.13	47.96	50.80	50.98	48.98	48.41	44.72
29	50.08	49.44	---	---	---	49.04	48.05	50.83	50.88	49.09	47.87	44.70
30	50.10	49.39	---	---	---	48.98	48.21	50.92	50.83	49.28	47.41	44.79
31	50.06	---	---	---	---	48.81	---	51.01	---	49.38	47.07	---
MEAN	50.46	50.20	47.76	47.17	49.25	48.87	47.17	49.77	51.46	48.33	49.23	45.73
MAX	52.56	50.72	49.29	47.43	49.42	49.48	48.81	51.01	51.97	50.56	50.10	47.00
MIN	49.71	49.39	47.20	46.91	49.05	48.52	45.97	48.21	50.83	47.54	47.07	44.08

WTR YR 1987 MEAN 48.90 HIGH 44.08 SEP 23 LOW 52.56 OCT 1

412458078324601. Local number, EK 108.

LOCATION.--Lat 41°24'58", long 78°32'46", Hydrologic Unit 05010005, at St. Marys.
Owner: St. Marys Municipal Joint Water Authority.
AQUIFER.--Pottsville Group of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled artesian well, diameter 12 in, depth 340 ft, cased to 40 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 1,740 ft, from topographic map. Measuring point: Top of casing, 2.3 ft above land-surface datum.
REMARKS.--Missing record Oct. 20 to Nov. 22, Jan. 23-27, and Apr. 22.
PERIOD OF RECORD.--October 1974 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.90 ft below land-surface datum, Mar. 30, 1975; lowest, 6.62 ft below land-surface datum, Oct. 7, 8, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.25	---	3.92	3.50	4.05	4.31	3.64	3.38	3.75	3.35	3.81	4.28
2	4.67	---	3.87	3.39	3.88	4.34	3.58	3.39	3.78	3.30	3.80	4.24
3	4.67	---	3.37	3.63	4.17	4.51	3.64	3.55	3.81	3.00	3.79	4.43
4	4.40	---	3.59	3.68	4.36	4.56	3.46	3.61	3.84	3.00	3.80	4.48
5	4.34	---	3.78	3.71	4.40	4.53	3.30	3.60	3.88	3.08	3.90	4.43
6	4.49	---	3.78	3.63	4.25	4.49	3.24	3.45	3.92	3.18	3.97	4.37
7	4.53	---	3.73	3.60	4.02	4.32	3.20	3.35	3.88	3.16	4.00	4.26
8	4.51	---	3.66	3.63	4.06	4.11	3.28	3.49	3.78	3.16	4.00	4.25
9	4.57	---	3.61	3.66	4.29	4.12	3.35	3.53	3.72	3.14	3.98	4.19
10	4.61	---	3.57	3.46	4.29	4.29	3.40	3.50	3.77	3.08	4.05	4.22
11	4.59	---	3.59	3.47	4.29	4.29	3.43	3.56	3.74	2.98	4.11	4.20
12	4.51	---	3.52	3.70	4.20	4.18	3.44	3.60	3.55	2.95	4.11	4.11
13	4.38	---	3.91	3.81	4.27	4.18	3.65	3.75	3.40	2.93	4.17	3.82
14	4.27	---	3.90	3.71	4.35	4.13	3.65	3.71	3.48	2.97	4.21	3.81
15	4.35	---	3.77	3.84	4.43	4.18	3.51	3.64	3.38	3.13	4.22	3.81
16	4.32	---	3.67	3.89	4.42	4.22	3.41	3.71	3.39	3.25	4.20	3.82
17	4.49	---	3.68	3.86	4.36	4.19	3.42	3.64	3.58	3.40	4.20	3.64
18	4.58	---	3.62	3.60	4.49	4.16	3.55	3.64	3.57	3.39	4.31	3.45
19	4.57	---	3.72	3.70	4.58	4.08	3.63	3.71	3.58	3.39	4.32	3.44
20	---	---	3.82	3.70	4.58	4.08	3.65	3.73	3.48	3.31	4.60	3.33
21	---	---	3.75	3.72	4.53	4.09	3.63	3.71	3.48	3.51	4.60	3.32
22	---	---	3.65	3.60	4.45	4.09	---	3.65	3.33	3.55	4.50	3.30
23	---	3.88	3.52	---	4.57	4.13	3.56	3.68	3.46	3.55	4.58	3.27
24	---	3.86	3.50	---	4.69	4.09	3.57	3.74	3.52	3.63	4.62	3.25
25	---	3.89	3.43	---	4.76	4.04	3.47	3.75	3.47	3.65	4.60	3.35
26	---	3.83	3.50	---	4.78	3.89	3.51	3.79	3.35	3.62	4.58	3.41
27	---	3.70	3.53	---	4.76	3.94	3.44	3.81	3.35	3.60	4.37	3.49
28	---	3.72	3.50	4.04	4.62	3.95	3.23	3.80	3.39	3.65	4.34	3.51
29	---	3.73	3.49	4.08	---	3.95	3.25	3.77	3.40	3.71	4.42	3.46
30	---	3.86	3.46	3.80	---	3.82	3.25	3.76	3.40	3.73	4.44	3.20
31	---	---	3.55	4.05	---	3.58	---	3.76	---	3.80	4.37	---
MEAN	4.43	3.81	3.64	3.71	4.39	4.16	3.46	3.64	3.58	3.33	4.22	3.80
MAX	4.67	3.89	3.92	4.08	4.78	4.56	3.65	3.81	3.92	3.80	4.62	4.48
MIN	3.25	3.70	3.37	3.39	3.88	3.58	3.20	3.35	3.33	2.93	3.79	3.20

WTR YR 1987 MEAN 3.83 HIGH 2.93 JUL 13 LOW 4.78 FEB 26

415607080044601. Local number, ER 82.

LOCATION.--Lat 41°56'07", long 80°04'46", Hydrologic Unit 05010004, near McLane.
Owner: U.S. Geological Survey.
AQUIFER.--Shale of Riceville Formation of Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 82 ft, cased to 56 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 1,419 ft, from topographic map. Measuring point: Top of plywood cover, 3.50 ft above land-surface datum.
REMARKS.--Missing record Oct. 25-30, Jan. 24 to Feb. 22, and Aug. 24, 25.
PERIOD OF RECORD.--July 1966 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.00 ft below land-surface datum, Mar. 17, 1973; lowest, 23.42 ft below land-surface datum, Sept. 1, 2, 1984.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.51	18.26	17.94	17.26	---	18.25	17.65	17.72	18.83	19.07	19.42	20.39
2	20.44	18.26	17.87	17.25	---	18.24	17.60	17.77	18.86	19.00	19.42	20.37
3	20.35	18.26	17.81	17.28	---	18.20	17.58	17.83	18.88	18.92	19.44	20.37
4	20.22	18.26	17.70	17.31	---	18.13	17.57	17.88	18.90	18.83	19.45	20.36
5	20.03	18.26	17.61	17.35	---	18.02	17.53	17.93	18.93	18.74	19.48	20.35
6	19.79	18.26	17.53	17.37	---	17.92	17.52	17.98	18.95	18.69	19.54	20.33
7	19.58	18.26	17.44	17.39	---	17.86	17.50	18.05	18.99	18.66	19.57	20.31
8	19.40	18.26	17.40	17.40	---	17.80	17.42	18.09	19.01	18.63	19.62	20.27
9	19.26	18.26	17.36	17.41	---	17.76	17.37	18.15	19.05	18.61	19.64	20.19
10	19.15	18.26	17.33	17.41	---	17.66	17.30	18.18	19.08	18.59	19.65	20.15
11	19.05	18.30	17.32	17.41	---	17.60	17.26	18.25	19.10	18.56	19.74	20.14
12	18.99	18.33	17.27	17.44	---	17.55	17.22	18.29	19.10	18.60	19.79	20.12
13	18.90	18.33	17.23	17.49	---	17.53	17.21	18.35	19.11	18.61	19.84	20.07
14	18.82	18.34	17.22	17.50	---	17.50	17.20	18.40	19.12	18.61	19.89	19.98
15	18.72	18.34	17.22	17.54	---	17.53	17.21	18.43	19.15	18.60	19.95	19.90
16	18.63	18.34	17.22	17.54	---	17.53	17.22	18.46	19.19	18.58	20.00	19.79
17	18.59	18.34	17.22	17.55	---	17.53	17.23	18.49	19.22	18.57	20.06	19.68
18	18.52	18.34	17.22	17.55	---	17.53	17.26	18.55	19.25	18.56	20.10	19.59
19	18.51	18.34	17.23	17.56	---	17.53	17.30	18.56	19.28	18.56	20.14	19.49
20	18.47	18.34	17.24	17.54	---	17.51	17.32	18.60	19.29	18.55	20.22	19.35
21	18.45	18.32	17.25	17.54	---	17.50	17.37	18.64	19.31	18.61	20.27	19.05
22	18.43	18.30	17.31	17.53	---	17.51	17.41	18.65	19.32	18.67	20.33	19.07
23	18.43	18.30	17.33	17.50	18.40	17.54	17.44	18.67	19.34	18.74	20.36	18.98
24	18.40	18.28	17.33	---	18.18	17.59	17.47	18.70	19.34	18.86	---	18.88
25	---	18.28	17.32	---	18.21	17.60	17.52	18.72	19.28	18.97	---	18.84
26	---	18.26	17.31	---	18.23	17.60	17.53	18.71	19.20	19.08	20.47	18.78
27	---	18.21	17.30	---	18.24	17.60	17.60	18.73	19.15	19.18	20.50	18.75
28	---	18.15	17.29	---	18.25	17.60	17.61	18.73	19.10	19.24	20.48	18.75
29	---	18.08	17.26	---	---	17.62	17.63	18.75	19.08	19.27	20.46	18.72
30	---	17.99	17.25	---	---	17.66	17.66	18.76	19.08	19.31	20.44	18.72
31	18.26	---	17.26	---	---	17.66	---	18.80	---	19.35	20.40	---
MEAN	19.12	18.27	17.37	17.44	18.25	17.70	17.42	18.38	19.12	18.80	19.95	19.66
MAX	20.51	18.34	17.94	17.56	18.40	18.25	17.66	18.80	19.34	19.35	20.50	20.39
MIN	18.26	17.99	17.22	17.25	18.18	17.50	17.20	17.72	18.83	18.55	19.42	18.72

WTR YR 1987 MEAN 18.47 HIGH 17.20 APR 14 LOW 20.51 OCT 1

394843079351401. Local number, FA 17.

LOCATION.-Lat 39°48'43", long 79°35'14", Hydrologic unit 05020006, at Fort Necessity.
Owner: U.S. Geological Survey.
AQUIFER.--Shale and sandstone of Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 100 ft, cased to 19 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 1,910 ft, from topographic map. Measuring point: Top of plywood cover 2.05 ft above land-surface datum.
REMARKS.--Missing record Jan. 22, 23, Mar. 29 to Apr. 4, July 24, 25, 28-31, and Aug. 1, 4, 5, 6, 10.
PERIOD OF RECORD.--November 1967 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.71 ft below land-surface datum, Feb. 23, 1971; lowest, 40.00 ft below land-surface datum, Nov. 8, 1967.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.95	22.94	20.57	21.18	22.17	22.41	---	21.77	22.86	22.86	---	22.88
2	22.95	22.78	20.42	21.32	21.94	22.60	---	21.93	22.84	22.75	22.89	22.96
3	22.96	22.79	20.38	21.60	22.18	22.79	---	22.14	22.87	22.72	22.87	23.04
4	22.80	22.77	20.61	21.74	22.34	22.86	---	22.39	22.88	22.70	---	23.02
5	22.59	22.77	20.78	21.81	22.37	22.78	22.50	22.40	22.93	22.76	---	22.95
6	22.71	22.67	20.77	21.81	22.18	22.72	22.50	22.38	22.90	22.78	---	22.88
7	22.77	22.67	20.71	21.89	21.86	22.59	22.42	22.42	22.85	22.81	22.97	22.86
8	22.70	22.59	20.61	21.95	21.78	22.33	22.20	22.54	22.77	22.80	22.89	22.79
9	22.72	22.34	20.50	21.98	22.05	22.28	21.89	22.60	22.88	22.79	23.03	22.92
10	22.78	22.27	20.27	21.74	22.08	22.54	21.68	22.64	22.96	22.77	---	22.96
11	22.79	22.14	20.18	21.84	22.10	22.57	21.40	22.68	22.91	22.78	23.37	22.95
12	22.74	21.99	20.19	22.16	22.08	22.56	21.30	22.86	22.70	22.77	23.07	22.91
13	22.66	22.05	20.51	22.27	22.15	22.59	21.34	22.97	22.74	22.73	23.08	22.92
14	22.68	22.04	20.44	22.25	22.15	22.55	21.32	22.97	22.80	22.79	23.00	22.98
15	22.73	21.76	20.40	22.29	22.34	22.67	21.06	22.96	22.85	22.91	22.88	22.96
16	22.70	21.59	20.42	22.32	22.29	22.80	20.82	22.99	22.94	22.95	22.83	22.90
17	22.78	21.54	20.76	22.25	22.23	22.84	20.66	22.93	23.00	22.98	22.80	22.85
18	22.88	21.52	20.85	22.03	22.49	22.80	20.86	22.87	23.01	22.87	22.89	22.94
19	22.85	21.64	21.00	21.83	22.64	22.68	20.97	22.80	22.87	22.78	22.91	22.99
20	22.77	21.49	21.19	21.87	22.67	22.73	21.03	22.84	22.76	22.78	23.00	22.97
21	22.72	21.20	21.33	21.72	22.55	22.80	21.06	22.87	22.68	22.83	22.90	23.00
22	22.76	21.19	21.36	---	22.51	22.95	21.17	22.86	22.57	22.75	22.89	23.02
23	22.74	21.04	21.27	---	22.80	23.00	21.24	22.78	22.60	22.72	22.93	22.99
24	22.76	20.94	21.12	21.81	22.91	23.00	21.36	22.77	22.65	---	23.06	22.97
25	22.75	20.94	21.07	21.81	23.01	22.95	21.53	22.75	22.61	---	23.08	23.04
26	22.65	20.66	21.13	21.86	23.03	23.00	21.61	22.78	22.58	22.79	23.01	23.03
27	22.74	20.56	21.15	21.90	22.97	23.00	21.55	22.78	22.65	22.71	22.87	23.01
28	22.86	20.55	21.13	22.12	22.82	23.02	21.51	22.79	22.81	---	22.91	22.99
29	22.87	20.44	21.08	22.14	---	---	21.50	22.79	22.84	---	23.03	22.97
30	22.94	20.54	21.13	21.89	---	---	21.73	22.82	22.89	---	23.03	22.88
31	22.96	---	21.23	22.17	---	---	---	22.82	---	---	22.91	---
MEAN	22.78	21.75	20.79	21.92	22.38	22.73	21.47	22.67	22.81	22.80	22.97	22.95
MAX	22.96	22.94	21.36	22.32	23.03	23.02	22.50	22.99	23.01	22.98	23.37	23.04
MIN	22.59	20.44	20.18	21.18	21.78	22.28	20.66	21.77	22.57	22.70	22.80	22.79

WTR YR 1987 MEAN 22.33 HIGH 20.18 DEC 11 LOW 23.37 AUG 11

412823079030601. Local number, FO 11.

LOCATION.--Lat 41°28'23", long 79°03'06", Hydrologic Unit 05010005, at U.S. Forest Lands.
Owner: U.S. Geological Survey.
AQUIFER.--Clarion Formation of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 110 ft, cased to 23 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 1,780 ft, from topographic map. Measuring point: Top of casing, 1.4 ft above land-surface datum.
REMARKS.--None.
PERIOD OF RECORD.--August 1973 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.78 ft below land-surface datum, Jan. 27, 28, 1973; lowest, 12.07 ft below land-surface datum, Sept. 18, 19, 1982.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.92	9.22	8.87	8.89	9.26	9.76	8.45	8.36	9.09	8.82	9.96	10.07
2	9.81	9.20	8.76	8.89	9.25	9.54	8.43	8.39	9.11	8.71	9.97	10.07
3	9.74	9.18	8.58	8.93	9.31	9.44	8.42	8.42	9.13	8.56	9.92	10.13
4	9.51	9.13	8.56	9.04	9.42	9.40	8.41	8.44	9.16	8.50	9.92	10.17
5	9.39	9.15	8.65	9.10	9.49	9.36	8.30	8.43	9.18	8.54	9.89	10.21
6	9.34	9.13	8.68	9.11	9.49	9.30	8.29	8.44	9.24	8.58	9.92	10.21
7	9.33	9.14	8.66	9.10	9.43	9.25	8.25	8.44	9.25	8.60	9.95	10.20
8	9.33	9.13	8.66	9.13	9.38	9.13	8.26	8.47	9.28	8.61	9.98	10.05
9	9.35	9.04	8.64	9.16	9.39	8.96	8.30	8.49	9.23	8.58	9.98	9.83
10	9.40	9.00	8.55	9.16	9.46	8.92	8.34	8.57	9.22	8.53	9.98	9.71
11	9.39	9.01	8.55	9.12	9.51	8.92	8.37	8.62	9.21	8.53	10.01	9.64
12	9.39	8.96	8.57	9.13	9.50	8.88	8.38	8.63	9.19	8.56	10.07	9.52
13	9.37	8.98	8.70	9.20	9.51	8.87	8.45	8.69	9.05	8.60	10.14	9.39
14	9.26	8.99	8.73	9.25	9.54	8.84	8.46	8.70	8.97	8.65	10.19	9.32
15	9.24	8.98	8.77	9.28	9.61	8.82	8.46	8.70	8.94	8.73	10.25	9.31
16	9.21	8.92	8.82	9.30	9.63	8.87	8.46	8.74	8.99	8.84	10.27	9.27
17	9.22	8.89	8.85	9.32	9.62	8.88	8.49	8.80	9.10	8.93	10.30	9.18
18	9.30	8.87	8.80	9.25	9.66	8.87	8.58	8.84	9.18	9.02	10.31	9.04
19	9.31	8.86	8.82	9.20	9.74	8.86	8.65	8.87	9.24	9.11	10.33	8.94
20	9.29	8.84	8.90	9.07	9.77	8.79	8.69	8.99	9.24	9.20	10.43	8.86
21	9.28	8.79	8.95	9.10	9.74	8.79	8.72	9.00	9.25	9.30	10.48	8.78
22	9.30	8.80	8.97	9.11	9.75	8.82	8.74	9.01	9.20	9.38	10.48	8.82
23	9.25	8.82	8.96	9.11	9.73	8.86	8.76	9.02	9.11	9.46	10.38	8.80
24	9.28	8.79	8.95	9.12	9.81	8.87	8.72	9.07	9.06	9.53	10.42	8.79
25	9.31	8.80	8.87	9.10	9.85	8.87	8.68	9.10	9.02	9.58	10.45	8.85
26	9.30	8.75	8.84	9.19	9.90	8.79	8.63	9.16	8.99	9.59	10.46	8.90
27	9.24	8.63	8.83	9.21	9.86	8.75	8.59	9.15	8.92	9.65	10.38	8.98
28	9.18	8.63	8.82	9.21	9.86	8.71	8.45	9.13	8.88	9.72	10.24	9.02
29	9.20	8.66	8.83	9.27	---	8.69	8.40	9.06	8.91	9.79	10.14	9.04
30	9.17	8.83	8.84	9.28	---	8.67	8.34	9.06	8.86	9.86	10.13	9.03
31	9.20	---	8.87	9.20	---	8.55	---	9.08	---	9.92	10.11	---
MEAN	9.35	8.94	8.77	9.15	9.59	8.97	8.48	8.77	9.11	9.03	10.18	9.40
MAX	9.92	9.22	8.97	9.32	9.90	9.76	8.76	9.16	9.28	9.92	10.48	10.21
MIN	9.17	8.63	8.55	8.89	9.25	8.55	8.25	8.36	8.86	8.50	9.89	8.78

WTR YR 1987 MEAN 9.14 HIGH 8.25 APR 7 LOW 10.48 AUG 21, 22

394655080014301. Local number, GR 118.

LOCATION.--Lat 39°46'55", long 80°01'43", Hydrologic Unit 05020005, at State Game Land Number 223.
Owner: U.S. Geological Survey.
AQUIFER.--Shale and sandstone of lower member of Waynesburg Formation of Late Pennsylvanian and Early Permian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 104 ft, cased to 22 ft, open hole.
INSTRUMENTATION.--Water-level recorder.
DATUM.--Elevation of land-surface datum is 1,000 ft, from topographic map. Measuring point: Top of plywood cover 2.02 ft above land-surface datum.
REMARKS.--Missing record Oct. 1-23, July 23, 24, Aug. 18 to Sept. 21, and Sept. 28-30.
PERIOD OF RECORD.--June 1973 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.70 ft below land-surface datum, Apr. 12, 1981; lowest, 48.18 ft below land-surface datum, Aug. 17, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	41.75	32.73	32.91	32.82	33.72	36.76	32.69	33.76	38.41	45.91	---
2	---	41.82	32.70	33.07	32.74	33.63	36.29	32.81	33.87	38.44	46.55	---
3	---	41.98	32.16	33.17	32.47	33.56	36.20	32.89	34.02	38.54	46.55	---
4	---	42.05	32.27	33.27	32.63	33.58	35.95	33.00	34.19	38.70	46.55	---
5	---	41.13	32.47	33.34	32.68	33.61	35.64	33.08	34.29	38.84	46.55	---
6	---	41.10	32.59	33.34	32.71	33.65	34.80	33.14	34.44	39.03	46.55	---
7	---	40.40	32.67	33.43	32.80	33.65	32.88	33.24	34.50	39.29	46.55	---
8	---	38.07	32.77	33.47	32.96	33.64	32.19	33.35	34.64	39.32	46.55	---
9	---	37.05	32.72	33.50	33.06	33.77	32.55	33.47	34.71	39.72	46.55	---
10	---	35.24	32.20	33.48	33.14	33.85	32.78	33.58	34.79	40.22	46.55	---
11	---	35.10	32.27	33.58	33.19	33.88	32.94	33.66	34.93	40.35	46.88	---
12	---	34.05	32.47	33.66	33.18	33.98	32.99	33.79	34.98	40.58	47.18	---
13	---	34.12	32.64	33.70	33.19	34.04	33.11	33.86	34.92	41.33	47.18	---
14	---	34.12	32.74	33.74	33.19	34.09	33.15	33.92	35.04	41.21	47.24	---
15	---	34.15	32.87	33.81	33.33	34.16	33.18	34.05	35.06	41.18	47.54	---
16	---	34.23	32.95	33.87	33.30	34.25	33.17	34.17	35.25	41.55	47.85	---
17	---	34.31	33.00	33.90	33.36	34.38	32.11	34.29	35.44	42.49	48.18	---
18	---	34.39	33.10	33.91	33.44	34.66	32.29	34.36	35.51	43.20	---	---
19	---	34.43	33.18	33.91	33.56	35.32	32.46	34.18	35.67	43.01	---	---
20	---	34.41	33.28	32.68	33.60	35.69	32.64	33.81	35.76	42.91	---	---
21	---	33.51	33.36	33.00	33.65	36.08	32.75	33.87	35.58	42.54	---	---
22	---	33.19	33.45	32.79	33.67	36.25	32.87	33.94	35.53	42.77	---	44.14
23	---	33.26	33.51	33.04	33.69	36.42	32.93	34.01	35.49	---	---	44.02
24	41.56	33.30	33.52	33.06	33.72	36.57	32.76	34.10	35.68	---	---	43.93
25	41.59	33.30	32.11	33.14	33.76	36.73	31.73	34.20	36.16	42.34	---	44.06
26	41.23	33.21	32.30	33.32	33.83	37.12	31.94	34.32	36.61	42.26	---	44.95
27	40.61	32.17	32.41	33.39	33.86	37.40	32.13	33.70	37.08	42.98	---	45.76
28	41.10	32.29	32.54	33.50	33.84	37.59	32.29	33.25	37.76	43.94	---	---
29	41.18	32.47	32.60	33.55	---	37.74	32.43	33.45	38.14	44.73	---	---
30	41.34	32.65	32.77	33.37	---	37.79	32.58	33.59	38.48	45.26	---	---
31	41.56	---	32.88	32.89	---	37.68	---	33.68	---	45.62	---	---
MEAN	41.27	35.78	32.75	33.38	33.26	35.11	33.28	33.66	35.41	41.41	46.88	44.48
MAX	41.59	42.05	33.52	33.91	33.86	37.79	36.76	34.36	38.48	45.62	48.18	45.76
MIN	40.61	32.17	32.11	32.68	32.47	33.56	31.73	32.69	33.76	38.41	45.91	43.93

WTR YR 1987 MEAN 35.90 HIGH 31.73 APR 25 LOW 48.18 AUG 17

403702079093301. Local number, IN 1.

LOCATION.--Lat 40°37'02", long 79°09'33", Hydrologic Unit 05010007, at Indiana University of Pennsylvania, Indiana.
Owner: Commonwealth of Pennsylvania.
AQUIFER.--Sandstone of Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in, depth 198 ft, casing information not available.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 1,305 ft, from topographic map. Measuring point: Top of casing, 1.2 ft above land-surface datum.
REMARKS.--Missing record Nov. 23-25.
PERIOD OF RECORD.--October 1944 to June 1947, September 1949 to January 1950, January 1951 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 72.50 ft below land-surface datum, Apr. 13, 1962; lowest, 87.03 ft below land-surface datum, Oct. 19, 1946.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74.31	74.48	74.09	73.99	74.02	73.89	74.02	73.77	73.66	74.33	75.00	74.29
2	74.38	74.31	73.91	73.89	73.77	73.95	73.86	73.88	73.61	74.21	74.94	74.42
3	74.40	74.30	73.67	74.18	74.04	74.12	73.89	73.99	73.47	74.02	74.86	74.51
4	74.18	74.28	73.87	74.22	74.21	74.20	73.51	73.83	73.55	74.06	74.83	74.52
5	74.09	74.27	74.02	74.20	74.26	74.16	73.57	73.78	73.66	74.14	74.81	74.48
6	74.16	74.33	73.98	74.09	74.04	74.11	73.45	73.64	73.73	74.15	74.76	74.38
7	74.19	74.33	73.91	74.05	73.77	74.00	73.47	73.69	73.73	74.11	74.68	74.21
8	74.13	74.28	73.83	74.10	73.57	73.84	73.54	73.80	73.71	74.11	74.61	74.09
9	74.23	74.02	73.68	74.08	74.10	73.95	73.61	73.84	73.78	74.12	74.54	73.96
10	74.31	74.11	73.61	73.77	74.07	74.20	73.66	73.86	73.87	74.12	74.46	73.98
11	74.29	73.85	73.62	73.93	74.07	74.22	73.69	73.91	73.85	74.15	74.51	73.97
12	74.20	73.75	73.69	74.11	73.93	74.14	73.70	74.08	73.73	74.15	74.49	73.82
13	74.08	73.93	74.02	74.23	74.00	74.16	73.91	74.14	73.79	74.10	74.58	73.81
14	74.11	73.91	73.89	74.13	73.98	74.11	73.89	74.11	73.85	74.23	74.66	73.92
15	74.20	73.63	73.78	74.20	74.18	74.12	73.75	74.13	73.92	74.27	74.71	73.92
16	74.21	73.51	73.78	74.24	74.17	74.14	73.52	74.17	73.99	74.37	74.67	73.93
17	74.39	73.65	73.78	74.20	74.00	74.20	73.61	74.14	74.13	74.46	74.64	73.88
18	74.52	73.74	73.69	73.95	74.18	74.16	73.79	74.09	74.16	74.42	74.67	73.54
19	74.51	73.86	74.00	73.85	74.29	74.03	73.90	73.90	74.11	74.39	74.61	73.58
20	74.21	73.77	74.12	73.86	74.37	74.15	73.86	73.93	74.07	74.39	74.70	73.58
21	74.13	73.71	74.24	73.76	74.20	74.18	73.81	73.95	74.00	74.42	74.70	73.65
22	74.18	73.84	74.24	73.68	74.09	74.29	73.85	73.91	73.98	74.49	74.59	73.73
23	74.26	---	74.13	73.78	74.29	74.33	73.84	73.95	74.09	74.53	74.41	73.71
24	74.32	---	74.03	74.00	74.36	74.30	73.75	74.03	74.18	74.57	74.48	73.77
25	74.32	---	73.95	74.00	74.40	74.27	73.74	74.04	74.14	74.66	74.47	73.95
26	74.18	73.89	74.01	74.00	74.45	74.18	73.81	74.09	74.10	74.69	74.49	74.03
27	74.18	74.00	74.02	74.03	74.38	74.20	73.67	73.75	74.19	74.80	74.40	74.11
28	74.35	73.94	73.99	74.12	74.25	74.30	73.56	73.66	74.30	74.93	74.41	74.12
29	74.36	73.92	73.96	74.14	---	74.31	73.53	73.59	74.34	75.00	74.34	74.04
30	74.52	74.05	73.92	73.78	---	74.13	73.78	73.55	74.38	75.00	74.36	73.78
31	74.55	---	74.08	74.03	---	73.98	---	73.59	---	75.01	74.24	---
MEAN	74.27	73.99	73.92	74.02	74.12	74.14	73.72	73.90	73.94	74.40	74.60	73.99
MAX	74.55	74.48	74.24	74.24	74.45	74.33	74.02	74.17	74.38	75.01	75.00	74.52
MIN	74.08	73.51	73.61	73.68	73.57	73.84	73.45	73.55	73.47	74.02	74.24	73.54

WTR YR 1987 MEAN 74.09 HIGH 73.45 APR 6 LOW 75.01 JUL 31

410650078575801. Local number, JE 23.

LOCATION.--Lat 41°06'50", long 78°57'58", Hydrologic Unit 05010006, at State Game Land Number 244.
Owner: U.S. Geological Survey.
AQUIFER.--Sandstone and shale of Kittanning Formation of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in , depth 101 ft, cased to 37 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 1,660 ft, from topographic map. Measuring point: Top of plywood cover, 2.05 ft above land-surface datum.
REMARKS.--Missing record June 23, 24, and Aug. 22-25.
PERIOD OF RECORD.--February 1968 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 14.17 ft below land-surface datum, Apr. 13, 1970; lowest, 32.12 ft below land-surface datum, Aug. 25, 1974.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.16	27.00	27.22	27.84	28.27	28.33	27.40	26.95	28.87	28.30	29.18	29.47
2	28.03	26.97	26.98	27.82	28.10	28.58	27.15	27.07	28.92	28.24	29.10	29.42
3	27.96	26.93	26.88	27.88	28.27	28.56	27.35	27.29	29.11	28.11	29.19	29.84
4	27.64	27.16	27.05	27.87	28.48	28.47	26.85	27.40	29.23	27.91	29.17	29.57
5	27.46	27.15	27.30	27.75	28.58	28.46	26.84	27.36	29.29	27.73	29.26	29.49
6	27.26	27.28	27.28	27.60	28.41	28.47	26.72	27.40	29.36	27.62	29.35	29.42
7	27.20	27.29	27.26	27.66	28.31	28.56	26.52	27.30	29.23	27.59	29.33	29.45
8	27.05	27.18	27.14	27.66	28.27	28.43	26.47	27.39	29.34	27.55	29.31	29.83
9	26.93	27.27	26.97	27.62	28.60	28.54	26.49	27.49	29.50	27.55	29.30	29.84
10	26.97	27.35	26.87	27.44	28.57	28.57	26.42	27.65	29.48	27.52	29.42	29.60
11	26.93	27.23	26.79	27.48	28.56	28.44	26.36	27.70	29.44	27.50	29.38	29.50
12	26.76	27.28	26.97	27.59	28.46	28.39	26.30	27.89	29.47	27.46	29.41	29.41
13	26.67	27.49	27.13	27.64	28.59	28.43	26.39	28.03	29.52	27.44	29.39	29.40
14	26.72	27.56	27.00	27.66	28.43	28.33	26.33	28.10	29.48	27.62	29.35	29.44
15	26.78	27.55	27.10	27.92	28.60	28.41	26.12	28.16	29.33	27.74	29.38	30.08
16	26.80	27.46	27.16	28.01	28.48	28.41	26.12	28.26	29.23	27.80	29.45	29.86
17	26.98	27.49	27.20	28.01	28.46	28.37	26.17	28.37	29.19	27.94	29.37	29.54
18	27.07	27.55	27.06	27.75	28.53	28.42	26.26	28.53	29.03	27.87	29.31	29.67
19	27.05	27.58	27.12	27.97	28.63	28.39	26.30	28.64	29.34	27.89	29.38	29.65
20	26.95	27.27	27.25	28.08	28.54	28.42	26.33	28.65	29.30	28.05	29.37	29.59
21	26.83	27.27	27.42	28.15	28.47	28.43	26.23	28.58	28.89	28.28	29.17	29.52
22	26.83	27.28	27.50	28.14	28.49	28.42	26.62	28.60	28.71	28.33	---	29.62
23	26.81	27.12	27.53	28.11	28.64	28.40	26.71	28.58	---	28.48	---	29.65
24	26.90	27.14	27.38	28.33	28.71	28.30	26.78	28.59	---	28.55	---	29.45
25	26.93	27.11	27.59	28.39	28.57	28.21	26.80	28.60	28.43	28.55	---	29.35
26	26.91	26.88	27.63	28.35	28.50	28.04	26.78	28.71	28.39	28.52	29.50	29.33
27	26.75	26.97	27.62	28.38	28.47	27.97	26.79	28.76	28.36	28.62	29.40	29.40
28	26.96	26.86	27.65	28.45	28.45	27.88	26.70	28.82	28.34	28.99	29.89	29.39
29	26.95	27.05	27.66	28.53	---	27.78	26.63	28.79	28.34	29.04	29.83	29.36
30	27.03	27.17	27.81	28.29	---	27.55	26.95	28.87	28.33	29.13	29.83	29.44
31	27.12	---	27.87	28.27	---	27.22	---	28.89	---	29.20	29.42	---
MEAN	27.08	27.23	27.27	27.96	28.48	28.30	26.60	28.11	29.05	28.10	29.39	29.55
MAX	28.16	27.58	27.87	28.53	28.71	28.58	27.40	28.89	29.52	29.20	29.89	30.08
MIN	26.67	26.86	26.79	27.44	28.10	27.22	26.12	26.95	28.33	27.44	29.10	29.33

WTR YR 1987 MEAN 28.07 HIGH 26.12 APR 15, 16 LOW 30.08 SEP 15

410538080280801. Local number, LA 1201.

LOCATION.--Lat 41°05'38", long 80°28'08", Hydrologic Unit 05030102, at State Game Land 150, near Pulaski.
Owner: U.S. Geological Survey.
AQUIFER.--Shale and sandstone of Connoquenessing Formation of Early Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 150 ft, cased to 30 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 1,040 ft, from topographic map. Measuring point: Top of plywood cover, 3.45 ft above land-surface datum.
REMARKS.--Missing record Aug. 21 to Sept. 30.
PERIOD OF RECORD.--November 1967 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.25 ft below land-surface datum, May 19, 1978; lowest, 22.94 ft below land-surface datum, Apr. 15, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.65	16.98	14.82	15.04	15.44	16.05	15.40	15.24	15.83	16.61	16.86	
2	17.30	17.00	14.77	15.13	15.44	15.83	15.01	15.33	15.84	16.34	16.85	
3	17.17	16.98	14.35	15.22	15.40	15.72	14.76	15.40	15.88	15.29	16.76	
4	16.63	16.90	13.95	15.32	15.34	15.64	14.53	15.47	15.93	14.71	16.24	
5	15.85	16.90	13.88	15.31	15.29	15.59	14.37	15.51	16.00	14.53	16.08	
6	15.53	16.95	14.02	15.32	15.20	15.55	14.12	15.56	16.06	14.58	16.13	
7	15.44	16.94	14.15	15.36	15.08	15.49	13.85	15.66	16.10	14.72	16.13	
8	15.46	16.91	14.22	15.35	14.98	15.46	13.78	15.71	16.16	14.83	16.17	
9	15.57	16.95	14.23	15.31	15.02	15.55	13.92	15.78	16.13	14.95	16.19	
10	15.65	16.96	14.30	15.25	15.01	15.62	14.09	15.85	16.20	15.11	16.04	
11	15.75	16.88	14.36	15.28	14.98	15.65	14.31	15.90	16.21	15.24	15.65	
12	16.18	16.93	14.53	15.31	14.98	15.91	14.44	16.03	16.18	15.38	15.52	
13	16.24	16.91	14.73	15.33	15.01	15.96	14.54	16.09	16.25	15.51	15.54	
14	16.17	16.77	14.82	15.32	15.06	15.96	14.63	16.14	16.29	15.62	15.59	
15	16.29	16.67	14.89	15.22	15.17	16.02	14.73	16.18	16.33	15.70	15.66	
16	16.38	16.63	15.06	15.12	15.21	16.06	14.79	16.23	16.40	15.85	15.73	
17	16.45	16.67	15.06	15.04	15.30	16.07	14.84	16.27	16.46	15.93	15.80	
18	16.53	16.65	15.04	15.00	15.42	15.99	14.95	16.27	16.54	16.02	15.90	
19	16.58	16.18	15.04	14.93	15.64	15.92	15.04	16.27	16.55	16.10	15.89	
20	16.61	15.76	15.05	14.70	15.80	15.81	15.17	16.33	16.55	16.16	15.95	
21	16.61	15.50	15.10	14.62	15.84	15.80	15.28	16.34	16.45	16.32	---	
22	16.63	15.36	15.14	14.60	15.88	15.84	15.36	16.34	16.42	16.34	---	
23	16.63	15.20	15.18	14.74	15.98	15.85	15.42	16.39	16.45	16.37	---	
24	16.65	15.16	15.19	14.89	16.06	15.91	15.40	16.43	16.51	16.44	---	
25	16.70	15.19	15.11	14.99	16.12	15.93	15.26	16.46	16.51	16.43	---	
26	16.69	15.12	14.95	15.09	16.13	16.01	15.19	16.50	16.52	16.55	---	
27	16.75	14.92	14.88	15.16	16.14	16.02	15.14	16.53	16.57	16.61	---	
28	16.80	14.72	14.85	15.30	16.14	16.07	15.10	16.56	16.64	16.69	---	
29	16.85	14.73	14.86	15.36	---	15.99	15.09	16.30	16.67	16.74	---	
30	16.95	14.81	14.96	15.31	---	15.98	15.16	16.00	16.68	16.78	---	
31	16.98	---	15.02	15.43	---	15.84	---	15.86	---	16.85	---	
MEAN	16.44	16.21	14.73	15.14	15.47	15.84	14.79	16.03	16.31	15.85	16.03	
MAX	17.65	17.00	15.19	15.43	16.14	16.07	15.42	16.56	16.68	16.85	16.86	
MIN	15.44	14.72	13.88	14.60	14.98	15.46	13.78	15.24	15.83	14.53	15.52	

WTR YR 1987 MEAN 15.70 HIGH 13.78 APR 8 LOW 17.65 OCT 1

413852078341401. Local number, MC 110.

LOCATION.--Lat 41°38'52", long 78°34'14", Hydrologic Unit 05010005, at State Forest Land.
Owner: U.S. Geological Survey.
AQUIFER.--Pottsville Formation of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in , depth 107 ft, cased to 28 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 2,050 ft, from topographic map. Measuring point: Top of casing, 2.1 ft above land-surface datum.
REMARKS.--Missing record Oct. 29 to Nov. 5, Dec. 26, 27, Feb. 28 to Mar. 2, and Sept. 9-22.
PERIOD OF RECORD.--August 1973 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 26.62 ft below land-surface datum, Apr. 12, 1974; lowest, 30.09 ft below land-surface datum, Aug. 8, 1973.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.33	---	27.05	26.95	27.21	---	26.95	26.70	26.98	27.17	27.25	27.38
2	27.38	---	27.05	27.06	27.45	---	26.90	26.71	26.99	27.12	27.24	27.44
3	27.38	---	26.77	27.16	27.60	27.46	26.96	26.81	27.01	26.92	27.23	27.56
4	27.18	---	26.90	27.21	27.64	27.52	26.85	26.89	27.04	26.88	27.25	27.58
5	27.18	---	27.02	27.19	27.58	27.52	26.75	26.89	27.04	26.87	27.33	27.56
6	27.28	27.32	27.02	27.04	27.32	27.42	26.73	26.85	27.05	26.87	27.38	27.49
7	27.28	27.34	27.01	27.06	27.24	27.34	26.67	26.76	27.05	26.81	27.40	27.41
8	27.27	27.34	26.91	27.12	27.42	27.17	26.65	26.77	27.05	26.79	27.40	27.38
9	27.30	27.29	26.89	27.09	27.45	27.15	26.65	26.78	27.04	26.81	27.36	---
10	27.32	27.38	26.83	26.97	27.45	27.26	26.65	26.78	27.25	26.79	27.39	---
11	27.31	27.31	26.83	27.07	27.30	27.26	26.63	26.78	27.26	26.81	27.42	---
12	27.23	27.28	26.75	27.29	27.38	27.15	26.62	26.86	27.22	26.80	27.43	---
13	27.07	27.40	27.01	27.28	27.41	27.10	26.80	26.94	27.11	26.78	27.47	---
14	26.99	27.40	27.01	27.34	27.51	27.08	26.81	26.93	27.15	26.77	27.47	---
15	27.10	27.24	26.87	27.44	27.51	27.08	26.77	26.88	27.17	26.84	27.47	---
16	27.11	27.08	26.87	27.44	27.45	27.13	26.72	26.91	27.20	26.94	27.44	---
17	27.29	27.10	26.87	27.37	27.46	27.11	26.66	26.90	27.29	27.00	27.38	---
18	27.35	27.11	26.78	27.13	27.55	27.10	26.78	26.83	27.30	27.00	27.41	---
19	27.34	27.25	26.81	27.26	27.55	27.06	26.85	26.82	27.30	26.99	27.42	---
20	27.24	27.22	26.92	27.30	27.48	26.99	26.89	26.88	27.24	27.00	27.51	---
21	27.13	27.14	27.01	27.29	27.35	26.95	26.89	26.92	27.16	27.05	27.53	---
22	27.09	27.17	27.01	27.17	27.45	27.00	26.87	26.92	27.13	27.05	27.50	---
23	27.16	27.16	27.01	27.40	27.56	27.06	26.87	26.92	27.17	27.05	27.49	26.97
24	27.18	27.17	27.01	27.42	27.59	27.06	26.93	26.96	27.31	27.06	27.54	26.98
25	27.18	27.21	26.76	27.36	27.59	27.08	26.98	26.97	27.27	27.15	27.55	27.06
26	27.08	27.18	---	27.36	27.58	27.07	26.99	27.01	27.18	27.07	27.54	27.09
27	27.04	27.05	---	27.38	27.47	27.07	26.86	27.03	27.13	27.12	27.46	27.18
28	27.05	27.05	27.06	27.39	---	27.07	26.79	27.04	27.22	27.18	27.38	27.18
29	---	27.05	27.02	27.16	---	27.07	26.77	27.01	27.24	27.22	27.50	27.14
30	---	27.04	27.06	27.35	---	27.03	26.71	26.99	27.18	27.22	27.52	26.96
31	---	---	27.06	27.35	---	26.89	---	26.98	---	27.25	27.47	---
MEAN	27.21	27.21	26.94	27.24	27.46	27.15	26.80	26.88	27.16	26.98	27.42	27.27
MAX	27.38	27.40	27.06	27.44	27.64	27.52	26.99	27.04	27.31	27.25	27.55	27.58
MIN	26.99	27.04	26.75	26.95	27.21	26.89	26.62	26.70	26.98	26.77	27.23	26.96

WTR YR 1987 MEAN 27.13 HIGH 26.62 APR 12 LOW 27.64 FEB 4

412350080223701. Local number, MR 1364.

LOCATION.--Lat 41°23'50", long 80°22'37", Hydrologic Unit 05030102, at Greenville.
Owner: Borough of Greenville.
AQUIFER.--Sandstone of Cussewago Formation of Early Mississippian age.
WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in, depth 235 ft, cased to 41 ft, open hole.
INSTRUMENTATION.--Continuous stript-chart recorder.
DATUM.--Elevation of land-surface datum is 965 ft, from topographic map. Measuring point: Top of plywood cover, 2.26 ft above land-surface datum.
REMARKS.--None.
PERIOD OF RECORD.--March 1964 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.43 ft below land-surface datum, Dec. 25, 1968; lowest, 8.31 ft below land-surface datum, Feb. 12, 1967.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.60	4.83	4.54	4.11	4.45	4.81	4.45	4.67	5.30	5.29	5.22	4.93
2	4.30	4.71	4.27	4.16	4.44	4.78	4.37	4.59	5.13	5.19	5.04	5.01
3	4.14	4.86	3.59	4.41	4.58	4.82	4.16	4.65	5.32	4.68	4.86	5.10
4	3.83	4.72	3.60	4.77	4.70	4.79	4.08	4.86	5.32	4.54	4.90	4.94
5	3.78	4.71	3.74	4.49	4.70	4.86	4.08	4.85	5.21	4.58	4.87	4.91
6	4.32	4.67	3.82	4.25	4.87	4.93	3.87	5.03	5.27	4.90	4.98	4.86
7	4.23	4.77	3.83	4.39	4.60	4.92	3.61	4.81	5.33	4.81	5.04	4.99
8	4.38	4.71	3.86	4.24	4.60	4.91	3.54	4.92	5.20	4.93	4.97	4.95
9	4.28	4.92	3.76	4.32	4.78	4.87	3.75	4.86	5.20	4.93	5.03	4.70
10	4.54	4.90	3.78	4.19	4.70	5.06	3.90	5.09	5.42	4.83	5.03	4.90
11	4.41	4.67	3.74	4.27	4.79	5.05	4.06	5.33	5.42	5.07	4.95	4.72
12	4.47	4.62	3.88	4.40	4.70	5.19	4.24	5.14	5.21	5.20	5.23	4.41
13	4.46	4.86	4.28	4.45	4.80	5.10	4.31	5.18	5.32	5.04	5.15	4.13
14	4.62	4.88	4.28	4.32	4.71	4.96	4.22	4.97	5.34	5.01	5.17	4.28
15	4.37	4.60	4.01	4.26	4.80	4.97	4.19	5.05	5.21	4.96	5.48	4.33
16	4.49	4.65	4.20	4.34	4.80	5.01	4.04	5.02	5.42	4.88	5.32	4.36
17	4.35	4.75	4.18	4.26	4.80	4.93	4.18	5.04	5.48	5.13	5.50	4.21
18	4.64	4.72	3.93	4.44	4.99	4.81	4.40	5.08	5.57	5.13	5.50	4.27
19	4.41	4.55	4.05	4.15	5.10	5.00	4.67	4.87	5.56	5.05	5.51	4.28
20	4.45	4.35	4.07	4.13	4.99	4.91	5.02	4.90	5.47	5.32	5.37	4.21
21	4.33	4.50	4.26	4.21	4.73	4.99	4.63	4.93	4.94	5.36	5.32	4.13
22	4.51	4.44	4.28	4.12	4.90	4.96	4.58	4.93	4.88	5.36	5.06	4.21
23	4.44	4.53	4.44	4.40	5.26	5.26	5.01	5.25	4.93	5.40	5.10	4.42
24	4.55	4.76	4.09	4.46	5.20	4.98	4.52	5.26	5.00	5.41	5.07	4.54
25	4.51	4.56	3.94	4.55	5.33	4.91	4.55	5.20	5.03	5.33	5.01	4.62
26	4.44	4.52	3.99	4.50	5.33	5.04	4.94	5.10	4.98	5.25	5.25	4.77
27	4.72	4.05	4.26	4.47	5.16	5.06	4.64	5.22	5.16	5.47	4.98	4.93
28	4.47	4.11	4.21	4.50	4.94	5.01	4.37	5.30	5.33	5.37	4.86	4.89
29	4.50	4.27	4.44	4.45	---	5.13	4.24	5.20	5.16	5.24	5.05	4.89
30	4.84	4.23	4.11	4.37	---	4.99	4.57	5.00	5.23	5.25	5.12	4.59
31	4.68	---	4.19	4.61	---	4.61	---	5.25	---	5.27	4.96	---
MEAN	4.42	4.61	4.05	4.35	4.85	4.96	4.31	5.02	5.24	5.10	5.13	4.62
MAX	4.84	4.92	4.54	4.77	5.33	5.26	5.02	5.33	5.57	5.47	5.51	5.10
MIN	3.78	4.05	3.59	4.11	4.44	4.61	3.54	4.59	4.88	4.54	4.86	4.13

WTR YR 1987 MEAN 4.72 HIGH 3.54 APR 8 LOW 5.57 JUN 18

SOMERSET COUNTY

400008079142801. Local number, SO 2.

LOCATION.--Lat 40°00'08", long 79°14'28", Hydrologic Unit 05020006, at Laurel Hill State Park.
Owner: Commonwealth of Pennsylvania.
AQUIFER.--Shale and sandstone of Allegheny Group of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled artesian well, diameter 6 in to 4 in, depth 450 ft, cased to 311 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 2,040 ft, from topographic map. Measuring point: Top of casing, 1.43 ft above land-surface datum.
REMARKS.--Missing record Jan. 21, and Feb. 15-22. Water levels affected by pumping.
PERIOD OF RECORD.--April 1937 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.42 ft below land-surface datum, Apr. 9, 1980; lowest, 50.33 ft below land-surface datum, May 31, 1987 (affected by pumping of nearby well).

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.92	38.58	34.57	36.18	33.77	34.59	45.42	48.08	50.32	43.05	38.59	37.09
2	36.86	38.39	34.52	36.06	33.71	34.81	45.54	48.09	50.27	42.76	38.52	37.07
3	36.86	38.19	34.36	36.00	33.74	34.93	45.65	48.20	50.23	42.51	38.46	37.07
4	36.87	37.98	34.34	35.91	33.79	34.98	45.74	48.28	50.10	42.30	38.25	37.07
5	37.01	37.76	34.34	35.81	33.81	35.06	45.85	48.35	49.98	42.08	38.24	37.06
6	37.07	37.48	34.34	35.64	33.80	35.34	45.98	48.44	49.79	41.86	38.11	37.01
7	37.07	37.35	34.31	35.59	33.74	35.71	46.09	48.49	49.62	41.65	38.07	36.89
8	37.04	37.16	34.24	35.52	33.65	36.11	46.23	48.58	49.42	41.47	38.01	36.85
9	37.02	36.84	34.17	35.25	33.70	36.69	46.34	48.67	49.18	41.23	37.95	36.72
10	37.20	36.68	34.03	35.18	33.71	37.84	46.45	48.77	48.93	41.09	37.86	36.72
11	37.52	36.54	34.02	35.16	33.69	38.86	46.67	48.84	48.73	40.84	37.83	36.72
12	37.70	36.34	34.04	35.14	33.63	39.35	46.77	48.92	48.44	40.69	37.79	36.71
13	37.92	36.19	34.44	35.05	33.63	39.87	46.83	49.03	48.10	40.48	37.76	36.66
14	38.17	36.09	35.08	34.99	33.65	40.32	46.83	49.11	47.81	40.29	37.73	36.65
15	38.20	35.95	35.46	34.97	---	40.80	47.88	49.17	47.54	40.11	37.70	36.64
16	38.20	35.79	36.08	34.82	---	41.27	46.93	49.28	47.24	39.97	37.64	36.60
17	38.19	35.70	36.56	34.73	---	41.69	46.94	49.36	46.98	39.84	37.59	36.55
18	38.16	35.57	36.88	34.65	---	42.13	47.08	49.43	46.69	39.71	37.51	36.43
19	38.07	35.41	37.14	34.63	---	42.43	47.14	49.48	46.39	39.59	37.51	36.40
20	37.97	35.37	37.28	34.52	---	43.80	47.28	49.58	46.10	39.43	37.49	36.37
21	38.02	35.18	37.31	---	---	44.29	47.37	49.68	45.71	39.31	37.49	36.33
22	38.16	35.13	37.29	34.17	---	44.54	47.51	49.74	45.39	39.19	37.46	36.32
23	38.20	35.08	37.20	34.08	33.71	42.85	47.52	49.97	45.01	39.08	37.40	36.21
24	38.28	34.92	36.99	34.07	33.75	43.18	47.27	49.87	44.85	39.14	37.33	36.15
25	38.41	34.92	36.88	34.04	33.80	43.79	47.69	50.01	44.61	39.29	37.40	36.18
26	38.53	34.87	36.79	33.98	33.87	44.07	47.79	50.08	44.32	39.17	37.38	36.17
27	38.70	34.68	36.66	33.98	34.16	44.36	47.82	50.08	44.00	39.01	37.31	36.15
28	38.80	34.67	36.51	33.93	34.43	44.61	47.85	50.13	43.76	38.92	37.28	36.15
29	38.80	34.62	36.52	33.93	---	44.72	47.90	50.23	43.53	38.85	37.10	36.10
30	38.75	34.58	36.46	33.82	---	44.95	48.00	50.30	43.26	38.76	37.14	35.97
31	38.69	---	36.39	33.77	---	45.17	---	50.33	---	38.66	37.12	---
MEAN	37.85	36.13	35.65	34.85	33.79	40.42	46.88	49.24	47.21	40.33	37.71	36.57
MAX	38.80	38.58	37.31	36.18	34.43	45.17	48.00	50.33	50.32	43.05	38.59	37.09
MIN	36.86	34.58	34.02	33.77	33.63	34.59	45.42	48.08	43.26	38.66	37.10	35.97

WTR YR 1987 MEAN 39.89 HIGH 33.63 FEB 12, 13 LOW 50.33 MAY 31

414159079213601. Local number, WR 50.

LOCATION.--Lat 41°41'59", long 79°21'36", Hydrologic Unit 05010003, at State Game Land Number 86.
Owner: U.S. Geological Survey.
AQUIFER.--Shale of Venango Formation of late Devonian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in depth 105 ft , cased to 46 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 1,170 ft, from topographic map. Measuring point: Top of casing, 2.0 ft above land-surface datum.
REMARKS.--Missing record Nov. 1-21, July 28-31, and Sept. 16-30. Well also sampled for water quality.
PERIOD OF RECORD.--August 1972 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 39.49 ft below land-surface datum, Aug. 2, 1987; lowest, 45.42 ft below land-surface datum, Nov. 2, 1984.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42.11	---	41.66	40.84	41.52	42.10	41.17	40.43	41.04	41.99	39.52	40.99
2	42.02	---	41.61	40.70	41.45	41.80	41.05	40.45	41.06	41.92	39.49	41.09
3	41.99	---	41.26	40.70	41.60	41.97	41.07	40.55	41.05	41.74	39.50	41.22
4	41.74	---	41.20	40.89	41.86	42.10	40.96	40.66	41.12	41.71	39.53	41.27
5	41.57	---	41.33	41.08	41.92	42.13	40.71	40.69	41.18	41.74	39.66	41.30
6	41.59	---	41.31	41.07	41.90	42.13	40.64	40.68	41.26	41.75	39.77	41.30
7	41.60	---	41.29	40.93	41.76	42.03	40.50	40.59	41.27	41.67	39.83	41.28
8	41.59	---	41.17	41.01	41.61	41.83	40.39	40.62	41.25	41.60	39.86	41.24
9	41.62	---	41.04	41.04	41.81	41.67	40.35	40.65	41.32	41.58	39.84	41.13
10	41.66	---	40.85	40.96	41.86	41.83	40.32	40.67	41.45	41.54	39.96	41.19
11	41.65	---	40.83	40.89	41.88	41.85	40.25	40.72	41.51	41.52	40.04	41.19
12	41.62	---	40.75	41.02	41.82	41.83	40.24	40.81	41.45	41.50	40.11	41.15
13	41.49	---	41.02	41.19	41.88	41.81	40.39	40.92	41.39	41.44	40.20	41.00
14	41.35	---	41.00	41.18	41.93	41.77	40.40	40.96	41.46	41.41	40.25	41.00
15	41.43	---	40.93	41.22	42.07	41.72	40.33	40.91	41.52	41.48	40.26	41.03
16	41.45	---	40.91	41.34	42.07	41.77	40.25	40.94	41.61	41.57	40.27	---
17	41.56	---	40.91	41.33	42.02	41.77	40.19	40.91	41.74	41.63	40.26	---
18	41.69	---	40.79	41.27	42.07	41.75	40.32	40.88	41.80	41.64	40.41	---
19	41.67	---	40.78	41.10	42.19	41.68	40.42	40.89	41.81	41.66	40.50	---
20	41.65	---	40.89	41.14	42.24	41.62	40.45	40.97	41.81	41.68	40.63	---
21	41.54	---	41.04	41.23	42.12	41.61	40.46	41.01	41.76	41.76	40.68	---
22	41.55	41.89	41.05	41.24	42.13	41.69	40.46	41.01	41.74	41.78	40.75	---
23	41.55	41.87	40.97	41.08	42.12	41.73	40.47	41.02	41.79	41.73	40.89	---
24	41.64	41.76	40.94	41.35	42.25	41.71	40.56	41.04	41.87	41.75	40.98	---
25	41.67	41.78	40.74	41.43	42.35	41.70	40.62	41.06	41.91	41.78	41.04	---
26	41.63	41.69	40.85	41.46	42.40	41.58	40.66	41.07	41.87	41.77	41.06	---
27	41.55	41.57	40.89	41.46	42.37	41.58	40.64	41.07	41.94	41.82	40.88	---
28	41.67	41.56	40.89	41.52	42.32	41.57	40.47	41.06	42.06	---	40.83	---
29	41.71	41.55	40.84	41.55	---	41.60	40.45	41.05	42.11	---	40.95	---
30	41.86	41.65	40.74	41.41	---	41.59	40.38	41.05	42.03	---	40.98	---
31	41.95	---	40.85	41.52	---	41.46	---	41.02	---	---	40.98	---
MEAN	41.66	41.70	41.01	41.17	41.98	41.77	40.52	40.85	41.57	41.67	40.32	41.16
MAX	42.11	41.89	41.66	41.55	42.40	42.13	41.17	41.07	42.11	41.99	41.06	41.30
MIN	41.35	41.55	40.74	40.70	41.45	41.46	40.19	40.43	41.04	41.41	39.49	40.99

WTR YR 1988 MEAN 41.25 HIGH 39.49 AUG 2 LOW 42.40 FEB 26

400233080261301. Local number, WS 155.

LOCATION.--Lat 40°02'33", long 80°26'13", Hydrologic Unit 05030106, near Good Intent.
Owner: U.S. Geological Survey.
AQUIFER.--Washington Formation of Early Permian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 160 ft, cased to 19 ft, open hole.
INSTRUMENTATION.--Water-level recorder.
DATUM.--Elevation of land-surface datum is 1,110 ft, from topographic map. Measuring point: Top of casing, 2.0 ft above land-surface datum.
REMARKS.--Missing record Dec. 30 to Jan. 21, Jan. 27 to Feb. 26, Mar. 16-23, Apr. 20, and July 5, 6.
PERIOD OF RECORD.--July 1971 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 32.25 ft below land-surface datum, Jan. 14, 1974; lowest, 39.01 ft below land-surface datum, July 11, 1971.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.39	36.27	35.10	---	---	36.32	35.58	35.17	35.78	36.12	36.92	35.95
2	36.18	36.22	35.10	---	---	36.34	35.16	35.27	35.64	36.03	37.02	36.01
3	36.14	36.22	34.70	---	---	36.37	35.03	35.36	35.47	35.96	37.02	36.06
4	35.99	36.16	34.59	---	---	36.41	34.75	35.36	35.57	35.99	37.02	36.10
5	35.69	36.13	34.72	---	---	36.41	34.70	35.31	35.64	36.05	37.02	36.14
6	35.85	35.94	34.82	---	---	36.40	34.69	35.24	35.73	---	36.69	36.12
7	35.89	35.94	34.90	---	---	36.40	34.54	35.29	35.75	36.09	36.61	36.04
8	35.92	35.92	34.97	---	---	36.34	34.28	35.37	35.79	36.13	36.54	35.84
9	36.02	35.45	34.97	---	---	36.38	34.06	35.41	35.81	36.16	36.51	35.63
10	36.05	35.14	34.89	---	---	36.46	34.04	35.47	35.84	36.16	36.62	35.71
11	36.07	35.02	34.73	---	---	36.46	34.25	35.52	35.84	36.17	36.66	35.77
12	36.05	34.97	34.83	---	---	36.50	34.44	35.65	35.82	36.16	36.74	35.79
13	36.02	35.11	35.03	---	---	36.51	34.66	35.69	35.68	36.16	36.81	35.87
14	36.02	35.13	35.07	---	---	36.51	34.71	35.73	35.42	36.11	36.86	35.90
15	36.04	35.15	35.14	---	---	36.55	34.78	35.80	35.52	36.12	36.93	35.91
16	36.04	35.27	35.23	---	---	---	34.85	35.82	35.63	36.13	36.96	35.91
17	36.15	35.39	35.23	---	---	---	34.99	35.83	35.76	36.18	37.02	35.91
18	36.20	35.47	35.31	---	---	---	35.10	35.85	35.80	36.18	37.10	35.82
19	36.20	35.58	35.39	---	---	---	35.22	35.60	35.84	36.22	37.16	35.75
20	36.19	35.58	35.52	---	---	---	---	35.10	35.86	36.25	37.24	35.75
21	36.17	35.54	35.60	---	---	---	35.32	35.07	35.84	36.29	37.24	35.80
22	36.18	35.54	35.60	35.64	---	---	35.36	35.17	35.84	36.32	37.22	35.81
23	36.20	35.49	35.60	35.71	---	---	35.39	35.31	35.88	36.35	36.91	35.81
24	36.20	35.58	35.50	35.89	---	36.12	35.35	35.40	35.93	36.45	36.63	35.83
25	36.20	35.60	35.16	35.90	---	36.10	35.00	35.47	35.93	36.47	36.46	35.90
26	36.13	35.52	34.93	36.03	---	36.03	34.81	35.57	35.96	36.53	36.37	35.95
27	36.12	35.23	34.87	---	36.53	36.03	34.81	35.58	36.00	36.62	36.22	36.00
28	36.19	34.90	34.92	---	36.52	36.02	34.93	35.61	36.08	36.70	36.19	36.02
29	36.19	34.89	34.99	---	---	36.03	34.95	35.67	36.09	36.77	36.02	36.02
30	36.26	35.06	35.01	---	---	35.97	35.12	35.71	36.12	36.83	35.94	35.89
31	36.27	---	---	---	---	35.82	---	35.76	---	36.89	35.92	---
MEAN	36.10	35.51	35.08	35.83	36.53	36.28	34.86	35.49	35.80	36.29	36.73	35.90
MAX	36.39	36.27	35.60	36.03	36.53	36.55	35.58	35.85	36.12	36.89	37.24	36.14
MIN	35.69	34.89	34.59	35.64	36.52	35.82	34.04	35.07	35.42	35.96	35.92	35.63

WTR YR 1987 MEAN 35.80 HIGH 34.04 APR 10 LOW 37.24 AUG 20, 21

402138079031802. Local number, WE 300.

LOCATION.--Lat 40°21'38", long 79°03'18", Hydrologic Unit 05010007, at State Game Land Number 42.
Owner: U.S. Geological Survey.
AQUIFER.--Shale of Clarion Formation of Middle Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 110 ft, cased to 22 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface datum is 1,270 ft, from topographic map. Measuring point: Top of plywood cover, 3.05 ft above land-surface datum.
REMARKS.--None.
PERIOD OF RECORD.--February 1968 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.61 ft below land-surface datum, Apr. 24, 1984; lowest, 29.22 ft below land-surface datum, July 3, 1968.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.65	17.76	16.25	15.80	15.44	15.53	15.60	14.42	15.27	16.69	16.82	17.72
2	18.62	17.64	15.95	15.71	15.31	15.66	15.43	14.37	15.32	16.63	16.89	17.72
3	18.57	17.60	15.89	16.02	15.61	15.84	15.46	14.51	15.40	16.59	16.95	17.76
4	18.48	17.58	16.07	16.09	15.83	15.93	15.04	14.57	15.54	16.47	17.01	17.75
5	18.39	17.57	16.19	16.12	15.86	15.89	14.84	14.52	15.65	16.46	17.12	17.73
6	18.33	17.57	16.15	15.98	15.59	15.84	14.74	14.27	15.75	16.39	17.21	17.70
7	18.26	17.57	16.02	15.94	15.24	15.67	14.61	14.07	15.74	16.32	17.25	17.68
8	18.13	17.47	15.93	15.99	15.22	15.39	14.58	14.13	15.74	16.18	17.26	17.65
9	18.02	17.26	15.77	15.97	15.45	15.33	14.60	14.16	15.90	16.10	17.23	17.64
10	17.99	17.22	15.87	15.68	15.44	15.54	14.62	14.17	16.04	16.01	17.37	17.65
11	17.94	16.89	15.84	15.70	15.45	15.55	14.55	14.23	16.02	15.96	17.37	17.58
12	17.86	16.71	15.93	15.89	15.34	15.46	14.62	14.43	15.93	15.94	17.41	17.52
13	17.78	16.80	16.14	16.00	15.40	15.46	14.83	14.58	16.02	15.88	17.46	17.45
14	17.77	16.79	16.03	15.93	15.46	15.41	14.77	14.60	16.11	15.97	17.49	17.48
15	17.78	16.46	15.91	16.00	15.66	15.43	14.59	14.72	16.18	16.02	17.52	17.47
16	17.74	16.33	15.90	16.07	15.61	15.51	14.42	14.81	16.26	16.00	17.51	17.44
17	17.77	16.42	15.89	15.99	15.53	15.53	14.40	14.81	16.40	16.07	17.55	17.41
18	17.81	16.51	15.77	15.74	15.78	15.47	14.58	14.86	16.46	16.00	17.59	17.35
19	17.76	16.70	15.89	15.50	15.93	15.32	14.67	15.01	16.46	16.01	17.66	17.28
20	17.68	16.60	16.01	15.52	15.95	15.29	14.68	15.15	16.47	16.05	17.73	17.17
21	17.58	16.46	16.16	15.52	15.76	15.33	14.60	15.21	16.48	16.15	17.68	16.96
22	17.61	16.49	16.08	15.30	15.67	15.48	14.57	15.21	16.54	16.20	17.72	16.87
23	17.60	16.37	16.04	15.42	15.92	15.53	14.59	15.19	16.60	16.25	17.75	16.73
24	17.64	16.41	15.88	15.64	16.05	15.52	14.72	15.23	16.66	16.35	17.77	16.60
25	17.65	16.43	15.92	15.63	16.10	15.50	14.80	15.25	16.59	16.38	17.80	16.63
26	17.59	16.15	15.97	15.54	16.15	15.58	14.79	15.34	16.46	16.43	17.79	16.62
27	17.63	16.24	15.98	15.56	16.11	15.60	14.68	15.41	16.55	16.51	17.75	16.64
28	17.74	16.20	15.92	15.64	15.95	15.69	14.44	15.42	16.65	16.61	17.77	16.65
29	17.73	16.14	15.86	15.67	---	15.70	14.41	15.35	16.68	16.66	17.83	16.57
30	17.80	16.23	15.79	15.34	---	15.48	14.43	15.28	16.70	16.72	17.82	16.54
31	17.80	---	15.91	15.63	---	15.56	---	15.23	---	16.79	17.74	---
MEAN	17.93	16.82	15.96	15.76	15.67	15.55	14.72	14.79	16.15	16.28	17.48	17.27
MAX	18.65	17.76	16.25	16.12	16.15	15.93	15.60	15.42	16.70	16.79	17.83	17.76
MIN	17.58	16.14	15.77	15.30	15.22	15.29	14.40	14.07	15.27	15.88	16.82	16.54

WTR YR 1987 MEAN 16.20 HIGH 14.07 MAY 7 LOW 18.65 OCT 1

INDIANA COUNTY

404541079082001. Local number, IN 120.

LOCATION.--Lat 40°45'41", long 79°08'20", Hydrologic Unit 05010006, near Home.
Owner: James McMillan.
AQUIFER.--Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled well, diameter 6 in, depth 69 ft, cased to 15 ft, open hole.
INSTRUMENTATION.--Water-level recorder.
DATUM.--Elevation of land-surface datum is 1140 ft, from topographic map. Measuring point: Top of casing, 1.20 ft above land-surface datum.
REMARKS.--None.
PERIOD OF RECORD.--October 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.32 ft below land-surface datum, Apr. 6, 1987; lowest 19.29 ft below land-surface datum, Aug. 21, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.93	18.95	17.81	18.11	18.44	18.63	18.03	18.16	18.55	18.59	19.25	18.84
2	18.94	18.90	17.77	18.12	18.34	18.43	17.84	18.22	18.59	18.18	19.14	18.91
3	18.89	18.86	17.41	18.34	18.34	18.38	17.82	18.24	18.61	17.83	19.07	18.98
4	17.98	18.90	17.50	18.40	18.41	18.44	17.66	---	18.64	17.87	---	19.09
5	17.87	18.86	17.71	18.48	18.39	18.42	17.33	---	18.90	17.93	19.13	19.09
6	18.00	18.76	17.73	18.39	18.25	18.40	17.32	---	18.88	18.01	19.20	19.00
7	18.07	18.75	17.76	18.39	18.24	18.42	17.48	---	18.74	17.75	19.23	18.96
8	18.14	18.71	17.79	18.43	18.15	18.25	17.52	18.10	18.85	17.71	19.24	18.83
9	18.27	18.21	17.69	18.43	18.40	18.36	17.72	18.19	18.68	17.81	19.16	18.57
10	18.36	18.06	17.64	18.35	18.41	18.47	17.76	18.25	18.76	17.85	18.89	18.60
11	18.51	17.93	17.59	18.43	18.41	18.50	17.92	18.28	18.74	17.95	18.97	18.59
12	18.46	17.80	17.70	18.46	18.40	18.54	17.88	18.40	18.61	17.94	18.94	17.91
13	18.44	18.02	17.99	18.58	18.45	18.54	18.00	18.46	18.55	17.99	18.96	17.79
14	18.46	17.99	17.95	18.51	18.54	18.56	18.02	18.48	18.58	18.09	18.97	17.98
15	18.51	17.95	18.03	18.40	18.63	18.59	17.96	18.45	18.63	18.23	18.98	18.00
16	18.54	17.98	18.05	18.37	18.63	18.62	17.90	18.80	18.69	18.65	19.02	18.03
17	18.64	18.09	18.09	18.35	18.63	18.64	17.89	18.57	18.80	18.50	19.06	18.12
18	18.78	18.11	18.10	18.24	18.71	18.61	17.99	18.56	18.84	18.57	19.13	18.05
19	18.75	18.08	18.14	18.12	18.82	18.61	18.06	18.35	18.83	18.60	19.14	18.14
20	18.73	18.04	18.27	17.99	18.84	18.65	18.20	18.42	18.86	18.72	19.25	18.09
21	18.74	17.93	18.35	17.95	18.85	18.75	18.19	18.38	18.83	18.76	19.29	18.03
22	18.79	18.05	18.41	17.85	18.75	18.77	18.27	18.43	18.75	18.80	19.19	18.03
23	18.80	17.97	18.37	17.96	18.87	18.79	18.27	18.58	18.53	18.81	19.12	18.11
24	18.87	18.09	18.31	18.14	18.96	18.79	18.15	18.59	18.59	19.02	19.14	18.09
25	18.90	18.12	18.03	18.16	19.06	18.74	18.18	18.72	18.56	18.96	19.18	18.23
26	18.79	18.02	18.06	18.25	19.00	18.65	18.12	18.67	18.49	18.89	19.13	18.39
27	18.75	17.40	18.03	18.31	18.96	18.59	18.05	18.53	18.58	19.25	19.04	18.46
28	18.87	17.50	18.01	18.41	18.91	18.62	17.98	18.55	18.61	19.15	19.07	18.53
29	18.83	17.60	17.96	18.41	---	18.57	17.93	18.66	18.68	19.06	18.93	18.48
30	18.94	17.77	18.03	18.26	---	18.46	18.13	18.72	18.71	19.10	18.91	18.35
31	18.95	---	18.13	18.45	---	18.23	---	18.59	---	19.17	18.87	---
MEAN	18.60	18.18	17.95	18.29	18.60	18.55	17.92	18.46	18.69	18.44	19.09	18.41
MAX	18.95	18.95	18.41	18.58	19.06	18.79	18.27	18.80	18.90	19.25	19.29	19.09
MIN	17.87	17.40	17.41	17.85	18.15	18.23	17.32	18.10	18.49	17.71	18.87	17.79

WTR YR 1987 MEAN 18.43 HIGH 17.32 APR 6 LOW 19.29 AUG 21

404723079105201. Local number, IN 121.

LOCATION.--Lat 40°47'23", long 79°10'52", Hydrologic Unit 05010006, at Plumville.
Owner: Fred Tost.
AQUIFER.--Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled well, diameter 6 in, depth 49 ft, cased to 20 ft, open hole.
INSTRUMENTATION.--Water-level recorder.
DATUM.--Elevation of land-surface datum is 1210 ft, from topographic map. Measuring point: Top of recorder shelf, 1.60 ft above land-surface datum.
REMARKS.--None.
PERIOD OF RECORD.--October 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.89 ft below land-surface datum, Apr. 5, 1987; lowest 38.63 ft below land-surface datum, Aug. 2, 3, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35.62	34.81	32.12	---	32.45	35.00	28.91	31.59	32.63	35.26	38.43	32.85
2	32.50	34.93	32.13	---	32.46	31.23	29.23	31.97	32.68	30.27	38.63	33.48
3	32.53	34.98	31.27	---	32.23	31.29	29.77	32.15	32.75	29.47	38.63	33.97
4	30.07	35.05	30.69	---	32.18	31.68	29.85	30.32	33.07	31.41	---	34.37
5	30.68	35.01	31.28	---	32.16	32.17	27.89	30.77	33.56	32.20	37.65	34.74
6	31.93	34.82	31.83	---	32.16	32.18	29.01	31.35	33.94	32.37	33.89	34.89
7	32.14	33.03	32.12	---	32.15	32.18	30.10	31.68	34.22	32.31	34.13	34.42
8	32.25	32.61	32.13	---	32.17	32.17	30.75	31.93	34.51	32.15	34.61	34.00
9	32.50	31.54	32.12	32.51	32.22	32.11	31.09	32.14	34.49	32.30	34.50	31.99
10	32.74	30.70	30.62	32.49	32.27	32.17	31.61	32.14	32.66	32.50	31.83	32.27
11	33.15	30.99	31.13	32.48	32.31	32.22	31.92	32.18	33.06	32.46	32.17	32.45
12	33.58	31.05	31.47	32.54	32.31	32.24	32.03	32.21	33.27	32.59	32.52	28.45
13	33.69	31.88	31.69	32.61	32.36	32.26	31.36	32.29	32.66	32.83	32.96	30.78
14	33.51	32.12	---	32.63	32.46	32.30	31.29	32.46	32.66	32.95	33.67	31.72
15	32.62	32.15	---	32.52	32.64	32.33	31.28	32.51	33.00	33.12	34.12	32.16
16	32.91	32.18	---	31.82	32.90	32.35	31.07	32.35	33.46	33.49	34.46	32.25
17	33.30	32.22	---	31.92	33.16	32.43	30.84	32.61	33.93	33.88	34.85	32.32
18	33.66	32.25	---	32.14	33.40	32.47	31.07	32.83	34.30	34.17	34.84	32.33
19	33.92	32.11	---	32.14	33.71	32.49	31.27	32.75	34.64	34.43	34.98	32.44
20	34.19	31.95	---	30.93	33.99	32.53	31.76	32.30	34.96	34.75	35.80	32.44
21	34.46	31.74	---	31.28	34.25	32.60	32.09	32.44	35.03	35.01	36.52	32.27
22	34.80	31.60	---	31.45	34.34	32.67	32.11	32.61	35.15	35.37	36.71	32.35
23	35.04	32.11	---	32.09	34.40	32.77	32.13	32.82	35.05	36.00	34.33	32.31
24	35.48	32.13	---	32.17	34.46	32.86	32.07	33.15	34.25	36.47	33.58	32.51
25	35.91	32.15	---	32.20	34.51	32.90	29.82	33.61	34.79	36.83	34.12	32.65
26	35.99	32.16	---	32.26	34.77	32.17	30.87	33.88	35.00	37.13	34.44	32.84
27	35.71	28.46	---	32.31	35.01	31.40	31.24	33.81	34.93	37.41	34.40	33.05
28	35.39	30.63	---	32.40	35.03	31.36	31.11	32.93	34.90	37.72	34.49	33.43
29	35.02	31.34	---	32.41	---	31.56	31.18	33.43	35.28	37.96	33.00	33.67
30	34.72	32.11	---	32.42	---	31.83	31.40	33.46	35.51	38.08	32.51	33.67
31	34.75	---	---	32.43	---	31.27	---	33.47	---	38.20	32.77	---
MEAN	33.70	32.36	31.58	32.18	33.16	32.23	30.87	32.46	34.01	34.23	34.65	32.77
MAX	35.99	35.05	32.13	32.63	35.03	35.00	32.13	33.88	35.51	38.20	38.63	34.89
MIN	30.07	28.46	30.62	30.93	32.15	31.23	27.89	30.32	32.63	29.47	31.83	28.45

WTR YR 1987 MEAN 32.93 HIGH 27.89 APR 5 LOW 38.63 AUG 2, 3

INDIANA COUNTY

403511079125501. Local number, IN 364.

LOCATION.--Lat 40°35'11", long 79°12'55", Hydrologic Unit 05010007, near Indiana.
Owner: T. Graham.
AQUIFER.--Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled well, diameter 6 in, depth 150 ft, cased to 20 ft, open hole.
INSTRUMENTATION.--Water-level recorder.
Datum.--Elevation of land-surface datum is 1320 ft, from topographic map. Measuring point: Top of recorder shelf, 1.36 ft above land-surface datum.
REMARKS.--None.
PERIOD OR RECORD.--October 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.80 ft below land-surface datum, Sept. 18, 1987; lowest 18.13 ft below land-surface datum, Oct. 10, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	18.06		---	17.11	17.21	10.20	13.93	16.06	17.14	17.53	17.19
2	---	18.05		---	17.11	17.04	10.87	13.95	16.05	17.15	17.53	17.17
3	17.23	18.05		---	17.00	16.94	11.20	13.98	16.03	17.15	17.52	17.16
4	16.60	---		---	16.97	16.87	11.19	14.56	16.03	17.09	17.51	17.27
5	17.19	---		---	16.99	16.81	8.03	15.05	16.05	17.01	17.56	17.30
6	17.54	---		---	16.99	16.75	11.57	15.32	16.10	16.96	17.55	17.32
7	17.78	---		---	16.97	16.69	12.56	15.51	16.17	16.94	17.57	17.32
8	18.00	---		---	16.90	16.61	13.25	15.67	16.23	16.94	17.59	17.31
9	18.12	---		17.38	16.82	16.50	14.03	15.79	16.27	16.93	17.59	17.21
10	18.13	---		17.39	16.82	16.44	14.63	15.93	16.34	16.93	17.59	17.17
11	18.13	---		17.35	16.82	16.43	15.13	15.98	16.39	16.95	17.58	17.13
12	18.08	---		17.32	16.82	16.44	15.45	16.08	16.44	16.98	17.58	17.07
13	18.07	---		17.32	16.82	16.44	15.71	16.17	16.48	17.02	17.57	17.03
14	18.07	14.77		17.34	16.82	16.44	15.89	16.28	16.53	17.05	17.57	16.98
15	18.07	15.00		17.22	16.82	16.44	15.95	16.31	16.58	17.07	17.61	16.95
16	18.07	15.14		17.22	16.84	16.46	15.84	16.39	16.64	17.12	17.61	16.94
17	18.07	15.24		17.22	16.84	16.47	15.84	16.44	16.70	17.18	17.62	16.93
18	18.08	15.34		17.21	16.85	16.48	15.85	16.49	16.73	17.24	17.61	6.80
19	18.08	15.42		17.17	16.89	16.47	15.88	16.48	16.82	17.30	17.61	10.00
20	18.08	15.47		13.80	16.96	16.47	15.92	16.48	16.85	17.32	17.62	13.13
21	18.08	15.51		14.91	16.98	16.46	15.97	16.46	16.86	17.36	17.62	14.26
22	18.09	15.53		16.03	16.98	16.45	16.04	16.45	16.90	17.40	17.63	15.04
23	18.10	15.54		16.71	17.01	16.49	16.10	16.44	16.90	17.42	17.54	15.65
24	18.09	15.55		16.89	17.07	16.50	16.10	16.44	16.94	17.45	17.52	16.07
25	18.09	15.55		16.97	17.13	16.60	16.07	16.49	16.98	17.48	17.50	16.37
26	18.08	---		17.02	17.18	16.60	15.71	16.51	17.00	17.49	17.49	16.61
27	18.09	---		17.03	17.21	16.60	14.20	16.20	17.04	17.49	17.48	16.82
28	18.09	---		17.03	17.23	16.58	14.42	16.18	17.07	17.53	17.48	16.99
29	18.05	---		17.05	---	16.56	14.44	16.13	17.11	17.54	17.26	17.11
30	18.06	---		17.07	---	16.53	13.80	16.11	17.14	17.55	17.23	17.17
31	18.06	---		17.08	---	16.45	---	16.07	---	17.55	17.21	---
MEAN	17.94	15.88		16.86	16.96	16.59	14.26	15.88	16.58	17.22	17.53	16.12
MAX	18.13	18.06		17.39	17.23	17.21	16.10	16.51	17.14	17.55	17.63	17.32
MIN	16.60	14.77		13.80	16.82	16.43	8.03	13.93	16.03	16.93	17.21	6.80

WTR YR 1987 MEAN 16.55 HIGH 6.80 SEP 18 LOW 18.13 OCT 10

403521079122701. Local number, IN 389.

LOCATION.--Lat 40°35'21", long 79°12'27", Hydrologic Unit 05010007, near Indiana.
Owner: Charles Heglund.
AQUIFER.--Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled well, diameter 6 in, depth 62 ft, cased to 20 ft, open hole.
INSTRUMENTATION.--Water-level recorder.
DATUM.--Elevation of land-surface datum is 1220 ft, from topographic map. Measuring point: Top of recorder shelf, 1.50 ft above land-surface datum.
REMARKS.--None.
PERIOD OF RECORD.--November 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.61 ft below land-surface datum, Apr. 5, 1987; lowest water level, 23.99 ft below land-surface datum, Aug. 6, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	8.14	9.97	9.75	9.92	8.22	9.22	8.86	10.96	11.94	10.14
2		---	7.88	9.90	9.36	9.22	7.67	9.48	9.18	10.38	11.80	10.00
3		---	6.67	10.37	8.28	8.73	7.65	9.44	9.39	9.82	12.09	10.02
4		---	7.55	10.59	8.65	8.98	7.38	8.79	9.17	9.87	12.02	10.01
5		---	7.70	10.47	8.62	8.94	5.61	8.33	9.22	9.87	11.85	10.34
6		---	7.64	10.38	8.63	9.09	6.41	8.80	9.37	10.00	23.99	10.35
7		---	7.95	10.53	8.66	9.30	6.64	8.78	---	10.05	12.25	10.26
8		---	8.16	10.55	8.88	9.09	7.10	8.66	10.04	10.08	12.34	9.73
9		---	8.08	10.48	8.97	9.30	7.54	8.98	9.71	10.09	12.07	9.50
10		---	7.08	9.55	8.98	9.31	8.34	8.74	9.76	10.23	11.85	9.30
11		---	8.36	9.49	9.19	9.39	8.29	9.17	9.86	10.30	12.11	9.28
12		---	9.01	9.52	9.26	9.49	8.52	9.22	9.79	10.60	12.13	9.25
13		---	8.97	9.80	9.33	9.77	8.48	9.48	10.01	10.48	11.96	8.54
14		---	9.29	9.59	9.70	9.75	8.82	9.78	10.13	10.36	12.07	8.88
15		---	9.48	9.04	9.40	9.52	8.65	10.05	10.36	10.63	12.34	8.76
16		---	9.89	8.69	9.57	9.79	8.03	9.84	10.10	10.88	12.48	8.99
17		---	9.81	9.02	9.52	9.86	8.18	9.84	10.12	10.92	12.42	8.84
18		---	9.99	8.98	9.65	9.82	8.56	9.49	10.28	11.24	12.18	6.81
19		---	10.01	8.48	10.22	9.90	8.71	9.35	10.31	10.92	12.32	7.01
20		---	10.48	7.41	10.07	9.86	8.54	9.53	10.58	11.45	12.76	7.07
21		---	10.53	7.69	9.92	9.87	8.71	9.28	---	11.45	12.25	7.58
22		---	10.42	7.79	9.92	10.34	8.81	9.39	---	11.43	12.47	7.69
23		---	10.69	8.24	9.94	10.35	8.98	9.42	---	11.29	11.50	7.78
24		---	10.67	8.77	10.02	10.27	9.04	9.64	---	11.72	11.38	7.78
25		8.54	9.60	9.17	10.11	10.28	8.80	9.93	10.56	11.72	11.60	7.68
26		8.48	8.83	9.09	10.62	10.02	8.85	8.32	10.68	11.76	11.26	7.63
27		6.35	9.20	9.19	10.26	10.38	9.01	8.45	10.97	11.74	11.24	7.74
28		6.84	9.28	9.23	10.18	10.29	8.86	8.26	10.88	11.72	11.32	8.05
29		7.33	9.54	9.40	---	10.25	9.02	8.67	11.12	12.09	10.25	8.25
30		7.61	9.71	9.21	---	9.91	9.19	8.93	11.09	11.83	10.24	8.78
31		---	9.80	9.33	---	9.59	---	8.96	---	11.94	10.40	---
MEAN		7.53	9.05	9.35	9.49	9.70	8.22	9.17	10.06	10.90	12.22	8.73
MAX		8.54	10.69	10.59	10.62	10.38	9.19	10.05	11.12	12.09	23.99	10.35
MIN		6.35	6.67	7.41	8.28	8.73	5.61	8.26	8.86	9.82	10.24	6.81

WTR YR 1987 MEAN 9.65 HIGH 5.61 APR 5 LOW 23.99 AUG 6

INDIANA COUNTY

404509079104001. Local number, IN 390.

LOCATION.--Lat 40°45'09", long 79°10'40", Hydrologic Unit 05010006, near Willet.
Owner: George Wyant.
AQUIFER.--Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled well, diameter 6 in, depth 128 ft, cased to 22 ft, open hole.
INSTRUMENTATION.--Water-level recorder.
DATUM.--Elevation of land-surface datum is 1140 ft, from topographic map. Measuring point: Top of recorder shelf, 2.00 ft above land-surface datum.
REMARKS.--None.
PERIOD OF RECORD.--December 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water-level 22.42 ft, below land-surface datum, Dec. 25, 1986; lowest, 24.25 ft below land-surface datum, Aug. 21, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	22.84	23.05	23.34	22.81	22.99	23.10	23.31	24.06	23.91
2			---	22.92	22.96	23.07	22.63	23.05	23.13	22.92	24.06	23.92
3			---	23.10	22.81	23.10	22.66	23.10	23.16	22.63	23.99	24.05
4			---	23.13	22.85	23.14	22.63	22.88	23.22	22.60	24.02	24.09
5			---	23.16	22.88	23.13	22.63	22.88	23.28	22.75	24.04	24.10
6			---	23.16	22.81	23.14	22.63	22.88	23.35	22.82	24.00	24.08
7			---	23.16	22.75	23.12	22.63	23.00	23.34	22.65	24.06	23.92
8			---	23.16	22.83	23.07	22.63	22.84	23.42	22.51	24.09	23.91
9			---	22.88	23.05	23.24	22.63	22.94	23.28	22.52	24.09	23.91
10			---	22.81	23.06	23.35	22.67	23.02	23.30	22.62	23.75	23.91
11			---	22.89	23.06	23.34	22.77	23.07	23.29	22.65	23.66	23.91
12			---	22.97	23.06	23.34	22.77	23.18	23.26	22.73	23.75	23.91
13			---	23.01	23.11	23.35	22.76	23.25	23.22	22.80	23.85	23.91
14			---	23.00	23.13	23.35	22.76	23.25	23.28	22.94	23.87	23.91
15			---	22.89	23.21	23.39	22.72	23.21	23.36	23.02	23.94	23.91
16			---	22.89	23.23	23.42	22.63	23.21	23.43	23.15	23.96	23.91
17			22.69	22.89	23.22	23.42	22.63	23.26	23.53	23.23	24.03	23.91
18			22.53	22.90	23.32	23.42	22.72	23.27	23.55	23.26	24.08	23.91
19			22.61	22.90	23.37	23.42	22.81	23.10	23.57	23.35	24.16	23.91
20			22.68	22.90	23.41	23.42	22.88	23.01	23.63	23.42	24.23	23.91
21			22.74	22.90	23.37	23.48	22.95	23.05	23.61	23.49	24.25	23.91
22			22.77	22.89	23.36	23.54	23.04	23.07	23.59	23.55	24.24	23.91
23			22.77	22.88	23.51	23.54	23.07	23.16	23.18	23.60	23.96	23.91
24			22.76	22.87	23.52	23.57	23.00	23.21	23.22	23.68	24.02	23.91
25			22.42	22.87	23.56	23.56	22.94	23.28	23.24	23.73	24.07	23.91
26			22.46	22.87	23.59	23.36	22.99	23.31	23.24	23.80	24.10	23.91
27			22.52	22.90	23.59	23.29	22.96	23.20	23.21	23.81	24.02	23.91
28			22.61	23.01	23.56	23.33	22.88	23.14	23.32	23.86	24.03	23.91
29			22.60	23.02	---	23.33	22.82	23.16	23.36	23.91	23.91	23.91
30			22.76	22.91	---	23.26	22.97	23.18	23.38	23.97	23.91	23.91
31			22.84	23.04	---	23.03	---	23.15	---	24.01	23.91	---
MEAN			22.65	22.96	23.19	23.32	22.79	23.11	23.34	23.20	24.00	23.93
MAX			22.84	23.16	23.59	23.57	23.07	23.31	23.63	24.01	24.25	24.10
MIN			22.42	22.81	22.75	23.03	22.63	22.84	23.10	22.51	23.66	23.91
DAYS			15	31	28	31	30	31	30	31	31	30

WTR YR 1987 MEAN 23.28 HIGH 22.42 DEC 25 LOW 24.25 AUG 21

404509079104003. Local number, IN 392.

LOCATION.--Lat 40°45'09", long 79°10'40", Hydrologic Unit 05010006, near Willet.
Owner: George Wyant.
AQUIFER.--Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled well, diameter 6 in, depth 110 ft, cased to 22 ft, open hole.
INSTRUMENTATION.--Water-level recorder.
DATUM.--Elevation of land-surface datum is 1140 ft, from topographic map. Measuring point: Top of casing, 1.30 ft above land-surface datum.
REMARKS.--None.
PERIOD OF RECORD.--December 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water-level 20.69 ft below land-surface datum, Apr. 5, 1987; lowest, 23.05 ft below land-surface datum, Aug. 21, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	21.05	22.24	22.64	21.29	21.20	21.71	21.99	22.81	22.69
2			---	21.10	22.16	22.34	21.10	21.27	21.73	21.59	22.81	22.77
3			---	21.23	22.00	22.37	21.15	21.38	21.77	21.11	22.75	22.84
4			---	21.25	22.06	22.41	21.01	21.43	21.86	21.28	22.77	22.86
5			---	21.28	22.09	22.40	20.69	21.44	21.90	21.44	22.79	22.89
6			---	21.25	22.01	22.42	20.72	21.49	21.97	21.52	22.79	22.87
7			---	21.29	21.97	22.40	20.83	---	21.98	21.37	22.85	22.73
8			---	22.02	22.08	22.36	20.97	21.42	22.04	21.20	22.89	22.61
9			---	22.04	22.27	22.54	21.10	21.49	21.91	21.21	22.84	22.24
10			---	21.96	22.29	22.66	21.18	21.57	21.94	21.32	22.47	22.31
11			---	22.06	22.29	22.66	21.28	21.64	21.95	21.36	22.45	22.34
12			---	22.14	22.30	22.67	21.28	21.76	21.90	21.45	22.54	21.80
13			---	22.19	22.35	22.68	21.28	21.83	21.85	21.52	22.64	21.61
14			---	22.16	22.39	22.68	21.29	21.84	21.93	21.66	22.69	21.78
15			---	22.03	22.49	22.72	21.25	21.80	21.99	21.75	22.73	21.82
16			---	21.92	22.50	22.75	21.10	21.82	22.06	21.88	22.76	21.88
17			21.06	21.94	22.48	22.76	21.05	21.85	22.17	21.96	22.84	21.91
18			20.90	21.90	22.59	22.76	21.22	21.88	22.20	22.00	22.89	21.82
19			20.95	21.88	22.64	22.75	21.33	21.65	22.24	22.06	22.96	21.85
20			21.01	21.67	22.69	22.77	21.41	21.59	22.28	22.14	23.03	21.64
21			21.07	21.70	22.65	22.83	21.48	21.65	22.27	22.21	23.05	21.59
22			21.10	21.66	22.65	22.88	21.55	21.67	22.23	22.28	23.04	21.63
23			21.10	21.81	22.79	22.89	21.59	21.73	21.83	22.33	22.76	21.71
24			21.10	21.96	22.81	22.90	21.53	21.80	---	22.42	22.82	21.79
25			20.73	21.96	22.85	22.90	21.29	21.88	21.90	22.46	22.87	21.91
26			20.77	22.05	22.87	22.71	21.29	21.92	21.89	22.51	22.88	22.02
27			20.80	22.09	22.87	22.64	21.30	21.79	21.87	22.56	22.83	22.11
28			20.85	22.20	22.85	21.83	21.30	21.73	21.96	22.62	22.84	22.14
29			20.85	22.20	---	21.84	21.24	21.76	22.01	22.66	22.65	22.14
30			20.98	22.10	---	21.77	21.20	21.79	22.04	22.71	22.66	22.02
31			21.05	22.24	---	21.52	---	21.75	---	22.76	22.67	---
MEAN			20.95	21.82	22.44	22.53	21.21	21.66	21.98	21.91	22.79	22.14
MAX			21.10	22.24	22.87	22.90	21.59	21.92	22.28	22.76	23.05	22.89
MIN			20.73	21.05	21.97	21.52	20.69	21.20	21.71	21.11	22.45	21.59

WTR YR 1987 MEAN 22.00 HIGH 20.69 APR 5 LOW 23.05 AUG 21

404509079104004. Local number, IN 393.

LOCATION.--Lat 40°45'09", long 79°10'40", Hydrologic Unit 05010006, near Willet.
Owner: George Wyant.
AQUIFER.--Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled well, diameter 6 in, depth 110 ft, cased to 22 ft, open hole.
INSTRUMENTATION.--Water-level recorder.
DATUM.--Elevation of land-surface datum is 1140 ft, from topographic map. Measuring point: Top of recorder shelf, 2.00 ft above land-surface datum.
REMARKS.--None.
PERIOD OF RECORD.--December 1987 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water-level 17.63 ft below land-surface datum, July 9, 1987; lowest 19.67 ft below land-surface datum, Aug. 19-22, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	18.96	19.21	19.30	18.83	18.45	18.73	18.81	19.56	19.46
2			---	18.94	19.13	19.27	18.37	18.57	18.76	18.53	19.55	19.49
3			---	19.04	19.20	19.25	18.35	18.66	18.79	18.04	19.47	19.52
4			---	19.19	19.16	19.17	18.08	18.53	18.84	17.88	19.48	19.53
5			---	19.14	19.16	19.02	17.83	18.41	18.86	17.97	19.49	19.57
6			---	19.05	18.96	19.05	17.70	18.20	18.90	18.00	19.49	19.55
7			---	19.17	18.96	18.99	17.67	18.40	18.87	17.93	19.52	19.53
8			---	19.14	18.98	18.94	17.76	18.28	18.96	17.72	19.53	19.42
9			---	19.15	19.30	19.22	17.89	18.36	18.91	17.63	19.54	19.04
10			---	19.09	19.21	19.28	17.94	18.53	18.92	17.79	19.40	19.06
11			---	19.24	19.08	19.22	18.23	18.60	18.87	17.77	19.37	19.03
12			---	19.36	19.19	19.21	18.15	18.80	18.78	17.85	19.34	18.72
13			---	19.36	19.21	19.20	18.25	18.83	18.87	18.02	19.41	18.24
14			---	19.23	19.15	19.19	18.23	18.79	18.86	18.23	19.43	18.12
15			---	19.18	19.22	19.30	18.22	18.86	18.93	18.30	19.56	18.15
16			---	19.20	19.19	19.27	18.07	18.87	18.99	18.44	19.49	18.19
17			18.63	19.15	19.17	19.28	18.08	18.93	19.03	18.56	19.58	18.19
18			18.82	19.03	19.31	19.26	18.22	18.92	19.04	18.59	19.58	18.12
19			18.73	19.01	19.30	19.30	18.30	18.88	19.07	18.70	19.67	18.13
20			18.92	18.97	19.29	19.30	18.40	18.76	19.13	18.79	19.67	18.00
21			18.82	18.79	19.30	19.38	18.49	18.72	19.15	18.85	19.67	17.81
22			18.80	18.67	19.30	19.40	18.59	18.66	19.14	18.94	19.67	17.75
23			18.85	18.82	19.43	19.39	18.69	18.70	18.91	19.00	19.58	17.79
24			18.84	18.93	19.55	19.40	18.62	18.86	18.86	19.06	19.56	17.88
25			18.84	18.88	19.44	19.44	18.54	18.94	18.75	19.12	19.59	18.05
26			19.04	19.00	19.45	19.34	18.50	18.91	18.69	19.32	19.63	18.19
27			18.90	19.10	19.44	19.30	18.39	18.86	18.72	19.26	19.61	18.30
28			18.70	19.17	19.43	19.24	18.24	18.80	18.80	19.32	19.60	18.36
29			18.67	19.23	---	19.22	18.20	18.83	18.83	19.35	19.54	18.34
30			18.75	19.13	---	19.06	18.43	18.78	18.86	19.43	19.48	18.36
31			18.83	19.24	---	18.93	---	18.76	---	19.44	19.46	---
MEAN			18.81	19.08	19.24	19.23	18.24	18.69	18.89	18.54	19.53	18.60
MAX			19.04	19.36	19.55	19.44	18.83	18.94	19.15	19.44	19.67	19.57
MIN			18.63	18.67	18.96	18.93	17.67	18.20	18.69	17.63	19.34	17.75

WTR YR 1987 MEAN 18.89 HIGH 17.63 JUL 9 LOW 19.67 AUG 19-22

403450079120301. Local number, IN 801.

LOCATION.--Lat 40°34'50", long 79°12'03", Hydrologic Unit 05010007, near Indiana.
Owner: John King, Sr.
AQUIFER.--Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled well, diameter 6 in, depth 137 ft, cased to 10 ft, open hole.
INSTRUMENTATION.--Water-level recorder.
DATUM.--Elevation of land-surface datum is 1180 ft, from topographic map. Measuring point: Top of recorder shelf, 2.00 ft above land-surface datum.
REMARKS.--None.
PERIOD OF RECORD.--October 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.08 ft below land-surface datum, Apr. 5, 1987; lowest, 31.85 ft below land-surface datum, Oct. 1, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.85	28.51	23.52	26.51	27.51	27.53	14.41	26.63	25.92	28.36	28.57	28.04
2	31.47	28.31	24.62	26.41	27.32	27.40	4.49	26.66	26.27	28.32	28.55	28.06
3	---	28.23	24.00	26.97	27.18	24.39	4.65	26.85	26.46	27.94	28.57	28.18
4	30.46	28.17	5.22	27.19	10.13	13.23	4.77	26.79	26.68	27.93	28.60	28.22
5	29.49	28.18	6.17	27.28	9.95	22.23	3.08	5.17	26.84	27.98	28.68	28.21
6	24.54	28.19	17.71	27.26	20.72	26.19	3.60	5.85	26.99	27.98	28.91	28.17
7	21.99	28.24	24.40	26.88	25.42	26.74	4.50	14.71	27.00	27.98	28.99	28.05
8	26.99	28.20	25.75	27.44	26.22	26.75	5.20	24.10	26.97	27.99	28.99	28.03
9	27.97	18.24	25.80	27.51	27.14	26.82	5.98	25.82	27.06	28.02	28.96	27.74
10	28.27	---	22.02	27.40	27.28	27.34	14.56	26.13	27.28	28.03	28.67	17.26
11	28.30	---	5.37	27.19	27.35	27.40	23.45	26.27	27.32	28.04	28.85	20.07
12	28.27	---	8.45	27.41	27.23	27.37	25.55	26.51	27.21	28.01	28.91	20.26
13	28.09	---	22.69	27.70	27.33	27.37	26.24	26.82	27.16	27.97	29.05	5.76
14	28.00	---	25.67	27.71	27.33	27.34	26.40	26.87	27.22	27.98	29.14	7.30
15	28.20	---	26.21	27.58	27.59	27.35	26.38	26.88	27.27	28.12	29.19	20.14
16	28.22	---	26.36	27.62	27.65	27.49	26.07	27.02	27.36	28.28	29.15	25.38
17	28.25	---	26.45	27.21	27.52	27.54	5.77	27.00	27.57	28.41	29.06	26.11
18	28.46	---	26.37	27.22	27.62	27.50	9.19	26.98	27.64	28.41	29.06	16.90
19	28.46	---	26.69	27.06	27.92	27.38	22.21	26.97	27.61	28.32	29.06	4.39
20	28.32	---	26.98	26.08	27.99	27.32	25.73	27.04	27.55	28.32	29.32	4.94
21	28.17	---	27.27	5.58	27.91	27.37	26.17	26.67	27.49	28.35	29.47	5.58
22	28.12	---	27.34	6.53	27.69	27.53	26.34	25.90	27.50	28.36	29.45	6.33
23	28.15	---	27.28	21.05	27.75	27.63	26.45	26.74	27.89	28.32	28.63	16.98
24	28.23	---	27.18	26.10	27.83	27.63	26.66	26.96	28.05	28.35	28.72	23.67
25	28.24	26.84	26.24	26.75	27.83	27.59	26.70	26.99	28.05	28.38	28.71	25.92
26	28.16	26.83	13.21	26.95	28.20	27.60	22.70	27.04	27.96	28.35	28.63	26.46
27	28.02	13.11	5.55	27.11	28.20	27.74	25.73	26.49	28.03	28.32	28.45	26.69
28	28.29	4.91	10.37	27.26	28.09	27.76	26.33	8.55	28.24	28.42	28.43	26.82
29	28.31	5.81	21.99	27.41	---	27.82	26.37	6.04	28.30	28.48	28.18	26.81
30	28.41	13.64	25.51	27.19	---	27.68	26.55	16.83	28.36	28.50	28.22	26.54
31	28.54	---	26.47	27.42	---	27.22	---	24.49	---	28.56	28.15	---
MEAN	28.21	22.36	21.25	25.58	26.00	26.65	18.07	23.22	27.38	28.22	28.82	21.10
MAX	31.85	28.51	27.34	27.71	28.20	27.82	26.70	27.04	28.36	28.56	29.47	28.22
MIN	21.99	4.91	5.22	5.58	9.95	13.23	3.08	5.17	25.92	27.93	28.15	4.39

WTR YR 1987 MEAN 24.85 HIGH 3.08 APR 5 LOW 31.85 OCT 1

INDIANA COUNTY

403556079215201. Local number, IN 803.

LOCATION.--Lat 40°35'56", long 79°21'52", Hydrologic Unit 05010008, at West Lebanon.
Owner: Mike Bertolino.
AQUIFER.--Monongahela Group of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled well, diameter 6 in, depth 138 ft, cased to 20 ft, open hole.
INSTRUMENTATION.--Water-level recorder.
DATUM.--Elevation of land-surface datum is 1220 ft, from topographic map. Measuring point: Top of recorder shelf, 2.00 ft above land-surface datum.
REMARKS.--None.
PERIOD OR RECORD.--October 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 84.57 ft below land-surface datum, May 28, 1987; lowest, 89.24 ft below land-surface datum, Oct. 1, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	89.24	88.09	87.69	---	87.66	87.61		---	86.90	87.77	87.87	87.97
2	89.16	88.08	87.68	---	87.58	87.57		---	87.04	87.76	87.86	87.98
3	88.18	88.07	87.18	---	87.18	87.53		---	87.10	87.53	87.87	88.00
4	88.07	88.08	87.00	---	87.21	87.53		---	87.22	87.66	87.87	87.99
5	88.04	88.08	87.19	---	87.30	87.51		---	87.34	87.70	---	87.98
6	88.05	88.10	87.43	---	87.33	87.52		---	87.47	87.72	87.93	87.96
7	88.05	88.10	87.50	---	87.35	87.54		---	87.49	87.74	87.92	87.96
8	88.03	88.10	87.56	---	87.41	87.53		86.98	87.53	87.75	87.92	87.95
9	88.04	87.92	87.56	---	87.51	87.59		87.18	87.58	87.76	87.89	87.59
10	88.04	87.82	87.17	87.57	87.54	87.65		87.32	87.61	87.76	87.92	87.79
11	88.04	87.83	87.02	87.57	87.56	87.65		87.39	87.60	87.77	87.93	87.82
12	88.02	87.59	87.19	87.61	87.53	87.65		87.49	87.59	87.78	87.92	87.36
13	88.01	87.81	87.46	87.67	87.53	87.66		87.53	87.61	87.76	87.93	87.61
14	88.02	87.82	87.48	87.65	87.50	87.65		87.53	87.63	87.80	87.93	87.71
15	88.03	87.76	87.54	87.55	87.56	87.68		87.59	87.64	87.80	87.93	87.74
16	88.03	87.78	87.58	87.56	87.57	87.69		87.60	87.65	87.82	87.92	87.76
17	88.05	87.82	87.59	87.54	87.58	87.69		87.60	87.68	87.83	87.93	87.77
18	88.07	87.83	87.59	87.51	87.63	87.67		87.62	87.69	87.82	87.95	86.81
19	88.06	87.88	87.64	87.52	87.66	87.65		86.32	87.69	87.82	87.96	86.41
20	88.04	87.83	87.67	86.99	87.67	87.65		85.97	87.69	87.82	87.97	86.61
21	88.03	87.76	87.69	86.96	87.64	87.67		86.09	87.68	87.83	87.97	87.02
22	88.04	87.78	87.69	87.07	87.64	87.69		86.45	87.69	87.83	87.97	87.26
23	88.05	87.76	---	87.33	87.69	87.70		86.85	87.70	87.83	87.98	87.52
24	88.05	87.82	---	87.45	87.71	87.70		87.19	87.74	87.84	87.99	87.65
25	88.05	87.83	---	87.51	87.72	87.70		87.37	87.73	87.84	87.98	87.74
26	88.03	87.78	---	87.57	87.73	87.69		87.44	87.74	87.83	87.97	87.78
27	88.04	86.99	---	87.61	87.71	---		86.93	87.76	87.84	87.95	87.82
28	88.07	87.19	---	87.67	87.68	---		84.57	87.76	87.85	87.95	87.83
29	88.07	87.46	---	87.68	---	---		85.28	87.77	87.86	87.98	87.81
30	88.10	87.62	---	87.62	---	---		85.88	87.78	87.86	87.97	87.80
31	88.10	---	---	87.66	---	---		86.29	---	87.87	87.95	---
MEAN	88.13	87.81	87.46	87.49	87.55	87.63		86.85	87.57	87.79	87.94	87.63
MAX	89.24	88.10	87.69	87.68	87.73	87.70		87.62	87.78	87.87	87.99	88.00
MIN	88.01	86.99	87.00	86.96	87.18	87.51		84.57	86.90	87.53	87.86	86.41

WTR YR 1987 MEAN 87.65 HIGH 84.57 MAY 28 LOW 89.24 OCT 1

403408078543701. Local number, IN 822.

LOCATION.--Lat 40°34'08", long 78°54'37", Hydrologic Unit 05010007, near Strongstown.
Owner: Kevin Bracken.
AQUIFER.--Glenshaw Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled well, diameter 6 in, depth 159 ft, cased to 10 ft, open hole.
INSTRUMENTATIONS.--Water-level recorder.
DATUM.--Elevation of land-surface datum is 1900 ft, from topographic map. Measuring point: Top of casing, 1.00 ft above land-surface datum.
REMARKS.--None.
PERIOD OF RECORD.--June 1987 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.37 ft below land-surface datum, Sept. 30, 1987; lowest, 66.90 ft below land-surface datum, Aug. 11, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	66.08	66.25	66.75
2									---	66.10	66.28	66.74
3									---	66.24	---	66.69
4									---	66.30	66.44	66.67
5									62.97	66.42	66.53	66.66
6									63.15	66.51	66.68	66.53
7									63.19	66.51	66.73	66.44
8									63.31	66.54	66.83	66.35
9									63.55	66.60	66.82	66.31
10									63.72	66.61	66.83	66.30
11									63.76	66.61	66.90	66.24
12									63.83	66.61	66.84	66.15
13									64.06	66.56	66.87	66.03
14									64.14	66.46	66.85	65.95
15									64.30	66.43	66.82	65.84
16									64.45	66.40	66.79	65.72
17									64.65	66.40	66.75	65.61
18									64.75	66.30	66.75	65.40
19									64.81	66.25	66.72	65.25
20									64.94	66.14	66.76	65.17
21									65.07	66.13	66.76	64.95
22									65.12	66.11	66.70	64.72
23									---	66.05	66.75	64.49
24									---	66.06	66.75	64.20
25									65.48	66.03	66.75	63.91
26									65.56	65.99	66.75	63.71
27									65.72	66.00	66.69	63.54
28									65.89	66.04	66.72	63.33
29									65.91	66.06	66.86	63.10
30									66.03	66.13	66.85	62.73
31									---	66.21	66.81	---
MEAN									64.52	66.29	66.73	65.38
MAX									66.03	66.61	66.90	66.75
MIN									62.97	65.99	66.25	62.73

WTR YR 1987 MEAN 65.80 HIGH 62.73 SEP 30 LOW 66.90 AUG 11

403144078561602. Local number, IN 833.

LOCATION.--Lat 40°31'44", long 78°56'16", Hydrologic Unit 05010007, near Strongstown.
Owner: Charles Schultz.
AQUIFER.--Casselman Formation of Late Pennsylvanian age.
WELL CHARACTERISTICS.--Drilled well, diameter 6 in, depth 137 ft, cased to 18 ft, open hole.
INSTRUMENTATION.--Water-level recorder.
DATUM.--Elevation of land-surface datum is 1910 ft, from topographic map. Measuring point: Top of casing, 0.85 ft above land-surface datum.
REMARKS.--None.
PERIOD OF RECORD.--May 1987 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.17 ft below land-surface datum, May 7, 1987; lowest, 26.80 ft below land-surface datum, July 29, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1								---	22.58	25.47	26.45	24.71
2								---	22.62	25.40	26.55	24.87
3								---	22.99	24.85	---	24.97
4								---	23.00	24.52	26.39	25.30
5								---	23.33	24.52	26.02	25.51
6								---	23.66	24.68	25.60	25.51
7								17.17	23.75	24.53	25.43	25.33
8								17.46	23.87	24.11	25.43	25.37
9								17.99	24.01	24.11	25.25	24.78
10								18.78	24.35	24.18	25.13	24.34
11								19.18	24.35	24.19	24.47	24.16
12								19.52	24.34	24.65	24.47	24.22
13								20.48	24.29	24.87	24.81	24.53
14								21.21	24.74	24.87	25.24	24.87
15								21.36	24.74	24.91	25.24	25.09
16								21.74	25.03	25.18	25.24	25.25
17								22.04	25.08	25.46	25.39	25.29
18								22.11	25.17	25.46	25.80	25.22
19								22.20	25.23	25.51	26.29	23.54
20								22.15	25.42	26.09	26.38	21.52
21								20.54	25.41	26.14	26.45	20.60
22								19.71	24.93	26.19	26.35	19.86
23								19.67	---	26.18	26.14	19.60
24								20.11	---	26.38	26.09	19.92
25								20.61	26.18	26.51	25.64	20.35
26								21.13	25.62	26.70	25.94	21.32
27								21.32	25.40	26.61	25.87	21.84
28								21.77	25.19	26.43	26.12	22.68
29								21.68	25.33	26.80	26.06	22.68
30								21.77	25.19	26.77	25.13	22.66
31								22.37	---	26.19	24.53	---
MEAN								20.56	24.49	25.43	25.66	23.53
MAX								22.37	26.18	26.80	26.55	25.51
MIN								17.17	22.58	24.11	24.47	19.60

WTR YR 1987 MEAN 24.06 HIGH 17.17 MAY 7 LOW 26.80 JUL 29

INDEX

CALENDAR FOR WATER YEAR 1987

1986

OCTOBER

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

NOVEMBER

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

DECEMBER

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

1987

JANUARY

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

FEBRUARY

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

MARCH

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

APRIL

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

MAY

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

JUNE

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

JULY

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

AUGUST

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

SEPTEMBER

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

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