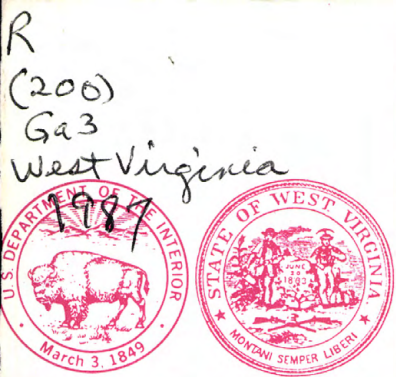




Water Resources Data West Virginia Water Year 1987



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WV-87-1
Prepared in cooperation with the State of West Virginia
and with other agencies

1986

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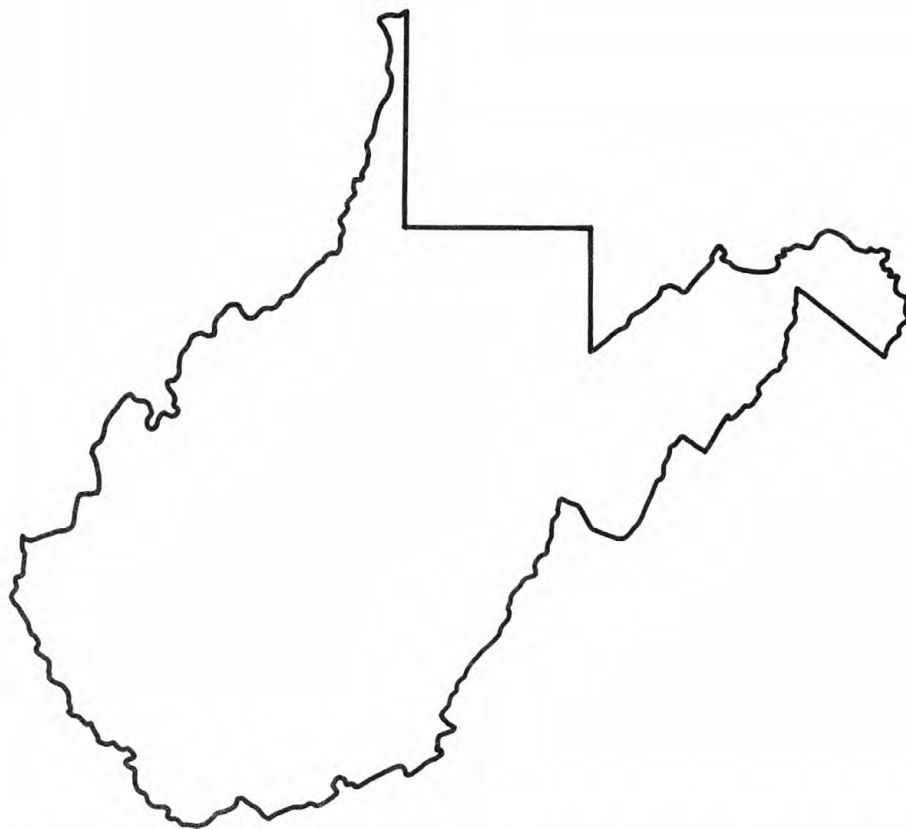
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Water Resources Data West Virginia Water Year 1987

by S.M. Ward, W.A. Hobba, Jr., F.M. Taylor, and G.M. Ferrell



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT WV-87-1
Prepared in cooperation with the State of West Virginia
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

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

1989

PREFACE

This volume of the annual hydrologic data report for West Virginia is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and Trust Territories. These records of streamflow, ground-water levels, and water quality 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.

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. The authors 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:

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G. R. Crosby	O. B. Rose
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C. W. Faulkenburg	R. A. Shultz
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This report was prepared in cooperation with the State of West Virginia and with other agencies under the general supervision of D. H. Appel, District Chief.

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15. Supplementary Notes Prepared in cooperation with the State of West Virginia and other agencies.			
16. Abstract (Limit: 200 words) Water-resources data for the 1987 water year for West Virginia consist of records of stage, discharge, and water quality of streams; contents of reservoirs; and water levels of observation wells. This report contains discharge records for 83 streamflow-gaging stations; stage only records for 7 gaging stations, and 2 crest-stage partial-record stations; (2) contents for 1 reservoir, and change in contents for 1 reservoir; (3) water-quality records for 20 streamflow-gaging stations; and (4) water-level records for 34 observation wells. Locations of these sites are shown on figures 4 and 5. Additional water data were collected at various sites, not involved in the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in West Virginia.			
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CONTENTS

Preface.....	iii
List of surface-water stations, in downstream order, for which records are published.....	vi
List of ground-water wells, by county, for which records are published.....	viii
Introduction.....	1
Cooperation.....	1
Summary of hydrologic conditions.....	2
Streamflow.....	2
Ground-water levels.....	2
Ground-water quality.....	2
Special networks and programs.....	5
Explanation of records.....	5
Station identification numbers.....	5
Downstream order system.....	5
Latitude-longitude system.....	6
Records of stage and water discharge.....	6
Data collection and computation.....	6
Data presentation.....	7
Identifying estimated daily discharge.....	8
Accuracy of the records.....	8
Other records available.....	9
Records of surface-water quality.....	9
Classification of records.....	9
Arrangement of records.....	9
On-site measurements and sample collection.....	9
Water temperature.....	10
Sediment.....	10
Laboratory measurements.....	10
Data presentation.....	10
Remarks codes.....	11
Records of ground-water levels.....	11
Data collection and computation.....	11
Data presentation.....	11
Records of ground-water quality.....	12
Data collection and computation.....	12
Data presentation.....	12
Access to WATSTORE data.....	13
Definition of terms.....	14
Publications on Techniques of Water-Resources Investigations.....	21
Station records, surface water.....	28
Miscellaneous temperature measurements and field determinations.....	186
Discharge at partial-record station and miscellaneous sites.....	187
Crest-stage partial-record stations.....	187
Analyses of samples collected at water-quality partial-record stations and miscellaneous sites.....	188
Station records, ground-water.....	213
Ground-water levels.....	213
Special study and miscellaneous sites.....	224
Index.....	225

ILLUSTRATIONS

Figure 1. Discharge at the South Branch Potomac River and the Hughes River index gaging stations during the 1987 water year compared to median discharge for the period 1951-80.....	3
2. Discharge at the Greenbrier River and the Bluestone River index gaging stations during the 1987 water year compared to median discharge for the period 1951-80.....	4
3. System for numbering wells and miscellaneous sites.....	6
4. Map of West Virginia showing location of streamflow, stage, and water-quality stations.....	24
5. Map of West Virginia showing location of partial-record stations and ground-water observation wells.....	25
6. Graph showing end-of-month water levels for selected observation wells.....	212

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

Letter after station name designates type of data: (d) discharge, (e) gage-height, (c) chemical, (sK) conductance, (pH) pH units, (t) temperature, (DO) dissolved oxygen, (U) turbidity, (s) sediment, (b) biological, (l) elevation and content, (p) precipitation

NORTH ATLANTIC SLOPE BASINS

Page

POTOMAC RIVER BASIN

North Branch Potomac River at Steyer, Md (d).....	*28
Stony River near Mount Storm (d,t,l).....	29
North Branch Potomac River at Luke, Md (d).....	*31
North Branch Potomac River near Cumberland, Md (d).....	*32
Patterson Creek near Headsville (d).....	33
South Branch Potomac River at Franklin (d).....	34
South Branch Potomac River near Petersburg (d).....	35
South Fork South Branch Potomac River at Brandywine (d).....	36
South Fork South Branch Potomac River near Moorefield (d).....	37
South Branch Potomac River near Springfield (d).....	38
Potomac River at Paw Paw (d).....	*39
Cacapon River near Great Cacapon (d).....	40
Potomac River at Hancock, Md (d).....	*41
Opequon Creek near Martinsburg (d).....	42
Potomac River at Shepherdstown (d,c).....	*43
Shenandoah River at Millville (d,c).....	47
Potomac River at Point of Rocks, Md (d,t,s).....	*50

OHIO RIVER BASINMONONGAHELA RIVER BASIN

Tygart Valley River at Elkins (t).....	53
Tygart Valley River near Elkins (d).....	54
Tygart Valley River at Belington (d).....	55
Buckhannon River:	
Sand Run near Buckhannon (d).....	56
Buckhannon River at Hall (d).....	57
Tygart Valley River at Philippi (d).....	58
Tygart Valley River at Tygart Dam near Grafton (d).....	59
Three Fork Creek near Grafton (d).....	60
Tygart Valley River at Colfax (d).....	61
West Fork River at Walkersville (d).....	62
West Fork River at Ben Dale (d).....	63
West Fork River at Butcherville (d).....	64
West Fork River near Mount Clare (d).....	65
West Fork River at Enterprise (d).....	66
Monongahela River:	
Buffalo Creek at Barrackville (d).....	67
Cobun Creek at Morgantown (d).....	68
Dry Fork at Hendricks (d).....	69
Blackwater River at Davis (d).....	70
Black Fork (continuation of Dry Fork):	
Shavers Fork at Parsons (d).....	71
Cheat River (continuation of Black Fork) near Parsons (d).....	72
Cheat River at Rowlesburg (d).....	73
Big Sandy Creek at Rockville (d).....	74
Cheat River at Lake Lynn, Pa (t).....	75
Ohio River at Martins Ferry, Oh (d).....	76
<u>WHEELING CREEK BASIN</u>	
Wheeling Creek at Elm Grove (d).....	77
Ohio River at Benwood near Wheeling (c).....	78
<u>MIDDLE ISLAND CREEK BASIN</u>	
Middle Island Creek at Little (d).....	80
Ohio River near Marietta, Oh (e).....	81
<u>LITTLE KANAWHA RIVER BASIN</u>	
Little Kanawha River near Wildcat (d).....	82
Little Kanawha River below Burnsville Dam (d).....	83
Little Kanawha River at Glenville (d).....	84
Little Kanawha River at Grantsville (e).....	85
West Fork Little Kanawha River at Rocksedale (e).....	86
Little Kanawha River at Palestine (d,c).....	87
North Bend Run near Cairo (d,sK,U,s,p).....	90
Hughes River at Cisco (d).....	109
Robinson Run near Petroleum (d,sK,U,s,p).....	110

* Records furnished by Mid-Atlantic District, U. S. Geological Survey.

SURFACE-WATER STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED

vii

OHIO RIVER BASIN--Continued

	Page
KANAWHA RIVER BASIN	
New River at Glen Lyn, Va (d,c,sK,t,l).....	*129
Bluestone River near Pipestem (d).....	133
Greenbrier River at Durbin (d).....	134
Knapp Creek at Marlinton (t).....	135
Greenbrier River at Buckeye (d).....	136
Greenbrier River at Alderson (d).....	137
Greenbrier River at Hilldale (d).....	138
New River at Hinton (d).....	139
Soak Creek at Sophia (c).....	140
New River at Thurmond (d).....	143
Gauley River:	
Williams River at Dyer (d).....	144
Cranberry River near Richwood (d).....	145
Gauley River near Craigsville (d).....	146
Gauley River below Summersville Dam (d).....	147
Meadow River near Mount Lookout (d).....	148
Gauley River above Belva (d).....	149
Kanawha River at Kanawha Falls (d).....	150
Kanawha River at Glasgow (t).....	151
Elk River below Webster Springs (d).....	152
Right Fork Holly River at Guardian (d).....	153
Left Fork Holly River near Replete (d).....	154
Elk River at Sutton (d,sK,t,U,s).....	155
Elk River near Frametown (e).....	159
Elk River at Clay (e).....	160
Elk River at Queen Shoals (d).....	161
Little Sandy Creek near Elkview (d,c).....	162
Kanawha River at Charleston (d).....	164
Coal River:	
Big Coal River at Ashford (d).....	165
Coal River at Tornado (d,U).....	166
Kanawha River at Poca (t).....	168
Kanawha River at Winfield Dam, at Winfield (c).....	169
Ohio River at Point Pleasant (e).....	171
GUYANDOTTE RIVER BASIN	
Guyandotte River near Baileysville (d).....	172
Clear Fork at Clear Fork (d).....	173
Guyandotte River below R. D. Bailey Dam (d).....	174
Guyandotte River at Logan (d).....	175
Guyandotte River at Branchland (d,c).....	176
Ohio River at Huntington (e).....	179
TWELVEPOLE CREEK BASIN	
East Fork Twelvepole Creek (head of Twelvepole Creek) near Dunlow (d).....	180
BIG SANDY RIVER BASIN	
Tug Fork at Welch (d).....	181
Dry Fork at Beartown (d).....	182
Tug Fork at Vulcan (d).....	183
Tug Fork at Williamson (d).....	184
Tug Fork at Kermit (d).....	185

* Records furnished by Mid-Atlantic District, U.S. Geological Survey.

GROUND-WATER WELLS, BY COUNTY, FOR WHICH RECORDS ARE PUBLISHED

<u>County</u>	<u>Well number</u>	<u>Local number</u>	<u>Location</u>	<u>Page</u>
BERKELEY	392725077582401	20-5-7	Martinsburg	213
BRAXTON	384003080462601	34-2-15	Gassaway	213
BROOKE	401216080362703	P-1	Bethany	213
FAYETTE	380154080571301		Clifftop	214
GILMER	385604080495901	33-3-1	Glenville	214
GRANT	391652079181401		Mount Storm	215
GREENBRIER	374804080174001	45-8-2	White Sulphur Springs	215
	375747080465901	M005	Rainelle	215
HAMPSHIRE	391257078404601	23-6-46	Augusta	216
HARDY	385714078441301	25-4-5	Trout Pond Recreation Area	216
LEWIS	390008080283401	SJ4	Brownsville	216
	390553080280802	16-1-9	Jackson's Mill	216
MARION	393057080161901		Farmington (west)	217
	393101080150501		Farmington	217
MASON	385451082062001	38-3-54	Point Pleasant (north)	217
MERCER	372149081055001	48-5-1	Princeton	218
MINERAL	392114079081101	22-5-23	Sulphur City	218
MINGO	373554081493401		Justice	218
MONONGALIA	392923079571801	9-7-33	Halleck	219
	394006080194801	9-1-47	Wadestown	219
MORGAN	393043078174001	19-5-14	Berkeley Springs	219
NICHOLAS	381513081094201	T-2	Belva	220
POCAHONTAS	380653080155301		Droop Mountain State Park	220
PRESTON	393306079474501	11-3-8	Masontown	220
PUTNAM	382545081553101		Winfield	221
RANDOLPH	385100079522901	H-63	Beverly	221
	385341079575401	18-3-110	Coaltown	221
RITCHIE	391226081024901	28-3-3	Harrisville	221
TUCKER	390135079275601	15-6-17	Canaan Valley State Park	222
TYLER	393211081021201	B028	Sistersville	222
WAYNE	375827082211501	50-6-5	Cabwaylingo State Forest	222
WEBSTER	382008080292801	M006	Dyer	223
WETZEL	392858080373401	6-6-8	Jacksonburg	223
WYOMING	373839081255201	54-2-12	Twin Falls State Park	223

WATER RESOURCES DATA - WEST VIRGINIA, 1987

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey, in cooperation with State agencies, obtains a large amount of data pertaining to the water resources of West Virginia 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 - West Virginia."

This report includes records on both surface and ground water in the State. Specifically, it contains: (1) Discharge records for 83 streamflow-gaging stations; stage only records for 7 gaging stations, and 2 crest-stage partial-record stations; (2) contents for 1 reservoir, and change in contents for 1 reservoir; (3) water-quality records for 20 streamflow-gaging stations; and (4) water-level records for 34 observation wells. Locations of these sites are shown on figures 4 and 5. Additional water data were collected at various sites, not involved in the systematic data collection program, and are published as miscellaneous measurements. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in West Virginia.

This series of annual reports for West Virginia began with the 1961 water year with a 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 introduction of this series and for several water years concurrent with it, water resources data for West Virginia 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, Parts 6A and 6B." For the 1961 through 1970 water years, the data were published in two 5-year reports. 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 the U. S. Geological Survey, Books and Open-File Reports, Federal Center, Bldg. 41, Box 25425, Denver, CO 80225.

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 WV-87-1." 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 the title page or by telephone (304) 347-5130.

COOPERATION

The U.S. Geological Survey and agencies of the State of West Virginia have had cooperative agreements for the collection of water-resource records since 1930. Organizations that assisted in collecting the data in this report through cooperative agreement with the Survey are:

West Virginia Department of Energy, K. R. Faerber, Commissioner.

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

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

West Virginia State Department of Highways, W. S. Ritchie, Commissioner.

Marshall County Commission, H. L. Byard, President.

Morgantown Utility Board, T. E. Urquhart, General Manager.

Washington Public Service District, C. I. Parsons, Manager.

Assistance with funds or services was given by the U.S. Army Corps of Engineers, U.S. Soil Conservation Service, National Park Service, and Federal Power Commission.

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

The following organizations aided in collecting records: Appalachian Power Company and the Monongahela Power Company.

Organizations that provided data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Streamflow during the 1987 water year generally was above normal throughout the State except in the northwestern part of the State, where it was below normal. Figures 1 and 2 show the median of monthly and yearly mean discharges for water years 1951-80 compared to the monthly and yearly mean discharges during the 1987 water year at four sites in different parts of the State. Precipitation information was obtained from "Monthly Reports of River and Flood Conditions," National Weather Service, Charleston, West Virginia.

Streamflow in October was below normal throughout the State except in the northwestern part of the State, where it was above normal. Precipitation during October was near normal throughout the State.

Streamflow and precipitation in November and December were above normal throughout the State. No flood stages were reached throughout the State during these months.

Streamflow and precipitation in January and February were below normal throughout the State. Snowfall accumulations during these months were below normal.

Streamflow and precipitation in March were below normal in the northern half of the State and above normal in the southern half of the State.

Streamflow and precipitation in April were above normal throughout the State as the result of a late snowfall across the State. No major flooding occurred this spring as the result of snowmelt runoff from the higher elevations. Maximum discharges for the year at most gaging stations occurred during mid-April.

Streamflow and precipitation in May, June, July, and August were below normal throughout the State. Isolated thunderstorms during these months resulted in scattered small-stream rises across the State. Record-low totals of monthly precipitation for July were reported at National Weather Service stations across the State. Minimum discharges for the year at most gaging stations occurred during the third week of August.

Streamflow and precipitation in September were above normal across the State.

Water-quality data were collected periodically at 5 NASQAN and 15 project sites during the year. The amount of data was insufficient to provide a summary statement.

Ground-water levels generally were above normal throughout the State for most of the 1987 water year. Water-level fluctuations for three observations wells are shown in figure 5.

In October, the water levels were below average, except in some central and southern counties, where levels were above average. From November through February, water levels rose and were above average in most of the State.

In March, water levels dropped and generally were below average, but, in April and May, water levels were above average except in some central areas, where levels were below average.

Although water levels generally declined throughout the State from late May through August, water levels were still above monthly averages in more than half of the State. In September, water levels throughout the State were again above average.

The index well in Gilmer County, near the center of the State, was above average all year except for four months in the spring and summer, when it was below average. The index well, for which 33 years of record are available, had a record high in November.

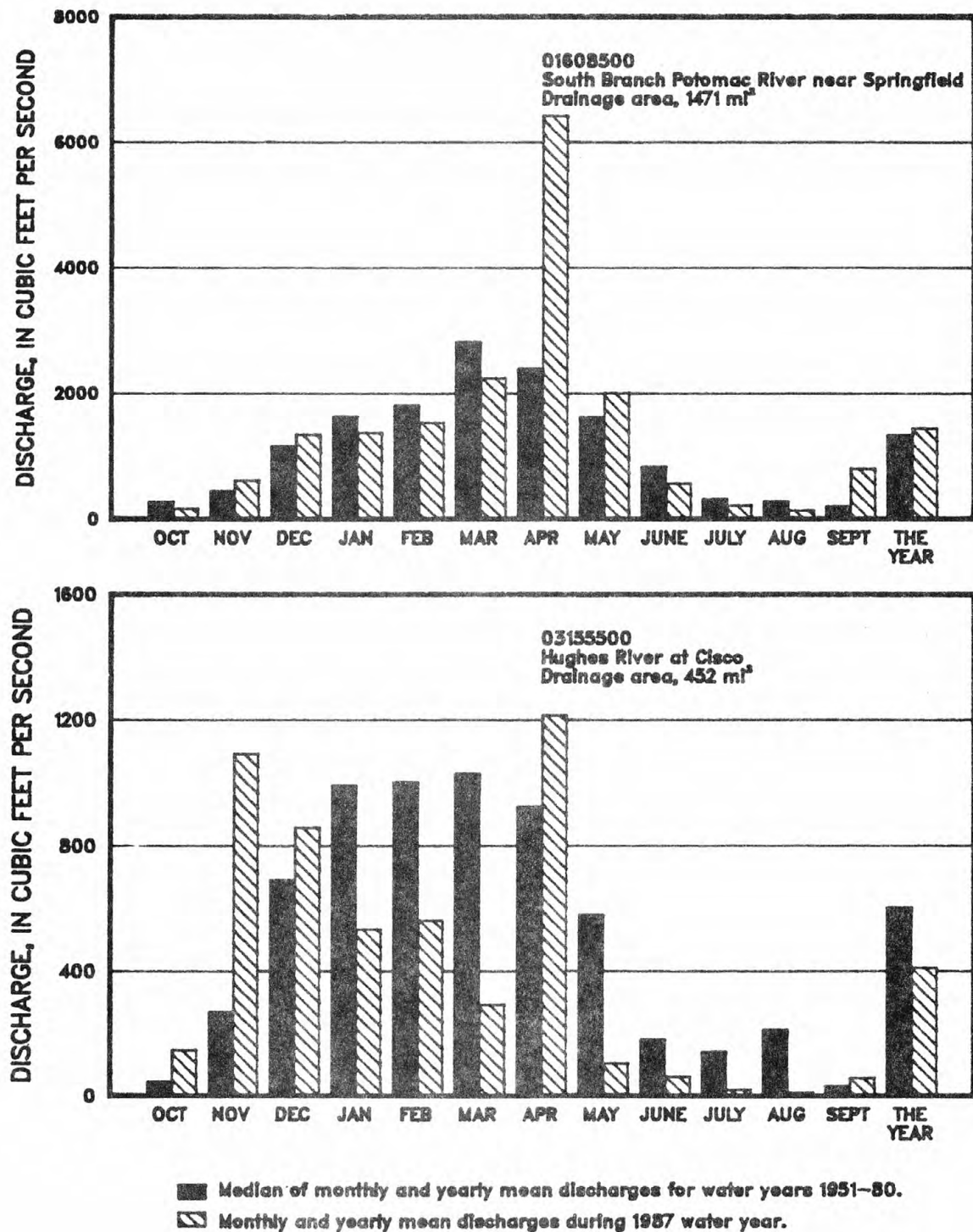


Figure 1.--Discharge at the South Branch Potomac River and the Hughes River index gaging stations during the 1987 water year compared to median discharge for the period 1951-80.

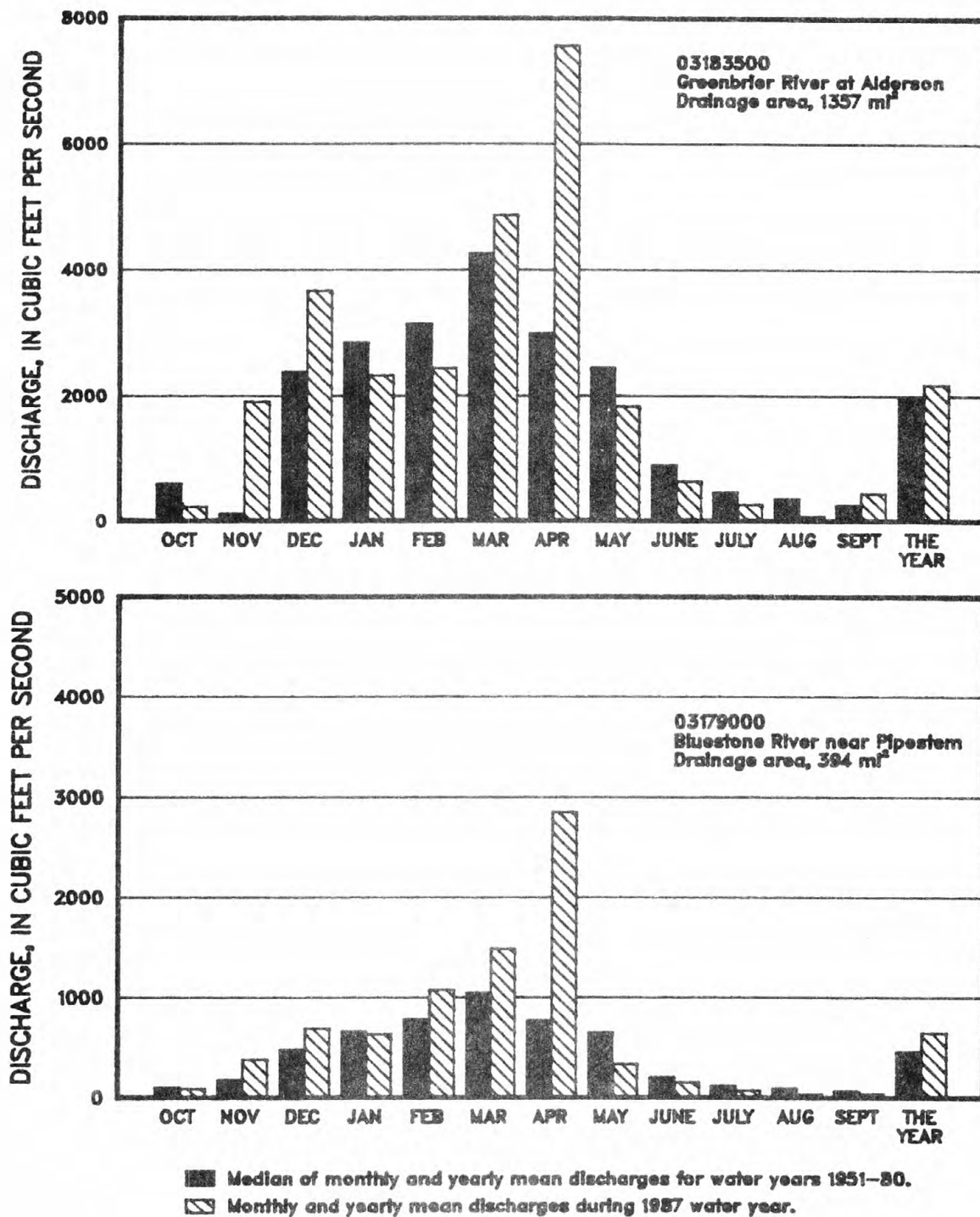


Figure 2.--Discharge at the Greenbrier River and the Bluestone River index gaging stations during the 1987 water year compared to median discharge for the period 1951-80.

WATER RESOURCES DATA - WEST VIRGINIA, 1987

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

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.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

EXPLANATION OF THE RECORDS

The surface-water and ground-water records published in this report are for the 1987 water year that began October 1, 1986, and ended September 30, 1987. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The locations of the stations and wells where the data were collected are shown in figures 4 and 5. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in West Virginia, for surface-water stations where only miscellaneous measurements are made.

Downstream Order System

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 mainstream station are listed before that station. A station on a tributary that enters between two mainstream 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 with respect to the stream to which it is immediately tributary is indicated by an indentation in the "List of Stations" in the front of this report. Each indentation represents one rank. This downstream order and system of indentation shows 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 according to 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. The complete eight-digit number for each station, such as 03198000, which appears just to the left of the station name, includes the two-digit Part number "03" plus the six-digit downstream-order number "198000." The Part number designates the major river basin; for example, Part "03" is the Kanawha River basin.

WATER RESOURCES DATA - WEST VIRGINIA, 1987

Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. This site-identification number, once assigned, is a pure number and has no locational significance. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description. (See figure 3 below.)

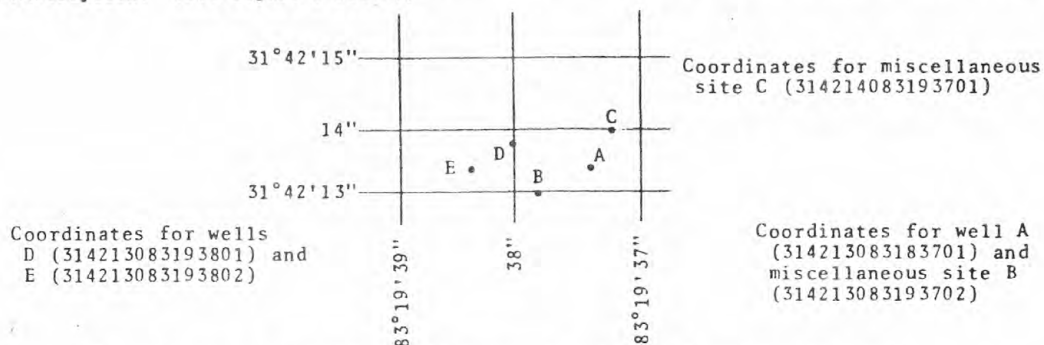


Figure 3. System for numbering wells and miscellaneous sites (latitude and longitude).

Well records furnished by the State of West Virginia also include the well number that is based on an indexing system used by the West Virginia State Water Control Board.

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete 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. Complete records of lake or reservoir content, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time, or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily 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 complete-record and crest-stage partial-record stations for which data are given in this report are shown in figure 4.

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream or canal 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. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relationship between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

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 adopted 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 a 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 the lapsed 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 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 RECORDS.--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 glossary), 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.

WATER RESOURCES DATA - WEST VIRGINIA, 1987

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.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the "Remarks" and in the inclusion of a skeleton stage-capacity table when daily contents are given.

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 omitted 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 foot-note, "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 their true values; "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 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures for more than 1,000 ft³/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 used in the preparation of the records in this publication, such as discharge-measurement notes, gage-height records, temperature measurements, and rating tables is on file in the West Virginia District Office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District office.

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. Locations of stations for which records on the quality of surface water appear in this report are shown in figure 4.

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 under "PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS" which appears at the end of the introductory text. Detailed information on collecting, treating, and shipping samples may be obtained from the West Virginia 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.

WATER RESOURCES DATA - WEST VIRGINIA, 1987

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

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the West Virginia 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. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the West Virginia District Office.

Sediment

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

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily 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 laboratory in Arvada, Colorado or Doraville, Georgia. 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:

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
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

Only water-level data from a national network of observation wells are given in this report. These data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers. Locations of the observation wells in this network in West Virginia are shown in figure 5.

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 township-range 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 every fifth day and the end of each month (eom).

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

WATER RESOURCES DATA - WEST VIRGINIA, 1987

LOCATION.--This paragraph follows the well-identification number and reports the latitude and longitude (given in degrees, minutes, and seconds); a landline location designation; the hydrologic-unit number; the distance and direction from 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 and all taped measurements of water level are listed. For wells equipped with recorders, only abbreviated tables are published; generally, only water level lows are listed for every fifth day and at the end of the month (eom). The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the abbreviated table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level.

Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that, for most sampling sites they consist of only one set of measurements for the water year. The quality of ground water ordinarily changes only slowly; therefore, for most general purposes, one annual sampling, or only a few samples taken at infrequent intervals during the year, is sufficient. Frequent measurement of the same constituents is not necessary unless one is concerned with a particular problem, such as monitoring for trends in nitrate concentration. In the special cases where the quality of ground water may change more rapidly, more frequent measurements are made to identify the nature of the changes.

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. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material, possibly metal, comprising the casings.

Data Presentation

The records of ground-water quality are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water-level records. Data for quality of ground water 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 the offices whose addresses are 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

WATER RESOURCES DATA - WEST VIRGINIA, 1987

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units 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 equal to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multicelled 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, while 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 all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C plus or minus 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 intestine 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 that produce blue colonies within 24 hours when incubated at 44.5°C plus or minus 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 the intestine 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 plus or minus 1.0°C on KF-streptococcus medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

Bed material is the sediment mixture 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 micro-organisms, 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 mile (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and 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).

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 green 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 foot per second (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 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic foot per second day (ft^3/d) is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,445 cubic meters.

Cubic feet per second per square mile [$(\text{ft}^3/\text{s})/\text{mi}^2$] 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.

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 $0.45 \mu\text{m}$ 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.

Dissolved-solids concentration of water is determined either analytically by the "residue-on-evaporation" method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination of dissolved solids, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. Therefore, in the mathematical calculation of dissolved-solids concentration, the bicarbonate value, in milligrams per liter, is multiplied by 0.492 to reflect the change.

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

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 computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate (CaCO_3).

WATER RESOURCES DATA - WEST VIRGINIA, 1987

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by the activities of man.

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 eight-digit number.

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

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

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

Microsiemens per centimeter ($\mu\text{S/CM}$) at 25°C are the units of measure for specific conductance. The microsiemen is numerically the same as the micromho.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in solution. Milligrams per liter represents 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 dry sediment per liter of water-sediment mixture.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) 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.

National Stream Quality Accounting Network (NASQAN) is a nationwide data-collection network designed by the U.S. Geological Survey to meet many of the information needs of government agencies and other groups involved in natural or regional water-quality planning and management. The 500 or so sites in NASQAN are generally located at the downstream ends of hydrologic accounting units designated by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Water Resources Council. The objectives of NASQAN are (1) to obtain information on the quality and quantity of water moving within and from the United States through a systematic and uniform process of data collection, summarization, analysis, and reporting such that the data may be used for, (2) description of the areal variability of water quality in the Nation's rivers through analysis of data from this and other programs, (3) detection of changes or trends with time in the pattern of occurrence of water-quality characteristics, and (4) providing a nationally consistent data base useful for water-quality assessment and hydrologic research.

The National Trends Network (NTN) is a 150-station network for sampling atmospheric deposition in the United States. The purpose of the network is to determine the variability, both in location and in time, of the composition of atmospheric deposition, which includes snow, rain, dust particles, aerosols, and gases. The core from which the NTN was built was the already-existing deposition-monitoring network of the National Atmospheric Deposition Program (NADP).

Nephelometric turbidity units (NTU) are the unit of measure of turbidity. It is based on use of a standard suspension of Formazin.

Organism is any living entity.

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 meter (m^2), acre, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliter (mL) or liter (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.

Parameter Code is a 5-digit number used in the U.S. Geological Survey computerized data system, WATSTORE, to uniquely identify a specific constituent. The codes used in WATSTORE are the same as those used in the U.S. Environmental Protection Agency data system, STORET. The Environmental Protection Agency assigns and approves all requests for new codes.

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 a particle 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 the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
Clay.....	0.00024 - 0.004	Sedimentation
Silt.....	.004 - .062	Sedimentation
Sand.....	.062 - 2.0	Sedimentation or sieve
Gravel.....	2.0 - 64.0	Sieve

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

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.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, herbicides, fungicides, and rodenticides.

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

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

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

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

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

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

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

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

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

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.

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 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.

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

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.

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

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).

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

Suspended-sediment discharge (tons/day) is the rate at which dry mass of sediment passes a section of a stream or is the quantity of sediment, as measured by dry mass or volume, that passes a section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) $\times$ discharge (ft^3/s) $\times$ 0.0027.

Suspended-sediment load is a general term that refers to material in suspension. It is not synonymous with either discharge or concentration.

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 mass or volume, that passes a section during a given time.

Total-sediment load or total load is a term which refers to the total sediment (bed load plus suspended-sediment load) that is in transport. It is not synonymous with total-sediment discharge.

7-day 10-year low flow (7 Q10) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day low flow).

Sodium-adsorption-ratio (SAR) is the expression of relative activity of sodium ions in exchange reactions within soil and is an index of sodium or alkali hazard to the soil. Waters range in respect to sodium hazard from those which can be used for irrigation on almost all soils to those which are generally unsatisfactory for irrigation.

Solute is any substance 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 microsiemens per centimeter at 25°C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). 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 emerged 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 multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection.

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

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

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

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

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

Suspended, total is the total amount of a given constituent in the part of a representative water-suspended sediment sample that is retained on a 0.45 μ m membrane filter. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to determine when the results should be reported as "suspended, total."

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

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

Kingdom.....	Animal
Phylum.....	Arthropoda
Class.....	Insecta
Order.....	Ephemeroptera
Family.....	Ephemeridae
Genus.....	<u>Hexagenia</u>
Species.....	<u>Hexagenia limbata</u>

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term "temperature recorder" is used in the table headings and refers to any instrument that records temperature whether on a chart, a tape, or any other medium.

WATER RESOURCES DATA - WEST VIRGINIA, 1987

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 of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY) is the quantity of a 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 determined all of the constituent in the sample.)

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

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 are required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

Tritium Network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

Turbidity is a measurement of the intensity of light scattered by a water sample. Suspended particulate matter in the sample causes scattering of light passing through the sample. Turbidity is measured by comparison of the light scattering intensity of a water sample to that of a standard reference suspension. The greater the intensity of the scattered light, the greater the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU).

Water year in Geological Survey reports dealing with surface-water supply is the 12-month period October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1987, is called the "1987 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports (WRD was used as an abbreviation for "Water-Resources Data" in reports published prior to 1976).

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.

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

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.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

- 3-C1. *Fluvial sediment concepts* by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment*. by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. *Low-flow investigations*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply*, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics*, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. *Computation of rate and volume of stream depletion by wells* by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments* by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy*, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for analysis of organic substances in water*, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, edited by P. E. Greenson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, 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. Schaffranek, 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.

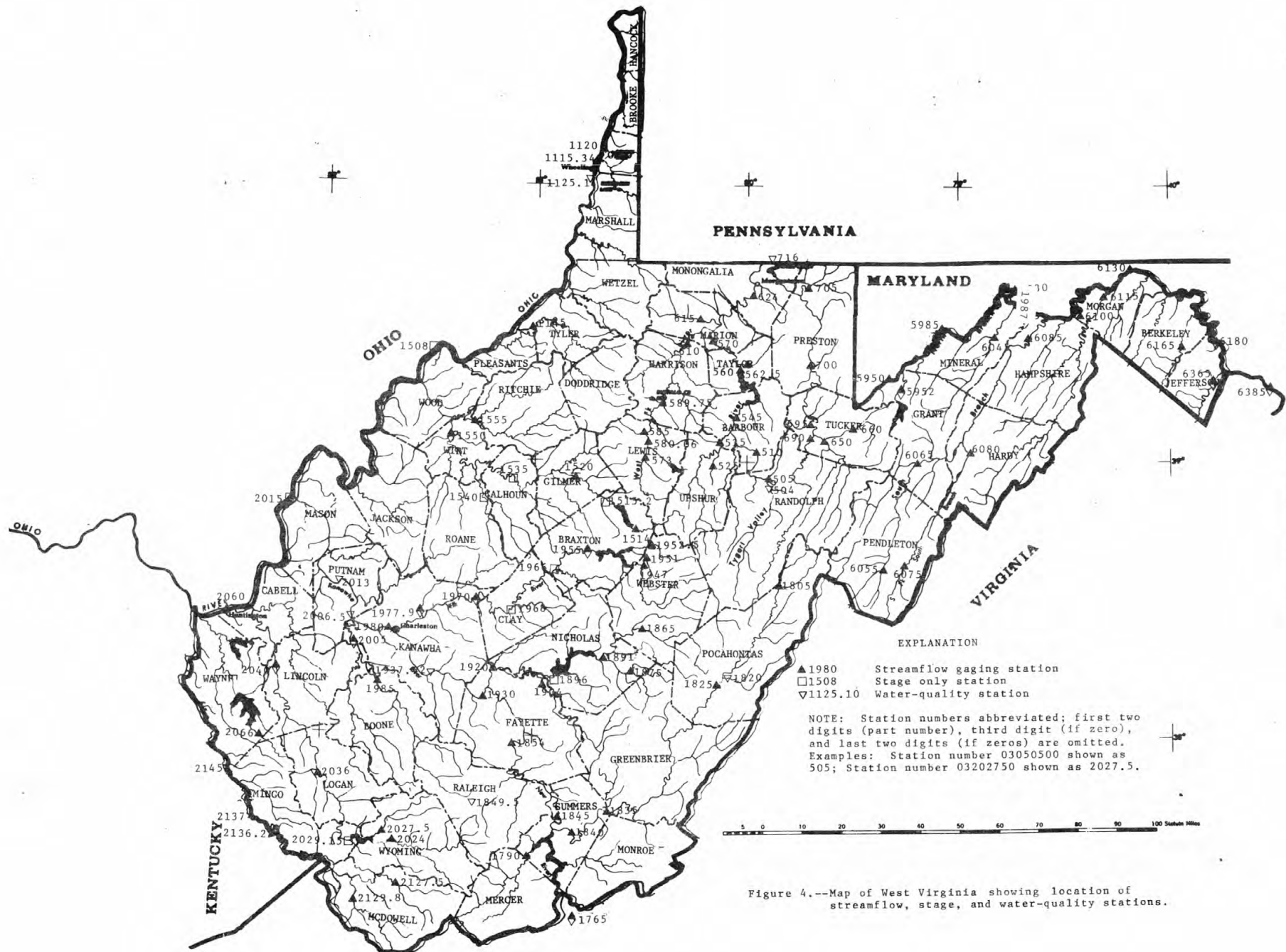


Figure 4.--Map of West Virginia showing location of streamflow, stage, and water-quality stations.

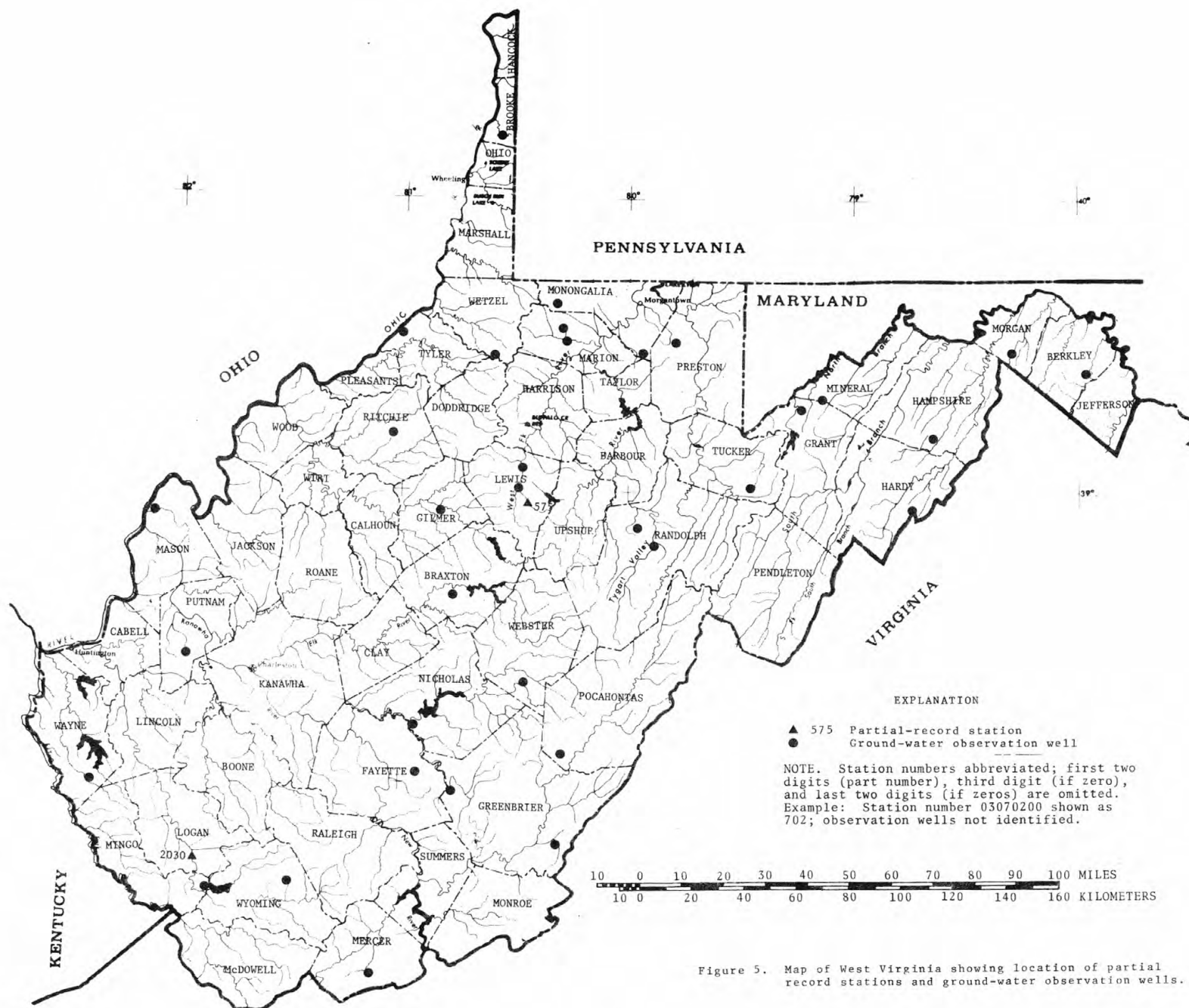


Figure 5. Map of West Virginia showing location of partial record stations and ground-water observation wells.

SURFACE-WATER RECORDS

REMARK CODES.--The following remark codes may appear with the water-quality data in this section:

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
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

POTOMAC RIVER BASIN

01595000 NORTH BRANCH POTOMAC RIVER AT STEYER, MD

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

DRAINAGE AREA.--73.0 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 2,276.01 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 8 to Nov. 4 and Jan. 23-30. Records fair except those for period with ice effect, Jan. 23-30, and for period of backwater from unknown source, Oct. 8 to Nov. 4, which are poor. 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.--31 years, 174 ft³/s, 32.37 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s, Nov. 5, 1985, gage height, 13.14 ft, from rating curve extended above 3,000 ft³/s on basis of slope-area measurement at gage height 10.30 ft; minimum discharge 2.9 ft³/s, Sept. 10, 1965, gage height, 2.03 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Oct. 15, 1954, reached a stage of 13.0 ft, from floodmarks; discharge, 11,300 ft³/s, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
APR. 16	2230	*1,440	*5.31	No peak greater than base discharge.			

Minimum discharge, 11 ft³/s, Aug. 17, 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	141	170	191	142	220	538	234	246	52	50	27	27
2	233	230	222	128	325	602	238	231	52	64	21	26
3	154	180	384	122	319	347	231	223	53	54	25	24
4	133	180	294	130	238	281	222	532	52	42	27	23
5	179	689	226	112	203	233	199	372	48	36	49	21
6	137	776	194	126	187	235	198	292	41	29	54	76
7	120	341	179	127	175	320	271	246	33	33	29	89
8	100	250	164	113	169	410	665	211	27	35	24	342
9	90	379	423	97	146	463	631	175	37	34	20	168
10	80	329	544	101	185	409	533	147	45	36	14	89
11	76	377	382	96	164	292	470	123	42	33	20	71
12	76	408	331	84	188	244	441	113	38	29	23	320
13	120	281	251	88	207	207	380	109	63	24	23	301
14	180	214	225	92	164	173	300	98	55	29	22	149
15	140	184	203	233	147	159	311	106	37	35	18	99
16	120	157	175	390	119	153	684	90	54	33	15	75
17	105	135	162	259	141	146	1050	69	52	28	12	81
18	96	157	204	212	126	156	585	59	41	26	26	223
19	88	467	205	696	132	165	412	116	38	21	20	136
20	85	345	167	519	123	170	327	203	158	16	15	139
21	83	586	152	321	105	157	271	118	373	20	16	112
22	82	360	138	244	100	149	235	95	185	30	67	92
23	82	287	177	210	117	145	211	81	328	27	133	87
24	82	288	230	190	99	150	288	71	212	25	35	74
25	120	263	423	180	98	162	353	58	136	21	24	65
26	150	422	318	160	102	162	265	76	106	20	24	53
27	130	478	252	150	101	135	232	104	94	22	37	47
28	220	331	219	150	103	127	260	95	64	24	39	41
29	180	266	192	160	---	112	225	80	49	28	106	44
30	160	223	176	180	---	129	329	74	54	27	43	110
31	140	---	158	311	---	272	---	74	---	27	29	---
TOTAL	3882	9753	7561	6123	4503	7403	11051	4687	2619	958	1037	3204
MEAN	125	325	244	198	161	239	368	151	87.3	30.9	33.5	107
MAX	233	776	544	696	325	602	1050	532	373	64	133	342
MIN	76	135	138	84	98	112	198	58	27	16	12	21
CFSM	1.71	4.45	3.34	2.71	2.21	3.27	5.04	2.07	1.20	.42	.46	1.47
IN.	1.98	4.97	3.85	3.12	2.29	3.77	5.63	2.39	1.33	.49	.53	1.63

CAL YR 1986	TOTAL	65503	MEAN 179	MAX 1420	MIN 17	CFSM 2.45	IN 33.38
WTR YR 1987	TOTAL	62781	MEAN 172	MAX 1050	MIN 12	CFSM 2.36	IN 31.99

POTOMAC RIVER BASIN

01595200 STONY RIVER NEAR MOUNT STORM, WV

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

DRAINAGE AREA.--48.8 mi².

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder. Datum of gage is 2,554.54 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Water-discharge records good. Flow regulated by Stony River Reservoir, 14.0 mi upstream from station, capacity, 1,948,000,000 gal, of which 1,681,000,000 gal is controlled above minimum pool. Regulation since 1963 by Virginia Electric and Power Company dam (Mount Storm Lake) 4.0 mi upstream from station. Reservoir no longer in use after June 1987.

AVERAGE DISCHARGE.--26 years, 101 ft³/s, 28.11 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,000 ft³/s, Nov. 5, 1985, gage height, 16.41 ft, from floodmarks, from rating curve extended above 7,500 ft³/s, on basis of slope-area measurement of peak flow; minimum, 1.8 ft³/s, July 13, 1968, Sept. 25, 1985; minimum gage height, 1.73 ft, Sept. 25, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,810 ft³/s, Nov. 28, gage height, 6.82 ft; minimum discharge, 3.7 ft³/s, Oct. 12; minimum gage height, 1.88 ft, July 19-22.

DISCHARGE, 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	4.7	5.1	42	124	162	212	409	241	149	19	6.8	6.0
2	13	12	82	114	122	199	381	230	130	21	6.4	6.4
3	5.0	7.4	345	97	75	155	328	223	122	19	8.9	6.2
4	4.4	6.1	326	80	46	142	304	491	112	15	7.1	8.6
5	5.7	56	174	61	39	132	147	528	102	11	11	9.0
6	4.8	85	74	38	36	140	194	186	95	10	7.4	18
7	5.4	35	74	29	34	173	340	165	36	11	6.1	34
8	5.9	28	81	26	35	202	208	108	18	10	5.3	119
9	5.5	43	118	24	36	237	256	92	22	9.0	5.0	48
10	5.5	47	121	24	38	297	453	50	21	8.6	5.2	17
11	4.3	116	96	24	30	293	480	41	21	8.1	5.4	21
12	3.7	148	80	25	42	252	338	40	24	6.2	5.1	76
13	4.0	127	65	22	45	224	92	47	59	5.8	4.8	82
14	6.0	109	54	22	40	169	178	55	50	6.9	5.1	26
15	5.0	96	48	40	33	53	468	59	47	7.5	5.2	19
16	5.2	87	47	72	34	59	1160	70	52	6.0	4.9	15
17	5.8	80	46	49	33	59	1140	147	50	6.3	5.6	15
18	4.7	91	52	45	27	82	609	83	45	6.0	9.1	36
19	3.9	149	50	199	36	115	237	114	42	5.4	7.9	20
20	4.0	119	45	196	35	104	395	207	41	5.3	6.1	16
21	4.2	155	43	167	24	93	324	231	63	5.3	5.3	15
22	4.0	138	46	162	24	94	178	122	67	6.1	26	16
23	4.0	161	52	162	54	98	607	44	78	11	24	13
24	4.9	141	156	156	65	103	405	34	263	7.6	6.5	12
25	5.8	122	291	149	135	112	281	33	151	6.5	6.6	12
26	6.2	148	223	145	47	114	543	48	17	8.0	6.5	9.8
27	5.9	200	192	141	46	119	109	110	15	7.1	7.2	9.3
28	9.2	555	130	138	58	130	134	192	12	8.6	7.4	10
29	9.3	39	119	133	---	137	144	200	14	6.4	11	15
30	9.1	41	110	135	---	165	277	184	19	6.3	6.2	18
31	6.3	---	116	185	---	403	---	170	---	7.3	5.6	---
TOTAL	175.4	3146.6	3498	2984	1431	4867	11119	4545	1937	275.3	240.7	728.3
MEAN	5.66	105	113	96.3	51.1	157	371	147	64.6	8.88	7.76	24.3
MAX	13	555	345	199	162	403	1160	528	263	21	26	119
MIN	3.7	5.1	42	22	24	53	92	33	12	5.3	4.8	6.0
(G)	1219	1091	1208	1263	1133	1241	712	196	---	---	---	---

CAL YR 1986 TOTAL 27606.7 MEAN 75.6 MAX 1130 MIN 3.1
WTR YR 1987 TOTAL 34947.1 MEAN 95.7 MAX 1160 MIN 3.7

(G) Month-end contents, in millions of gallons, in Stony River Reservoir, furnished by West Virginia Pulp and Paper Company. These values do not include changes in storage in Mount Storm Lake.

MAX	20.0	16.0	11.0	7.5	6.0	12.0	15.0	22.0	24.0	25.5	24.5	19.0
MIN	6.0	7.0	2.5	2.5	1.5	2.5	6.0	11.5	14.5	16.0	15.0	12.5
WTR YR 1987		MAX 25.5		MIN 1.5								

POTOMAC RIVER BASIN

01598500 NORTH BRANCH POTOMAC RIVER AT LUKE, MD

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

DRAINAGE AREA.--404 mi².

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

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

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

REMARKS.--Estimated daily discharges: Apr. 22 to May 19. Records good except those for periods of partially plugged intakes, Apr. 22 to May 19, which are fair. Flow regulated prior to July 1981 by Stony River Reservoir, 45 mi upstream from station (see station 01597500), since December 1950 by Savage River Reservoir, 5 mi upstream from station (see station 01597500), and since July 1981 by Jennings Randolph Lake, 9 mi upstream from station (see station 01595800). Some regulation at low flow by West Virginia Pulp and Paper Company at site used 1899-1906. U.S. Army Corps of Engineers satellite telemeter at station. Upper Potomac River Commission gage height 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.--44 years (water years 1900-05, 1950-87), 717 ft³/s, 24.10 in/yr, adjusted for storage since October 1949.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 39,400 ft³/s, Oct. 15, 1954, gage height, 17.15 ft, from rating curve extended above 25,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily discharge, 6 ft³/s, Sept. 4, 1904.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,780 ft³/s, Apr. 18, gage height, 7.78 ft; minimum discharge, 140 ft³/s, Aug. 18, gage height, 1.54 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	308	448	1050	595	518	478	529	900	399	271	251	241
2	308	447	1080	593	493	514	570	930	392	277	251	241
3	306	443	1460	588	473	493	696	1000	377	272	253	241
4	312	441	1270	541	490	482	842	1100	370	268	250	240
5	319	465	687	496	590	472	833	1830	355	266	266	242
6	305	504	677	485	618	446	794	2200	332	266	251	261
7	303	643	671	486	619	402	978	1830	330	265	248	256
8	303	1440	667	462	620	419	2470	1170	305	260	248	283
9	298	1890	718	413	652	477	3730	900	280	256	247	256
10	295	2200	743	392	646	667	3140	680	277	257	248	249
11	295	2580	736	390	588	808	3160	500	277	259	242	254
12	295	1660	726	387	528	798	2720	450	279	257	235	303
13	296	507	715	386	506	744	1830	430	277	257	234	400
14	298	448	708	386	484	706	1440	420	276	259	233	351
15	294	444	700	391	480	626	1350	430	275	259	233	320
16	293	414	688	396	475	530	1310	410	274	257	233	318
17	292	331	684	394	448	502	1590	400	273	257	232	326
18	292	307	592	395	423	457	3450	410	266	679	242	324
19	290	323	506	492	420	433	5480	440	646	570	232	737
20	289	344	502	482	417	432	5000	704	603	255	349	615
21	288	373	499	456	416	430	3980	792	616	254	432	312
22	287	346	436	453	419	428	2500	702	325	253	513	306
23	292	341	384	443	425	427	900	621	281	253	418	337
24	298	339	499	434	419	426	1000	617	265	252	247	299
25	649	339	640	432	419	427	900	569	372	252	246	299
26	618	443	774	482	419	425	1100	461	462	256	242	297
27	358	698	1220	523	418	433	800	407	377	253	235	296
28	441	884	1160	730	428	445	680	445	267	252	239	295
29	454	1070	816	1330	---	443	700	451	267	252	243	297
30	452	1060	714	526	---	476	800	405	268	251	242	301
31	451	---	678	521	---	547	---	402	---	251	242	---
TOTAL	10579	22172	23400	15480	13851	15793	55272	23006	10363	8746	8277	9497
MEAN	341	739	755	499	495	509	1842	742	345	282	267	317
MAX	649	2580	1460	1330	652	808	5480	2200	646	679	513	737
MIN	287	307	384	386	416	402	529	400	265	251	232	240

CAL YR 1986 TOTAL 210141 MEAN 576 MAX 5770 MIN 225 CFSM 1.43 IN 19.35
WTR YR 1987 TOTAL 216436 MEAN 593 MAX 5480 MIN 232 CFSM 1.47 IN 19.93

POTOMAC RIVER BASIN

01603000 NORTH BRANCH POTOMAC RIVER NEAR CUMBERLAND, MD

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

DRAINAGE AREA.--875 mi².

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

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

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

REMARKS.--Estimated daily discharges: Jan. 23-28. Records good except those for period with ice effect, Jan. 23-28, which are fair. Prior to July 1981 some regulation at low flow by Stony River Reservoir, 79 mi upstream from station (see station 01595200). Low-flow regulation since December 1950 by Savage River Reservoir, 39 mi upstream from station (see station 01597500). Flow regulated by Jennings Randolph Lake, 43 mi upstream from station (see station 01595800) since July 1981. Prior to July 1957, small amount of inflow from industrial wastes and sewage from city of Cumberland from water diverted from Evitts Creek, mouth of which is downstream from station. Diversion to Chesapeake and Ohio Canal prior to 1935. National Weather Service gage height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at gage. 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.--58 years, 1,275 ft³/s, 19.79 in/yr, adjusted for storage since October 1981.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 29.2 ft June 1, 1889, discharge, about 89,000 ft³/s. Flood of Mar. 29, 1924, reached a stage of 28.4 ft, discharge, about 82,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 9,620 ft³/s, Apr. 17, gage height, 9.72 ft; minimum discharge, 264 ft³/s, Aug. 18, 19, gage height, 2.44 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	387	578	1580	1220	1020	1590	3700	1550	851	391	299	287
2	416	578	1730	1170	1190	2670	2730	1690	932	428	299	285
3	433	578	3350	1110	1710	2330	2270	1720	786	457	326	283
4	498	578	3100	1040	1700	1950	5300	2340	717	410	323	283
5	583	709	1850	878	1630	1660	6320	3300	672	386	333	285
6	483	1010	1470	834	1620	1480	4650	3680	602	373	405	412
7	430	940	1340	890	1580	1420	5020	3350	569	378	327	422
8	409	1380	1250	899	1560	1770	5570	2080	547	364	319	603
9	396	2350	1580	798	1480	2160	6770	1680	487	349	307	569
10	379	2490	2040	744	1400	2060	5350	1510	467	342	305	400
11	370	3150	1840	736	1320	2020	4860	1140	448	352	298	355
12	368	3040	1670	706	1210	1800	4520	993	444	382	286	485
13	386	1080	1480	690	1200	1660	3480	932	454	375	278	720
14	420	841	1310	667	1070	1460	2530	875	443	381	275	587
15	416	746	1300	709	1040	1420	2660	898	428	369	273	458
16	417	709	1220	839	916	1220	4090	845	419	351	275	423
17	382	570	1170	876	978	1160	8620	793	412	336	273	433
18	382	533	1210	873	879	1070	7600	773	402	342	271	468
19	382	821	1050	1670	815	995	8780	955	483	1180	279	496
20	375	785	966	2610	794	970	7370	1110	752	391	269	1350
21	368	1320	929	1850	798	947	6170	1380	1100	323	405	548
22	361	1140	884	1580	777	928	4100	1350	848	316	526	456
23	355	919	730	1350	889	912	2250	1150	515	312	675	430
24	368	805	1080	1050	873	894	2670	1100	472	312	502	449
25	388	725	2460	1000	855	896	2540	1060	424	308	300	399
26	1140	919	2510	950	860	912	2810	959	623	310	302	384
27	488	1780	2580	980	884	878	2640	906	684	322	298	375
28	528	1640	2500	1000	901	898	1530	972	465	311	290	368
29	586	1830	1850	1970	---	880	1280	978	390	307	293	370
30	578	1690	1520	1340	---	1170	1720	876	388	304	292	421
31	578	---	1390	1070	---	3360	---	808	---	300	292	---
TOTAL	14050	36234	50939	34099	31949	45540	129900	43753	17224	11762	10195	13804
MEAN	453	1208	1643	1100	1141	1469	4330	1411	574	379	329	460
MAX	1140	3150	3350	2610	1710	3360	8780	3680	1100	1180	675	1350
MIN	355	533	730	667	777	878	1280	773	388	300	269	283

CAL YR 1986	TOTAL	421008	MEAN	1153	MAX	13700	MIN	315	CFSM	1.32	IN	17.90
WTR YR 1987	TOTAL	439449	MEAN	1204	MAX	8780	MIN	269	CFSM	1.38	IN	18.68

POTOMAC RIVER BASIN

01604500 PATTERSON CREEK NEAR HEADSVILLE, WV

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

DRAINAGE AREA.--219 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 624.90 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Prior to Oct. 11, 1946, nonrecording gage on bridge 1.0 mi upstream at datum 6.14 ft higher. Oct. 11-23, 1946, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Jan. 24-30. Records fair except those for period of estimated daily discharges, which are poor. The flow from 115 mi² upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,887 acre-ft.

AVERAGE DISCHARGE.--49 years, 169 ft³/s, 10.48 in/yr.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,580 ft³/s, Apr. 17, gage height, 8.89 ft; minimum discharge, 2.4 ft³/s, Sept. 4; minimum gage height, 2.62 ft, July 26.

DISCHARGE, 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	8.9	9.6	84	132	140	615	531	343	57	14	3.8	11
2	9.2	13	108	116	417	806	407	309	67	15	3.9	11
3	9.2	14	419	100	847	590	337	286	55	16	4.0	6.4
4	10	14	287	87	693	473	946	715	51	14	4.0	4.1
5	11	19	207	77	561	397	1120	811	47	12	5.2	6.4
6	9.4	40	156	77	460	342	1110	624	41	11	6.7	9.1
7	9.1	30	122	71	392	293	1130	514	38	10	6.3	10
8	8.2	27	99	77	338	253	856	436	35	9.3	6.3	12
9	8.2	24	102	79	284	228	683	370	32	8.6	6.2	14
10	8.2	20	130	83	232	200	593	315	32	8.1	6.2	12
11	7.7	20	126	89	201	175	519	266	30	7.5	6.2	9.1
12	7.7	23	121	86	182	156	460	226	29	13	6.2	13
13	8.6	21	108	79	167	141	402	192	29	14	6.1	100
14	11	19	94	74	149	126	341	159	28	9.1	6.0	36
15	11	16	86	72	136	117	312	137	27	13	6.0	22
16	9.9	15	78	69	118	121	677	113	26	10	5.9	15
17	9.7	14	72	66	108	126	2270	94	27	8.4	5.9	11
18	9.4	15	76	63	101	131	1530	80	24	7.3	5.8	9.5
19	9.2	49	72	374	94	136	977	83	23	6.7	6.0	9.6
20	9.1	77	67	863	83	135	708	130	21	6.1	6.1	9.8
21	9.0	211	62	558	76	128	610	130	31	5.8	5.9	9.2
22	8.7	169	56	452	73	119	534	118	32	5.2	6.1	8.5
23	8.9	126	51	379	92	111	468	106	34	4.8	7.5	7.4
24	8.9	98	189	e280	105	103	445	96	29	4.7	9.4	6.5
25	8.7	75	719	e235	143	98	779	83	25	4.5	9.7	6.1
26	11	89	528	e170	190	96	638	73	22	4.2	10	5.6
27	12	205	396	e125	201	90	529	68	23	4.3	10	5.9
28	11	173	310	e100	211	88	473	69	19	4.4	12	6.2
29	11	135	244	e107	---	83	414	73	17	4.1	13	6.5
30	10	105	200	e116	---	103	397	68	15	4.0	14	10
31	9.8	---	162	132	---	381	---	62	---	3.9	9.7	---
TOTAL	293.7	1865.6	5531	5388	6794	6961	21196	7149	966	263.0	220.1	402.9
MEAN	9.47	62.2	178	174	243	225	707	231	32.2	8.48	7.10	13.4
MAX	12	211	719	863	847	806	2270	811	67	16	14	100
MIN	7.7	9.6	51	63	73	83	312	62	15	3.9	3.8	4.1
CFSM	.04	.28	.81	.79	1.11	1.03	3.23	1.05	.15	.04	.03	.06
IN.	.05	.32	.94	.92	1.15	1.18	3.60	1.21	.16	.04	.04	.07

CAL YR 1986 TOTAL 53963.0 MEAN 148 MAX 3770 MIN 6.0 CFMS .68 IN. 9.17
WTR YR 1987 TOTAL 57030.3 MEAN 156 MAX 2270 MIN 3.8 CFMS .71 IN. 9.69

e Estimated

POTOMAC RIVER BASIN

01605500 SOUTH BRANCH POTOMAC RIVER AT FRANKLIN, WV

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

DRAINAGE AREA.--182 mi².

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

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

REMARKS.--Estimated daily discharges: Jan. 25-30. Records good except those for period of estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--40 years, 173 ft³/s, 12.91 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,000 ft³/s, Nov. 4, 1985, gage height, 22.58 ft, from floodmarks, from rating curve extended above 15,000 ft³/s, on basis of slope-area measurement of peak flow; minimum, 13 ft³/s, Jan. 17, 1966; minimum gage height, 1.31 ft, Sept. 25-29, 1959.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1936 reached a stage of about 13 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 24	1845	1,880	4.49	Apr. 17	1400	*4,980	*6.49
Mar. 1	1840	2,090	4.65				

Minimum discharge, 25 ft³/s, Oct. 11, gage height, 1.51 ft.

DISCHARGE, 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	33	30	72	140	150	1130	557	273	189	50	41	30
2	32	40	93	130	179	1180	412	240	217	54	36	29
3	31	37	260	114	302	704	345	256	167	52	35	29
4	32	33	193	98	282	514	320	565	163	53	34	29
5	33	46	149	89	248	398	289	507	148	80	34	33
6	32	73	121	83	229	338	285	419	128	61	34	64
7	30	52	103	87	223	339	504	354	117	51	33	64
8	30	57	90	90	226	411	928	304	106	48	34	557
9	28	53	95	80	191	552	881	257	99	45	33	224
10	28	51	137	80	167	596	642	226	104	44	32	142
11	28	67	142	85	159	415	512	202	90	43	32	163
12	28	103	175	76	206	331	420	188	87	51	31	173
13	29	73	147	74	248	274	345	176	91	70	30	131
14	33	58	121	71	215	232	286	163	84	56	30	105
15	32	53	110	79	192	208	872	177	77	49	29	85
16	30	52	99	87	172	193	2710	163	76	45	30	74
17	29	48	90	86	161	175	4250	144	88	43	30	68
18	29	46	89	89	155	166	2070	134	72	41	29	70
19	29	51	84	654	135	157	1130	308	67	40	28	64
20	28	52	77	763	126	150	773	867	65	39	28	126
21	29	73	70	460	127	145	585	481	71	37	27	134
22	29	71	61	356	128	140	463	354	70	36	31	103
23	28	64	60	290	138	136	384	293	64	44	57	85
24	29	60	573	211	127	132	486	249	60	48	37	74
25	30	56	782	e175	124	135	1030	368	57	42	32	66
26	33	71	513	e120	136	148	715	261	59	40	32	60
27	32	146	351	e116	140	139	550	270	58	41	33	55
28	31	113	269	e124	147	145	459	344	53	38	31	52
29	29	93	209	e130	---	136	379	368	51	36	32	50
30	29	81	179	e150	---	162	328	263	52	36	31	61
31	29	---	156	161	---	594	---	216	---	35	30	---
TOTAL	932	1903	5670	5348	5033	10475	23910	9390	2830	1448	1016	3000
MEAN	30.1	63.4	183	173	180	338	797	303	94.3	46.7	32.8	100
MAX	33	146	782	763	302	1180	4250	867	217	80	57	557
MIN	28	30	60	71	124	132	285	134	51	35	27	29
CFSM	.17	.35	1.00	.95	.99	1.86	4.38	1.66	.52	.26	.18	.55
IN.	.19	.39	1.16	1.09	1.03	2.14	4.89	1.92	.58	.30	.21	.61

CAL YR 1986 TOTAL 43791 MEAN 120 MAX 2800 MIN 28 CFSM .66 IN. 8.95
WTR YR 1987 TOTAL 70955 MEAN 194 MAX 4250 MIN 27 CFSM 1.07 IN. 14.50

e Estimated

POTOMAC RIVER BASIN

01606500 SOUTH BRANCH POTOMAC RIVER NEAR PETERSBURG, WV

LOCATION (REVISED).--Lat 38°59'28", long 79°10'34", Grant County, Hydrologic Unit 02070001, on right bank 1.1 mi downstream from North Fork South Branch Potomac River, 2.6 mi west of Petersburg, and at mile 72.7.

DRAINAGE AREA.--642 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 968.34 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 4, 1928, nonrecording gage at site 700 ft downstream and at different datum. June 1928 to Nov. 5, 1985, water-stage recorder at site 700 ft downstream at datum 6.34 ft lower.

REMARKS.--Estimated daily discharges: Jan. 25 to Feb. 1, May 19 to June 1. Records fair. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--59 years, 722 ft³/s, 15.27 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 130,000 ft³/s, Nov. 5, 1985, gage height, 21.80 ft, from floodmarks, from rating curve extended above 63,000 ft³/s, on basis of slope-area measurement of peak flow; minimum, 42 ft³/s, Sept. 28, 29, 1959, Sept. 11, 12, 1966; minimum gage height, 0.46 ft, part or all of each day Aug. 20-22, 1987.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum(*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Apr. 17	0800	8,260	8.18	No other peak greater than base discharge.			
Minimum discharge, 72 ft ³ /s, Aug. 20-22, gage height, 0.46 ft.							

DISCHARGE, 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	117	393	784	662	e860	2100	2540	1340	716	153	91	95
2	116	530	784	634	1020	4470	1860	1140	784	166	93	89
3	116	700	1360	550	2010	3090	1770	1020	648	173	93	87
4	115	630	1220	460	1710	2280	1620	1540	580	165	89	84
5	110	704	1010	412	1430	2010	1430	2140	544	179	88	85
6	134	1340	958	384	1290	1600	1360	2050	470	192	95	117
7	117	1220	770	364	1180	1700	1850	1890	430	173	94	219
8	113	1100	672	376	1140	2020	3430	1490	380	148	95	1520
9	110	1020	574	352	906	2460	3680	1240	356	137	92	1090
10	105	982	488	319	838	2790	3040	1040	305	129	90	534
11	104	805	1160	312	879	2150	2850	899	305	128	88	404
12	104	910	1080	294	757	1730	2720	803	293	124	85	594
13	101	896	1080	284	1420	1410	2100	732	450	144	82	689
14	110	1080	906	277	1270	1160	1940	641	404	159	81	568
15	128	686	838	284	1090	983	1690	634	326	148	80	372
16	134	630	621	344	920	913	4810	607	269	134	78	270
17	122	560	510	480	825	790	7750	566	286	124	81	240
18	110	500	465	475	757	798	5930	494	291	117	79	270
19	110	644	440	1740	689	770	3610	920	250	112	77	333
20	110	714	412	3700	634	784	2820	3300	234	109	73	532
21	110	784	340	2510	550	784	2360	2220	249	104	72	689
22	211	742	294	1670	538	784	1960	1890	252	100	81	445
23	400	777	261	1180	621	798	1650	1350	245	99	122	388
24	348	812	376	1020	594	811	1540	1200	222	101	175	319
25	367	798	3300	e760	580	866	2290	1090	204	114	134	266
26	374	784	2850	e580	648	1010	2420	955	191	110	110	218
27	430	1130	2050	e460	689	1080	2110	879	188	106	102	229
28	430	1120	1510	e440	770	1010	1920	1160	180	103	101	191
29	430	1120	1200	e430	---	949	1740	1040	164	98	103	177
30	430	926	989	e600	---	906	1560	879	156	94	103	702
31	410	---	825	e680	---	1440	---	825	---	92	102	---
TOTAL	6226	25037	30127	23033	26615	46446	78350	37974	10372	4035	2929	11816
MEAN	201	835	972	743	951	1498	2612	1225	346	130	94.5	394
MAX	430	1340	3300	3700	2010	4470	7750	3300	784	192	175	1520
MIN	101	393	261	277	538	770	1360	494	156	92	72	84
CFSM	.31	1.30	1.51	1.16	1.48	2.33	4.07	1.91	.54	.20	.15	.61
IN.	.36	1.45	1.75	1.33	1.54	2.69	4.54	2.20	.60	.23	.17	.68

CAL YR 1986 TOTAL 189823 MEAN 520 MAX 9800 MIN 95 CFSM .81 IN. 11.00
WTR YR 1987 TOTAL 302960 MEAN 830 MAX 7750 MIN 72 CFSM 1.29 IN. 17.55

e Estimated

POTOMAC RIVER BASIN

01607500 SOUTH FORK SOUTH BRANCH POTOMAC RIVER AT BRANDYWINE, WV

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

DRAINAGE AREA.--102 mi².

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

REVISED RECORDS.--WSP 1141: 1945(M), 1947(M). WRD WV-84-1: 1983.

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

REMARKS.--Estimated daily discharges: Jan. 25, 31, Aug. 19, 26. Records good except those for periods of estimated daily discharges, which are fair. The flow from 41.3 mi² upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 8,882 acre-ft.

AVERAGE DISCHARGE.--44 years, 102 ft³/s, 13.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,200 ft³/s, June 17, 1949, gage height, 14.6 ft, from floodmarks, from rating curve extended above 5,300 ft³/s on basis of slope-area measurement of peak flow; maximum gage height, 18.42 ft, Nov. 4, 1985, from floodmarks; minimum, 0.3 ft/s, Dec. 1, 10, 1958, result of freezeup; minimum gage height, 0.59 ft, Sept. 25, 26, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,490 ft³/s, Apr. 17, gage height, 5.49 ft; minimum discharge, 4.3 ft³/s, Sept. 1; minimum gage height, 0.66 ft, Oct. 5, 8-13.

DISCHARGE, 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	7.2	7.6	17	71	59	929	484	135	76	21	15	5.6
2	7.1	9.9	29	68	96	1240	228	118	96	21	15	5.7
3	6.7	9.3	179	59	262	620	135	128	77	20	15	5.5
4	6.5	8.8	119	53	244	358	111	364	79	20	14	6.0
5	6.4	14	72	51	190	199	89	341	109	21	15	7.1
6	6.5	19	55	49	127	125	124	248	92	21	16	18
7	6.7	17	47	50	99	100	468	200	76	21	14	27
8	6.1	18	41	48	86	126	1160	167	63	19	15	632
9	6.2	15	38	44	73	250	1060	142	56	17	14	428
10	6.2	12	40	46	62	323	555	125	56	17	14	187
11	6.1	18	42	48	61	173	340	112	39	16	13	138
12	6.4	22	65	46	62	107	227	104	39	16	13	112
13	6.7	18	65	43	63	83	159	98	38	18	12	96
14	7.8	14	54	39	63	80	112	88	35	17	11	94
15	7.9	12	49	35	61	78	448	83	29	16	11	70
16	7.5	11	45	38	60	76	2130	73	28	16	11	54
17	6.9	10	40	37	60	70	2580	64	27	16	10	44
18	6.8	10	37	39	59	68	1580	60	24	15	11	43
19	6.8	10	33	731	57	64	1110	233	23	14	e9.7	37
20	6.8	11	30	951	54	59	861	640	22	14	e9.2	69
21	7.0	16	27	338	54	58	658	260	23	13	e9.0	228
22	6.8	19	24	194	55	55	410	178	23	12	e13	152
23	6.8	16	24	111	57	53	208	140	21	12	23	104
24	6.8	14	441	63	57	53	192	117	21	13	15	78
25	7.5	12	1120	e54	58	53	642	150	21	14	e10	62
26	8.0	15	648	e50	59	54	469	254	23	15	e7.2	48
27	7.8	29	292	e47	61	52	320	166	22	15	7.2	40
28	8.0	28	171	e45	65	54	249	136	21	15	7.1	35
29	7.7	24	124	e44	---	53	204	111	21	14	7.5	30
30	7.7	20	98	e46	---	54	169	95	20	14	6.3	34
31	7.5	---	80	e50	---	293	---	81	---	14	6.4	---
TOTAL	216.9	459.6	4146	3588	2364	5960	17482	5211	1300	507	369.6	2889.9
MEAN	7.00	15.3	134	116	84.4	192	583	168	43.3	16.4	11.9	96.3
MAX	8.0	29	1120	951	262	1240	2580	640	109	21	23	632
MIN	6.1	7.6	17	35	54	52	89	60	20	12	6.3	5.5
CFSM	.07	.15	1.31	1.13	.83	1.88	5.71	1.65	.42	.16	.12	.94
IN.	.08	.17	1.51	1.31	.86	2.17	6.38	1.90	.47	.18	.13	1.05

CAL YR 1986 TOTAL 22099.5 MEAN 60.5 MAX 2310 MIN 6.0 CFSM .59 IN. 8.06
WTR YR 1987 TOTAL 44494.0 MEAN 122 MAX 2580 MIN 5.5 CFSM 1.20 IN. 16.23

e Estimated

POTOMAC RIVER BASIN

01608000 SOUTH FORK SOUTH BRANCH POTOMAC RIVER NEAR MOOREFIELD, WV

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

DRAINAGE AREA.--283 mi².

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

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

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

REMARKS.--Estimated daily discharges: Jan. 24-29. Records good except those for period of estimated daily discharges, which are fair. The flow from 92.7 mi upstream from station is partially controlled, but not diverted, by several floodwater detention reservoirs with a total combined detention capacity of 19,870 acre-ft.

AVERAGE DISCHARGE.--56 years, 227 ft³/s, 10.89 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 110,000 ft³/s, Nov. 5, 1985, gage height, 19.99 ft, from floodmarks, from rating curve extended above 39,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 4.4 ft³/s, Sept. 10, 11, 1965, Sept. 9-11, 1966; minimum gage height, 0.38 ft, part of each day Aug. 21, 22, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 13,100 ft³/s, Apr. 16, gage height, 8.48 ft; minimum discharge, 15 ft³/s, Aug. 21, 22, gage height, 0.38 ft.

DISCHARGE, 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	31	72	162	207	1110	925	329	157	33	23	19
2	20	45	79	146	286	3190	717	282	165	42	19	18
3	19	44	282	133	744	1460	506	255	159	36	19	18
4	20	40	370	117	725	871	457	1200	139	32	18	17
5	20	52	256	102	611	595	421	1550	137	36	20	18
6	19	60	186	95	480	443	510	937	141	38	21	27
7	18	59	145	91	400	359	1100	653	124	34	22	32
8	18	74	123	92	351	351	2950	482	109	32	21	566
9	18	68	112	87	322	484	3080	378	98	30	21	872
10	18	62	105	86	266	624	1590	310	91	27	19	415
11	18	62	103	88	226	495	1050	262	82	27	18	254
12	18	82	112	88	208	363	778	227	78	37	18	292
13	19	91	158	87	205	293	573	204	78	32	18	228
14	26	74	152	84	197	242	428	178	72	35	17	183
15	25	64	136	83	188	212	371	161	65	31	16	153
16	23	61	124	83	172	201	5510	153	61	27	18	132
17	22	55	112	84	157	175	11700	138	58	25	19	137
18	21	51	105	86	151	159	7030	128	54	24	16	171
19	22	51	98	479	143	158	3730	194	50	23	15	121
20	20	48	91	2290	129	158	2180	2570	50	23	16	626
21	20	55	83	1030	123	154	1440	1190	52	22	15	462
22	20	56	76	647	125	149	1060	657	47	21	21	403
23	22	61	70	459	145	143	680	440	46	20	41	269
24	22	62	93	e385	143	136	463	336	44	20	31	196
25	23	59	1540	e290	143	131	818	276	40	19	27	150
26	25	61	1300	e220	178	130	1150	344	39	18	24	123
27	25	61	696	e180	227	126	848	337	39	19	22	104
28	26	72	425	e170	247	123	645	398	40	19	22	91
29	26	81	302	e160	---	123	492	273	35	19	23	80
30	26	75	235	e170	---	123	403	215	33	18	21	109
31	29	---	194	e180	---	246	---	180	---	21	19	---
TOTAL	667	1817	7935	8454	7499	13527	53605	15237	2383	840	640	6286
MEAN	21.5	60.6	256	273	268	436	1787	492	79.4	27.1	20.6	210
MAX	29	91	1540	2290	744	3190	11700	2570	165	42	41	872
MIN	18	31	70	83	123	123	371	128	33	18	15	17
CFSM	.08	.21	.90	.96	.95	1.54	6.31	1.74	.28	.10	.07	.74
IN.	.09	.24	1.04	1.11	.99	1.78	7.05	2.00	.31	.11	.08	.83

CAL YR 1986 TOTAL 62181 MEAN 170 MAX 7600 MIN 17 CFSM .60 IN. 8.17
WTR YR 1987 TOTAL 118890 MEAN 326 MAX 11700 MIN 15 CFSM 1.15 IN. 15.63

e Estimated

POTOMAC RIVER BASIN

01608500 SOUTH BRANCH POTOMAC RIVER NEAR SPRINGFIELD, WV

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

DRAINAGE AREA.--1,471 mi².

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

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

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

REMARKS.--Estimated daily discharges: Jan. 24 to Feb. 1. Records good except those for period of estimated daily discharges, which are fair. National Weather Service gage-height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--63 years (water years 1900-01, 1904-05, 1929-87), 1,325 ft³/s, 12.23 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 240,000 ft³/s, Nov. 5, 1985, gage height, 44.22 ft, from floodmarks, from rating curve extended above 145,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 29 ft³/s, Jan. 28, 1956, result of freezeup, July 30, 1966, result of temporary dam; minimum gage height, 0.39 ft, July 30, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in November 1877 reached a stage of about 34 ft, from floodmarks, discharge, 140,000 ft³/s.

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

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 20	1300	11,000	10.24	Apr. 17	1400	*39,300	*19.18
Mar. 2	1400	12,700	11.10				

Minimum discharge, 97 ft³/s, Aug. 21, 22, gage height, 1.72 ft.

DISCHARGE, 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	194	192	742	1060	e1450	2440	4110	2090	1040	254	136	144
2	186	201	697	954	1830	10100	3580	1820	985	245	153	137
3	168	215	1190	871	4300	7390	2710	1670	1040	269	144	127
4	165	358	1970	788	3560	4330	3410	3050	948	271	135	121
5	166	394	1660	700	2820	3090	4040	5670	844	284	136	117
6	153	458	1300	618	2290	2430	4050	3960	812	338	146	133
7	143	956	1050	570	1960	2070	5770	2980	742	283	146	156
8	157	842	893	598	1760	2130	8130	2410	662	264	146	282
9	162	842	805	622	1640	2650	9110	2010	593	237	139	2810
10	153	750	773	608	1450	3500	6940	1710	547	215	137	1680
11	145	693	931	594	1250	3270	4970	1500	514	203	132	1010
12	140	632	1000	592	1190	2380	3950	1340	503	239	123	987
13	141	712	1080	580	1230	1900	3210	1200	483	276	118	2160
14	157	721	1070	559	1540	1590	2610	1090	513	254	114	1130
15	161	612	944	545	1400	1390	2190	1000	524	310	111	806
16	162	536	869	533	1250	1310	6500	947	471	255	106	644
17	167	488	784	589	1110	1250	33700	948	429	223	106	575
18	183	459	732	655	1020	1130	26300	857	405	203	108	809
19	173	469	682	925	984	1130	12700	846	425	190	108	894
20	165	483	640	8450	883	1110	7860	3350	475	181	102	1080
21	158	611	594	5710	810	1090	5390	4980	707	171	99	2100
22	153	657	548	3390	789	1080	4020	2960	532	164	103	1410
23	150	686	497	2560	852	1060	3090	2180	439	156	113	1060
24	148	641	512	e1870	925	1040	2530	1750	415	148	190	818
25	149	596	3280	e1340	967	1030	3790	1460	368	146	196	668
26	160	611	5790	e1220	1100	1080	5400	1360	338	147	221	559
27	167	757	3640	e1090	1250	1160	4120	1340	320	159	187	480
28	170	986	2410	e900	1280	1180	3290	1460	294	154	164	419
29	173	982	1800	e970	---	1150	2760	1580	285	145	155	375
30	182	859	1450	e1030	---	1160	2390	1360	269	140	157	399
31	187	---	1230	e1080	---	1880	---	1200	---	136	151	---
TOTAL	5038	18399	41563	42571	42890	69500	192620	62078	16922	6660	4282	24090
MEAN	163	613	1341	1373	1532	2242	6421	2003	564	215	138	803
MAX	194	986	5790	8450	4300	10100	33700	5670	1040	338	221	2810
MIN	140	192	497	533	789	1030	2190	846	269	136	99	117
CFSM	.11	.42	.91	.93	1.04	1.52	4.36	1.36	.38	.15	.09	.55
IN.	.13	.47	1.05	1.08	1.08	1.76	4.87	1.57	.43	.17	.11	.61

CAL YR 1986 TOTAL 404129 MEAN 1107 MAX 28100 MIN 130 CFSM .75 IN. 10.22
WTR YR 1987 TOTAL 526613 MEAN 1443 MAX 33700 MIN 99 CFSM .98 IN. 13.32

e Estimated

POTOMAC RIVER BASIN

01610000 POTOMAC RIVER AT PAW PAW, WV

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

DRAINAGE AREA.--3,109 mi².

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

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

REMARKS.--No estimated daily discharges. Records good. Low flow affected by Stony River Reservoir prior to July 1981 (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake (see station 01595800). National Weather Service gage height telemeter at station. 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.--49 years, 3,303 ft³/s, 14.43 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 235,000 ft³/s, Nov. 5, 1985, gage height, 53.58 ft, from rating curve extended above 85,000 ft³/s on basis of slope-area measurement of peak flow at site 5.0 mi upstream at Okonoko, W. Va.; minimum discharge, 164 ft³/s, Sept. 10, 11, 1966.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 5	0245	25,600	17.66	Apr. 17	1945	*53,000	*25.93

Minimum discharge, 390 ft³/s, Aug. 21, gage height, 3.39 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	541	660	2940	4000	2310	4540	9600	4570	1950	742	480	493
2	582	679	2790	3500	2680	11700	8290	4170	2160	755	489	473
3	587	674	4930	3200	6310	12000	6520	4040	2040	804	520	461
4	626	705	6040	2800	6540	8180	10400	5760	1890	814	521	447
5	686	902	4980	2500	5520	6330	17800	10500	1670	755	549	440
6	689	1310	3760	2290	4590	5090	12700	9110	1540	836	582	505
7	594	1820	3200	2100	4000	4360	14800	7790	1400	777	578	675
8	553	1680	2830	1960	3640	4240	16200	5960	1290	742	536	834
9	554	2410	2690	1830	3370	5060	17700	4780	1190	700	517	2780
10	541	2650	3550	1770	2970	5860	15000	4060	1070	644	507	2770
11	521	2970	3510	1760	2960	6060	11500	3420	1020	622	499	1760
12	511	3200	3440	1720	2900	4860	10000	2940	988	690	480	1550
13	524	2130	3220	1660	2760	4050	8450	2610	980	819	456	4620
14	563	1400	2990	1600	2970	3460	6450	2360	982	933	438	2790
15	577	1150	2720	1550	2820	3100	5800	2230	1000	886	426	1820
16	571	1020	2540	1590	2520	2890	10200	2090	963	797	419	1420
17	548	1030	2350	1690	2320	2690	43400	1970	911	700	417	1220
18	555	1020	2260	1780	2180	2480	42200	1830	870	647	413	1300
19	550	1190	2190	2650	2030	2370	25900	1920	859	914	403	1740
20	535	1440	1960	10500	1900	2310	18400	2980	1220	1090	410	1840
21	520	2080	1830	9710	1760	2250	14300	7270	1640	596	428	3320
22	506	2310	1750	6850	1700	2210	10600	5120	1770	556	635	2340
23	499	2150	1910	5600	1830	2160	7330	3920	1260	539	731	1900
24	492	1980	2360	4290	2020	2100	6210	3230	1070	523	724	1580
25	498	1770	7610	3370	2100	2070	7490	2790	966	515	598	1320
26	755	1740	10900	2990	2280	2120	9210	2500	923	511	556	1150
27	978	3120	8680	2650	2540	2160	8170	2380	1090	514	580	1030
28	577	3470	7100	2300	2610	2190	6600	2430	1060	536	546	937
29	657	3460	5830	2260	---	2180	5330	2750	797	510	510	870
30	659	3250	4890	2930	---	2250	4950	2430	762	501	505	894
31	654	---	4300	2130	---	4800	---	2160	---	494	506	---
TOTAL	18203	55170	122050	97530	84130	128120	391500	122070	37331	21462	15959	45279
MEAN	587	1839	3937	3146	3005	4133	13050	3938	1244	692	515	1509
MAX	978	3470	10900	10500	6540	12000	43400	10500	2160	1090	731	4620
MIN	492	660	1750	1550	1700	2070	4950	1830	762	494	403	440

CAL YR 1986 TOTAL 942208 MEAN 2581 MAX 43600 MIN 443 CFSM .83 IN 11.27
WTR YR 1987 TOTAL 1138804 MEAN 3120 MAX 43400 MIN 403 CFSM 1.00 IN 13.63

POTOMAC RIVER BASIN

01611500 CACAPON RIVER NEAR GREAT CACAPON, WV

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

DRAINAGE AREA.--677 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 456.78 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark). Prior to Nov. 10, 1933, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Jan. 26 to Feb. 1. Records good except those for period of estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--64 years (water years 1924-87), 590 ft³/s, 11.83 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 87,600 ft³/s, Mar. 18, 1936, gage height, 30.1 ft, from rating curve extended above 52,000 ft³/s; minimum, 26 ft³/s, Sept. 11-13, 1966; minimum gage height, 0.35 ft, Sept. 21, 22, 1932, Sept. 11-13, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in May 1889 reached a stage of 24.7 ft, from floodmarks, discharge, 57,500 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 20	1500	4,390	7.21	Apr. 7	1300	6,860	8.97
Mar. 2	1300	7,720	9.51	Apr. 17	1900	*18,000	*14.44
Apr. 5	0500	8,550	10.03	May 5	0600	6,070	8.41

Minimum discharge, 51 ft³/s, Oct. 8, 9; minimum gage height, 0.82 ft, Sept. 5.

DISCHARGE, 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	54	68	175	404	e470	819	1470	1210	311	80	56	62
2	58	73	163	361	619	5460	1720	1020	291	79	56	61
3	57	75	238	331	1240	3920	1300	949	376	102	57	59
4	65	77	845	303	2070	2260	2180	1770	394	115	56	58
5	61	95	632	268	1800	1620	6800	5050	361	89	57	58
6	60	123	402	216	1420	1270	4000	2870	306	74	57	61
7	57	124	293	223	1180	1070	6400	2030	262	73	59	65
8	53	156	237	237	1030	938	4930	1580	223	60	59	85
9	52	172	215	295	923	923	3540	1280	196	61	58	186
10	54	170	212	304	776	973	2530	1070	173	60	57	621
11	54	182	227	299	634	884	1880	908	163	59	57	320
12	55	156	233	307	617	740	1490	792	156	58	57	226
13	59	142	230	299	563	651	1250	717	152	57	56	179
14	65	201	250	279	546	581	1050	643	155	58	54	255
15	69	174	237	264	486	521	884	577	146	58	54	277
16	71	135	207	254	425	494	1120	516	144	57	54	216
17	69	117	205	250	363	507	12100	464	137	67	53	175
18	72	109	200	244	342	508	8870	419	128	60	53	160
19	68	120	197	295	340	493	4390	414	123	58	53	366
20	69	124	200	2560	319	502	2750	483	121	57	54	376
21	67	155	191	2340	292	490	2090	1330	119	56	54	1170
22	65	204	172	1490	287	466	1690	896	134	56	54	1190
23	64	250	155	1130	317	442	1410	698	152	56	56	656
24	65	223	173	803	328	412	1240	570	138	57	57	418
25	65	188	1240	691	359	383	2520	486	121	56	60	303
26	68	171	2000	e600	371	369	2880	418	113	56	64	238
27	70	191	1470	e520	395	358	2140	380	111	57	75	193
28	69	197	995	e440	479	352	1770	345	119	57	72	161
29	69	216	734	e380	---	342	1550	545	118	56	67	141
30	69	203	580	e360	---	378	1350	472	92	56	65	143
31	67	---	477	e400	---	559	---	353	---	56	63	---
TOTAL	1960	4591	13785	17147	18991	29685	89294	31255	5535	2001	1804	8479
MEAN	63.2	153	445	553	678	958	2976	1008	184	64.5	58.2	283
MAX	72	250	2000	2560	2070	5460	12100	5050	394	115	75	1190
MIN	52	68	155	216	287	342	884	345	92	56	53	58
CFSM	.09	.23	.66	.82	1.00	1.41	4.40	1.49	.27	.10	.09	.42
IN.	.11	.25	.76	.94	1.04	1.63	4.91	1.72	.30	.11	.10	.47

CAL YR 1986 TOTAL 154048 MEAN 422 MAX 10300 MIN 48 CFSM .62 IN. 8.46
WTR YR 1987 TOTAL 224527 MEAN 615 MAX 12100 MIN 52 CFSM .91 IN. 12.34

e Estimated

01613000 POTOMAC RIVER AT HANCOCK, MD

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

DRAINAGE AREA.--4,073 mi².

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

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

GAGE.--Water-stage recorder. Datum of gage is 383.68 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1932, to Jan. 5, 1935, Mar. 18, 1936, to Jan. 20, 1937, nonrecording gage, on former highway bridge just upstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 29 to Feb. 1. Records good. Slight regulation at low flow from power plants upstream. Low flow affected slightly by Stony River Reservoir prior to July 1981 (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake (see station 01595800). National Weather Service gage height telemeter at station. 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.--55 years, 4,165 ft³/s, 13.89 in/yr.

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

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1932, about 40 ft in May 1889, discharge, about 220,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 5	0845	36,500	16.88	Apr. 18	0015	*70,600	*24.07
Apr. 7	1130	25,400	13.85				

Minimum discharge, 445 ft³/s, Aug. 22, gage height, 2.58 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	1110	870	3220	3870	3800	4800	11100	6610	2780	932	548	561
2	727	897	2960	3470	4510	13900	12000	5850	2680	920	542	547
3	740	915	3740	3190	7240	19500	9190	5530	2980	977	574	525
4	782	910	6770	2940	10900	12600	13100	5730	3140	1030	571	511
5	844	1010	6600	2660	9690	9230	31700	14900	2720	1020	621	499
6	865	1340	4740	2310	8070	7390	20100	13600	2330	927	653	531
7	873	1760	3800	2140	6930	6280	24400	10900	2100	1050	653	571
8	767	2240	3260	2180	6220	5640	21200	8950	1880	940	680	959
9	705	2540	3010	2290	5710	5950	20900	7020	1710	890	610	1200
10	696	3410	3410	2300	5100	6750	19200	5920	1540	842	597	3820
11	684	3500	4090	2240	4550	7300	14500	5190	1400	794	570	3000
12	660	4060	3930	2220	4200	6530	12300	4430	1340	810	557	2200
13	657	3910	3700	2180	3920	5450	10700	3960	1300	1070	541	3780
14	691	2410	3490	2090	3870	4760	8640	3590	1280	1900	510	4860
15	710	2070	3210	2000	3940	4230	7170	3310	1270	1470	492	3050
16	738	1750	3050	1990	3590	3970	7800	3140	1290	1180	481	2220
17	737	1580	2850	2060	3250	3690	41700	2900	1210	1020	474	1760
18	721	1460	2720	2130	3110	3540	59500	2780	1130	906	467	1610
19	719	1380	2670	2530	2880	3300	33800	2720	1070	812	459	1890
20	710	1680	2530	9680	2720	3240	23000	2980	1070	1140	454	2370
21	695	2110	2330	16000	2540	3170	17400	6040	1590	1160	460	3460
22	675	2950	2170	10200	2420	3090	13500	7420	2100	716	472	4570
23	656	2760	2010	7780	2480	3020	10200	5640	2010	652	699	3210
24	641	2420	1950	6180	2670	2940	8060	4630	1480	624	802	2530
25	632	2110	5540	4760	2850	2860	9110	3980	1280	598	806	2070
26	659	1960	12200	4080	3020	2860	12300	3520	1160	588	697	1690
27	1040	2390	10900	3900	3290	2900	11300	3280	1160	585	634	1460
28	1140	3740	8280	3690	3560	2950	9540	3160	1330	577	688	1290
29	754	3600	6630	3500	---	2950	8130	3440	1260	591	635	1160
30	857	3590	5240	4500	---	3020	7070	3570	988	569	580	1130
31	877	---	4400	3400	---	4590	---	3120	---	558	565	---
TOTAL	23762	67322	135400	124460	127030	172400	508610	167810	50578	27848	18092	59034
MEAN	767	2244	4368	4015	4537	5561	16950	5413	1686	898	584	1968
MAX	1140	4060	12200	16000	10900	19500	59500	14900	3140	1900	806	4860
MIN	632	870	1950	1990	2420	2860	7070	2720	988	558	454	499
CFSM	.19	.55	1.07	.99	1.11	1.37	4.16	1.33	.41	.22	.14	.48
IN.	.22	.61	1.24	1.14	1.16	1.57	4.65	1.53	.46	.25	.17	.54

CAL YR 1986	TOTAL	1242744	MEAN	3405	MAX	57600	MIN	568	CFSM	.84	IN	11.35
WTR YR 1987	TOTAL	1482346	MEAN	4061	MAX	59500	MIN	454	CFSM	1.00	IN	13.54

POTOMAC RIVER BASIN

01616500 OPEQUON CREEK NEAR MARTINSBURG, WV

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

DRAINAGE AREA.--272 mi².

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

REVISED RECORDS.--WSP 1702: 1959.

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

REMARKS.--Estimated daily discharges: Jan. 25 to Feb. 1. Records good except those for period of estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--40 years (water years 1947-87), 231 ft³/s, 11.53 in/yr.

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

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 25	1200	2,150	8.87	Apr. 5	0400	3,290	10.67
Jan. 20	0500	2,080	8.69	Apr. 17	1800	*5,250	*12.05
Mar. 2	0600	2,260	9.15				

Minimum discharge, 35 ft³/s, Oct. 11, 12, gage height, 1.57 ft.

DISCHARGE, 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	47	39	61	154	e190	1430	192	317	157	217	82	62
2	48	46	72	155	226	1670	167	299	166	248	83	60
3	51	73	532	153	483	700	166	301	169	549	80	59
4	44	50	327	146	788	471	1570	636	228	236	80	58
5	45	55	179	138	651	372	2090	872	184	176	92	59
6	42	90	128	127	456	325	1090	506	158	152	99	71
7	38	85	103	126	383	293	1390	403	146	145	85	98
8	39	105	90	148	353	272	741	348	141	141	82	398
9	38	101	96	152	309	266	527	314	139	133	78	824
10	38	70	146	150	258	255	425	289	144	130	85	181
11	37	74	143	174	239	217	370	269	137	126	78	121
12	37	275	186	166	230	209	338	259	134	139	75	118
13	39	129	196	150	225	202	311	255	146	188	74	206
14	43	78	143	138	208	194	283	242	140	138	73	175
15	44	62	116	138	194	188	275	236	129	132	72	123
16	40	58	105	141	178	192	527	222	122	121	71	104
17	39	55	96	127	173	195	3980	212	119	116	72	127
18	39	54	123	122	168	190	2370	212	116	108	70	503
19	40	61	209	468	162	179	915	291	114	106	69	308
20	39	71	170	1420	153	172	684	280	116	102	73	288
21	38	127	136	554	150	166	571	264	176	101	68	554
22	40	141	113	390	152	160	500	234	172	97	70	275
23	41	92	97	327	173	153	442	218	125	95	76	193
24	41	76	186	260	197	148	423	242	118	94	70	152
25	39	69	1550	e230	216	145	658	210	113	91	66	128
26	42	69	568	e210	234	144	578	201	113	89	65	113
27	42	82	340	e190	246	141	454	195	282	90	66	104
28	41	87	258	e170	267	150	403	188	169	90	65	96
29	39	75	214	e160	---	148	374	178	125	88	65	92
30	39	67	187	e150	---	138	350	168	119	88	62	99
31	39	---	170	e160	---	157	---	163	---	85	61	---
TOTAL	1268	2516	7040	7294	7662	9642	23164	9024	4417	4411	2307	5749
MEAN	40.9	83.9	227	235	274	311	772	291	147	142	74.4	192
MAX	51	275	1550	1420	788	1670	3980	872	282	549	99	824
MIN	37	39	61	122	150	138	166	163	113	85	61	58
CFSM	.15	.31	.83	.87	1.01	1.14	2.84	1.07	.54	.52	.27	.70
IN.	.17	.34	.96	1.00	1.05	1.32	3.17	1.23	.60	.60	.32	.79

CAL YR 1986 TOTAL 65585 MEAN 180 MAX 3330 MIN 37 CFSM .66 IN. 8.97
WTR YR 1987 TOTAL 84494 MEAN 231 MAX 3980 MIN 37 CFSM .85 IN. 11.56

e Estimated

POTOMAC RIVER BASIN

01618000 POTOMAC RIVER AT SHEPHERDSTOWN, WV

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

DRAINAGE AREA.--5,936 mi².

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 281.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 25 to Feb. 1, Feb. 10-13. Water-discharge records good. Some regulation at low flow by power plants upstream from station, prior to July 1981 by Stony River Reservoir (see station 01595200), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake (see station 01595800). National Weather Service gage height telemeter at station.

AVERAGE DISCHARGE.--48 years (water years 1929-53, 1965-87), 6,145 ft³/s, 14.06 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 335,000 ft³/s, Mar. 19, 1936, gage height, 42.1 ft, from flood-marks, from rating curve extended above 200,000 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 170 ft³/s, Aug. 1, 1966; minimum daily discharge, 185 ft³/s, July 31, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods in June 1889 and May 1924 reached stages of 39.2 ft and 29.8 ft respectively, from floodmarks, discharges, about 290,000 ft³/s and 168,000 ft³/s respectively, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Jan. 21	1330	24,800	9.26	Apr. 7	1700	41,800	12.85
Mar. 3	1300	30,300	10.48	Apr. 18	1100	*86,900	*20.44
Apr. 5	1530	62,100	16.53				

Minimum discharge, 654 ft³/s, Aug. 21, gage height, 1.61 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	1470	1180	4550	6050	5550	7180	9200	8920	4120	1830	1210	943
2	1450	1340	4140	5520	5460	17400	16200	8370	3820	1960	1130	851
3	1160	1310	4900	5160	6740	28400	13700	7660	3980	2300	983	915
4	993	1370	8420	4830	14600	21900	15300	7770	4610	2590	948	867
5	1110	1490	9380	4490	16200	15500	53900	14800	4920	2180	1010	900
6	1080	1790	7750	4080	13500	12100	40700	20400	4240	1930	1190	1060
7	1260	1880	5900	3670	11200	10000	39200	16100	3640	1820	1180	1140
8	1100	2420	5010	3600	9840	8630	35700	13600	3220	2050	1090	1400
9	1080	2860	4610	3740	8730	8020	30300	10900	2930	2150	1140	2740
10	967	3140	4940	3630	7200	8440	27900	8960	2780	2050	1020	3190
11	925	3950	6120	3710	5650	9030	22600	7790	2570	2040	958	4610
12	839	4540	6120	3740	5050	9030	18100	6940	2420	2030	921	3650
13	1000	4910	5770	3680	5050	7850	15800	6170	2360	2090	963	3560
14	1150	4310	5340	3640	5760	6780	13600	5680	2380	2340	908	6360
15	1080	2970	4890	3590	5620	5910	11100	5330	2580	3560	875	5700
16	1050	2350	4580	3580	5470	5330	10200	4980	2410	2900	887	4060
17	1060	2320	4350	3660	5140	4980	28900	4630	2220	2510	845	3150
18	1050	2100	4260	3650	4870	4730	80700	4430	2070	2200	802	2760
19	1040	2130	4480	4050	4600	4620	54200	4720	1970	2040	753	3010
20	1010	2270	4770	10300	4300	4420	35700	5220	1900	1910	784	3030
21	994	3140	4390	22500	4080	4550	26100	5840	2110	1760	731	3600
22	1030	4370	3960	17700	3790	4410	20600	10600	2970	2200	768	5150
23	1020	4570	3650	13000	3860	4270	16200	8310	3300	1650	919	5220
24	943	3940	3440	9830	4090	4120	12600	6840	3130	1540	930	4110
25	925	3410	8140	7100	4460	4000	11600	5820	2490	1410	1130	3380
26	1110	3090	17900	5750	4610	3930	15100	5270	2210	1300	1160	2740
27	1180	3050	17500	4950	4820	3910	16200	4860	2370	1260	1160	2490
28	1220	4370	13400	4350	5150	4010	13900	4700	2310	1310	1080	1990
29	1740	5160	10500	4400	---	3970	11800	4520	2150	1300	1070	1870
30	1100	4790	8400	4600	---	3940	9890	4760	2140	1250	1080	1790
31	1130	---	6930	5750	---	4350	---	4550	---	1220	954	---
TOTAL	34266	90520	208490	188300	185390	245710	726990	239440	86320	60680	30579	86236
MEAN	1105	3017	6725	6074	6621	7926	24230	7724	2877	1957	986	2875
MAX	1740	5160	17900	22500	16200	28400	80700	20400	4920	3560	1210	6360
MIN	839	1180	3440	3580	3790	3910	9200	4430	1900	1220	731	851
CFSM	.19	.51	1.13	1.02	1.12	1.34	4.08	1.30	.49	.33	.17	.48
IN.	.21	.57	1.31	1.18	1.16	1.54	4.56	1.50	.54	.38	.19	.54

CAL YR 1986	TOTAL	1822753	MEAN	4994	MAX	87700	MIN	672	CFSM	.84	IN	11.42
WTR YR 1987	TOTAL	2182921	MEAN	5981	MAX	80700	MIN	731	CFSM	1.01	IN	13.68

POTOMAC RIVER BASIN

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

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1981.

WATER TEMPERATURE: October 1980 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum 670 microsiemens, Aug. 6, 10, 15, 30, Sept. 3, 1981; minimum, 160 microsiemens, Apr. 14-15, 1981.

WATER TEMPERATURE: Maximum, 30.0°C, July 17, 21, 25, 1981; minimum, 1.0°C, Feb. 13, 1981.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS- CHARGE, INST. CUBIC	FEET PER SECOND	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)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT												
02...	1230	1460	--	--	--	23.0	--	--	--	--	--	--
NOV												
17...	1015	2250	366	7.51	8.0	2.3	756	12.5	106	--	--	--
18...	1350	1990	--	--	9.0	--	--	--	--	--	--	--
DEC												
19...	1150	4320	--	--	3.0	--	--	--	--	--	--	--
JAN												
05...	1200	4270	260	7.67	3.0	2.4	767	14.4	106	K4	K5	
FEB												
02...	1330	5290	--	--	6.0	--	--	--	--	--	--	--
MAR												
05...	1130	15400	168	7.54	6.0	12	771	13.1	104	K95	K63	
APR												
28...	1200	13900	--	--	8.0	--	--	--	--	--	--	--
MAY												
11...	1215	7740	210	7.94	19.0	1.5	759	11.0	119	61	K17	
JUN												
09...	1140	2740	--	--	22.0	--	--	--	--	--	--	--
JUL												
06...	1110	1910	405	7.99	27.0	3.2	760	7.9	100	61	1700	
15...	1330	3650	--	--	26.0	--	--	--	--	--	--	--
SEP												
02...	1115	813	--	--	19.5	--	--	--	--	--	--	--
08...	1200	1180	524	8.02	22.0	0.60	752	7.7	89	>12000	>3300	

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	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)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG C DIS- SOLVED (MG/L)
OCT											
02...	--	--	--	--	--	--	--	--	--	--	--
NOV											
17...	150	100	48	8.3	7.8	2.2	94	12	0.10	4.8	237
18...	--	--	--	--	--	--	--	--	--	--	--
DEC											
19...	--	--	--	--	--	--	--	--	--	--	--
JAN											
05...	100	39	32	6.0	6.1	1.7	40	11	<0.10	5.7	144
FEB											
02...	--	--	--	--	--	--	--	--	--	--	--
MAR											
05...	70	25	21	4.2	4.2	1.4	24	6.3	<0.10	6.3	88
APR											
28...	--	--	--	--	--	--	--	--	--	--	--
MAY											
11...	90	33	27	5.4	4.2	1.4	33	6.0	<0.10	5.2	121
JUN											
09...	--	--	--	--	--	--	--	--	--	--	--
JUL											
06...	170	55	51	9.9	14	3.1	58	27	0.10	5.0	236
15...	--	--	--	--	--	--	--	--	--	--	--
SEP											
02...	--	--	--	--	--	--	--	--	--	--	--
08...	210	110	66	11	26	3.4	94	35	0.20	4.4	312

POTOMAC RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
OCT 02...	--	--	--	--	--	--	--	--	--	--	--
NOV 17...	215	<0.010	0.990	0.070	0.060	--	<0.20	0.050	0.040	0.030	<10
18...	--	--	--	--	--	--	--	--	--	--	--
DEC 19...	--	--	--	--	--	--	--	--	--	--	--
JAN 05...	149	<0.010	1.70	0.070	0.060	0.23	0.30	0.030	0.020	0.020	--
FEB 02...	--	--	--	--	--	--	--	--	--	--	--
MAR 05...	101	<0.010	1.40	0.050	0.080	1.0	1.1	0.060	0.010	0.010	40
APR 28...	--	--	--	--	--	--	--	--	--	--	--
MAY 11...	120	<0.010	0.870	0.020	<0.010	0.98	1.0	0.020	0.020	0.010	20
JUN 09...	--	--	--	--	--	--	--	--	--	--	--
JUL 06...	244	0.020	1.50	0.040	0.040	0.76	0.80	0.070	0.090	0.040	--
15...	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	--	--	--	--	--	--	--	--	--	--	--
08...	302	--	--	--	--	--	--	--	--	--	<10

DATE	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)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
OCT 02...	--	--	--	--	--	--	--	--	--	--	--
NOV 17...	<1	44	<0.5	<1	<1	<3	3	16	<5	11	66
18...	--	--	--	--	--	--	--	--	--	--	--
DEC 19...	--	--	--	--	--	--	--	--	--	--	--
JAN 05...	--	--	--	--	--	--	--	--	--	--	--
FEB 02...	--	--	--	--	--	--	--	--	--	--	--
MAR 05...	<1	30	<0.5	<1	<1	<3	2	38	<5	<4	15
APR 28...	--	--	--	--	--	--	--	--	--	--	--
MAY 11...	<1	37	<0.5	<1	<1	<3	1	16	<5	4	13
JUN 09...	--	--	--	--	--	--	--	--	--	--	--
JUL 06...	--	--	--	--	--	--	--	--	--	--	--
15...	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	--	--	--	--	--	--	--	--	--	--	--
08...	1	59	<0.5	<1	3	<3	2	14	<5	11	7

POTOMAC RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	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)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 02...	--	--	--	--	--	--	--	--	--	--	--
NOV 17...	<0.1	<10	5	<1	<1.0	200	<6	7	4	25	87
18...	--	--	--	--	--	--	--	--	--	--	--
DEC 19...	--	--	--	--	--	--	--	--	--	--	--
JAN 05...	--	--	--	--	--	--	--	--	4	46	78
FEB 02...	--	--	--	--	--	--	--	--	--	--	--
MAR 05...	<0.1	<10	4	<1	<1.0	98	<6	10	39	1620	95
APR 28...	--	--	--	--	--	--	--	--	--	--	--
MAY 11...	<0.1	<10	1	<1	<1.0	120	<6	11	11	230	98
JUN 09...	--	--	--	--	--	--	--	--	--	--	--
JUL 06...	--	--	--	--	--	--	--	--	10	52	78
15...	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	--	--	--	--	--	--	--	--	--	--	--
08...	<0.1	<10	2	<1	<1.0	300	<6	54	11	35	80

POTOMAC RIVER BASIN

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

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

DRAINAGE AREA.--3,040 mi².

WATER-DISCHARGE RECORDS

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

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

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

REMARKS.--No estimated daily discharges. Records good. Regulation by hydroelectric plants, particularly that of Potomac Light and Power Co., 0.5 mi upstream from station. U.S. Army Corps of Engineers satellite telemeter and National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--72 years (water years 1896-1908, 1929-87), 2,703 ft³/s, 12.07 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 230,000 ft³/s, Oct. 16, 1942, gage height, 32.4 ft, from floodmarks; minimum, about 59 ft³/s, Oct. 4, 1930, gage height, 0.39 ft; minimum daily, 194 ft³/s, July 24, 1930.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 15,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Mar. 3	0730	16,900	8.93	Apr. 27	0200	15,800	8.64
Apr. 18	1600	*64,500	*17.44				

Minimum discharge, 242 ft³/s, Oct. 14, gage height, 0.94 ft.

DISCHARGE, 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	429	435	795	2220	3130	3890	2330	5980	2520	1820	621	527
2	437	483	844	2070	2770	8150	4020	5290	2300	1780	633	530
3	433	491	1460	1880	3610	15600	5540	4710	2390	2380	611	449
4	438	474	1960	1750	4510	11200	7070	4790	2690	1300	596	450
5	439	489	2290	1640	5750	8000	10900	8350	2880	1150	619	486
6	384	587	2320	1480	5920	6300	10200	9690	3040	1080	683	511
7	419	647	1810	1390	5090	5290	11000	7400	2850	1070	614	578
8	406	750	1600	1330	4520	4610	10300	6170	2340	1060	590	776
9	406	690	1310	1340	4190	4210	9710	5340	2130	1110	696	4890
10	405	799	1340	1310	3890	4030	9070	4690	1770	1210	703	9140
11	388	793	1250	1310	3560	4230	7630	4190	1720	1010	634	5740
12	378	989	1260	1280	3170	4530	6450	3800	1570	1090	557	5710
13	392	1130	1410	1230	2940	4340	5570	3510	1600	1510	528	5860
14	384	838	1370	1310	2750	3830	4830	3260	1530	1360	540	6900
15	430	725	1420	1130	2640	3430	4290	3080	1500	1230	529	4740
16	419	731	1370	1110	2520	3170	4380	2860	1420	1350	524	3640
17	468	677	1290	1160	2320	3000	29100	2720	1280	1110	530	2650
18	453	645	1300	1130	2240	2830	61100	2550	1280	950	510	2420
19	430	617	1240	1300	2080	2710	43800	2550	1130	888	490	2460
20	439	659	1240	4430	2070	2510	21300	2740	1260	835	502	2180
21	435	647	1230	6430	1980	2360	15100	4320	1420	788	547	2490
22	434	692	1150	6510	1860	2280	11500	5850	1670	759	480	3820
23	430	723	1120	5230	1970	2200	8950	4830	1220	776	530	4400
24	425	741	1130	4240	2000	2120	7490	4280	1440	712	514	3370
25	422	664	3460	3500	2100	2020	8240	3920	1180	721	513	2700
26	431	669	5290	2500	2200	1980	11900	4580	1160	678	533	2250
27	441	694	7140	2290	2310	1880	14300	3690	1310	684	583	1960
28	499	759	5080	2050	2470	1820	10400	3310	1630	669	620	1610
29	438	766	3890	2090	---	1860	8240	3430	1240	654	548	1560
30	415	764	3150	2390	---	1810	6970	3160	1180	597	552	1490
31	428	---	2580	2780	---	2040	---	2770	---	567	551	---
TOTAL	13175	20768	64099	71810	86560	128230	371680	137810	52650	32898	17681	86287
MEAN	425	692	2068	2316	3091	4136	12390	4445	1755	1061	570	2876
MAX	499	1130	7140	6510	5920	15600	61100	9690	3040	2380	703	9140
MIN	378	435	795	1110	1860	1810	2330	2550	1130	567	480	449
CFSM	.14	.23	.68	.76	1.02	1.36	4.08	1.46	.58	.35	.19	.95
IN.	.16	.25	.78	.88	1.06	1.57	4.55	1.69	.64	.40	.22	1.06

CAL YR 1986 TOTAL 562491 MEAN 1541 MAX 16300 MIN 378 CFSM .51 IN. 6.88
WTR YR 1987 TOTAL 1083648 MEAN 2969 MAX 61100 MIN 378 CFSM .98 IN. 13.26

POTOMAC RIVER BASIN

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

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-63, 1965, 1969-71, 1979 to current year.

INSTRUMENTATION.--Water-quality monitor October 1980 to September 1983.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1980 to September 1983.

WATER TEMPERATURE: October 1980 to September 1983.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE (Water years 1981-82): Maximum, 778 microsiemens, Dec. 29, 1980; minimum, 212 microsiemens, Jan. 17, 1982.

WATER TEMPERATURE: Maximum, 30.0°C, July 20, 21, 1981; minimum, 0.0°C on many days during winter periods.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	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)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 17...	1530	632	490	8.41	9.0	1.6	753	13.4	117	--	--
JAN 05...	1000	1660	257	8.01	1.0	1.9	768	15.3	107	K2	K3
MAR 05...	0930	8220	185	7.83	6.0	30	770	11.7	93	120	100
MAY 11...	1015	4260	272	8.01	20.0	3.3	758	8.7	96	43	50
JUL 06...	0845	368	435	8.28	26.0	1.5	760	6.5	80	160	930
SEP 08...	1015	271	575	8.20	22.0	3.5	753	7.4	86	K530	2100

DATE	HARD- NESS TOTAL (MG/L AS CACO3)	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)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
NOV 17...	180	23	48	14	34	3.2	69	35	0.20	1.8	301
JAN 05...	110	16	32	7.8	15	2.0	44	11	<0.10	5.1	172
MAR 05...	74	14	22	4.7	5.7	1.6	20	6.4	<0.10	6.4	99
MAY 11...	120	13	34	8.0	8.7	1.6	24	7.4	0.10	6.3	142
JUL 06...	170	14	45	13	25	2.9	55	23	0.10	4.3	254
SEP 08...	180	40	44	16	55	2.9	110	23	0.20	3.3	340

[illegible]

POTOMAC RIVER BASIN

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

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	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)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 17...	<1	34	<0.5	1	<1	<3	4	30	<5	11	3
JAN 05...	--	--	--	--	--	--	--	--	--	--	--
MAR 05...	<1	25	<0.5	1	<1	<3	2	74	<5	5	6
MAY 11...	<1	36	<0.5	<1	<1	<3	2	10	<5	4	5
JUL 06...	--	--	--	--	--	--	--	--	--	--	--
SEP 08...	1	38	<0.5	<1	3	<3	3	12	<5	11	7

DATE	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)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 17...	0.2	<10	<1	<1	<1.0	180	<6	14	4	7.3	90
JAN 05...	--	--	--	--	--	--	--	--	4	18	62
MAR 05...	<0.1	<10	3	<1	<1.0	67	<6	4	72	1600	96
MAY 11...	<0.1	<10	<1	<1	<1.0	100	<6	56	23	265	95
JUL 06...	--	--	--	--	--	--	--	--	40	40	93
SEP 08...	0.3	<10	2	<1	<1.0	170	<6	13	22	16	92

POTOMAC RIVER BASIN

01638500 POTOMAC RIVER AT POINT OF ROCKS, MD

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

DRAINAGE AREA.--9,651 mi².

WATER-DISCHARGE RECORDS

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

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

GAGE.--Water-stage recorder. Datum of gage is 200.63 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 28, 1929, nonrecording gage at same site. Prior to Sept. 2, 1902, at datum about 0.45 ft higher.

REMARKS.--No estimated daily discharges. Water-discharge records good. Low flow affected slightly from 1913 to July 1981 by Stony River Reservoir (see station 01592000), since December 1950 by Savage River Reservoir (see station 01597500), and since July 1981 by Jennings Randolph Lake (see station 01595800). Low flow affected extensively at times by run-of-the-river hydroelectric plants. National Weather Service gage height telemeter at station.

AVERAGE DISCHARGE.--92 years, 9,410 ft³/s, 13.24 in/yr.

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

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 35,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Mar. 3	1600	47,200	10.34	Apr. 18	2000	*153,000	*23.49
Apr. 5	2230	76,700	14.53				

Minimum discharge, 1,170 ft³/s, Oct. 12, 13, gage height, 0.67 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	1780	1500	5600	9200	9730	12600	10100	16500	7330	9860	1680	1510
2	1930	1700	5500	8300	8670	24000	19600	15200	6710	5520	1650	1430
3	1820	1660	6560	7600	10000	42600	21200	13700	6520	13700	1640	1380
4	1520	1750	9900	6960	17400	37900	24400	13800	7850	5040	1630	1320
5	1470	1780	12500	6370	23800	27100	59200	19600	8670	3970	1620	1300
6	1480	2040	11700	5870	21300	21000	62400	31300	8090	3600	1820	1410
7	1500	2290	8750	5310	18100	17300	52300	26500	7170	3390	1830	1600
8	1540	2860	7150	4960	15900	14900	51900	21900	6180	3630	1770	2490
9	1480	3290	6370	5030	14400	13500	42900	18200	5510	3740	1790	4330
10	1410	3630	6310	5160	13100	13500	39500	15200	4880	3380	1900	15200
11	1340	4710	7450	5280	11800	14200	34000	13200	4530	3090	1720	10300
12	1230	5290	8130	5220	10700	15000	27300	11900	4230	2830	1610	10800
13	1280	6020	7650	5050	9880	13800	23700	10700	4140	3270	1490	8930
14	1440	5780	7200	5050	9290	12000	20600	9680	4180	3540	1480	13700
15	1380	4350	6640	4890	8840	10800	17400	9010	4440	4480	1440	12200
16	1410	3450	6250	4680	8640	9840	16000	8390	4030	4610	1410	8890
17	1450	3080	5870	4890	7930	9260	41000	7930	3790	3700	1400	6580
18	1480	2970	5820	4880	7520	8710	136000	7390	3550	3150	1380	6180
19	1430	2720	5910	5810	7070	8330	119000	7410	3360	2790	1340	5850
20	1410	2830	6140	11800	6710	7810	64500	8100	3190	2600	1290	5490
21	1380	3400	5850	27500	6440	7520	45600	9450	3780	2360	1350	6200
22	1380	4440	5250	27600	6110	7260	35700	16200	4600	2570	1320	8100
23	1400	5230	4900	20400	6250	7040	28400	15200	4660	2440	1330	11200
24	1380	4960	5470	16000	6430	6840	23100	12500	4710	2040	1410	8410
25	1310	4380	9840	12300	6620	6590	21000	10900	4140	2130	1480	6830
26	1340	4020	23000	9740	7010	6460	26300	10600	3530	1840	1650	5610
27	1410	3810	26500	8430	7410	6380	32200	9330	3470	1800	1710	4800
28	1490	4380	20900	7100	7950	6380	27000	8600	4260	1770	1750	4100
29	1780	6060	16100	7290	---	6380	22400	8350	3650	1740	1630	3740
30	1790	5850	13100	7690	---	6380	18900	8340	4300	1680	1580	3550
31	1390	---	10700	8720	---	6730	---	8150	---	1630	1540	---
TOTAL	45830	110230	289010	275080	295000	408110	1163600	403230	149450	111890	48640	183430
MEAN	1478	3674	9323	8874	10540	13160	38790	13010	4982	3609	1569	6114
MAX	1930	6060	26500	27600	23800	42600	136000	31300	8670	13700	1900	15200
MIN	1230	1500	4900	4680	6110	6380	10100	7390	3190	1630	1290	1300
CFSM	.15	.38	.97	.92	1.09	1.36	4.02	1.35	.52	.37	.16	.63
IN.	.18	.42	1.11	1.06	1.14	1.57	4.49	1.55	.58	.43	.19	.71

CAL YR 1986	TOTAL	2584870	MEAN	7082	MAX	110000	MIN	1170	CFSM	.73	IN	9.96
WTR YR 1987	TOTAL	3483500	MEAN	9544	MAX	136000	MIN	1230	CFSM	.99	IN	13.43

POTOMAC RIVER BASIN

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

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1960 to current year.

SUSPENDED-SEDIMENT DISCHARGE: October 1960 to current year.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

SEDIMENT CONCENTRATION: Maximum daily mean, 2,690 mg/L, Nov. 7, 1985; minimum daily mean, 1 mg/L, on many days most years.

SEDIMENT LOAD: Maximum daily, 1,930,000 tons, Nov. 7, 1985; minimum daily, 2.0 tons on many days during 1964, 1966-69.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum daily, 33.0°C, July 24; minimum daily, 0.0°C, Feb. 1.

SEDIMENT CONCENTRATION: Maximum daily mean, 755 mg/L, Apr. 18; minimum daily mean, 1 mg/L, Nov. 17, 18.

SEDIMENT LOAD: Maximum daily, 277,000 tons, Apr. 18; minimum daily, 7.5 tons, Oct. 15.

PARTICLE-SIZE DISTRIBUTION OF SUSPENDED SEDIMENT, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. FALL DIAM. % FINER THAN .004 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .125 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .250 MM	SED. SUSP. SIEVE DIAM. % FINER THAN .500 MM
APR 06...	1015	63300	411	70200	49	95	98	99	100

TEMPERATURE, WATER, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	12.0	5.0	---	.0	7.0	12.0	13.0	24.0	25.0	29.0	25.0
2	25.0	15.0	5.0	---	3.0	6.0	12.0	14.0	24.0	27.0	28.0	25.0
3	24.0	12.0	6.0	---	2.0	7.0	8.0	10.0	25.0	25.0	31.0	25.0
4	23.0	12.0	6.0	---	2.0	5.0	8.0	12.0	24.0	27.0	31.0	24.0
5	23.0	10.0	5.0	---	2.0	6.0	7.0	13.0	22.0	28.0	29.0	23.0
6	18.0	11.0	5.0	---	3.0	5.0	6.0	13.0	23.0	27.0	26.0	21.0
7	15.0	11.0	8.0	---	4.0	5.0	6.0	16.0	25.0	28.0	26.0	22.0
8	16.0	13.0	5.0	---	3.0	9.0	7.0	14.0	27.0	27.0	26.0	21.0
9	17.0	13.0	---	---	3.0	9.0	10.0	17.0	24.0	30.0	30.0	23.0
10	18.0	10.0	---	---	4.0	6.0	9.0	18.0	24.0	29.0	28.0	24.0
11	16.0	10.0	---	---	8.0	7.0	10.0	20.0	20.0	30.0	27.0	24.0
12	16.0	9.0	---	---	6.0	7.0	11.0	19.0	21.0	30.0	29.0	23.0
13	21.0	7.0	---	4.0	3.0	7.0	11.0	18.0	23.0	28.0	30.0	24.0
14	18.0	6.0	---	4.0	2.0	7.0	12.0	19.0	25.0	28.0	28.0	25.0
15	15.0	5.0	---	4.0	2.0	6.0	10.0	19.0	25.0	28.0	27.0	24.0
16	15.0	8.0	---	5.0	1.0	5.0	10.0	18.0	25.0	32.0	27.0	22.0
17	24.0	7.0	---	---	2.0	6.0	10.0	22.0	25.0	28.0	27.0	23.0
18	14.0	6.0	---	2.0	3.0	7.0	10.0	20.0	25.0	25.0	29.0	23.0
19	15.0	6.0	---	3.0	2.0	9.0	12.0	20.0	28.0	30.0	27.0	21.0
20	14.0	5.0	---	4.0	2.0	10.0	12.0	18.0	29.0	28.0	27.0	20.0
21	15.0	8.0	---	3.0	4.0	10.0	13.0	19.0	28.0	31.0	28.0	20.0
22	13.0	5.0	---	---	5.0	10.0	13.0	19.0	28.0	29.0	26.0	22.0
23	14.0	5.0	---	---	3.0	9.0	14.0	19.0	27.0	30.0	25.0	20.0
24	16.0	6.0	---	---	3.0	12.0	15.0	22.0	25.0	33.0	24.0	21.0
25	14.0	5.0	---	---	1.0	10.0	14.0	20.0	25.0	30.0	23.0	22.0
26	14.0	6.0	---	---	4.0	13.0	14.0	19.0	25.0	30.0	22.0	21.0
27	14.0	7.0	---	---	4.0	12.0	13.0	19.0	27.0	30.0	25.0	20.0
28	15.0	6.0	---	---	4.0	13.0	13.0	23.0	25.0	28.0	25.0	22.0
29	16.0	6.0	---	---	---	13.0	15.0	21.0	27.0	27.0	25.0	22.0
30	13.0	6.0	---	2.0	---	13.0	14.0	22.0	25.0	30.0	25.0	20.0
31	12.0	---	---	---	---	13.0	---	25.0	---	28.0	25.0	---

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	MEAN CONCEN- TRATION (MG/L)		LOAD (TONS/ DAY)		MEAN CONCEN- TRATION (MG/L)		LOAD (TONS/ DAY)		MEAN CONCEN- TRATION (MG/L)		LOAD (TONS/ DAY)		MEAN CONCEN- TRATION (MG/L)		LOAD (TONS/ DAY)	
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH					
1	22	106	2	8.1	4	60	28	696	10	263	18	612				
2	19	99	2	9.2	3	45	23	515	5	117	68	4410				
3	16	79	2	9.0	7	124	19	390	12	324	143	16400				
4	21	86	2	9.5	27	722	15	282	48	2260	131	13400				
5	9	36	3	14	31	1050	11	189	79	5080	72	5270				
6	11	44	4	22	30	948	7	111	48	2760	37	2100				
7	9	36	8	49	17	402	7	100	27	1320	22	1030				
8	10	42	4	31	16	309	7	94	15	644	18	724				
9	10	40	6	53	15	258	7	95	14	544	15	547				
10	5	19	5	49	13	221	7	98	14	495	12	437				
11	7	25	15	191	12	241	7	100	11	350	9	345				
12	4	13	13	186	14	307	7	99	7	202	7	283				
13	4	14	18	293	14	289	5	68	7	187	4	149				
14	5	19	6	94	11	214	5	68	7	176	4	130				
15	2	7.5	2	23	9	161	5	66	6	143	4	117				
16	2	7.6	2	19	6	101	6	76	6	140	4	106				
17	3	12	1	8.3	5	79	8	106	7	150	4	100				
18	2	8.0	1	8.0	5	79	7	92	8	162	6	141				
19	3	12	2	15	5	80	8	125	14	267	6	135				
20	3	11	3	23	5	83	15	478	19	344	6	127				
21	3	11	7	64	5	79	60	4450	13	226	7	142				
22	4	15	3	36	5	71	63	4690	6	99	8	157				
23	5	19	3	42	5	66	47	2590	2	34	10	190				
24	4	15	4	54	10	148	38	1640	2	35	12	222				
25	5	18	4	47	48	1280	30	996	5	89	12	214				
26	4	14	3	33	120	7450	22	579	5	95	11	192				
27	4	15	2	21	131	9370	15	341	4	80	12	207				
28	5	20	2	24	73	4120	11	211	5	107	13	224				
29	6	29	3	49	54	2350	9	177	---	---	14	241				
30	7	34	4	63	42	1490	8	166	---	---	26	448				
31	13	49	---	---	35	1010	8	188	---	---	46	836				
TOTAL	---	955.1	---	1547.1	---	33207	---	19876	---	16693	---	49636				
APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER						
1	39	1060	29	1290	12	237	355	9450	9	41	6	24				
2	42	2220	31	1270	11	199	68	1010	9	40	5	19				
3	47	2690	22	814	11	194	286	10600	7	31	4	15				
4	86	5670	23	857	17	360	76	1030	8	35	5	18				
5	484	77400	38	2010	21	492	54	579	10	44	4	14				
6	512	86300	65	5490	19	415	36	350	14	69	5	19				
7	160	22600	56	4010	17	329	36	330	17	84	6	26				
8	98	13700	41	2420	15	250	37	363	13	62	104	699				
9	86	9960	27	1330	14	208	37	374	8	39	56	655				
10	79	8430	21	862	12	158	33	301	9	46	193	7920				
11	74	6790	18	642	10	122	29	242	12	56	76	2110				
12	55	4050	16	514	8	91	27	206	21	91	108	3150				
13	39	2500	13	376	9	101	33	291	26	105	48	1160				
14	33	1840	11	287	9	102	24	229	17	68	97	3590				
15	27	1270	12	292	8	96	26	314	9	35	103	3390				
16	25	1080	13	294	7	76	22	274	9	34	64	1540				
17	204	22600	12	257	6	61	17	170	9	34	46	817				
18	755	277000	11	219	6	58	16	136	8	30	34	567				
19	718	231000	10	200	5	45	8	60	7	25	31	490				
20	295	51400	10	219	4	34	9	63	11	38	28	415				
21	150	18500	13	332	8	82	6	38	24	87	28	469				
22	110	10600	34	1490	12	149	6	42	11	39	43	940				
23	72	5520	25	1030	12	151	6	40	6	22	44	1330				
24	59	3680	22	742	15	191	6	33	5	19	35	795				
25	58	3290	21	618	18	201	5	29	6	24	24	443				
26	54	3830	19	544	21	200	3	15	5	22	26	394				
27	68	5910	17	428	23	215	2	9.7	5	23	35	454				
28	55	4010	15	348	15	173	6	29	4	19	31	343				
29	43	2600	14	316	11	108	6	28	5	22	23	232				
30	32	1630	13	293	126	1460	5	23	8	34	12	115				
31	---	---	12	264	---	---	8	35	7	29	---	---				
TOTAL	---	889130	---	30058	---	6558	---	26693.7	---	1347	---	32153				
YEAR	1107853															

MONONGAHELA RIVER BASIN

03050400 TYGART VALLEY RIVER AT ELKINS, WV

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

DRAINAGE AREA.--268 mi² upstream from water plant: 272 mi² upstream from gaging station.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: January 1947 to current year.

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

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

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

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily, 26.0°C July 7, 24-26, 28, 29, 31, Aug. 2, 4; minimum daily, 2.0°C Jan. 11, 14, 15, 25-31, Feb. 1, 3.

WATER TEMPERATURE, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	13.0	8.0	3.0	2.0	6.0	8.0	13.0	22.0	22.0	25.0	21.0
2	20.0	13.0	7.0	3.0	4.0	7.0	8.0	13.0	22.0	22.0	26.0	20.0
3	20.0	13.0	6.0	3.0	2.0	7.0	7.0	14.0	22.0	24.0	25.0	20.0
4	20.0	12.0	6.0	4.0	3.0	7.0	7.0	15.0	23.0	25.0	26.0	21.0
5	20.0	12.0	6.0	4.0	4.0	6.0	5.0	13.0	21.0	25.0	25.0	21.0
6	19.0	13.0	5.0	3.0	4.0	6.0	5.0	12.0	22.0	25.0	24.0	20.0
7	18.0	12.0	5.0	3.0	5.0	6.0	5.0	13.0	23.0	26.0	25.0	20.0
8	16.0	13.0	4.0	4.0	4.0	7.0	6.0	14.0	22.0	25.0	25.0	20.0
9	16.0	13.0	5.0	3.0	3.0	9.0	8.0	14.0	23.0	25.0	25.0	21.0
10	15.0	12.0	6.0	3.0	4.0	8.0	10.0	14.0	22.0	25.0	25.0	21.0
11	15.0	11.0	6.0	2.0	3.0	7.0	9.0	15.0	22.0	25.0	25.0	22.0
12	15.0	9.0	6.0	3.0	3.0	8.0	9.0	18.0	22.0	25.0	25.0	21.0
13	15.0	9.0	6.0	3.0	3.0	6.0	9.0	18.0	22.0	25.0	25.0	20.0
14	15.0	7.0	5.0	2.0	4.0	7.0	10.0	19.0	22.0	25.0	24.0	21.0
15	14.0	6.0	4.0	2.0	4.0	8.0	11.0	20.0	22.0	23.0	24.0	20.0
16	14.0	6.0	4.0	3.0	4.0	7.0	10.0	19.0	23.0	24.0	24.0	20.0
17	12.0	6.0	3.0	4.0	4.0	7.0	11.0	18.0	23.0	24.0	25.0	21.0
18	12.0	8.0	3.0	4.0	4.0	7.0	11.0	19.0	24.0	24.0	25.0	21.0
19	11.0	8.0	4.0	4.0	4.0	8.0	11.0	20.0	24.0	24.0	25.0	21.0
20	10.0	7.0	5.0	5.0	4.0	7.0	14.0	18.0	24.0	25.0	25.0	20.0
21	10.0	7.0	4.0	4.0	5.0	8.0	14.0	19.0	24.0	25.0	25.0	19.0
22	11.0	7.0	4.0	4.0	5.0	7.0	14.0	19.0	23.0	25.0	25.0	19.0
23	11.0	7.0	3.0	4.0	4.0	8.0	17.0	20.0	23.0	25.0	23.0	18.0
24	11.0	7.0	4.0	3.0	5.0	9.0	17.0	20.0	20.0	26.0	24.0	17.0
25	12.0	7.0	4.0	2.0	5.0	11.0	14.0	20.0	20.0	26.0	22.0	17.0
26	11.0	9.0	4.0	2.0	5.0	11.0	13.0	22.0	21.0	26.0	20.0	16.0
27	12.0	9.0	4.0	2.0	5.0	11.0	12.0	22.0	23.0	25.0	21.0	16.0
28	13.0	9.0	4.0	2.0	8.0	12.0	12.0	22.0	22.0	26.0	22.0	17.0
29	13.0	9.0	4.0	2.0	---	11.0	10.0	22.0	22.0	26.0	21.0	17.0
30	14.0	9.0	4.0	2.0	---	13.0	11.0	23.0	21.0	25.0	21.0	17.0
31	13.0	---	4.0	2.0	---	12.0	---	23.0	---	26.0	21.0	---
MEAN	14.5	9.4	4.7	3.0	4.1	8.2	10.3	17.8	22.3	24.8	24.0	19.5

WTR YR 1987 MEAN 13.6 MAX 26.0 MIN 2.0

MONONGAHELA RIVER BASIN

03050500 TYGART VALLEY RIVER NEAR ELKINS, WV

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

DRAINAGE AREA.--272 mi².

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

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

REMARKS.--Estimated daily discharges: Jan. 25-30. Records good except those for period of estimated daily discharges, which are fair. Slight regulation at times by flood-diversion dam upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--43 years, 542 ft³/s, 27.06 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,500 ft³/s, Nov. 5, 1985, gage height, 22.81 ft, from floodmarks, from rating curve extended above 13,800 ft³/s on basis of slope-area measurement of peak flow; minimum daily discharge, 0.1 ft³/s, Sept. 20-29, 1959; minimum gage height, 0.97 ft, Aug. 12, 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 20	1430	5,240	11.42	No other peak greater than base discharge.			
Minimum discharge, 2.5 ft ³ /s, Aug. 12, gage height, 0.97 ft.							

DISCHARGE, 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	194	118	427	269	1250	2490	1110	453	124	79	13	57
2	281	966	358	256	1580	3630	846	398	118	71	11	34
3	216	951	510	233	1870	1630	798	349	150	73	10	23
4	169	523	900	198	1230	969	738	565	178	80	8.2	15
5	206	907	741	165	880	685	640	1120	184	77	6.1	8.5
6	345	2780	541	142	715	530	611	752	145	173	9.3	15
7	230	1390	421	200	620	501	839	528	114	118	8.0	25
8	169	969	352	263	569	733	1940	396	99	91	7.6	41
9	134	2260	507	267	512	979	4300	313	83	74	7.3	169
10	109	2150	2200	274	351	1090	3050	257	71	57	5.6	121
11	89	1210	1590	284	357	656	2290	217	81	46	3.0	90
12	76	1420	1210	262	681	451	1630	187	81	52	4.4	270
13	92	1000	903	234	2050	355	1350	187	170	54	20	1140
14	375	622	616	219	1190	292	959	191	366	57	8.7	420
15	596	452	477	272	774	262	755	191	217	52	4.9	221
16	349	370	379	679	557	270	1890	336	154	50	5.4	140
17	270	313	323	739	469	245	1940	265	858	45	5.9	111
18	191	275	318	611	407	217	1220	202	387	36	5.7	505
19	149	411	331	2010	337	216	814	471	182	28	5.6	311
20	122	529	290	4840	284	223	580	900	543	22	5.3	218
21	101	1340	262	1850	277	228	449	770	692	17	5.0	194
22	94	1230	233	1000	276	220	369	416	1280	14	5.7	148
23	81	778	206	704	341	206	317	294	487	7.3	50	122
24	74	693	370	356	339	199	749	232	320	7.2	144	106
25	71	841	2250	e310	329	202	2470	189	231	8.9	77	91
26	77	993	1450	e290	414	212	1640	183	183	9.7	50	79
27	78	2020	868	e260	512	209	887	289	153	7.9	47	62
28	116	1320	605	e240	682	201	725	266	122	10	46	49
29	152	841	437	e230	---	193	577	198	97	14	257	42
30	147	579	373	e340	---	175	517	158	87	13	120	240
31	125	---	323	1930	---	578	---	159	---	14	86	---
TOTAL	5478	30251	20771	19927	19853	19047	37000	11432	7957	1458.0	1042.7	5067.5
MEAN	177	1008	670	643	709	614	1233	369	265	47.0	33.6	169
MAX	596	2780	2250	4840	2050	3630	4300	1120	1280	173	257	1140
MIN	71	118	206	142	276	175	317	158	71	7.2	3.0	8.5
CFSM	.65	3.71	2.46	2.36	2.61	2.26	4.53	1.36	.98	.17	.12	.62
IN.	.75	4.14	2.84	2.73	2.72	2.60	5.06	1.56	1.09	.20	.14	.69

CAL YR 1986 TOTAL 211850 MEAN 580 MAX 7400 MIN 20 CFSM 2.13 IN. 28.97
WTR YR 1987 TOTAL 179284.2 MEAN 491 MAX 4840 MIN 3.0 CFSM 1.81 IN. 24.52

e Estimated

MONONGAHELA RIVER BASIN

03051000 TYGART VALLEY RIVER AT BELINGTON, WV

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

DRAINAGE AREA.--408 mi , excluding that of Mill Creek.

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

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

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

REMARKS.--Estimated daily discharges: Jan. 5-7, 25-30. Records good except those for periods of estimated daily discharges, which are poor. National Weather Service gage-height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--80 years, 816 ft /s, 27.16 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,500 ft /s, Nov. 5, 1985, gage height, 23.65 ft, from floodmarks, from rating curve extended above 18,700 ft /s; minimum, 0.1 ft /s, Sept. 13, 1930, gage height, 1.56 ft, site then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 1888, reached a stage of 21.7 ft, former site, from floodmarks, discharge, 21,200 ft /s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,200 ft /s and maximum (*):

Date	Time	Discharge (ft /s)	Gage Height (ft)	Date	Time	Discharge (ft /s)	Gage Height (ft)
Jan. 20	1045	*6,860	*11.38	Apr. 9	1200	6,800	11.33

Minimum discharge, 2.9 ft /s, Aug. 14, 15, gage height, 1.92 ft.

DISCHARGE, 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	185	700	405	1990	2970	1440	803	185	97	16	96
2	600	1110	556	381	2400	4670	1210	690	162	105	17	66
3	473	1570	640	349	3130	2500	1200	597	172	107	19	47
4	336	877	1110	302	2130	1440	1130	942	206	112	14	37
5	552	1640	1050	e230	1480	1020	997	1730	230	113	12	31
6	622	5480	797	e210	1140	786	945	1250	192	143	10	28
7	422	2790	627	e260	959	658	1490	890	150	168	7.2	25
8	292	1640	523	411	837	806	3240	670	122	112	6.8	61
9	221	3730	833	441	752	1070	6530	519	109	96	8.2	178
10	174	3890	3270	442	542	1270	4730	420	93	79	6.5	210
11	138	2180	2630	489	505	869	3430	354	86	64	6.0	134
12	112	2520	1950	450	802	584	2430	301	112	98	5.7	232
13	116	1760	1450	403	2780	458	2000	261	288	108	5.0	1470
14	456	1090	984	358	1900	378	1450	281	476	77	3.6	813
15	1020	769	768	434	1230	336	1150	265	327	72	8.2	373
16	616	609	601	1090	859	358	2060	396	217	64	11	218
17	407	498	499	1260	707	349	2540	394	1020	58	7.2	175
18	327	440	485	998	605	305	1730	291	604	51	7.2	1480
19	233	790	580	2440	502	298	1160	446	324	43	5.6	833
20	189	947	515	6670	408	299	857	1020	388	34	7.2	445
21	157	2210	448	3280	387	302	676	1130	753	27	6.3	364
22	134	2120	387	1600	385	294	559	625	1440	20	16	276
23	122	1310	327	1140	470	277	486	427	742	18	96	212
24	106	1130	540	626	504	258	1690	331	514	15	157	188
25	99	1420	2840	e450	487	255	3530	265	350	9.6	129	152
26	108	1790	2260	e410	595	259	2730	234	270	6.9	77	126
27	133	3260	1370	e390	753	260	1460	321	209	14	59	104
28	154	2220	956	e370	926	248	1190	399	164	16	67	86
29	278	1400	699	e340	---	238	1000	301	128	12	440	73
30	264	962	573	e590	---	223	896	219	106	7.9	264	120
31	217	---	491	2590	---	420	---	217	---	16	121	---
TOTAL	9432	52337	31459	29809	30165	24458	55936	16989	10139	1963.4	1615.7	8653
MEAN	304	1745	1015	962	1077	789	1865	548	338	63.3	52.1	288
MAX	1020	5480	3270	6670	3130	4670	6530	1730	1440	168	440	1480
MIN	99	185	327	210	385	223	486	217	86	6.9	3.6	25
CFSM	.75	4.28	2.49	2.36	2.64	1.93	4.57	1.34	.83	.16	.13	.71
IN.	.86	4.77	2.87	2.72	2.75	2.23	5.10	1.55	.92	.18	.15	.79

CAL YR 1986 TOTAL 337199 MEAN 924 MAX 10300 MIN 34 CFSM 2.26 IN. 30.74
WTR YR 1987 TOTAL 272956.1 MEAN 748 MAX 6670 MIN 3.6 CFSM 1.83 IN. 24.89

e Estimated

MONONGAHELA RIVER BASIN

03052500 SAND RUN NEAR BUCKHANNON, WV

LOCATION.--Lat $38^{\circ} 57' 50''$, long $80^{\circ} 09' 10''$, Upshur County, Hydrologic Unit 05020001, on right bank 300 ft downstream from Left Fork, 4.5 mi southeast of Buckhannon, and at mile 6.0.

DRAINAGE AREA.--14.5 mi².

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

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

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,530 ft, above National Geodetic Vertical Datum of 1929, from topographic map. Prior to May 4, 1983, at datum 1.00 ft higher.

REMARKS.--Estimated daily discharges: Oct. 1-23, Jan. 5, 6, 24-29, and Feb. 10, 11. Records good except those for periods of estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--41 years, 27.1 ft³/s, 25.38 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,200 ft³/s, Nov. 4, 1985, gage height, 8.34 ft, from rating curve extended above 1,560 ft³/s; no flow for several days in 1951-56, 1964-66, and parts of July 19, 20, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 9	1215	514	4.15	Apr. 24	0945	457	3.99
Jan. 19	1845	514	4.15	Sept. 18	0500	404	3.80
Apr. 8	1945	*764	*4.81				

Minimum discharge, 0.01 ft³/s, Aug. 20-22, gage height, 0.73 ft.

DISCHARGE, 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	e20	3.1	22	14	58	45	21	17	7.8	.33	.17	2.2
2	e32	8.0	21	14	178	37	29	15	10	3.6	.15	1.4
3	e24	6.9	28	13	117	28	35	14	8.7	5.2	.14	.96
4	e17	6.7	35	11	64	23	39	27	11	2.7	.17	.63
5	e19	91	30	e9.6	43	20	37	23	8.1	3.1	.19	.55
6	e22	194	23	e11	32	17	47	20	5.0	1.6	.17	.84
7	e20	57	20	16	25	15	163	17	3.5	.98	.16	1.3
8	e16	60	17	21	21	14	398	14	2.7	.63	.11	1.4
9	e11	336	63	21	18	13	282	12	2.2	.52	.07	2.1
10	e8.6	126	127	21	e16	11	141	9.9	2.1	.48	.05	1.4
11	e7.2	104	83	20	e15	9.1	72	8.5	1.7	4.5	.05	3.5
12	e5.8	103	54	17	59	8.7	50	7.4	11	14	.05	23
13	e5.2	54	37	15	74	8.0	39	6.7	46	3.2	.04	29
14	e20	33	26	14	48	7.3	31	6.1	7.3	2.1	.04	12
15	e54	24	22	18	33	7.3	34	15	2.7	1.6	.03	6.4
16	e22	20	18	22	24	9.2	38	11	1.9	1.2	.02	4.4
17	e14	16	16	22	22	7.5	35	8.1	1.7	.93	.01	6.9
18	e10	18	20	22	22	6.9	27	6.6	1.4	.65	.01	175
19	e8.2	27	19	261	19	6.7	21	59	1.2	.53	.01	30
20	e7.0	57	17	176	18	6.3	18	36	.83	.47	.01	15
21	e6.0	134	16	64	19	6.0	16	18	.60	.41	.01	10
22	e5.0	69	14	44	21	5.7	14	11	.60	.36	8.0	7.4
23	e4.2	42	13	30	52	5.5	14	9.6	.66	.31	20	6.5
24	3.7	52	43	e24	53	5.3	300	11	.83	.28	2.3	5.0
25	3.6	63	77	e20	51	5.3	171	7.3	.73	.24	.93	4.0
26	4.2	162	54	e17	46	5.3	68	6.0	.82	.27	.54	3.0
27	4.4	172	38	e15	39	4.9	40	51	.53	.59	.46	2.4
28	4.4	73	28	e13	39	4.9	34	60	.40	.39	23	1.9
29	4.1	46	22	e12	---	4.7	24	29	.36	.28	33	1.9
30	3.7	31	20	104	---	5.7	22	12	.36	.21	6.5	7.3
31	3.2	---	16	98	---	29	---	9.8	---	.17	3.5	---
TOTAL	389.5	2188.7	1039	1179.6	1226	382.3	2260	558.0	142.72	51.83	99.89	367.38
MEAN	12.6	73.0	33.5	38.1	43.8	12.3	75.3	18.0	4.76	1.67	3.22	12.2
MAX	54	336	127	261	178	45	398	60	46	14	33	175
MIN	3.2	3.1	13	9.6	15	4.7	14	6.0	.36	.17	.01	.55
CFSM	.87	5.03	2.31	2.62	3.02	.85	5.20	1.24	.33	.12	.22	.84
IN.	1.00	5.62	2.67	3.03	3.15	.98	5.80	1.43	.37	.13	.26	.94

CAL YR 1986 TOTAL 11337.19 MEAN 31.1 MAX 460 MIN .00 CFSM 2.14 IN. 29.09
WTR YR 1987 TOTAL 9884.92 MEAN 27.1 MAX 398 MIN .01 CFSM 1.87 IN. 25.36

e Estimated

MONONGAHELA RIVER BASIN

03053500 BUCKHANNON RIVER AT HALL, WV

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

DRAINAGE AREA.--277 mi².

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

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

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

REMARKS.--Estimated daily discharges: Jan. 25-28, May 2-7, Aug. 3-13, and Aug. 23 to Sept. 30. Records good except those for periods with ice effect, Jan. 25-28, which are fair, and those for periods of no gage-height record, May 2-7, Aug. 3-13, and Aug. 23 to Sept. 30, which are poor. Some regulation at low flow from mine pumpage above station.

AVERAGE DISCHARGE.--72 years, 598 ft³/s, 29.32 in./yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,000 ft³/s, Nov. 5, 1985, gage height, 16.88 ft, from floodmarks, from rating curve extended above 13,000 ft³/s on basis of slope-area measurement; minimum, 0.2 ft³/s, Oct. 23, 27, 1930, gage height, 1.30 ft, site then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 10	0115	4 700	9.17	Apr. 4	1845	*4,810	*9.25
Jan. 20	0835	4,670	9.15				

Minimum discharge, 1.6 ft³/s, Aug. 20, gage height, 3.39 ft.

DISCHARGE, 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	339	106	651	389	1270	1260	831	561	139	41	9.9	e46
2	672	118	537	360	2430	1910	1180	e500	134	40	13	e35
3	518	297	534	335	2110	1280	2460	e450	166	55	e12	e27
4	324	279	753	294	1340	915	4090	e1200	146	69	e10	e22
5	366	679	698	257	974	713	3670	e850	130	56	e9.0	e20
6	432	2880	596	235	776	583	2540	e640	111	49	e8.0	e19
7	309	1880	506	282	650	501	2010	e460	102	65	e6.6	e50
8	236	1160	442	376	564	485	1760	392	99	54	e5.6	e130
9	192	3240	771	393	490	535	1330	326	95	44	e4.8	e100
10	157	3820	2780	385	374	578	983	274	89	36	e4.3	e78
11	131	2050	2410	389	378	420	1070	233	47	30	e3.9	e330
12	112	2150	1580	367	700	339	1120	202	24	36	e3.7	e920
13	115	1460	1090	325	1310	275	976	174	124	113	e3.3	e450
14	360	951	789	304	1030	248	771	179	391	96	2.9	e200
15	857	699	631	308	797	259	611	175	238	69	3.0	e130
16	564	559	517	569	623	233	496	217	166	62	2.9	e220
17	390	457	441	775	575	206	419	187	125	50	2.8	e960
18	299	397	425	723	531	194	361	141	110	36	2.6	e600
19	236	612	494	1370	475	183	1410	211	90	28	2.3	e340
20	196	729	436	4230	424	169	3140	564	72	22	8.5	e240
21	167	1830	389	2330	422	155	2190	1080	63	18	48	e190
22	146	1520	348	1280	430	148	1280	564	65	15	127	e140
23	133	1040	310	971	809	147	940	337	71	16	e100	e120
24	122	931	504	620	998	140	780	264	62	12	e74	e100
25	99	1270	1890	e400	860	130	630	197	56	11	e48	e82
26	104	1700	1520	e350	747	125	568	164	59	9.8	e41	e68
27	110	2910	1080	e320	683	132	467	172	91	11	e110	e58
28	125	1960	819	e290	678	375	412	228	88	17	e360	e52
29	125	1230	640	364	---	559	398	172	67	14	e210	e100
30	139	867	532	1560	---	664	604	129	51	11	e90	e140
31	118	---	464	1830	---	824	---	113	---	8.6	e66	---
TOTAL	8193	39781	25577	22981	23448	14685	39497	11356	3271	1194.4	1393.1	5967
MEAN	264	1326	825	741	837	474	1317	366	109	38.5	44.9	199
MAX	857	3820	2780	4230	2430	1910	4090	1200	391	113	360	960
MIN	99	106	310	235	374	125	361	113	24	8.6	2.3	19
CFSM	.95	4.79	2.98	2.68	3.02	1.71	4.75	1.32	.39	.14	.16	.72
IN.	1.10	5.34	3.43	3.09	3.15	1.97	5.30	1.53	.44	.16	.19	.80

CAL YR 1986 TOTAL 243066 MEAN 666 MAX 6940 MIN 35 CFSM 2.40 IN. 32.64
WTR YR 1987 TOTAL 197343.5 MEAN 541 MAX 4230 MIN 2.3 CFSM 1.95 IN. 26.50

e Estimated

MONONGAHELA RIVER BASIN

03054500 TYGART VALLEY RIVER AT PHILIPPI, WV

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

DRAINAGE AREA.--916 mi².

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

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

REMARKS.--Estimated daily discharges: Jan. 25-31. Records good except those for period of estimated daily discharges, which are fair. National Weather Service gage-height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--47 years, 1,877 ft³/s, 27.83 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,000 ft³/s, Nov. 5, 1985, gage height, 31.83 ft, from floodmarks, from rating curve extended above 41,000 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 4.9 ft³/s, Oct. 10-12, 21, 1953; minimum gage height, 0.92 ft Sept. 9, 10, 1957.

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

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 13,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 9	unknown	13,900	a12.95	Apr. 9	0700	*15,200	*13.71
Jan. 20	0700	14,600	13.35				

a From peak indicator.

Minimum discharge, 8.2 ft³/s, Aug. 21, 22, gage height, 1.02 ft.

DISCHARGE, 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	1010	385	1910	1160	4190	4400	2130	1780	357	155	32	246
2	1630	720	1560	1060	5190	7980	2060	1540	339	155	35	179
3	1540	2190	1510	980	7130	5060	2270	1360	343	169	39	129
4	1040	1560	2090	840	4740	3040	2390	1470	369	182	38	99
5	1240	2360	2180	680	3250	2280	2300	2680	373	201	36	81
6	1440	11300	1830	592	2510	1860	2350	2270	342	226	34	76
7	1080	6660	1550	736	2120	1580	3980	1780	283	246	29	70
8	737	3720	1360	1060	1850	1600	7950	1440	241	204	24	69
9	553	8950	1910	1190	1690	1920	14400	1170	219	168	19	124
10	437	10800	7370	1170	1310	2230	10900	937	203	167	15	276
11	362	5860	5810	1230	1280	1850	7870	763	184	121	15	221
12	309	6170	4600	1170	1510	1370	5730	643	177	148	14	402
13	298	4400	3290	1040	4540	1130	4760	538	353	265	15	1740
14	696	2810	2360	933	3770	919	3470	504	894	242	18	1770
15	2180	2060	1910	968	2640	788	2670	488	705	180	15	826
16	1600	1680	1580	1930	2000	824	3410	645	445	154	11	468
17	1120	1410	1360	2550	1710	813	4150	718	891	139	10	335
18	860	1210	1270	2230	1540	714	3180	515	939	119	14	2030
19	640	1770	1450	4480	1360	657	2320	486	482	99	13	2070
20	504	2150	1190	13800	1150	639	1840	1890	307	81	12	1090
21	425	4700	1200	7510	1080	622	1510	2680	760	67	8.9	758
22	376	4860	1060	3700	1080	601	1290	1670	1390	56	11	550
23	340	3150	900	2700	1460	559	1130	1070	1070	47	56	417
24	323	2590	1230	1750	1880	513	4760	782	589	40	322	358
25	283	3290	5130	e1400	1760	488	8690	602	427	38	309	309
26	271	4200	4890	e1150	1730	485	6290	482	354	34	200	252
27	303	7870	3180	e1040	1820	479	3490	507	292	28	126	210
28	335	5820	2360	e950	1950	460	2680	710	269	22	113	177
29	436	3600	1860	e1170	---	439	2270	562	221	27	935	149
30	497	2520	1560	e2800	---	438	1960	413	183	30	1010	191
31	436	---	1380	e5200	---	721	---	352	---	38	410	---
TOTAL	23301	120765	72840	69169	68240	47459	124200	33447	14001	3848	3938.9	15672
MEAN	752	4025	2350	2231	2437	1531	4140	1079	467	124	127	522
MAX	2180	11300	7370	13800	7130	7980	14400	2680	1390	265	1010	2070
MIN	271	385	900	592	1080	438	1130	352	177	22	8.9	69
CFSM	.82	4.39	2.57	2.44	2.66	1.67	4.52	1.18	.51	.14	.14	.57
IN.	.95	4.90	2.96	2.81	2.77	1.93	5.04	1.36	.57	.16	.16	.64

CAL YR 1986 TOTAL 755776 MEAN 2071 MAX 20000 MIN 85 CFSM 2.26 IN. 30.69
WTR YR 1987 TOTAL 596880.9 MEAN 1635 MAX 14400 MIN 8.9 CFSM 1.79 IN. 24.24

e Estimated

MONONGAHELA RIVER BASIN

03056000 TYGART VALLEY RIVER AT TYGART DAM NEAR GRAFTON, WV

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

DRAINAGE AREA.--1,184 mi².

PERIOD OF RECORD.--June 1938 to September 1982, October 1986 to September 1987. Prior to October 1960, published as Tygart River at Tygart Dam near Grafton.

GAGE.--Water-stage recorder. Datum of gage is 960.55 ft above National Geodetic Vertical Datum, adjustment of 1912.

REMARKS.--No estimated daily discharges. Records good. Discharge computed from records of flow through gates and valves in dam prior to June 1987. Flow regulated by Tygart Dam, capacity 937,614,300,000 gal, of which 3,161,230,000 is controlled above minimum pool. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Computation of daily discharge for period Oct. 1 to May 31 furnished by U.S. Army Corps of Engineers.

AVERAGE DISCHARGE.--45 years (water years 1939-1982, 1987), 2,361 ft³/s, 27.08 in/yr, unadjusted.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,100 ft³/s, Apr. 11; minimum daily, 264 ft³/s, July 17.

DISCHARGE, 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	4090	739	7270	2310	6350	2760	546	2490	470	408	344	485
2	2810	736	4310	1380	6350	4020	561	1380	421	417	337	482
3	2770	1010	2810	1210	8450	6200	576	1220	407	514	355	484
4	1930	2000	3980	1210	9570	6420	945	1230	398	455	350	481
5	1460	2420	4250	976	6810	4820	1180	1230	393	425	366	541
6	1460	5690	3590	614	4260	3300	1210	2230	388	412	427	589
7	2050	9250	2500	560	3830	2860	1260	3120	383	403	324	595
8	2610	8760	1980	573	3160	2210	1360	2520	379	398	274	594
9	1960	4140	1990	696	2160	1860	2480	1550	381	393	304	627
10	1220	6380	3320	1240	1810	1890	6490	1550	336	391	334	600
11	1090	9720	5720	1690	1490	1920	13400	1540	317	388	332	589
12	1090	10700	7530	1680	1320	1920	11200	1340	355	389	330	590
13	1080	10500	7250	1660	2060	1900	7820	670	402	386	327	592
14	1080	8790	6830	1410	3640	1280	6760	327	379	325	327	629
15	1090	6830	5330	1160	4160	934	4400	327	363	279	325	795
16	1270	5820	2660	1110	4070	937	4020	328	533	270	324	1060
17	1380	5080	1900	2390	3320	940	4590	329	672	264	324	1340
18	1380	4130	1600	2670	2400	942	4590	505	925	306	388	1470
19	1380	3590	1430	1940	1920	941	3630	863	1070	345	441	2080
20	1200	3540	1430	6760	1910	828	2090	1250	676	343	438	2780
21	1080	4210	1430	12100	1900	738	1530	2510	937	343	434	2760
22	1070	5570	1130	10700	1890	721	1530	2670	1210	343	452	2580
23	1050	5540	961	6500	1880	718	1330	925	2330	341	492	2640
24	1030	4850	969	2640	1890	726	1430	615	2580	339	450	2590
25	898	4790	1580	1760	1900	750	5480	616	1250	338	356	2530
26	780	3600	3770	1680	2480	568	11800	814	562	342	459	1810
27	780	3910	5240	1610	2780	456	9380	932	458	339	484	1150
28	780	6600	5420	1500	2730	471	5250	1320	431	343	485	1030
29	706	7990	5180	1370	---	482	4050	1190	416	341	485	1020
30	753	7680	4100	1360	---	494	3070	610	408	338	484	1020
31	745	---	3040	3800	---	517	---	610	---	352	484	---
TOTAL	44072	164565	110500	78259	96490	55523	123958	38811	20230	11270	12036	36533
MEAN	1422	5485	3565	2524	3446	1791	4132	1252	674	364	388	1218
MAX	4090	10700	7530	12100	9570	6420	13400	3120	2580	514	492	2780
MIN	706	736	961	560	1320	456	546	327	317	264	274	481

WTR YR 1987 TOTAL 792247 MEAN 2171 MAX 13400 MIN 264 CFSM 1.83 IN 24.89

MONONGAHELA RIVER BASIN

03056250 THREE FORK CREEK NEAR GRAFTON, WV

LOCATION.--Lat 39°20'13", long 79°59'36", Taylor County, Hydrologic Unit 05020001, on right bank 20 ft downstream from bridge on State Secondary Route 50/9, 1.4 mi east of Grafton, and at mile 1.8.

DRAINAGE AREA.--97.4 mi².

PERIOD OF RECORD.--October 1984 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 1,000.00 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 25-31, and Feb. 17-21. Records good except those for periods of estimated daily discharges, which are fair. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,000 ft³/s, Nov. 5, 1985, gage height 20.13 ft, from floodmarks, from rating curve extended above 10,000 ft³/s on basis of slope-area measurement of peak flow; minimum 1.7 ft³/s, Aug. 17, 1987; minimum gage height 1.34 ft, Oct. 27, 28, 1984.

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

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 9	1200	2,580	9.89	No other peaks greater than base discharge.			

Minimum discharge, 1.7 ft³/s, Aug. 17, gage height, 1.35 ft.

DISCHARGE, 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	164	22	173	111	369	179	131	155	33	27	5.5	4.6
2	330	21	151	110	798	210	148	145	55	40	3.5	4.0
3	128	28	160	101	749	198	166	136	38	139	12	4.0
4	91	28	158	84	447	166	197	124	29	71	15	3.5
5	211	229	143	63	312	140	196	113	24	45	39	3.1
6	150	686	126	63	239	125	268	103	20	33	72	5.1
7	88	312	117	94	193	111	867	95	18	27	23	12
8	60	228	109	117	164	102	1260	85	16	22	13	17
9	47	1740	993	116	140	98	1110	72	16	18	9.2	48
10	38	768	1170	121	103	84	575	63	19	15	7.4	20
11	31	670	559	127	108	67	364	57	15	14	6.3	13
12	26	673	354	116	128	63	303	52	16	15	5.6	13
13	36	371	242	103	184	59	320	53	67	12	4.6	16
14	376	236	172	94	165	54	250	46	37	12	3.6	13
15	262	182	151	101	148	56	222	48	23	23	3.1	9.5
16	141	149	128	132	112	60	305	47	18	15	2.7	7.5
17	99	124	116	136	e90	57	293	39	16	11	2.4	6.8
18	71	117	118	133	e80	51	240	37	15	8.6	3.4	23
19	54	260	121	444	e74	49	193	251	13	7.7	9.1	17
20	46	420	105	866	e68	47	155	186	12	6.3	5.5	26
21	41	1020	96	423	e66	45	134	122	321	6.0	3.5	43
22	37	465	83	301	70	44	119	87	220	5.0	5.6	25
23	34	306	71	230	112	42	107	66	346	4.4	59	18
24	31	313	311	128	145	40	1080	56	314	3.9	22	15
25	28	349	933	e100	143	41	729	46	135	3.5	11	12
26	29	1070	465	e92	139	42	400	39	103	3.6	7.9	9.7
27	32	1080	314	e86	131	39	272	44	75	4.2	6.5	8.1
28	33	498	231	e82	127	38	239	41	50	4.6	6.1	7.1
29	31	328	178	e80	---	37	188	32	37	4.3	7.4	6.2
30	27	232	153	e260	---	40	188	27	30	3.3	6.5	8.6
31	24	---	131	e450	---	103	---	25	---	8.6	5.2	---
TOTAL	2796	12925	8332	5464	5604	2487	11019	2492	2131	613.0	386.6	418.8
MEAN	90.2	431	269	176	200	80.2	367	80.4	71.0	19.8	12.5	14.0
MAX	376	1740	1170	866	798	210	1260	251	346	139	72	48
MIN	24	21	71	63	66	37	107	25	12	3.3	2.4	3.1
CFSM	.93	4.42	2.76	1.81	2.05	.82	3.77	.83	.73	.20	.13	.14
IN.	1.07	4.94	3.18	2.09	2.14	.95	4.21	.95	.81	.23	.15	.16

CAL YR 1986 TOTAL 69841.3 MEAN 191 MAX 2540 MIN 3.1 CFSM 1.96 IN. 26.67
WTR YR 1987 TOTAL 54668.4 MEAN 150 MAX 1740 MIN 2.4 CFSM 1.54 IN. 20.88

e Estimated

MONONGAHELA RIVER BASIN

03057000 TYGART VALLEY RIVER AT COLFAX, WV

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

DRAINAGE AREA.--1,366 mi², including that of Guysses Run.

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

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

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

REMARKS.--No estimated daily discharges. Records good. Flow regulated since June 1938, by Tygart Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--48 years, 2,665 ft³/s, 26.49 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,700 ft³/s, Nov. 5, 1985, gage height, 18.89 ft; maximum gage height, 19.77 ft, Mar. 5, 1963, backwater from West Fork River; minimum discharge, 94 ft³/s, July 3, 1946; minimum daily, 129 ft³/s, May 5-7, 1941.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,000 ft³/s, Apr. 11, gage height, 13.53 ft; minimum daily, 262 ft³/s, July 17.

DISCHARGE, 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	4940	772	7150	2710	6690	2960	749	3040	661	397	332	442
2	3330	765	5320	1770	7320	3670	723	1710	424	422	318	439
3	2930	898	2760	1450	8580	5870	764	1430	405	482	363	437
4	2380	1720	3870	1420	9650	6310	1030	1400	385	471	334	436
5	1670	2760	4320	1320	7560	5240	1540	1390	376	420	388	460
6	1600	5540	3870	875	4630	3600	1900	1860	371	401	426	551
7	1800	9070	2860	789	3940	2970	3160	3170	367	390	350	547
8	2740	9080	2130	829	3460	2590	3610	2970	364	382	272	552
9	2420	8560	3460	897	2570	2010	4090	1640	366	378	269	578
10	1310	6520	4910	1230	1980	2010	6200	1610	359	374	311	556
11	1060	10100	5770	1920	1740	2010	12200	1600	288	372	309	547
12	1050	11300	7840	1900	1290	2010	12800	1540	356	374	306	540
13	1070	10300	7390	1870	1690	1990	7890	1260	391	374	303	544
14	1530	9020	6880	1730	3520	1670	7110	431	384	363	301	555
15	1500	6720	5760	1480	4230	1020	5240	433	357	272	300	678
16	1340	5970	3280	1540	4100	1030	4050	425	399	270	299	938
17	1460	5020	2160	2170	3620	1020	4960	409	634	262	298	1210
18	1410	4410	2060	3110	2760	1010	4870	467	720	263	333	1410
19	1380	3890	1870	2880	2030	1000	4190	999	1160	326	398	1750
20	1280	4050	1840	6480	2000	948	2690	1370	677	328	400	2810
21	1080	5690	1820	12000	1970	800	1740	2080	852	325	395	2820
22	1070	5820	1570	11200	1940	799	1710	3200	1230	324	446	2630
23	1060	5960	1060	7200	2030	795	1600	1330	2010	323	535	2660
24	1040	5100	1500	4410	2130	792	3420	733	2960	322	440	2600
25	1000	5110	3320	2780	2120	794	5110	711	1660	321	368	2540
26	790	5580	3950	2130	2450	717	11000	767	624	338	368	2060
27	785	5370	5370	2060	2960	449	10600	967	467	333	443	1170
28	782	6580	5680	2020	2920	444	5770	1150	426	320	455	981
29	717	8030	5360	2010	---	444	4580	1490	405	319	473	976
30	751	7610	4590	2540	---	464	3310	698	397	317	446	975
31	775	---	3160	4030	---	686	---	667	---	339	443	---
TOTAL	48050	177315	122880	90750	101880	58122	138606	42947	20475	10902	11422	35392
MEAN	1550	5910	3964	2927	3639	1875	4620	1385	682	352	368	1180
MAX	4940	11300	7840	12000	9650	6310	12800	3200	2960	482	535	2820
MIN	717	765	1060	789	1290	444	723	409	288	262	269	436

CAL YR 1986 TOTAL 1064861 MEAN 2917 MAX 15300 MIN 279 CFSM 2.14 IN. 29.00
WTR YR 1987 TOTAL 858741 MEAN 2353 MAX 12800 MIN 262 CFSM 1.72 IN. 23.39

MONONGAHELA RIVER BASIN

03057300 WEST FORK RIVER AT WALKERSVILLE, WV

LOCATION.--Lat 38°52'07" (corrected), long 80°27'29", Lewis County, Hydrologic Unit 05020002, on left bank at downstream side of highway bridge on Secondary Route 44, in Walkersville, 100 ft downstream from Right Fork, and at mile 95.3.

DRAINAGE AREA.--28.9 mi².

PERIOD OF RECORD.--August 1984 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,070.64 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 10, 11, Jan. 26-29, and May 19, to Sept. 30. Records fair. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,390 ft³/s, Nov. 4, 1985, gage height, 17.87 ft; minimum, no flow several days in September and October 1985, and August 1987.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 770 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 6	0030	*1,000	*11.12	Apr. 8	2000	828	10.39
Nov. 9	1030	935	10.84				

No flow several days in August.

DISCHARGE, 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	18	33	23	108	63	101	21	.03	.02	.02	.03
2	56	21	34	26	327	54	80	19	.03	.02	.02	.03
3	25	24	55	25	167	44	90	17	.03	.75	.02	.03
4	17	24	73	23	88	36	95	19	.03	.03	.02	.03
5	16	189	54	20	59	29	98	16	.03	.05	.02	.03
6	10	496	40	23	46	24	187	14	.03	.03	.02	.03
7	7.1	92	32	36	37	20	475	12	.03	.03	.02	.03
8	5.3	132	27	38	32	19	594	11	.03	.03	.02	.03
9	4.4	685	206	34	26	18	344	8.7	.03	.03	.02	.04
10	3.7	e350	298	31	19	13	106	7.4	.03	.03	.02	.04
11	3.8	e180	126	27	21	9.7	59	6.2	.03	.03	.02	.03
12	5.9	102	89	21	79	9.1	46	5.3	.03	.03	.02	1.4
13	12	71	59	17	97	8.0	40	4.6	.50	.03	.02	6.2
14	106	46	42	16	66	7.3	33	3.8	.05	.03	.01	.54
15	67	34	35	22	46	7.7	41	6.5	.03	.04	.00	.04
16	29	27	27	31	34	8.9	75	5.9	.03	.03	.00	.03
17	16	20	24	31	36	7.3	98	3.9	.03	.03	.00	.05
18	10	20	32	34	40	6.2	62	3.0	.03	.03	.00	26
19	7.1	66	35	306	51	6.1	43	5.1	.03	.03	.00	.35
20	5.7	86	29	286	64	5.7	31	2.0	.02	.03	.00	.03
21	4.8	116	24	104	57	5.1	25	.04	.02	.03	.00	.02
22	4.6	96	19	73	64	5.1	22	.02	.02	.02	.00	.02
23	4.6	63	16	53	268	4.5	20	.02	.02	.02	.26	.02
24	7.5	107	181	36	177	4.1	307	.02	.02	.02	.03	.02
25	9.3	136	337	30	113	4.2	231	.02	.02	.02	.03	.02
26	13	366	122	e26	78	4.1	79	.02	.02	.02	.03	.02
27	16	300	76	e23	61	3.6	47	.02	.02	.02	.03	.02
28	17	103	52	e21	54	3.7	39	.02	.02	.02	8.4	.03
29	18	65	38	e20	---	3.4	29	.02	.02	.02	11	.03
30	18	45	33	276	---	11	28	.02	.02	.02	.10	3.8
31	18	---	26	218	---	155	---	.02	---	.02	.03	---
TOTAL	557.8	4080	2274	1950	2315	599.8	3525	191.64	1.28	1.56	20.18	38.99
MEAN	18.0	136	73.4	62.9	82.7	19.3	117	6.18	.043	.050	.65	1.30
MAX	106	685	337	306	327	155	594	21	.50	.75	.11	.26
MIN	3.7	18	16	16	19	3.4	20	.02	.02	.02	.00	.02
CFSM	.62	4.71	2.54	2.18	2.86	.67	4.07	.21	.00	.00	.02	.04
IN.	.72	5.25	2.93	2.51	2.98	.77	4.54	.25	.00	.00	.03	.05

CAL YR 1986 TOTAL 21525.27 MEAN 59.0 MAX 688 MIN .04 CFSM 2.04 IN. 27.71
WTR YR 1987 TOTAL 15555.25 MEAN 42.6 MAX 685 MIN .00 CFSM 1.47 IN. 20.02

e Estimated

MONONGAHELA RIVER BASIN

03058006 WEST FORK RIVER AT BEN DALE, WV
(Formerly published as 03058000 West Fork River at Brownsville)

LOCATION.--Lat 39°00'53", long 80°28'39", Lewis County, Hydrologic Unit 05020002, on downstream side of W. Va. Route 38/3 highway bridge at Ben Dale, 2.0 mi south of Weston, and at mile 69.6. Prior to Oct. 1, 1984, at site 1.4 mi upstream.

DRAINAGE AREA.--105 mi².

PERIOD OF RECORD.--August 1946 to current year. Prior to October 1984, published as "West Fork River at Brownsville."

REVISED RECORDS.--WRD WV-81-1: 1981 (P). WRD WV-83-1: Datum.

GAGE.--Water-stage recorder. Elevation of gage is 1,008.6 ft from topographic map. Prior to Nov. 8, 1982, at datum 0.80 ft higher. Prior to Aug. 15, 1949, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: June 15-27, 29, July 27 to Aug. 19, Aug. 23-30. Records fair except those for periods of estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--41 years, 168 ft³/s, 21.73 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft³/s, Nov. 5, 1985, from rating curve extended above 3,400 ft³/s on basis of slope-area measurement at gage height 17.20 ft; maximum gage height, 17.20 ft, June 25, 1950; no flow for several days during 1952-54, Sept. 16, 1965, and for several days during 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,990 ft³/s, Nov. 9, gage height, 9.22 ft; no flow for several days in June, July, and August.

DISCHARGE, 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	85	34	126	95	523	152	501	98	.23	.00	e.27	28
2	283	34	117	97	698	158	302	83	.25	.00	e.28	21
3	149	34	187	103	813	135	297	73	.25	.00	e2.7	13
4	83	36	289	99	439	116	306	66	.25	.01	e4.4	9.8
5	71	190	218	94	211	99	313	70	.25	.01	e4.4	7.0
6	57	1110	154	89	149	88	471	63	.25	.04	e2.7	6.6
7	44	791	121	99	121	79	1280	55	.20	.14	e2.0	5.7
8	35	350	105	126	114	72	1790	48	.17	.23	e1.0	5.5
9	27	1570	449	121	95	70	1530	42	.17	.18	e.29	5.0
10	23	1560	1060	113	73	63	680	35	.15	.13	e.27	3.6
11	20	703	754	106	66	54	279	41	.12	.08	e.27	2.3
12	17	706	412	94	134	48	176	28	.14	.06	e.25	1.4
13	24	412	223	75	286	45	158	23	.24	.05	e4.4	1.1
14	187	198	149	58	218	41	126	20	.24	.03	e2.0	1.1
15	263	128	122	60	155	40	124	24	e.23	.02	e2.2	14
16	128	104	104	72	112	41	281	40	e.20	.02	e1.2	17
17	70	89	78	81	102	42	426	34	e.20	.01	e.53	14
18	51	83	97	83	101	38	332	26	e.18	.01	e.29	85
19	40	140	113	634	114	35	205	24	e.15	.00	e.19	105
20	30	232	106	1680	125	34	142	91	e.12	.00	.00	52
21	22	774	94	668	133	32	112	91	e.10	.00	.00	37
22	20	655	83	281	128	29	94	58	e.09	.00	.00	28
23	20	272	74	176	386	27	82	37	e.06	.00	e32	22
24	20	208	454	106	706	26	318	25	e.03	.00	e52	18
25	21	399	1820	95	473	26	690	13	e.02	.00	e52	16
26	23	805	929	88	255	26	513	4.5	e.01	.00	e55	15
27	23	1360	390	77	179	25	237	.67	e.01	e.00	e57	13
28	24	706	203	69	146	23	159	.24	.01	e.00	e59	10
29	31	293	147	66	---	22	123	.20	e.00	e.00	e68	9.2
30	35	171	123	323	---	34	108	.18	.00	e.00	e66	19
31	34	---	108	831	---	362	---	.22	---	e.00	42	---
TOTAL	1960	14147	9409	6759	7055	2082	12155	1214.01	4.32	1.02	512.64	585.3
MEAN	63.2	472	304	218	252	67.2	405	39.2	.14	.033	16.5	19.5
MAX	283	1570	1820	1680	813	362	1790	98	.25	.23	68	105
MIN	17	34	74	58	66	22	82	.18	.00	.00	.00	1.1
CFSM	.60	4.49	2.89	2.08	2.40	.64	3.86	.37	.00	.00	.16	.19
IN.	.69	5.01	3.33	2.39	2.50	.74	4.31	.43	.00	.00	.18	.21

CAL YR 1986 TOTAL 71553.60 MEAN 196 MAX 2470 MIN .02 CFSM 1.87 IN. 25.35
WTR YR 1987 TOTAL 55884.29 MEAN 153 MAX 1820 MIN .00 CFSM 1.46 IN. 19.80

e Estimated

MONONGAHELA RIVER BASIN

03058500 WEST FORK RIVER AT BUTCHERVILLE, WV

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

DRAINAGE AREA.--181 mi².

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

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

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

REMARKS.--Estimated daily discharges: Jan. 26-30. Records good except those for period of estimated daily discharges, which are fair. The flow from 30.4 mi² is partially controlled, but not diverted, by eight floodwater detention reservoirs and one multi-purpose reservoir. Some additional regulation of low flow from one water-supply reservoir, approximate capacity 96 acre-ft.

AVERAGE DISCHARGE.--72 years, 303 ft³/s, 22.73 in/yr.

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

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,570 ft³/s, Nov. 9, gage height, 7.08 ft; minimum discharge, 4.8 ft³/s, Aug. 13, gage height, 0.59 ft.

DISCHARGE, 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	139	25	291	240	841	263	730	149	27	7.7	25	70
2	406	27	307	237	1330	216	510	125	34	10	20	65
3	256	30	467	202	1200	179	499	111	30	10	23	62
4	157	61	555	192	717	147	520	106	33	9.3	11	57
5	134	419	441	182	412	124	535	105	28	14	7.9	57
6	102	1770	336	177	307	112	803	94	23	12	7.3	56
7	75	1080	282	200	261	105	2030	81	20	12	6.9	58
8	59	667	256	222	243	97	2610	71	17	13	6.5	56
9	48	3050	1410	211	214	82	1790	63	14	17	6.0	47
10	40	2290	1820	202	168	71	804	54	13	21	5.6	41
11	34	1240	1120	191	156	65	396	56	13	12	5.1	56
12	29	1130	709	164	333	61	290	47	34	10	4.9	66
13	37	700	446	129	502	59	247	41	56	9.4	5.8	65
14	462	378	326	119	387	64	199	38	26	12	25	61
15	439	278	279	124	288	68	245	44	19	9.8	29	59
16	239	232	250	136	223	61	594	49	16	8.0	41	66
17	135	205	225	140	209	54	698	44	14	7.2	69	108
18	94	215	259	147	212	50	407	38	12	6.5	77	205
19	71	327	271	1250	214	48	385	42	9.6	6.1	77	150
20	57	588	253	2280	202	45	215	104	9.6	6.2	75	55
21	46	1280	230	974	209	43	169	116	15	7.6	66	35
22	40	941	212	490	234	41	138	75	12	33	102	26
23	36	516	198	322	804	42	126	52	9.2	20	166	26
24	32	422	1190	205	776	42	691	39	8.1	27	20	49
25	30	615	2670	183	417	40	907	32	7.6	29	9.7	45
26	29	1570	1380	e150	277	39	645	28	16	32	28	45
27	28	1960	687	e140	226	38	342	30	8.9	30	50	45
28	30	1030	424	e130	257	50	249	31	6.9	19	87	45
29	29	562	326	e120	---	490	197	23	6.4	18	174	72
30	29	368	287	e500	---	845	177	20	6.5	18	137	72
31	27	---	260	1230	---	805	---	30	---	23	97	---
TOTAL	3369	23975	18167	11189	11619	4446	18148	1938	544.8	469.8	1464.7	1920
MEAN	109	799	586	361	415	143	605	62.5	18.2	15.2	47.2	64.0
MAX	462	3050	2670	2280	1330	845	2610	149	56	33	174	205
MIN	27	25	198	119	156	38	126	20	6.4	6.1	4.9	26
CFSM	.60	4.42	3.24	1.99	2.29	.79	3.34	.35	.10	.08	.26	.35
IN.	.69	4.93	3.73	2.30	2.39	.91	3.73	.40	.11	.10	.30	.39

CAL YR 1986 TOTAL 124516.7 MEAN 341 MAX 3720 MIN 8.2 CFSM 1.88 IN. 25.59
WTR YR 1987 TOTAL 97251.3 MEAN 266 MAX 3050 MIN 4.9 CFSM 1.47 IN. 19.99

e Estimated

MONONGAHELA RIVER BASIN

03058975 WEST FORK RIVER NEAR MOUNT CLARE, WV

LOCATION.--Lat 39°14'19", long 80°21'34", Harrison County, Hydrologic Unit 05020002, on right bank 4 miles south of Clarksburg and 2 mi north of Mount Clare, .3 mi off County Route 25 on County Route 34, and at mile 37.5.

DRAINAGE AREA.--367.13 mi².

PERIOD OF RECORD.--April to September 1987.

GAGE.--Water-stage recorder. Datum of gage is 931.04 ft above National Geodetic Vertical Datum of 1929. U.S. Army Corps of Engineers satellite telemeter at the station.

REMARKS.--No estimated daily discharges. Records good.

EXTREMES FOR CURRENT YEAR.--Maximum discharge during period April to September, 3,900 ft³/s, June 26, gage height, 8.26 ft; minimum discharge, 7.5 ft³/s, Aug. 14, 15, gage height, 3.56 ft.

DISCHARGE, 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	---	---	---	---	---	---	---	349	49	34	23	94
2	---	---	---	---	---	---	---	295	65	51	29	71
3	---	---	---	---	---	---	---	261	65	64	39	61
4	---	---	---	---	---	---	---	242	51	52	34	58
5	---	---	---	---	---	---	---	229	46	36	53	55
6	---	---	---	---	---	---	---	200	40	60	62	55
7	---	---	---	---	---	---	---	174	32	66	30	55
8	---	---	---	---	---	---	---	151	28	39	20	56
9	---	---	---	---	---	---	---	133	24	31	17	56
10	---	---	---	---	---	---	---	114	21	31	16	51
11	---	---	---	---	---	---	---	98	18	41	14	43
12	---	---	---	---	---	---	---	96	22	54	12	43
13	---	---	---	---	---	---	---	87	81	35	9.4	58
14	---	---	---	---	---	---	---	81	89	43	8.3	65
15	---	---	---	---	---	---	---	79	46	52	7.9	62
16	---	---	---	---	---	---	---	804	85	32	29	56
17	---	---	---	---	---	---	---	1250	84	36	40	59
18	---	---	---	---	---	---	---	938	75	35	20	120
19	---	---	---	---	---	---	---	658	81	26	17	221
20	---	---	---	---	---	---	---	489	97	20	14	184
21	---	---	---	---	---	---	---	390	188	33	12	85
22	---	---	---	---	---	---	---	324	128	47	12	52
23	---	---	---	---	---	---	---	299	89	208	22	39
24	---	---	---	---	---	---	---	1540	93	78	32	30
25	---	---	---	---	---	---	---	1640	62	41	30	34
26	---	---	---	---	---	---	---	962	50	1980	39	48
27	---	---	---	---	---	---	---	610	44	261	48	45
28	---	---	---	---	---	---	---	570	44	88	43	44
29	---	---	---	---	---	---	---	467	45	53	31	45
30	---	---	---	---	---	---	---	412	40	39	25	51
31	---	---	---	---	---	---	---	45	---	24	121	---
TOTAL	---	---	---	---	---	---	---	3839	3654	1120	1556.6	1996
MEAN	---	---	---	---	---	---	---	124	122	36.1	50.2	66.5
MAX	---	---	---	---	---	---	---	349	1980	66	189	221
MIN	---	---	---	---	---	---	---	40	18	12	7.9	30
CFSM	---	---	---	---	---	---	---	.34	.33	.10	.14	.18
IN.	---	---	---	---	---	---	---	.39	.37	.11	.16	.20

MONONGAHELA RIVER BASIN

03061000 WEST FORK RIVER AT ENTERPRISE, WV

LOCATION.--Lat 39°25'20", long 80°16'40", Harrison County, Hydrologic Unit 05020002, on left bank 150 ft downstream from old highway bridge and 0.3 mi above new highway bridge at Enterprise, 0.8 mi upstream from Bingamon Creek, and at mile 12.1.

DRAINAGE AREA.--759 mi².

PERIOD OF RECORD.--June 1907 to September 1916, October 1916 to September 1918 (gage heights only), October 1932 to September 1983, October 1983 to September 1984 (gage heights, discharge measurements, and annual maximum discharge only) October 1984 to current year.

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

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

REMARKS.--Estimated daily discharges: Jan. 25-29. Records good except those for period of estimated daily discharges, which are fair. The flow from about 40 mi² is partially controlled, but not diverted, by sixteen floodwater detention reservoirs, one municipal water-supply reservoir, and one multipurpose reservoir. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--62 years (water years 1908-1916, 1934-83, 1985-87), 1,149 ft³/s, 20.56 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 41,100 ft³/s, Nov. 5, 1985, gage height, 30.37 ft, from rating curve extended above 36,400 ft³/s; minimum, 3.4 ft³/s, July 27, 1934; minimum gage height, 0.6 ft, Sept. 10, 14, 25, 1908.

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

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,200 ft³/s, Nov. 9, gage height, 13.89 ft; minimum discharge, 18 ft³/s, July 24, gage height, 0.91 ft.

DISCHARGE, 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	703	98	1030	818	3320	965	3000	807	203	125	51	173
2	1230	94	958	808	4700	1120	2000	700	265	191	47	148
3	973	91	1700	788	4930	1130	1610	645	220	259	116	122
4	595	99	1930	700	2910	923	1770	600	181	212	128	106
5	1360	401	1560	646	1870	776	1970	564	148	152	302	102
6	826	5310	1160	591	1350	686	2950	492	130	120	329	127
7	450	3720	923	668	1110	615	7300	443	117	179	175	133
8	291	1950	808	794	966	562	9110	401	115	138	108	135
9	221	9200	2110	780	883	528	6350	365	103	102	76	166
10	178	8000	8060	753	747	486	3730	329	81	92	83	120
11	155	3980	4470	734	688	421	2170	301	76	86	69	103
12	128	4580	2650	660	759	378	1540	278	93	91	48	100
13	130	2600	1730	573	1400	348	1600	269	290	179	37	92
14	622	1500	1170	509	1350	321	1220	250	330	173	32	106
15	1830	970	949	501	1110	323	1040	243	198	209	30	116
16	884	786	831	543	850	359	1430	244	137	159	29	106
17	526	662	762	531	752	398	2170	233	112	106	26	97
18	356	611	731	524	719	338	2080	223	119	71	58	106
19	262	1290	788	1810	695	314	1500	286	101	52	123	248
20	206	1560	714	7640	632	300	1090	285	77	42	123	292
21	171	5270	651	4060	584	287	854	270	154	31	114	229
22	151	3210	587	2190	598	277	722	297	202	27	165	155
23	132	1970	530	1550	1200	266	641	247	1020	24	419	129
24	120	1440	1520	930	2380	255	2170	234	681	20	327	102
25	116	1680	10200	e790	2090	247	4640	224	238	30	177	76
26	115	3560	5290	e700	1470	258	2870	188	1970	48	119	71
27	117	7410	2740	e650	1050	249	1860	202	876	114	87	95
28	119	3750	1760	e600	872	236	1350	191	299	99	86	89
29	112	2230	1280	e580	---	233	1080	170	195	84	155	85
30	113	1430	1050	2200	---	274	938	157	131	61	180	127
31	106	---	935	5500	---	1530	---	182	---	48	196	---
TOTAL	13298	79452	61577	41126	41985	15403	72755	10320	8862	3324	4015	3856
MEAN	429	2548	1986	1327	1499	497	2425	333	295	107	130	129
MAX	1830	9200	10200	7640	4930	1530	9110	807	1970	259	419	292
MIN	106	91	530	501	584	233	641	157	76	20	26	71
CFSM	.57	3.48	2.62	1.75	1.98	.65	3.20	.44	.39	.14	.17	.17
IN.	.65	3.69	3.02	2.02	2.06	.75	3.57	.51	.43	.16	.20	.19

CAL YR 1986 TOTAL 453456 MEAN 1242 MAX 18100 MIN 38 CFSM 1.64 IN. 22.22
WTR YR 1987 TOTAL 355973 MEAN 975 MAX 10200 MIN 20 CFSM 1.28 IN. 17.45

e Estimated

MONONGAHELA RIVER BASIN

03061500 BUFFALO CREEK AT BARRACKVILLE, WV

LOCATION.--Lat 39°30'15", long 80°10'20", Marion County, Hydrologic Unit 05020003, near center of span on downstream side of highway bridge at Barrackville, 1,700 ft upstream from Finchs Run, and at mile 4.0.

DRAINAGE AREA.--115 mi².

PERIOD OF RECORD.--June 1907 to December 1908, May 1915 to June 1924, August 1932 to current year.

REVISED RECORDS.--WSP 783: 1917(M). WSP 1335: 1916(M), 1918-20(M), 1921, 1922(M), 1924(M), 1933(M), 1940.

GAGE.--Water-stage recorder. Datum of gage is 884.4 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 6, 1940, nonrecording gage at same site.

REMARKS.--Estimated daily discharges: Jan. 25-29, Feb. 11, and July₂10-31. Records good except those for periods of estimated daily discharges, which are poor. Flow from 5.20 mi² is partially controlled, but not diverted, by three floodwater-detention reservoirs. Some additional regulation at low flow from mine pumpage above station.

AVERAGE DISCHARGE.--64 years (water years 1908, 1916-23, 1933-87), 167 ft³/s, 19.72 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 9,490 ft³/s, Jan. 22, 1917, gage height, 16.2 ft, present datum; no flow during greater part of period September to November 1908.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in July 1912 reached a stage of about 18 ft, present site and datum, discharge, 11,600 ft³/s.

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

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 25	0300	3,650	10.10	May 19	unknown	*4,250	*a10.76

a From peak indicator.

Minimum discharge, 4.6 ft³/s, July 30, gage height, 1.75 ft.

DISCHARGE, 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	166	29	113	97	474	103	494	109	46	27	6.6	9.2
2	400	28	150	96	751	141	324	103	131	395	6.9	8.3
3	100	28	436	84	585	152	287	104	77	567	21	7.0
4	59	28	396	71	330	132	300	113	51	155	27	6.0
5	144	52	258	66	220	113	304	113	39	82	404	6.6
6	100	339	173	66	169	102	500	103	30	56	138	10
7	57	151	136	66	144	93	1480	92	25	43	50	12
8	43	106	117	74	127	84	1460	78	21	32	29	11
9	34	1180	520	74	110	80	713	64	21	27	19	11
10	29	377	968	81	97	72	391	56	19	21	16	10
11	24	297	456	83	e83	61	263	50	17	18	14	9.5
12	21	409	292	71	96	56	278	46	33	16	13	8.7
13	22	201	191	63	104	53	299	41	77	14	11	8.0
14	33	116	129	58	95	49	222	35	43	21	9.9	6.7
15	75	84	115	58	90	49	194	47	28	30	9.2	6.0
16	55	69	100	59	84	53	215	40	21	22	8.3	5.9
17	42	59	92	55	81	47	315	29	19	18	7.2	6.0
18	34	55	96	54	72	41	266	25	16	15	6.3	6.8
19	31	60	97	371	66	40	207	580	14	14	6.0	9.4
20	25	91	82	825	57	37	165	431	12	12	5.8	9.1
21	22	400	73	369	54	35	137	171	130	11	5.6	7.0
22	28	235	66	250	54	34	119	97	91	9.4	15	6.2
23	27	152	61	191	84	32	109	74	169	7.6	96	6.2
24	25	129	580	168	94	30	310	59	114	6.5	32	6.0
25	25	137	2020	e140	85	31	442	47	59	5.6	15	5.9
26	29	914	546	e120	78	48	280	40	41	7.1	11	6.3
27	36	945	325	e100	74	48	207	237	33	7.2	11	8.1
28	36	364	226	e90	73	42	177	131	24	5.4	14	7.8
29	35	228	165	e86	---	39	142	73	19	5.3	13	8.5
30	34	151	140	296	---	49	132	52	17	5.0	11	10
31	32	---	115	661	---	517	---	42	---	5.1	9.9	---
TOTAL	1823	7414	9234	4943	4431	2463	10732	3282	1437	1660.2	1041.7	239.2
MEAN	58.8	247	298	159	158	79.5	358	106	47.9	53.6	33.6	7.97
MAX	400	1180	2020	825	751	517	1480	580	169	567	404	12
MIN	21	28	61	54	54	30	109	25	12	5.0	5.6	5.9
CFSM	.51	2.15	2.59	1.39	1.38	.69	3.11	.92	.42	.47	.29	.07
IN.	.59	2.40	2.99	1.60	1.43	.80	3.47	1.06	.46	.54	.34	.08

CAL YR 1986 TOTAL 56095.5 MEAN 154 MAX 2280 MIN 2.1 CFMS 1.34 IN. 18.15
WTR YR 1987 TOTAL 48700.1 MEAN 133 MAX 2020 MIN 5.0 CFMS 1.16 IN. 15.75

e Estimated

MONONGAHELA RIVER BASIN

03062400 COBUN CREEK AT MORGANTOWN, WV

LOCATION.--Lat 39°36'30", long 79°57'20", Monongalia County, Hydrologic Unit 05020003, on left bank at Morgantown, 30 ft upstream from concrete box culvert on Greenbag Road, and at mile 1.4.

DRAINAGE AREA.--10.9 mi².

PERIOD OF RECORD.--April 1965 to current year.

GAGE.--Water-stage recorder and concrete and metal control. Elevation of gage is 890 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 24, 26-28, Feb. 10, 12, 17, and 18. Records good except those for periods of estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--22 years, 16.6 ft³/s, 20.68 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,190 ft³/s, Aug. 18, 1980, gage height, 19.94 ft, from floodmarks, from rating curve extended above 800 ft³/s on basis of culvert rating computation and flow-over-road measurement of peak flow; no flow for many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 250 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 9	0800	270	4.58	July 2	1815	*435	*6.11
May 26	2200	263	4.50				

No flow Aug. 16-21.

DISCHARGE, 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	45	12	16	13	31	12	13	20	6.4	5.6	.13	.32
2	47	13	18	13	51	12	16	18	10	77	.06	.28
3	17	16	20	12	49	11	18	18	6.1	46	1.3	.18
4	25	21	18	10	34	10	23	16	4.2	19	.75	.13
5	70	33	15	11	25	9.9	25	14	3.4	11	3.9	.42
6	27	44	14	15	21	9.4	47	12	2.8	7.6	3.3	1.3
7	16	26	13	10	18	9.0	120	11	2.2	5.4	.98	1.0
8	12	24	13	10	17	9.0	150	10	1.7	3.8	.54	2.9
9	8.4	176	57	10	14	8.9	117	8.7	1.6	3.1	.33	1.4
10	6.3	60	81	11	e13	7.7	71	7.7	1.4	2.5	.47	.79
11	4.5	71	46	11	13	6.8	46	6.8	1.2	1.9	.25	.50
12	3.7	56	32	9.6	e12	6.5	45	6.6	4.1	1.7	.17	.51
13	4.4	33	22	8.8	12	6.2	41	6.8	4.2	1.4	.10	.77
14	11	23	18	8.3	11	5.9	31	5.2	2.1	6.2	.05	.53
15	11	19	16	9.1	10	6.3	28	6.2	1.5	3.1	.02	.33
16	8.7	16	14	9.4	9.3	6.3	32	5.0	1.1	1.8	.0	.26
17	7.4	14	13	9.0	e8.3	5.7	33	3.9	.99	1.3	.00	.23
18	6.1	15	14	9.1	e7.8	5.3	27	4.6	.81	.95	.0	.19
19	4.9	19	12	35	7.5	5.0	22	23	.66	.74	.0	.55
20	4.1	40	11	46	7.0	4.8	19	36	2.1	.62	.00	2.1
21	3.7	61	10	31	6.8	4.6	16	20	25	.46	.00	1.4
22	3.3	36	8.8	25	6.9	4.3	14	14	13	.34	6.2	1.4
23	3.0	26	9.8	20	11	4.0	14	11	20	.25	5.4	1.1
24	2.7	27	61	e16	9.6	3.9	114	8.4	11	.20	1.1	.88
25	2.4	25	87	13	9.0	4.5	75	6.9	7.1	.16	.51	.60
26	3.0	51	43	e12	8.6	4.3	43	23	7.1	.20	.33	.43
27	4.0	51	30	e11	8.5	3.8	30	36	4.3	.17	.90	.31
28	3.4	34	22	e10	9.2	3.8	32	13	3.0	.21	.90	.24
29	7.3	25	19	11	---	3.7	25	8.5	2.1	.19	.35	.60
30	12	20	17	45	---	4.8	25	6.2	3.3	.11	.27	.75
31	12	---	14	41	---	16	---	5.4	---	.50	.33	---
TOTAL	396.3	1087	784.6	505.3	440.5	215.4	1312	391.9	154.46	203.50	28.64	22.40
MEAN	12.8	36.2	25.3	16.3	15.7	6.95	43.7	12.6	5.15	6.56	.92	.75
MAX	70	176	87	46	51	16	150	36	25	77	6.2	2.9
MIN	2.4	12	8.8	8.3	6.8	3.7	13	3.9	.66	.11	.00	.13
CFSM	1.17	3.32	2.32	1.50	1.44	.64	4.01	1.16	.47	.60	.08	.07
IN.	1.35	3.71	2.68	1.72	1.50	.74	4.48	1.34	.53	.69	.10	.08

CAL YR 1986 TOTAL 6566.53 MEAN 18.0 MAX 209 MIN .00 CFSM 1.65 IN. 22.41
WTR YR 1987 TOTAL 5542.00 MEAN 15.2 MAX 176 MIN .00 CFSM 1.39 IN. 18.91

e Estimated

MONONGAHELA RIVER BASIN

03065000 DRY FORK AT HENDRICKS, WV

LOCATION.--Lat 39°04'20", long 79°37'20", Tucker County, Hydrologic Unit 05020004, on right bank at Hendricks, 0.4 mi upstream from confluence with Blackwater River.

DRAINAGE AREA.--345 mi².

PERIOD OF RECORD.--October 1940 to current year. Published as Dry Fork River, 1949-52.

GAGE.--Water-stage recorder. Datum of gage is 1,698.76 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to Dec. 21, 1941, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Jan. 23 to Feb. 1, Feb. 8-10, and Sept. 12-22. Records good except those for periods of estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--47 years, 771 ft³/s, 30.35 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 100,000 ft³/s, Nov. 5, 1985, gage height, 20.74 ft, from floodmarks, from rating curve extended above 47,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 5.5 ft³/s, Sept. 10, 11, 1965, gage height, 0.99 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 19	1930	*7,650	*6.84				
Minimum discharge, 5.7 ft ³ /s, Aug. 19, 21, 22, gage height, 2.23 ft.							

DISCHARGE, 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	451	383	752	481	e1200	3170	1210	760	237	86	17	54
2	591	1550	697	456	1300	4390	1090	653	216	82	17	35
3	495	1450	1540	400	1150	2050	1020	582	200	89	16	27
4	435	1050	1470	355	828	1380	930	1240	245	95	14	22
5	954	2400	1120	296	653	983	799	1290	220	78	14	19
6	752	5130	882	267	572	850	733	926	161	63	13	23
7	540	2610	753	331	530	1070	749	726	129	54	14	141
8	418	2130	660	329	e410	1810	1600	586	110	47	14	1260
9	353	2870	976	285	e340	2380	3390	471	95	39	14	831
10	302	2560	2530	268	e320	2740	3020	395	85	36	14	356
11	255	1970	1860	275	326	1570	2990	337	85	34	13	211
12	227	2150	1590	264	389	1070	2570	293	304	35	12	e310
13	266	1560	1200	246	938	812	2320	260	992	39	11	e712
14	538	1110	869	252	761	642	1690	229	585	50	9.7	e471
15	678	890	787	312	636	570	1450	216	353	49	8.4	e289
16	481	768	663	940	475	550	1950	234	278	36	8.0	e204
17	403	667	579	894	425	487	1950	202	291	33	7.8	e399
18	351	567	600	765	402	480	1950	167	240	29	7.5	e1340
19	296	1090	648	3700	304	485	1840	259	169	27	6.7	e580
20	259	1000	539	4390	258	569	1310	602	142	23	6.2	e550
21	242	1980	473	2110	310	630	973	649	493	21	5.8	e520
22	217	1560	388	1370	279	646	773	640	502	20	8.8	e374
23	207	1210	463	e800	291	653	634	484	411	18	263	338
24	200	1170	826	e600	284	727	1000	369	379	17	194	285
25	193	1160	2760	e520	280	874	1600	296	273	16	75	220
26	206	1280	1930	e450	264	1100	1270	339	311	15	43	171
27	318	2460	1320	e420	327	1030	967	522	213	15	32	138
28	608	1720	994	e390	352	937	924	482	161	18	59	112
29	641	1250	776	e600	---	884	848	391	122	18	214	95
30	510	941	676	e1000	---	808	866	324	104	17	177	967
31	423	---	580	e960	---	1390	---	306	---	17	89	---
TOTAL	12810	48636	31901	24726	14604	37737	44416	15230	8106	1217	1397.9	11054
MEAN	413	1621	1029	798	522	1217	1481	491	270	39.3	45.1	368
MAX	954	5130	2760	4390	1300	4390	3390	1290	992	95	263	1340
MIN	193	383	388	246	258	480	634	167	85	15	5.8	19
CFSM	1.20	4.70	2.98	2.31	1.51	3.53	4.29	1.42	.78	.11	.13	1.07
IN.	1.38	5.24	3.44	2.67	1.57	4.07	4.79	1.64	.87	.13	.15	1.19

CAL YR 1986 TOTAL 330518 MEAN 906 MAX 15000 MIN 44 CFSM 2.62 IN. 35.64
WTR YR 1987 TOTAL 251834.9 MEAN 690 MAX 5130 MIN 5.8 CFSM 2.00 IN. 27.15

e Estimated

MONONGAHELA RIVER BASIN

03066000 BLACKWATER RIVER AT DAVIS, WV

LOCATION.--Lat 39°07'35", long 79°28'10", Tucker County, Hydrologic Unit 05020004, on right bank 0.4 mi southwest of Davis, 0.5 mi downstream from Beaver Creek, and at mile 10.6.

DRAINAGE AREA.--86.2 mi².

PERIOD OF RECORD.--April 1921 to current year.

REVISED RECORDS.--WSP 583: 1921-23. WSP 803: Drainage area. WSP 1173: 1931-34(M,m). WSP 1305: 1928(M), 1932-37(M), 1939-41(M), 1944-48(M).

GAGE.--Water-stage recorder. Datum of gage is 3,058.87 ft above National Geodetic Vertical Datum of 1929 (levels by West Virginia Power and Transmission Co.). Prior to Dec. 18, 1952, nonrecording gage at site 60 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 3-6, 24-28, Feb. 9-11, 19, 20, and 23-26. Records good except those for periods of estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--66 years, 200 ft³/s, 31.51 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,500 ft³/s, Nov. 5, 1985, gage height, 17.67 ft; minimum, 1.5 ft³/s, Sept. 11, 12, 1959, gage height, 0.90 ft, caused by filling of small water-supply pool about 1.0 mi upstream.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Apr. 17	0800	2,620	7.89	No other peak greater than base discharge.			

Minimum discharge, 4.4 ft³/s, Aug. 16, 17, gage height, 1.13 ft.

DISCHARGE, 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	69	63	179	124	322	892	317	250	110	52	8.1	12
2	145	270	190	111	284	1120	301	192	82	53	8.8	9.0
3	91	239	539	e98	330	705	253	196	75	51	8.9	7.7
4	82	167	399	e90	251	384	217	559	111	44	8.9	6.8
5	157	573	247	e86	204	256	201	501	86	39	8.8	6.9
6	118	1070	202	e86	170	253	191	290	58	34	12	14
7	75	716	170	86	149	391	207	213	46	30	12	39
8	58	450	157	87	140	522	513	176	39	28	9.3	399
9	50	621	321	85	e130	566	791	148	36	25	8.0	356
10	44	506	560	74	e120	593	697	127	37	24	7.3	115
11	38	469	384	91	e120	372	619	111	31	24	7.0	65
12	35	530	337	136	131	271	572	100	44	23	6.4	226
13	43	341	227	123	187	224	533	92	172	20	5.7	481
14	143	245	199	90	156	184	385	80	120	20	5.2	178
15	154	206	178	174	127	172	374	92	59	22	4.7	92
16	93	194	159	372	125	172	958	89	69	20	4.5	62
17	68	169	136	244	98	166	2220	69	88	18	4.5	60
18	59	196	186	179	95	173	1200	58	48	16	4.8	262
19	54	616	203	733	e86	184	611	118	35	15	5.1	204
20	47	388	148	920	e76	194	374	227	47	13	6.9	142
21	43	665	121	480	81	185	283	126	513	12	6.4	103
22	41	418	127	250	83	180	225	80	375	11	12	76
23	40	303	163	221	e80	177	187	66	588	10	87	70
24	37	300	230	e200	e76	193	287	58	353	9.1	34	66
25	38	279	602	e170	e80	228	508	52	179	8.7	18	53
26	56	381	427	e150	e86	264	296	169	122	8.8	13	43
27	72	600	249	e140	92	240	210	298	99	8.7	10	35
28	121	374	193	e130	120	235	254	223	80	8.4	18	30
29	133	269	157	218	---	223	246	159	67	7.8	31	29
30	91	216	141	390	---	224	347	132	67	7.2	22	168
31	69	---	129	406	---	351	---	174	---	7.7	16	---
TOTAL	2364	11834	7660	6744	3999	10294	14377	5225	3836	670.4	414.3	3410.4
MEAN	76.3	394	247	218	143	332	479	169	128	21.6	13.4	114
MAX	157	1070	602	920	330	1120	2220	559	588	53	87	481
MIN	35	63	121	74	76	166	187	52	31	7.2	4.5	6.8
CFSM	.88	4.58	2.87	2.52	1.66	3.85	5.56	1.96	1.48	.25	.16	1.32
IN.	1.02	5.11	3.31	2.91	1.73	4.44	6.20	2.25	1.66	.29	.18	1.47

CAL YR 1986 TOTAL 79032 MEAN 217 MAX 2460 MIN 11 CFSM 2.51 IN. 34.11
WTR YR 1987 TOTAL 70828.1 MEAN 194 MAX 2220 MIN 4.5 CFSM 2.25 IN. 30.57

e Estimated

MONONGAHELA RIVER BASIN

03069000 SHAVERS FORK AT PARSONS, WV

LOCATION.--Lat 39°05'45", long 79°40'40", Tucker County, Hydrologic Unit 05020004, on right bank at Parsons, 0.7 mi upstream from confluence with Black Fork.

DRAINAGE AREA.--214 mi².

PERIOD OF RECORD.--October 1910 to September 1926, October 1940 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 583: 1922. WSP 923: Drainage area. WSP 1335: 1911-12, 1915-17, 1918(M), 1921-22(M), 1926(M). WSP 1705: 1955.

GAGE.--Water-stage recorder. Datum of gage is 1,634.87 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 25, 1923, nonrecording gage on old highway bridge 800 ft downstream and Aug. 25, 1923, to Sept. 30, 1926, nonrecording gage on railroad bridge 760 ft downstream at datum 3.0 ft lower. Oct. 4, 1940, to Apr. 4, 1942, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Jan. 24-30, Feb. 8-12, Aug. 4-10, and 14-22. Records good except those for periods of estimated daily discharges, which are poor.

AVERAGE DISCHARGE.--63 years, 555 ft³/s, 35.22 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,000 ft³/s, Nov. 5, 1985, gage height, 19.86 ft, from floodmarks, from rating curve extended above 11,000 ft³/s on basis of slope-area measurement of peak flow; minimum daily discharge, 3.0 ft³/s, Oct. 7, 1914.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, and July 17, 1907, reached a stage of approximately 12.5 ft at site and datum of former gage, discharge, 25,000 ft³/s, from rating curve extended above 8,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 19	2200	6,200	6.90	Mar. 31	1645	6,330	6.98
Mar. 2	1100	*7,910	*7.95	Apr. 16	0415	6,460	7.06

Minimum daily discharge, 11 ft³/s, Aug. 19.

DISCHARGE, 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	405	281	493	304	513	1150	1820	513	240	127	45	98
2	480	1170	429	285	708	2410	1130	436	222	130	43	73
3	398	1180	672	258	812	1420	910	377	343	186	43	58
4	337	744	1080	215	611	710	783	562	317	141	e37	48
5	548	1320	668	179	453	534	625	992	321	123	e37	43
6	733	3380	534	205	393	453	583	618	263	185	e34	46
7	466	1650	425	232	358	480	653	460	209	170	e33	79
8	362	1250	397	247	e260	748	1380	381	174	119	e32	705
9	300	2200	628	221	e230	972	2120	325	151	98	e31	900
10	256	1930	1850	222	e210	1510	1760	287	140	88	e40	358
11	224	1280	1340	232	e240	923	1770	256	201	78	52	233
12	199	1610	1040	203	e320	653	1620	231	224	133	42	986
13	215	1040	799	183	684	513	1930	212	442	185	44	1430
14	516	708	555	183	507	419	1760	205	618	159	e40	748
15	1000	541	448	256	403	376	1420	196	330	124	e37	414
16	576	453	406	500	330	387	3560	426	316	127	e26	304
17	436	404	363	555	292	372	2110	316	480	104	e20	274
18	366	376	371	448	274	336	1480	230	279	84	e15	838
19	309	562	416	2160	236	346	980	275	204	72	e11	639
20	272	653	375	3120	217	400	747	676	193	64	e12	414
21	244	1200	320	1230	222	453	604	611	605	57	e30	380
22	227	989	274	811	213	466	500	395	796	52	e75	301
23	212	671	231	562	243	480	427	322	500	47	162	268
24	193	694	311	e350	213	583	764	285	358	46	353	257
25	180	1080	2800	e310	219	716	1930	248	295	44	157	216
26	201	1050	1270	e280	241	924	1130	234	266	44	95	179
27	212	1960	822	e260	261	971	744	294	241	44	70	152
28	365	1200	597	e250	293	847	666	366	200	46	70	133
29	448	841	466	e240	---	923	618	277	161	48	258	121
30	386	632	396	e360	---	871	569	316	140	51	256	589
31	318	---	350	653	---	3540	---	337	---	48	147	---
TOTAL	11384	33049	21126	15514	9956	25886	37093	11659	9229	3024	2347	11284
MEAN	367	1102	681	500	356	835	1236	376	308	97.5	75.7	376
MAX	1000	3380	2800	3120	812	3540	3560	992	796	186	353	1430
MIN	180	281	231	179	210	336	427	196	140	44	11	43
CFSM	1.72	5.15	3.18	2.34	1.66	3.90	5.78	1.76	1.44	.46	.35	1.76
IN.	1.98	5.74	3.67	2.70	1.73	4.50	6.45	2.03	1.60	.53	.41	1.96

CAL YR 1986 TOTAL 223133 MEAN 611 MAX 7950 MIN 59 CFSM 2.86 IN. 38.79
WTR YR 1987 TOTAL 191551 MEAN 525 MAX 3560 MIN 11 CFSM 2.45 IN. 33.30

e Estimated

MONONGAHELA RIVER BASIN

03069500 CHEAT RIVER NEAR PARSONS, WV

LOCATION.--Lat 39°07'20", long 79°40'50", Tucker County, Hydrologic Unit 05020004, on left bank 2.0 mi north of Parsons, 3.0 mi downstream from confluence of Black Fork and Shavers Fork, and at mile 74.8.

DRAINAGE AREA.--718 mi².

PERIOD OF RECORD.--January 1913 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 893: Drainage area. WSP 1305: 1917(M), 1924(M), 1932(M), 1936(M), 1938-39(M). WSP 1335: 1916. WSP 1385: 1918-19(M).

GAGE.--Water-stage recorder. Datum of gage is 1,589.66 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to Aug. 17, 1944, nonrecording gage on Moss Bridge about 1,600 ft upstream at datum 1.13 ft higher. Nov. 21, 1985 to Sept. 30, 1986, recording gage on Moss Bridge at datum 1.27 ft lower.

REMARKS.--Estimated daily discharges: Jan. 23-30, and Feb. 9-11. Records good except those for periods of estimated daily discharges, which are poor. National Weather Service and Monongahela Power Company gage-height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--74 years, 1,705 ft³/s, 32.25 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 170,000 ft³/s, Nov. 5, 1985, gage height, 24.30 ft, from floodmarks, from rating curve extended above 55,000 ft³/s; minimum observed, 9 ft³/s, Aug. 12, 1930, gage height, 1.28 ft, site and datum then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, reached a stage of 20.5 ft, discharge, 51,300 ft³/s, from floodmarks, at site and datum in use prior to Aug. 17, 1944; it was not exceeded until flood of Oct. 15, 1954, which reached a stage 0.3 ft higher at that site and datum.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 19	2200	*16,500	*9.87	No other peaks above base discharge.			

Minimum discharge, 29 ft³/s, Aug. 20-22, gage height, 1.53 ft.

DISCHARGE, 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	963	723	1640	975	1800	5820	4020	1890	702	315	78	199
2	1360	3280	1420	921	2200	8790	3000	1540	598	320	65	141
3	1070	3260	2990	806	2630	4560	2630	1370	713	381	71	108
4	873	2170	3350	728	2070	2990	2320	2770	773	323	64	89
5	1800	4930	2320	619	1600	2140	1980	3420	755	271	62	79
6	1820	10800	1790	617	1380	1850	1820	2280	574	305	61	90
7	1120	5700	1510	723	1270	2280	1970	1750	445	290	67	207
8	846	4320	1320	748	1210	3590	4060	1420	372	222	62	2550
9	702	6520	2200	649	e880	4440	7550	1170	323	186	56	2790
10	593	5740	5750	642	e760	5630	6500	983	304	170	58	1050
11	509	4300	4200	672	e900	3420	6420	853	360	154	72	576
12	446	4980	3430	571	1150	2390	5780	763	467	222	57	1490
13	502	3390	2560	569	2200	1860	5850	686	1650	265	51	3410
14	1460	2400	1840	552	1710	1480	4670	621	1590	268	57	1700
15	2160	1900	1600	848	1370	1310	3910	607	842	236	47	929
16	1280	1620	1350	2280	1060	1320	8530	936	685	214	40	643
17	959	1400	1190	2090	944	1210	9710	722	959	176	37	550
18	804	1270	1280	1700	890	1150	6780	548	629	143	44	2870
19	686	2870	1470	7250	729	1210	4180	692	444	122	34	1840
20	597	2480	1190	9760	671	1420	2900	2750	400	108	31	1270
21	536	4720	1010	4510	711	1530	2230	2080	2070	96	29	1180
22	489	3480	826	2880	662	1550	1790	1340	2120	87	47	839
23	448	2550	728	e1600	737	1570	1480	1020	2280	78	535	761
24	414	2560	1470	e1300	711	1800	2470	834	1540	72	720	682
25	390	2920	6940	e1100	697	2190	4750	704	936	65	312	544
26	462	3110	4160	e1000	719	2720	3260	740	824	63	185	434
27	602	5740	2730	e920	794	2640	2300	1350	650	64	132	361
28	1150	3800	2050	e840	840	2370	2200	1280	512	71	129	306
29	1310	2720	1590	e800	---	2370	2070	966	413	71	529	273
30	1000	2070	1360	e1000	---	2200	2180	876	354	75	531	1820
31	814	---	1170	2380	---	5950	---	951	---	74	298	---
TOTAL	28165	107723	68434	52050	33295	85750	119310	39912	25284	5507	4561	29781
MEAN	909	3591	2208	1679	1189	2768	3977	1287	843	178	147	993
MAX	2160	10800	6940	9760	2630	8790	9710	3420	2280	381	720	3410
MIN	390	723	728	552	662	1150	1480	548	304	63	29	79
CFSM	1.27	5.00	3.07	2.34	1.66	3.85	5.54	1.79	1.17	.25	.20	1.38
IN.	1.46	5.58	3.55	2.70	1.73	4.44	6.18	2.07	1.31	.29	.24	1.54

CAL YR 1986 TOTAL 716310 MEAN 1962 MAX 25200 MIN 138 CFSM 2.73 IN. 37.11
WTR YR 1987 TOTAL 599772 MEAN 1643 MAX 10800 MIN 29 CFSM 2.29 IN. 31.07

e Estimated

MONONGAHELA RIVER BASIN

03070000 CHEAT RIVER AT ROWLESBURG, WV

LOCATION (REVISED).--Lat 39°20'48", long 79°39'56", Preston County, Hydrologic Unit 05020004, on right bank 800 ft upstream from Baltimore & Ohio Railroad bridge at Rowlesburg, 1,100 ft upstream from Saltlick Creek, and at mile 44.2. Prior to Nov. 5, 1985, at site 800 ft downstream.

DRAINAGE AREA.--937 mi², revised. Area at site used prior to Nov. 5, 1985, 972 mi².

PERIOD OF RECORD.--July 1912 to September 1923 (gage heights only), October 1923 to current year. Gage-height records collected at practically the same site since 1884 are contained in reports of National Weather Service. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 803: Drainage area. WSP 893: 1936-37. WSP 1173: 1924-34(M,m). WSP 1725: 1924(M), 1930(M), 1932(M), 1936(M), 1938-39(M), 1944(M), 1948-49(M).

GAGE.--Water-stage recorder. Datum of gage is 1,368.24 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 5, 1985, at site 800 ft downstream at datum 0.44 ft lower. Prior to Nov. 18, 1923, nonrecording gages at several sites within 500 ft of present site at various datums.

REMARKS.--Estimated daily discharges: Jan. 23 to Feb. 1, and Feb. 9-11. Records fair except those for periods of estimated daily discharges, which are poor. National Weather Service gage height telemeter at station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--64 years, 2,301 ft³/s, 33.35 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 190,000 ft³/s, Nov. 5, 1985, gage height, 36.90 ft, from floodmarks, from rating curve extended above 60,000 ft³/s; minimum, 10 ft³/s, Oct. 15, 1930; minimum gage height observed, 0.50 ft Oct. 3, 1968.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 6, 1844, reached a stage of 16.7 ft, referred to present gage by relation curve, discharge, 89,000 ft³/s, from rating curve extended above 45,000 ft³/s. Flood of July 10, 1888, reached a stage of 16.2 ft, referred to present gage by relation curve, discharge, 84,000 ft³/s, from rating curve extended above 45,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 20,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 6	0800	21,900	13.36	Jan. 20	0200	*23,600	*13.77

Minimum discharge, 63 ft³/s, Aug. 22, gage height, 2.23 ft.

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

DAY	MEAN VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1540	933	3070	1600	e2300	5400	7120	3160	883	399	108	174
2	2240	2410	2530	1420	4460	12500	4790	2590	673	407	108	122
3	2140	6130	3440	1190	6460	7310	4300	2270	680	469	149	120
4	1410	3840	5710	915	4980	4840	3860	2850	704	448	131	101
5	2220	5960	4360	796	3800	3520	3320	5350	850	366	161	90
6	3340	19000	3400	665	2740	2880	2970	3830	671	314	177	98
7	2150	10600	2660	835	2370	2850	3370	2880	518	342	153	106
8	1360	7190	2280	974	2130	4160	6530	2310	423	303	125	1010
9	958	9480	5040	944	e1200	5100	12700	1860	376	244	121	3940
10	777	11100	11200	870	e1000	6790	9700	1520	326	213	108	1730
11	648	8070	8770	941	e1100	4930	8700	1230	311	216	98	667
12	557	8820	6020	919	1490	3450	7590	991	376	214	99	717
13	540	6420	4590	791	3400	2670	7810	862	1670	250	106	3910
14	1320	4950	3340	769	3250	2160	6560	757	2420	334	92	2480
15	4190	3410	2680	1040	2500	1860	5540	729	1330	305	84	1070
16	2930	2630	2290	3840	1920	1810	9490	795	736	258	86	765
17	1980	2080	1950	4220	1590	1770	11800	1070	936	230	80	693
18	1270	1790	2050	3290	1420	1570	9320	687	843	198	77	2650
19	840	3950	3060	6800	1140	1610	6090	697	542	171	70	3140
20	818	4870	3240	17600	859	1800	4300	2460	461	152	75	2100
21	630	9120	2210	8060	846	2060	3360	3090	1600	138	69	1880
22	611	7310	1940	4740	862	2130	2710	2040	3440	123	79	1390
23	502	4920	1460	e2200	966	2110	2260	1440	4070	111	135	985
24	425	4280	1660	e1700	943	2240	3690	1050	3230	104	949	888
25	354	5370	9170	e1500	926	2600	7170	829	1790	97	722	726
26	512	5950	7830	e1300	929	3270	5700	757	1310	93	303	567
27	526	10400	5330	e1200	1060	3430	3840	1350	949	99	246	451
28	853	7430	4020	e1100	1230	3060	3290	1710	694	89	201	373
29	2090	5190	3170	e1100	---	3080	3190	1360	541	86	278	320
30	2200	3910	2450	e1800	---	2810	3110	954	450	88	721	496
31	1830	---	2020	e3300	---	5970	---	1120	---	94	552	---
TOTAL	43761	187513	122940	78419	57871	111740	174180	54598	33803	6955	6463	33759
MEAN	1412	6250	3966	2530	2067	3605	5806	1761	1127	224	208	1125
MAX	4190	19000	11200	17600	6460	12500	12700	5350	4070	469	949	3940
MIN	354	933	1460	665	846	1570	2260	687	311	86	69	90
CFSM	1.51	6.67	4.23	2.70	2.21	3.85	6.20	1.88	1.20	.24	.22	1.20
IN.	1.74	7.44	4.88	3.11	2.30	4.44	6.92	2.17	1.34	.28	.26	1.34
CAL YR 1986	TOTAL 1057210 MEAN 2896 MAX 33000 MIN 182 CFSM 3.09 IN. 41.97											
WTR YR 1987	TOTAL 912002 MEAN 2499 MAX 19000 MIN 69 CFSM 2.67 IN. 36.21											

e Estimated

MONONGAHELA RIVER BASIN

03070500 BIG SANDY CREEK AT ROCKVILLE, WV

LOCATION.--Lat 39°37'15", long 79°42'20", Preston County, Hydrologic Unit 05020004, on right bank just downstream from highway bridge at Rockville, and at mile 5.0.

DRAINAGE AREA.--200 mi².

PERIOD OF RECORD.--May 1909 to March 1918, April 1921 to current year.

REVISED RECORDS.--WSP 583: 1912(M), 1922-23. WSP 643: Drainage area. WSP 923: 1939. WSP 1173: 1930-34(M,m). WSP 1335: 1910-18, 1921, 1922-24(M), 1928(M), 1930-43(M).

GAGE.--Water-stage recorder. Elevation of gage is 1,310 ft above National Geodetic Vertical Datum of 1929, from topographic map. Prior to Oct. 4, 1924, nonrecording gages at highway bridge at same datum.

REMARKS.--Estimated daily discharges: Jan. 24-30. Records good except those for period of estimated daily discharges, which are fair. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--74 years (water years 1910-17, 1922-87), 422 ft³/s, 28.65 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 21,300 ft³/s, July 24, 1912, gage height, 18.0 ft, from rating curve extended above 10,000 ft³/s on basis of velocity-area studies; minimum, 0.1 ft³/s, Oct. 21-27, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 10, 1888, reached a stage of about 20 ft, discharge, about 30,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Oct. 4	1300	*5,520	*10.85	Nov. 9	1000	5,140	10.61
Oct. 5	0200	5,250	10.68				

Minimum discharge, 4.7 ft³/s, Aug. 21, 22, gage height, 2.93 ft.

DISCHARGE, 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	340	156	411	274	451	321	402	348	299	155	11	44
2	1170	152	391	270	834	566	410	323	382	433	9.8	33
3	391	162	513	244	1270	488	427	309	232	580	27	23
4	3450	204	532	200	915	412	467	338	177	312	31	18
5	3390	718	445	146	681	349	464	302	139	200	31	15
6	1190	1430	370	180	557	320	545	270	113	148	34	39
7	627	815	328	214	482	291	1420	243	95	129	24	68
8	426	664	307	237	425	281	2550	220	81	105	19	101
9	318	3780	2490	212	357	283	2660	194	83	91	14	126
10	241	1840	2710	220	290	246	1560	176	83	76	17	74
11	188	1590	1360	248	279	202	1020	159	63	66	18	68
12	159	1500	831	227	359	191	992	149	88	55	12	98
13	173	925	575	213	463	178	1140	138	141	51	9.4	82
14	431	632	433	197	388	160	794	119	86	83	7.8	67
15	466	525	389	360	336	165	992	123	62	95	6.7	49
16	340	452	330	687	239	170	1580	117	52	59	6.1	44
17	274	386	303	547	283	158	1020	98	48	45	5.7	43
18	223	369	351	456	240	141	743	94	41	39	5.6	51
19	184	553	408	1270	192	134	566	635	35	33	5.4	64
20	161	678	347	1820	169	126	456	467	82	29	5.3	149
21	143	1690	306	937	177	120	388	327	374	25	5.1	142
22	128	938	258	664	170	114	338	241	357	22	87	115
23	117	656	228	538	201	110	303	194	621	19	252	173
24	106	617	691	e280	174	104	1570	165	357	17	65	129
25	99	608	1690	e250	165	102	1430	136	205	15	33	93
26	130	1430	1010	e220	160	112	817	135	150	33	23	71
27	154	1750	690	e210	163	102	591	889	119	40	25	56
28	181	1000	532	e200	164	102	552	478	95	23	79	48
29	190	686	431	e180	---	95	451	322	73	20	54	42
30	177	522	376	e350	---	105	426	233	66	16	47	82
31	171	---	320	583	---	363	---	340	---	13	33	---
TOTAL	15738	27428	20356	12634	10584	6611	27074	8282	4799	3027	1002.9	2207
MEAN	508	914	657	408	378	213	902	267	160	97.6	32.4	73.6
MAX	3450	3780	2710	1820	1270	566	2660	889	621	580	252	173
MIN	99	152	228	146	160	95	303	94	35	13	5.1	15
CFSM	2.54	4.57	3.28	2.04	1.89	1.07	4.51	1.34	.80	.49	.16	.37
IN.	2.93	5.10	3.79	2.35	1.97	1.23	5.04	1.54	.89	.56	.19	.41

CAL YR 1986 TOTAL 169892.7 MEAN 465 MAX 8450 MIN 8.8 CFSM 2.33 IN. 31.60
WTR YR 1987 TOTAL 139742.9 MEAN 383 MAX 3780 MIN 5.1 CFSM 1.91 IN. 25.99

e Estimated

MONONGAHELA RIVER BASIN

03071600 CHEAT RIVER AT LAKE LYNN, PA

LOCATION.--Lat 39°43'15", long 79°51'20", Fayette County, Hydrologic Unit 05020004, at the Lake Lynn hydro-electric plant of the West Penn Power Company at Lake Lynn, 3.0 mi upstream from mouth.

DRAINAGE AREA.--1,411 mi².

PERIOD OF DAILY RECORD.--

WATER TEMPERATURES: October 1948 to September 1957, October 1958 to current year (partial record).

COOPERATION.--Records were furnished by the West Penn Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURES (Water years 1949-57): Maximum 29.5°C July 30, 1949, July 28, 1952, and Aug. 6, 1955; minimum, 0.5°C several days during 1951, 1952, 1954, 1955, 1957.

WATER TEMPERATURE, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	---	8.5	---	---	---	11.0	15.0	28.0	25.0	---	25.0
2	23.5	---	9.0	4.0	4.5	5.0	11.0	---	26.0	26.0	---	25.0
3	23.5	---	9.0	---	4.0	8.0	9.0	---	27.0	---	28.0	24.0
4	---	---	8.0	---	4.0	7.0	---	14.0	26.0	---	29.0	25.0
5	---	---	6.5	4.0	4.0	7.0	---	15.0	25.0	---	28.5	---
6	20.5	14.0	---	4.0	3.0	8.0	8.0	15.0	---	27.0	29.0	---
7	21.0	12.0	---	5.0	---	---	7.0	18.0	---	28.0	29.0	---
8	20.0	---	8.0	4.0	---	---	7.0	16.0	26.0	28.0	---	25.0
9	20.0	---	9.5	3.0	3.0	7.0	7.0	---	26.0	29.0	---	24.0
10	18.0	12.0	5.5	---	3.0	5.0	8.0	---	25.0	28.0	28.0	24.0
11	---	---	6.5	---	3.0	6.0	---	19.0	25.0	---	28.0	25.0
12	---	11.0	9.0	4.0	4.0	7.0	---	19.0	25.0	---	28.0	---
13	19.0	---	---	4.0	3.0	7.0	10.0	18.0	---	29.0	28.0	---
14	18.5	9.0	---	3.0	---	---	10.0	19.0	---	28.0	28.0	24.0
15	17.5	---	7.0	4.0	---	---	11.0	20.0	27.0	27.0	---	24.0
16	17.0	---	8.0	3.0	---	7.0	11.0	---	27.0	27.0	---	24.0
17	17.0	9.5	8.0	---	3.0	---	---	---	28.0	27.0	28.5	25.0
18	---	8.0	7.0	---	3.0	7.0	---	22.0	---	---	28.0	24.0
19	---	7.0	6.0	4.0	3.0	7.0	---	22.0	28.0	---	28.0	---
20	16.5	---	---	4.0	3.0	7.0	14.0	21.0	---	28.0	27.5	---
21	15.0	---	---	5.0	---	---	14.0	---	---	29.0	27.5	23.5
22	16.0	---	5.0	5.0	---	---	15.0	22.0	28.0	29.0	---	23.0
23	16.0	---	4.0	4.0	4.0	10.0	17.0	---	28.0	30.0	---	---
24	16.0	8.0	4.0	---	4.0	9.0	18.0	---	---	29.0	25.5	---
25	---	8.0	---	---	4.0	10.0	---	---	27.0	---	26.0	22.0
26	---	10.0	5.0	3.0	4.0	11.0	---	25.0	28.0	---	25.0	---
27	15.5	---	---	3.0	---	10.0	15.0	25.0	---	29.0	26.0	---
28	15.0	10.0	---	3.0	---	---	15.0	---	---	29.0	25.0	---
29	15.0	---	5.0	3.0	---	---	15.0	27.0	---	29.0	---	---
30	15.0	---	4.0	3.0	---	14.0	14.0	---	---	28.0	---	---
31	15.0	---	5.0	---	---	12.0	---	---	---	28.0	25.0	---
MEAN	18.0	9.9	6.7	3.8	3.5	8.1	11.8	19.6	26.7	28.0	27.4	24.2
MAX	24.0	14.0	9.5	5.0	4.5	14.0	18.0	27.0	28.0	30.0	29.0	25.0
MIN	15.0	7.0	4.0	3.0	3.0	5.0	7.0	14.0	25.0	25.0	25.0	22.0

WTR YR 1987 MEAN 15.7 MAX 30.0 MIN 3.0

OHIO RIVER MAIN STEM

03111534 OHIO RIVER AT MARTINS FERRY, OH
(Formerly published as 03112500 Ohio River at Wheeling, WV)

LOCATION.--Lat 40°06'18", long 80°42'31", Belmont County, Ohio, Hydrologic Unit 05030106, on right bank at water plant at Martins Ferry, Ohio, 300 ft downstream from Old Lock 12, 0.9 mi downstream from Glens Run (Ohio), 3.0 mi upstream from Wheeling Creek (Ohio), and at mile 87.5, measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--24,700 mi², approximately.

PERIOD OF RECORD.--January to March 1844, January 1905 to December 1906 (gage heights only), December 1906 to February 1907, March to April 1913, February to April 1936, December 1936 to February 1937 (published as "at Wheeling"), October 1978 to current year. Monthly discharge for some periods published in WSP 1305. Gage-height records collected in this vicinity since 1882 are in reports of the National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 610.80 ft above National Geodetic Vertical Datum of 1929. See WSP 1305 for history of gages prior to 1978. Auxiliary water-stage recorder 12.9 mi downstream from base gage at same datum.

REMARKS.--Estimated daily discharges: Nov. 28 to Jan. 7, Jan. 27, 29, July 29, 30, Aug. 3, 4, 8, 12. Records good except those for periods of estimated daily discharges, which are poor. Flow regulated by Ohio River system of locks, dams, and reservoirs. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--9 years, 42,980 ft³/s, 23.63 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 466,000 ft³/s, Mar. 19, 1936, gage height 55.2 ft; minimum not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 163,000 ft³/s, Apr. 8, gage height 26.38 ft; minimum daily discharge, 6,390 ft³/s, July 31.

DISCHARGE, 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	24300	14600	e62000	e41000	40900	19000	100000	44700	21500	20600	11100	18900
2	33100	16700	e67000	e36500	35400	35300	104000	40600	23100	44400	13200	16500
3	36900	13600	e85000	e33500	52200	64100	92000	43200	19700	94900	e15000	16100
4	55100	20300	e93000	e30000	55000	64000	90500	52500	22000	100000	e19500	14400
5	94400	17700	e85000	e27000	50100	57200	117000	48700	20400	70100	23800	13400
6	72800	27300	e77000	e24000	41400	42900	133000	43600	19900	54100	22800	13500
7	56400	42600	e68000	e26000	33500	42200	148000	39100	16800	43600	14300	13200
8	49300	46100	e58000	26400	33300	35400	160000	34000	16200	43800	e10000	26500
9	43800	59400	e64000	22500	28200	47400	152000	35500	17100	48200	12700	29100
10	38100	77900	e110000	20300	26300	59800	131000	29600	16000	39300	16400	33800
11	32100	61900	e118000	21600	24400	60500	119000	27100	14300	32200	19500	28400
12	28200	62300	e97000	22100	24600	48700	118000	26500	17300	28600	e17500	22800
13	28900	63900	e81000	21500	26300	43800	113000	24900	16100	24100	15000	26600
14	25800	50200	e70000	22200	27600	39500	104000	20500	18800	21900	12600	30700
15	31500	45000	e61000	22200	24700	32200	92700	19700	18200	21400	13900	30900
16	32700	35800	e53000	27300	20200	26600	77500	21900	20400	24300	14600	24400
17	31600	29100	e46500	40300	22300	27500	73600	19700	17200	25000	13500	27700
18	24400	31100	e44000	39400	21500	24900	72100	16700	16300	18200	13600	40100
19	25200	33900	e46000	37600	21100	23200	62800	27500	15700	18900	13300	58700
20	23000	41800	e48500	67000	18400	21700	53700	33500	18300	16000	12300	68600
21	20900	52200	e51000	81800	17600	21500	46500	28800	21300	14400	12700	64100
22	17600	61400	e42000	66600	16600	18300	39200	28000	26200	13900	16800	59900
23	17000	54400	e39000	52200	17800	15900	35200	25900	32900	13600	17500	52400
24	18300	44200	e38000	40500	19800	20300	61000	19100	38000	13200	15100	41800
25	14200	44000	e83000	25700	22000	21300	103000	18900	34300	12800	14200	38100
26	14700	60200	e94000	19200	17400	30400	79500	17500	24300	13200	14300	32100
27	14200	127000	e80000	e20000	21400	36800	67400	37500	21100	12100	15500	28800
28	16100	121000	e67000	20800	17600	34800	65200	40500	20700	9960	14800	26800
29	17900	e92000	e58500	e22200	---	29000	58500	28700	18700	e8500	26400	22900
30	16400	e78000	e52000	24800	---	30300	52200	27300	20400	e7200	21900	25100
31	17000	---	e47500	39500	---	56400	---	22100	---	6390	20000	---
TOTAL	971900	1525600	2086000	1021700	777600	1130900	2721600	943800	623200	914850	493800	946300
MEAN	31350	50850	67290	32960	27770	36480	90720	30450	20770	29510	15930	31540
MAX	94400	127000	118000	81800	55000	64100	160000	52500	38000	100000	26400	68600
MIN	14200	13600	38000	19200	16600	15900	35200	16700	14300	6390	10000	13200

CAL YR 1986 TOTAL 15655990 MEAN 42890 MAX 259000 MIN 8210
WTR YR 1987 TOTAL 14157250 MEAN 38790 MAX 160000 MIN 6390

e Estimated

WHEELING CREEK BASIN

03112000 WHEELING CREEK AT ELM GROVE, WV

LOCATION.--Lat 40°02'40", long 80°39'40", Ohio County, Hydrologic Unit 05030106, on right bank at highway bridge at Elm Grove, 500 ft downstream from Little Wheeling Creek, and at mile 7.7.

DRAINAGE AREA.--282 mi².

PERIOD OF RECORD.--October 1940 to current year. Monthly discharge only for October 1940, published in WSP 1907.

REVISED RECORDS.--WSP 1305: 1941(M).

GAGE.--Water-stage recorder. Datum of gage is 667.59 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 25-30. Records good except those for period of estimated daily discharges, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--47 years, 334 ft³/s, 16.08 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,100 ft³/s, Dec. 30, 1942, gage height, 13.67 ft, from rating curve extended above 15,000 ft³/s on basis of slope-area measurements at gage heights 13.2 ft and 13.67 ft; minimum, 0.1 ft³/s, Oct. 7, 1963, Sept. 26, 27, 1964; minimum gage height, 0.58 ft, Sept. 11, 1983.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Apr. 8	0200	*5,240	*5.76				

Minimum discharge, 1.8 ft³/s, Aug. 21, gage height, 0.88 ft.

DISCHARGE, 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	25	303	258	564	209	870	485	171	132	3.3	55
2	170	24	976	260	880	330	884	472	219	210	3.6	38
3	121	24	1340	239	967	307	953	579	205	240	25	29
4	833	44	808	201	641	262	824	777	219	176	20	23
5	541	76	562	150	480	229	790	629	183	120	39	20
6	225	259	434	157	398	212	1380	536	153	91	45	27
7	119	211	360	209	353	195	3330	486	130	85	30	44
8	78	936	313	241	315	185	3630	436	115	73	19	617
9	56	1960	387	231	262	181	1880	386	207	79	17	364
10	44	860	917	234	211	161	1180	345	152	61	18	196
11	35	622	715	245	223	137	815	313	122	56	13	130
12	30	710	545	225	272	134	737	288	399	49	11	98
13	29	455	418	201	328	125	694	262	638	46	8.5	80
14	38	297	295	189	282	117	583	235	359	70	6.6	77
15	58	228	294	188	249	118	533	221	236	64	4.9	65
16	57	193	251	190	179	119	553	203	178	58	3.9	57
17	43	165	228	173	228	108	611	187	142	46	5.7	56
18	35	145	224	172	201	99	585	275	118	33	9.7	112
19	30	150	209	458	169	94	530	1500	103	28	4.0	162
20	26	149	183	1110	149	91	475	992	138	17	2.6	109
21	23	243	165	652	151	86	427	809	313	11	2.0	84
22	21	271	144	506	156	81	394	447	275	7.7	163	75
23	21	233	119	430	163	78	478	340	251	7.2	257	73
24	22	204	316	232	152	74	1980	260	226	6.2	92	72
25	23	181	2110	e210	129	94	1760	207	179	4.9	48	57
26	31	1030	1040	e190	116	182	1170	182	149	3.5	38	46
27	30	1880	665	e180	112	174	814	375	124	3.8	32	37
28	29	806	512	e170	115	154	796	320	110	4.9	117	33
29	30	531	412	e200	---	138	632	224	124	4.3	313	42
30	31	395	358	e260	---	152	549	183	176	3.7	130	53
31	28	---	301	643	---	809	---	163	---	3.4	76	---
TOTAL	2936	13308	15904	9004	8445	5435	30837	13117	6114	1794.6	1557.8	2931
MEAN	94.7	444	513	290	302	175	1028	423	204	57.9	50.3	97.7
MAX	833	1960	2110	1110	967	809	3630	1500	638	240	313	617
MIN	21	24	119	150	112	74	394	163	103	3.4	2.0	20
CFSM	.34	1.57	1.82	1.03	1.07	.62	3.65	1.50	.72	.21	.18	.35
IN.	.39	1.76	2.10	1.19	1.11	.72	4.07	1.73	.81	.24	.21	.39

CAL YR 1986 TOTAL 98395.79 MEAN 270 MAX 4790 MIN .85 CFSM .96 IN. 12.98
WTR YR 1987 TOTAL 111383.4 MEAN 305 MAX 3630 MIN 2.0 CFSM 1.08 IN. 14.69

e Estimated

OHIO RIVER MAIN STEM

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV
(National Stream-quality accounting network station)

LOCATION.--Lat 40°00'54", long 80°44'20", Marshall County, Hydrologic Unit 05030106, at Bellaire Toll Bridge, at Benwood, and at mile 94.3.

DRAINAGE AREA.--Approximately 25,070 mi².

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

REMARKS.--Lab analyses performed by West Virginia Department of Natural Resources.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	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)	OXYGEN, DIS-SOLVED CENT SATUR-ATION	COLI-FORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREP-TOCOCCI, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CaCO3)
NOV 19...	0800	29700	245	7.10	9.0	7.0	750	--	--	110	110	96
FEB 04...	1300	53100	365	7.10	4.0	14	750	--	--	1900	750	120
MAR 24...	1330	21400	343	7.30	10.0	4.3	739	--	--	--	--	110
MAY 19...	1130	27200	340	7.10	21.0	7.5	742	8.8	102	530	850	120
JUL 28...	1100	9020	337	8.50	28.5	20	742	7.4	98	530	K27	110
SEP 01...	1030	19000	498	7.70	23.5	1.8	742	6.6	80	1000	640	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 WATER DIS IT FIELD (MG/L AS HCO3)	CAR-BONATE WATER DIS IT FIELD (MG/L AS CO3)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS Cl)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
NOV 19...	65	27	6.9	12	2.3	35	0	29	67	12	0.10	5.5
FEB 04...	80	32	8.8	24	1.8	45	0	37	85	30	0.20	5.8
MAR 24...	72	29	8.0	18	1.8	33	0	27	77	22	0.10	4.6
MAY 19...	84	33	9.8	16	2.2	43	0	35	100	18	0.20	4.2
JUL 28...	72	31	8.1	19	2.5	42	9	36	81	18	0.10	1.9
SEP 01...	110	45	11	32	3.9	66	0	54	140	31	0.30	1.8

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS Al)
NOV 19...	164	156	0.010	0.830	0.070	0.060	0.93	1.0	0.250	0.020	0.010	20
FEB 04...	237	215	0.020	1.00	0.210	0.200	0.69	0.90	0.100	0.050	0.010	20
MAR 24...	171	185	0.020	0.910	0.160	0.200	0.34	0.50	0.060	0.020	<0.010	--
MAY 19...	210	210	0.020	0.770	0.060	0.050	0.64	0.70	0.060	0.010	<0.010	--
JUL 28...	185	187	<0.010	0.490	<0.010	0.030	--	0.60	0.080	0.010	<0.010	60
SEP 01...	302	303	0.070	1.20	0.160	0.140	0.14	0.30	0.120	0.050	0.040	50

OHIO RIVER MAIN STEM

03112510 OHIO RIVER AT BENWOOD NEAR WHEELING, WV
(National Stream-quality accounting network station)

03112510 - OHIO RIVER AT BENWOOD NEAR WHEELING, WV

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	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)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 19...	<1	48	<0.5	<1	<1	<3	2	17	<5	14	160
FEB 04...	<1	46	<0.5	<1	<1	<3	1	6	<10	15	260
MAR 24...	--	--	--	--	--	--	--	--	--	--	--
MAY 19...	--	--	--	--	--	--	--	--	--	--	--
JUL 28...	1	50	<0.5	1	<1	<3	3	7	<5	11	2
SEP 01...	1	60	<0.5	81	<1	<3	5	8	<5	8	7

DATE	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)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 19...	<0.1	<10	10	<1	<1.0	130	<6	18	16	1280	70
FEB 04...	<0.1	<10	9	<1	<1.0	170	<6	12	28	4010	75
MAR 24...	--	--	--	--	--	--	--	--	27	1560	7
MAY 19...	--	--	--	--	--	--	--	--	8	588	0
JUL 28...	<0.1	<10	2	<1	<1.0	170	<6	8	8	195	47
SEP 01...	<0.1	<10	2	<1	<1.0	260	<6	25	18	923	50

MIDDLE ISLAND CREEK BASIN

03114500 MIDDLE ISLAND CREEK AT LITTLE, WV

LOCATION.--Lat 39°28'30", long 80°59'50", Tyler County, Hydrologic Unit 05030201, on right bank at downstream side of highway bridge at Little, 0.1 ft upstream from Stewarts Run, 5.0 mi west of Middlebourne, and at mile 24.5.

DRAINAGE AREA.--458 mi².

PERIOD OF RECORD.--May 1915 to September 1916, October 1916 to September 1922 (gage heights only), October 1928 to current year.

GAGE.--Water-stage recorder. Datum of gage is 631.32 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to July 11, 1947, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Jan. 25-28. Records good except those for period of estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--60 years, (water years 1916, 1929-87), 636 ft³/s, 18.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,000 ft³/s, June 26, 1950, gage height, 28.0 ft, from floodmarks; no flow during parts of 1922 and Sept. 1 to Nov. 4, Nov. 7-10, 1930.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in August 1875 reached a stage of about 33.5 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 9	2000	9,470	12.81	No other peaks greater than base discharge.			

Minimum discharge, 2.5 ft³/s, Aug. 2, 4, gage height, 1.80 ft.

DISCHARGE, 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	271	27	399	304	1660	1160	2140	364	40	52	3.8	11
2	1240	24	1180	296	2210	1340	1410	305	102	54	2.8	8.8
3	692	21	2490	303	2550	987	1330	297	88	75	3.9	7.6
4	293	21	1900	289	1210	666	1230	486	113	79	3.2	6.7
5	1210	30	1090	270	743	477	1420	424	76	68	14	5.9
6	919	1700	672	265	529	391	2750	327	50	56	21	5.7
7	327	1290	469	315	436	333	6670	266	37	45	17	32
8	190	898	385	388	377	291	7210	224	29	40	100	441
9	126	6900	1190	371	326	265	3160	185	25	40	60	218
10	87	4290	4410	336	264	239	1400	153	20	44	37	67
11	64	1290	1930	324	226	202	891	127	15	40	25	35
12	50	2490	1050	295	234	173	671	110	17	32	18	25
13	42	1150	660	255	342	152	1060	98	111	23	15	22
14	41	573	421	224	376	135	828	89	169	28	12	23
15	196	362	337	210	326	124	660	79	95	73	9.8	27
16	343	281	288	202	262	127	1230	72	63	88	8.4	23
17	197	232	252	208	236	125	1570	66	44	46	7.4	21
18	134	193	243	210	229	121	1170	56	33	30	6.4	20
19	95	170	248	1140	213	118	792	54	26	25	5.2	18
20	70	512	233	4850	188	109	574	54	22	20	4.3	15
21	54	1320	205	1700	172	99	450	100	24	17	3.5	13
22	44	1250	181	958	166	93	377	175	28	12	26	14
23	38	636	157	722	197	90	354	334	127	9.9	373	17
24	34	457	461	418	715	86	2210	141	717	8.0	158	16
25	31	512	5580	e360	515	84	1940	71	270	6.3	76	20
26	28	3860	2280	e310	387	142	1050	50	144	5.4	41	19
27	27	5970	1150	e270	317	211	677	261	127	5.0	29	16
28	26	1630	745	e250	309	176	532	269	203	4.4	22	14
29	25	880	523	227	---	148	447	114	108	3.9	20	13
30	25	561	417	1420	---	138	419	64	67	3.6	16	22
31	29	---	361	3740	---	1200	---	45	---	3.9	14	---
TOTAL	6948	39530	31907	21430	15715	10002	46622	5460	2990	1037.4	1152.7	1196.7
MEAN	224	1318	1029	691	561	323	1554	176	99.7	33.5	37.2	39.9
MAX	1240	6900	5580	4850	2550	1340	7210	486	717	88	373	441
MIN	25	21	157	202	166	84	354	45	15	3.6	2.8	5.7
CFSM	.49	2.88	2.25	1.51	1.23	.70	3.39	.38	.22	.07	.08	.09
IN.	.56	3.21	2.59	1.74	1.28	.81	3.79	.44	.24	.08	.09	.10

CAL YR 1986 TOTAL 223011.95 MEAN 611 MAX 9810 MIN .20 CFSM 1.33 IN. 18.11
WTR YR 1987 TOTAL 183990.8 MEAN 504 MAX 7210 MIN 2.8 CFSM 1.10 IN. 14.94

e Estimated

OHIO RIVER MAIN STEM

03150800 OHIO RIVER NEAR MARIETTA, OH

LOCATION.--Lat 39°23'21", long 81°29'03", Washington County, Hydrologic Unit 05030202, on right bank 1.5 mi southwest of Marietta, 2.0 mi downstream from Muskingum River, and at mile 174.3 measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--35,600 mi², approximately.

PERIOD OF RECORD.--October 1968 to current year (gage heights only).

GAGE.--Water-stage recorder. Datum of gage is 567.12 ft, Sandy Hook datum.

REMARKS.--U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 38.52 ft, Feb. 27, 1979; minimum, 10.83 ft, Oct. 6, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 29.61 ft, Apr. 8; minimum, 15.03 ft, Aug. 7.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.92	15.77	18.57	16.79	17.60	16.03	19.86	16.84	15.53	15.65	15.26	16.08
2	16.71	15.69	19.73	16.42	17.10	16.50	21.39	16.75	15.97	16.44	15.27	15.95
3	16.48	15.45	23.94	16.40	17.99	17.78	20.98	16.75	15.73	18.99	15.79	15.67
4	17.04	15.65	23.19	16.06	18.21	18.57	20.62	17.18	16.07	21.13	15.33	15.67
5	19.76	16.01	22.90	15.84	17.82	17.71	21.54	17.29	16.21	19.61	15.68	15.45
6	20.05	16.45	21.58	15.68	17.19	16.97	23.66	16.89	15.56	17.94	16.05	15.38
7	17.72	17.19	20.53	15.66	16.67	16.64	26.86	16.46	15.38	17.54	15.28	15.46
8	17.62	17.34	19.49	15.97	16.38	16.36	29.34	16.44	15.58	16.89	15.34	16.10
9	16.82	19.43	19.45	16.02	16.43	16.73	27.82	16.04	15.55	17.30	15.74	16.42
10	16.54	19.96	21.84	15.56	16.15	17.18	25.29	15.79	15.52	17.00	15.82	15.83
11	16.08	18.45	23.45	15.97	15.99	17.60	23.82	15.83	15.70	16.13	15.95	15.63
12	15.77	18.32	22.84	15.94	16.06	16.87	23.42	15.97	15.87	16.28	15.64	15.37
13	15.77	18.36	21.20	15.67	16.23	16.64	23.20	15.68	16.03	15.93	15.45	15.91
14	15.76	17.50	19.65	15.69	16.34	16.31	22.31	15.54	16.00	15.62	15.80	15.86
15	15.83	16.91	18.37	15.72	16.20	16.04	21.64	15.50	15.57	15.73	15.88	15.86
16	16.07	16.28	17.91	15.98	15.73	15.57	20.27	15.74	15.83	15.85	15.94	15.62
17	15.93	16.06	17.25	16.56	15.87	15.54	19.77	15.70	15.96	15.82	16.02	15.64
18	15.75	15.85	17.12	16.78	15.86	15.89	19.26	15.49	15.48	15.61	15.74	16.16
19	15.65	16.21	16.96	17.09	15.74	15.49	18.56	15.92	15.36	15.69	15.99	16.63
20	15.89	16.56	17.09	19.33	15.81	15.41	17.71	16.37	15.51	15.56	16.19	17.48
21	15.64	17.04	17.22	20.12	15.75	15.47	16.94	16.17	16.19	15.58	16.25	17.39
22	15.78	18.15	16.58	19.29	15.77	15.42	16.76	15.97	16.23	15.73	16.39	17.17
23	15.78	17.75	16.30	18.04	15.88	15.40	16.38	16.19	16.52	15.70	15.70	16.75
24	15.55	17.05	16.50	17.25	16.03	15.71	18.14	15.74	16.57	15.90	15.48	16.15
25	15.61	16.79	18.84	16.25	15.89	15.76	20.48	15.67	16.43	15.59	15.81	16.21
26	15.44	18.68	20.82	15.98	15.74	15.93	20.09	15.46	15.74	15.43	15.78	15.54
27	15.48	23.08	20.36	15.87	15.85	16.26	18.56	16.60	15.65	15.58	16.11	15.74
28	15.51	23.64	19.21	15.97	15.38	15.89	18.21	16.89	15.74	15.32	16.18	15.39
29	15.78	21.56	18.17	16.08	---	15.72	17.75	16.06	15.44	15.28	16.54	15.53
30	15.73	19.79	17.66	16.37	---	15.71	17.45	15.69	15.60	15.83	16.02	15.48
31	15.52	---	17.41	17.27	---	17.37	---	15.79	---	15.86	15.82	---
MEAN	16.29	17.77	19.42	16.57	16.34	16.34	20.94	16.14	15.82	16.40	15.81	15.98
MAX	20.05	23.64	23.94	20.12	18.21	18.57	29.34	17.29	16.57	21.13	16.54	17.48
MIN	15.44	15.45	16.30	15.56	15.38	15.40	16.38	15.46	15.36	15.28	15.26	15.37

WTR YR 1987 MEAN 16.98 MAX 29.34 MIN 15.26

LITTLE KANAWHA RIVER BASIN

03151400 LITTLE KANAWHA RIVER NEAR WILDCAT, WV

LOCATION.--Lat 38°44'35", long 80°31'36", Braxton County, Hydrologic Unit 05030203, on right bank on State Secondary Route 24/1, 200 ft upstream from footbridge at Gregory, 3.9 mi west of Wildcat, and at mile 138.6.

DRAINAGE AREA.--112 mi².

PERIOD OF RECORD.--December 1973 to September 1983, October 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 850.00 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 18-22, Dec. 17-19, Jan. 3-14, 23-28, Feb. 2, Mar. 5-19, May 10-19, Aug. 5-10, 30-31. Records fair except for periods with ice effect, Jan. 3-14, 23-28, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--11 years (water years 1975-83, 1986-87), 231 ft³/s, 28.01 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft³/s, Nov. 5, 1985, gage height, 14.81 ft; minimum discharge, 0.11 ft³/s, Aug. 17, 1987; minimum gage height, 3.33, Oct. 1, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 19	2230	2,470	8.66	Apr. 9	0230	*3,290	*9.50

Minimum discharge, 0.11 ft³/s, Aug. 17, gage height, 3.38 ft.

DISCHARGE, 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	87	19	282	206	524	536	268	206	12	3.0	1.4	16
2	86	21	246	186	1140	458	287	181	17	3.9	1.4	11
3	97	41	232	e160	908	350	332	165	19	4.3	1.4	8.1
4	83	40	284	e140	563	287	354	200	16	5.4	1.3	6.2
5	74	67	298	e120	407	e230	326	315	13	7.6	e1.1	5.1
6	67	646	268	e100	354	e200	389	282	10	12	e.90	5.3
7	58	397	233	e120	312	e180	1040	240	8.4	8.7	e.70	5.0
8	49	274	205	137	277	e160	1910	201	6.9	7.4	e.55	5.1
9	42	1240	312	e130	253	e140	2060	165	6.6	6.1	e.45	5.5
10	35	968	1400	e120	224	e130	1190	e130	13	5.8	e.37	5.1
11	30	513	875	e140	206	e110	798	e110	14	6.2	.29	5.1
12	25	621	562	e130	233	e100	528	e95	13	7.5	.22	49
13	22	451	395	e120	454	e90	383	e80	62	7.9	.18	197
14	33	326	311	e100	375	e80	282	e70	42	9.5	.16	91
15	99	257	268	137	310	e70	263	e60	22	9.4	.14	48
16	114	210	232	163	259	e65	341	e50	15	7.8	.12	28
17	97	174	e190	209	251	e66	386	e40	11	6.4	.11	20
18	e75	150	e170	220	248	e70	324	e35	9.0	5.2	.13	26
19	e58	140	e150	984	246	e68	255	e29	7.5	4.2	.15	44
20	e45	140	165	1400	258	65	203	40	6.3	3.2	.16	33
21	e35	273	162	591	275	63	166	79	5.5	2.4	.15	33
22	e26	394	154	419	282	59	141	43	5.1	1.8	.15	25
23	24	340	146	e330	612	56	125	31	5.5	1.4	.55	24
24	21	295	247	e250	546	53	1110	24	5.1	1.1	2.8	23
25	19	466	937	e200	443	50	1250	19	5.1	.71	5.0	17
26	20	578	651	e170	390	48	642	16	4.5	.57	5.2	13
27	21	1160	448	e150	358	46	412	15	4.3	1.1	4.3	11
28	22	649	361	e130	357	44	326	17	3.7	1.2	37	8.8
29	25	432	311	282	---	43	261	14	3.4	1.1	188	7.8
30	25	338	273	489	---	42	235	13	3.4	1.1	e70	13
31	21	---	239	775	---	127	---	15	---	1.0	e25	---
TOTAL	1535	11620	11007	8808	11065	4086	16587	2980	369.3	144.98	349.38	789.1
MEAN	49.5	387	355	284	395	132	553	96.1	12.3	4.68	11.3	26.3
MAX	114	1240	1400	1400	1140	536	2060	315	62	12	188	197
MIN	19	19	146	100	206	42	125	13	3.4	.57	.11	5.0
CFSM	.44	3.46	3.17	2.54	3.53	1.18	4.94	.86	.11	.04	.10	.23
IN.	.51	3.86	3.66	2.93	3.68	1.36	5.51	.99	.12	.05	.12	.26

CAL YR 1986 TOTAL 84115.2 MEAN 230 MAX 2800 MIN 3.0 CFSM 2.06 IN. 27.94
WTR YR 1987 TOTAL 69340.76 MEAN 190 MAX 2060 MIN .11 CFSM 1.70 IN. 23.03

e Estimated

LITTLE KANAWHA RIVER BASIN

03151520 LITTLE KANAWHA RIVER BELOW BURNSVILLE DAM, WV

LOCATION.--Lat 38°50'41", long 80°37'45", Braxton County, Hydrologic Unit 05030203, on right bank 2600 ft downstream from Burnsville Dam, 1.6 mi southeast of Burnsville, and at mile 123.7.

DRAINAGE AREA.--163 mi².

PERIOD OF RECORD.--July 1976 to September 1982, October 1986 to current year. October 1982 to September 1986 (gage height, discharge measurements, and annual maximum discharge only).

GAGE.--Water-stage recorder. Datum of gage is 750.00 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers Bench Mark). Prior to Oct. 1, 1983, at datum 50.0 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1979 by Burnsville Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--7 years (water years 1977-1982, 1987), 295 ft³/s, 24.58 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,530 ft³/s, Oct. 9, 1976, gage height, 58.81 ft, datum then in use; maximum gage height, 11.78 ft, Nov. 4, 1985, (backwater from downstream tributaries); minimum discharge, 3.6 ft³/s, May 26, 1977; minimum gage height, 4.27 ft, Sept. 28, 1984.

EXTREMES FOR 1986 WATER YEAR.--Maximum discharge, 2,260 ft³/s, Feb. 20, 1986 (corrected).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,990 ft³/s, Jan. 21, gage height, 7.78 ft; minimum daily, 18 ft³/s, Aug. 6, Sept. 9-14, 25-30.

DISCHARGE, 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	181	96	760	170	764	368	40	202	21	21	21	19
2	208	96	208	170	933	440	29	195	20	21	21	19
3	253	96	252	170	1080	451	25	116	21	21	21	19
4	328	109	314	153	1050	345	24	126	22	21	21	19
5	329	209	320	144	611	250	163	263	22	21	19	19
6	255	440	312	132	411	202	412	315	22	21	18	19
7	156	478	246	118	309	145	457	295	22	21	19	19
8	83	478	187	118	234	138	1100	220	22	21	19	19
9	83	429	293	163	228	147	1850	137	19	21	19	18
10	88	1390	851	193	128	138	1830	98	19	21	19	18
11	98	1600	1080	192	89	123	1700	98	21	21	19	18
12	101	1620	1060	176	194	101	996	76	21	21	19	18
13	106	1450	753	141	313	91	549	65	21	21	19	18
14	235	722	445	123	360	89	351	64	21	21	19	18
15	303	240	323	118	350	83	297	65	21	21	19	19
16	288	238	190	176	330	78	459	53	21	21	19	19
17	151	261	193	218	336	80	524	42	21	21	19	19
18	106	194	158	243	335	74	521	46	21	21	19	19
19	107	208	169	280	330	64	468	53	21	21	19	19
20	137	237	173	605	330	60	307	51	21	21	19	19
21	150	385	152	1560	330	41	130	51	21	21	19	19
22	130	489	144	1900	344	21	166	51	21	21	20	19
23	120	493	118	1040	741	23	167	51	21	21	19	19
24	107	478	264	282	928	26	703	44	21	21	19	19
25	99	479	546	236	671	32	1580	32	21	21	19	18
26	98	316	928	214	472	32	1320	26	21	21	19	18
27	98	641	1030	167	406	36	662	21	21	21	19	18
28	98	1270	923	135	330	41	399	20	21	21	20	18
29	98	1250	446	135	---	41	264	20	21	21	19	18
30	98	1250	270	520	---	63	202	20	21	21	19	18
31	96	---	209	832	---	107	---	21	---	21	19	---
TOTAL	4788	17642	13317	10824	12937	3930	17695	2937	630	651	598	558
MEAN	154	588	430	349	462	127	590	94.7	21.0	21.0	19.3	18.6
MAX	329	1620	1080	1900	1080	451	1850	315	22	21	21	19
MIN	83	96	118	118	89	21	24	20	19	21	18	18

WTR YR 1987 TOTAL 86507 MEAN 237 MAX 1900 MIN 18 CFSM 1.45 IN 19.74

LITTLE KANAWHA RIVER BASIN

03152000 LITTLE KANAWHA RIVER AT GLENVILLE, WV

LOCATION.--Lat 38°55'58", long 80°50'19", Gilmer County, Hydrologic Unit 05030203, on right bank at abandoned bridge on Conrad Court Street at Glenville, 1,400 ft upstream from Sycamore Run, and at mile 103.5. Prior to July 1, 1986, at bridge 400 ft downstream.

DRAINAGE AREA.--386 mi².

PERIOD OF RECORD.--June 1915 to September 1922 (gage heights only), October 1928 to September 1983, October 1983 to September 1984 (gage heights, occasional discharge measurements, and annual maximum discharge only), October 1984 to current year. Monthly discharge only October to December 1928, published in WSP 1305.

REVISED RECORDS.--WSP 783: Drainage area. WSP 1305: 1930, 1932(M). WSP 1435: 1954. WSP 1555: 1947(M). WRD WV-82-1: 1979.

GAGE.--Water-stage recorder. Datum of gage is 697.79 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 14, 1934, nonrecording gage at same site and datum. Prior to July 1, 1986 at site 400 ft downstream and at the same datum. May 25, 1971 to September 1983, and October 1984 to current year, auxiliary water-stage recorder 2.7 mi downstream from base gage at datum 700.23 ft above National Geodetic Vertical Datum of 1929. Prior to May 25, 1971, auxiliary nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Nov. 10 To Dec. 12. Records good except for estimated daily discharges, which are fair. Flow partially regulated since 1968 by five floodwater detention reservoirs affecting 49.5 mi², and since March 1979 by Burnsville Lake. National Weather Service (DARDC) gage-height telemeter and U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--58 years (water years 1929-83, 1985-87), 604 ft³/s, 21.25 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,900 ft³/s, Nov. 5, 1985, gage height, 36.46 ft, from floodmark, from rating curve extended above 18,000 ft³/s; minimum, no flow at times in 1930-33. Minimum daily discharge since regulation, 13 ft³/s, Sept. 17, 1985.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 16, 1926, reached a stage of 33.6 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,750 ft³/s, Nov. 9, gage height, 21.17 ft; minimum daily, 18 ft³/s, Aug. 14-17.

DISCHARGE, 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	281	122	e920	334	1600	675	1010	340	84	26	39	45
2	694	122	e800	355	2580	754	630	316	125	29	31	31
3	384	122	e1250	366	2190	719	663	261	79	46	27	26
4	416	122	e1450	347	1670	609	645	199	57	50	26	24
5	478	548	e900	314	1250	440	731	282	52	36	45	22
6	381	1830	e650	300	642	356	2000	389	42	49	38	23
7	266	1070	e550	294	643	310	4050	378	36	33	26	24
8	152	1110	e450	281	392	245	3790	307	33	35	23	26
9	120	6130	e1200	270	405	265	3100	219	32	106	22	26
10	115	e4500	e4000	333	312	249	2420	152	45	93	21	24
11	115	e2100	e2150	328	200	209	2170	138	34	48	20	23
12	124	e3000	e1550	311	335	195	1620	131	34	35	19	22
13	137	e1700	1370	257	679	163	1000	100	68	28	19	22
14	836	e1100	721	225	651	156	640	140	137	28	18	22
15	677	e650	659	224	588	153	641	117	73	28	18	26
16	457	e400	342	253	506	150	1510	121	47	26	18	24
17	338	e340	372	349	515	143	1800	87	39	24	18	23
18	187	e310	320	372	530	133	1210	72	34	23	19	106
19	165	e400	328	2830	582	123	928	93	31	22	20	92
20	157	e500	313	3510	660	111	603	117	29	21	21	46
21	183	e2100	288	2070	629	106	406	90	29	21	19	33
22	182	e1250	248	2420	659	83	299	77	29	21	28	28
23	154	e900	225	1990	2390	65	308	72	28	20	100	25
24	149	e790	1400	497	2140	64	1890	69	28	20	64	23
25	132	e1250	4160	457	1470	65	2540	59	27	20	38	22
26	130	e2400	1840	390	870	72	2120	47	26	21	26	21
27	127	e4400	1640	353	753	69	1210	39	25	26	23	20
28	126	e1700	1420	284	608	72	789	38	24	23	31	19
29	126	e1250	972	263	---	75	500	36	24	21	326	19
30	125	e1050	489	1410	---	90	384	35	24	20	147	25
31	123	---	438	2430	---	1500	---	82	---	21	73	---
TOTAL	8037	43266	33415	24417	26449	8419	41607	4603	1375	1020	1363	912
MEAN	259	1442	1078	788	945	272	1387	148	45.8	32.9	44.0	30.4
MAX	836	6130	4160	3510	2580	1500	4050	389	137	106	326	106
MIN	115	122	225	224	200	64	299	35	24	20	18	19

CAL YR 1986 TOTAL 228932 MEAN 627 MAX 8390 MIN 26 CFSM 1.62 IN 22.06
WTR YR 1987 TOTAL 194883 MEAN 534 MAX 6130 MIN 18 CFSM 1.38 IN 18.78

e Estimated

LITTLE KANAWHA RIVER BASIN

03153500 LITTLE KANAWHA RIVER AT GRANTSVILLE, WV

LOCATION.--Lat 38°55'20", long 81°05'50", Calhoun County, Hydrologic Unit 05030203, on left bank 1,000 ft downstream from bridge on State Highway 16 at Grantsville, 1,200 ft downstream from Philip Run, and at mile 80.0.

DRAINAGE AREA.--913 mi².

PERIOD OF RECORD.--October 1928 to September 1978. Monthly discharge only October to December 1928, published in WSP 1305. October 1978 to current year (gage heights, discharge measurements, and annual maximum discharge only).

REVISED RECORDS.--WSP 1275: 1929(M), 1932-36.

GAGE.--Water-stage recorder. Datum of gage is 652.83 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to Nov. 21, 1934, nonrecording gage at same site and datum.

REMARKS.--Records for winter periods not adjusted for ice effect. U.S. Army Corps of Engineers satellite telemeter and National Weather Service Hydrologger at station. Flow partially regulated since 1968 by five floodwater detention reservoirs affecting 49.5 mi² and since 1979 by Burnsville Lake.

AVERAGE DISCHARGE.--50 years (water years 1929-1978), 1,328 ft³/s, 19.75 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,100 ft³/s, Mar. 7, 1967, gage height, 43.9 ft, from floodmarks; no flow Sept. 10 to Nov. 16, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 18,200 ft³/s, Nov. 9, gage height, 29.89 ft; minimum gage height, 6.28 ft, Aug. 18-21.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.16	7.05	11.50	8.93	13.71	10.59	13.06	8.94	7.04	6.51	6.47	7.00
2	8.52	7.04	10.65	8.86	15.14	10.70	11.27	8.70	7.47	6.50	6.51	6.78
3	8.52	7.05	12.44	8.95	15.98	10.38	11.48	8.54	7.35	6.56	6.70	6.64
4	8.52	7.06	13.10	8.86	13.11	10.01	11.52	8.22	7.25	6.70	6.78	6.55
5	8.52	8.69	11.39	8.74	11.84	9.43	11.70	8.11	7.05	6.84	6.58	6.49
6	8.52	20.47	10.38	8.64	10.33	9.06	14.00	8.39	6.86	6.75	6.58	6.48
7	8.37	13.15	9.87	8.69	9.97	8.79	21.10	8.44	6.75	6.73	6.63	6.49
8	7.92	11.27	9.37	8.66	9.40	8.56	22.60	8.31	6.66	6.63	6.53	6.65
9	7.44	26.58	12.34	8.52	9.15	8.46	17.99	8.02	6.61	6.70	6.46	6.73
10	7.25	22.83	19.98	8.54	8.79	8.40	14.69	7.73	6.61	8.30	6.42	6.66
11	7.16	15.20	15.30	8.65	8.47	8.19	13.37	7.48	6.61	7.46	6.38	6.60
12	7.13	17.52	13.11	8.55	8.41	8.00	12.52	7.40	6.64	6.95	6.36	6.59
13	7.16	14.04	11.92	8.36	10.22	7.90	11.22	7.33	7.00	6.75	6.34	6.61
14	7.32	12.09	10.49	8.17	10.08	7.76	10.22	7.19	7.93	6.64	6.33	6.62
15	7.34	10.10	9.79	8.17	9.77	7.73	9.84	7.36	7.89	6.60	6.31	6.55
16	7.34	9.05	9.23	8.34	9.38	7.73	13.07	7.36	7.29	6.58	6.30	6.51
17	7.34	8.78	8.73	8.55	9.33	7.71	16.49	7.28	7.51	6.54	6.30	6.50
18	7.34	8.65	8.74	8.71	9.39	7.63	13.58	7.09	7.02	6.49	6.29	6.76
19	7.34	9.21	8.71	14.61	9.62	7.56	11.64	7.14	6.80	6.46	6.28	7.34
20	7.34	9.60	8.58	23.22	10.21	7.51	10.57	7.38	6.73	6.43	6.29	7.24
21	7.38	15.56	8.43	14.56	10.20	7.44	9.72	7.31	6.71	6.41	6.29	6.89
22	7.48	12.82	8.26	13.70	10.32	7.39	9.02	7.14	6.63	6.39	6.41	6.73
23	7.42	11.09	8.10	13.33	16.08	7.29	8.86	7.01	6.59	6.38	6.95	6.64
24	7.29	10.70	10.45	10.31	15.70	7.19	11.19	6.95	6.61	6.37	7.45	6.58
25	7.25	12.11	22.49	9.49	12.95	7.17	15.28	6.88	6.59	6.35	7.00	6.52
26	7.17	15.80	15.30	9.34	11.23	7.18	13.71	6.83	6.56	6.36	6.72	6.48
27	7.14	20.62	12.86	9.02	10.46	7.18	11.84	6.78	6.93	6.37	6.58	6.45
28	7.13	14.15	11.86	8.76	10.02	7.16	10.63	6.74	6.86	6.38	6.53	6.42
29	7.11	12.73	11.08	8.53	---	7.16	9.77	6.73	6.64	6.40	7.55	6.41
30	7.10	11.91	9.71	11.09	---	7.18	9.29	6.69	6.55	6.38	8.49	6.47
31	7.08	---	9.33	17.24	---	9.50	---	6.91	---	6.37	7.45	---
MEAN	7.55	12.76	11.40	10.26	11.04	8.19	12.71	7.50	6.92	6.62	6.65	6.65
MAX	8.52	26.58	22.49	23.22	16.08	10.70	22.60	8.94	7.93	8.30	8.49	7.34
MIN	7.08	7.04	8.10	8.17	8.41	7.16	8.86	6.69	6.55	6.35	6.28	6.41

WTR YR 1987 MEAN 9.00 MAX 26.58 MIN 6.28

LITTLE KANAWHA RIVER BASIN

03154000 WEST FORK LITTLE KANAWHA RIVER AT ROCKSDALE, WV

LOCATION.--Lat 38°50'48", long 81°13'26", Calhoun County, Hydrologic Unit 05030203, on right bank on State Route 11, 850 ft downstream from Henry Fork at Rocksedale, 9.0 mi southwest of Grantsville, and at mile 14.1.

DRAINAGE AREA.--205 mi².

PERIOD OF RECORD.--October 1928 to September 1931, October 1937 to September 1975 (monthly discharge only for some periods, published in WSP 1305), October 1975 to current year (gage heights, occasional discharge measurements, and annual maximum discharge only).

REVISED RECORDS.--WSP 953: 1929-31, 1938(M), 1939. WSP 1275: 1950.

GAGE.--Water-stage recorder. Datum of gage is 657.85 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to June 16, 1966, nonrecording gage, crest-stage gage Nov. 4, 1946, to June 15, 1966, on bridge 800 ft upstream at same datum.

REMARKS.--Records for winter periods not adjusted for ice effect. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--41 years (water years 1929-31, 1938-75), 258 ft³/s, 17.09 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 20,200 ft³/s, Apr. 16, 1939, gage height, 30.3 ft, from floodmarks, site then in use, from rating curve extended above 13,000 ft³/s; no flow at times during 1930, 1931, 1954, 1957, 1959, 1960.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,670 ft³/s, Nov. 9, gage height, 22.39 ft; minimum gage height, 2.85 ft, Aug. 13-16, 22.

GAGE HEIGHT, (FEET ABOVE DATUM), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.37	3.38	5.11	4.82	6.89	6.29	5.92	4.53	3.93	3.13	3.13	3.27
2	6.69	3.38	6.71	4.94	7.73	5.91	5.80	4.40	4.45	3.12	3.03	3.17
3	4.82	3.37	7.59	4.96	7.25	5.54	6.07	4.31	3.95	3.23	3.02	3.09
4	4.34	3.38	7.01	4.86	6.19	5.27	6.34	4.26	3.91	3.46	3.04	3.03
5	5.42	5.73	6.07	4.85	5.65	5.07	6.63	4.19	3.86	4.17	3.03	2.99
6	5.09	11.07	5.54	4.82	5.39	4.93	7.57	4.06	3.59	3.94	2.97	3.00
7	4.38	6.09	5.21	4.90	5.21	4.80	12.61	3.99	3.44	3.69	2.93	3.04
8	4.05	6.77	5.05	4.84	5.08	4.73	12.74	3.92	3.34	3.47	2.92	3.51
9	3.86	19.93	9.45	4.73	4.93	4.71	8.92	3.85	3.27	3.60	2.91	3.50
10	3.72	8.65	10.26	4.73	4.61	4.57	6.73	3.78	3.21	5.18	2.89	3.36
11	3.62	8.01	7.25	4.73	4.61	4.38	5.96	3.72	3.16	4.09	2.88	3.35
12	3.54	8.21	6.28	4.62	4.89	4.31	5.67	3.67	3.20	3.69	2.88	3.40
13	3.57	6.25	5.65	4.48	5.39	4.24	5.61	3.63	4.46	3.48	2.86	3.40
14	6.38	5.43	5.18	4.45	5.14	4.18	5.28	3.58	4.73	3.41	2.86	3.26
15	6.04	5.04	5.02	4.67	4.99	4.17	5.39	3.59	4.24	3.38	2.85	3.19
16	4.90	4.81	4.83	4.98	4.80	4.21	7.08	3.75	5.45	3.36	2.85	3.19
17	4.40	4.61	4.72	4.96	4.93	4.18	10.35	3.67	6.62	3.29	2.89	3.16
18	4.11	4.46	4.81	4.98	5.05	4.07	7.50	3.52	4.56	3.23	2.96	3.35
19	3.91	4.82	4.79	11.56	5.18	4.05	6.29	3.56	4.04	3.18	2.93	3.39
20	3.78	4.97	4.60	11.53	5.99	4.04	5.73	3.73	3.79	3.12	2.90	3.33
21	3.69	8.16	4.47	7.09	5.83	3.99	5.39	3.68	3.71	3.08	2.87	3.25
22	3.63	6.40	4.35	6.23	6.28	3.95	5.13	3.57	3.56	3.04	2.88	3.19
23	3.59	5.68	4.27	5.81	11.25	3.92	4.95	3.47	3.47	2.99	2.97	3.16
24	3.54	5.70	8.01	5.16	8.02	3.88	5.26	3.39	3.44	2.97	2.95	3.11
25	3.53	6.45	11.42	5.45	6.56	3.87	5.40	3.33	3.38	2.95	2.92	3.07
26	3.53	10.73	7.29	5.21	5.88	3.91	5.22	3.33	3.32	2.93	2.91	3.03
27	3.53	9.83	6.22	4.97	5.56	3.86	5.02	3.53	3.26	2.90	2.91	3.00
28	3.51	6.80	5.71	4.90	5.56	3.84	4.95	3.99	3.20	2.90	2.96	2.97
29	3.49	5.93	5.35	4.68	---	3.83	4.76	3.70	3.17	2.90	3.32	2.98
30	3.41	5.43	5.17	8.48	---	3.89	4.71	3.47	3.14	2.90	3.75	3.14
31	3.41	---	5.00	8.98	---	5.71	---	3.68	---	2.93	3.41	---
MEAN	4.19	6.65	6.08	5.69	5.89	4.46	6.50	3.77	3.83	3.35	2.99	3.20
MAX	6.69	19.93	11.42	11.56	11.25	6.29	12.74	4.53	6.62	5.18	3.75	3.51
MIN	3.41	3.37	4.27	4.45	4.61	3.83	4.71	3.33	3.14	2.90	2.85	2.97

WTR YR 1987 MEAN 4.70 MAX 19.93 MIN 2.85

LITTLE KANAWHA RIVER BASIN

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV
(National stream-quality accounting network station)

LOCATION.--Lat 39°03'35", long 81°23'25", Wirt County, Hydrologic Unit 05030203, on left bank at end of Washington Street in Elizabeth, 1.0 mi upstream from Tucker Creek, 2.3 mi northeast of Palestine, 2.4 mi upstream from old lock 3, and at mile 27.9.

DRAINAGE AREA.--1,515 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1915 to September 1922 (gage heights only), July to September 1939 (fragmentary), October 1939 to current year. Monthly discharge only October 1939 to September 1941, published in WSP 1305.

REVISED RECORDS.--WSP 953: 1940(M).

GAGE.--Water-stage recorder. Datum of gage is 585.51 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 17, 1950, water-stage recorders or nonrecording gages at old locks 3 and 4 at various datums. Auxiliary water-stage recorder 3.0 mi upstream from base gage at old lock 4 at datum 596.08 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Water discharge records good. Flow partially regulated since 1968 by five floodwater-detention reservoirs affecting 49.5 mi², and since March 1979 by Burnsville Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--48 years, 2,108 ft³/s, 18.90 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 50,700 ft³/s, Mar. 7, 1967, gage height, 39.14 ft, backwater, from rating curve extended above 39,000 ft³/s; minimum, 0.6 ft³/s, July 14, 1959 (filling pool above old lock 3). Minimum daily discharge since regulation, 15 ft³/s, Aug. 21, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 17, 1939, reached a stage of 32.25 ft, from floodmarks at old lock 4, discharge about 53,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 27,300 ft³/s, Nov. 10, gage height, 27.37 ft; minimum daily, 15 ft³/s, Aug. 21.

DISCHARGE, 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	908	194	2800	1370	7280	3320	3410	1290	121	111	104	416
2	1390	191	4870	1210	5930	3090	3630	1100	221	91	111	254
3	2060	189	5850	1200	8280	2520	3100	971	408	77	91	170
4	1270	189	5190	1220	6090	2100	3470	938	339	67	71	121
5	998	322	4010	1160	3720	1780	3790	811	269	64	77	92
6	1110	8520	2660	1110	2770	1470	5050	708	243	89	101	77
7	1050	8850	2000	1070	1900	1290	12900	745	196	153	94	117
8	807	3270	1660	1080	1720	1140	19700	779	147	155	72	350
9	603	16900	3620	1030	1430	1040	14200	719	119	131	61	315
10	442	23600	12400	966	1230	960	7890	605	102	132	60	234
11	316	10000	9720	972	1040	884	5130	484	84	459	54	165
12	261	9390	5480	998	950	780	4060	393	82	537	43	135
13	240	6930	3720	933	1120	685	3510	332	92	305	35	128
14	287	4000	2750	852	1860	625	2520	299	171	193	32	153
15	2000	2630	1870	797	1710	561	1960	288	322	137	28	149
16	2090	1620	1580	840	1510	546	2550	309	546	105	24	136
17	1230	1200	1290	921	1350	543	8550	307	1110	88	22	109
18	955	1020	1060	988	1350	522	7880	290	794	77	22	120
19	724	965	1120	4130	1430	480	4460	261	422	70	19	136
20	512	1210	1060	17600	1780	445	2960	227	255	61	16	188
21	372	3400	958	11100	2160	418	2160	248	180	55	15	262
22	306	6130	863	5150	2220	389	1680	277	144	49	19	250
23	289	3250	773	4580	7490	364	1370	251	127	44	29	186
24	290	2360	1780	345	9610	343	1920	210	114	40	31	141
25	274	2820	13400	1720	6010	325	4240	176	99	36	92	113
26	251	7340	12000	1390	3730	407	5130	156	93	39	202	96
27	236	14300	5340	1200	2510	385	3800	144	94	43	169	84
28	216	8810	3650	1080	2250	343	2550	137	85	39	125	74
29	202	4650	2830	1100	---	318	1940	146	88	37	100	70
30	203	3400	2220	1960	---	309	1520	149	132	30	88	99
31	199	---	1570	8280	---	699	---	131	---	28	393	---
TOTAL	22091	157650	120094	81487	90430	29081	147030	13881	7199	3542	2400	4940
MEAN	713	5255	3874	2629	3230	938	4901	448	240	114	77.4	165
MAX	2090	23600	13400	17600	9610	3320	19700	1290	1110	537	393	416
MIN	199	189	773	797	950	309	1370	131	82	28	15	70

CAL YR 1986 TOTAL 804127 MEAN 2203 MAX 28800 MIN 66 CFSM 1.45 IN 19.74
WTR YR 1987 TOTAL 679825 MEAN 1863 MAX 23600 MIN 15 CFSM 1.23 IN 16.69

LITTLE KANAWHA RIVER BASIN

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER-QUALITY RECORDS

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

REMARKS.--Lab analyses performed by West Virginia Department of Natural Resources.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	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)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)
NOV 18...	1030	1020	116	7.00	9.0	7.8	738	10.6	95	150	100	39
FEB 03...	1130	8850	103	6.70	5.0	44	742	12.6	101	700	1600	36
MAR 23...	1215	364	150	7.00	12.0	6.6	744	11.0	105	--	--	50
MAY 18...	1330	291	162	6.60	14.0	6.8	744	7.5	75	K31	K37	46
JUL 28...	1700	39	153	7.40	26.0	6.0	740	--	--	K55	K33	52
SEP 01...	1630	369	170	7.20	23.5	8.3	741	6.4	78	130	81	45

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 WATER DIS IT FIELD MG/L AS HCO3	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
NOV 18...	23	11	2.8	4.2	1.5	27	0	22	18	5.3	<0.10	6.2
FEB 03...	19	9.9	2.6	4.2	1.1	20	0	16	25	6.1	<0.10	6.1
MAR 23...	16	14	3.6	7.2	1.2	34	0	28	24	8.7	<0.10	2.0
MAY 18...	14	13	3.4	6.0	1.6	37	0	30	21	6.5	<0.10	0.87
JUL 28...	15	14	4.0	8.5	2.5	41	0	34	21	7.5	<0.10	3.8
SEP 01...	23	11	4.3	13	2.6	28	0	23	35	12	0.10	2.5

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
NOV 18...	58	61	<0.010	0.410	<0.010	<0.010	--	1.1	0.020	0.020	<0.010	20
FEB 03...	--	67	<0.010	0.370	0.010	0.010	1.4	1.4	0.040	0.010	<0.010	30
MAR 23...	83	81	<0.010	<0.100	<0.010	<0.010	--	0.90	0.020	0.010	<0.010	--
MAY 18...	66	72	<0.010	<0.100	<0.010	<0.010	--	0.60	0.020	0.010	<0.010	--
JUL 28...	82	84	<0.010	<0.100	0.070	0.070	0.53	0.60	0.060	<0.010	<0.010	20
SEP 01...	94	96	<0.010	0.420	0.030	0.010	--	<0.20	0.020	<0.010	<0.010	50

LITTLE KANAWHA RIVER BASIN

03155000 LITTLE KANAWHA RIVER AT PALESTINE, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	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)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
NOV 18...	<1	47	<0.5	<1	<1	<3	2	40	<5	<4	36
FEB 03...	<1	39	<0.5	<1	<1	<3	2	52	<10	<4	6
MAR 23...	--	--	--	--	--	--	--	--	--	--	--
MAY 18...	--	--	--	--	--	--	--	--	--	--	--
JUL 28...	1	70	<0.5	3	<1	<3	2	36	<5	<4	420
SEP 01...	1	69	0.5	1	1	<3	1	90	<5	<4	59

DATE	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)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 18...	<0.1	<10	3	<1	<1.0	63	<6	9	23	63	59
FEB 03...	<0.1	<10	<1	<1	<1.0	56	<6	9	76	1820	85
MAR 23...	--	--	--	--	--	--	--	--	39	38	24
MAY 18...	--	--	--	--	--	--	--	--	--	--	--
JUL 28...	<0.1	<10	1	<1	<1.0	99	<6	6	18	1.9	82
SEP 01...	<0.1	<10	1	<1	<1.0	100	<6	230	13	13	100

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV

LOCATION.--Lat 39°13'22", long 81°07'01", Ritchie County, Hydrologic Unit 05030203, on right bank of North Bend State Park unnamed run, 1,600 ft southwest of Park Office, and 1,200 ft upstream from confluence with North Fork Hughes River at Cornwallis, WV.

DRAINAGE AREA.--0.14 mi².

PERIOD OF RECORD.--June 1985 to September 1987 (discontinued).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 720 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17 ft³/s, Nov. 4, 1985 and Sept. 7, 1987, gage height, 3.14 ft; no flow Aug. 13, 14, 22, 23, 1985 and for many days in August and September 1986 and July, August, and September 1987.

EXTREMES FOR CURRENT YEAR.--

WATER YEAR 1985.--Maximum discharge during period June to September, 12 ft³/s, July 15, gage height, 2.91 ft; no flow Aug. 13, 14, 22, 23.

WATER YEAR 1986.--Maximum discharge, 17 ft³/s, Nov. 4, gage height, 3.14 ft; no flow for many days in August and September.

WATER YEAR 1987.--Maximum discharge, 17 ft³/s, Sept. 7, gage height, 3.14; no flow for many days in July, August and September.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	.02	.05	.02
2	---	---	---	---	---	---	---	---	---	.02	.01	.01
3	---	---	---	---	---	---	---	---	---	.14	.01	.01
4	---	---	---	---	---	---	---	---	---	.06	.01	.01
5	---	---	---	---	---	---	---	---	---	.03	.01	.01
6	---	---	---	---	---	---	---	---	---	.04	.01	.01
7	---	---	---	---	---	---	---	---	---	.03	.01	.01
8	---	---	---	---	---	---	---	---	---	.02	.02	.01
9	---	---	---	---	---	---	---	---	---	.02	.01	.01
10	---	---	---	---	---	---	---	---	---	.07	.01	.01
11	---	---	---	---	---	---	---	---	---	.03	.01	.01
12	---	---	---	---	---	---	---	---	---	.01	.01	.01
13	---	---	---	---	---	---	---	---	---	.02	.00	.01
14	---	---	---	---	---	---	---	---	.06	.01	.00	.01
15	---	---	---	---	---	---	---	---	.06	1.5	.04	.01
16	---	---	---	---	---	---	---	---	.05	.12	.30	.01
17	---	---	---	---	---	---	---	---	.04	.05	.05	.01
18	---	---	---	---	---	---	---	---	.04	.04	.03	.01
19	---	---	---	---	---	---	---	---	.27	.02	.02	.02
20	---	---	---	---	---	---	---	---	.22	.02	.02	.02
21	---	---	---	---	---	---	---	---	.07	.02	.01	.02
22	---	---	---	---	---	---	---	---	.07	.05	.00	.02
23	---	---	---	---	---	---	---	---	.05	.03	.00	.01
24	---	---	---	---	---	---	---	---	.04	.03	.05	.01
25	---	---	---	---	---	---	---	---	.03	.02	.02	.01
26	---	---	---	---	---	---	---	---	.02	.05	.01	.01
27	---	---	---	---	---	---	---	---	.01	.03	.01	.02
28	---	---	---	---	---	---	---	---	.01	.01	.01	.02
29	---	---	---	---	---	---	---	---	.01	.01	.01	.01
30	---	---	---	---	---	---	---	---	.01	.01	.06	.01
31	---	---	---	---	---	---	---	---	---	.01	.04	---
TOTAL	---	---	---	---	---	---	---	---	---	2.54	0.85	0.37
MEAN	---	---	---	---	---	---	---	---	---	.082	.027	.012
MAX	---	---	---	---	---	---	---	---	---	1.5	.30	.02
MIN	---	---	---	---	---	---	---	---	---	.01	.00	.01
CFSM	---	---	---	---	---	---	---	---	---	.59	.20	.09
IN.	---	---	---	---	---	---	---	---	---	.67	.23	.10

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

DISCHARGE, 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	.03	.06	.31	.08	.17	.13	.09	.09	.04	.49	.30	.02
2	.04	.08	.32	.08	.37	.14	.11	.07	.04	.54	.00	.01
3	.02	.76	.20	.08	.29	.17	.11	.07	.03	.20	.00	.01
4	.02	5.4	.17	.06	2.2	.30	.14	.07	.03	.06	.00	.01
5	.03	2.7	.18	.06	1.3	.34	.16	.06	.04	.03	.00	.01
6	.02	.54	.29	.06	.52	.36	.21	.06	.04	.03	.00	.01
7	.01	.33	.23	.04	.90	.31	.15	.06	.05	.03	.01	.00
8	.01	.25	.20	.03	.38	.24	.11	.05	.07	.03	.02	.00
9	.01	.16	.17	.03	.30	.31	.15	.04	.06	.29	.01	.00
10	.02	.12	.15	.05	.24	.39	.14	.04	.06	.10	.01	.00
11	.02	.18	.24	.05	.22	.49	.11	.04	.06	.04	.01	.00
12	.02	.25	.49	.06	.18	.51	.10	.04	.08	.03	.06	.01
13	.02	.33	.96	.05	.16	.74	.09	.07	.03	.05	.00	.01
14	.03	.32	.51	.05	.18	2.7	.09	.05	.02	.03	.00	.00
15	.05	.22	.32	.04	.17	1.3	.17	.04	.02	.03	.00	.00
16	.02	.24	.26	.04	.16	.47	.14	.04	.02	.03	.00	.00
17	.02	.21	.21	.06	1.6	.32	.16	.08	.02	.07	.00	.00
18	.02	.16	.14	.08	1.3	.24	.14	.05	.01	.02	.01	.00
19	.03	.14	.12	.35	1.6	.20	.13	.11	.01	.02	.06	.00
20	1.2	.11	.13	.43	1.1	.16	.14	.60	.12	.02	.02	.00
21	.33	.09	.12	.30	.54	.14	.38	.17	.03	.01	.01	.00
22	.08	.24	.12	.42	.37	.13	.42	.11	.02	.01	.01	.01
23	.04	.19	.12	.36	.31	.12	.34	.08	.02	.01	.04	.01
24	.19	.15	.13	.28	.27	.12	.24	.06	.01	.01	.02	.01
25	.27	.17	.10	.27	.21	.12	.20	.05	.01	.01	.01	.01
26	.08	.83	.09	.30	.21	.10	.17	.04	.01	.02	.01	.06
27	.05	2.9	.10	.25	.20	.10	.14	.07	.02	.02	.03	.26
28	.03	2.2	.09	.22	.15	.10	.12	.05	.51	.01	.04	.06
29	.03	.78	.09	.22	---	.09	.09	.04	.11	.01	.02	.02
30	.04	.36	.07	.20	---	.09	.09	.04	.08	.01	.01	.02
31	.06	---	.08	.18	---	.08	---	.04	---	.01	.01	---
TOTAL	2.84	20.47	6.71	4.78	15.60	11.01	4.83	2.48	1.57	2.27	0.36	0.55
MEAN	.092	.68	.22	.15	.56	.36	.16	.080	.056	.073	.012	.018
MAX	1.2	5.4	.96	.43	2.2	2.7	.42	.60	.51	.54	.06	.26
MIN	.01	.06	.07	.03	.15	.08	.09	.04	.01	.01	.00	.00
CFSM	.65	4.87	1.55	1.10	3.98	2.54	1.15	.57	.40	.52	.08	.13
IN.	.75	5.44	1.78	1.27	4.15	2.93	1.28	.66	.44	.60	.10	.15

WTR YR 1986 TOTAL 73.57 MEAN .20 MAX 5.4 MIN .00 CFSM 1.44 IN. 19.55

DISCHARGE, 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	.14	.06	.09	.11	.32	.73	.36	.12	.08	.01	.00	.00
2	.08	.06	1.4	.12	1.0	.48	.36	.11	.04	.01	.00	.00
3	.04	.07	.68	.10	.39	.30	.35	.13	.03	.01	.00	.00
4	.06	.06	.35	.09	.27	.21	.38	.13	.03	.01	.00	.00
5	.05	.40	.22	.09	.19	.17	.59	.11	.03	.00	.00	.00
6	.03	.19	.16	.09	.17	.13	1.3	.10	.03	.01	.00	.00
7	.03	.06	.13	.09	.14	.14	2.1	.10	.03	.02	.00	1.1
8	.01	.56	.13	.08	.14	.13	1.5	.08	.02	.01	.00	.33
9	.01	1.6	1.2	.08	.09	.12	.57	.07	.03	.01	.00	.04
10	.01	.15	.59	.10	.10	.10	.35	.06	.03	.01	.00	.02
11	.01	.46	.32	.09	.10	.14	.26	.05	.01	.01	.00	.01
12	.01	.24	.21	.08	.12	.15	.38	.06	.08	.01	.00	.02
13	.03	.11	.14	.08	.09	.14	.38	.05	.04	.01	.00	.03
14	.12	.03	.11	.06	.39	.14	.36	.05	.02	.01	.00	.03
15	.04	.07	.09	.11	.07	.10	.46	.06	.01	.01	.00	.03
16	.03	.06	.09	.09	.07	.11	.50	.05	.01	.00	.00	.02
17	.03	.04	.08	.09	.07	.09	.51	.05	.02	.00	.00	.02
18	.02	.06	.11	.10	.08	.09	.40	.05	.01	.00	.00	.03
19	.02	.06	.09	1.0	.08	.09	.37	.10	.01	.00	.00	.02
20	.02	.13	.08	.43	.08	.07	.36	.07	.01	.00	.00	.02
21	.01	.22	.07	.28	.08	.06	.35	.03	.02	.00	.00	.02
22	.02	.11	.06	.22	.12	.08	.33	.03	.02	.00	.02	.01
23	.02	.09	.06	.16	.33	.06	.63	.03	.03	.00	.06	.02
24	.02	.10	1.1	.12	.19	.07	.85	.03	.02	.00	.00	.01
25	.03	.10	.84	.12	.15	.12	.36	.03	.01	.00	.00	.01
26	.06	2.1	.37	.11	.13	.11	.25	.03	.03	.00	.00	.00
27	.05	.52	.26	.09	.12	.13	.19	.04	.02	.00	.00	.00
28	.05	.24	.19	.09	.32	.16	.17	.04	.01	.00	.00	.00
29	.05	.16	.16	.11	---	.16	.14	.03	.01	.00	.00	.01
30	.06	.11	.14	.74	---	.13	.13	.03	.00	.00	.00	.06
31	.06	---	.12	.41	---	.61	---	.03	---	.00	.00	---
TOTAL	1.22	8.27	9.64	5.55	5.10	5.38	15.24	1.97	0.74	0.15	0.08	1.90
MEAN	.039	.28	.31	.18	.18	.17	.51	.064	.025	.005	.003	.063
MAX	.14	2.1	1.4	1.0	1.0	.73	2.1	.13	.08	.02	.06	1.1
MIN	.01	.04	.06	.06	.07	.06	.13	.03	.00	.00	.00	.00
CFSM	.28	1.97	2.22	1.23	1.30	1.24	3.63	.45	.18	.03	.02	.43
IN.	.32	2.20	2.56	1.47	1.36	1.43	4.05	.52	.20	.04	.02	.50

CAL YR 1986 TOTAL 62.68 MEAN .17 MAX 2.7 MIN .00 CFSM 1.23 IN. 16.65

WTR YR 1987 TOTAL 55.24 MEAN .15 MAX 2.1 MIN .00 CFSM 1.08 IN. 14.68

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	.24	.67	.00
2	---	---	---	---	---	---	---	---	---	.05	.01	.00
3	---	---	---	---	---	---	---	---	---	.84	.00	.00
4	---	---	---	---	---	---	---	---	---	.01	.00	.00
5	---	---	---	---	---	---	---	---	---	.00	.00	.00
6	---	---	---	---	---	---	---	---	---	.30	.01	.00
7	---	---	---	---	---	---	---	---	---	.01	.06	.00
8	---	---	---	---	---	---	---	---	---	.04	.00	.00
9	---	---	---	---	---	---	---	---	---	.01	.01	.00
10	---	---	---	---	---	---	---	---	---	.49	.00	.00
11	---	---	---	---	---	---	---	---	---	.00	.03	.00
12	---	---	---	---	---	---	---	---	---	.00	.00	.00
13	---	---	---	---	---	---	---	---	---	.00	.00	.00
14	---	---	---	---	---	---	---	---	---	.00	.01	.00
15	---	---	---	---	---	---	---	---	.00	2.04	.72	.00
16	---	---	---	---	---	---	---	---	.01	.00	1.18	.00
17	---	---	---	---	---	---	---	---	.00	.00	.02	.00
18	---	---	---	---	---	---	---	---	.00	.00	.00	.00
19	---	---	---	---	---	---	---	---	1.06	.00	.00	.00
20	---	---	---	---	---	---	---	---	.00	.00	.15	.00
21	---	---	---	---	---	---	---	---	.00	.19	.00	.00
22	---	---	---	---	---	---	---	---	.29	.37	.00	.00
23	---	---	---	---	---	---	---	---	.02	.01	.00	.14
24	---	---	---	---	---	---	---	---	.00	.00	.32	.10
25	---	---	---	---	---	---	---	---	.00	.00	.17	.00
26	---	---	---	---	---	---	---	---	.00	.42	.02	.08
27	---	---	---	---	---	---	---	---	.00	.00	.00	.04
28	---	---	---	---	---	---	---	---	.00	.00	.00	.00
29	---	---	---	---	---	---	---	---	.00	.00	.00	.00
30	---	---	---	---	---	---	---	---	.05	.00	.71	.00
31	---	---	---	---	---	---	---	---	---	.00	.00	---
TOTAL	---	---	---	---	---	---	---	---	p1.43	5.02	4.09	0.36
p-partial year	TOTAL 10.90											

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.56	.00	.22	.00	.03	.00	.00	.06	.00	.56	.00	.15
2	.14	.14	.13	.00	.00	.16	.00	.00	.00	.67	.00	.00
3	.00	1.11	.01	.01	.24	.08	.05	.00	.04	.00	.00	.00
4	.01	2.69	.00	.00	.85	.05	.00	.00	.00	.00	.00	.10
5	.15	.49	.00	.00	.28	.00	.06	.00	.00	.00	.00	.00
6	.00	.03	e.33	.01	.29	.10	.67	.13	.00	.00	.03	.00
7	.00	.19	e.07	.00	.17	.00	.00	.14	.21	.00	.44	.00
8	.00	.01	.00	.00	.00	.06	.02	.00	.00	.00	.10	.00
9	.00	.00	.00	.00	.00	.04	.20	.00	.00	1.12	.00	.00
10	.00	.00	.00	.00	.00	.36	.02	.00	.00	.02	.08	.00
11	.00	.26	.46	.00	.00	.00	.03	.00	.04	.05	.00	.00
12	.00	.17	.05	.02	.00	.31	.00	.00	.69	.08	.00	.39
13	.03	.26	.45	.00	.00	.27	.00	.37	.00	.11	.00	.00
14	.67	.03	.00	.00	.01	1.06	.04	.06	.03	.00	.00	.00
15	.14	.15	.00	.00	.00	.08	.38	.00	.00	.00	.00	.00
16	.00	.14	.03	.05	.16	.00	.00	.00	.00	.25	.11	.02
17	.00	.00	.00	.00	.80	.00	.16	.36	.16	.28	.47	.00
18	.00	.01	.00	.00	.02	.04	.04	.00	.00	.00	.00	.20
19	.13	.00	.00	.53	.73	.13	.05	.50	.00	.00	1.03	.03
20	2.73	.00	.00	.00	.00	.00	.25	.69	1.17	.00	.02	.00
21	.25	.00	.00	.09	.18	.00	.43	.00	.00	.00	.00	.00
22	.01	.40	.05	.45	.05	.00	.11	.00	.00	.00	.00	.13
23	.00	.01	.00	.08	.00	.03	.06	.02	.03	.02	.88	.14
24	.71	.00	.02	.08	.00	.00	.04	.00	.00	.00	.00	.06
25	.00	.19	.00	.18	.08	.05	.06	.00	.00	.00	.02	.00
26	.00	1.10	.00	.00	.04	.00	.03	.00	.02	.22	.00	1.19
27	.00	.55	.08	.00	.04	.09	.00	.32	.73	.00	.44	.88
28	.00	.57	.00	.00	.00	.04	.00	.02	1.46	.00	.02	.00
29	.00	.01	.00	.08	---	.00	.00	.00	.00	.00	.00	.02
30	.14	.00	.00	.00	---	.00	.00	.06	.50	.00	.00	.00
31	.01	---	.00	.04	---	.00	---	.00	---	.00	.00	---
TOTAL	5.68	8.51	1.90	1.62	3.97	2.95	2.70	2.73	5.08	3.38	3.64	3.31

WTR YR 1986 TOTAL 45.47

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.88	.00	.25	.01	.29	.28	.22	.00	.63	.20	.00	.00
2	.01	.00	.81	.00	.17	.04	.17	.02	.00	.05	.00	e.00
3	.00	.00	.16	.00	.00	.00	.09	.39	.00	.00	.56	e.00
4	.35	.44	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00
5	.00	1.92	.00	.06	.00	.00	.53	.00	.00	.13	.31	e.00
6	.00	.02	.00	.15	.03	.02	.91	.00	.00	.29	.00	e.00
7	.00	.06	.00	.00	.00	.00	.03	.00	.00	.00	.00	e3.60
8	.00	1.32	.00	.00	.03	.00	.02	.00	.00	.02	.00	e.25
9	.00	.45	1.57	.00	.00	.00	.00	.00	.00	.04	.24	e.00
10	.00	.00	.00	.11	.00	.00	.00	.00	.00	.00	.01	e.00
11	.00	.54	.00	.00	.00	.00	.02	.00	.00	.25	.00	e.00
12	.04	.01	.00	.00	.13	.00	.33	.00	.66	.07	.00	e.35
13	.65	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	e.90
14	.23	.00	.00	.01	.00	.00	.00	.00	.00	.27	.00	e.00
15	.00	.00	.00	.14	.00	.09	.32	.22	.00	.00	.00	e.00
16	.00	.01	.00	.00	.00	.12	.16	.00	.00	.00	.00	e.00
17	.00	.00	.06	.00	.00	.00	.07	.00	.00	.00	.78	e.00
18	.00	.24	.18	.09	.16	.03	.00	.17	.00	.00	.01	e.00
19	.00	.00	.00	.70	.00	.02	.00	.13	.00	.00	.00	e.00
20	.00	.40	.00	.00	.00	.00	.00	.00	.16	.00	.00	e.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.11	.00	.00	e.00
22	.00	.01	.00	.00	.39	.00	.00	.00	.17	.00	1.03	e.00
23	.00	.13	.00	.00	.05	.00	.92	.00	.12	.00	.00	e.50
24	.00	.06	1.00	.00	.00	.00	.03	.00	.00	.00	.00	e.00
25	.00	.39	.06	.00	.00	.33	.00	.00	.35	.00	.00	e.00
26	.00	.88	.00	.00	.00	.00	.00	.00	.00	.03	.06	e.00
27	.00	.00	.00	.00	.03	.00	.06	.00	.00	.00	.04	e.00
28	.00	.00	.00	.00	.45	.04	.01	.00	.00	.00	.43	e.00
29	.00	.01	.00	.56	---	.00	.15	.00	.04	.00	.00	e.00
30	.00	.00	.03	.07	---	.53	.00	.08	.00	.00	.00	e.90
31	.00	---	.06	.04	---	.14	---	.00	---	.00	.00	---
TOTAL	2.16	6.89	4.18	1.97	1.73	1.64	4.04	1.01	2.24	1.35	3.47	6.50

WTR YR 1987 TOTAL 37.18

e Estimated

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1985 to September 1987 (discontinued).

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
MEAN DAILY VALUES

[illegible]

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN DAILY VALUES

[illegible]

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEN RUN NEAR CAIRO, WV--Continued

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e35	---	---	---	5	11	---	---	e16	---	---	---
2	---	---	19	---	20	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	17	---	---	---	---	15	---	---	---	---	---
6	---	---	---	---	---	---	46	---	---	---	---	---
7	---	---	---	---	---	---	40	---	---	---	---	593
8	---	40	---	---	---	---	---	---	---	---	---	92
9	---	72	16	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	33	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	e22	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	e47	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	e16	---
23	---	---	---	---	---	---	52	---	---	---	---	---
24	---	---	56	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	29	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	e14	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	e5	---	---	---	---	---	---
31	---	---	---	---	---	e37	---	---	---	---	---	---

e Estimated

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	e.01	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	e.11	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	e.03	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	e1.3	.09	---
16	---	---	---	---	---	---	---	---	---	---	.33	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	e.14	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	e.01	e.01	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	e.02	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	.03	---
31	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	.00	---	.00	---	---	---	---	.09	---	---
2	---	---	.00	---	.00	---	---	---	---	.07	---	---
3	---	e.03	---	---	.00	---	---	---	---	---	---	---
4	---	1.3	---	---	.32	---	---	---	---	---	---	---
5	---	.11	---	---	.05	---	---	---	---	---	---	---
6	---	.00	---	---	.01	---	---	---	---	---	---	---
7	---	.00	---	---	.04	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	.48	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	.01	---	---	---	---	---	---	---	---	---
12	---	---	.01	---	---	---	---	---	.01	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	5.2	---	---	---	---	---	---
15	---	---	---	---	---	.03	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	.00	---	---
17	---	---	---	---	.14	---	---	.01	---	.01	---	---
18	---	---	---	---	.05	---	---	.00	---	---	---	---
19	---	---	---	.05	1.2	---	---	.01	---	---	.06	---
20	.03	---	---	.01	.01	---	---	.24	.03	---	.00	---
21	.00	---	---	.00	---	---	---	---	---	---	---	---
22	---	.01	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	e.03	---
24	.03	---	---	---	---	---	---	---	---	---	---	---
25	.00	---	---	---	---	---	---	---	---	---	---	---
26	---	.19	---	---	---	---	---	---	---	---	---	.19
27	---	.73	---	---	---	---	---	---	.00	---	---	.13
28	---	.04	---	---	---	---	---	---	.69	---	---	.00
29	---	---	---	---	---	---	---	---	.01	---	---	---
30	---	---	---	---	---	---	---	---	.01	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.02	---	---	---	.00	.03	---	---	e.01	---	---	---
2	---	---	.08	---	.08	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	.03	---	---	---	---	.02	---	---	---	---	---
6	---	---	---	---	---	---	.20	---	---	---	---	---
7	---	---	---	---	---	---	.23	---	---	---	---	5.9
8	---	.30	---	---	---	---	---	---	---	---	---	.14
9	---	.69	.04	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	.05	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	e.01	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	e.22	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	e.01	---
23	---	---	---	---	---	---	.20	---	---	---	---	---
24	---	---	.26	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	.19	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	e.03	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	e.00	---	---	---	---	---	---
31	---	---	---	---	---	e.08	---	---	---	---	---	---

e Estimated

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
AUG						
01...	0730	0.55	126	66	221	0.33
15...	1945	0.77	84	26	1460	3.0
16...	1145	1.5	144	10	1940	7.8
16...	1200	3.0	138	25	1070	8.7
16...	1215	2.6	120	60	661	4.6
16...	1230	1.6	113	82	354	1.5
16...	1245	1.1	110	84	244	0.72
16...	1300	0.88	109	78	169	0.40
16...	1545	0.55	122	26	48	0.07
30...	1900	0.77	185	65	575	1.2
30...	1915	0.44	181	72	500	0.59
30...	1930	0.39	175	80	374	0.39
30...	1945	0.33	168	84	359	0.32
30...	2000	0.30	163	86	259	0.21

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT						
20...	0600	0.77	137	32	12	0.02
20...	0615	0.77	130	24	10	0.02
20...	0645	0.77	126	20	6	0.01
20...	0700	0.77	130	22	10	0.02
20...	0715	0.88	130	17	13	0.03
20...	0730	0.88	133	20	16	0.04
20...	0745	0.77	133	18	9	0.02
20...	0800	0.66	134	14	12	0.02
20...	0815	0.66	118	8.1	7	0.01
20...	0830	0.55	141	9.4	8	0.01
20...	0845	0.44	122	4.5	6	0.01
20...	0900	0.39	142	4.7	7	0.01
20...	0915	0.39	144	5.2	2	0.00
20...	0930	0.39	146	8.2	3	0.00
20...	0945	0.39	145	4.1	1	0.00
20...	1000	0.39	146	8.7	3	0.00
20...	1015	0.39	145	4.1	1	0.00
20...	1030	0.44	144	4.1	1	0.00
20...	1045	0.66	142	3.8	1	0.00
20...	1100	0.66	144	2.9	1	0.00
20...	1115	0.77	142	3.1	1	0.00
20...	1145	1.1	144	4.0	1	0.00
20...	1530	2.6	85	23	25	0.18
20...	1545	2.6	98	22	31	0.22
20...	1600	2.4	98	22	29	0.19
20...	1615	2.4	99	18	22	0.14
20...	1630	2.3	99	20	21	0.13
20...	1645	2.1	98	17	18	0.10
20...	1700	2.0	100	18	22	0.12
20...	1715	1.9	102	18	21	0.11
20...	1730	1.8	102	16	17	0.08
20...	1800	1.6	103	18	12	0.05
20...	1815	1.5	105	12	19	0.08
20...	1830	1.5	104	16	42	0.17
20...	1845	1.4	106	13	17	0.06
20...	1900	1.4	105	14	15	0.06
20...	1915	1.2	108	18	23	0.07
20...	1930	1.1	108	10	12	0.04
20...	1945	1.1	108	14	9	0.03
20...	2000	0.99	109	12	16	0.04
20...	2015	0.88	109	10	9	0.02
20...	2030	0.88	110	11	12	0.03
20...	2045	0.77	109	10	12	0.02
20...	2100	0.77	111	10	10	0.02
20...	2115	0.66	110	10	12	0.02
21...	1045	0.36	125	8.9	13	0.01
21...	1100	0.36	125	7.8	5	0.00
21...	1115	0.36	125	6.0	10	0.01
21...	1130	0.36	125	6.0	4	0.00

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT						
21...	1145	0.33	125	7.0	3	0.00
21...	1200	0.33	125	7.1	1	0.00
21...	1215	0.33	125	6.1	5	0.00
21...	1230	0.33	128	5.7	4	0.00
21...	1245	0.33	126	7.4	14	0.01
21...	1300	0.33	125	6.1	5	0.00
21...	1315	0.33	125	5.1	6	0.01
21...	1330	0.30	126	5.2	1	0.00
21...	1345	0.30	126	4.8	1	0.00
21...	1400	0.30	127	6.4	4	0.00
21...	1415	0.30	126	4.3	1	0.00
24...	2230	0.55	124	12	56	0.08
25...	0045	0.77	119	11	17	0.03
25...	0100	0.77	121	16	14	0.03
25...	0115	0.66	120	14	12	0.02
25...	0130	0.66	120	8.0	12	0.02
25...	0145	0.66	120	11	15	0.03
25...	0200	0.55	120	6.0	9	0.01
25...	0215	0.55	120	4.0	11	0.02
25...	0230	0.55	120	6.0	10	0.01
25...	0245	0.44	120	10	12	0.01
25...	0300	0.44	120	7.0	8	0.01
25...	0315	0.44	120	3.0	8	0.01
25...	0330	0.39	120	6.0	9	0.01
25...	0345	0.39	120	7.0	6	0.01
NOV						
04...	1400	9.5	66	55	138	3.5
04...	1445	8.4	66	45	94	2.1
04...	1500	8.0	65	41	95	2.1
04...	1515	7.6	64	38	80	1.6
04...	1530	7.2	65	37	65	1.3
04...	1545	7.2	64	34	64	1.2
04...	1600	7.4	65	36	56	1.1
04...	1615	7.4	64	38	68	1.4
04...	1630	7.6	64	31	66	1.4
04...	1645	7.8	63	30	46	0.97
04...	1715	8.2	63	27	56	1.2
04...	1730	8.2	63	28	55	1.2
04...	1745	8.2	63	31	56	1.2
04...	1800	8.0	62	33	44	0.95
04...	1815	7.6	62	33	51	1.0
04...	1830	7.0	64	24	55	1.0
04...	1845	6.7	63	26	42	0.76
04...	1900	6.5	64	20	37	0.65
04...	1915	6.3	64	22	35	0.60
04...	1930	6.1	65	22	22	0.36
04...	1945	6.0	63	21	30	0.49
04...	2000	5.8	64	24	28	0.44
04...	2015	5.4	66	19	32	0.47
04...	2030	5.3	64	21	28	0.40
04...	2045	5.1	63	16	30	0.41
05...	1445	1.9	84	8.4	16	0.08
05...	1500	1.8	83	8.6	10	0.05
05...	1515	1.8	82	8.7	12	0.06
05...	1530	1.8	83	9.0	11	0.05
05...	1545	1.8	83	8.0	11	0.05
05...	1600	1.8	82	7.2	9	0.04
05...	1615	1.6	83	5.4	6	0.03
05...	1630	1.6	82	7.0	9	0.04
05...	1645	1.5	83	7.1	8	0.03
05...	1700	1.5	84	6.9	7	0.03
05...	1715	1.5	84	6.5	9	0.04
05...	1730	1.5	83	5.8	6	0.02
05...	1745	1.5	84	7.0	7	0.03
05...	1800	1.5	84	6.4	7	0.03
05...	1815	1.5	71	7.1	9	0.04
05...	1845	1.4	85	6.8	6	0.02
05...	1900	1.4	85	5.8	8	0.03
05...	1915	1.4	84	6.8	8	0.03
05...	1930	1.2	85	6.1	7	0.02
05...	1945	1.2	85	6.0	4	0.01
05...	2000	1.2	85	6.5	4	0.01
05...	2015	1.2	85	7.1	4	0.01
05...	2030	1.2	86	7.1	7	0.02

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV						
07...	1345	0.30	99	5.4	7	0.01
07...	1400	0.30	99	4.9	5	0.00
07...	1415	0.33	100	4.6	4	0.00
07...	1430	0.33	100	4.3	2	0.00
12...	1115	0.30	116	10	3	0.00
12...	1130	0.30	116	2.2	0	0.0
12...	1145	0.30	113	2.8	0	0.0
12...	1200	0.30	117	3.2	0	0.0
12...	1230	0.30	118	3.7	1	0.00
12...	1245	0.30	118	3.5	0	0.0
12...	1315	0.30	119	3.1	1	0.00
12...	1345	0.30	118	2.8	2	0.00
12...	1400	0.30	118	3.4	1	0.00
12...	1415	0.30	118	3.0	0	0.0
12...	1430	0.30	121	3.8	1	0.00
12...	1500	0.30	120	2.9	1	0.00
12...	1515	0.30	119	2.2	1	0.00
12...	1530	0.30	120	2.2	3	0.00
12...	1545	0.30	103	2.3	0	0.0
12...	1600	0.30	119	2.2	0	0.0
12...	1615	0.30	121	2.1	7	0.01
12...	1645	0.30	121	2.0	0	0.0
12...	1700	0.30	120	2.1	0	0.0
12...	1715	0.30	120	2.3	0	0.0
22...	1045	0.30	122	12	27	0.02
22...	1100	0.30	126	2.4	4	0.00
22...	1115	0.30	126	5.0	8	0.01
22...	1130	0.30	128	4.1	8	0.01
22...	1145	0.30	128	5.4	4	0.00
22...	1200	0.30	128	3.6	13	0.01
22...	1215	0.30	126	4.8	1	0.00
22...	1230	0.30	126	5.2	8	0.01
22...	1245	0.30	128	4.0	3	0.00
22...	1315	0.30	127	4.3	2	0.00
22...	1330	0.33	128	4.5	2	0.00
22...	1345	0.33	129	3.1	2	0.00
22...	1415	0.33	130	3.8	0	0.0
22...	1430	0.33	129	3.2	0	0.0
22...	1500	0.33	130	3.4	1	0.00
22...	1515	0.33	131	3.8	1	0.00
22...	1530	0.30	128	4.7	2	0.00
22...	1545	0.30	131	4.2	3	0.00
22...	1615	0.30	111	4.6	1	0.00
22...	1630	0.30	132	3.8	2	0.00
26...	0900	0.30	130	4.5	6	0.00
26...	0915	0.30	128	3.0	4	0.00
26...	0930	0.30	127	3.6	5	0.00
26...	0945	0.30	126	5.0	10	0.01
26...	1000	0.33	123	4.6	10	0.01
26...	1015	0.33	124	5.4	8	0.01
26...	1045	0.39	126	8.4	13	0.01
26...	1100	0.44	126	9.3	15	0.02
26...	1115	0.44	128	9.9	16	0.02
26...	1130	0.44	119	12	18	0.02
26...	1145	0.55	131	12	17	0.02
26...	1200	0.55	132	16	19	0.03
26...	1215	0.55	134	18	19	0.03
26...	1230	0.55	134	17	17	0.02
26...	1245	0.55	133	16	18	0.03
26...	1300	0.55	132	15	16	0.02
26...	1330	0.55	132	11	15	0.02
26...	1345	0.55	131	12	15	0.02
26...	1400	0.55	131	14	17	0.02
26...	1415	0.55	130	12	12	0.02
26...	1430	0.55	131	14	10	0.01
26...	1445	0.55	131	16	9	0.01
26...	1930	1.8	116	48	78	0.38
26...	1945	2.0	111	55	136	0.73
26...	2000	2.4	106	69	177	1.1
26...	2030	2.8	100	84	164	1.2
26...	2045	2.8	98	62	107	0.81
26...	2100	2.7	96	46	75	0.55
26...	2115	2.6	96	37	60	0.42
26...	2130	2.6	95	30	43	0.30
26...	2145	2.4	92	25	37	0.24

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
NOV						
26...	2200	2.4	94	24	30	0.19
26...	2215	2.3	94	24	24	0.15
26...	2230	2.3	95	22	28	0.17
26...	2300	2.1	74	17	22	0.12
26...	2315	2.3	93	22	30	0.19
26...	2330	2.7	90	25	40	0.29
26...	2345	4.2	87	98	379	4.3
26...	2400	7.0	90	140	791	15
27...	0015	7.4	79	160	479	9.6
27...	0030	6.7	77	100	248	4.5
27...	0045	6.1	68	77	173	2.8
27...	0100	5.6	77	71	96	1.5
27...	0115	5.3	78	54	131	1.9
27...	1930	3.0	77	12	21	0.17
27...	1945	3.0	77	10	12	0.10
27...	2000	2.8	77	10	15	0.11
27...	2015	2.8	76	10	13	0.10
27...	2030	2.7	77	8.2	14	0.10
27...	2045	2.7	77	9.1	12	0.09
27...	2100	2.6	77	8.8	12	0.08
27...	2115	2.6	77	8.6	11	0.08
27...	2130	2.6	77	7.6	8	0.06
27...	2145	2.4	77	6.9	10	0.06
27...	2200	2.4	77	7.1	10	0.06
27...	2215	2.4	77	7.0	11	0.07
27...	2230	2.3	77	4.4	8	0.05
27...	2245	2.3	77	5.5	12	0.07
27...	2300	2.3	77	7.4	11	0.07
27...	2315	2.1	77	7.6	12	0.07
27...	2330	2.1	77	5.9	10	0.06
27...	2345	2.1	77	7.6	10	0.06
27...	2400	2.0	77	7.1	10	0.05
28...	0015	2.0	77	6.9	9	0.05
28...	0030	2.0	77	6.9	10	0.05
28...	0045	2.0	77	7.4	13	0.07
28...	0115	2.0	77	7.6	12	0.06
DEC						
01...	1545	0.30	95	6.2	4	0.00
01...	1600	0.30	95	4.3	3	0.00
01...	1615	0.30	96	4.1	1	0.00
01...	1645	0.30	95	4.1	2	0.00
01...	1700	0.30	95	3.6	1	0.00
01...	1715	0.30	95	3.8	1	0.00
01...	1730	0.30	95	3.8	2	0.00
01...	1745	0.30	96	3.7	3	0.00
01...	1800	0.33	96	3.8	3	0.00
01...	1815	0.33	97	3.7	2	0.00
01...	1830	0.33	97	5.8	2	0.00
01...	1845	0.33	97	4.6	2	0.00
01...	1900	0.33	98	4.4	2	0.00
01...	1915	0.33	98	4.4	2	0.00
01...	1930	0.33	99	4.3	1	0.00
01...	1945	0.33	99	4.3	2	0.00
01...	2015	0.33	99	4.3	2	0.00
01...	2030	0.33	98	4.6	1	0.00
01...	2045	0.33	99	4.2	1	0.00
01...	2100	0.33	99	4.6	3	0.00
01...	2115	0.33	99	4.4	12	0.01
02...	0930	0.33	106	3.4	2	0.00
02...	0945	0.33	105	3.5	2	0.00
02...	1000	0.33	105	3.6	1	0.00
11...	1645	0.30	109	6.0	10	0.01
11...	1700	0.30	108	6.2	10	0.01
11...	1715	0.33	108	7.4	6	0.01
11...	1730	0.36	109	12	13	0.01
11...	1745	0.39	109	14	17	0.02
11...	1800	0.44	111	16	19	0.02
11...	1815	0.55	113	18	19	0.03
11...	1830	0.66	116	30	32	0.06
11...	1845	0.66	119	35	30	0.05
11...	1900	0.66	122	39	23	0.04
11...	1915	0.66	122	37	35	0.06
11...	1930	0.66	121	34	34	0.06
11...	1945	0.77	120	36	31	0.06
11...	2000	0.77	120	27	23	0.05
11...	2015	0.77	118	24	23	0.05

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
DEC						
11...	2030	0.77	118	24	23	0.05
11...	2045	0.77	117	23	21	0.04
11...	2100	0.77	114	21	21	0.04
11...	2115	0.77	115	20	18	0.04
11...	2130	0.77	113	19	14	0.03
11...	2145	0.77	112	15	13	0.03
11...	2200	0.77	114	15	9	0.02
11...	2215	0.77	114	12	8	0.02
11...	2230	0.77	113	16	12	0.02
JAN						
19...	1245	0.33	123	34	72	0.06
19...	1300	0.39	121	45	73	0.08
19...	1315	0.55	125	70	122	0.18
19...	1330	0.66	131	88	140	0.25
19...	1345	0.77	142	140	235	0.49
19...	1400	0.77	157	170	265	0.55
19...	1415	0.77	170	160	246	0.51
19...	1430	0.66	179	170	197	0.35
19...	1445	0.66	184	110	151	0.27
19...	1500	0.66	212	90	109	0.19
19...	1515	0.66	186	75	86	0.15
19...	1530	0.66	188	50	60	0.11
19...	1545	0.66	188	43	47	0.08
19...	1600	0.55	190	38	45	0.07
19...	1615	0.55	187	35	40	0.06
19...	1630	0.55	187	29	30	0.04
19...	1645	0.55	189	29	31	0.05
19...	1700	0.55	188	26	30	0.04
19...	1715	0.55	205	22	27	0.04
19...	1730	0.55	180	25	29	0.04
19...	1745	0.55	201	20	24	0.04
19...	1800	0.66	177	21	26	0.05
19...	1815	0.66	176	20	28	0.05
20...	1345	0.36	158	12	9	0.01
20...	1445	0.36	155	5.0	3	0.00
20...	1545	0.36	154	3.5	2	0.00
20...	1645	0.36	152	4.6	1	0.00
20...	1745	0.33	152	4.1	2	0.00
20...	1845	0.33	150	2.6	0	0.0
21...	1630	0.30	158	4.8	2	0.00
21...	1730	0.30	158	4.2	1	0.00
21...	1830	0.30	160	4.1	2	0.00
21...	1930	0.33	159	4.0	0	0.0
21...	2030	0.33	160	4.2	0	0.0
21...	2130	0.33	160	4.1	1	0.00
FEB						
01...	2200	0.30	178	5.7	6	0.00
04...	1010	2.1	156	60	121	0.69
05...	1030	1.5	130	10	15	0.06
07...	0130	1.1	125	15	27	0.08
07...	0145	1.1	127	20	27	0.08
07...	0200	1.1	127	21	36	0.11
07...	0215	1.2	130	18	25	0.08
07...	0230	1.2	131	16	33	0.11
07...	0245	1.2	132	17	27	0.09
07...	0300	1.4	133	26	40	0.15
07...	0315	1.4	133	20	30	0.11
07...	0345	1.4	134	21	31	0.12
07...	0400	1.4	133	16	24	0.09
07...	0415	1.4	133	16	30	0.11
07...	0430	1.4	133	17	20	0.08
07...	0445	1.4	131	20	19	0.07
07...	0500	1.4	131	18	16	0.06
07...	0515	1.4	129	18	19	0.07
07...	0530	1.2	129	14	16	0.05
07...	0545	1.2	128	16	14	0.04
07...	0600	1.2	127	19	14	0.04
07...	0615	1.2	127	10	15	0.05
07...	0630	1.2	127	11	14	0.04
07...	0645	1.2	126	11	16	0.05
07...	0700	1.1	126	12	13	0.04
07...	0715	1.1	126	10	10	0.03
07...	1030	1.1	125	15	27	0.08
17...	1200	1.1	166	45	99	0.29
17...	1215	1.5	167	80	193	0.78

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
FEB						
17...	1230	2.0	166	150	374	2.0
17...	1245	2.3	164	200	557	3.5
17...	1300	2.6	163	230	622	4.4
17...	1315	2.8	163	220	596	4.5
17...	1330	3.0	162	200	566	4.6
17...	1345	3.2	162	190	551	4.8
17...	1400	3.2	161	180	492	4.3
17...	1415	3.2	153	150	405	3.5
17...	1430	3.2	147	140	317	2.7
17...	1445	3.2	145	120	264	2.3
17...	1500	3.3	139	110	255	2.3
17...	1515	3.8	136	130	389	4.0
17...	1530	4.2	134	180	698	7.9
17...	1545	4.6	122	240	1010	13
17...	1600	4.6	124	250	928	12
17...	1615	4.4	132	210	662	7.9
17...	1630	4.2	126	190	484	5.5
17...	1645	4.1	124	190	370	4.1
17...	1700	3.9	121	140	323	3.4
17...	1715	3.8	119	110	244	2.5
17...	1730	3.6	117	90	200	1.9
17...	1745	3.4	124	90	167	1.5
19...	1500	1.2	124	30	84	0.27
19...	1515	1.8	117	50	173	0.84
19...	1530	2.7	131	120	468	3.4
19...	1545	3.8	160	220	861	8.8
19...	1600	3.6	163	100	639	6.2
19...	1615	3.4	147	80	387	3.6
19...	1630	3.2	139	80	230	2.0
19...	1645	2.8	136	65	149	1.1
19...	1700	2.8	131	55	157	1.2
19...	1715	3.4	126	50	191	1.8
19...	1730	4.8	156	250	1320	17
19...	1745	5.1	160	250	1180	16
19...	1800	4.6	141	220	691	8.6
19...	1815	4.4	131	120	363	4.3
19...	1830	4.1	129	60	230	2.5
19...	1845	3.9	126	45	158	1.7
19...	1900	3.6	126	45	133	1.3
19...	1915	3.4	126	30	104	0.95
19...	1930	3.3	127	42	85	0.76
19...	1945	3.2	126	9.0	84	0.73
19...	2000	3.0	127	34	76	0.62
19...	2015	3.0	127	30	37	0.30
19...	2030	2.8	126	25	56	0.42
19...	2045	2.7	131	35	70	0.51
MAR						
14...	0930	1.1	154	100	130	0.39
14...	0945	1.4	156	100	175	0.66
14...	1000	1.8	171	150	366	1.8
14...	1015	2.3	176	200	607	3.8
14...	1030	3.4	159	250	1630	15
14...	1045	5.4	171	250	4550	66
14...	1100	6.7	181	200	4870	88
14...	1115	7.4	147	220	3520	70
14...	1130	8.0	130	300	2360	51
14...	1145	7.6	113	250	1480	30
14...	1200	7.2	107	250	1070	21
14...	1215	7.0	137	250	638	12
14...	1230	6.7	135	200	791	14
14...	1245	6.3	104	150	490	8.3
14...	1300	6.1	103	130	465	7.7
14...	1315	6.0	103	120	369	6.0
14...	1330	5.8	103	100	328	5.1
14...	1345	5.8	103	100	283	4.4
14...	1400	5.6	102	100	245	3.7
14...	1415	5.4	102	86	238	3.5
14...	1430	5.4	101	76	222	3.2
14...	1445	5.4	105	80	241	3.5
14...	1500	5.3	111	85	216	3.1
14...	1515	5.1	107	70	200	2.8
MAY						
17...	1545	0.36	140	45	96	0.09
17...	1600	0.36	139	15	75	0.07
17...	1615	0.33	141	55	84	0.07
17...	1630	0.30	149	40	159	0.13

LITTLE KANWAHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
MAY						
19...	1845	0.36	135	35	54	0.05
19...	1915	0.30	132	30	48	0.04
20...	0230	0.30	162	15	21	0.02
20...	0245	0.33	164	20	21	0.02
20...	0315	0.44	164	35	53	0.06
20...	0345	1.2	161	100	287	0.93
20...	0400	1.5	156	160	557	2.3
20...	0415	1.6	151	180	593	2.6
20...	0430	1.8	141	110	510	2.5
20...	0445	1.9	135	150	524	2.7
20...	0500	2.0	132	190	529	2.9
20...	0515	2.0	131	170	453	2.4
20...	0545	1.8	129	100	236	1.1
20...	0600	1.6	129	70	159	0.69
20...	0615	1.6	128	62	128	0.55
20...	0630	1.4	129	54	98	0.37
20...	0645	1.4	129	35	75	0.28
20...	0700	1.2	130	15	69	0.22
20...	0715	1.2	131	26	64	0.21
20...	0730	1.1	132	25	32	0.09
JUN						
12...	0530	0.39	121	65	136	0.14
12...	0545	0.39	120	43	104	0.11
12...	0600	0.33	125	65	130	0.12
12...	0615	0.30	132	65	146	0.12
20...	0530	0.44	125	55	103	0.12
20...	0545	0.55	127	63	167	0.25
20...	0600	0.55	136	120	201	0.30
20...	0615	0.44	141	170	272	0.32
20...	0630	0.36	144	120	266	0.26
20...	0645	0.33	148	150	235	0.21
20...	0700	0.33	148	150	211	0.19
20...	0715	0.33	147	130	200	0.18
20...	0730	0.33	147	110	157	0.14
20...	0745	0.39	147	65	157	0.17
20...	0800	0.55	149	65	142	0.21
20...	0815	0.44	149	65	127	0.15
20...	0845	0.44	150	63	139	0.17
20...	0900	0.44	152	100	141	0.17
20...	0915	0.44	153	100	95	0.11
20...	0930	0.39	154	85	105	0.11
20...	0945	0.36	155	95	94	0.09
20...	1000	0.36	157	62	75	0.07
20...	1015	0.33	157	75	87	0.08
20...	1030	0.30	159	75	84	0.07
20...	1045	0.30	159	74	86	0.07
27...	2400	0.55	116	150	323	0.48
28...	0900	0.33	147	50	66	0.06
28...	0915	0.99	138	100	223	0.60
28...	0930	0.99	139	180	399	1.1
28...	0945	0.99	139	120	366	0.98
28...	1000	1.4	131	200	379	1.4
28...	1015	1.5	126	120	404	1.6
28...	1030	1.6	123	170	457	2.0
28...	1045	2.3	116	150	572	3.6
28...	1100	3.6	105	240	1960	19
28...	1115	3.9	126	--	2030	21
28...	1130	3.0	107	250	1180	9.6
28...	1145	2.4	104	160	582	3.8
28...	1200	1.9	105	150	373	1.9
28...	1215	1.6	106	110	248	1.1
28...	1245	1.1	111	100	141	0.42
28...	1300	0.99	113	74	101	0.27
28...	1315	0.88	115	65	86	0.20
28...	1330	0.77	116	60	67	0.14
28...	1345	0.66	118	42	55	0.10

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
JUL						
01...	0100	0.30	147	29	29	0.02
01...	0115	0.33	146	10	23	0.02
01...	0130	0.39	148	15	15	0.02
01...	0145	0.55	146	25	50	0.07
01...	0200	0.66	144	45	68	0.12
01...	0215	1.1	146	75	237	0.70
01...	0230	1.4	182	150	358	1.4
01...	0245	1.4	148	190	378	1.4
01...	0300	1.4	144	150	330	1.2
01...	0315	1.4	141	100	181	0.68
01...	0330	1.2	139	100	146	0.47
01...	0345	1.1	135	85	120	0.36
01...	0400	1.2	133	65	84	0.27
01...	0415	1.4	117	60	78	0.29
01...	0430	1.4	131	66	96	0.36
01...	0445	1.4	132	70	85	0.32
01...	0500	1.4	132	72	61	0.23
01...	0515	1.2	133	40	64	0.21
01...	0545	1.1	132	40	46	0.14
01...	0600	0.99	132	35	43	0.11
01...	0615	0.99	131	29	37	0.10
01...	0630	0.88	130	30	27	0.06
01...	0645	0.88	130	29	38	0.09
02...	0130	0.33	148	20	30	0.03
02...	0145	0.36	148	20	26	0.02
02...	0200	0.36	150	23	29	0.03
02...	0215	0.36	153	44	54	0.05
02...	0230	0.36	155	60	50	0.05
02...	0245	0.36	159	60	50	0.05
02...	0300	0.39	161	55	47	0.05
02...	0315	0.39	163	50	47	0.05
02...	0330	0.39	165	50	46	0.05
02...	0345	0.39	167	40	40	0.04
02...	0400	0.44	166	40	44	0.05
02...	0415	0.44	167	40	40	0.05
02...	0430	0.44	166	30	33	0.04
02...	0445	0.44	166	30	33	0.04
02...	0500	0.44	165	25	36	0.04
02...	0515	0.55	162	27	35	0.05
02...	0530	0.55	162	35	49	0.07
02...	0545	0.66	162	35	42	0.07
02...	0600	0.77	159	25	59	0.12
02...	0615	0.99	157	42	96	0.26
02...	0630	1.1	154	55	117	0.35
02...	0645	1.1	154	57	131	0.39
02...	0700	1.1	155	80	124	0.37
02...	0715	1.1	151	64	110	0.33
02...	1135	0.55	155	15	15	0.02
09...	1330	0.39	87	180	1200	1.3
09...	1345	3.2	160	--	2710	23
09...	1400	3.3	123	250	2010	18
09...	1415	2.3	115	290	1240	7.7
09...	1430	1.6	112	250	711	3.1
09...	1445	1.4	113	220	436	1.6
09...	1515	0.88	115	140	200	0.48
09...	1530	0.77	120	100	118	0.25
09...	1545	0.66	123	84	86	0.15
09...	1600	0.55	124	70	50	0.07
09...	1615	0.44	126	60	31	0.04
09...	1630	0.44	128	55	45	0.05
09...	1645	0.44	129	44	52	0.06
09...	1700	0.39	132	43	29	0.03
09...	1715	0.39	133	32	24	0.02
09...	1730	0.36	134	35	27	0.03
09...	1745	0.36	135	31	27	0.03
09...	1800	0.36	137	25	20	0.02
09...	1830	0.33	139	20	20	0.02
09...	1845	0.33	138	25	21	0.02
09...	1900	0.30	136	24	34	0.03
09...	1915	0.33	138	39	51	0.04
17...	0400	0.33	163	38	84	0.07
17...	0415	0.33	157	25	89	0.08

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
AUG						
19...	1945	1.2	108	--	808	2.6
19...	2000	0.77	116	240	624	1.3
19...	2015	0.44	133	250	116	0.14
19...	2030	0.36	143	250	257	0.25
19...	2045	0.30	148	240	528	0.43
SEP						
26...	2345	3.0	92	190	1850	15
26...	2400	2.0	108	210	1510	8.2
27...	0015	1.2	125	210	1010	3.3
27...	0030	0.77	119	190	669	1.4
27...	0045	0.55	118	170	489	0.73
27...	0100	0.44	123	150	376	0.45
27...	0115	0.39	123	140	313	0.33
27...	0130	0.36	125	140	225	0.22
27...	0145	0.36	125	100	163	0.16
27...	0200	0.33	129	80	134	0.12
27...	0215	0.33	129	70	82	0.07
27...	0230	0.30	136	55	137	0.11
27...	0245	0.30	134	40	96	0.08
27...	0300	0.30	--	45	42	0.03
27...	1800	0.66	142	17	31	0.05
27...	1815	0.99	129	10	155	0.41
27...	1930	0.55	143	60	90	0.13
27...	1945	0.44	144	40	43	0.05
27...	2000	0.39	145	40	71	0.07
27...	2015	0.39	147	40	58	0.06

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV						
05...	1645	1.1	157	6.0	38	0.11
05...	1700	1.2	154	15	57	0.18
05...	1715	1.4	157	30	75	0.28
05...	1730	1.5	152	35	63	0.26
05...	1745	1.5	152	45	57	0.23
05...	1800	1.4	150	38	91	0.34
05...	1815	1.4	148	30	55	0.21
05...	1830	1.4	149	30	46	0.17
05...	1845	1.2	149	30	32	0.10
05...	1900	1.1	146	30	28	0.08
08...	2015	1.1	157	10	27	0.08
08...	2030	1.6	147	9.0	74	0.32
08...	2045	1.9	142	30	127	0.65
08...	2100	2.0	141	20	149	0.80
08...	2115	2.1	134	30	149	0.84
08...	2130	2.1	127	40	147	0.83
08...	2200	3.0	117	15	298	2.4
08...	2215	3.2	114	45	341	2.9
08...	2230	3.4	111	100	369	3.4
08...	2245	3.4	107	100	344	3.2
08...	2300	3.4	106	100	257	2.4
08...	2315	3.4	103	70	198	1.8
08...	2330	3.9	101	9.0	235	2.5
11...	1145	1.1	132	34	69	0.20
11...	1200	1.1	131	20	40	0.12
11...	1215	1.2	131	25	34	0.11
11...	1230	1.2	128	22	34	0.11
11...	1245	1.2	127	17	22	0.07
11...	1300	1.1	124	20	23	0.07
11...	1315	1.1	124	16	16	0.05
11...	1330	1.1	122	16	19	0.06
11...	1345	1.1	122	18	13	0.04
26...	0215	1.1	139	35	55	0.16
26...	0230	1.2	135	30	68	0.22
26...	0245	1.4	132	40	71	0.27
26...	0300	1.5	129	45	72	0.29
26...	0315	1.5	128	20	64	0.26

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
NOV						
26...	0330	1.5	125	30	61	0.25
26...	0345	1.5	125	30	43	0.17
26...	0415	1.4	122	25	27	0.10
26...	0430	1.4	121	15	23	0.09
26...	0445	1.4	121	18	22	0.08
26...	0500	1.4	119	18	16	0.06
26...	0515	1.2	119	15	15	0.05
26...	0530	1.2	119	15	16	0.05
26...	0545	1.2	119	15	17	0.05
26...	0600	1.2	119	10	12	0.04
26...	0615	1.1	119	10	11	0.03
26...	0630	1.1	119	15	11	0.03
26...	0645	1.1	118	10	8	0.02
26...	0700	1.1	117	15	7	0.02
26...	0715	1.1	131	10	11	0.03
26...	0730	1.2	116	10	7	0.02
26...	0800	1.8	109	20	20	0.10
DEC						
02...	0530	1.4	127	40	75	0.28
02...	0545	1.6	122	50	98	0.42
02...	0600	1.6	122	60	102	0.44
02...	0615	1.6	119	50	64	0.28
02...	0630	1.6	115	40	55	0.24
02...	0645	1.6	113	40	33	0.14
02...	0700	1.6	123	30	32	0.14
02...	0715	1.6	112	30	25	0.11
02...	0730	1.5	110	20	22	0.09
02...	0745	1.4	110	20	19	0.07
02...	0800	1.4	110	20	11	0.04
02...	0815	1.4	109	20	14	0.05
02...	0830	1.4	109	20	11	0.04
02...	0845	1.4	108	15	13	0.05
02...	0900	1.4	108	15	7	0.03
02...	0915	1.4	108	15	13	0.05
02...	0930	1.4	108	15	14	0.05
02...	0945	1.5	108	15	13	0.05
02...	1000	1.5	108	15	13	0.05
02...	1015	1.6	107	15	16	0.07
02...	1030	1.6	106	15	17	0.07
02...	1045	1.8	105	10	23	0.11
02...	1100	1.9	104	20	19	0.10
02...	1115	2.0	103	20	35	0.19
09...	0915	1.1	130	10	29	0.09
09...	0930	1.2	127	20	31	0.10
09...	0945	1.2	122	10	31	0.10
09...	1000	1.4	120	10	42	0.16
09...	1015	1.4	118	15	35	0.13
09...	1030	1.5	117	15	37	0.15
09...	1045	1.6	114	15	28	0.12
09...	1100	1.8	112	10	32	0.16
09...	1115	1.9	110	10	49	0.25
09...	1130	1.9	108	20	38	0.19
09...	1145	2.0	107	20	41	0.22
09...	1200	2.0	106	10	37	0.20
09...	1215	2.0	104	15	37	0.20
09...	1230	2.0	104	15	23	0.12
09...	1245	2.1	103	10	30	0.17
09...	1300	2.1	101	10	25	0.14
09...	1315	2.3	100	7.0	30	0.19
09...	1330	2.3	100	10	37	0.23
09...	1345	2.3	100	6.0	25	0.16
09...	1400	2.3	98	15	29	0.18
09...	1415	2.4	99	10	29	0.19
09...	1430	2.4	98	10	25	0.16
09...	1445	2.3	99	10	21	0.13
09...	1500	2.3	98	7.0	20	0.12
24...	1445	1.1	153	100	295	0.88
24...	1500	1.4	146	170	419	1.6
24...	1515	1.6	144	200	517	2.2
24...	1530	2.0	133	200	501	2.7
24...	1545	2.3	123	160	402	2.5
24...	1600	2.6	118	100	296	2.1
24...	1615	2.7	115	80	202	1.5
24...	1630	3.2	113	80	158	1.4
24...	1645	3.3	110	66	117	1.0

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
DEC						
24...	1700	3.6	111	28	99	0.96
24...	1715	3.6	111	40	82	0.80
24...	1730	3.4	110	25	70	0.64
24...	1745	3.3	109	22	60	0.53
24...	1800	3.2	110	26	48	0.41
24...	1830	2.8	110	28	40	0.30
24...	1845	2.7	110	20	38	0.28
24...	1900	2.6	110	25	39	0.27
24...	1915	2.4	112	14	38	0.25
24...	1945	2.3	112	22	29	0.18
24...	2000	2.1	111	19	30	0.17
24...	2015	2.1	111	15	27	0.15
FEB						
02...	0030	1.4	130	20	49	0.19
02...	0045	1.2	139	25	40	0.13
02...	0115	1.1	153	35	65	0.19
02...	0130	1.1	157	50	66	0.20
02...	0145	1.2	159	30	68	0.22
02...	0200	1.2	162	40	64	0.21
02...	0215	1.2	162	35	63	0.20
02...	0230	1.2	161	30	62	0.20
02...	0245	1.4	160	40	60	0.23
02...	0300	1.4	159	40	51	0.19
02...	0315	1.4	156	40	60	0.23
02...	0330	1.5	154	30	68	0.28
02...	0345	1.6	154	30	69	0.30
02...	0400	1.6	153	45	76	0.33
02...	0530	1.6	149	30	47	0.20
02...	0545	1.6	146	20	29	0.13
02...	0600	1.5	144	20	25	0.10
02...	0630	1.4	144	10	20	0.08
MAR						
01...	1145	1.1	148	60	102	0.30
01...	1200	1.1	148	65	104	0.31
01...	1215	1.1	152	60	104	0.31
01...	1230	1.1	152	45	91	0.27
01...	1245	1.1	149	30	83	0.25
01...	1300	1.1	149	40	55	0.16
01...	1330	1.1	144	40	38	0.11
01...	1345	1.1	143	30	44	0.13
01...	1400	1.1	142	20	30	0.09
01...	1415	1.1	140	20	33	0.10
APR						
06...	1345	1.1	131	10	24	0.07
06...	1400	1.1	132	15	22	0.06
06...	1415	1.1	131	15	22	0.06
06...	1430	1.1	130	25	29	0.09
06...	1445	1.2	130	20	29	0.09
06...	1500	1.2	130	25	38	0.12
06...	1515	1.2	131	20	47	0.15
06...	1530	1.2	130	25	39	0.13
06...	1545	1.4	130	20	45	0.17
06...	1600	1.4	130	32	61	0.23
06...	1615	1.4	130	35	75	0.28
06...	1630	1.4	129	35	88	0.33
06...	1645	1.5	128	50	90	0.36
06...	1700	1.6	128	43	96	0.41
06...	1715	1.6	127	45	95	0.41
06...	1730	1.6	127	10	114	0.49
06...	1745	1.6	125	45	107	0.46
06...	1800	1.8	125	45	127	0.62
06...	1815	1.8	122	60	121	0.59
06...	1830	1.8	123	60	118	0.57
06...	1845	1.8	122	50	119	0.58
06...	1900	1.9	123	60	123	0.63
06...	1915	1.9	121	50	128	0.66
06...	1930	1.9	121	60	124	0.64
07...	1330	2.1	105	15	34	0.19
07...	1615	2.4	104	20	57	0.37
07...	1915	2.4	98	24	56	0.36
23...	1900	1.9	129	190	639	3.3
23...	1915	2.0	144	220	830	4.5
23...	1930	2.0	142	200	725	3.9
23...	1945	2.0	133	150	413	2.2
23...	2000	1.9	129	150	251	1.3
23...	2015	1.8	130	100	172	0.84

LITTLE KANAWHA RIVER BASIN

03155410 NORTH BEND RUN NEAR CAIRO, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
SEP						
07...	2115	6.5	106	200	3370	59
07...	2130	9.7	81	170	3020	79
07...	2145	17	81	120	5890	270
07...	2200	11	69	190	2230	66
07...	2215	8.4	67	170	1160	26
07...	2230	9.9	67	210	1050	28
07...	2245	9.9	68	180	1020	27
07...	2300	7.4	71	170	762	15
07...	2315	5.4	71	190	705	10
07...	2330	4.1	79	180	585	6.5
07...	2345	3.2	85	180	590	5.1
07...	2400	2.6	83	210	497	3.5
08...	0015	2.0	85	190	455	2.5
08...	0030	1.8	87	190	402	2.0
08...	0045	1.5	91	150	323	1.3
08...	0100	1.2	94	150	239	0.77
08...	0115	1.1	97	100	185	0.55

LITTLE KANAWHA RIVER BASIN

03155500 HUGHES RIVER AT CISCO, WV

LOCATION.--Lat 39°07'10", long 81°16'40", Ritchie County, Hydrologic Unit 05030203, on right bank 100 ft downstream from confluence of North and South Forks, 1.0 mi upstream from Cisco, 5.0 mi south of Petroleum, and at mile 14.0.

DRAINAGE AREA.--452 mi².

PERIOD OF RECORD.--May 1915 to September 1922 (gage heights only), October 1928 to September 1931, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1305. Prior to October 1965, published as "at Cisco."

REVISED RECORDS.--WSP 893: 1939. WSP 1113: 1947.

GAGE.--Water-stage recorder. Datum of gage is 607.92 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to Sept. 30, 1931, nonrecording gage at site 0.9 mi downstream and Mar. 5, 1939, to Sept. 30, 1945, nonrecording gage at site 1.0 mi downstream, both at datum 2.56 ft lower. Oct. 1, 1945, to June 30, 1946, nonrecording gage at bridge across mouth of North Fork at present datum.

REMARKS.--Estimated daily discharges: Jan. 25-28, Apr. 8, Aug. 12-13. Records good except for period with ice effect, Jan. 25-28, and periods of doubtful gage-height record, Apr. 8 and Aug. 12-13, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--52 years, 573 ft³/s, 17.22 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,700 ft³/s, June 26, 1950, gage height, 32.69 ft; no flow July 26, Aug. 2-6, Sept. 4 to Dec. 5, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 9	1600	9,940	18.54	No other peak greater than base discharge.			

Minimum discharge, 2.9 ft³/s, Aug. 19-22, gage height, 1.61 ft.

DISCHARGE, 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	189	24	352	284	1160	1230	1610	274	14	27	5.6	16
2	807	22	1610	281	2160	1130	1130	228	17	23	5.9	13
3	483	21	2810	293	2040	726	1010	210	73	20	6.6	9.7
4	258	22	1350	273	894	529	1020	297	51	17	8.7	7.1
5	339	283	741	261	577	420	1240	327	34	16	34	5.7
6	402	2700	501	250	455	361	2270	251	25	20	28	5.0
7	201	964	393	266	397	313	4500	206	18	19	20	28
8	127	670	333	274	355	279	e5600	175	14	18	28	664
9	87	6890	1500	245	310	261	2170	148	11	17	26	189
10	66	2980	3350	232	232	233	991	123	9.9	16	21	85
11	52	1410	1410	239	210	188	651	105	8.1	91	19	48
12	42	2410	751	225	244	161	586	91	8.0	56	e12	33
13	39	864	509	192	373	146	860	79	10	36	e6.3	31
14	130	473	359	171	329	133	628	70	21	57	5.5	86
15	325	336	298	170	279	125	548	68	27	35	4.4	64
16	253	267	261	187	231	129	1130	67	37	27	3.8	43
17	150	219	228	194	210	132	1800	62	43	24	3.4	30
18	104	180	235	194	216	124	1200	52	25	23	3.7	27
19	77	265	262	1290	228	109	717	48	18	17	3.0	53
20	59	393	230	3280	231	103	528	45	14	14	3.0	67
21	47	966	193	1210	219	97	426	44	11	12	3.0	56
22	38	794	166	686	232	90	359	39	10	9.5	3.6	36
23	33	485	144	548	1270	85	387	34	422	7.9	10	26
24	30	408	697	360	1070	80	1900	30	472	6.8	9.6	20
25	29	542	3550	e400	611	86	1090	25	104	6.0	8.6	15
26	32	2350	1780	e300	455	146	609	21	81	6.6	14	11
27	34	3480	870	e220	377	189	450	18	126	6.0	14	9.5
28	31	1200	585	e180	410	154	388	20	84	5.3	12	7.9
29	28	648	445	188	---	132	341	21	49	4.9	18	6.8
30	27	456	379	1070	---	126	307	16	35	4.3	13	23
31	25	---	333	2590	---	1070	---	16	---	3.9	9.0	---
TOTAL	4544	32722	26625	16553	15775	9087	36446	3210	1872.0	646.2	362.7	1715.7
MEAN	147	1091	859	534	563	293	1215	104	62.4	20.8	11.7	57.2
MAX	807	6890	3550	3280	2160	1230	5600	327	472	91	34	664
MIN	25	21	144	170	210	80	307	16	8.0	3.9	3.0	5.0
CFSM	.32	2.41	1.90	1.18	1.25	.65	2.69	.23	.14	.05	.03	.13
IN.	.37	2.69	2.19	1.36	1.30	.75	3.00	.26	.15	.05	.03	.14

CAL YR 1986 TOTAL 184532.5 MEAN 506 MAX 8670 MIN 5.5 CFSM 1.12 IN. 15.19
WTR YR 1987 TOTAL 149558.6 MEAN 410 MAX 6890 MIN 3.0 CFSM .91 IN. 12.31

e Estimated

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV

LOCATION.--Lat 39°13'45", long 81°13'27", Ritchie County, Hydrologic Unit 05030203, on right bank of unnamed run, 1.0 mi south of Nutter Farm on Secondary Route 18, 1,000 ft upstream from confluence with Goose Creek.

DRAINAGE AREA.--0.07 mi².

PERIOD OF RECORD.--June 1985 to September 1987 (discontinued).

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 760 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12 ft³/s, Apr. 6, 1986, gage height, 2.97 ft; no flow many days each year.

EXTREMES FOR CURRENT YEAR.--

WATER YEAR 1985.--Maximum discharge during period June to September, 10 ft³/s, July 15, gage height, 2.87 ft; no flow for many days.

WATER YEAR 1986.--Maximum discharge, 12 ft³/s, Apr. 6, gage height, 2.97 ft; no flow for many days during the year.

WATER YEAR 1987.--Manimum discharge, 3.7 ft³/s, gage height, 2.51 ft; no flow for many days during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	.00	.00	.00
2	---	---	---	---	---	---	---	---	---	.00	.00	.00
3	---	---	---	---	---	---	---	---	---	.01	.00	.00
4	---	---	---	---	---	---	---	---	---	.01	.00	.00
5	---	---	---	---	---	---	---	---	---	.00	.00	.00
6	---	---	---	---	---	---	---	---	---	.00	.00	.00
7	---	---	---	---	---	---	---	---	---	.00	.00	.00
8	---	---	---	---	---	---	---	---	---	.00	.00	.00
9	---	---	---	---	---	---	---	---	---	.00	.00	.00
10	---	---	---	---	---	---	---	---	---	.03	.00	.00
11	---	---	---	---	---	---	---	---	---	.00	.00	.00
12	---	---	---	---	---	---	---	---	---	.00	.00	.00
13	---	---	---	---	---	---	---	---	---	.00	.00	.00
14	---	---	---	---	---	---	---	---	.00	.00	.00	.00
15	---	---	---	---	---	---	---	---	.00	.40	.01	.00
16	---	---	---	---	---	---	---	---	.00	.02	.03	.00
17	---	---	---	---	---	---	---	---	.00	.01	.00	.00
18	---	---	---	---	---	---	---	---	.00	.01	.00	.00
19	---	---	---	---	---	---	---	---	.02	.01	.00	.00
20	---	---	---	---	---	---	---	---	.01	.01	.00	.00
21	---	---	---	---	---	---	---	---	.00	.01	.00	.00
22	---	---	---	---	---	---	---	---	.00	.01	.00	.00
23	---	---	---	---	---	---	---	---	.00	.01	.00	.00
24	---	---	---	---	---	---	---	---	.00	.01	.01	.00
25	---	---	---	---	---	---	---	---	.00	.01	.02	.00
26	---	---	---	---	---	---	---	---	.00	.00	.00	.00
27	---	---	---	---	---	---	---	---	.00	.01	.00	.00
28	---	---	---	---	---	---	---	---	.00	.01	.00	.00
29	---	---	---	---	---	---	---	---	.00	.00	.00	.00
30	---	---	---	---	---	---	---	---	.00	.00	.00	.00
31	---	---	---	---	---	---	---	---	---	.00	.00	---
TOTAL	---	---	---	---	---	---	---	---	---	0.58	0.07	0.00
MEAN	---	---	---	---	---	---	---	---	---	.019	.002	.00
MAX	---	---	---	---	---	---	---	---	---	.40	.03	.00
MIN	---	---	---	---	---	---	---	---	---	.00	.00	.00
CFSM	---	---	---	---	---	---	---	---	---	.27	.03	.00
IN.	---	---	---	---	---	---	---	---	---	.31	.04	.00

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

DISCHARGE, 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	.00	.00	.05	.03	.05	.07	.05	.04	.02	.21	.00	.00
2	.00	.00	.03	.03	.07	.10	.06	.04	.02	.33	.00	.00
3	.00	.21	.06	.03	.05	.13	.06	.04	.02	.06	.00	.00
4	.00	2.2	.06	.03	1.3	.21	.05	.04	.02	.02	.00	.00
5	.00	.91	.04	.03	.59	.13	.04	.03	.02	.02	.00	.00
6	.00	.12	.09	.02	.21	.16	1.0	.03	.02	.02	.00	.00
7	.00	.04	.07	.02	.54	.13	.43	.02	.02	.02	.00	.00
8	.00	.05	.04	.02	.18	.10	.10	.02	.02	.02	.01	.00
9	.00	.03	.03	.02	.09	.17	.13	.03	.02	.06	.00	.00
10	.00	.02	.03	.02	.07	.23	.12	.03	.02	.02	.01	.00
11	.00	.03	.12	.02	.06	.40	.13	.03	.02	.02	.00	.00
12	.00	.12	.26	.02	.06	.30	.15	.03	.02	.02	.00	.01
13	.00	.12	.61	.02	.06	.39	.08	.03	.01	.02	.00	.00
14	.00	.07	.19	.01	.06	1.1	.08	.02	.01	.01	.00	.00
15	.01	.04	.07	.01	.06	.34	.10	.02	.01	.01	.00	.00
16	.01	.11	.06	.01	.07	.15	.10	.02	.00	.01	.00	.00
17	.00	.10	.04	.02	1.1	.09	.10	.02	.00	.03	.00	.00
18	.00	.04	.03	.02	.40	.06	.09	.03	.00	.01	.00	.00
19	.00	.03	.03	.19	.27	.08	.08	.06	.00	.00	.00	.00
20	.20	.03	.02	.23	.24	.08	.09	.45	.11	.00	.00	.00
21	.05	.02	.02	.16	.19	.07	.20	.03	.02	.00	.00	.00
22	.02	.04	.02	.47	.14	.06	.27	.04	.02	.00	.00	.00
23	.01	.03	.02	.24	.09	.06	.18	.03	.01	.00	.03	.00
24	.03	.02	.02	.12	.08	.04	.12	.03	.01	.00	.00	.00
25	.04	.03	.02	.03	.07	.03	.10	.02	.00	.00	.00	.00
26	.01	.72	.02	.03	.08	.04	.08	.02	.00	.00	.00	.07
27	.01	1.6	.02	.05	.08	.08	.08	.02	.00	.00	.00	.11
28	.01	.91	.02	.04	.07	.07	.07	.02	.13	.00	.00	.02
29	.00	.20	.02	.04	---	.06	.06	.02	.02	.00	.00	.01
30	.00	.08	.02	.02	---	.06	.04	.02	.03	.00	.00	.00
31	.00	---	.03	.02	---	.05	---	.02	---	.00	.00	---
TOTAL	0.40	7.92	2.21	2.15	6.33	5.06	4.24	1.35	0.64	0.91	0.05	0.22
MEAN	.013	.26	.071	.069	.23	.16	.14	.044	.021	.029	.002	.007
MAX	.20	2.2	.61	.47	1.3	1.1	1.0	.45	.15	.33	.03	.11
MIN	.00	.00	.02	.01	.05	.03	.04	.02	.00	.00	.00	.00
CFSM	.18	3.77	1.02	.99	3.23	2.33	2.02	.62	.30	.42	.02	.10
IN.	.21	4.21	1.17	1.14	3.36	2.69	2.25	.72	.34	.43	.03	.12

WTR YR 1986 TOTAL 31.48 MEAN .036 MAX 2.2 MIN .00 CFSM 1.23 IN. 16.73

DISCHARGE, 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	.10	.00	.03	.04	.12	.55	.13	.08	.02	.01	.00	.00
2	.03	.00	1.1	.04	.49	.22	.17	.08	.01	.02	.00	.00
3	.01	.00	.29	.04	.13	.11	.15	.20	.01	.01	.00	.00
4	.03	.00	.15	.04	.06	.09	.17	.24	.01	.00	.01	.00
5	.02	.23	.08	.04	.05	.03	.28	.13	.00	.00	.01	.00
6	.01	.08	.06	.04	.04	.03	.90	.11	.00	.02	.00	.00
7	.00	.02	.06	.04	.04	.06	1.6	.10	.00	.02	.00	.13
8	.00	.55	.03	.04	.05	.06	.45	.03	.00	.01	.00	.03
9	.00	.98	.99	.04	.06	.04	.19	.03	.00	.01	.00	.02
10	.00	.03	.27	.04	.05	.06	.12	.07	.00	.01	.01	.02
11	.00	.23	.11	.03	.04	.06	.11	.06	.00	.01	.00	.01
12	.00	.07	.07	.03	.05	.06	.13	.06	.00	.01	.00	.02
13	.00	.01	.06	.03	.04	.06	.13	.03	.00	.01	.00	.03
14	.03	.01	.05	.03	.04	.06	.10	.03	.00	.01	.00	.03
15	.01	.00	.04	.04	.04	.06	6.13	.02	.00	.01	.00	.03
16	.01	.00	.04	.03	.04	.06	.19	.02	.00	.00	.00	.02
17	.00	6.02	.03	.03	.04	.06	.18	.02	.00	.00	.00	.02
18	.00	6.02	.05	.04	.05	.04	.12	.02	.00	.00	.00	.03
19	.00	.02	.04	.81	.16	.06	.10	.03	.00	.00	.00	.02
20	.00	.10	.04	.19	.06	.03	.10	.02	.00	.00	.00	.02
21	.00	.12	.03	.08	.06	.04	.10	.02	.00	.00	.00	.02
22	.00	.04	.03	.06	.07	.04	.10	.01	.00	.00	.00	.02
23	.00	.03	.03	.04	.19	.04	.18	.01	.00	.00	.02	.02
24	.00	.04	.58	.03	.07	.04	.27	.01	.00	.00	.01	.01
25	.00	.06	.38	.02	.05	.05	.13	.01	.00	.00	.00	.00
26	.00	1.2	.14	.02	.04	.06	.10	.01	.00	.00	.00	.00
27	.00	.15	.08	.02	.05	.06	.10	.01	.00	.00	.00	.00
28	.00	.04	.06	.02	.40	.06	.12	.01	.00	.00	.00	.00
29	.00	.03	.04	.04	---	.06	.09	.00	.00	.00	.02	.00
30	.00	.03	.04	.49	---	.08	.08	.00	.00	.00	.01	.04
31	.00	---	.04	.18	---	.25	---	.00	---	.00	.00	---
TOTAL	0.25	4.16	5.09	2.66	2.48	2.70	6.72	1.57	0.05	0.16	0.09	0.61
MEAN	.008	.14	.16	.086	.089	.087	.22	.051	.002	.005	.003	.020
MAX	.10	1.2	1.1	.81	.49	.55	1.6	.24	.02	.02	.02	.13
MIN	.00	.00	.03	.02	.04	.04	.08	.00	.00	.00	.00	.00
CFSM	.12	1.93	2.35	1.23	1.27	1.24	3.20	.72	.02	.07	.04	.27
IN.	.13	2.21	2.70	1.41	1.32	1.43	3.57	.83	.03	.09	.03	.32

CAL YR 1986 TOTAL 30.45 MEAN .053 MAX 1.3 MIN .00 CFSM 1.19 IN. 16.18
WTR YR 1987 TOTAL 26.54 MEAN .073 MAX 1.6 MIN .00 CFSM 1.04 IN. 14.10

e Estimated

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	.10	.08	.00
2	---	---	---	---	---	---	---	---	---	.31	.00	.00
3	---	---	---	---	---	---	---	---	---	.58	.00	.00
4	---	---	---	---	---	---	---	---	---	.00	.00	.00
5	---	---	---	---	---	---	---	---	---	.01	.00	.00
6	---	---	---	---	---	---	---	---	---	.25	.01	.00
7	---	---	---	---	---	---	---	---	---	.01	.05	.00
8	---	---	---	---	---	---	---	---	---	.03	.01	.00
9	---	---	---	---	---	---	---	---	---	.00	.00	.00
10	---	---	---	---	---	---	---	---	---	.75	.00	.00
11	---	---	---	---	---	---	---	---	---	.00	.00	.00
12	---	---	---	---	---	---	---	---	---	.00	.00	.00
13	---	---	---	---	---	---	---	---	---	.00	.00	.00
14	---	---	---	---	---	---	---	---	e-.02	.00	.21	.00
15	---	---	---	---	---	---	---	---	.00	2.85	.74	.00
16	---	---	---	---	---	---	---	---	.05	.00	.71	.00
17	---	---	---	---	---	---	---	---	.00	.00	.00	.00
18	---	---	---	---	---	---	---	---	.00	.00	.00	.00
19	---	---	---	---	---	---	---	---	.79	.00	.00	.00
20	---	---	---	---	---	---	---	---	.00	.00	.16	.00
21	---	---	---	---	---	---	---	---	.00	.21	.00	.00
22	---	---	---	---	---	---	---	---	.25	.02	.00	.00
23	---	---	---	---	---	---	---	---	.00	.00	.00	.00
24	---	---	---	---	---	---	---	---	.01	.00	.42	.31
25	---	---	---	---	---	---	---	---	.00	.00	.41	.00
26	---	---	---	---	---	---	---	---	.00	.25	.03	.34
27	---	---	---	---	---	---	---	---	.00	.01	.00	.00
28	---	---	---	---	---	---	---	---	.00	.00	.00	.00
29	---	---	---	---	---	---	---	---	.00	.00	.00	.00
30	---	---	---	---	---	---	---	---	.00	.00	.02	.00
31	---	---	---	---	---	---	---	---	.01	.00	.00	---
TOTAL	---	---	---	---	---	---	---	---	p1.10	5.43	2.85	0.65

e Estimated

p-partial year TOTAL 10.03

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.59	.00	e-.27	.00	.02	.06	.00	.11	.00	.45	.00	.28
2	.00	.19	e-.00	.00	.00	.01	.00	.00	.05	.85	.00	.00
3	.00	.93	e-.00	.01	.24	.08	.00	.00	.00	.00	.00	.00
4	.00	2.07	e-.00	.00	.36	.07	.00	.00	.01	.00	.00	.21
5	.08	.62	e-.00	.00	.33	.01	.05	.00	.03	.00	.00	.00
6	.00	.07	e-.33	.03	.25	.27	1.42	.19	.00	.00	.00	.00
7	.00	.17	e-.07	.00	.26	.00	.02	.02	.16	.00	.75	.03
8	.00	.01	e-.00	.00	.01	.07	.02	.00	.00	.00	.10	.00
9	.00	.00	e-.00	.00	.00	.00	.28	.00	.00	.95	.01	.00
10	.00	.00	e-.00	.00	.00	.41	.03	.00	.00	.00	.43	.00
11	.00	.25	.43	.00	.00	.00	.00	.00	.04	.05	.02	.00
12	.00	.26	.07	.00	.00	.32	.00	.00	.45	.08	.00	.44
13	.03	.19	.54	.00	.00	.25	.00	.17	.00	.06	.00	.00
14	.53	.04	.00	.00	.00	.77	.00	.10	.00	.00	.00	.00
15	.22	.20	.00	.00	.01	.05	.26	.00	.02	.00	.00	.00
16	.00	.19	.04	.00	.25	.00	.04	.06	.03	.57	.06	.06
17	.00	.01	.00	.00	.55	.00	.16	.28	.03	.41	.77	.00
18	.00	e-.00	.00	.03	.00	.03	.00	.45	.00	.00	.00	.10
19	.11	e-.00	.00	.64	.25	.09	.00	.62	.00	.00	.26	.07
20	2.15	e-.00	.00	.00	.02	.00	.50	.43	1.77	.02	.02	.00
21	.21	e-.00	.00	.24	.16	.00	.34	.00	.00	.00	.00	.00
22	.00	e-.20	.02	.34	.02	.00	.13	.02	.00	.00	.00	.04
23	.02	e-.08	.31	.09	.00	.03	.06	.00	.00	.00	1.03	.01
24	.58	e-.00	.03	.00	.00	.00	.00	.00	.00	.00	.02	.12
25	.00	e-.00	.00	.11	.25	.00	.13	.00	.00	.00	.01	.00
26	.00	e-.45	.00	.00	.03	.00	.08	.00	.00	.31	.00	1.65
27	.00	e1.08	.09	.00	.03	.13	.00	.26	.15	.00	.27	.92
28	.00	e1.06	.00	.00	.04	.00	.00	.00	1.42	.00	.00	.00
29	.00	e-.09	.00	.05	---	.03	.00	.00	.00	.00	.00	.02
30	.17	e-.00	.00	.03	---	.00	.00	.03	.56	.00	.00	.00
31	.01	---	.00	.03	---	.00	---	.00	.00	.00	.00	---
TOTAL	4.30	8.81	1.70	1.57	3.59	2.68	3.30	2.79	4.32	3.54	5.75	5.91

WTR YR 1986 TOTAL 45.47

e Estimated

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

RAINFALL ACCUMULATED (INCHES), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.00	.00	.21	.03	.28	.27	.15	.00	.82	e.52	.00	.00
2	.02	.00	.89	.01	.17	.06	.21	.02	.00	e.57	.00	.00
3	.00	.00	.15	.07	.00	.00	.11	.59	.00	e.21	.74	.00
4	.36	.28	.02	.09	.00	.00	.00	.00	.00	.00	.02	.00
5	.00	1.02	.00	.08	.00	.00	.52	.00	.00	.00	.12	.14
6	.00	.01	.00	.00	.03	.00	.79	.00	.00	.00	.00	.00
7	.00	.08	.00	.00	.00	.00	.03	.00	.00	e.85	.00	e2.40
8	.00	1.45	.30	.00	.04	.00	.00	.00	.00	.00	.00	e.25
9	.00	.33	.64	.00	.00	.00	.00	.00	.00	.10	.37	e.05
10	.00	.00	.00	.05	.00	.00	.00	.00	.00	.00	.00	e.00
11	.00	.54	.00	.00	.00	.00	.00	.00	.00	.34	.00	e.00
12	.02	.00	.00	.00	.12	.00	.33	.00	.56	.00	.00	e.00
13	.44	.00	.00	.05	.00	.00	.00	.01	.02	.04	.00	e.20
14	.23	.00	.00	.00	.00	.02	.00	.00	.00	.21	.00	e.50
15	.01	.00	.00	.11	.00	.08	.34	.27	.00	.00	.00	e.00
16	.00	.00	.02	.00	.03	.13	.18	.00	.00	.00	.00	e.00
17	.00	.00	.05	.00	.03	.00	.07	.00	.00	.00	.18	e.25
18	.00	.16	.13	.09	.20	.03	.00	.23	.00	.00	.02	e.00
19	.00	.00	.00	.73	.00	.00	.00	.13	.00	.00	.00	e.00
20	.02	.47	.00	.00	.00	.00	.00	.00	.08	.00	.00	e.05
21	.00	.00	.00	.00	.00	.00	.00	.00	.03	.00	.00	e.04
22	.00	.02	.00	.00	.35	.00	.00	.00	.11	.00	.75	e.14
23	.00	.13	.00	.00	.05	.00	.71	.00	.17	.14	.01	e.00
24	.00	.07	.86	.00	.00	.00	.02	.00	.00	.02	.01	e.00
25	.11	.40	.07	.00	.00	.24	.00	.00	.09	.00	.00	e.00
26	.14	.73	.00	.00	.00	.00	.00	.00	e.52	.26	.06	e.00
27	.02	.00	.00	.01	.03	.00	.10	.00	.00	.01	.04	e.00
28	.00	.00	.00	.00	.59	.07	.01	.00	.00	.00	.44	e.00
29	.00	.00	.00	.48	---	.00	.18	.00	.02	.00	.01	e.00
30	.00	.02	.06	.06	---	.48	.00	.00	.00	.00	.00	e.65
31	.00	---	.00	.04	---	.17	---	.00	---	.00	.00	---
TOTAL	2.37	5.71	3.40	1.90	1.92	1.55	3.75	1.25	2.42	3.27	2.77	4.67

WTR YR 1987 TOTAL 34.98

e Estimated

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1985 to September 1987 (discontinued).

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
MEAN DAILY VALUES

[illegible]

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN DAILY VALUES

[illegible]

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	417	---	---	---	---	e10	---	---	e43	---	---	---
2	e15	---	45	---	e35	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	e24	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	62	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	e33	---	---
7	---	---	---	---	---	---	e18	---	---	---	---	355
8	---	e42	e6	---	---	---	15	---	---	---	---	41
9	---	e17	38	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	23	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	e18
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	e56	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	e18	---	---	---	---	---
24	---	---	170	---	---	---	---	---	---	---	---	---
25	---	254	e5	---	---	---	---	---	---	---	---	---
26	---	e260	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	90	---	---	---	---	---	---	---
29	---	---	---	24	---	---	---	---	---	---	---	---
30	---	---	---	e33	---	---	---	---	---	---	---	---
31	---	---	---	---	---	e28	---	---	---	---	---	---

e Estimated

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	.16	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	.17	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	e9.8	.05	---
16	---	---	---	---	---	---	---	---	---	---	.22	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	e.18	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	e.16	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
DAILY VALUESS

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	.34	---	---
2	---	---	---	---	---	---	---	---	---	e.41	---	---
3	---	.19	---	---	.00	---	---	---	---	e.00	---	---
4	---	4.7	---	---	.76	---	---	---	---	---	---	---
5	---	.13	---	---	.06	---	---	---	---	---	---	---
6	---	.00	---	---	.02	---	8.7	---	---	---	---	---
7	---	---	---	---	.05	---	.06	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	e.01	---	---	---	.28	---	---
10	---	---	---	---	---	.11	---	---	---	---	---	---
11	---	---	.04	---	---	.02	---	---	---	---	---	---
12	---	.04	e.01	---	---	.06	---	---	---	---	---	---
13	---	---	---	---	---	e.02	---	---	---	---	---	---
14	---	---	---	---	---	e.91	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	.02	---	---	---	---	---	---	---	e.00	---	---
17	---	.00	---	---	.34	---	---	---	---	.08	---	---
18	---	---	---	---	e.01	---	---	.17	---	---	---	---
19	---	---	---	.06	.10	---	---	.19	---	---	---	---
20	.20	---	---	.01	---	---	---	.61	.69	---	---	---
21	.00	---	---	.00	---	---	---	e.05	---	---	---	---
22	---	---	---	e.02	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	.20	---
24	.04	---	---	---	---	---	---	---	---	---	e.00	---
25	.00	---	---	---	---	---	---	---	---	---	---	---
26	---	.73	---	---	---	---	---	---	---	---	---	.82
27	---	.35	---	---	---	---	---	---	---	---	---	.17
28	---	.13	---	---	---	---	---	---	.94	---	---	e.00
29	---	---	---	---	---	---	---	---	e.00	---	---	---
30	---	---	---	---	---	---	---	---	.13	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---

e Estimated

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.29	---	---	---	---	e.01	---	---	e.01	---	---	---
2	e.00	---	.18	---	e.05	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	e.02	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	.04	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	e.01	---	---
7	---	---	---	---	---	---	e.08	---	---	---	---	.43
8	---	e.03	e.00	---	---	---	.02	---	---	---	---	.03
9	---	e.04	.08	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	.02	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	e.00
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	e.15	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	e.20	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	e.01	---	---	---	---	---
24	---	---	.28	---	---	---	---	---	---	---	---	---
25	---	.16	e.00	---	---	---	---	---	---	---	---	---
26	---	e1.1	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	.24	---	---	---	---	---	---	---
29	---	---	---	.02	---	---	---	---	---	---	---	---
30	---	---	---	e.04	---	---	---	---	---	---	---	---
31	---	---	---	---	---	e.02	---	---	---	---	---	---

e Estimated

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
JUL						
03...	1730	0.28	206	>1000	7510	5.7
03...	1745	0.20	235	>1000	7960	4.3
10...	0800	0.40	190	>1000	7270	7.9
10...	0815	0.40	174	>1000	5040	5.4
10...	0830	0.28	165	>1000	3790	2.9
10...	0845	0.19	166	>1000	2490	1.3
AUG						
15...	1900	0.19	237	>1000	4470	2.3
16...	1115	0.33	152	>1000	5860	5.2
16...	1130	0.30	121	>1000	2800	2.3
16...	1145	0.20	124	>1000	3370	1.8
16...	1300	0.22	157	>1000	2500	1.5
16...	1315	0.33	116	>1000	4100	3.7
16...	1330	0.24	119	>1000	2860	1.9
16...	1345	0.17	128	>1000	2180	1.0

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT						
20...	0530	0.26	269	350	815	0.57
20...	0545	0.26	239	360	1100	0.77
20...	0600	0.20	216	340	1060	0.57
20...	0615	0.19	213	370	947	0.49
20...	0630	0.19	206	370	780	0.40
20...	0645	0.30	201	370	612	0.50
20...	0700	0.28	193	370	592	0.45
20...	0715	0.22	188	370	599	0.36
20...	0730	0.17	184	350	569	0.26
20...	1000	0.17	214	180	210	0.10
20...	1015	0.20	210	190	205	0.11
20...	1030	0.22	206	210	262	0.16
20...	1045	0.26	202	250	313	0.22
20...	1100	0.26	196	290	370	0.26
20...	1115	0.22	192	300	389	0.23
20...	1130	0.20	189	300	406	0.22
20...	1145	0.20	185	310	381	0.21
20...	1200	0.33	188	280	370	0.33
20...	1215	0.45	184	350	692	0.84
20...	1230	0.45	164	360	1090	1.3
20...	1245	0.40	147	350	990	1.1
20...	1300	0.40	143	380	887	0.96
20...	1315	0.40	146	360	691	0.75
20...	1330	0.75	162	340	690	1.4
20...	1430	0.40	148	280	379	0.41
20...	1445	0.40	152	240	288	0.31
20...	1500	0.40	151	210	252	0.27
20...	1530	0.40	146	210	260	0.28
20...	1545	0.40	145	200	243	0.26
20...	1600	0.40	133	200	235	0.25
20...	1615	0.40	138	240	285	0.31
20...	1630	0.40	144	200	236	0.25
20...	1645	0.40	147	180	191	0.21
20...	1700	0.40	146	160	178	0.19
20...	1715	0.36	149	140	152	0.15
20...	1730	0.36	148	120	131	0.13
20...	1745	0.36	151	110	123	0.12
20...	1800	0.33	147	100	113	0.10
20...	1815	0.30	153	95	104	0.08
20...	1830	0.30	155	90	98	0.08
20...	1845	0.28	155	90	98	0.07
20...	1900	0.26	148	85	100	0.07
20...	1915	0.24	158	84	88	0.06
20...	1930	0.22	160	70	84	0.05
20...	1945	0.22	161	70	78	0.05
20...	2000	0.20	163	65	75	0.04
20...	2015	0.19	164	70	69	0.03

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT						
24...	2200	0.28	190	21	726	0.55
24...	2215	0.22	170	11	1220	0.72
24...	2230	0.17	165	16	1010	0.46
NOV						
03...	1530	0.22	210	55	582	0.35
03...	1545	0.24	190	36	702	0.45
03...	1600	0.24	180	36	400	0.26
03...	1615	0.20	175	45	467	0.25
03...	1630	0.20	170	60	412	0.22
03...	1645	0.24	170	85	322	0.21
03...	1700	0.26	175	95	208	0.15
03...	1715	0.33	175	95	173	0.15
03...	1730	0.40	160	80	382	0.41
03...	1745	0.60	145	35	1300	2.1
03...	1800	1.0	132	40	955	2.6
03...	1815	1.1	137	45	665	2.0
03...	1830	1.1	140	75	439	1.3
03...	1845	1.1	145	90	360	1.1
03...	1900	1.1	136	90	212	0.63
03...	1915	1.0	132	95	220	0.59
03...	1930	1.0	130	95	211	0.57
03...	1945	0.90	133	85	115	0.28
03...	2000	0.90	134	85	124	0.30
03...	2015	0.75	134	80	74	0.15
03...	2030	0.60	134	70	120	0.19
04...	1045	2.8	85	55	664	5.0
04...	1100	3.5	95	10	2040	19
04...	1115	4.6	74	20	1370	17
04...	1130	5.6	75	21	1800	27
04...	1145	7.1	65	5.0	3010	58
04...	1200	9.2	62	8.0	2340	58
04...	1215	10	55	15	1900	51
04...	1230	10	56	22	1420	38
04...	1245	10	56	50	1060	29
04...	1300	9.4	55	55	900	23
04...	1315	9.0	55	60	787	19
04...	1330	8.4	57	75	586	13
04...	1345	7.5	58	80	430	8.7
04...	1400	6.5	58	75	351	6.2
04...	1415	6.0	60	70	296	4.8
04...	1430	5.5	64	75	206	3.1
04...	1445	4.8	64	70	189	2.4
04...	1500	4.1	65	65	182	2.0
04...	1515	3.7	67	60	152	1.5
04...	1530	3.4	68	55	123	1.1
04...	1545	3.0	68	55	108	0.87
04...	1600	2.9	69	60	96	0.75
04...	1615	2.8	72	65	112	0.85
04...	1630	2.6	72	55	99	0.69
05...	1330	0.40	101	44	42	0.04
05...	1345	0.40	102	49	44	0.05
05...	1400	0.40	102	34	28	0.03
05...	1415	0.40	103	22	22	0.02
05...	1430	0.40	103	25	20	0.02
05...	1445	0.40	103	30	19	0.02
05...	1500	0.36	103	24	18	0.02
05...	1515	0.36	104	24	15	0.01
05...	1530	0.36	104	26	16	0.02
05...	1545	0.36	104	22	14	0.01
05...	1600	0.36	104	22	21	0.02
05...	1615	0.36	106	24	15	0.01
05...	1630	0.33	105	22	18	0.02
05...	1645	0.33	105	22	21	0.02
05...	1700	0.33	104	21	22	0.02
05...	1715	0.33	105	18	18	0.02
05...	1730	0.33	105	21	19	0.02
05...	1745	0.33	106	23	18	0.02
05...	1800	0.30	106	22	19	0.01
05...	1815	0.30	106	20	17	0.01
05...	1830	0.30	107	21	18	0.01
05...	1845	0.30	107	20	20	0.02
05...	1900	0.30	107	22	14	0.01
05...	1915	0.30	107	24	16	0.01

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV						
12...	0645	0.20	191	>1000	3100	1.7
12...	0700	0.19	185	28	350	0.18
12...	1130	0.17	185	41	40	0.02
12...	1145	0.17	180	33	34	0.02
12...	1200	0.17	165	35	33	0.01
12...	1215	0.17	178	35	32	0.01
12...	1230	0.17	176	40	27	0.01
12...	1245	0.17	176	30	38	0.02
12...	1300	0.17	174	35	28	0.01
12...	1315	0.17	173	40	34	0.02
12...	1330	0.17	174	35	34	0.02
12...	1345	0.17	175	40	34	0.02
12...	1400	0.17	165	38	28	0.01
12...	1415	0.17	170	28	30	0.01
12...	1430	0.17	170	32	28	0.01
12...	1445	0.17	171	33	31	0.01
12...	1500	0.17	169	26	28	0.01
12...	1515	0.17	168	29	24	0.01
12...	1530	0.17	167	29	23	0.01
12...	1545	0.17	160	27	24	0.01
12...	1600	0.17	167	29	16	0.01
12...	1615	0.17	150	32	20	0.01
12...	1630	0.17	166	29	21	0.01
12...	1645	0.17	166	26	25	0.01
16...	1815	0.17	156	26	50	0.02
16...	1830	0.26	155	100	177	0.12
16...	1845	0.20	152	300	463	0.25
16...	1900	0.19	149	340	465	0.24
16...	1915	0.19	148	310	270	0.14
16...	1930	0.17	149	250	267	0.12
16...	1945	0.17	151	190	142	0.06
16...	2000	0.17	154	150	112	0.05
16...	2015	0.17	154	120	87	0.04
16...	2030	0.17	155	100	83	0.04
16...	2045	0.17	155	60	59	0.03
16...	2100	0.17	151	60	39	0.02
16...	2115	0.17	157	36	31	0.01
16...	2130	0.17	155	36	28	0.01
16...	2145	0.17	155	36	31	0.01
16...	2200	0.17	154	21	14	0.01
16...	2215	0.17	155	32	27	0.01
16...	2230	0.17	131	31	23	0.01
16...	2245	0.17	153	23	19	0.01
16...	2300	0.17	153	28	22	0.01
16...	2315	0.17	152	26	23	0.01
16...	2330	0.17	152	24	23	0.01
16...	2345	0.17	156	26	24	0.01
16...	2400	0.17	155	18	22	0.01
26...	0800	0.28	179	260	517	0.39
26...	0815	0.30	163	360	875	0.71
26...	0830	0.28	154	370	930	0.70
26...	0845	0.26	153	370	892	0.63
26...	0900	0.28	156	370	620	0.47
26...	0915	0.28	172	290	401	0.30
26...	0930	0.30	183	200	231	0.19
26...	0945	0.30	189	150	175	0.14
26...	1000	0.30	179	110	128	0.10
26...	1015	0.33	173	100	131	0.12
26...	1030	0.36	166	110	174	0.17
26...	1045	0.36	159	140	193	0.19
26...	1100	0.36	155	130	126	0.12
26...	1115	0.36	155	110	127	0.12
26...	1130	0.36	150	80	88	0.09
26...	1145	0.36	152	80	80	0.08
26...	1200	0.36	149	70	64	0.06
26...	1215	0.36	146	61	65	0.06
26...	1230	0.36	145	58	60	0.06
26...	1245	0.36	143	49	57	0.05
26...	1300	0.36	143	51	49	0.05
26...	1315	0.36	141	45	48	0.05
26...	1330	0.36	141	40	48	0.05
26...	1345	0.36	141	37	39	0.04
26...	2030	2.8	88	100	219	1.7
26...	2045	2.6	86	80	157	1.1
26...	2100	2.3	86	90	130	0.81

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
NOV						
26...	2115	2.2	87	80	127	0.75
26...	2130	2.0	88	85	146	0.79
26...	2145	1.9	74	70	127	0.65
26...	2200	1.8	87	65	88	0.43
26...	2215	1.8	88	55	85	0.41
26...	2230	1.7	91	55	88	0.40
26...	2245	1.7	89	60	76	0.35
26...	2300	1.6	89	55	75	0.32
26...	2315	3.0	76	340	1340	11
26...	2330	4.8	69	300	1560	20
26...	2345	5.3	71	300	941	13
26...	2400	5.1	72	200	520	7.2
27...	0015	4.6	72	140	322	4.0
27...	0030	4.1	70	110	227	2.5
27...	0045	3.7	73	100	183	1.8
27...	0100	3.4	74	100	158	1.5
27...	0115	2.9	75	85	136	1.1
27...	0130	2.8	75	75	120	0.91
27...	0145	2.4	77	70	98	0.64
27...	0200	2.3	78	60	84	0.52
27...	0215	2.2	73	60	92	0.55
27...	2030	1.3	84	16	40	0.14
27...	2045	1.3	84	34	34	0.12
27...	2100	1.2	84	31	32	0.10
27...	2115	1.2	85	28	30	0.10
27...	2130	1.1	86	31	27	0.08
27...	2145	1.1	86	25	28	0.08
27...	2200	1.1	87	23	26	0.08
27...	2215	1.0	88	25	25	0.07
27...	2230	1.0	88	25	31	0.08
27...	2245	0.90	87	22	23	0.06
27...	2300	0.90	89	24	20	0.05
27...	2315	0.90	87	26	25	0.06
27...	2330	0.75	88	24	26	0.05
27...	2345	0.75	89	22	23	0.05
27...	2400	0.75	90	24	23	0.05
28...	0015	0.75	90	24	23	0.05
28...	0030	0.60	91	26	27	0.04
28...	0045	0.60	91	24	32	0.05
28...	0100	0.75	90	38	38	0.08
28...	0115	0.75	78	60	56	0.11
28...	0130	0.75	91	70	55	0.11
28...	0145	0.75	91	55	40	0.08
28...	0200	0.75	91	40	32	0.06
28...	0215	0.75	93	31	21	0.04
DEC						
11...	1715	0.22	171	60	167	0.10
11...	1730	0.26	165	87	466	0.33
11...	1745	0.28	164	100	678	0.51
11...	1800	0.28	163	350	654	0.49
11...	1815	0.28	164	350	476	0.36
11...	1830	0.30	172	250	331	0.27
11...	1845	0.30	178	200	237	0.19
11...	1900	0.30	176	150	172	0.14
11...	1915	0.30	170	120	130	0.11
11...	1930	0.33	163	100	106	0.09
11...	1945	0.33	157	100	110	0.10
11...	2000	0.36	152	100	141	0.14
11...	2015	0.36	149	100	130	0.13
11...	2030	0.36	146	60	87	0.08
11...	2045	0.36	143	80	86	0.08
11...	2100	0.36	142	70	75	0.07
11...	2115	0.36	140	70	61	0.06
11...	2130	0.40	138	60	60	0.06
11...	2145	0.40	138	55	51	0.05
11...	2200	0.40	138	55	41	0.04
11...	2215	0.40	135	50	45	0.05
11...	2230	0.40	132	45	44	0.05
11...	2245	0.40	132	45	40	0.04
11...	2300	0.40	132	30	30	0.03
JAN						
19...	1200	0.11	227	250	315	0.09
19...	1215	0.13	227	300	266	0.09
19...	1230	0.15	202	290	280	0.11
19...	1245	0.17	203	340	423	0.19

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
JAN						
19...	1300	0.17	200	340	352	0.16
19...	1315	0.19	201	360	344	0.18
19...	1330	0.20	218	340	314	0.17
19...	1345	0.22	199	280	267	0.16
19...	1400	0.22	227	210	235	0.14
19...	1415	0.24	228	170	138	0.09
19...	1430	0.24	198	150	154	0.10
19...	1445	0.26	219	130	81	0.06
19...	1500	0.26	188	120	148	0.10
19...	1515	0.28	205	110	95	0.07
19...	1530	0.28	178	130	200	0.15
19...	1545	0.28	197	170	170	0.13
19...	1600	0.28	192	140	199	0.15
19...	1615	0.28	188	120	146	0.11
19...	1630	0.30	187	120	98	0.08
19...	1645	0.30	185	120	149	0.12
19...	1700	0.30	182	120	119	0.10
19...	1715	0.30	180	100	131	0.11
19...	1730	0.30	177	95	110	0.09
19...	1745	0.30	173	90	112	0.09
20...	1230	0.20	134	24	20	0.01
20...	1330	0.20	136	20	10	0.01
20...	1430	0.19	136	17	10	0.01
20...	1530	0.19	137	20	9	0.00
20...	1630	0.17	120	20	12	0.01
20...	1730	0.17	122	18	10	0.00
21...	1700	0.17	142	18	15	0.01
21...	1715	0.17	126	22	18	0.01
21...	1730	0.19	143	18	18	0.01
21...	1745	0.19	144	22	18	0.01
21...	1800	0.19	144	23	19	0.01
21...	1815	0.19	148	30	25	0.01
21...	1830	0.19	147	30	18	0.01
21...	1845	0.20	147	24	22	0.01
21...	1900	0.20	147	32	21	0.01
21...	1915	0.20	148	23	20	0.01
21...	1930	0.20	148	25	20	0.01
21...	1945	0.20	148	20	14	0.01
21...	2000	0.20	148	21	14	0.01
21...	2015	0.20	147	24	16	0.01
21...	2030	0.20	147	21	14	0.01
21...	2045	0.20	147	21	15	0.01
21...	2100	0.20	145	17	13	0.01
21...	2115	0.20	145	18	12	0.01
21...	2130	0.20	144	16	12	0.01
21...	2145	0.20	126	12	9	0.00
21...	2200	0.20	143	11	7	0.00
21...	2215	0.20	142	15	10	0.01
21...	2230	0.20	141	13	8	0.00
21...	2245	0.20	125	14	12	0.01
FEB						
04...	0030	0.19	192	55	81	0.04
04...	0045	0.22	192	65	73	0.04
04...	0100	0.28	189	150	134	0.10
04...	0115	0.30	178	350	287	0.23
04...	0130	0.50	178	300	577	0.78
04...	0145	0.90	151	300	1310	3.2
04...	0200	1.2	143	350	1030	3.3
04...	0215	1.3	137	340	925	3.2
04...	0230	1.4	123	300	732	2.8
04...	0245	1.4	109	250	463	1.8
04...	0300	1.4	118	210	282	1.1
04...	0315	1.4	116	170	257	0.97
04...	0330	1.3	114	150	229	0.80
04...	0345	1.3	112	120	131	0.46
04...	0400	1.3	106	110	112	0.39
04...	0415	1.3	110	110	113	0.40
04...	0430	1.3	110	100	121	0.42
04...	0445	1.3	110	100	108	0.38
04...	0500	1.3	110	100	121	0.42
04...	0515	1.3	96	100	108	0.38
04...	0530	1.3	96	100	108	0.38
04...	0545	1.4	108	100	116	0.44
04...	0600	1.4	107	100	102	0.39
04...	0615	1.4	94	80	84	0.32

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
FEB						
04...	1130	2.4	87	300	880	5.7
04...	1230	2.8	83	250	621	4.7
04...	1330	2.3	81	150	254	1.6
04...	1430	1.9	83	100	160	0.82
04...	1530	1.6	85	90	108	0.47
04...	1630	1.3	86	65	73	0.26
04...	1730	1.1	86	55	69	0.20
04...	1830	0.90	89	40	41	0.10
04...	1930	0.75	92	35	38	0.08
04...	2030	0.60	82	32	32	0.05
04...	2130	0.50	87	24	27	0.04
04...	2230	0.45	96	22	25	0.03
04...	2330	0.40	97	28	18	0.02
05...	0030	0.40	97	25	24	0.03
05...	0130	0.36	98	26	23	0.02
05...	0230	0.36	87	45	33	0.03
05...	0330	0.40	89	50	38	0.04
05...	0430	0.60	100	200	122	0.20
05...	0530	0.90	86	120	150	0.36
05...	0730	1.1	90	65	65	0.19
05...	0830	1.1	89	45	47	0.14
05...	0930	1.0	90	45	46	0.12
05...	1030	0.90	80	33	25	0.06
06...	2330	0.40	130	110	56	0.06
06...	2345	0.40	129	90	49	0.05
06...	2400	0.40	125	80	39	0.04
07...	0015	0.40	114	75	40	0.04
07...	0030	0.45	121	75	56	0.07
07...	0045	0.45	107	90	75	0.09
07...	0100	0.45	119	140	83	0.10
07...	0115	0.50	115	130	59	0.08
07...	0130	0.50	109	100	80	0.11
07...	0145	0.60	116	120	96	0.16
07...	0200	0.60	114	110	80	0.13
07...	0215	0.60	111	100	64	0.10
07...	0230	0.75	108	90	87	0.18
07...	0245	0.90	97	110	109	0.26
07...	0300	1.0	106	220	306	0.83
07...	0315	1.1	105	150	165	0.49
07...	0330	1.1	102	100	74	0.22
07...	0345	1.1	104	85	81	0.24
07...	0400	1.1	103	70	79	0.23
07...	0415	1.1	102	70	58	0.17
07...	0430	1.1	100	65	57	0.17
07...	0445	1.1	100	55	52	0.15
07...	0500	1.1	97	55	53	0.16
07...	0515	1.1	97	60	47	0.14
17...	0915	0.40	128	55	78	0.08
17...	0930	0.40	125	50	64	0.07
17...	0945	0.40	122	55	62	0.07
17...	1000	0.50	119	60	73	0.10
17...	1015	0.50	120	60	84	0.11
17...	1030	0.50	116	65	69	0.09
17...	1045	0.50	100	60	64	0.09
17...	1100	0.60	98	60	85	0.14
17...	1115	0.75	98	65	127	0.26
17...	1130	0.90	104	160	314	0.76
17...	1145	1.1	98	180	415	1.2
17...	1200	1.3	94	210	440	1.5
17...	1215	1.7	91	210	425	2.0
17...	1230	1.9	76	200	455	2.3
17...	1245	2.2	83	210	464	2.8
17...	1300	2.4	81	210	462	3.0
17...	1315	2.6	80	200	428	3.0
17...	1330	2.6	78	150	345	2.4
17...	1345	2.6	78	140	290	2.0
17...	1400	2.4	78	130	185	1.2
17...	1415	2.4	68	110	182	1.2
17...	1430	2.4	78	110	179	1.2
17...	1445	2.4	77	110	187	1.2
17...	1500	2.4	75	130	218	1.4
19...	1715	0.40	165	300	1860	2.0
19...	1730	0.40	132	310	232	0.25
19...	1745	0.45	135	250	119	0.14
19...	1800	0.45	133	190	170	0.21

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
FEB						
19...	1815	0.45	133	120	69	0.08
19...	1830	0.45	134	65	59	0.07
19...	1845	0.45	129	43	47	0.06
19...	1900	0.45	128	85	45	0.05
19...	1915	0.45	126	75	28	0.03
19...	1930	0.45	126	68	19	0.02
19...	1945	0.45	125	55	21	0.03
19...	2000	0.45	124	40	22	0.03
19...	2015	0.45	123	46	22	0.03
19...	2030	0.45	124	40	28	0.03
19...	2045	0.45	123	40	19	0.02
19...	2100	0.40	123	40	26	0.03
19...	2115	0.40	123	34	23	0.02
19...	2130	0.40	123	34	17	0.02
19...	2145	0.40	123	30	15	0.02
19...	2200	0.40	123	21	10	0.01
19...	2215	0.40	123	28	17	0.02
19...	2230	0.40	123	21	18	0.02
19...	2245	0.40	123	15	13	0.01
19...	2300	0.40	123	25	18	0.02
MAR						
10...	2215	0.50	146	250	442	0.60
10...	2230	0.75	133	350	1380	2.8
10...	2245	1.0	135	370	988	2.7
10...	2300	1.0	134	350	738	2.0
10...	2315	1.0	134	320	464	1.3
10...	2330	1.1	132	250	297	0.88
10...	2345	1.1	129	200	210	0.62
10...	2400	1.1	126	150	149	0.44
11...	0015	1.1	125	130	143	0.42
11...	0030	1.1	122	100	101	0.30
11...	0045	1.1	121	90	77	0.23
11...	0100	1.1	121	81	60	0.18
11...	0115	1.0	120	75	51	0.14
11...	0130	1.0	121	75	38	0.10
11...	0145	0.90	120	63	42	0.10
11...	0200	0.90	120	50	37	0.09
11...	0215	0.90	119	35	34	0.08
11...	0230	0.90	120	60	22	0.05
12...	1145	0.40	124	300	677	0.73
12...	1200	0.40	125	350	541	0.58
APR						
06...	1515	1.2	179	55	7980	26
06...	1530	1.2	142	360	5050	16
06...	1545	1.4	167	290	1420	5.4
06...	1600	1.3	166	140	617	2.2
06...	1615	1.3	163	150	335	1.2
06...	1630	1.2	158	140	170	0.55
06...	1645	1.2	158	140	195	0.63
06...	1700	1.1	156	100	161	0.48
06...	1715	1.1	156	39	141	0.42
06...	1730	1.0	157	66	111	0.30
06...	1745	1.0	155	59	64	0.17
06...	1800	1.0	156	73	86	0.23
06...	1815	0.90	157	70	83	0.20
06...	1830	0.90	158	55	92	0.22
06...	1845	0.90	156	35	61	0.15
06...	1900	0.75	156	40	102	0.21
06...	1915	0.75	156	50	69	0.14
06...	1930	9.2	147	20	20600	512
06...	1945	9.8	123	200	8880	235
06...	2000	7.8	105	250	3030	64
06...	2015	6.5	106	100	1980	35
06...	2030	5.5	107	100	1310	19
06...	2045	4.8	106	140	883	11
06...	2100	4.1	107	160	632	7.0
MAY						
18...	1700	0.30	215	40	6590	5.3
18...	1715	0.22	173	150	6460	3.8
19...	1745	0.60	106	250	8330	13
19...	1800	0.36	109	190	4860	4.7
19...	1815	0.26	123	300	3110	2.2
19...	1830	0.26	123	330	1600	1.1
19...	1845	0.24	140	350	917	0.59
19...	1900	0.22	155	350	571	0.34

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
MAY						
19...	1915	0.22	175	320	227	0.13
19...	1930	0.20	167	250	293	0.16
19...	1945	0.19	190	200	120	0.06
19...	2000	0.17	170	160	93	0.04
19...	2015	0.17	188	150	127	0.06
20...	0030	0.19	170	250	283	0.15
20...	0045	0.17	181	400	287	0.13
20...	0100	0.17	179	400	104	0.05
20...	0200	0.17	189	190	138	0.06
20...	0215	0.19	190	190	93	0.05
20...	0230	0.20	189	130	166	0.09
20...	0245	0.28	186	160	215	0.16
20...	0300	0.40	170	350	645	0.70
20...	0315	0.45	161	350	467	0.57
20...	0330	0.50	163	200	474	0.64
20...	0345	0.75	162	150	428	0.87
JUN						
20...	0415	0.33	161	120	4820	4.3
20...	0430	0.40	138	130	4340	4.7
20...	0445	0.50	120	110	3950	5.3
20...	0500	1.6	84	220	7360	32
20...	0515	1.0	90	250	3350	9.0
20...	0530	0.50	111	360	1650	2.2
20...	0545	0.40	123	330	919	0.99
20...	0600	0.33	128	300	657	0.59
20...	0615	0.28	135	350	404	0.31
20...	0630	0.28	138	250	466	0.35
20...	0645	0.26	142	320	433	0.30
20...	0700	0.24	145	340	228	0.15
20...	0715	0.22	145	310	487	0.29
20...	0730	0.24	152	300	428	0.28
20...	0745	0.22	151	240	377	0.22
20...	0800	0.19	151	350	592	0.30
20...	0815	0.19	152	370	542	0.28
20...	0830	0.19	156	350	426	0.22
20...	0845	0.19	155	290	319	0.16
20...	0900	0.17	163	300	170	0.08
28...	0345	0.17	211	140	4020	1.8
28...	0845	0.20	195	400	2480	1.3
28...	0900	0.20	177	300	2220	1.2
28...	0915	0.22	165	350	1900	1.1
28...	0930	0.36	147	100	2740	2.7
28...	0945	0.75	112	350	4900	9.9
28...	1000	0.60	119	300	2610	4.2
28...	1015	0.50	131	290	1630	2.2
28...	1030	1.6	104	160	7900	34
28...	1045	1.7	130	200	3820	18
28...	1100	1.3	121	230	1180	4.1
28...	1115	1.0	126	140	658	1.8
28...	1130	0.75	132	300	437	0.88
28...	1145	0.50	137	150	322	0.43
28...	1200	0.40	142	200	253	0.27
28...	1215	0.36	145	140	216	0.21
28...	1230	0.33	151	140	178	0.16
28...	1245	0.30	154	110	155	0.13
28...	1300	0.26	157	120	137	0.10
28...	1315	0.24	161	100	120	0.08
28...	1330	0.20	165	100	128	0.07
28...	1345	0.19	166	35	92	0.05
28...	1400	0.17	172	35	74	0.03
30...	2300	0.26	191	--	4270	3.0
30...	2315	0.17	160	200	3110	1.4
30...	2400	0.28	164	370	2380	1.8
JUL						
01...	0015	0.36	133	350	3120	3.0
01...	0030	0.33	136	350	1780	1.6
01...	0045	0.45	153	340	973	1.2
01...	0100	1.0	116	360	2550	6.9
01...	0115	0.90	135	300	975	2.4
01...	0130	1.2	130	310	875	2.8
01...	0145	1.4	110	330	487	1.8
01...	0200	1.3	118	250	474	1.7
01...	0215	1.2	120	180	270	0.87
01...	0230	1.0	123	150	207	0.56
01...	0245	0.90	125	120	90	0.22

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
JUL						
01...	0300	0.75	126	90	112	0.23
01...	0315	0.60	132	100	57	0.09
01...	0330	0.50	131	90	108	0.15
01...	0345	0.45	132	90	62	0.07
01...	0400	0.40	133	65	48	0.05
01...	0415	0.40	136	60	52	0.06
01...	0430	0.36	136	67	62	0.06
01...	0445	0.33	138	50	71	0.06
01...	0500	0.30	139	54	44	0.04
01...	0515	0.28	142	55	70	0.05
02...	0935	0.33	169	55	58	0.05
09...	1315	0.33	161	400	7990	7.1
09...	1330	1.0	134	--	4760	13
09...	1345	0.50	132	350	3290	4.4
09...	1400	0.36	149	350	1920	1.9
09...	1415	0.28	161	350	931	0.70
09...	1430	0.22	176	190	657	0.39
09...	1445	0.19	183	350	265	0.14
17...	0315	0.40	135	--	7480	8.1
17...	0330	0.28	143	140	4430	3.3
17...	0345	0.19	156	180	1540	0.79
AUG						
23...	2000	1.4	81	130	6760	26
23...	2015	0.36	92	120	4250	4.1
23...	2030	0.22	101	200	2490	1.5
SEP						
26...	2315	0.60	88	210	16100	26
26...	2330	2.8	62	330	6710	51
26...	2345	1.6	81	260	2450	11
26...	2400	0.75	103	300	1230	2.5
27...	0030	0.36	127	300	563	0.55
27...	0045	0.30	129	300	371	0.30
27...	0100	0.24	139	300	306	0.20
27...	0115	0.20	141	270	344	0.19
27...	0130	0.19	151	250	234	0.12
27...	0145	0.19	153	200	132	0.07
27...	0200	0.17	155	200	241	0.11
27...	0215	0.17	159	250	306	0.14
27...	1730	0.30	100	200	4540	3.7
27...	1745	0.40	97	200	2610	2.8
27...	1800	0.40	107	350	1450	1.6
27...	1815	0.36	131	360	732	0.71
27...	1830	0.33	146	300	382	0.34
27...	1845	0.36	145	350	757	0.74
27...	1900	0.33	136	350	656	0.58
27...	1915	0.28	144	250	418	0.32
27...	1930	0.26	153	200	158	0.11
27...	1945	0.22	153	230	81	0.05
27...	2000	0.20	159	150	150	0.08

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT						
01...	1545	0.17	172	150	3000	1.4
01...	1600	0.17	159	180	944	0.43
01...	1615	0.20	160	250	1840	0.99
01...	1630	0.17	165	350	431	0.20
01...	1715	0.40	115	200	4070	4.4
01...	1730	0.45	102	250	2680	3.3
01...	1745	0.40	103	300	1700	1.8
01...	1800	0.36	113	340	1170	1.1
01...	1815	0.36	135	350	625	0.61
01...	1830	0.30	148	300	405	0.33
01...	1845	0.28	159	250	296	0.22
01...	1900	0.26	160	200	259	0.18
01...	1915	0.24	164	150	121	0.08

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT						
01...	1930	0.30	165	170	127	0.10
01...	1945	0.26	158	150	230	0.16
01...	2000	0.33	148	340	868	0.77
01...	2015	0.28	142	200	565	0.43
01...	2030	0.26	143	340	491	0.34
01...	2045	0.28	152	240	408	0.31
01...	2100	0.30	151	260	409	0.33
01...	2115	0.30	152	280	331	0.27
01...	2130	0.24	156	250	211	0.14
01...	2145	0.30	160	150	173	0.14
01...	2200	0.22	161	130	175	0.10
NOV						
05...	1600	0.40	141	300	484	0.52
05...	1615	0.50	136	320	476	0.64
05...	1630	0.75	136	310	565	1.1
05...	1645	1.0	143	250	305	0.82
05...	1700	1.0	148	250	112	0.30
05...	1715	1.0	153	150	183	0.49
05...	1730	0.90	140	110	176	0.43
11...	1030	0.45	136	120	167	0.20
11...	1045	0.60	136	100	124	0.20
11...	1100	0.75	130	70	143	0.29
11...	1115	0.90	127	110	104	0.25
11...	1130	1.1	126	95	102	0.30
11...	1145	1.0	127	75	61	0.16
11...	1200	1.0	125	60	47	0.13
11...	1215	1.0	125	50	48	0.13
11...	1230	1.0	126	35	34	0.09
11...	1245	0.90	123	45	45	0.11
11...	1300	0.90	121	35	42	0.10
11...	1315	0.90	122	30	31	0.07
11...	1330	0.75	121	30	24	0.05
11...	1345	0.75	123	30	20	0.04
11...	1400	0.60	120	28	20	0.03
11...	1415	0.60	122	25	20	0.03
11...	1430	0.60	124	15	20	0.03
11...	1445	0.50	124	25	20	0.03
11...	1500	0.50	124	20	18	0.02
11...	1515	0.45	125	20	43	0.05
11...	1530	0.45	124	20	20	0.02
11...	1545	0.40	125	20	15	0.02
11...	1600	0.40	126	20	17	0.02
25...	2345	0.40	131	200	5280	5.7
25...	2400	0.40	136	260	516	0.56
26...	0015	0.50	149	200	386	0.52
26...	0030	0.60	160	150	260	0.42
26...	0045	0.60	155	110	192	0.31
26...	0100	0.60	149	90	138	0.22
26...	0115	0.75	142	65	154	0.31
26...	0130	0.90	132	100	184	0.45
26...	0145	0.90	131	100	168	0.41
26...	0200	1.0	131	80	127	0.34
26...	0215	1.0	130	70	103	0.28
26...	0230	1.0	126	50	83	0.22
26...	0245	1.0	126	40	85	0.23
26...	0300	1.0	125	50	83	0.22
26...	0315	1.1	122	50	73	0.22
26...	0330	1.0	123	40	65	0.18
26...	0345	1.0	122	40	59	0.16
26...	0400	1.0	124	35	46	0.12
26...	0415	1.0	122	30	48	0.13
26...	0430	1.1	121	30	43	0.13
26...	0445	0.90	121	30	35	0.08
26...	0500	0.90	123	25	31	0.07
26...	0515	0.75	122	15	18	0.04
26...	0530	0.75	121	15	22	0.04
DEC						
02...	0445	0.60	104	190	611	0.99
02...	0500	1.1	111	150	454	1.3
02...	0515	1.2	127	150	341	1.1
02...	0530	1.3	120	120	199	0.70
02...	0545	1.3	113	90	145	0.51
02...	0600	1.4	109	100	123	0.46
02...	0615	1.6	107	80	105	0.45
02...	0630	1.6	108	60	80	0.35

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
DEC						
02...	0645	1.6	107	50	70	0.30
02...	0700	1.6	107	50	45	0.19
02...	0715	1.6	106	40	53	0.23
02...	0730	1.6	105	35	49	0.21
02...	0745	1.6	104	35	62	0.27
02...	0800	1.6	102	40	68	0.29
02...	0815	1.7	99	60	84	0.39
02...	0830	1.7	99	50	58	0.27
02...	0845	1.7	99	40	69	0.32
02...	0900	1.7	98	50	62	0.28
02...	0915	1.7	98	40	46	0.21
02...	0930	1.7	97	40	59	0.27
02...	0945	1.8	96	40	50	0.24
02...	1000	1.8	96	35	54	0.26
02...	1015	1.8	96	35	66	0.32
02...	1030	1.9	94	40	78	0.40
09...	0715	0.40	145	80	157	0.17
09...	0730	0.60	135	100	296	0.48
09...	0745	0.50	134	150	172	0.23
09...	0800	0.60	134	100	121	0.20
09...	0815	0.75	133	100	103	0.21
09...	0830	0.90	131	80	110	0.27
09...	0845	1.0	124	80	150	0.40
09...	0900	1.1	118	100	141	0.42
09...	0915	1.2	117	100	111	0.36
09...	0930	1.3	115	80	89	0.31
09...	0945	1.3	113	70	85	0.30
09...	1000	1.6	110	50	90	0.39
09...	1015	1.7	103	90	177	0.81
09...	1030	1.8	102	100	144	0.70
09...	1045	1.9	101	80	123	0.63
09...	1100	1.9	101	65	116	0.60
09...	1115	2.0	99	75	94	0.51
09...	1130	2.0	97	55	73	0.39
09...	1145	2.0	99	65	78	0.42
09...	1200	2.0	97	55	73	0.39
09...	1215	2.2	95	50	67	0.40
09...	1230	2.2	95	65	69	0.41
09...	1245	2.2	96	55	62	0.37
09...	1300	2.2	95	50	74	0.44
24...	1430	0.40	178	210	599	0.65
24...	1445	0.40	168	300	699	0.75
24...	1500	0.40	150	300	938	1.0
24...	1515	0.45	129	340	1530	1.9
24...	1530	0.50	118	300	1300	1.8
24...	1545	0.50	110	200	994	1.3
24...	1600	0.60	105	180	737	1.2
24...	1615	0.90	102	150	631	1.5
24...	1630	1.0	101	120	456	1.2
24...	1645	1.2	100	85	306	0.99
24...	1700	1.3	100	100	203	0.71
24...	1715	1.6	100	90	143	0.62
24...	1730	1.7	100	70	133	0.61
24...	1745	1.7	100	60	107	0.49
24...	1800	1.7	100	40	90	0.41
24...	1815	1.7	100	40	74	0.34
24...	1830	1.7	102	40	44	0.20
24...	1845	1.6	101	40	72	0.31
24...	1900	1.6	101	30	58	0.25
24...	1915	1.4	102	50	63	0.24
24...	1930	1.4	103	60	58	0.22
24...	1945	1.3	103	30	65	0.23
24...	2000	1.3	104	35	41	0.14
24...	2015	1.3	105	35	46	0.16
JAN						
29...	2330	0.75	145	160	305	0.62
29...	2345	0.75	138	160	278	0.56
29...	2400	0.75	130	150	225	0.46
30...	0015	0.75	140	120	188	0.38
30...	0030	0.60	127	110	174	0.28
30...	0045	0.60	126	110	163	0.26
30...	0100	0.60	126	100	130	0.21
30...	0115	0.60	124	80	137	0.22
30...	0130	0.75	123	80	113	0.23

LITTLE KANAWHA RIVER BASIN

03155520 ROBINSON RUN NEAR PETROLEUM, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
JAN						
30...	0145	0.75	122	80	91	0.18
30...	0200	0.75	122	75	100	0.20
30...	0215	0.75	121	75	83	0.17
30...	0230	0.75	121	75	94	0.19
30...	0245	0.75	119	75	85	0.17
30...	0300	0.75	120	55	64	0.13
30...	0315	0.75	120	65	79	0.16
30...	0330	0.90	118	60	78	0.19
30...	0345	0.90	119	60	68	0.17
30...	0400	0.90	117	42	54	0.13
30...	0415	0.90	118	60	57	0.14
30...	0430	0.90	116	50	54	0.13
30...	0445	0.90	116	55	47	0.11
30...	0500	0.90	115	50	45	0.11
30...	0515	0.90	115	50	47	0.11
FEB						
28...	1800	0.45	168	250	652	0.79
28...	1815	0.75	150	300	975	2.0
28...	1830	1.0	146	200	854	2.3
28...	1845	1.2	141	200	755	2.4
28...	1900	1.3	129	220	666	2.3
28...	1915	1.4	122	200	580	2.2
28...	1930	1.6	119	150	518	2.2
28...	1945	1.7	115	120	396	1.8
28...	2000	1.7	113	70	280	1.3
28...	2015	1.7	112	100	199	0.91
28...	2030	1.7	113	80	148	0.68
28...	2045	1.7	110	50	120	0.55
28...	2100	1.6	111	35	102	0.44
28...	2115	1.6	110	55	75	0.32
28...	2130	1.6	109	50	68	0.29
28...	2145	1.4	110	55	59	0.22
28...	2200	1.3	111	45	73	0.26
28...	2215	1.3	110	35	56	0.20
28...	2230	1.2	111	30	39	0.13
28...	2245	1.2	111	35	31	0.10
28...	2300	1.2	112	30	42	0.14
28...	2315	1.1	113	30	32	0.09
28...	2330	1.1	113	30	35	0.10
28...	2345	1.1	114	30	27	0.08
APR						
08...	1055	0.40	110	10	31	0.03
SEP						
07...	1930	0.50	133	230	1300	1.8
07...	1945	1.3	102	220	1570	5.5

KANAWHA RIVER BASIN

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

LOCATION.--Lat 37°22'22", long 80°51'39", Giles County, Hydrologic Unit 05050002, on right bank 90 ft upstream from bridge on U.S. Highway 460 at Glen Lyn, 0.3 mi upstream from East River, and 6.3 mi downstream from Wolf Creek.

DRAINAGE AREA.--3,768 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1927 to current year.

REVISED RECORDS.--WSP 758: Drainage area. WSP 1305: 1928(M), 1930(M).

GAGE.--Water-stage recorder. Datum of gage is 1,490.11 ft (revised) above National Geodetic Vertical Datum of 1929. Aug. 11, 1927, to Oct. 16, 1934, on left bank opposite present site at same datum, and Oct. 17, 1934, to June 16, 1939, on left bank at site 200 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1939 by Claytor Reservoir (station 03169000) 55 mi upstream from station. U.S. Army Corps of Engineers satellite gage-height telemeter at station.

AVERAGE DISCHARGE.--60 years, 5,004 ft³/s, 18.03 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 226,000 ft³/s, Aug. 14, 1940, gage height, 27.50 ft, from rating curve extended above 89,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 717 ft³/s, Jan. 5, 1981, result of freezeup; minimum daily, 820 ft³/s, Sept. 8, 1930; minimum gage height, 2.10 ft, Sept. 8, 1930.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 85,200 ft³/s, Apr. 25, gage height, 15.97 ft; minimum, 960 ft³/s, Sept. 29, gage height, 2.44 ft; minimum daily, 1,170 ft³/s, Oct. 5.

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	3160	1200	2100	6160	8800	29500	20000	13200	2420	3940	2210	1440
2	3200	1260	7240	2580	8240	61000	15900	10100	5890	3650	1560	1350
3	2660	1280	10200	6670	7110	34400	13900	8400	6120	3560	1340	1370
4	2330	1280	7300	2280	9010	22800	13900	9170	6280	4820	2200	1710
5	1170	2810	6860	2010	9080	17800	13300	10100	3540	8740	2410	1670
6	1180	3230	5230	3990	8430	14500	10300	8380	4450	6410	2710	2260
7	1240	3190	4330	3600	8320	13100	9290	7310	4500	5430	2470	4600
8	1240	8210	3860	4090	5110	13800	12400	8240	3190	4850	2510	12600
9	1240	6020	5050	3980	3820	14700	12900	6940	4020	4460	1530	8000
10	1400	3480	5180	4230	7020	16000	15700	5510	3680	4150	1510	2610
11	1430	3290	5060	2040	5830	15500	10900	5630	4220	3760	2490	2200
12	1420	3310	8480	1940	7040	13400	9030	7850	4250	3290	2290	2220
13	1480	3010	9360	3570	6590	10800	9870	5850	4320	2110	2120	3500
14	1600	3970	6930	4050	6340	8140	11600	6810	2130	4410	1800	1780
15	2620	3790	3530	3430	3180	7350	12700	6730	1940	4110	1820	2920
16	2470	1880	6000	4390	3700	6840	24500	5540	3990	3840	1360	3210
17	2710	1650	4460	4010	7200	7840	47200	4210	3830	3460	1210	3230
18	1660	2420	4240	3100	5710	7780	34400	3800	3740	3460	1940	2650
19	1720	2670	5250	12500	5570	9560	22300	5790	3720	1580	1840	2950
20	1540	2300	3660	17600	5850	12400	16800	6120	4260	1440	1860	1590
21	1350	2570	2000	11900	5470	12200	15000	6200	1960	2690	2130	1460
22	1350	2280	1910	9640	2730	9490	13200	6850	2670	1960	1820	1930
23	1360	1800	4090	8600	8240	7750	11400	5680	5460	1800	1480	1810
24	1390	1690	9000	7130	10500	7370	30900	4400	4510	1820	1330	1670
25	1400	2580	22400	5000	8220	7440	79800	5070	4380	2810	1650	1740
26	1550	4660	15800	6860	8580	7670	57900	7540	4370	1530	1510	1910
27	1610	7620	12500	4390	11000	6830	29300	8180	4790	1400	1410	1280
28	1840	4390	8990	4290	13700	6800	20400	7880	3890	2340	1530	1280
29	1640	4270	5790	4660	---	6940	16700	7390	1860	2630	1550	1290
30	1390	4000	7230	4670	---	4610	15300	6730	3680	2370	1360	1310
31	1330	---	6450	5930	---	22300	---	5500	---	2160	1240	---
TOTAL	53680	96110	210480	169290	200390	436610	626790	217100	118060	104980	56190	79540
MEAN	1732	3204	6790	5461	7157	14080	20890	7003	3935	3386	1813	2651
MAX	3200	8210	22400	17600	13700	61000	79800	13200	6280	8740	2710	12600
MIN	1170	1200	1910	1940	2730	4610	9030	3800	1860	1400	1210	1280
(*)	+78	+55	-119	-128	-155	+350	-7	+37	-69	+21	+29	-12
MEAN{	1810	3259	6671	5333	7002	14430	20890	7040	3866	3407	1842	2639
CFSM{	.48	.86	1.77	1.42	1.86	3.83	5.54	1.87	1.03	.90	.49	.70
IN.{	.55	.97	2.04	1.63	1.94	4.42	6.19	2.15	1.15	1.04	.56	.78

CAL YR 1986 TOTAL 1281855 MEAN 3512 MAX 22400 MIN 955 MEAN{ 3510 CFSM{ .93 IN.{ 12.65
WTR YR 1987 TOTAL 2369220 MEAN 6491 MAX 79800 MIN 1170 MEAN{ 6499 CFSM{ 1.72 IN.{ 23.42

* Change in contents, equivalent in cubic feet per second, in Claytor Reservoir; provided by Appalachian Power Company.
{ Adjusted for change in contents.

KANAWHA RIVER BASIN

03176500 NEW RIVER AT GLEN LYN, VA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1931, 1950, 1952, 1955-56, 1965 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1968 to current year.

WATER TEMPERATURE: October 1964 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 350 microsiemens, Nov. 6, 1968; minimum, 70 microsiemens, Mar. 26, 27, 1979.

WATER TEMPERATURE: Maximum, 30.5°C, June 24, 1983; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum daily, 223 microsiemens, Oct. 28, Nov. 2; minimum daily, 115 microsiemens, Dec. 26, Mar. 10.

WATER TEMPERATURE: Maximum daily, 30.0°C, June 2; minimum, 2.0°C, Jan. 27.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	PH LAB (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS. / 100 ML)	
DEC 03...	0930	10700	125	120	7.60	7.80	8.0	714	54	10.2	92	110	
FEB 11...	0930	7440	135	149	7.30	7.90	3.0	725	1.6	13.4	105	K9	
MAR 10...	1000	16200	105	113	7.25	7.45	5.0	724	22	11.9	98	300	
MAY 19...	1045	5870	138	154	7.50	8.20	19.0	724	2.3	8.2	93	270	
JUN 30...	1100	5290	160	167	8.20	8.40	24.5	725	1.3	--	--	43	
JUL 01...	1205	5170	--	--	--	--	--	--	--	--	--	--	
SEP 02...	1030	1040	200	205	8.20	8.30	21.0	727	0.70	8.5	100	120	
DATE		STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCAR- BONATE (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY LAB (MG/L AS CACO3)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	ALKA- LITY, CARBON- ATE IT-FLD (MG/L - CACO3)	BICAR- BONATE IT-FLD (MG/L AS HCO3)	SULFATE DIS- SOLVED (MG/L AS SO4)
DEC 03...	140	50	7	12	4.8	4.2	1.9	44	43	43	52	12	
FEB 11...	K10	56	10	14	5.0	3.5	1.2	50	46	46	56	12	
MAR 10...	2400	47	14	12	4.0	3.0	1.6	37	33	33	40	9.5	
MAY 19...	510	65	20	16	6.1	3.1	1.3	54	45	45	55	7.0	
JUN 30...	210	65	13	15	6.6	4.4	2.1	55	53	52	63	14	
JUL 01...	--	--	--	--	--	--	--	--	--	--	--	--	
SEP 02...	220	88	26	20	9.1	5.0	1.8	67	64	62	76	24	

KANAWHA RIVER BASIN

03176500 NEW RIVER AT GLEN LYN, VA--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA 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 03...	4.4	<0.10	7.3	66	73	0.010	0.500	0.090	0.070	0.70	0.070	0.020
FEB 11...	5.5	<0.10	6.9	75	76	<0.010	0.860	0.020	0.030	0.30	0.010	0.010
MAR 10...	4.7	<0.10	6.2	54	61	0.010	0.920	0.100	0.120	0.50	0.080	0.010
MAY 19...	4.0	0.10	7.6	82	72	<0.010	0.930	0.020	0.020	1.7	0.030	0.030
JUN 30...	5.6	0.10	7.4	87	86	<0.010	0.650	0.110	0.120	1.1	0.060	0.050
JUL 01...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	4.6	0.10	7.3	114	110	0.020	1.10	0.010	<0.010	<0.20	0.040	0.060

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)	LITHIUM DIS- SOLVED (UG/L AS LI)
DEC 03...	0.020	<10	<1	23	<0.5	<1	<1	<3	2	45	<5	6
FEB 11...	0.010	--	--	--	--	--	--	--	--	--	--	--
MAR 10...	0.020	50	<1	24	<0.5	<1	<1	<3	6	52	<5	<4
MAY 19...	0.030	30	<1	22	<0.5	<1	<1	<3	1	15	<5	5
JUN 30...	0.030	--	--	--	--	--	--	--	--	--	--	--
JUL 01...	--	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	0.020	<10	1	27	<0.5	2	<1	3	7	16	<5	<4

DATE	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)	SEDI- MENT, SUS- PENDE (MG/L)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 03...	<1	<0.1	<10	2	<1	<1	57	<6	15	22	85
FEB 11...	--	--	--	--	--	--	--	--	--	5	92
MAR 10...	9	<0.1	<10	5	<1	<1	39	<6	13	35	89
MAY 19...	2	<0.1	<10	2	<1	<1	58	<6	8	12	85
JUN 30...	--	--	--	--	--	--	--	--	--	11	80
JUL 01...	--	--	--	--	--	--	--	--	--	10	82
SEP 02...	7	<0.1	<10	2	<1	<1	98	<6	10	2	87

KANAWHA RIVER BASIN

03176500 NEW RIVER AT GLEN LYN, VA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS/CM AT 25 DEG. C, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	160	212	165	158	160	163	125	140	---	170	170	210
2	153	223	168	158	155	130	125	145	178	150	170	205
3	165	220	135	160	160	137	128	155	140	150	182	220
4	180	218	138	160	160	137	133	155	149	140	182	215
5	163	200	138	170	160	130	140	150	148	142	200	200
6	188	175	140	205	155	125	138	150	---	130	170	201
7	193	175	---	168	155	123	160	150	---	145	165	179
8	185	150	162	160	158	120	160	150	150	140	160	150
9	200	150	142	158	165	125	130	150	180	140	160	159
10	200	158	130	155	188	115	130	150	180	142	190	160
11	200	160	138	163	150	120	130	160	178	150	180	160
12	200	165	138	170	160	120	130	160	160	---	180	179
13	205	168	130	190	160	---	132	150	---	164	180	179
14	218	172	128	153	158	142	140	160	---	162	178	198
15	205	160	140	---	158	---	130	142	140	145	180	180
16	185	170	155	150	165	---	120	145	140	158	181	190
17	185	180	150	160	190	150	138	---	142	158	195	170
18	178	178	148	160	145	---	119	196	140	160	200	190
19	198	205	143	163	160	140	129	162	---	180	200	180
20	193	190	163	119	170	128	125	145	---	180	---	179
21	215	180	163	123	163	---	125	150	180	182	195	199
22	218	183	170	133	180	---	125	150	---	210	199	199
23	215	183	180	130	183	145	120	160	176	198	200	200
24	208	200	138	140	150	147	120	160	148	194	200	200
25	215	198	120	148	165	147	120	145	145	220	205	185
26	218	190	115	158	158	143	120	148	---	190	220	199
27	215	148	125	150	150	140	120	140	---	190	215	195
28	223	150	130	163	160	158	140	139	150	---	210	201
29	220	155	140	163	---	150	140	148	162	210	210	---
30	220	160	158	163	---	163	140	140	158	180	200	210
31	200	---	158	170	---	155	---	---	---	170	220	---
MEAN	197	179	145	157	162	138	131	152	157	167	190	189
WTR YR 1987	MEAN	164	MAX	223	MIN	115						

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.0	15.0	10.0	6.0	3.5	6.0	17.0	18.0	23.5	25.0	27.5	24.0
2	24.0	16.0	9.0	6.0	4.0	6.0	17.0	15.0	30.0	26.0	27.0	22.0
3	23.0	16.0	10.0	5.5	5.0	6.0	17.0	16.0	26.0	26.0	26.0	22.0
4	24.0	16.0	9.0	5.0	7.0	6.0	11.0	19.0	26.0	26.5	27.0	23.0
5	24.0	15.0	7.0	5.0	5.0	6.0	11.0	18.0	26.0	25.5	26.0	22.0
6	22.0	16.0	7.0	4.0	5.0	7.0	12.0	19.0	21.0	25.0	28.0	22.0
7	19.0	15.5	5.5	4.0	5.0	7.0	11.0	20.0	23.0	26.0	28.0	22.0
8	18.0	16.0	8.0	5.0	5.0	8.0	13.0	21.0	29.0	27.0	27.0	23.5
9	18.0	16.5	9.0	5.0	4.0	9.0	13.0	14.0	27.0	28.0	27.0	24.0
10	17.0	19.0	10.0	6.0	3.0	8.0	14.5	17.0	28.0	27.0	27.0	24.5
11	17.0	13.0	10.0	6.0	4.0	8.0	14.0	22.0	26.0	26.0	26.0	24.5
12	16.5	13.0	9.0	5.0	5.5	7.0	15.0	22.0	27.0	---	26.0	24.0
13	17.0	12.0	7.0	5.0	5.5	5.0	14.0	22.0	21.0	26.0	25.5	24.5
14	18.0	8.0	6.0	5.0	5.0	6.5	15.0	21.0	23.0	26.0	26.0	24.0
15	17.0	9.0	11.0	4.5	5.0	6.5	14.0	20.0	27.0	24.0	26.5	24.0
16	15.0	10.0	7.0	7.0	5.0	7.0	14.0	18.0	28.5	23.0	27.0	24.0
17	16.0	11.0	7.5	6.5	3.0	7.5	13.0	18.5	29.0	24.0	27.0	24.0
18	15.0	12.0	8.0	6.0	4.0	5.0	11.0	24.0	29.0	24.0	27.0	24.0
19	14.0	11.0	8.0	6.0	5.0	8.0	12.0	21.0	23.5	25.5	28.0	24.0
20	14.0	10.0	7.0	6.0	6.0	9.0	16.0	19.5	23.5	26.0	25.5	23.0
21	15.0	10.0	6.0	5.0	6.0	8.0	16.0	23.0	27.0	28.0	26.0	22.0
22	15.0	8.5	5.0	5.0	5.0	8.0	17.0	23.5	23.5	28.0	26.0	22.0
23	16.5	9.0	3.5	3.0	5.0	10.0	18.0	22.0	29.0	27.0	26.0	22.0
24	17.0	10.0	7.0	3.0	6.0	9.0	19.0	21.5	29.0	27.0	25.0	21.5
25	16.5	9.0	8.0	3.0	6.0	10.0	17.0	28.0	29.0	27.0	24.0	19.5
26	16.0	11.0	8.0	3.0	6.0	10.0	18.0	28.0	23.5	27.0	24.0	21.0
27	17.0	7.0	7.0	2.0	5.0	10.5	17.0	25.0	21.5	27.0	24.5	21.0
28	16.0	12.0	7.0	3.0	5.5	11.0	16.0	26.0	28.0	27.0	25.5	21.0
29	16.0	11.0	6.0	5.0	---	11.5	16.0	26.0	24.0	27.0	26.0	21.0
30	16.0	11.0	5.5	6.0	---	16.0	---	26.0	25.0	28.0	24.5	22.0
31	15.0	---	5.0	5.0	---	17.0	---	---	---	28.0	24.0	---
MEAN	17.5	12.5	7.5	5.0	5.0	8.5	15.0	21.0	26.0	26.5	26.0	22.5
WTR YR 1987	MEAN	16.0	MAX	30.0	MIN	2.0						

KANAWHA RIVER BASIN

03179000 BLUESTONE RIVER NEAR PIPESTEM, WV

LOCATION.--Lat 37°32'38", long 81°00'38", Summers County, Hydrologic Unit 05050002, on left bank 1.2 mi downstream from Mountain Creek, 2.5 mi west of Pipestem, and at mile 10.6.

DRAINAGE AREA.--394 mi².

PERIOD OF RECORD.--July 1950 to current year.

REVISED RECORDS.--WSP 1705: 1959. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,527.35 ft above National Geodetic Vertical Datum of 1929 (U.S. Army Corps of Engineers bench mark).

REMARKS.--Estimated daily discharges: Jan. 25-28. Records good except for period with ice effect, which is poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--37 years, 473 ft³/s, 16.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft³/s, Apr. 5, 1977, gage height, 15.82 ft; minimum, 7.0 ft³/s, Sept. 21-23, 30, 1955, gage height, 1.60 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 19	1930	4,920	9.39	Apr. 17	0300	5,880	9.99
Mar. 2	0300	7,000	10.50	Apr. 24	2130	*13,100	*13.19
Apr. 9	0300	5,440	9.71				

Minimum discharge, 19 ft³/s, Aug. 22, gage height, 1.74 ft.

DISCHARGE, 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	63	65	255	340	1480	4300	2080	805	151	63	29	36
2	59	90	235	323	1260	6050	1270	669	160	68	29	29
3	57	119	355	292	1620	3450	1030	575	178	106	31	27
4	54	108	496	253	1760	2430	955	649	377	121	35	23
5	52	182	404	226	1600	1660	902	611	471	247	36	24
6	104	810	322	219	1280	1320	881	532	322	229	34	37
7	114	558	271	224	1070	1480	1070	486	219	170	28	59
8	79	489	245	239	971	1760	2740	428	170	130	47	80
9	63	727	377	234	862	2240	5090	360	145	98	120	87
10	56	1070	1230	235	698	2030	3880	324	173	82	65	67
11	50	701	1480	245	611	1360	2680	294	186	76	44	68
12	48	692	2120	233	663	997	1850	270	135	77	41	58
13	50	606	1240	218	1020	801	1470	252	128	66	35	46
14	104	412	732	206	988	669	1140	239	121	64	30	44
15	274	311	544	215	865	593	1990	234	103	66	27	53
16	206	268	437	253	785	751	4750	256	95	65	25	42
17	139	233	372	273	740	1080	5750	233	91	55	23	34
18	107	200	382	339	660	955	4300	199	90	50	23	31
19	88	179	417	2970	561	1680	2570	190	88	45	22	32
20	75	172	368	3450	535	2010	1650	195	109	43	22	37
21	67	222	331	1620	634	1380	1200	199	122	41	21	46
22	61	283	289	1050	789	999	939	180	94	39	19	51
23	59	268	258	817	1780	787	791	158	96	37	25	38
24	56	255	1140	583	1840	656	7760	153	90	36	22	33
25	63	269	2800	e450	1300	562	12300	202	79	34	49	30
26	101	402	1440	e400	1210	493	7380	449	120	33	34	29
27	127	565	891	e350	1220	433	3090	345	173	33	26	26
28	103	461	666	e300	1330	429	1860	279	110	33	31	24
29	85	372	522	431	---	401	1290	215	82	34	45	23
30	74	306	445	610	---	405	999	206	69	34	62	26
31	69	---	383	2020	---	2000	---	163	---	30	49	---
TOTAL	2707	11395	21447	19618	30132	46161	85657	10350	4547	2305	1129	1240
MEAN	87.3	380	692	633	1076	1489	2855	334	152	74.4	36.4	41.3
MAX	274	1070	2800	3450	1840	6050	12300	805	471	247	120	87
MIN	48	65	235	206	535	401	791	153	69	30	19	23
CFSM	.22	.96	1.76	1.61	2.73	3.78	7.25	.85	.38	.19	.09	.10
IN.	.26	1.08	2.02	1.85	2.84	4.36	8.09	.98	.43	.22	.11	.12

CAL YR 1986 TOTAL 143799 MEAN 394 MAX 4490 MIN 36 CFMS 1.00 IN. 13.58
WTR YR 1987 TOTAL 236688 MEAN 648 MAX 12300 MIN 19 CFMS 1.65 IN. 22.35

e Estimated

KANAWHA RIVER BASIN

03180500 GREENBRIER RIVER AT DURBIN, WV

LOCATION.--Lat 38°32'37", long 79°50'00", Pocahontas County, Hydrologic Unit 05050003, on left bank at Durbin, 500 ft downstream from confluence of East and West Forks, and at mile 153.4.

DRAINAGE AREA.--133 mi².

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

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 2,699.71 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 4-7, 12-14, 25-30, Feb. 10-12, June 4, July 19-31, Aug. 1-7, 10-22, and Sept. 2-4. Records good except for periods with ice effect, Jan. 4-7, 12-14, 25-30, and Feb. 10-12, and periods with doubtful or no gage-height record, June 4, July 19-31, Aug. 1-7, 10-22, and Sept. 2-4, which are poor. National Weather Service gage-height telemeter at station.

AVERAGE DISCHARGE.--44 years, 262 ft³/s, 26.75 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 37,100 ft³/s, Nov. 4, 1985, gage height, 15.82 ft, from floodmarks, from rating curve extended above 5,000 ft³/s on basis of slope-area measurement of peak flow; no flow part of each day, Oct. 2, 3, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 19	1730	*3,000	*5.19	No other peak greater than base discharge.			

Minimum daily discharge, 2.5 ft³/s, Aug. 20.

DISCHARGE, 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	47	59	257	178	266	856	878	211	99	28	e4.2	9.7
2	56	376	264	167	269	1260	613	186	117	46	e4.1	e7.4
3	46	293	489	142	273	709	484	170	93	48	e4.0	e6.0
4	44	219	502	e120	229	520	416	328	e130	32	e3.9	e4.5
5	86	310	418	e110	209	400	333	401	111	54	e3.7	9.0
6	64	791	323	e100	204	361	284	353	85	41	e3.5	33
7	50	575	262	e90	194	538	275	293	71	28	e7.0	75
8	44	504	224	109	201	809	528	241	62	22	14	349
9	40	543	325	94	170	1370	983	196	62	19	14	116
10	36	504	602	96	e130	1420	1020	166	84	18	e9.5	57
11	32	498	562	88	e140	794	994	144	54	19	e8.0	72
12	29	540	476	e110	e150	531	819	128	53	21	e6.5	246
13	42	437	369	e90	353	389	657	124	161	17	e5.5	228
14	142	320	287	e80	264	305	498	100	101	18	e4.5	131
15	116	258	263	120	215	264	959	161	75	17	e3.5	83
16	92	224	216	191	182	254	1980	159	76	16	e3.4	59
17	79	187	190	228	174	220	2290	132	100	13	e3.3	47
18	67	166	196	257	157	216	1350	125	63	11	e3.2	86
19	57	215	179	1610	141	233	750	237	53	e9.0	e3.0	74
20	50	208	161	1630	137	287	502	510	48	e8.0	e2.5	73
21	46	352	150	794	122	323	373	422	101	e7.0	e2.7	64
22	43	345	120	542	115	324	296	327	95	e6.4	e6.0	50
23	40	312	171	382	118	338	244	255	60	e6.0	98	45
24	37	314	881	257	122	373	567	204	55	e5.6	32	39
25	39	302	1340	e180	106	429	1110	168	47	e4.5	14	31
26	48	694	801	e140	116	487	739	189	45	e4.7	11	25
27	51	967	539	e120	124	461	505	177	44	e5.0	9.7	20
28	56	645	396	e100	142	397	401	162	35	e4.7	9.4	18
29	60	454	301	e150	---	333	303	142	30	e4.5	23	16
30	55	334	255	e200	---	337	263	130	29	e4.5	23	169
31	51	---	212	291	---	1220	---	110	---	e4.4	13	---
TOTAL	1745	11946	11731	8766	5023	16758	21414	6651	2239	542.3	353.1	2242.6
MEAN	56.3	398	378	283	179	541	714	215	74.6	17.5	11.4	74.8
MAX	142	967	1340	1630	353	1420	2290	510	161	54	98	349
MIN	29	59	120	80	106	216	244	100	29	4.4	2.5	4.5
CFSM	.42	2.99	2.85	2.13	1.35	4.06	5.37	1.61	.56	.13	.09	.56
IN.	.49	3.34	3.28	2.45	1.40	4.69	5.99	1.86	.63	.15	.10	.63

CAL YR 1986 TOTAL 91332 MEAN 250 MAX 3810 MIN 11 CFMS 1.88 IN. 25.55
WTR YR 1987 TOTAL 89411.0 MEAN 245 MAX 2290 MIN 2.5 CFMS 1.84 IN. 25.01

e Estimated

KANAWHA RIVER BASIN

03182000 KNAPP CREEK AT MARLINTON, WV

LOCATION.--Lat 38°12'40", long 80°04'30", Pocahontas County, Hydrologic Unit 05050003, at city water plant, at Marlinton, 1.0 mi upstream from mouth, and 2.0 mi downstream from discontinued gaging station.

DRAINAGE AREA.--108 mi² at discontinued gaging station.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: October 1946 to September 1983, July 1985 to current year.

COOPERATION.--Records were furnished by Marlinton City Water Plant.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 28.0°C, July 24, 1952, June 2, 1959; minimum daily, 0.0°C, several days during winter periods 1986 and 1987.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURES: Maximum daily observed, 24.0°C, Aug. 18; minimum daily observed, 0.0°C, several days in January and February.

WATER TEMPERATURE, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.0	12.0	8.0	3.0	.0	2.0	6.0	12.0	19.0	20.0	21.0	19.0
2	21.0	12.0	9.0	4.0	.0	3.0	6.0	13.0	18.0	21.0	20.0	19.0
3	21.0	12.0	8.0	4.0	2.0	3.0	7.0	13.0	18.0	21.0	21.0	21.0
4	20.0	12.0	8.0	3.0	2.0	4.0	7.0	12.0	19.0	20.0	21.0	21.0
5	20.0	11.0	7.0	4.0	2.0	4.0	6.0	12.0	19.0	20.0	21.0	20.0
6	18.0	11.0	5.0	5.0	2.0	5.0	7.0	13.0	19.0	20.0	20.0	18.0
7	16.0	12.0	6.0	4.0	2.0	5.0	7.0	12.0	18.0	21.0	21.0	18.0
8	15.0	12.0	7.0	4.0	1.0	6.0	7.0	11.0	18.0	21.0	21.0	18.0
9	12.0	12.0	8.0	6.0	.0	7.0	7.0	9.0	19.0	21.0	21.0	19.0
10	14.0	10.0	8.0	7.0	.0	6.0	6.0	13.0	17.0	21.0	22.0	19.0
11	14.0	11.0	8.0	8.0	1.0	4.0	7.0	14.0	15.0	21.0	22.0	19.0
12	13.0	12.0	7.0	6.0	3.0	4.0	7.0	14.0	16.0	20.0	22.0	19.0
13	14.0	8.0	4.0	4.0	3.0	5.0	6.0	12.0	17.0	20.0	23.0	19.0
14	12.0	6.0	3.0	3.0	2.0	5.0	8.0	11.0	17.0	18.0	23.0	19.0
15	12.0	7.0	5.0	5.0	1.0	5.0	7.0	13.0	18.0	18.0	23.0	20.0
16	12.0	8.0	6.0	5.0	2.0	6.0	6.0	13.0	18.0	19.0	21.0	20.0
17	11.0	7.0	7.0	4.0	2.0	5.0	6.0	13.0	19.0	19.0	23.0	19.0
18	10.0	8.0	7.0	4.0	2.0	4.0	7.0	14.0	19.0	20.0	24.0	20.0
19	10.0	8.0	8.0	5.0	1.0	5.0	7.0	13.0	20.0	19.0	23.0	20.0
20	10.0	7.0	7.0	4.0	1.0	6.0	8.0	12.0	20.0	20.0	22.0	19.0
21	10.0	8.0	2.0	4.0	2.0	6.0	10.0	12.0	18.0	21.0	22.0	18.0
22	12.0	6.0	1.0	4.0	2.0	8.0	12.0	11.0	20.0	21.0	22.0	18.0
23	12.0	7.0	.0	.0	2.0	8.0	10.0	14.0	20.0	21.0	22.0	19.0
24	12.0	8.0	.0	.0	1.0	7.0	10.0	13.0	19.0	22.0	20.0	19.0
25	12.0	8.0	4.0	1.0	1.0	8.0	9.0	13.0	20.0	22.0	20.0	18.0
26	13.0	8.0	3.0	1.0	1.0	8.0	9.0	13.0	21.0	21.0	20.0	19.0
27	12.0	7.0	3.0	.0	2.0	7.0	8.0	15.0	20.0	21.0	19.0	19.0
28	11.0	7.0	3.0	.0	2.0	8.0	7.0	15.0	18.0	20.0	20.0	20.0
29	10.0	9.0	4.0	.0	---	8.0	9.0	16.0	19.0	20.0	20.0	19.0
30	11.0	8.0	4.0	1.0	---	8.0	10.0	20.0	19.0	20.0	19.0	20.0
31	12.0	---	4.0	1.0	---	7.0	---	19.0	---	20.0	19.0	---
MEAN	13.6	9.1	5.3	3.4	1.5	5.7	7.6	13.2	18.6	20.3	21.2	19.2

WTR YR 1987 MEAN 11.6

KANAWHA RIVER BASIN

03182500 GREENBRIER RIVER AT BUCKEYE, WV

LOCATION.--Lat 38°11'09", long 80°07'51", Pocahontas County, Hydrologic Unit 05050003, on right bank at upstream side of highway bridge at Buckeye, 1,000 ft upstream from Swago Creek, 3.5 mi downstream from Knapp Creek, and at mile 105.1 (corrected). Records include flow of Swago Creek.

DRAINAGE AREA.--540 mi², includes that of Swago Creek.

PERIOD OF RECORD.--September 1929 to current year.

REVISED RECORDS.--WSP 758: 1933. WSP 953: 1930-32, 1934-35(M), 1936, 1937(M), 1938-39, 1940(M). WSP 1275: 1936.

GAGE.--Water-stage recorder. Datum of gage is 2,085.89 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 27, 1939, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 27-28, Jan. 6-7, 13-21, 25-29. Records good except for periods with ice effect Jan. 6-7, 25-29, and periods with doubtful or no gage-height record, Dec. 27-28 and Jan. 13-21, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--58 years, 882 ft³/s, 22.18 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 82,000 ft³/s, Nov. 5, 1985, gage height, 23.20 ft, from floodmarks, from rating curve extended above 33,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 3.8 ft³/s, Aug. 13, 1930, gage height, 1.19 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 24	2200	14,700	11.16	Apr. 15	2300	*14,900	*11.23

Minimum discharge, 13 ft³/s, Aug. 22, gage height, 1.66 ft.

DISCHARGE, 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	122	124	775	534	1310	5080	4250	787	526	84	24	38
2	102	235	670	444	1260	6770	2370	662	621	82	22	38
3	88	671	1300	400	1520	3590	1690	593	559	99	21	30
4	96	464	1640	347	1360	2370	1380	988	483	172	20	24
5	97	483	1300	328	962	1680	1170	1760	451	302	20	27
6	168	1440	995	e300	929	1350	1050	1350	365	275	19	82
7	150	1260	797	e270	927	1620	1220	1080	287	195	18	167
8	114	1060	670	298	976	2730	3110	875	242	133	19	862
9	96	1030	816	328	880	4820	3820	711	237	104	19	739
10	86	1140	2520	322	656	5230	2790	596	273	87	20	440
11	78	1080	2110	259	684	2800	2270	518	244	74	24	483
12	71	1620	2200	306	752	1780	1900	461	206	86	29	995
13	81	1190	1620	e280	1710	1290	1540	445	196	80	26	1010
14	122	857	1120	e250	1380	1020	1190	397	313	106	22	602
15	269	656	969	e360	1100	868	3710	357	259	110	19	364
16	233	564	778	e600	931	799	13000	656	249	93	19	247
17	173	491	650	e700	834	743	9580	519	445	71	19	188
18	149	426	622	e800	758	680	5380	437	365	60	18	160
19	133	490	628	e4000	596	682	2970	432	229	52	15	189
20	116	598	564	e6000	531	742	1870	711	174	44	14	240
21	104	825	513	e3300	554	819	1350	872	168	38	14	265
22	99	1000	448	1910	540	828	1080	729	192	34	17	224
23	92	846	419	1410	564	807	885	606	251	32	88	179
24	87	744	4920	895	547	816	2380	526	181	31	75	151
25	88	709	8210	e700	526	869	6550	552	160	25	115	133
26	100	1970	5680	e600	604	997	3530	770	158	25	72	113
27	119	3820	e2500	e500	679	1010	2060	1140	144	27	51	97
28	127	2090	e1000	e450	787	962	1510	966	126	25	42	84
29	126	1390	794	e700	---	867	1160	1170	107	24	37	77
30	129	1010	654	1290	---	1290	952	1080	94	23	33	131
31	127	---	580	1520	---	5550	---	685	---	23	31	---
TOTAL	3742	30283	48462	30401	24857	61459	87717	23431	8305	2616	982	8379
MEAN	121	1009	1563	981	888	1983	2924	756	277	84.4	31.7	279
MAX	269	3820	8210	6000	1710	6770	13000	1760	621	302	115	1010
MIN	71	124	419	250	526	680	885	357	94	23	14	24
CFSM	.22	1.87	2.89	1.82	1.64	3.67	5.41	1.40	.51	.16	.06	.52
IN.	.26	2.09	3.34	2.09	1.71	4.23	6.04	1.61	.57	.18	.07	.58

CAL YR 1986 TOTAL 271538 MEAN 744 MAX 14000 MIN 44 CFSM 1.38 IN. 18.71
WTR YR 1987 TOTAL 330634 MEAN 906 MAX 13000 MIN 14 CFSM 1.68 IN. 22.78

e Estimated

KANAWHA RIVER BASIN

03183500 GREENBRIER RIVER AT ALDERSON, WV

LOCATION.--Lat 37°43'27", long 80°38'30", Monroe County, Hydrologic Unit 05050003, on left bank 400 ft upstream from highway bridge at Alderson, 0.5 mi upstream from Muddy Creek, and at mile 29.2.

DRAINAGE AREA.--1,364 mi².

PERIOD OF RECORD.--July 1895 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 536: 1907-9. WSP 803: 1918(M). WSP 953: 1930-41. WSP 1275: 1897, 1905, 1910, 1914(M), 1915-16, 1917(M), 1919-20(M), 1924-25(M), 1927(M), 1929, 1949, WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,529.42 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 15, 1929, nonrecording gage at bridge 400 ft downstream at same datum.

REMARKS.--Estimated daily discharges: Jan. 26-28. Records good except for period with ice effect, which is fair. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--92 years, 2,001 ft³/s, 19.92 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90,600 ft³/s, Nov. 5, 1985, gage height, 23.95 ft, from floodmarks, from rating curve extended above 37,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 24 ft³/s, Aug. 12, Oct. 1, 2, 1930; minimum gage height, 1.63 ft, Sept. 20, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 19,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 25	0800	30,000	12.94	Apr. 16	2200	*33,800	*14.02
Jan. 20	1000	20,500	10.23	Apr. 25	0600	24,200	11.28
Mar. 2	0800	21,500	10.52				

Minimum discharge, 28 ft³/s, Aug. 22, gage height, 1.78 ft.

DISCHARGE, 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	210	229	1910	1600	2360	10100	12800	2440	1510	212	76	91
2	259	274	1540	1420	2300	20000	6830	2050	1330	197	70	86
3	200	470	1710	1250	2630	12800	4620	1770	1280	221	84	78
4	203	916	3190	1080	3310	8790	3720	1780	1290	308	84	71
5	194	910	3100	910	3320	5600	3190	3100	1120	544	71	72
6	169	1930	2440	790	3060	4210	2840	3450	928	1210	68	95
7	183	3010	1930	721	2840	4040	3480	2760	763	705	64	128
8	180	2310	1590	755	2820	5590	7240	2260	618	525	61	205
9	234	2180	1450	825	2830	8610	8730	1870	523	404	63	682
10	203	2970	3300	756	2250	11700	6550	1580	507	312	58	1140
11	180	2440	5370	744	1870	7540	4870	1350	554	260	57	677
12	164	2340	6230	771	1860	4710	4040	1220	504	235	54	912
13	163	2780	5150	727	3100	3490	3360	1150	499	255	53	1630
14	186	2010	3490	650	4140	2730	2740	1040	428	244	50	1550
15	272	1500	2580	666	3350	2260	2830	944	382	258	49	977
16	318	1190	2080	984	2830	2030	22600	890	520	233	51	643
17	391	1000	1720	1450	2680	1940	27600	1010	773	217	53	474
18	357	872	1540	1680	2370	1790	15100	1010	667	204	68	369
19	285	756	1610	5410	1940	1770	8640	852	737	178	63	315
20	248	798	1620	17200	1620	1970	5620	859	545	155	68	291
21	225	1070	1490	8850	1490	2100	4060	1120	492	140	53	327
22	208	1650	1310	5220	1580	2090	3190	1420	383	131	35	420
23	196	1780	1080	3880	1770	1950	2610	1240	349	120	59	402
24	186	1500	3780	2690	1760	1830	5460	1080	345	113	71	339
25	186	1310	24800	2050	1690	1770	21900	1170	385	105	74	281
26	198	1490	10900	e1700	1910	1800	13200	2530	376	97	103	241
27	218	6250	5670	e1400	2210	1830	7320	3810	350	91	128	210
28	237	5360	3880	e1200	2470	1910	5110	3630	304	89	156	185
29	233	3490	2920	1150	---	1960	3800	2840	269	85	141	169
30	243	2520	2320	1410	---	2000	2980	2520	233	88	117	162
31	237	---	1920	2160	---	10000	---	2040	---	79	100	---
TOTAL	6966	57305	113620	72099	68360	150910	227030	56785	18964	8015	2302	13222
MEAN	225	1910	3665	2326	2441	4868	7568	1832	632	259	74.3	441
MAX	391	6250	24800	17200	4140	20000	27600	3810	1510	1210	156	1630
MIN	163	229	1080	650	1490	1770	2610	852	233	79	35	71
CFSM	.16	1.40	2.69	1.71	1.79	3.57	5.55	1.34	.46	.19	.05	.32
IN.	.19	1.56	3.10	1.97	1.86	4.12	6.19	1.55	.52	.22	.06	.36

CAL YR 1986 TOTAL 551052 MEAN 1510 MAX 27200 MIN 120 CFSM 1.11 IN. 15.03
WTR YR 1987 TOTAL 795578 MEAN 2180 MAX 27600 MIN 35 CFSM 1.60 IN. 21.70

e Estimated

KANAWHA RIVER BASIN

03184000 GREENBRIER RIVER AT HILLDALE, WV

LOCATION.--Lat 37°38'24", long 80°48'19", Summers County, Hydrologic Unit 05050003, on left bank 100 ft downstream from State Highway 3 bridge at Hilldale, 0.1 mi upstream from Howard Creek, 0.9 mi upstream from Powley Creek, 5.0 mi southeast of Hinton, and at mile 5.5. Records include flow of Howard Creek.

DRAINAGE AREA.--1,619 mi², includes that of Howard Creek.

PERIOD OF RECORD.--June 1936 to current year.

REVISED RECORDS.--WSP 1435: 1955. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,388.66 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--51 years, 2,275 ft³/s, 19.08 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 83,800 ft³/s, Nov. 6, 1985, gage height, 25.68 ft, from floodmarks, from rating curve extended above 57,000 ft³/s; minimum discharge, 39 ft³/s, Sept. 18-20, 1946, Sept. 16, 1964; minimum gage height, 0.32 ft, Sept. 16, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 21.85 ft from data furnished by U.S. Army Corps of Engineers, discharge, 60,800 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 24,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 25	1300	33,500	15.73	Apr. 17	0300	*39,400	*17.26
Mar. 2	1200	25,100	13.33	Apr. 25	1000	31,800	15.27

Minimum discharge, 44 ft³/s, Aug. 24, gage height, 0.40 ft.

DISCHARGE, 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	188	273	2280	2120	3310	11300	16100	3160	1720	263	82	100
2	281	305	1800	1850	3170	24000	9220	2650	1460	247	85	81
3	281	425	1760	1610	3580	16800	6240	2240	1360	232	79	77
4	231	818	3390	1360	4470	11100	4950	2130	1320	283	81	71
5	227	1180	3760	1170	4710	7840	4250	3030	1240	417	92	72
6	218	2080	2950	1010	4220	5800	3800	4060	1040	1350	76	86
7	192	3610	2270	919	3790	5280	4480	3260	884	1090	69	101
8	203	3020	1850	893	3660	6650	8570	2670	739	715	69	152
9	204	2790	1710	1000	3700	9610	11000	2190	623	534	59	234
10	251	3840	3490	963	3110	13300	8700	1820	574	407	63	1300
11	213	3280	7100	924	2510	10100	6380	1560	581	333	60	880
12	186	2680	8120	938	2380	6340	5170	1370	627	290	56	839
13	178	3340	6680	922	3660	4650	4310	1310	570	276	54	1410
14	196	2580	4500	860	5390	3630	3480	1210	533	326	53	1930
15	234	1890	3220	804	4550	2980	3580	1090	457	303	50	1310
16	386	1490	2500	1020	3810	2640	20500	1020	490	306	48	838
17	365	1250	2090	1610	3420	2510	34300	993	742	270	47	586
18	474	1080	1840	1990	3050	2340	19500	1180	762	243	48	432
19	369	950	1890	5580	2630	2310	11300	990	821	224	50	363
20	310	883	1970	19600	2230	2560	7340	917	816	199	57	325
21	269	1120	1830	11900	2030	2690	5300	1050	616	176	52	303
22	241	1690	1600	7050	2190	2660	4120	1420	506	161	57	379
23	221	2130	1360	5170	2580	2480	3380	1340	423	150	53	409
24	208	1840	3270	3680	2620	2280	9010	1150	389	136	46	385
25	208	1600	27300	2850	2450	2170	27500	1060	419	127	53	329
26	216	1720	14700	2420	2690	2150	18200	2480	415	117	64	282
27	232	6140	7630	1950	3070	2170	9760	3780	412	106	84	245
28	271	7070	5210	1660	3490	2220	6700	4090	368	97	128	217
29	283	4440	3870	1610	---	2330	5020	3070	332	92	160	195
30	276	3120	3060	1910	---	2390	3890	2890	296	90	141	186
31	280	---	2530	3080	---	9150	---	2250	---	88	118	---
TOTAL	7892	68634	137530	90423	92470	184430	286050	63430	21535	9648	2234	14117
MEAN	255	2288	4436	2917	3302	5949	9535	2046	718	311	72.1	471
MAX	474	7070	27300	19600	5390	24000	34300	4090	1720	1350	160	1930
MIN	178	273	1360	804	2030	2150	3380	917	296	88	46	71
CFSM	.16	1.41	2.74	1.80	2.04	3.67	5.89	1.26	.44	.19	.04	.29
IN.	.18	1.58	3.16	2.08	2.12	4.24	6.57	1.46	.49	.22	.05	.32

CAL YR 1986 TOTAL 657376 MEAN 1801 MAX 27500 MIN 127 CFSM 1.11 IN. 15.10
WTR YR 1987 TOTAL 978393 MEAN 2681 MAX 34300 MIN 46 CFSM 1.66 IN. 22.48

KANAWHA RIVER BASIN

03184500 NEW RIVER AT HINTON, WV

LOCATION.--Lat 37°40'13", long 80°53'45", Summers County, Hydrologic Unit 05050004, on right bank at Hinton, 0.2 mi upstream from Madam Creek, 1.5 mi downstream from Greenbrier River, at New River mile 62.0 and Kanawha River mile 160.0.

DRAINAGE AREA.--6,256 mi².

PERIOD OF RECORD.--June 1936 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area. WDR WV-85-1: 1984(m).

GAGE.--Water-stage recorder. Datum of gage is 1,355.18 ft above National Geodetic Vertical Datum of 1929. Prior to June 5, 1949, water-stage recorder at site 400 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1939 by Claytor Lake and since 1949 by Bluestone Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--51 years, 7,932 ft³/s, 17.22 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 246,000 ft³/s, Aug. 15, 1940, gage height, 18.97 ft, from rating curve extended above 80,000 ft³/s on basis of slope-area measurement at station at Bluestone Dam, and gaged inflow from Greenbrier River; minimum, 238 ft³/s, Aug. 21, 1962, gage height, 1.03 ft; minimum daily, 620 ft³/s, Nov. 3, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 64,300 ft³/s, Apr. 27, gage height, 8.95 ft; minimum daily, 1,250 ft³/s, Oct. 9, 12.

DISCHARGE, 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	3020	1700	5430	7840	14400	33500	44000	41200	4890	3420	2190	1310
2	3280	1720	8670	5270	12800	58400	33400	31600	5770	4290	2000	1370
3	3120	1810	12700	6630	12900	58200	25200	18100	7500	3770	1550	1480
4	2500	2110	12200	5260	16200	52400	21700	12800	7760	4650	1930	1470
5	2040	3720	7610	3630	16900	45200	20400	13600	5620	8330	2610	1490
6	1670	5510	7610	4080	14900	37400	16800	13500	4840	8660	2670	2060
7	1540	7060	8780	4420	13300	29600	13500	11500	5450	6740	2510	4000
8	1460	9650	6400	4470	9740	25500	26100	10900	4460	6490	2510	9550
9	1250	9220	6620	4980	8920	27800	34200	8010	4470	4380	2290	9200
10	1320	8560	8450	5120	10700	32700	29800	6850	4330	4330	1480	4740
11	1280	7350	12400	3990	9170	29500	23000	6920	4480	4500	1800	3320
12	1250	6370	19500	3060	9390	23400	17600	9280	4770	3580	2030	3070
13	1440	6480	18900	3750	10900	18200	15500	7890	4720	3060	2030	4250
14	1560	5780	13500	4640	12400	13500	16600	6800	3590	3610	2030	3870
15	2110	5270	7900	4380	9710	10300	19800	8540	2540	4550	1870	3100
16	2280	4480	8280	4890	8130	10200	42100	6930	3400	4420	1760	3750
17	2370	3320	6510	5670	10600	10500	46100	5220	4670	3490	1580	3850
18	2560	2920	5750	5550	10100	11100	46400	4490	4450	3510	1460	2840
19	2190	3310	6430	17200	8470	12800	57500	6890	4530	2490	1660	2310
20	1940	3510	5750	42900	7980	18200	49100	7110	5130	1690	1930	2290
21	1720	3680	4560	32200	7390	17900	41700	7420	4040	2150	2020	1860
22	1590	3840	4090	19500	7070	14800	34200	7950	3440	2450	2020	1690
23	1480	4080	4890	15500	12000	11700	20000	7000	4620	2250	1650	2120
24	1420	3860	10400	11200	18000	9560	34100	5370	5150	2050	1470	2290
25	1430	4200	49800	7960	13500	9990	56100	6260	4720	2220	1450	1880
26	1530	5800	38200	7180	12700	9980	44000	10700	4550	2430	1480	1820
27	1620	11800	24100	6520	15400	9380	62800	11400	5230	2090	1500	1730
28	1660	13000	16200	6440	19600	9020	59200	11800	4710	1750	1530	1580
29	1700	8550	10600	6670	---	9310	53300	10600	3210	2200	1570	1550
30	1700	6160	10100	7400	---	7350	47500	9860	3270	2700	1570	1540
31	1700	---	8910	10800	---	26300	---	7410	---	2250	1530	---
TOTAL	57730	164820	371240	279100	332470	693690	1051700	333900	140310	114500	57680	87380
MEAN	1862	5494	11980	9003	11870	22380	35060	10770	4677	3694	1861	2913
MAX	3280	13000	49800	42900	19600	58400	62800	41200	7760	8660	2670	9550
MIN	1250	1700	4090	3060	7070	7350	13500	4490	2540	1690	1450	1310

CAL YR 1986 TOTAL 2074560 MEAN 5684 MAX 49800 MIN 1120 CFSM .91 IN 12.34
WTR YR 1987 TOTAL 3684520 MEAN 10090 MAX 62800 MIN 1250 CFSM 1.61 IN 21.91

KANAWHA RIVER BASIN

03184950 SOAK CREEK AT SOPHIA, WV

LOCATION.--Lat 37°42'26", long 81°14'33", Raleigh County, Hydrologic Unit 05050004, on left bank, 50 ft downstream from bridge on State Highway 29/6, 1.1 mi upstream from Laurel Branch, and 2.3 mi upstream from Piney Creek.

DRAINAGE AREA.--3.20 mi².

PERIOD OF RECORD.--October 1976 to current year.

REVISED RECORDS.--WDR WV-83-1: Drainage area.

WATER QUALITY DATA

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	STREAM- FLOW, INSTAN- TANEOUS (CFS)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
NOV 1986										
06...	1200	--	7.5	--	14.0	--	--	--	151	3.1
07...	1330	--	5.6	--	--	--	--	--	150	2.3
09...	0500	--	38	--	--	--	--	--	975	100
09...	0530	--	69	--	--	--	--	--	1880	350
09...	0600	--	59	--	--	--	--	--	1760	280
09...	0630	--	91	--	--	--	--	--	2320	570
09...	0700	--	114	--	--	--	--	--	2490	766
09...	0730	--	118	--	--	--	--	--	2240	714
09...	0800	--	121	--	--	--	--	--	2260	738
09...	0830	--	119	--	--	--	--	--	2280	733
09...	0900	--	106	--	--	--	--	--	2340	670
09...	0930	--	108	--	--	--	--	--	1700	496
09...	1000	--	118	--	--	--	--	--	1280	408
09...	1030	--	123	--	--	--	--	--	1170	389
09...	1100	--	118	--	--	--	--	--	1120	357
09...	1130	--	112	--	--	--	--	--	1080	327
09...	1200	--	113	--	--	--	--	--	954	291
09...	1230	--	105	--	--	--	--	--	1050	298
09...	1300	--	98	--	--	--	--	--	948	251
09...	1330	--	91	--	--	--	--	--	821	202
09...	1400	--	84	--	--	--	--	--	710	161
09...	1430	--	82	--	--	--	--	--	603	134
09...	1500	--	79	--	--	--	--	--	552	118
18...	1600	--	2.2	--	--	--	--	--	2280	14
DEC										
15...	1300	129	3.7	7.00	7.0	702	11.3	101	463	4.6
24...	1300	--	21	--	--	--	--	--	4250	241
24...	1330	--	40	--	--	--	--	--	6220	672
24...	1430	--	58	--	--	--	--	--	10200	1600
24...	1500	--	52	--	--	--	--	--	4280	601
24...	1530	--	38	--	--	--	--	--	3860	396
24...	1600	--	30	--	--	--	--	--	3840	311
24...	1630	--	26	--	--	--	--	--	4040	284
24...	1700	--	22	--	--	--	--	--	3620	215
24...	1730	--	22	--	--	--	--	--	4330	257
24...	1800	--	20	--	--	--	--	--	3780	204
24...	1830	--	20	--	--	--	--	--	3810	206
24...	1900	--	20	--	--	--	--	--	4110	222
24...	1930	--	20	--	--	--	--	--	3880	210
24...	2000	--	20	--	--	--	--	--	3930	212
24...	2030	--	20	--	--	--	--	--	3910	211
24...	2100	--	20	--	--	--	--	--	4090	221
24...	2130	--	19	--	--	--	--	--	4060	208
24...	2200	--	19	--	--	--	--	--	3830	196
24...	2230	--	19	--	--	--	--	--	4020	206
24...	2300	--	19	--	--	--	--	--	4100	210
24...	2330	--	18	--	--	--	--	--	3930	191

KANAWHA RIVER BASIN
03184950 SOAK CREEK AT SOPHIA, WV--Continued
WATER QUALITY DATA

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	STREAM- FLOW, INSTAN- TANEOUS (CFS)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	
JAN 1987									
12...	1600	--	1.6	--	--	--	165	0.71	
19...	1030	--	58	--	--	--	1650	258	
19...	1100	--	57	--	--	--	1520	234	
19...	1130	--	52	--	--	--	1180	166	
19...	1200	--	47	--	--	--	880	112	
19...	1230	--	45	--	--	--	711	86	
19...	1300	--	43	--	--	--	658	76	
19...	1330	--	43	--	--	--	533	62	
19...	1400	--	42	--	--	--	520	59	
19...	1430	--	42	--	--	--	638	72	
19...	1500	--	49	--	--	--	650	86	
19...	1530	--	69	--	--	--	1350	252	
19...	1630	--	72	--	--	--	1910	371	
19...	1700	--	67	--	--	--	1940	351	
19...	1730	--	60	--	--	--	1860	301	
19...	1800	--	56	--	--	--	1400	212	
19...	1830	--	52	--	--	--	1140	160	
19...	1900	--	48	--	--	--	856	111	
19...	1930	--	44	--	--	--	764	91	
19...	2000	--	42	--	--	--	585	66	
19...	2030	--	41	--	--	--	522	58	
19...	2100	--	38	--	--	--	535	55	
19...	2130	--	37	--	--	--	552	55	
26...	1530	136	3.2	7.30	1.5	12.5	221	1.9	
FEB									
23...	1530	--	10	--	--	--	198	5.3	
28...	1200	--	30	--	--	--	865	70	
28...	1230	--	37	--	--	--	966	97	
28...	1300	--	41	--	--	--	1120	124	
28...	1330	--	50	--	--	--	1060	143	
28...	1400	--	53	--	--	--	907	130	
28...	1430	--	54	--	--	--	845	123	
28...	1500	--	56	--	--	--	762	115	
28...	1530	--	57	--	--	--	723	111	
28...	1600	--	56	--	--	--	661	100	
28...	1630	--	56	--	--	--	630	95	
28...	1700	--	57	--	--	--	613	94	
28...	1730	--	57	--	--	--	585	90	
28...	1800	--	57	--	--	--	580	89	
28...	1830	--	58	--	--	--	628	98	
28...	1900	--	59	--	--	--	591	94	
28...	1930	--	59	--	--	--	612	97	
28...	2000	--	62	--	--	--	802	134	
28...	2030	--	67	--	--	--	935	169	
28...	2100	--	72	--	--	--	1060	206	
28...	2130	--	75	--	--	--	1020	207	
28...	2200	--	76	--	--	--	978	201	
28...	2230	--	74	--	--	--	832	166	
MAR									
10...	1430	136	3.6	7.60	6.5	11.5	92	0.89	
DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	STREAM- FLOW, INSTAN- TANEOUS (CFS)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
APR 1987									
08...	1300	--	43	--	--	--	943	109	
08...	1330	--	50	--	--	--	1100	148	
08...	1400	--	68	--	--	--	1100	202	
08...	1430	--	73	--	--	--	963	190	
08...	1500	--	78	--	--	--	1020	215	
08...	1530	--	81	--	--	--	899	197	
08...	1600	--	83	--	--	--	699	157	
08...	1630	--	83	--	--	--	637	143	
08...	1700	--	83	--	--	--	583	131	
08...	1800	--	80	--	--	--	472	102	
08...	1830	--	79	--	--	--	447	95	
08...	1900	--	78	--	--	--	411	87	
08...	1930	--	75	--	--	--	377	76	
08...	2000	--	74	--	--	--	339	68	

KANAWHA RIVER BASIN

03184950 SOAK CREEK AT SOPHIA, WV--Continued

WATER QUALITY DATA

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	STREAM- FLOW, INSTAN- TANEOUS (CFS)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
08...	2030	--	72	--	--	--	--	295	57
08...	2100	--	71	--	--	--	--	267	51
08...	2130	--	69	--	--	--	--	281	52
08...	2200	--	68	--	--	--	--	265	49
13...	1430	--	8.0	--	--	--	--	49	1.1
15...	1030	--	20	--	--	--	--	1300	70
15...	1130	--	38	--	--	--	--	1620	166
17...	1700	--	33	--	9.5	--	--	60	5.3
23...	1330	132	3.9	7.60	14.5	--	9.5	24	0.25
23...	2000	--	46	--	--	--	--	1640	204
23...	2030	--	79	--	--	--	--	2970	634
23...	2100	--	67	--	--	--	--	1960	355
23...	2130	--	71	--	--	--	--	1130	217
23...	2200	--	79	--	--	--	--	1040	222
23...	2230	--	83	--	--	--	--	899	201
23...	2300	--	76	--	--	--	--	683	140
23...	2330	--	68	--	--	--	--	440	81
23...	2400	--	68	--	--	--	--	373	68
24...	0030	--	75	--	--	--	--	541	110
24...	0100	--	80	--	--	--	--	466	101
24...	0130	--	75	--	--	--	--	374	76
24...	0200	--	71	--	--	--	--	349	67
24...	0230	--	69	--	--	--	--	294	55
24...	0300	--	68	--	--	--	--	253	46
24...	0330	--	67	--	--	--	--	247	45
24...	0400	--	66	--	--	--	--	231	41
24...	0430	--	64	--	--	--	--	225	39
24...	0500	--	63	--	--	--	--	210	36
24...	0530	--	62	--	--	--	--	210	35
24...	0600	--	60	--	--	--	--	189	31
24...	0630	--	58	--	--	--	--	177	28
24...	0700	--	56	--	--	--	--	169	26
28...	1200	--	8.2	--	12.5	--	--	24	0.53
JUN									
16...	1630	--	47	--	--	--	--	3610	458
24...	1600	231	0.06	9.70	29.0	698	--	--	--

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
JUL 1987				
02...	2000	44	3080	366
02...	2030	49	4050	536
03...	1700	19	1560	80
03...	1730	42	2700	306
03...	1800	51	2110	291
10...	1630	43	968	112
10...	1700	52	955	134
10...	1730	22	772	46
AUG				
19...	1400	0.0	--	--
25...	1330	0.0	--	--
27...	2400	12	382	12
SEP				
21...	1445	0.0	--	--

KANAWHA RIVER BASIN

03185400 NEW RIVER AT THURMOND, WV

LOCATION.--Lat 37°57'18", long 81°04'36", Fayette County, Hydrologic Unit 05050004, on right bank at Thurmond, at Chessie System pump house, 0.1 mi upstream from Dunloup Creek, 0.3 mi upstream from railroad/highway bridge, at New River mile 25.8 and Kanawha River mile 122.4.

DRAINAGE AREA.--6,687 mi².

PERIOD OF RECORD.--February 1981 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,030.71 (corrected) ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated by Claytor Lake and Bluestone Lake. National Park Service gage-height telemeter at station.

AVERAGE DISCHARGE.--6 years, 9,003 ft³/s, 18.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 89,400 ft³/s, Nov. 6, 1985, gage height, 18.95 ft, from rating curve extended above 59,000 ft³/s; minimum daily, 869 ft³/s, Aug. 26, 1981.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 85,200 ft³/s, Apr. 24, gage height, 18.60 ft; minimum daily, 1,220 ft³/s, Sept. 2.

DISCHARGE, 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	3340	1820	5970	9490	16200	34700	48900	45300	6370	3830	1930	1520
2	3440	1950	8200	8010	15900	66700	37700	35900	5410	3960	2300	1220
3	4050	2110	14400	5660	15200	67500	28300	21600	7860	4060	1730	1390
4	3220	2190	15100	8070	17400	60800	23300	15100	8770	4250	1530	1450
5	3100	3210	11400	4190	19600	51100	22000	14800	7660	7170	2350	1460
6	2350	7220	8090	4110	17700	41900	20200	15100	4780	11200	2870	1580
7	1880	8790	11000	4970	15900	33400	15500	13800	5460	6260	2550	2660
8	1750	10300	8420	4960	13600	28000	26500	12100	5460	8190	2520	8060
9	1560	14400	7740	5200	9980	30000	41900	10700	4230	5220	2510	12300
10	1390	13300	10100	5730	12000	34800	35800	8020	5060	4130	1940	6110
11	1420	10700	14900	5410	12000	32700	29100	7540	4380	4760	1460	3970
12	1370	9270	20500	3410	10500	26000	20200	9330	4940	4410	1940	3370
13	1400	8310	22800	3690	13700	20400	18500	10300	5110	3140	2010	3510
14	1960	7430	16900	4600	14600	16000	17700	6970	4690	3110	2010	5240
15	2100	6490	11800	5310	13400	12800	20700	9170	2760	4440	2020	3020
16	2750	5830	9650	4910	10400	11800	41800	9090	2690	4890	1780	3610
17	2470	4430	8050	6180	11600	12300	61900	6110	4220	3890	1750	4120
18	2740	3480	7300	6480	12900	12600	47100	4860	4960	3320	1480	3800
19	2730	3450	6900	14900	10800	14200	67800	6100	4420	3590	1430	2520
20	2160	3950	7610	46600	9730	18200	56200	8270	5420	1780	1690	2550
21	2070	4100	5590	39800	9500	19700	46500	8500	5230	1690	1970	2430
22	1770	4370	4760	22900	9040	17500	37400	8750	3240	2410	2010	1800
23	1710	4540	4880	18300	10600	14100	24900	8550	4070	2430	2100	1860
24	1530	4570	8450	14200	20100	11900	46000	6410	5340	2140	1460	2450
25	1540	4520	50100	10800	16300	11200	74900	5700	5130	1980	1420	2410
26	1640	7160	47600	9320	15100	11800	53200	11600	4700	2380	1430	1800
27	1790	12200	28600	10600	16400	11000	70200	12200	4900	2390	1460	1990
28	1790	17400	19800	6690	21100	10500	67800	13600	5460	1790	1520	1740
29	1810	11800	14200	7520	---	10400	60100	12300	4070	1830	1550	1680
30	1830	8820	11100	8290	---	9640	52800	11500	2650	2360	1550	1700
31	1820	---	11600	12000	---	21600	---	9210	---	2790	1550	---
TOTAL	66480	208110	433510	322300	391250	775240	1214900	378480	149440	119790	57820	93320
MEAN	2145	6937	13980	10400	13970	25010	40500	12210	4981	3864	1865	3111
MAX	4050	17400	50100	46600	21100	67500	74900	45300	8770	11200	2870	12300
MIN	1370	1820	4760	3410	9040	9640	15500	4860	2650	1690	1420	1220

CAL YR 1986 TOTAL 2381300 MEAN 6524 MAX 59500 MIN 1150 CFSM .97 IN 13.15
WTR YR 1987 TOTAL 4210640 MEAN 11540 MAX 74900 MIN 1220 CFSM 1.71 IN 23.25

KANAWHA RIVER BASIN

03186500 WILLIAMS RIVER AT DYER, WV

LOCATION.--Lat 38°22'44", long 80°29'03", Webster County, Hydrologic Unit 05050005, on left bank at Dyer, 0.2 mi downstream from Craig Run, 7.0 mi southwest of Webster Springs, and at mile 2.3.

DRAINAGE AREA.--128 mi².

PERIOD OF RECORD.--September 1929 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1275: 1930.

GAGE.--Water-stage recorder. Datum of gage is 2,193.46 ft above National Geodetic Vertical Datum, adjustment of 1912. Prior to June 11, 1930, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Jan. 6, 25-28, and Feb. 10-11. Records good except for periods effected by ice, which are poor.

AVERAGE DISCHARGE.--58 years, 334 ft³/s, 35.44 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,000 ft³/s, July 4, 1932, gage height, 18.45 ft, from floodmarks, from rating curve extended above 7,000 ft³/s on basis of slope-area measurements at gage heights 12.33 ft and 18.45 ft; minimum daily, 0.5 ft³/s, Oct. 13-16, 21, 1953; minimum gage height, 0.44 ft, Oct. 5, 6, 1953.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 24	2000	*6,150	*8.67	Apr. 16	0800	4,960	7.83
Jan. 19	1600	4,730	7.65				

Minimum discharge, 1.3 ft³/s, Aug. 22, gage height, 0.56 ft.

DISCHARGE, 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	195	115	343	194	314	1120	929	230	76	59	8.7	13
2	161	398	314	179	302	1260	674	197	341	63	7.8	9.8
3	138	363	838	145	320	704	553	169	189	109	7.2	8.2
4	122	290	613	128	279	517	468	313	288	82	6.7	7.2
5	463	374	449	114	235	391	387	316	195	532	6.1	6.8
6	338	1240	365	e90	223	340	339	243	136	172	5.8	9.0
7	235	785	308	116	220	464	328	208	103	114	5.5	85
8	187	708	262	111	220	763	732	178	82	80	5.3	242
9	153	796	954	96	175	1720	1230	152	109	62	4.7	113
10	127	798	1540	98	e140	1360	1250	131	424	52	4.9	57
11	108	780	926	99	e170	746	1300	113	193	46	4.7	151
12	94	938	815	89	304	526	1220	103	177	529	4.3	724
13	167	629	574	92	530	396	1070	104	838	169	3.9	478
14	810	451	417	89	365	310	803	87	451	135	3.6	208
15	624	360	354	208	289	273	1370	124	266	127	3.0	122
16	412	316	283	465	259	263	3360	141	190	89	2.5	86
17	309	270	243	435	225	231	2470	95	224	68	2.3	70
18	238	236	261	450	208	230	1130	86	137	54	2.9	75
19	192	309	282	2480	165	249	714	349	103	43	2.4	85
20	160	293	232	1600	155	308	511	500	115	35	1.8	92
21	138	534	203	811	153	336	390	408	322	29	1.5	82
22	122	464	161	560	144	323	306	277	312	24	3.5	62
23	109	422	158	398	153	350	253	204	207	20	307	54
24	97	484	1800	271	142	416	1010	156	177	18	72	51
25	93	577	1800	e200	134	483	1250	144	256	17	30	43
26	105	1070	903	e150	147	509	738	160	173	16	20	35
27	129	1220	600	e130	163	470	520	210	152	20	16	30
28	150	772	441	e110	198	476	450	140	109	16	17	26
29	162	551	334	166	---	437	346	106	84	13	19	24
30	134	426	280	356	---	1130	283	117	69	11	27	80
31	118	---	227	431	---	2120	---	89	---	9.2	18	---
TOTAL	6590	16969	17280	10861	6332	19221	26384	5850	6498	2813.2	625.1	3129.0
MEAN	213	566	557	350	226	620	879	189	217	90.7	20.2	104
MAX	810	1240	1800	2480	530	2120	3360	500	838	532	307	724
MIN	93	115	158	89	134	230	253	86	69	9.2	1.5	6.8
CFSM	1.66	4.42	4.35	2.74	1.77	4.84	6.87	1.47	1.69	.71	.16	.81
IN.	1.92	4.93	5.02	3.16	1.84	5.59	7.67	1.70	1.89	.82	.18	.91

CAL YR 1986 TOTAL 136419 MEAN 374 MAX 5660 MIN 35 CFSM 2.92 IN. 39.65
WTR YR 1987 TOTAL 122552.3 MEAN 336 MAX 3360 MIN 1.5 CFSM 2.62 IN. 35.62

e Estimated

KANAWHA RIVER BASIN

03187500 CRANBERRY RIVER NEAR RICHWOOD, WV

LOCATION.--Lat 38°17'43", long 80°31'36", Nicholas County, Hydrologic Unit 05050005, Monongahela National Forest, on left bank 30 ft downstream from U.S. Forest Service highway bridge, 0.6 mi upstream from Barrenshe Run, 5.0 mi north of Richwood, and at mile 5.6.

DRAINAGE AREA.--80.4 mi².

PERIOD OF RECORD.--October 1944 to December 1951, June 1964 to September 1982, March 1984 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 2,100 ft above National Geodetic Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 6-7, 25-29, and Feb. 9-11. Records good except for periods with ice effect, which are poor. Gage-height data for water years 1972-79 provided by U.S. Forest Service.

AVERAGE DISCHARGE.--28 years (water years 1945-51, 1965-82, 1985-87), 239 ft³/s, 40.37 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,500 ft³/s, Nov. 4, 1985, gage height, 11.41 ft, from rating curve extended above 9,000 ft³/s on basis of slope-area measurement at gage height 11.00 ft, from floodmarks; minimum, 0.14 ft³/s, Aug. 22, 1987, gage height, 1.26 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 24	1930	*3,220	*6.75	Jan. 19	1600	2,910	6.51

Minimum discharge, 0.14 ft³/s, Aug. 22, gage height, 1.26 ft.

DISCHARGE, 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	126	85	233	144	212	690	654	166	76	34	4.4	9.8
2	109	233	204	131	193	799	463	140	445	35	3.9	7.1
3	98	239	440	108	200	513	379	127	248	59	3.3	5.6
4	85	192	369	96	182	370	321	181	339	48	2.8	4.7
5	234	258	282	84	158	285	270	187	220	72	2.6	4.3
6	219	774	230	e60	149	248	238	148	150	63	2.4	5.2
7	154	519	195	e70	145	302	224	130	111	44	2.2	68
8	125	459	171	79	143	474	387	115	82	35	2.2	124
9	105	495	604	70	e120	1080	672	99	68	33	1.9	72
10	88	507	982	70	e100	948	802	85	367	31	1.6	36
11	75	506	641	70	e120	527	958	74	171	24	1.6	231
12	67	603	579	65	168	375	958	68	128	161	1.3	336
13	158	420	407	67	307	286	832	68	349	71	.96	228
14	621	308	301	62	230	231	598	60	225	54	.75	118
15	491	253	246	155	190	204	917	68	149	60	.53	74
16	327	224	206	343	173	195	1900	72	111	40	.39	56
17	246	196	178	325	155	173	1270	55	97	29	.31	51
18	194	171	187	352	142	170	685	50	72	24	.25	67
19	153	263	195	1650	117	178	462	84	65	19	.18	72
20	124	239	159	1180	109	224	341	146	119	16	.17	82
21	105	361	137	595	107	252	268	165	124	13	.16	70
22	90	313	108	414	102	244	221	118	123	11	1.2	53
23	80	278	104	301	113	261	192	91	91	9.8	197	50
24	72	318	948	217	103	307	659	73	83	8.5	54	45
25	68	378	1340	e130	99	369	800	64	108	7.9	21	36
26	78	684	648	e100	105	388	520	83	86	7.7	14	30
27	96	821	431	e90	113	362	364	94	96	7.6	10	25
28	113	521	319	e80	134	368	310	73	67	7.6	9.1	21
29	118	378	249	e110	---	340	244	65	51	6.9	10	19
30	100	290	209	218	---	768	203	170	41	5.9	22	79
31	88	---	170	280	---	1480	---	91	---	5.0	15	---
TOTAL	4807	11286	11472	7716	4189	13411	17112	3210	4462	1042.9	387.20	2079.7
MEAN	155	376	370	249	150	433	570	104	149	33.6	12.5	69.3
MAX	621	821	1340	1650	307	1480	1900	187	445	161	197	336
MIN	67	85	104	60	99	170	192	50	41	5.0	.16	4.3
CFSM	1.93	4.68	4.60	3.10	1.86	5.38	7.09	1.29	1.85	.42	.16	.86
IN.	2.22	5.22	5.31	3.57	1.94	6.21	7.92	1.49	2.06	.48	.18	.96

CAL YR 1986 TOTAL 92830 MEAN 254 MAX 3690 MIN 16 CFSM 3.16 IN. 42.95
WTR YR 1987 TOTAL 81174.80 MEAN 222 MAX 1900 MIN .16 CFSM 2.77 IN. 37.56

e Estimated

KANAWHA RIVER BASIN

03189100 GAULEY RIVER NEAR CRAIGSVILLE, WV

LOCATION.--Lat 38°17'27", long 80°38'57", Nicholas County, Hydrologic Unit 05050005, on right bank at downstream side of highway bridge on State Highway 20, 200 ft downstream from Cherry River, 1.8 mi downstream from Cranberry River, 2.7 mi south of Craigsville, and at mile 61.5.

DRAINAGE AREA.--529 mi².

PERIOD OF RECORD.--October 1964 to September 1982, October 1982 to September 1983 (gage heights, discharge measurements, and annual maximum discharge only), October 1985 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,870.00 ft National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 25-28. Records good except for period with ice effect, which is poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--20 years (water years 1965-82, 1986-87), 1,464 ft³/s, 37.58 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,800 ft³/s, Nov. 4, 1985, gage height, 25.72 ft, from rating curve extended above 35,000 ft³/s; minimum discharge, 7.6 ft³/s, Aug. 22, 1987, gage height, 8.27 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Dec. 24	2400	13,200	15.98	Jan. 19	1900	*14,700	*16.44

Minimum discharge, 7.6 ft³/s, Aug. 22, gage height, 8.27 ft.

DISCHARGE, 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	730	421	1420	870	1630	4550	3750	1070	696	221	36	71
2	633	1040	1200	807	1500	5460	2810	903	2010	215	31	52
3	596	1410	2190	676	1710	3290	2410	775	1070	336	29	41
4	478	1140	2230	568	1520	2410	2100	1010	1300	341	26	33
5	2000	1340	1700	487	1290	1830	1780	1330	940	869	25	29
6	1920	4240	1380	444	1190	1560	1570	1020	651	626	23	31
7	1220	3260	1170	513	1140	1810	1590	888	474	377	22	107
8	910	2770	1020	505	1120	2710	3130	761	371	279	24	303
9	703	3470	2080	463	948	5360	5860	642	321	223	24	376
10	559	3790	5580	461	800	5240	5930	549	1120	216	22	219
11	452	3220	3790	490	842	3020	6020	471	706	191	21	379
12	375	3940	3470	435	1240	2180	5280	425	472	1460	20	1510
13	579	2790	2560	447	2640	1670	4490	418	1830	729	19	1450
14	3060	2000	1880	414	1950	1320	3310	378	1460	638	17	704
15	2990	1580	1520	872	1540	1150	3780	414	874	595	16	408
16	1980	1360	1220	2230	1340	1120	8880	601	619	414	14	286
17	1440	1160	1040	2180	1210	1020	7600	424	623	305	13	227
18	1090	1010	996	2140	1080	967	4380	374	456	237	12	236
19	849	1360	1110	7880	889	1030	2980	684	344	191	11	326
20	697	1360	912	7420	809	1240	2190	1510	677	154	9.3	314
21	582	2120	799	3730	776	1380	1690	1410	799	126	8.5	321
22	501	2060	667	2610	736	1320	1350	963	1240	103	9.3	248
23	437	1740	583	1910	858	1360	1130	705	783	86	717	209
24	382	1770	3390	1230	757	1520	4520	547	679	73	427	190
25	351	2380	7320	e900	728	1720	6070	496	719	65	170	166
26	378	3740	3800	e750	809	1820	3630	789	599	62	96	135
27	438	5020	2640	e600	931	1700	2510	1310	521	69	69	111
28	533	3310	1970	e550	1160	1640	2070	864	399	82	62	93
29	613	2410	1510	750	---	1560	1610	600	310	62	78	83
30	523	1820	1260	1310	---	2730	1320	729	256	52	134	163
31	451	---	1040	2270	---	6880	---	507	---	43	109	---
TOTAL	28450	69031	63447	46912	33143	72567	105740	23567	23319	9440	2294.1	8821
MEAN	918	2301	2047	1513	1184	2341	3525	760	777	305	74.0	294
MAX	3060	5020	7320	7880	2640	6880	8880	1510	2010	1460	717	1510
MIN	351	421	583	414	728	967	1130	374	256	43	8.5	29
CFSM	1.73	4.35	3.87	2.86	2.24	4.43	6.66	1.44	1.47	.58	.14	.56
IN.	2.00	4.85	4.46	3.30	2.33	5.10	7.44	1.66	1.64	.66	.16	.62

CAL YR 1986 TOTAL 531739 MEAN 1457 MAX 19500 MIN 65 CFSM 2.75 IN. 37.39
WTR YR 1987 TOTAL 486731.1 MEAN 1334 MAX 8880 MIN 8.5 CFSM 2.52 IN. 34.23

e Estimated

KANAWHA RIVER BASIN

03189600 GAULEY RIVER BELOW SUMMERSVILLE DAM, WV

LOCATION.--Lat 38°12'54", long 80°53'18", Nicholas County, Hydrologic Unit 05050005, on right bank 0.4 mi downstream from Summersville Dam, 5.0 mi southwest of Summersville, and at mile 35.3.

DRAINAGE AREA.--806 mi².

PERIOD OF RECORD.--March 1966 to September 1982, October 1986 to current year. October 1982 to September 1986 gage heights, discharge measurements, and annual maximum discharge only.

REVISED RECORDS.--WDR WV-67: 1966. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,350.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--No estimated daily discharges. Records good. The minimum daily discharge on March 5 was due to the Corps of Engineers closing gates for a tunnel inspection. Flow regulated since May 1965 by Summersville Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--17 years (water years 1967-82, 1987), 2,140 ft³/s, 36.06 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,800 ft³/s, Mar. 26, 1966, gage height, 19.30 ft; minimum, 1.9 ft³/s, Feb. 16, 17, 1967, gage height, 3.67 ft; minimum daily, 2.4 ft³/s, Feb. 10, 13-16, 1967.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,400 ft³/s, Apr. 16, gage height, 17.33 ft; minimum daily, 67 ft³/s, Mar. 5.

DISCHARGE, 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	2430	2440	4380	990	3530	4030	250	1620	494	360	814	1020
2	2490	2430	6070	1050	2420	4950	243	1330	1600	362	949	1080
3	2500	3370	5440	1130	2810	4980	246	1270	2080	361	964	1070
4	2490	4460	3480	1130	2730	3490	247	1060	1320	438	980	1060
5	2490	4430	2500	819	2270	67	249	1140	1030	548	973	1060
6	2490	4420	1780	594	1980	4620	250	1580	790	848	741	1060
7	2860	4550	1320	567	1710	4430	252	1470	418	1060	506	603
8	3060	4650	1320	677	1680	4340	256	1320	264	582	505	126
9	3070	6130	2080	877	1770	4740	257	990	265	268	427	127
10	3050	7840	3310	819	1150	4910	1600	563	771	249	628	127
11	3060	7800	4080	771	1090	4710	4140	480	1470	249	1040	128
12	3060	7760	5100	815	1640	3520	5350	480	1070	724	1040	968
13	3040	6680	5340	682	2680	1990	4730	481	1630	1190	1040	978
14	1760	4550	4130	717	3900	1580	4180	481	1860	929	1040	169
15	1010	4520	2210	1010	2620	1290	3710	641	1210	709	1030	116
16	1010	4480	1720	1300	1970	1290	8450	848	727	620	1030	116
17	1010	4470	1500	2940	1970	1290	4710	877	395	345	1030	116
18	1010	3930	1060	3530	1740	1290	5840	881	236	246	1030	116
19	1010	3960	1410	4220	1410	1290	9210	1010	273	236	1030	1010
20	1010	4340	1330	5140	1410	1290	6290	1640	654	236	1030	995
21	1010	3830	1180	5220	1320	1290	3370	1690	1400	196	1030	136
22	1010	3340	662	5180	1310	1510	2280	1520	1480	133	1040	138
23	1010	3330	1470	5140	1760	1370	1400	960	1120	209	1040	138
24	1000	3320	2840	5070	1430	1290	3700	490	740	491	965	210
25	1000	3310	6470	4980	1320	1930	4620	490	741	753	855	332
26	1000	3320	7050	3520	1390	1260	11500	578	741	613	954	1160
27	1000	3360	4680	2070	1910	378	8960	1260	566	455	1040	1070
28	1920	3400	3440	1720	2360	382	3820	1460	317	409	1060	1050
29	2480	3410	2760	1250	---	385	1570	956	261	366	1080	1010
30	2470	3400	2040	1670	---	388	1830	832	313	501	1080	838
31	2460	---	1610	2920	---	350	---	869	---	721	1020	---
TOTAL	60270	131230	93762	68518	55280	70630	103510	31267	26236	15407	28991	18127
MEAN	1944	4374	3025	2210	1974	2278	3450	1009	875	497	935	604
MAX	3070	7840	7050	5220	3900	4980	11500	1690	2080	1190	1080	1160
MIN	1000	2430	662	567	1090	67	243	480	236	133	427	116

WTR YR 1987 TOTAL 703228 MEAN 1927 MAX 11500 MIN 67 CFSM 2.39 IN 32.46

KANAWHA RIVER BASIN

03190400 MEADOW RIVER NEAR MOUNT LOOKOUT, WV

LOCATION.--Lat 38°11'23", long 80°56'49", Nicholas County, Hydrologic Unit 05050005, on right bank 1,000 ft upstream from mouth, and 2.5 mi northwest of Mount Lookout.

DRAINAGE AREA.--365 mi².

PERIOD OF RECORD.--September 1966 to September 1983, October 1985 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.--Estimated daily discharges: Jan. 25-29. Records good except for period of ice effect, which is fair. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--19 years, (water years 1967-83, 1986-87), 758 ft³/s, 28.20 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,500 ft³/s, Mar. 7, 1967, gage height, 13.44 ft; minimum discharge, 3.0 ft³/s, Aug. 22, 1987; minimum gage height, 2.51 ft, Sept. 12, 13, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Apr. 10	0100	5,450	8.75	Apr. 24	2230	*11,800	*11.44

Minimum discharge, 3.0 ft³/s, Aug. 22, gage height, 2.52 ft.

DISCHARGE, 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	145	154	871	526	860	2800	2860	835	214	52	22	9.9
2	232	160	678	486	892	3660	2460	673	330	50	20	9.5
3	244	277	707	428	1080	2940	1990	563	380	74	18	8.9
4	198	326	898	365	1130	2460	1590	557	370	160	16	8.2
5	190	400	838	332	1060	1820	1290	587	343	175	15	8.2
6	203	1850	744	294	1010	1370	1120	530	261	250	14	8.3
7	210	1730	632	309	958	1360	1300	463	205	212	13	10
8	184	1510	550	325	930	1840	2400	405	162	155	17	12
9	152	1860	604	321	821	2580	4970	356	183	120	26	14
10	127	2230	1450	318	611	3080	4710	312	905	99	22	26
11	110	1890	1680	343	690	2350	3680	275	631	83	16	50
12	93	2140	2010	321	793	1660	2610	248	361	130	13	148
13	93	1680	1780	314	1560	1200	1980	234	275	278	14	156
14	377	1200	1370	309	1490	890	1430	247	226	159	11	85
15	761	901	1070	362	1290	712	1290	239	178	216	9.6	53
16	556	728	814	736	1120	681	2420	295	149	177	8.5	38
17	409	612	650	962	999	718	4590	255	144	134	7.6	29
18	307	529	592	1000	846	676	4210	217	118	101	6.9	28
19	233	516	658	2500	736	689	2940	221	99	78	5.6	29
20	195	499	617	4090	713	801	2030	286	116	64	5.0	34
21	170	726	556	2850	682	867	1460	334	176	55	4.1	38
22	151	821	482	2050	690	836	1070	429	161	47	4.1	42
23	137	766	398	1430	839	765	850	341	135	42	9.5	35
24	126	743	571	779	791	714	5770	273	114	37	12	29
25	116	855	2590	e650	746	680	7560	230	101	33	11	24
26	116	1610	2620	e550	798	666	4670	800	95	29	15	20
27	146	2740	1960	e450	952	605	2880	627	92	30	11	17
28	174	2040	1400	e400	1140	555	1970	473	77	28	15	15
29	187	1560	1010	e400	---	504	1420	353	67	25	14	13
30	185	1180	773	639	---	495	1100	345	58	27	12	14
31	167	---	621	905	---	2440	---	270	---	24	11	---
TOTAL	6694	34233	32194	25744	26227	43414	80620	12273	6726	3144	398.9	1012.0
MEAN	216	1141	1039	830	937	1400	2687	396	224	101	12.9	33.7
MAX	761	2740	2620	4090	1560	3660	7560	835	905	278	26	156
MIN	93	154	398	294	611	495	850	217	58	24	4.1	8.2
CFSM	.59	3.13	2.85	2.28	2.57	3.84	7.36	1.08	.61	.28	.04	.09
IN.	.68	3.49	3.28	2.62	2.67	4.42	8.22	1.25	.69	.32	.04	.10

CAL YR 1986 TOTAL 232625 MEAN 637 MAX 5700 MIN 37 CFSM 1.75 IN. 23.71
WTR YR 1987 TOTAL 272679.9 MEAN 747 MAX 7560 MIN 4.1 CFSM 2.05 IN. 27.79

e Estimated

KANAWHA RIVER BASIN

03192000 GAULEY RIVER ABOVE BELVA, WV

LOCATION.--Lat 38°14'00", long 81°10'52", Nicholas County, Hydrologic Unit 05050005, on right bank 0.5 mi upstream from Belva, 1.0 mi upstream from Twentymile Creek, and at mile 6.3.

DRAINAGE AREA.--1,317 mi².

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

REVISED RECORDS.--WSP 873: 1938. WSP 1275: 1929-30, WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 669.00 ft above National Geodetic Vertical Datum, adjustment of 1912.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since May 1965 by Summersville Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--59 years, 2,737 ft³/s, 28.22 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 105,000 ft³/s, July 5, 1932, gage height, 28.60 ft, from rating curve extended above 65,000 ft³/s on basis of velocity-area studies and inflow and storage adjustment to record for Kanawha River at Kanawha Falls; minimum, 3.2 ft³/s, Oct. 21, 1953, gage height, 0.10 ft. Minimum daily discharge since regulation, 11 ft³/s, Sept. 10, 1965.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 31,000 ft³/s, Apr. 24, gage height, 14.51 ft; minimum daily, 148 ft³/s, Sept. 9.

DISCHARGE, 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	2630	2640	4760	1840	5140	6640	3610	2960	1010	422	761	985
2	2750	2640	6630	1660	3960	9040	3130	2270	1020	474	958	1100
3	2820	3090	6310	1720	4330	8160	2730	2120	2970	549	972	1100
4	2760	4720	4810	1640	4410	7130	2350	1830	2040	565	1010	1080
5	2890	4860	3550	1500	3860	2500	2030	1810	1480	785	1000	1090
6	2830	6300	2920	1160	3340	4800	1870	2190	1340	914	989	1090
7	2880	6320	2100	991	3110	6050	2930	2200	854	1400	591	1070
8	3290	6240	2010	1170	2830	5870	4490	1890	545	1150	570	348
9	3270	8290	2670	1230	2880	6970	7160	1760	506	535	569	148
10	3190	10500	5690	1430	2300	7800	6440	1080	1170	402	414	152
11	3180	9770	5910	1160	1690	7140	7870	907	2430	368	974	173
12	3180	10100	7150	1390	2530	5660	8180	858	1560	344	1070	823
13	3200	8970	7210	1140	3810	3530	7090	832	1680	1510	1070	1320
14	3220	5860	6170	1090	5510	2820	5830	827	2370	1320	1060	581
15	2050	5500	3760	1450	4580	2180	5360	849	1780	958	1060	265
16	1760	5260	2800	1940	3370	2110	10100	1200	1060	947	1060	188
17	1560	5110	2550	3490	3390	2140	13900	1210	873	722	1060	172
18	1420	4780	1940	4740	3240	2090	9720	1160	442	410	1060	161
19	1330	4240	2130	7450	2620	2100	12900	1280	383	343	1050	671
20	1270	4880	2150	10900	2610	2180	9710	1930	459	307	1050	1110
21	1240	5000	2040	8640	2540	2260	5170	2120	1460	293	1040	492
22	1220	4430	1480	7490	2380	2400	4140	2230	1740	247	1080	168
23	1190	4280	1330	6760	3250	2500	2620	1590	1630	173	1190	173
24	1170	4250	3700	5970	3220	1910	12100	1030	950	259	1070	163
25	1170	4430	8580	5820	2690	2580	15700	820	901	703	887	233
26	1160	5130	10100	5010	2850	2640	17700	1160	899	809	889	969
27	1170	6820	7310	2500	3310	1130	13000	1630	872	563	1080	1150
28	1610	5840	5190	1440	4210	1060	7110	2250	568	526	1100	1030
29	2690	5210	4290	1810	---	1010	3410	1560	370	434	1150	1070
30	2690	4770	3080	2630	---	994	3160	1170	339	412	1120	928
31	2660	---	2720	4370	---	2340	---	1300	---	692	1110	---
TOTAL	69450	170230	133040	101531	93960	117734	211510	48023	35701	19536	30064	20003
MEAN	2240	5674	4292	3275	3356	3798	7050	1549	1190	630	970	667
MAX	3290	10500	10100	10900	5510	9040	17700	2960	2970	1510	1190	1320
MIN	1160	2640	1330	991	1690	994	1870	820	339	173	414	148

CAL YR 1986 TOTAL 1033351 MEAN 2831 MAX 27800 MIN 220 CFMS 2.15 IN 29.19
WTR YR 1987 TOTAL 1050782 MEAN 2879 MAX 17700 MIN 148 CFMS 2.19 IN 29.68

KANAWHA RIVER BASIN

03193000 KANAWHA RIVER AT KANAWHA FALLS, WV

LOCATION.--Lat 38°08'17", long 81°12'52", Fayette County, Hydrologic Unit 05050006, on right bank 150 ft downstream from bridge, 0.8 mi downstream from village of Kanawha Falls, 2.0 mi downstream from Gauley Bridge, 2.0 mi downstream from confluence of New River and Gauley River, and at mile 94.3.

DRAINAGE AREA.--8,371 mi².

PERIOD OF RECORD.--March 1877 to current year. October 1916 to September 1918 and October 1927 to October 1928, published as "at Lock 2, Montgomery".

REVISED RECORDS.--WSP 923: 1878, 1886, 1897, 1899, 1901-3. WSP 1305: 1902(M), 1940. WSP 1335: 1931. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 621.20 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 27, 1928, nonrecording gages at several sites within 9.0 mi of present site at various datums. Oct. 27, 1928, to Sept. 30, 1964, water-stage recorder at present site at datum 2.00 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1939 by Claytor Lake, since 1949 by Bluestone Lake, and since 1965 by Summersville Lake. U.S. Army Corps of Engineers satellite telemeter and Appalachian Power Co. remote sender at station.

AVERAGE DISCHARGE.--110 years, 12,559 ft³/s, 20.37 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 320,000 ft³/s, Sept. 14, 1878, gage height, 37.8 ft, site and datum then in use, from gage-height relation and rating curve extended above 150,000 ft³/s; minimum, 640 ft³/s, Aug. 15, 1930, gage height, -0.95 ft datum then in use; minimum daily, 690 ft³/s, Oct. 29, 1921.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 126,000 ft³/s, Apr. 24, gage height, 20.03 ft; minimum daily, 2,150 ft³/s, July 21.

DISCHARGE, 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	5870	4740	11700	11800	22700	41100	53300	51400	9050	4190	3040	2670
2	6640	4730	14600	11000	22300	74400	44300	42800	7220	4310	3040	2640
3	7400	5210	21000	7450	21300	76700	34800	28400	9720	5280	3120	2320
4	6670	7190	21400	10600	23200	70700	28100	19700	11000	5380	2580	2630
5	6520	7970	16400	6980	25600	56200	26300	17400	10200	6510	2900	2670
6	5960	14000	10200	5540	23100	49400	24600	18900	7080	10100	3470	2730
7	5160	15800	13100	6480	20600	43100	21400	17400	6750	9370	3640	3280
8	5440	16600	11700	6850	18200	36900	33800	14700	6790	9330	3020	4880
9	5250	24800	10400	6830	13300	38900	53800	14100	5100	7520	3140	9670
10	4850	26500	17300	7680	14100	44300	46500	10400	6720	5640	2800	8190
11	4880	22900	21500	7330	14500	43400	41500	9340	7100	5570	2280	5560
12	4860	22300	28500	5730	12900	35400	31200	9270	6920	5620	2730	4610
13	4970	19400	33400	5350	18000	26700	28000	11500	7110	5070	3010	4960
14	5810	14800	26000	6120	21300	21300	25200	9170	7590	5040	3120	5730
15	4810	13100	18100	7200	20200	16000	27500	8860	5840	5130	3020	4520
16	4850	12100	11800	7240	14500	13700	50100	11300	4460	5880	2930	4050
17	4580	10700	12300	9900	15000	14900	81500	8580	5060	5440	2830	4090
18	4580	9340	10200	12100	17500	14700	57400	7300	5780	4420	2740	4650
19	4410	8000	9180	20000	14300	15900	82800	6950	5140	4240	2540	3550
20	3930	9380	10600	58600	13000	20400	69200	9640	5990	2730	2680	3900
21	3540	10000	8390	53900	13100	23600	54700	10700	6810	2150	2910	3240
22	3300	9790	7010	35200	12200	21400	44900	11100	5970	2470	3100	2230
23	3100	9560	6380	28000	14400	17500	31900	10900	5640	2780	3450	2250
24	2960	9700	10700	22800	25100	14500	59600	8940	6320	2480	3070	2520
25	2900	9870	52300	18700	21300	13500	94500	7200	6580	2680	2530	2820
26	2990	12400	63300	14400	19600	14700	76400	9450	6150	2980	2340	2670
27	3100	20200	40800	14400	21000	12400	82900	13100	6190	3190	2630	3090
28	3380	25900	28600	8580	27500	11600	76500	15200	6570	2780	2780	3050
29	4730	18900	20900	9950	---	11200	66000	14300	5540	2240	2850	2660
30	4730	15200	14400	11200	---	11700	58600	12700	3850	2690	2840	2850
31	4620	---	15500	17200	---	18700	---	11600	---	3110	2790	---
TOTAL	146790	411080	597660	455110	519800	924900	1507300	452300	200240	146320	89920	114680
MEAN	4735	13700	19280	14680	18560	29840	50240	14590	6675	4720	2901	3823
MAX	7400	26500	63300	58600	27500	76700	94500	51400	11000	10100	3640	9670
MIN	2900	4730	6380	5350	12200	11200	21400	6950	3850	2150	2280	2230

CAL YR 1986 TOTAL 3688900 MEAN 10110 MAX 78800 MIN 1920 CFSM 1.21 IN 16.39
WTR YR 1987 TOTAL 5566100 MEAN 15250 MAX 94500 MIN 2150 CFSM 1.82 IN 24.74

KANAWHA RIVER BASIN

03193742 KANAWHA RIVER AT GLASGOW, WV

LOCATION.--Lat 38°12'23", long 81°25'30", Kanawha County, Hydrologic Unit 05050006, on right bank at Glasgow Power Plant, at Glasgow, 0.6 mi upstream from Kellys Creek, and at mile 78.4.

DRAINAGE AREA.--8,631 mi².

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: July 1977 to current year.

COOPERATION.--Records were furnished by Appalachian Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 30.0°C, Aug. 21, 1978, Aug. 3, 1981, July 22, Aug. 21, 1983, July 12, 1984, July 25, 1986, July 25-27, 1987; minimum daily, -0.5°C, Jan. 27, 1982, Feb. 1, 3, 4, 1985.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum daily observed, 30.0°C, July 25-27; minimum daily observed, 1.0°C, Jan. 28.

WATER TEMPERATURE, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.0	15.0	9.5	---	3.5	---	10.0	16.5	22.5	24.0	---	23.5
2	22.0	15.0	9.5	6.0	---	---	9.5	16.5	24.5	---	---	23.5
3	24.5	14.0	9.5	5.5	---	8.0	8.0	16.0	---	26.5	29.0	---
4	24.5	14.5	9.5	4.5	---	8.5	9.0	16.0	---	25.5	29.5	22.5
5	24.5	14.0	9.0	---	4.5	6.5	6.0	13.5	---	26.0	---	21.5
6	21.0	14.5	8.5	4.0	4.5	8.0	6.0	15.5	---	27.0	---	---
7	20.5	14.5	---	3.5	---	8.0	6.0	---	---	27.5	28.5	---
8	21.0	14.5	5.5	---	5.5	8.0	6.5	---	23.0	28.0	29.0	---
9	19.5	16.5	5.5	4.0	4.5	8.0	9.0	---	24.5	28.0	---	22.0
10	19.5	14.5	5.5	4.0	4.5	10.0	---	---	24.5	28.5	---	---
11	19.5	14.5	5.5	4.0	4.0	10.0	---	16.5	---	---	28.5	---
12	19.0	14.0	6.5	3.5	4.0	8.5	---	19.5	23.0	---	28.5	---
13	19.0	12.5	6.0	4.0	4.0	---	9.5	19.0	22.5	29.5	---	---
14	19.0	10.5	5.0	---	---	---	11.0	18.5	22.5	---	29.0	---
15	19.0	11.0	5.5	4.5	---	---	10.5	18.5	22.5	---	29.0	---
16	18.5	10.0	5.5	4.0	---	8.5	11.5	18.0	23.5	26.5	28.5	---
17	17.5	10.0	4.5	---	---	8.5	10.0	19.0	---	---	28.0	22.0
18	16.5	9.5	---	---	4.5	8.0	10.5	---	23.5	---	29.0	23.0
19	16.0	9.5	6.0	---	4.5	8.0	10.5	21.0	25.5	---	---	22.5
20	16.0	9.5	---	6.0	4.5	8.0	11.0	18.5	---	---	---	23.0
21	15.5	---	---	5.5	4.5	8.0	13.0	---	25.5	---	27.5	23.0
22	18.5	---	5.5	5.5	4.5	14.0	---	19.5	---	---	---	20.5
23	15.5	---	6.0	4.5	4.0	9.5	15.0	19.5	---	28.0	---	21.0
24	---	---	5.5	3.5	5.5	10.5	---	---	---	29.5	24.5	22.0
25	---	---	---	5.0	6.0	10.0	---	---	24.0	30.0	25.0	---
26	---	---	4.5	---	5.5	11.0	---	19.5	25.5	30.0	23.5	21.5
27	15.5	---	7.0	---	5.5	10.5	12.5	20.0	25.5	30.0	---	20.5
28	15.5	9.0	7.0	1.0	5.0	10.5	13.0	---	---	29.5	---	20.5
29	15.5	9.0	6.0	---	---	12.0	12.5	22.0	24.5	---	---	---
30	16.0	9.5	6.0	1.5	---	12.0	---	---	26.0	28.0	---	20.0
31	15.0	---	6.0	2.0	---	11.0	---	22.0	---	---	23.5	---

KANAWHA RIVER BASIN

03194700 ELK RIVER BELOW WEBSTER SPRINGS, WV

LOCATION.--Lat 38°35'50", long 80°29'26", Webster County, Hydrologic Unit 05050007, on right bank 200 ft upstream from bridge on County Highway 7, 6.5 mi upstream from town of Centralia, 8.9 mi southwest of Salisbury Station, 8.9 mi northwest of Webster Springs, and at mile 125.2.

DRAINAGE AREA.--266 mi².

PERIOD OF RECORD.--October 1959 to September 1983, October 1985 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,020.1 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 24-28. Records good except for period of ice effect, which is fair. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--26 years (water years 1960-83, 1986-87), 699 ft³/s, 35.69 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 38,000 ft³/s, Nov. 4, 1985, gage height, 17.2 ft, from floodmarks, from rating curve extended above 24,000 ft³/s; minimum discharge, 6.5 ft³/s, Oct. 1, 1959, minimum gage height, 2.72 ft, Aug. 20, 21, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1861, probably in September, reached a stage of 26.34 ft and flood of July 26, 1896, reached a stage of 25.87 ft, present datum, at site 0.2 mi upstream, from levels to floodmarks pointed out by a local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 19	2000	*7,570	*9.09	No peak greater than base discharge.			

Minimum discharge, 8.0 ft³/s, Aug. 20, 21, gage height, 2.72 ft.

DISCHARGE, 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	312	198	623	383	995	2070	1470	535	151	101	20	51
2	243	897	526	357	1000	2930	1060	455	190	102	17	38
3	195	1110	907	320	1210	1680	924	401	265	125	16	30
4	189	799	1190	273	980	1190	844	516	378	121	15	25
5	1290	708	912	246	769	874	737	914	357	491	14	23
6	1080	2020	706	216	661	709	692	688	262	480	13	24
7	655	1690	576	243	600	758	856	552	189	283	12	24
8	452	1350	491	285	576	1120	1770	455	145	184	14	38
9	341	2400	685	277	532	1760	3390	378	121	127	37	219
10	268	2260	2460	265	423	2060	2950	319	175	95	43	154
11	214	1560	1790	281	415	1230	2790	275	141	81	34	87
12	173	1880	1510	266	624	862	2330	240	117	182	34	791
13	169	1330	1120	244	1710	653	2000	259	885	153	29	1430
14	1200	927	820	233	1130	515	1450	230	831	109	22	602
15	1410	702	656	332	816	446	1340	236	488	118	16	338
16	878	587	534	1070	651	415	4000	445	346	102	13	219
17	611	500	456	1020	573	403	3150	327	571	77	11	152
18	456	434	415	890	504	364	1970	266	418	62	13	274
19	357	541	477	3320	417	359	1310	333	280	52	11	359
20	293	642	417	3710	374	389	941	529	310	45	8.8	278
21	249	1160	372	1830	361	412	716	607	469	40	9.2	243
22	215	1200	330	1200	351	402	575	471	818	35	13	190
23	186	940	286	871	417	385	492	365	582	32	185	160
24	163	916	878	e560	400	404	1570	312	455	28	222	157
25	147	1260	3220	e400	394	428	3170	265	347	25	107	129
26	140	1490	1690	e350	444	471	1850	235	270	24	58	102
27	149	2300	1170	e300	489	452	1210	351	226	27	46	85
28	204	1560	844	e260	531	421	932	293	176	29	46	72
29	255	1110	643	342	---	416	715	222	138	34	84	64
30	236	807	536	929	---	386	616	190	116	27	118	127
31	210	---	457	1520	---	2170	---	174	---	23	73	---
TOTAL	12940	35278	27697	22793	18347	27134	47820	11838	10217	3414	1354.0	6485
MEAN	417	1176	893	735	655	875	1594	382	341	110	43.7	216
MAX	1410	2400	3220	3710	1710	2930	4000	914	885	491	222	1430
MIN	140	198	286	216	351	359	492	174	116	23	8.8	23
CFSM	1.57	4.42	3.36	2.76	2.46	3.29	5.99	1.44	1.28	.41	.16	.81
IN.	1.81	4.93	3.87	3.19	2.57	3.79	6.69	1.66	1.43	.48	.19	.91

CAL YR 1986 TOTAL 244480 MEAN 670 MAX 7340 MIN 40 CFSM 2.52 IN. 34.19
WTR YR 1987 TOTAL 225317.0 MEAN 617 MAX 4000 MIN 8.8 CFSM 2.32 IN. 31.51

e Estimated

KANAWHA RIVER BASIN

03195100 RIGHT FORK HOLLY RIVER AT GUARDIAN, WV

LOCATION.--Lat 38°38'07", long 80°27'58", Webster County, Hydrologic Unit 05050007, on right bank at Guardian, 50 ft upstream from Bear Run, and at mile 8.1.

DRAINAGE AREA.--51.9 mi².

PERIOD OF RECORD.--March 1974 to September 1978, October 1978 to September 1982 (gage heights, occasional discharge measurements, and annual maximum discharge only), October 1985 to September 1987 (discontinued).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,078.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Jan. 5-15, 25-28. Records good except for periods with ice effect, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--6 years (water years 1975-78, 1986-87), 95 ft³/s, 24.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,400 ft³/s, July 16, 1979, gage height, 14.50 ft, from rating curve extended above 2,600 ft³/s; minimum discharge, 0.01 ft³/s, Aug. 17, 1987; minimum gage height, 2.68 ft, Aug. 26, 27, 1976.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 9	1600	952	6.88	Apr. 8	2200	*1,720	*8.49
Jan. 19	1900	1,410	7.81	Apr. 24	0930	1,020	7.05

Minimum discharge, 0.01 ft³/s, Aug. 17, gage height, 2.84.

DISCHARGE, 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	12	15	92	57	254	363	118	72	7.4	2.1	.25	1.8
2	9.3	49	78	56	323	294	154	64	18	2.0	.17	1.2
3	7.4	52	84	47	375	184	165	56	21	2.8	.13	.84
4	9.6	43	99	40	271	134	162	103	38	2.2	.09	.58
5	77	61	100	e35	204	106	141	124	19	1.7	.06	.50
6	52	233	87	e30	163	87	152	113	12	1.6	.07	.81
7	29	171	75	e33	135	72	327	91	7.9	1.4	.08	1.0
8	19	165	65	e37	119	64	884	71	5.5	1.1	.17	1.5
9	15	711	148	e35	96	64	1030	55	4.8	1.0	.08	1.9
10	11	440	391	e38	74	53	709	44	13	.93	.56	1.6
11	9.2	253	309	e36	77	43	483	36	5.4	.72	.76	2.1
12	7.7	284	231	e34	164	39	290	32	7.7	29	.71	73
13	12	190	168	e32	328	35	193	37	94	9.8	.51	91
14	154	119	125	e30	233	31	145	25	56	5.3	.30	31
15	112	88	99	e52	159	30	151	41	29	4.6	.15	14
16	59	70	78	116	123	30	230	38	24	2.7	.08	7.3
17	37	55	65	125	109	25	252	28	29	1.6	.03	5.1
18	23	48	62	123	100	22	209	24	13	1.2	.34	18
19	15	63	54	724	86	22	155	36	7.9	.90	.20	17
20	11	67	46	692	85	21	117	35	6.1	.62	.09	15
21	8.0	179	41	298	87	19	92	27	18	.47	.05	19
22	7.2	209	36	195	89	18	76	20	19	.38	.47	12
23	6.5	152	33	133	128	17	75	16	12	.30	32	11
24	5.4	148	133	78	125	16	853	13	9.3	.22	6.6	7.6
25	5.5	216	359	e60	131	15	734	10	6.6	.15	2.1	4.9
26	6.8	341	269	e50	160	15	328	8.7	6.1	.23	1.3	3.3
27	7.5	481	192	e40	169	14	194	19	4.2	.30	.94	2.6
28	8.6	292	136	e35	196	14	142	12	3.0	.29	2.3	2.1
29	12	184	102	57	---	13	104	7.6	2.3	.34	35	1.9
30	7.8	124	86	310	---	17	92	5.8	2.1	.25	8.7	5.0
31	8.2	---	67	410	---	90	---	5.6	---	.25	3.1	---
TOTAL	764.7	5503	3910	4038	4563	1967	8757	1269.7	501.3	76.45	97.39	354.63
MEAN	24.7	183	126	130	163	63.5	292	41.0	16.7	2.47	3.14	11.8
MAX	154	711	391	724	375	363	1030	124	94	29	35	91
MIN	5.4	15	33	30	74	13	75	5.6	2.1	.15	.03	.50
CFSM	.48	3.53	2.43	2.51	3.14	1.22	5.62	.79	.32	.05	.06	.23
IN.	.55	3.94	2.80	2.89	3.27	1.41	6.28	.91	.36	.05	.07	.25

CAL YR 1986 TOTAL 35308.54 MEAN 96.7 MAX 1080 MIN .94 CFSM 1.86 IN. 25.31
WTR YR 1987 TOTAL 31802.17 MEAN 87.1 MAX 1030 MIN .03 CFSM 1.68 IN. 22.79

e Estimated

KANAWHA RIVER BASIN

03195250 LEFT FORK HOLLY RIVER NEAR REPLETE, WV

LOCATION.--Lat 38°41'19", long 80°25'57", Webster County, Hydrologic Unit 05050007, on left bank at Poling, 100 ft downstream from Potts Run, 1.8 mi southeast of Replete, and at mile 12.3.

DRAINAGE AREA.--46.5 mi².

PERIOD OF RECORD.--March 1974 to September 1978; October 1978 to September 1982 (gage heights, occasional discharge measurements, and annual maximum discharge only); October 1985 to September 1987 (discontinued).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Elevation of gage is 1,190 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 6-15, 25-29. Records good except for periods with ice effect, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--6 years (water years 1975-78, 1986-87), 112 ft³/s, 32.71 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,480 ft³/s, Nov. 4, 1985, gage height, 11.98 ft; minimum, 0.01 ft³/s, Aug. 17, 1987, gage height, 4.01 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 9	1430	995	8.55	Apr. 8	2030	*1,290	*9.15
Jan. 19	1830	1,260	9.08	Apr. 24	0900	862	8.26

Minimum discharge, 0.01 ft³/s, Aug. 17, gage height, 4.01 ft.

DISCHARGE, 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	27	12	119	77	261	507	133	96	7.7	3.0	1.1	5.1
2	23	46	99	73	435	445	172	84	16	3.8	.72	3.5
3	16	52	122	61	435	285	191	74	14	4.0	.58	2.7
4	15	51	150	54	313	207	196	113	27	3.5	.43	2.2
5	73	89	145	49	243	157	171	116	14	5.2	.49	1.9
6	57	282	122	e45	196	123	184	111	9.7	4.2	.48	2.6
7	42	227	101	e50	163	107	370	97	7.4	3.4	.95	2.7
8	32	208	85	e60	143	111	830	81	5.9	2.6	1.8	3.0
9	23	750	291	e57	115	122	902	67	5.1	1.9	1.5	3.4
10	17	519	715	e55	95	100	753	56	6.6	1.6	1.6	3.2
11	14	333	474	e60	90	75	644	49	5.0	1.5	1.7	12
12	11	336	314	e55	183	63	487	45	6.4	19	1.5	68
13	17	241	224	e50	329	55	344	59	73	12	1.1	92
14	130	161	167	e45	254	49	242	44	36	10	.69	39
15	146	119	127	e100	187	46	228	49	19	9.2	.31	20
16	88	94	101	226	151	46	277	49	12	5.6	.10	12
17	60	74	84	222	134	40	261	41	9.8	3.9	.03	11
18	46	67	87	202	122	36	209	35	7.8	3.0	2.1	25
19	36	81	83	686	107	34	163	43	6.0	2.3	1.4	28
20	29	87	76	714	108	32	129	43	5.9	1.8	1.1	23
21	22	262	70	355	110	29	107	33	9.1	1.5	.71	20
22	18	267	64	252	113	27	90	25	8.8	1.2	2.6	15
23	16	201	60	177	163	25	89	19	8.2	1.0	31	13
24	14	225	136	109	153	23	745	16	7.0	1.1	11	12
25	13	300	355	e90	152	21	658	14	6.7	.93	4.9	9.6
26	13	400	340	e70	175	20	363	12	7.0	.94	3.3	7.7
27	13	532	255	e60	180	19	237	19	6.6	1.9	2.8	6.3
28	15	341	186	e55	222	19	185	14	4.7	2.5	7.4	5.2
29	18	230	138	e100	---	18	136	10	3.6	1.9	61	4.6
30	14	161	114	315	---	24	120	8.4	3.0	1.3	18	25
31	12	---	90	366	---	107	---	7.4	---	1.1	8.2	---
TOTAL	1070	6748	5494	4890	5332	2972	9616	1529.8	359.0	116.87	170.59	478.7
MEAN	34.5	225	177	158	190	95.9	321	49.3	12.0	3.77	5.50	16.0
MAX	146	750	715	714	435	507	902	116	73	19	61	92
MIN	11	12	60	45	90	18	89	7.4	3.0	.93	.03	1.9
CFSM	.74	4.84	3.81	3.39	4.10	2.06	6.89	1.06	.26	.08	.12	.34
IN.	.86	5.40	4.40	3.91	4.27	2.38	7.69	1.22	.29	.09	.14	.38

CAL YR 1986 TOTAL 47078.1 MEAN 129 MAX 1150 MIN 2.8 CFSM 2.77 IN. 37.66
WTR YR 1987 TOTAL 38776.96 MEAN 106 MAX 902 MIN .03 CFSM 2.28 IN. 31.02

e Estimated

KANAWHA RIVER BASIN

03195500 ELK RIVER AT SUTTON, WV

LOCATION.--Lat $38^{\circ}39'47''$, long $80^{\circ}42'35''$, Braxton County, Hydrologic Unit 05050007, on left bank 150 ft upstream from highway bridge at Sutton, 0.5 mi upstream from Granny Creek, 0.9 mi downstream from Sutton Dam, 2.5 mi downstream from Wolf Creek, and at mile 102.1.

DRAINAGE AREA.--542 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1938 to current year. Monthly discharge only October 1938 to February 1939, published in WSP 1305.

REVISED RECORDS.--WSP 1305: 1942(M), 1948-50(M). WDR WV82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 800.00 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 5, 1940, nonrecording gage and Apr. 5, 1940, to Sept. 30, 1960, water-stage recorder at site 150 ft downstream at datum 8.03 ft higher.

REMARKS.--No estimated daily discharges. Water-discharge records good. Flow regulated since 1960 by Sutton Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--49 years, 1,147 ft³/s, 28.74 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,200 ft³/s, Jan. 29, 1957, gage height, 39.30 ft, present datum; minimum, 0.4 ft³/s, Oct. 25, 26, 28, 29, 1953; minimum gage height, 9.87 ft, Oct. 25, 1953, present datum. Minimum daily discharge since regulation, 11 ft³/s, Mar. 9, 1967.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 13, 1918, reached a stage of 45.2 ft, present datum, from floodmarks, discharge, about 49,000 ft³/s, from rating curve extended above 28,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,840 ft³/s, Apr. 25, gage height, 20.30 ft; minimum daily, 78 ft³/s, July 22, Sept. 9, 10.

DISCHARGE, 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	1070	502	1940	815	3480	2320	333	839	325	189	306	396
2	898	502	1170	671	2960	3340	220	730	305	188	340	432
3	489	724	1000	591	2940	3700	775	562	262	184	340	420
4	474	931	1290	533	2920	2760	1930	474	258	182	359	402
5	1040	896	1490	487	2060	1430	2350	800	257	216	372	402
6	1480	1360	1440	446	1120	1070	1110	1030	257	451	268	402
7	1030	1890	1010	425	759	926	258	1020	257	406	166	248
8	444	1940	726	426	780	943	496	1020	257	316	166	80
9	432	2770	1130	428	1230	1190	4640	1020	258	218	136	78
10	387	4490	1820	428	1360	1970	7530	877	257	217	237	78
11	344	5390	2790	513	736	2300	6440	618	257	130	374	79
12	344	5240	3120	645	535	1830	4350	537	265	84	372	80
13	345	4280	3080	709	1520	913	3390	338	425	205	369	81
14	735	2850	3020	646	2630	718	2290	211	1930	464	368	82
15	1360	2020	2220	526	2260	670	2320	211	988	464	353	81
16	1380	956	1220	676	1820	563	3770	210	483	462	376	81
17	1370	1110	782	1130	1340	519	4700	229	484	299	363	82
18	1360	1270	657	1330	1020	518	3700	397	693	94	355	82
19	1350	1140	691	2710	820	490	2500	607	635	94	353	82
20	1330	1270	719	4010	724	432	1790	766	396	94	371	82
21	1050	1480	648	5340	736	432	1130	766	336	91	366	82
22	749	1860	550	5970	847	432	812	845	338	78	368	82
23	537	1840	527	4560	1390	432	636	507	413	98	365	82
24	475	1850	553	1880	1580	432	3760	344	658	202	335	125
25	560	2140	1620	1130	1230	433	7480	340	654	306	263	210
26	556	2570	3350	935	1040	434	4940	340	467	250	298	137
27	477	3340	3750	701	1370	435	2120	326	391	183	371	80
28	354	4060	3640	614	1350	436	1590	325	334	182	408	80
29	346	3160	2170	606	---	489	1070	324	265	149	418	81
30	403	2300	991	1280	---	457	840	325	254	159	411	81
31	496	---	912	3120	---	453	---	324	---	242	392	---
TOTAL	23665	66131	50026	44281	42557	33467	79270	17262	13359	6897	10339	4790
MEAN	763	2204	1614	1428	1520	1080	2642	557	445	222	334	160
MAX	1480	5390	3750	5970	3480	3700	7530	1030	1930	464	418	432
MIN	344	502	527	425	535	432	220	210	254	78	136	78

CAL YR 1986 TOTAL 450689 MEAN 1235 MAX 7450 MIN 90 CFSM 2.28 IN 30.93
WTR YR 1987 TOTAL 392044 MEAN 1074 MAX 7530 MIN 78 CFSM 1.98 IN 26.91

KANAWHA RIVER BASIN

03195500 ELK RIVER AT SUTTON. WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1960-83. February 1985 to March 1987 (discontinued).

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: February 1985 to March 1987 (discontinued).

WATER TEMPERATURE: March 1960 to September 1983, February 1985 to March 1987 (discontinued).

TURBIDITY: January 1974 to March 1975, February 1985 to March 1987 (discontinued).

SUSPENDED-SEDIMENT DISCHARGE: February 1985 to March 1987 (discontinued).

INSTRUMENTATION.--Temperature recorder March 1960 to September 1983.

REMARKS.--Sediment samples were taken once daily by an observer. Specific conductance and turbidity were taken in the lab from the sediment bottles. Lab analyses performed by West Virginia Department of Natural Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 144 microsiemens, June 1, 1986; minimum daily, 46 microsiemens, Feb. 8, 1986

WATER TEMPERATURE: Maximum daily, 30.0°C, Aug. 12, 14, 15, 1985; minimum daily, 0.0°C many days during winter periods.

TURBIDITY: Maximum daily, 120 NTU, Nov. 8, 1985; minimum daily, 0.5 NTU, Aug. 11, 1985.

SEDIMENT CONCENTRATION: Maximum daily mean, 150 mg/L, Nov. 6, 1985; minimum daily mean, 0 mg/L on many days during each year.

SEDIMENT LOAD: Maximum daily, 2,320 tons, Nov. 8, 1985; minimum daily, 0 ton on many days during each year.

EXTREMES FOR CURRENT YEAR PERIOD OCTOBER THROUGH MARCH.--

SPECIFIC CONDUCTANCE: Maximum daily, 101 microsiemens, Oct. 7; minimum daily, 53 microsiemens, Jan. 24.

WATER TEMPERATURE: Maximum daily, 17.0°C, several days in October; minimum daily, 1.0°C, several days during winter period.

TURBIDITY: Maximum daily, 35 NTU, Jan. 22; minimum daily, 1.0 NTU Oct. 1.

SEDIMENT CONCENTRATION: Maximum daily mean, 39 mg/L, Jan. 22; minimum daily mean, 0 mg/L on many days during the period.

SEDIMENT LOAD: Maximum daily, 629 tons, Jan. 22; minimum daily, 0 ton on many days during the period.

SPECIFIC CONDUCTANCE, US/CM @ 25 DEGREES CENTIGRADE, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
INSTANTANEOUS VALUES

[illegible]

KANAWHA RIVER BASIN

03195500 ELK RIVER AT SUTTON, WV--Continued

WATER TEMPERATURE, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.0	15.0	9.0	4.0	1.0	6.0	---	---	---	---	---	---
2	17.0	15.0	8.5	4.5	1.0	5.5	---	---	---	---	---	---
3	16.0	14.0	8.5	4.0	2.5	5.0	---	---	---	---	---	---
4	17.0	14.0	9.0	4.0	2.5	4.0	---	---	---	---	---	---
5	15.0	14.0	8.5	4.0	5.0	5.0	---	---	---	---	---	---
6	15.0	12.0	7.5	4.0	5.5	7.0	---	---	---	---	---	---
7	16.0	11.5	7.5	4.5	5.0	8.5	---	---	---	---	---	---
8	17.0	12.0	7.0	4.5	4.0	9.0	---	---	---	---	---	---
9	17.0	13.0	6.0	4.5	3.0	6.0	---	---	---	---	---	---
10	17.0	12.5	6.0	4.0	3.0	10.0	---	---	---	---	---	---
11	17.0	13.0	5.5	4.0	4.5	8.5	---	---	---	---	---	---
12	16.0	11.0	6.0	4.0	3.0	5.0	---	---	---	---	---	---
13	15.0	10.5	6.5	4.0	5.0	6.0	---	---	---	---	---	---
14	14.0	10.0	6.5	4.0	4.0	5.0	---	---	---	---	---	---
15	14.0	9.5	6.5	4.5	2.5	9.0	---	---	---	---	---	---
16	14.0	10.5	6.0	4.0	2.0	10.0	---	---	---	---	---	---
17	14.0	9.0	5.5	4.0	2.0	11.0	---	---	---	---	---	---
18	13.0	6.5	4.5	3.5	2.0	10.0	---	---	---	---	---	---
19	14.0	6.5	4.5	3.0	3.0	10.0	---	---	---	---	---	---
20	15.0	7.0	4.0	3.0	2.0	8.0	---	---	---	---	---	---
21	14.0	8.0	4.5	3.0	2.5	12.0	---	---	---	---	---	---
22	13.0	8.0	4.0	3.0	5.0	9.5	---	---	---	---	---	---
23	15.0	8.0	4.5	2.0	3.0	11.0	---	---	---	---	---	---
24	13.0	7.0	5.0	1.5	4.0	11.5	---	---	---	---	---	---
25	14.0	6.5	4.0	1.0	5.0	11.0	---	---	---	---	---	---
26	14.0	7.5	4.0	1.0	5.0	10.0	---	---	---	---	---	---
27	13.0	8.0	3.0	1.5	3.0	11.0	---	---	---	---	---	---
28	12.0	8.5	3.0	1.0	4.0	10.0	---	---	---	---	---	---
29	13.0	8.5	4.5	1.5	---	12.0	---	---	---	---	---	---
30	14.0	9.0	4.5	2.0	---	13.0	---	---	---	---	---	---
31	15.0	---	4.0	1.0	---	10.0	---	---	---	---	---	---
MEAN	14.8	10.2	5.7	3.2	3.4	8.7	---	---	---	---	---	---

TURBIDITY (NTU), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.0	3.0	10	10	8.0	5.5	---	---	---	---	---	---
2	2.0	3.0	8.0	15	8.5	6.0	---	---	---	---	---	---
3	2.0	3.0	10	10	30	4.0	---	---	---	---	---	---
4	2.0	5.0	10	10	10	10	---	---	---	---	---	---
5	2.0	9.0	8.0	10	10	10	---	---	---	---	---	---
6	5.0	9.0	4.0	10	6.0	10	---	---	---	---	---	---
7	2.0	2.0	8.0	10	25	10	---	---	---	---	---	---
8	2.0	6.0	6.0	10	6.0	10	---	---	---	---	---	---
9	2.0	10	10	6.5	8.0	15	---	---	---	---	---	---
10	2.0	5.0	6.0	10	15	7.0	---	---	---	---	---	---
11	4.0	8.0	10	8.5	9.0	10	---	---	---	---	---	---
12	2.0	20	10	5.0	10	7.0	---	---	---	---	---	---
13	2.0	7.0	10	10	15	6.0	---	---	---	---	---	---
14	5.0	5.0	10	6.0	7.0	5.0	---	---	---	---	---	---
15	3.0	15	3.4	3.5	6.0	8.0	---	---	---	---	---	---
16	2.0	4.0	9.0	4.0	4.0	3.5	---	---	---	---	---	---
17	10	4.0	10	4.5	10	4.5	---	---	---	---	---	---
18	4.0	---	7.0	3.0	10	7.5	---	---	---	---	---	---
19	8.0	5.0	6.5	6.0	4.0	5.0	---	---	---	---	---	---
20	8.0	7.0	3.5	2.5	10	4.0	---	---	---	---	---	---
21	4.0	7.0	6.0	9.0	10	4.5	---	---	---	---	---	---
22	10	4.0	8.0	35	10	6.0	---	---	---	---	---	---
23	6.0	9.0	9.0	10	10	5.5	---	---	---	---	---	---
24	4.0	9.5	15	15	10	4.5	---	---	---	---	---	---
25	4.0	8.0	10	20	10	3.5	---	---	---	---	---	---
26	3.0	10	5.0	3.5	5.0	5.5	---	---	---	---	---	---
27	3.0	6.0	10	3.0	4.5	4.0	---	---	---	---	---	---
28	4.0	6.0	10	10	5.0	6.0	---	---	---	---	---	---
29	7.0	9.5	20	8.0	---	5.0	---	---	---	---	---	---
30	3.0	7.0	25	10	---	7.0	---	---	---	---	---	---
31	2.0	---	4.0	8.0	---	3.0	---	---	---	---	---	---
MEAN	3.9	---	9.1	9.2	9.9	6.5	---	---	---	---	---	---

KANAWHA RIVER BASIN

03195500 ELK RIVER AT SUTTON, WV--Continued

SUSPENDED-SEDIMENT, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	CONCENTRATION (MG/L)	MEAN LOAD (TONS/ DAY)	CONCENTRATION (MG/L)	MEAN LOAD (TONS/ DAY)	CONCENTRATION (MG/L)	MEAN LOAD (TONS/ DAY)	CONCENTRATION (MG/L)	MEAN LOAD (TONS/ DAY)	CONCENTRATION (MG/L)	MEAN LOAD (TONS/ DAY)	CONCENTRATION (MG/L)	MEAN LOAD (TONS/ DAY)
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	8	23	0	.00	12	63	4	8.8	1	9.4	0	.00
2	2	4.8	0	.00	11	35	5	9.1	3	24	0	.00
3	0	.00	3	5.9	12	32	11	18	20	159	0	.00
4	0	.00	2	5.0	11	38	13	19	17	134	5	37
5	0	.00	35	85	10	40	4	5.3	8	44	8	31
6	2	8.0	7	26	5	19	6	7.2	2	6.0	9	26
7	2	5.6	0	.00	8	22	7	8.0	9	18	12	30
8	0	.00	4	21	8	16	7	8.1	3	6.3	10	25
9	1	1.2	24	179	10	31	6	6.9	1	3.3	7	22
10	2	2.1	7	85	3	15	4	4.6	3	11	3	16
11	5	4.6	6	87	0	.00	9	12	1	2.0	7	43
12	5	4.6	15	212	1	8.4	4	7.0	2	2.9	4	20
13	3	2.8	6	69	4	33	6	11	4	16	2	4.9
14	5	9.9	8	62	6	49	10	17	2	14	2	3.9
15	5	18	16	87	2	12	5	7.1	0	.00	8	14
16	4	15	7	18	4	13	1	1.8	0	.00	4	6.1
17	16	59	4	12	6	13	2	6.1	3	11	0	.00
18	15	55	5	17	4	7.1	1	3.6	2	5.5	1	1.4
19	13	47	6	18	1	1.9	6	44	0	.00	0	.00
20	13	47	7	24	0	.00	2	22	0	.00	0	.00
21	7	20	9	36	2	3.5	5	72	0	.00	0	.00
22	12	24	5	25	2	3.0	39	629	0	.00	1	1.2
23	9	13	8	40	3	4.3	19	234	0	.00	3	3.5
24	4	5.1	10	50	10	15	11	56	0	.00	1	1.2
25	9	14	9	52	13	57	15	46	0	.00	1	1.2
26	4	6.0	14	97	3	27	9	23	0	.00	1	1.2
27	1	1.3	11	99	2	20	2	3.8	0	.00	0	.00
28	3	2.9	8	88	9	88	9	15	0	.00	1	1.2
29	2	1.9	8	68	16	94	2	3.3	---	---	1	1.3
30	1	1.1	12	75	22	59	6	21	---	---	1	1.2
31	1	1.3	---	---	15	37	4	34	---	---	0	.00
TOTAL	---	398.20	---	1642.90	---	856.20	---	1363.7	---	466.40	---	292.30

KANAWHA RIVER BASIN

03196600 ELK RIVER NEAR FRAMETOWN, WV

LOCATION.--Lat 38°35'32", long 80°53'05", Braxton County, Hydrologic Unit 05050007, on right bank opposite mouth of Birch River, at village of Glendon, 2.2 mi upstream from Strange Creek, 3.2 mi southwest of Frametown, and at mile 82.6. Records include flow of Birch River.

DRAINAGE AREA.--751 mi², includes that of Birch River.

PERIOD OF RECORD.--October 1958 to September 1981, October 1981 to current year (gage heights and annual maximum discharge only).

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 775.51 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 25, 1959, nonrecording gage at same site and datum.

REMARKS.--Records for winter periods not adjusted for ice effect. Flow regulated since 1960 by Sutton Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--23 years (water years 1958-81), 1,572 ft³/s, 28.39 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,600 ft³/s, Mar. 15, 1967, gage height, 16.05 ft; minimum discharge, 9.0 ft³/s, Sept. 28, 29, 1959; minimum gage height, 1.30 ft, Aug. 20, 1986.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,600 ft³/s, Jan. 19, gage height, 10.76 ft; minimum gage height, 1.20 ft, July 23-24.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.34	2.48	4.48	3.13	6.04	4.53	3.06	3.17	2.15	1.84	1.88	2.20
2	3.31	2.49	3.80	3.07	5.77	5.43	2.78	3.07	2.32	1.79	2.06	2.29
3	2.62	2.58	3.61	2.86	5.67	5.68	3.00	2.86	2.20	1.82	2.08	2.29
4	2.51	3.16	3.71	2.80	5.34	5.23	4.37	2.92	2.81	1.80	2.07	2.23
5	3.25	3.26	3.96	2.68	4.82	3.99	4.84	3.07	2.42	1.76	2.13	2.23
6	3.96	3.99	3.88	2.64	3.87	3.52	4.57	3.46	2.20	2.20	2.09	2.24
7	3.69	4.47	3.57	2.59	3.22	3.25	4.44	3.40	2.09	2.30	1.64	2.20
8	2.60	4.67	3.02	2.58	3.19	3.24	5.24	3.36	2.03	2.27	1.58	1.52
9	2.46	7.82	3.76	2.57	3.42	3.30	7.14	3.32	1.99	1.99	1.58	1.34
10	2.40	6.99	5.43	2.58	3.81	4.08	9.37	3.27	2.10	2.19	1.48	1.30
11	2.23	7.53	5.43	2.62	3.24	4.42	8.60	2.78	2.08	1.86	2.09	1.31
12	2.20	7.42	5.53	2.80	2.90	4.25	6.55	2.71	2.10	1.52	2.13	1.43
13	2.23	6.72	5.30	2.92	3.61	3.33	5.61	2.41	2.74	1.36	2.12	1.86
14	2.83	4.99	5.14	2.91	4.94	2.88	4.81	2.11	4.02	2.18	2.11	1.64
15	3.89	4.59	4.74	2.73	4.74	2.85	4.60	2.04	3.68	2.37	2.08	1.49
16	3.80	3.52	3.79	2.87	4.25	2.72	5.79	2.12	2.80	2.36	2.12	1.41
17	3.72	3.24	3.24	3.35	4.00	2.57	7.37	2.02	2.50	2.31	2.13	1.38
18	3.66	3.71	2.94	3.77	3.55	2.55	6.56	2.21	2.87	1.55	2.25	1.48
19	3.62	3.55	2.92	6.98	3.42	2.55	5.08	2.48	2.84	1.34	2.08	1.58
20	3.59	3.80	2.95	7.47	3.31	2.41	4.49	2.98	2.46	1.33	2.13	1.51
21	3.45	4.14	2.91	7.15	3.30	2.39	3.74	2.97	2.21	1.33	2.13	1.47
22	2.89	4.42	2.68	7.57	3.43	2.38	3.34	2.94	2.24	1.28	2.15	1.43
23	2.77	4.32	2.65	6.89	4.59	2.37	2.95	2.88	2.25	1.21	2.34	1.40
24	2.32	4.39	3.46	4.49	4.64	2.37	5.44	2.22	2.70	1.37	2.22	1.39
25	2.59	4.68	4.57	3.60	4.16	2.38	9.94	2.17	2.77	1.91	1.98	1.68
26	2.59	5.94	5.65	3.44	3.66	2.37	8.20	2.16	2.61	1.97	1.91	1.80
27	2.57	6.36	5.93	3.01	3.93	2.37	4.92	2.15	2.32	1.70	2.14	1.40
28	2.24	6.41	5.70	2.90	4.04	2.37	4.21	2.16	2.23	1.65	2.47	1.30
29	2.18	5.73	4.96	2.88	---	2.40	3.76	2.12	2.01	1.64	2.82	1.29
30	2.18	4.67	3.43	4.29	---	2.53	3.24	2.12	1.96	1.48	2.38	1.33
31	2.44	---	3.33	5.82	---	3.10	---	2.20	---	1.73	2.29	---
MEAN	2.91	4.73	4.08	3.81	4.10	3.22	5.27	2.64	2.46	1.79	2.09	1.65
MAX	3.96	7.82	5.93	7.57	6.04	5.68	9.94	3.46	4.02	2.37	2.82	2.29
MIN	2.18	2.48	2.65	2.57	2.90	2.37	2.78	2.02	1.96	1.21	1.48	1.29

WTR YR 1987 MEAN 3.22 MAX 9.94 MIN 1.21

KANAWHA RIVER BASIN

03196800 ELK RIVER AT CLAY, WV

LOCATION.--Lat 38°27'38", long 81°05'16", Clay County, Hydrologic Unit 05050007, on right bank at downstream side of pier of highway bridge at Clay, 0.9 mi downstream from Buffalo Creek, 2.1 mi downstream from Lower Two Run Creek, and at mile 53.7.

DRAINAGE AREA.--992 mi².

PERIOD OF RECORD.--October 1958 to September 1978, October 1978 to current year (gage heights, occasional discharge measurements, and annual maximum discharge only). Gage height records collected at same site since 1915 are contained in reports of National Weather Service.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 677.46 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 27, 1959, nonrecording gage at same site and datum.

REMARKS.--Records for winter periods not adjusted for ice effect. Flow regulated since 1960 by Sutton Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--20 years (water years 1959-78), 1,926 ft³/s, 26.31 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 48,000 ft³/s, Mar. 15, 1967, gage height, 22.80 ft; minimum, 1.5 ft³/s, Sept. 22, 1959, gage height, -0.13 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 14, 1918, reached a stage of 32.4 ft, from reports of National Weather Service.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,000 ft³/s, Jan. 19, gage height, 13.29 ft; minimum gage height, 0.60 ft, July 24, 25.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.10	1.74	5.54	3.50	7.77	5.27	4.58	3.61	1.63	1.20	1.02	1.51
2	3.06	1.77	5.00	3.47	7.55	6.58	4.16	3.45	1.84	1.16	1.17	1.45
3	2.54	1.77	4.62	3.24	7.50	6.77	4.15	3.07	1.71	1.51	1.30	1.52
4	1.97	2.37	4.62	3.20	6.83	6.61	5.31	3.63	2.07	1.28	1.31	1.50
5	2.50	2.78	4.99	3.14	6.29	5.13	6.42	3.97	2.02	1.16	1.33	1.46
6	3.92	4.42	4.93	3.05	4.92	4.13	6.61	4.19	1.65	1.10	1.37	1.47
7	3.80	4.88	4.62	3.00	3.95	3.79	7.27	4.08	1.47	1.63	1.26	1.47
8	2.62	5.22	3.75	2.96	3.65	3.70	8.89	3.80	1.36	1.61	.90	1.36
9	1.90	10.48	4.67	2.93	3.55	3.69	9.38	3.52	1.35	1.48	.87	.87
10	1.78	8.69	8.02	2.97	4.25	4.24	10.67	3.34	1.41	1.82	.93	.72
11	1.64	8.64	7.25	3.01	3.93	4.96	10.11	2.80	1.42	1.42	.87	.70
12	1.49	8.85	7.17	3.08	3.23	5.01	8.32	2.43	1.38	1.11	1.36	.71
13	1.52	8.26	6.72	3.21	3.64	4.01	7.16	2.28	2.35	.86	1.36	.80
14	2.35	6.41	6.39	3.30	5.59	3.04	6.32	1.78	3.69	.77	1.35	1.12
15	3.70	5.78	6.12	3.36	5.79	2.95	5.60	2.03	4.05	1.59	1.35	.91
16	3.82	4.24	4.92	3.45	5.15	2.87	7.43	1.87	2.88	1.62	1.32	.83
17	3.63	3.18	3.97	3.79	5.09	2.51	10.63	1.55	2.57	1.61	1.37	.80
18	3.50	3.76	3.52	4.59	4.39	2.36	9.21	1.45	2.17	1.42	1.44	.84
19	3.41	4.05	3.39	8.07	4.26	2.43	7.08	1.90	2.33	.86	1.45	.87
20	3.35	4.01	3.33	10.68	4.26	2.32	6.07	2.39	2.10	.72	1.32	.91
21	3.30	5.31	3.20	8.61	4.15	2.11	4.99	2.59	1.71	.70	1.37	.85
22	2.62	5.46	2.97	8.84	4.33	2.05	4.22	2.59	1.54	.69	1.38	.85
23	2.33	5.41	2.74	8.66	6.35	2.01	3.66	2.64	1.58	.67	1.71	.84
24	1.85	5.47	4.14	6.32	6.82	1.98	6.54	2.01	1.71	.63	1.60	.84
25	1.73	6.04	6.77	4.48	5.87	2.02	11.94	1.64	2.13	.68	1.41	.82
26	1.90	7.87	6.70	4.06	4.87	2.05	10.63	1.50	2.09	1.25	1.21	.94
27	1.90	8.80	7.11	3.45	4.78	2.08	6.93	1.53	1.75	1.23	1.21	1.02
28	1.74	8.14	6.81	3.24	5.15	2.18	5.48	1.46	1.53	.97	1.51	.84
29	1.46	7.47	6.50	3.13	---	2.02	4.84	1.43	1.42	.93	2.62	.73
30	1.42	5.96	4.29	5.08	---	2.44	3.90	1.40	1.22	.91	1.94	.74
31	1.51	---	3.77	7.72	---	3.94	---	1.58	---	.82	1.62	---
MEAN	2.50	5.57	5.11	4.57	5.14	3.46	6.95	2.50	1.94	1.14	1.36	1.01
MAX	3.92	10.48	8.02	10.68	7.77	6.77	11.94	4.19	4.05	1.82	2.62	1.52
MIN	1.42	1.74	2.74	2.93	3.23	1.98	3.66	1.40	1.22	.63	.87	.70

WTR YR 1987 MEAN 3.42 MAX 11.94 MIN .63

KANAWHA RIVER BASIN

03197000 ELK RIVER AT QUEEN SHOALS, WV

LOCATION.--Lat 38°28'15", long 81°17'03", Kanawha County, Hydrologic Unit 05050007, on right bank 50 ft upstream from Queen Shoals Creek, 100 ft downstream from highway bridge at Queen Shoals, 4.0 mi upstream from Big Sandy Creek, and at mile 26.2. Records include flow of Queen Shoals Creek.

DRAINAGE AREA.--1,145 mi², includes that of Queen Shoals Creek.

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only October, November 1928, published in WSP 1305.

REVISED RECORDS.--WSP 783: Drainage area. WSP 1335: 1929-32, 1935(M), 1936, 1939, 1943(M).

GAGE.--Water-stage recorder. Datum of gage is 604.09 ft above National Geodetic Vertical Datum of 1929. Prior to June 19, 1932, nonrecording gage and June 19, 1932, to Sept. 30, 1946, water-stage recorder, at bridge 100 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since Oct. 1960 by Sutton Lake. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--59 years, 2,048 ft³/s, 24.29 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72,000 ft³/s, July 5, 1932, gage height, 29.2 ft, from rating curve extended above 40,000 ft³/s; minimum, 0.3 ft³/s, Nov. 4, 5, 1953. Minimum daily discharge since regulation, 48 ft³/s, Sept. 8, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,400 ft³/s, Jan. 20, gage height, 12.63 ft; minimum daily, 84 ft³/s, July 25.

DISCHARGE, 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	1370	487	3360	1560	6720	3320	1730	1590	570	330	187	464
2	1300	556	2870	1450	6340	4480	1540	1440	780	356	235	413
3	1200	560	2190	1340	6400	4860	1490	1270	617	484	301	420
4	719	609	2110	1160	5340	4810	2300	1490	562	492	338	435
5	749	1120	2240	1110	4620	3480	3810	1810	884	364	335	423
6	1660	2180	2300	1020	3300	2270	4340	1680	611	320	351	428
7	1960	2800	2120	1020	2260	1770	6120	1810	485	395	358	428
8	1480	3180	1620	988	1650	1500	9180	1660	419	535	277	443
9	704	10500	1920	951	1570	1490	10200	1530	386	563	177	332
10	589	9270	7220	944	1870	1730	10300	1440	458	497	173	181
11	546	7570	6010	944	2000	2600	10100	1310	402	571	182	138
12	464	8440	5470	942	1380	2840	7820	934	423	375	199	145
13	450	7230	4810	1030	1410	2250	5750	885	583	272	358	138
14	652	5050	4320	1090	2790	1320	4510	664	1220	188	356	168
15	1490	3780	4050	1100	3690	1010	3510	584	2410	223	353	259
16	2000	2630	2980	1040	3120	984	5180	593	1520	485	352	191
17	1820	1570	1930	1190	2890	873	11200	537	1240	487	341	155
18	1700	1540	1420	1800	2330	747	9150	463	783	476	369	152
19	1600	2070	1210	6240	2080	728	6100	509	881	328	415	154
20	1550	1870	1140	12900	2270	723	4360	827	843	168	356	172
21	1500	2890	1120	7950	2130	638	3240	1150	648	121	341	192
22	1310	3070	1050	7710	2260	607	2260	1020	504	111	364	169
23	877	3120	873	7420	4550	597	1710	993	496	106	550	151
24	792	3020	2170	4870	5640	586	3650	888	489	100	515	135
25	510	3680	6460	2750	4350	581	13100	565	675	84	440	124
26	603	5660	5150	1970	3260	581	11500	469	756	111	359	116
27	623	8550	5660	1580	2810	572	6380	460	666	337	293	191
28	616	6750	5210	1270	3170	577	3840	449	507	279	352	216
29	486	5860	4760	1180	---	569	2980	429	450	197	795	138
30	416	4180	2840	2580	---	588	2130	413	385	184	898	111
31	403	---	1770	6830	---	936	---	497	---	175	544	---
TOTAL	32139	119792	98353	85929	92200	50617	169480	30359	21653	9714	11464	7182
MEAN	1037	3993	3173	2772	3293	1633	5649	979	722	313	370	239
MAX	2000	10500	7220	12900	6720	4860	13100	1810	2410	571	898	464
MIN	403	487	873	942	1380	569	1490	413	385	84	173	111

CAL YR 1986 TOTAL 768745 MEAN 2106 MAX 14300 MIN 127 CFSM 1.84 IN 24.98
WTR YR 1987 TOTAL 728882 MEAN 1997 MAX 13100 MIN 84 CFSM 1.74 IN 23.68

KANAWHA RIVER BASIN

03197790 LITTLE SANDY CREEK NEAR ELKVIEW, WV

LOCATION.--Lat 38°27'21", long 81°30'01", Kanawha County, Hydrologic Unit 05050007, on left bank 20 ft downstream from private bridge at Wills, 0.2 mi downstream from Wills Creek, 1.3 mi west of Elkview, and at mile 6.3.

DRAINAGE AREA.--43.6 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--April 1985 to September 1987 (discontinued).

GAGE.--Water-stage recorder. Elevation of gage is 605 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Jan. 24-29, and Sept. 22-30. Water-discharge records good except for period of ice effect, Jan. 24-29, and period of no gage-height record, Sept. 22-30, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,940 ft³/s, Feb. 17, 1986, gage height, 14.54 ft; no flow July 31 to Aug. 7, 1986, and parts of Aug. 21-23, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,400 ft³/s, Dec. 24, gage height, 12.40 ft; no flow parts of Aug. 21-23.

DISCHARGE, 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	3.3	.88	32	33	122	196	55	28	74	2.1	50	1.4
2	7.0	.79	63	48	175	99	48	24	54	3.9	4.5	1.1
3	4.5	.78	78	47	116	67	52	21	19	18	2.5	.95
4	4.4	.78	56	42	72	50	70	49	18	19	1.7	.81
5	14	45	41	41	54	41	95	32	11	14	1.3	.83
6	8.8	86	32	38	46	35	206	25	7.8	5.1	1.1	1.2
7	4.7	27	27	38	40	31	702	21	6.0	3.2	.82	100
8	3.1	244	25	33	38	28	762	18	4.7	3.6	.70	76
9	2.3	688	439	30	30	27	359	16	5.3	6.7	.55	15
10	1.9	102	288	31	28	22	142	14	7.3	3.3	1.5	6.0
11	1.6	140	115	29	25	18	86	13	3.9	2.4	2.4	6.7
12	1.4	105	71	25	27	17	76	11	4.5	2.0	1.2	19
13	6.7	47	46	22	23	15	64	11	17	2.1	.76	20
14	53	29	35	21	21	14	54	9.3	8.5	16	.56	8.0
15	17	22	30	26	20	14	68	21	5.1	4.2	.44	4.0
16	6.9	19	25	25	21	14	143	13	49	2.3	.34	3.0
17	3.8	16	22	24	33	12	286	9.2	39	1.9	.24	3.9
18	2.9	14	32	31	45	12	148	7.9	10	1.6	.17	9.4
19	2.4	19	27	730	62	12	90	8.2	12	1.3	.05	5.1
20	2.0	84	22	295	81	11	66	7.9	15	1.1	.01	3.3
21	1.9	149	19	119	72	11	53	6.5	7.6	.99	.0	2.3
22	1.7	62	17	83	171	10	45	5.5	4.7	.90	4.6	e2.1
23	1.7	41	16	61	521	9.6	40	4.8	3.7	.79	19	e1.9
24	1.6	84	650	e45	197	9.3	62	4.4	3.2	.76	2.0	e1.7
25	1.7	89	420	e35	102	12	84	5.0	2.5	.66	1.1	e1.5
26	1.3	553	143	e25	67	14	60	4.6	2.2	.74	.84	e1.2
27	1.5	225	81	e20	80	11	50	5.1	1.9	1.7	8.6	e1.0
28	1.3	84	57	e15	159	11	45	4.0	1.6	1.1	26	e1.2
29	1.1	52	45	e12	---	10	38	3.4	1.6	.91	27	e1.4
30	.97	37	41	453	---	17	34	3.1	1.5	.76	3.5	e1.6
31	.92	---	34	233	---	73	---	23	---	8.3	1.9	---
TOTAL	167.39	3066.23	3029	2710	2448	922.9	4083	428.9	401.6	131.41	165.38	301.59
MEAN	5.40	102	97.7	87.4	87.4	29.8	136	13.8	13.4	4.24	5.33	10.1
MAX	53	688	650	730	521	196	762	49	74	19	50	100
MIN	.92	.78	16	12	20	9.3	34	3.1	1.5	.66	.00	.81
CFSM	.12	2.34	2.24	2.01	2.01	.68	3.12	.32	.31	.10	.12	.23
IN.	.14	2.62	2.58	2.31	2.09	.79	3.48	.37	.34	.11	.14	.26

CAL YR 1986 TOTAL 17009.68 MEAN 46.6 MAX 904 MIN .00 CFSM 1.07 IN. 14.51
WTR YR 1987 TOTAL 17855.40 MEAN 48.9 MAX 762 MIN .00 CFSM 1.12 IN. 15.23

e Estimated

KANAWHA RIVER BASIN

03197790 LITTLE SANDY CREEK NEAR ELKVIEW, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1985 to September 1987 (discontinued).

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT								
03...	1305	4.6	714	7.60	22.0	4.0	15	0.19
07...	1315	4.8	634	7.60	19.5	5.0	8	0.10
14...	1250	77	483	--	15.5	120	274	57
23...	1015	1.7	936	--	17.0	5.0	7	0.03
28...	1615	1.2	1350	7.90	17.0	7.0	6	0.02
NOV								
06...	1000	74	329	--	13.0	55	91	18
25...	1255	77	249	--	9.5	15	11	2.3
DEC								
02...	1215	63	256	7.50	11.0	50	53	9.0
10...	1200	260	151	--	9.0	30	62	44
JAN								
07...	1330	39	273	7.40	7.0	6.0	9	0.95
20...	1320	246	173	--	5.0	25	63	42
FEB								
10...	1230	33	328	7.40	0.5	7.0	14	1.2
MAR								
02...	1300	94	199	--	7.0	8.0	16	4.1
26...	0930	16	430	7.40	11.5	120	99	4.3

KANAWHA RIVER BASIN

03198000 KANAWHA RIVER AT CHARLESTON, WV

LOCATION.--Lat 38°22'10", long 81°42'05", Kanawha County, Hydrologic Unit 05050008, on left bank at old lock 6, 1.0 mi upstream from Davis Creek, 1.5 mi downstream from Twomile Creek, 2.0 mi downstream from Patrick Street Bridge at Charleston, 3.5 mi downstream from Elk River, and at mile 54.3.

DRAINAGE AREA.--10,419 mi².

PERIOD OF RECORD.--June 1939 to current year. Monthly discharge only September 1939 to February 1940, published in WSP 1305.

REVISED RECORDS.--WSP 1335: 1943.

GAGE.--Water-stage recorder. Datum of gage is 548.00 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Auxiliary water-stage recorder 2.3 mi upstream from base gage at datum 547.00 ft, U.S. Army Corps of Engineers datum. Prior to Oct. 1, 1955, auxiliary gages at different sites and datum.

REMARKS.--Estimated daily discharges: Oct. 1 To Nov. 5, Feb. 20 to Apr. 15, May 10-28, 31, and June 1 to Sept. 30. Records fair except for estimated periods, which are poor. Since 1939, flow regulated by increasing number of reservoirs upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--48 years, 15,030, 19.59 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 216,000 ft³/s, Aug. 15, 1940; maximum gage height, 39.72 ft, Mar. 7, 1955; minimum discharge, less than 1,030 ft³/s, during period Oct. 1-5, 1953; minimum gage height, 16.79 ft, Aug. 7, 1978.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 29, 1861, reached a stage of about 54.3 ft.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 116,000 ft³/s, Apr. 25; maximum gage height, 32.81 ft, Apr. 25; minimum daily, 2,420 ft³/s, July 21; minimum gage height, 17.58 ft, Oct. 22.

DISCHARGE, 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	7630	5400	16100	14300	31200	51200	56600	52200	10100	4700	3300	3240
2	8550	5470	18100	14300	31500	84500	47600	43300	9000	4850	3360	3140
3	9620	5970	23000	10300	29900	85500	38300	30100	11200	6030	3500	2810
4	8110	8000	24000	12300	30300	78300	32600	20500	12800	6150	3000	3120
5	8440	9360	20100	9540	31900	61900	32500	18700	12300	7190	3310	3150
6	9050	15300	14600	7360	28700	53500	31500	19600	8400	10800	3890	3220
7	7970	17900	15200	7850	24900	46500	31800	18600	7790	10300	4060	3800
8	7490	19400	14200	8930	22600	39800	53400	15400	7650	10300	3360	5800
9	6380	39300	15700	7920	17200	41800	83600	15200	5900	8700	3380	10400
10	5780	39800	30300	9430	16800	47300	68000	12700	8330	6790	3040	8580
11	5710	30800	29700	8720	18400	47100	57400	11400	8450	6670	2540	5860
12	5570	31400	33500	7600	15800	39200	43300	10900	7950	6410	3020	5000
13	5660	28100	38700	5620	19800	29800	37400	13100	8190	5670	3440	5380
14	7130	21900	31200	7160	23900	23400	32600	10500	9260	5530	3540	6190
15	7200	17600	24100	8250	26000	17800	33900	10400	8650	5620	3430	4990
16	7530	16300	16200	8380	19500	15400	45100	13400	6330	6600	3330	4390
17	6890	13000	15700	10600	19100	16500	98800	10100	6880	6130	3220	4360
18	6670	11500	13600	13600	22400	16100	69300	8580	6970	5070	3160	4910
19	6330	10200	10700	27200	19000	17300	89500	8420	6330	4720	3000	3820
20	5760	11600	12200	74500	17500	21800	78400	11300	7110	3050	3080	4210
21	5290	14600	10400	68600	17800	24900	60600	12500	7790	2420	3290	3570
22	4840	13200	9140	46100	17500	22700	48900	12600	6860	2710	3510	2540
23	4200	13500	6820	36900	23700	18700	35800	12300	6460	3010	4070	2510
24	3960	13400	15000	29300	36000	15700	47600	10200	7100	2690	3680	2750
25	3610	14700	54000	23800	29800	14700	116000	8520	7520	2870	3090	3030
26	3810	20900	73900	18400	26200	15900	99200	10600	7210	3190	2780	2860
27	3960	31600	50700	17200	27200	13500	86200	14100	7140	3630	3000	3350
28	4220	33000	35300	12000	36200	12700	83400	16200	7320	3160	3220	3330
29	5420	26700	27200	11900	---	12300	70000	13000	6210	2540	3920	2860
30	5340	21000	19800	16700	---	12800	60600	11300	4430	2960	4010	3040
31	5200	---	18400	28400	---	20700	---	12500	---	3370	3490	---
TOTAL	193320	560900	737560	583160	680800	1019300	1769900	488220	237630	163830	104020	126210
MEAN	6236	18700	23790	18810	24310	32880	59000	15750	7921	5285	3355	4207
MAX	9620	39800	73900	74500	36200	85500	116000	52200	12800	10800	4070	10400
MIN	3610	5400	6820	5620	15800	12300	31500	8420	4430	2420	2540	2510

CAL YR 1986 TOTAL 4722980 MEAN 12940 MAX 91900 MIN 2410
WTR YR 1987 TOTAL 6664850 MEAN 18260 MAX 116000 MIN 2420

KANAWHA RIVER BASIN

03198500 BIG COAL RIVER AT ASHFORD, WV

LOCATION.--Lat 38°10'47", long 81°42'42", Boone County, Hydrologic Unit 05050009, on left bank at downstream side of highway bridge at Ashford, 300 ft upstream from Lick Creek, 1.0 mi downstream from Brush Creek, 1.8 mi upstream from Bull Creek, and at mile 30.2 upstream from Kanawha River.

DRAINAGE AREA.--391 mi².

PERIOD OF RECORD.--June 1908 to September 1916, May 1930 to current year. Published as Coal River at Brushton, June 1908 to September 1916 and as Coal River at Ashford, May 1930 to September 1960.

REVISED RECORDS.--WSP 1305: 1913-14(M). WSP 1335: 1912, 1916(M). WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 622.46 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 9, 1916, nonrecording gage at site 1.0 mi upstream at different datum. May 7, 1930, to Feb. 10, 1939, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Oct. 3 to Nov. 5, and Jan. 25-28. Records good except for period of no gage-height record, Oct. 3 to Nov. 5, and period with ice effect, Jan. 25-28, which are fair.

AVERAGE DISCHARGE.--65 years, 519 ft³/s, 18.03 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 35,800 ft³/s, Aug. 9, 1916, gage height, 36.3 ft, from floodmark, site and datum then in use, or 35.66 ft, from floodmark, present site and datum, from rating curve extended above 25,000 ft³/s; no flow Sept. 18-21, 24, Oct. 6-12, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Apr. 9	0500	12,700	17.50	Apr. 25	0700	*17,100	*20.88

Minimum discharge, 12 ft³/s, Aug. 22, gage height, 1.34 ft.

DISCHARGE, 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	208	e75	670	535	1750	4070	693	784	242	67	30	35
2	633	e80	602	540	1330	3230	760	660	610	87	29	30
3	655	e85	589	479	1240	1860	884	574	424	115	29	25
4	e310	e90	583	402	1200	1320	974	546	463	116	27	22
5	e500	e140	529	362	1030	1030	1020	481	380	146	26	23
6	e600	1180	485	340	880	854	1030	405	290	151	24	32
7	e400	1020	451	331	758	728	1790	359	227	333	23	79
8	e250	1070	430	320	674	660	4800	324	186	229	23	278
9	e180	3650	1040	304	618	624	9310	292	232	178	23	106
10	e140	2240	2890	299	514	563	4100	265	629	168	33	63
11	e120	1480	1960	303	448	474	2450	245	398	154	40	75
12	e110	1900	1650	290	432	416	1750	252	270	131	29	94
13	e100	1340	1320	265	483	371	1440	274	230	110	24	122
14	e300	891	984	250	511	341	1170	227	224	110	21	95
15	e390	694	810	268	536	321	1230	564	188	87	20	67
16	e280	584	688	285	575	321	2400	607	312	77	18	50
17	e210	489	606	284	756	305	3350	388	305	67	17	40
18	e170	405	599	312	893	274	2890	297	178	59	17	41
19	e140	363	580	1420	884	281	2020	296	143	54	17	47
20	e120	331	521	3710	894	302	1460	274	132	53	15	54
21	e110	440	479	1890	1040	284	1130	230	155	48	14	57
22	e100	545	435	1280	1210	273	919	197	134	44	16	48
23	e90	544	398	1000	1800	264	785	179	130	41	38	39
24	e85	585	905	744	2140	252	3150	165	120	38	50	36
25	e80	784	2810	e600	1810	245	12400	268	111	36	40	31
26	e95	1210	1770	e500	1420	238	3810	204	124	37	30	27
27	e100	1890	1220	e450	1680	225	2070	269	98	37	32	27
28	e95	1450	952	e400	2920	224	1540	237	87	43	69	26
29	e90	1050	785	435	---	216	1170	175	79	37	127	25
30	e85	812	692	937	---	217	955	151	72	33	64	33
31	e80	---	603	2230	---	404	---	155	---	30	44	---
TOTAL	6826	27417	29036	21765	30426	21187	73450	10344	7173	2916	1009	1727
MEAN	220	914	937	702	1087	683	2448	334	239	94.1	32.5	57.6
MAX	655	3650	2890	3710	2920	4070	12400	784	629	333	127	278
MIN	80	75	398	250	432	216	693	151	72	30	14	22
CFSM	.56	2.34	2.40	1.80	2.78	1.75	6.26	.85	.61	.24	.08	.15
IN.	.65	2.61	2.76	2.07	2.89	2.02	6.99	.98	.68	.28	.10	.16

CAL YR 1986 TOTAL 187708 MEAN 514 MAX 4800 MIN 46 CFSM 1.32 IN. 17.86
WTR YR 1987 TOTAL 233276 MEAN 639 MAX 12400 MIN 14 CFSM 1.63 IN. 22.19

e Estimated

KANAWHA RIVER BASIN

03200500 COAL RIVER AT TORNADO, WV

LOCATION.--Lat 38°20'20", long 81°50'30", Kanawha County, Hydrologic Unit 05050009, on downstream side of highway bridge at Tornado, 0.2 mi upstream from Falls Creek, and at mile 11.5.

DRAINAGE AREA.--862 mi², includes that of Falls Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--June 1908 to September 1911, October 1911 to June 1912 (gage heights only), November 1928 to September 1931, August 1961 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 570.46 ft above National Geodetic Vertical Datum of 1929. Aug. 1, 1961 to Jan. 9, 1973, nonrecording gage at same site and datum. Prior to Aug. 1, 1961, nonrecording gage at same site at different datum.

REMARKS.--Estimated daily discharges: Jan. 26-28, 30. Water-discharge records good except for period with ice effect, which is fair. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--31 years (water years 1909-11, 1930-31, 1962-87), 1,219 ft³/s, 19.20 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 35,500 ft³/s, Mar. 7, 1967, gage height, 31.98 ft; minimum (estimated), 2.0 ft³/s, Oct. 1-10, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 16,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Apr. 9	1100	*21,200	*22.09	Apr. 25	1400	19,600	21.13

Minimum discharge, 38 ft³/s, Aug. 22, gage height, 9.95 ft.

DISCHARGE, 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	370	164	1420	1160	3540	6370	1510	1760	447	171	74	100
2	578	175	1450	1170	2730	5310	1640	1510	974	171	76	81
3	963	185	1450	1100	2410	3720	1860	1340	835	249	77	66
4	680	193	1440	974	2230	2660	2110	1370	1120	263	74	55
5	1100	251	1280	907	1890	2080	2290	1230	1190	300	71	53
6	1350	1660	1130	854	1640	1760	2460	1080	721	329	65	62
7	799	2010	1020	834	1460	1520	4060	999	526	533	58	90
8	542	2050	955	810	1330	1370	9800	891	413	434	58	454
9	399	9170	2060	757	1230	1300	18500	847	405	590	62	367
10	318	5190	6420	741	1010	1190	10600	770	1090	613	65	201
11	271	3120	4550	719	917	1020	5510	722	896	495	77	150
12	236	3640	3480	717	896	918	4000	677	569	391	82	231
13	231	2830	2710	644	955	840	3420	695	465	310	68	271
14	629	1830	2010	597	929	767	2750	624	426	283	58	272
15	853	1380	1650	598	974	731	2730	917	374	257	54	196
16	638	1140	1410	645	1020	721	5000	1440	327	217	50	139
17	467	970	1270	645	1430	706	6840	946	545	190	48	113
18	367	818	1200	692	1860	633	5540	775	380	164	46	98
19	306	743	1220	2660	1980	635	4280	908	289	148	44	106
20	267	706	1080	6940	2110	689	3280	758	263	141	43	126
21	239	900	998	4300	2470	640	2520	577	315	138	41	132
22	219	1000	922	2910	2920	615	2070	478	363	124	41	130
23	207	993	853	2290	4530	602	1770	415	309	114	68	102
24	193	1150	1920	1690	4950	577	2730	381	285	106	92	87
25	186	1710	5200	1480	3890	559	15900	713	249	99	115	78
26	201	3090	4120	e1300	3100	552	8980	602	291	92	81	68
27	221	4090	2840	e1100	3190	524	4290	508	272	96	75	62
28	211	3200	2160	e950	5200	506	3290	562	225	96	89	59
29	192	2250	1750	1010	---	504	2540	437	209	100	260	63
30	180	1720	1510	e2000	---	493	2090	389	186	84	260	77
31	170	---	1320	4190	---	983	---	388	---	79	144	---
TOTAL	13583	58328	62798	47384	62791	41495	144360	25709	14959	7377	2516	4089
MEAN	438	1944	2026	1529	2243	1339	4812	829	499	238	81.2	136
MAX	1350	9170	6420	6940	5200	6370	18500	1760	1190	613	260	454
MIN	170	164	853	597	896	493	1510	381	186	79	41	53
CFSM	.51	2.26	2.35	1.77	2.60	1.55	5.58	.96	.58	.28	.09	.16
IN.	.59	2.52	2.71	2.04	2.71	1.79	6.23	1.11	.65	.32	.11	.18

CAL YR 1986 TOTAL 391246 MEAN 1072 MAX 12400 MIN 103 CFSM 1.24 IN. 16.88
WTR YR 1987 TOTAL 485389 MEAN 1330 MAX 18500 MIN 41 CFSM 1.54 IN. 20.95

e Estimated

KANAWHA RIVER BASIN

03200500 COAL RIVER AT TORNADO, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1973 to September 1983.

TEMPERATURE: May to July 1975 (partial-record station), June to September 1976 (published as once-daily), October 1976 to September 1984.

TURBIDITY: October 1980 to current year.

SUSPENDED-SEDIMENT DISCHARGE; December 1972 to September 1984.

COOPERATION.--Once-daily observed turbidity records from October 1984 to current year were furnished by Washington Public Service District.

INSTRUMENTATION.--Temperature recorder November 1973 to September 1984. Turbidity recorder October 1981 to September 1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 1,020 microsiemens, Oct. 23, 24, 1973; minimum daily, 88 microsiemens, Dec. 9, 1978, June 22, 1979.

WATER TEMPERATURE: Maximum recorded, 31.5°C, July 8, 19, 20, 1977; minimum recorded, -0.5°C, Dec. 31, 1980, Jan. 1, 2, 1981.

TURBIDITY: Maximum, 1,500 NTU, May 30, 1982; minimum, 0.2 NTU, Nov. 15, 1982.

SEDIMENT CONCENTRATION; Maximum daily mean, 4,000 mg/L, Mar. 17, 1973; minimum daily mean, 0 mg/L, on several days in April 1978, Feb. 5, Mar. 21, 22, 1979, Jan. 17, Apr. 29, 1982.

SEDIMENT LOAD: Maximum daily, 263,000 tons, Jan. 26, 1978; minimum daily, 0 ton, on several days in April 1978, Feb. 5, Mar. 21, 22, 1979, Jan. 17, Apr. 29, 1982.

EXTREMES FOR CURRENT YEAR.--

TURBIDITY: Maximum daily, 350 NTU, Nov. 9; minimum daily, 4.0 NTU, Mar. 17.

TURBIDITY (NTU), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	18	14	9	90	120	32	35	30	25	12	20
2	28	15	16	8	60	70	23	35	200	20	14	22
3	35	15	19	11	30	65	40	36	180	20	13	18
4	38	19	18	11	28	65	45	37	190	65	14	18
5	34	18	20	9	25	60	45	35	140	95	14	19
6	120	80	19	10	18	55	40	34	100	50	12	17
7	35	100	19	18	15	50	50	32	80	110	12	18
8	30	75	18	20	12	40	150	33	90	190	12	40
9	30	350	30	20	18	40	250	33	220	70	12	45
10	28	210	50	19	12	40	110	28	110	60	16	40
11	22	75	60	18	12	40	65	30	90	80	16	35
12	20	65	50	18	10	40	45	25	90	50	14	30
13	28	30	35	18	10	35	50	20	85	40	10	28
14	30	19	20	19	10	30	40	20	75	35	18	29
15	100	18	19	20	10	20	35	35	55	35	17	28
16	30	15	10	18	12	12	70	90	35	30	15	26
17	28	16	8	18	30	4	65	32	190	20	14	20
18	19	17	8	19	60	8	50	37	160	18	12	18
19	18	18	9	110	65	10	34	32	100	18	14	15
20	20	18	11	320	65	10	40	50	80	15	17	20
21	18	18	9	120	70	12	45	35	60	12	17	20
22	15	17	8	110	80	14	40	30	50	12	16	19
23	12	15	10	60	70	13	40	20	55	12	18	18
24	14	18	70	40	50	13	21	17	40	16	17	18
25	15	65	200	19	50	10	250	18	50	12	15	18
26	13	210	60	18	30	8	80	50	55	12	17	16
27	18	100	35	18	70	10	60	40	45	14	18	14
28	19	65	19	17	120	10	45	38	40	12	18	13
29	18	40	12	15	---	12	45	30	38	12	20	18
30	16	20	10	120	---	14	36	30	38	14	55	18
31	15	---	9	150	---	25	---	30	---	12	60	---
MEAN	29	59	29	45	40	31	65	34	92	38	18	23

WTR YR 1987 MEAN 42

KANAWHA RIVER BASIN

03200650 KANAWHA RIVER AT POCA, WV

LOCATION.--Lat 38°28'29", long 81°49'09", Putnam County, Hydrologic Unit 05050008, on left bank at John Amos Power Plant, at Poca, 200 ft upstream from Pocatamico River, and at mile 38.2.

DRAINAGE AREA.--11,435 mi², excludes that of Pocatamico River.

PERIOD OF DAILY RECORD.--

WATER TEMPERATURE; October 1975 to current year.

COOPERATION.--Records were furnished by Appalachian Power Company.

EXTREMES FOR PERIOD OF DAILY RECORD.--

WATER TEMPERATURE: Maximum daily, 37.0°C, July 27, 1982; minimum daily, 0.0°C, Jan. 18, 1977.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum daily observed, 29.0°C, several days in August; minimum daily observed, 3.5°C, Jan. 27, 29-31.

WATER TEMPERATURE, DEGREES CENTIGRADE, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
INSTANTANEOUS VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.5	16.5	---	---	4.0	---	9.5	15.0	23.5	26.5	---	25.5
2	24.5	---	---	---	---	---	11.0	15.5	25.5	26.5	---	25.5
3	24.0	16.5	10.0	---	5.5	9.0	10.0	---	25.5	---	29.0	25.0
4	24.5	18.0	9.0	---	---	9.0	8.5	15.5	25.5	---	29.0	25.5
5	---	---	8.5	---	4.5	8.0	---	15.5	---	---	29.0	---
6	24.5	18.0	---	5.5	5.5	10.0	6.5	15.5	---	26.5	28.5	---
7	---	18.0	---	4.0	5.5	---	6.5	---	---	26.5	29.0	---
8	---	---	---	5.5	---	---	8.0	---	24.5	26.5	---	---
9	23.5	---	9.0	5.0	5.5	10.0	8.5	---	23.5	27.0	---	---
10	21.0	---	9.0	---	5.5	11.5	9.0	---	25.5	26.5	---	---
11	---	15.5	9.0	---	6.0	10.0	---	19.0	26.0	---	---	---
12	---	15.5	8.5	5.5	6.0	10.0	---	18.5	---	---	29.0	---
13	21.0	11.5	8.0	5.5	---	---	11.0	19.0	---	26.5	---	---
14	21.0	11.5	---	4.5	---	---	13.5	19.0	---	---	---	---
15	21.0	13.5	6.5	5.0	---	---	---	20.0	---	---	---	---
16	21.0	---	---	---	---	9.0	14.0	---	---	26.5	---	---
17	18.0	12.5	---	---	5.5	10.0	---	---	---	---	---	25.5
18	19.0	12.5	---	---	6.0	10.0	12.5	21.0	26.5	---	29.0	25.5
19	---	---	---	---	5.5	11.0	---	---	25.5	---	29.0	25.5
20	16.5	12.5	---	6.5	5.5	11.0	13.5	---	---	28.0	---	---
21	18.5	---	---	6.5	5.5	11.0	---	23.5	---	---	29.0	25.5
22	18.0	---	6.5	6.0	---	---	---	---	---	---	---	25.5
23	21.0	---	6.5	4.5	6.5	---	16.5	---	---	28.0	---	23.5
24	---	---	---	4.5	6.5	11.0	---	---	26.5	28.5	28.0	---
25	---	---	---	---	---	11.0	---	---	26.5	28.0	28.0	---
26	---	---	---	8.0	8.0	11.0	---	23.5	---	---	28.0	---
27	16.5	11.0	---	3.5	8.0	11.5	---	23.5	26.0	28.5	---	---
28	16.5	---	---	---	7.5	10.5	---	24.5	---	28.5	---	22.5
29	16.5	11.0	6.5	3.5	---	11.5	13.5	24.5	26.5	---	---	---
30	16.5	---	6.0	3.5	---	13.5	13.5	---	26.5	28.5	---	---
31	18.0	---	7.0	3.5	---	10.5	---	---	---	---	25.5	---

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV
(National stream-quality accounting network station)

LOCATION.--Lat 38°31'32", long 81°54'40", Putnam County, Hydrologic Unit 05050008, on left bank at intake line to Ohio River Valley Water Sanitation Commission (ORSANCO) monitor at Kanawha Valley Power Company raw water intake at Winfield Dam, 1.0 mi downstream from Winfield Bridge, and at mile 31.1.

DRAINAGE AREA.--11,809 mi².

PERIOD OF RECORD.--Water years 1957-70, 1974 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1957 to September 1970, January 1974 to September 1980.

pH: October 1974 to September 1980.

WATER TEMPERATURE: October 1956 to September 1970, January 1974 to September 1980.

DISSOLVED OXYGEN: October 1974 to September 1980.

REMARKS.--Discharges in water-quality tables are estimated. Sediment analyses performed by West Virginia Department of Natural Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 2,700 microsiemens, Apr. 21, 1961; minimum 76 microsiemens, Mar. 17, 1978.

pH: Maximum daily, 8.6 units, May 14, 1977; minimum daily, 5.3 units, July 16, 1979.

WATER TEMPERATURE: Maximum daily, 33.0°C, July 24, 1964; minimum daily, 0.0°C, Feb. 14, 1958, Mar. 12, 1960, Jan. 30, 1978.

DISSOLVED OXYGEN: Maximum daily, 16.0 mg/L, Feb. 19, 20, 1977; minimum daily, 3.1 mg/L, July 28, 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS-CHARGE, IN CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	TURBIDITY (NTU)	BAROMETRIC PRESSURE (MM HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, SATURATION (PER-CENT)	COLIFORM, FECA, UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)
DEC 31...	1330	E20500	126	7.30	5.0	7.4	745	10.6	85	K1400	400
MAR 30...	1530	E13600	161	7.30	12.5	4.8	727	9.9	97	K1400	410
JUN 26...	1430	E7680	208	7.60	26.5	5.6	738	7.1	91	130	K10
AUG 31...	1300	E3720	242	7.70	25.5	7.3	744	5.1	64	80	200

DATE	HARDNESS TOTAL (MG/L AS CaCO3)	HARDNESS NONCARB WH WAT TOT FLD (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	POTASSIUM, DIS-SOLVED (MG/L AS K)	BICARBONATE WATER DIS IT FIELD (MG/L AS HCO3)	CARBONATE WATER DIS IT FIELD (MG/L AS CO3)	ALKALINITY WAT DIS TOT IT FIELD (MG/L AS CaCO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)
DEC 31...	47	47	12	4.0	5.2	1.4	32	0	26	23	5.0
MAR 30...	56	20	14	5.0	7.5	1.3	27	0	33	26	7.0
JUN 26...	73	22	18	6.7	12	1.9	38	0	46	34	6.4
AUG 31...	67	22	16	6.6	19	2.1	54	0	44	45	13

DATE	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)
DEC 31...	<0.10	5.9	69	60	<0.010	0.700	0.060	0.070	0.44	0.50	0.020
MAR 30...	<0.10	4.9	85	91	<0.010	0.750	0.130	0.140	3.6	3.7	0.030
JUN 26...	0.10	5.2	117	118	0.010	0.610	0.120	0.120	0.68	0.80	0.080
AUG 31...	0.10	3.6	138	135	0.020	0.480	0.340	0.280	0.06	0.40	0.070

KANAWHA RIVER BASIN

03201300 KANAWHA RIVER AT WINFIELD DAM, AT WINFIELD, WV--Continued
(National stream-quality accounting network station)

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS 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)
DEC 31...	0.010	<0.010	40	1	36	<0.5	<1	<1	<3	3	42
MAR 30...	0.030	0.010	40	<1	37	<0.5	24	<1	<3	3	25
JUN 26...	0.030	0.010	30	<1	50	<0.5	37	<1	<3	3	7
AUG 31...	0.040	0.020	40	1	53	<0.5	110	<1	<3	6	13
DATE	LEAD, DIS- SOLVED (UG/L AS PB)	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 31...	<5	5	28	<0.1	<10	<1	<1	<1.0	80	<6	19
MAR 30...	<5	12	46	<0.1	<10	<1	<1	<1.0	100	<6	6
JUN 26...	<5	10	<1	<0.1	<10	<1	<1	<1.0	130	<6	6
AUG 31...	<5	<4	14	<0.1	<10	<1	<1	<1.0	130	<6	23
DATE	GROSS ALPHA, DIS- SOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DIS- SOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DIS- SOLVED (PCI/L AS SR/ YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/ YT-90)	RADIUM 226, DIS- SOLVED, RADON METHOD (PCI/L)	URANIUM DIS- SOLVED, EXTRAC- TION (UG/L)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 31...	--	--	--	--	--	--	--	--	15	0.0	81
MAR 30...	<0.4	0.5	1.8	0.6	1.5	0.6	0.04	0.04	18	0.0	52
JUN 26...	--	--	--	--	--	--	--	--	27	0.0	83
AUG 31...	<0.4	0.9	2.1	0.9	1.7	0.9	0.05	--	20	0.0	65

OHIO RIVER MAIN STEM

03201500 OHIO RIVER AT POINT PLEASANT, WV

LOCATION.--Lat 38°50'25", long 82°08'30", Mason County, Hydrologic Unit 05030202, on left bank at Point Pleasant, 1,200 ft upstream from Kanawha River, and at mile 265.4 measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--52,760 mi², approximately, includes that of Kanawha River.

PERIOD OF RECORD.--March 1940 to September 1977, (since October 1952, no low-flow records). October 1977 to current year (gage heights only). Records of gage heights collected in this vicinity since 1889 are in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 514.10 ft, Sandy Hook datum. Prior to Oct. 1, 1951, water-stage recorder at site 0.3 mi upstream at same datum.

REMARKS.--U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--12 years (water years 1941-52), 74,350 ft³/s, 19.14 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 55.00 ft, Apr. 16, 1948; minimum gage height recorded, 22.52 ft, Sept. 10, 1956.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1896, 62.8 ft, Mar. 30, 1913. Flood of Jan. 27, 1937, reached a stage of 62.7 ft.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 39.79 ft, Apr. 9, 1986; minimum, 24.10 ft, Oct. 21.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.85	24.65	25.67	24.92	26.08	25.44	27.07	26.14	24.44	24.73	24.92	24.99
2	24.92	24.41	25.91	24.89	25.72	26.54	28.15	25.44	24.67	24.57	24.72	24.97
3	24.91	24.79	28.69	24.66	25.95	27.23	27.79	25.31	24.66	24.93	24.93	24.82
4	24.73	24.77	28.95	25.08	26.21	27.71	27.41	25.17	25.05	25.73	24.63	25.00
5	25.29	24.62	27.99	24.84	25.92	26.88	27.40	25.14	24.52	25.80	24.91	25.06
6	25.83	24.73	27.23	24.51	25.77	26.03	28.46	25.14	24.45	25.18	24.98	25.05
7	25.00	25.11	26.32	24.52	25.41	25.76	30.93	24.99	24.67	25.14	24.84	25.04
8	24.78	25.04	26.06	24.75	25.23	25.38	35.17	24.79	24.57	24.92	24.74	25.07
9	24.74	27.29	25.80	24.52	25.10	25.32	38.91	24.83	24.56	24.88	24.96	24.67
10	24.51	28.54	27.94	24.51	25.00	25.77	39.15	24.59	24.31	24.81	25.00	24.62
11	24.65	26.88	28.76	24.48	25.08	26.04	35.44	24.78	24.69	24.69	24.98	24.55
12	24.57	26.15	28.76	24.51	24.92	25.51	31.59	24.53	24.70	24.79	25.14	24.68
13	24.88	26.04	28.13	24.60	25.17	25.17	29.34	24.61	24.93	24.44	25.02	25.26
14	24.72	25.48	26.93	24.45	25.13	24.96	28.40	24.48	24.68	24.54	25.09	24.77
15	25.04	25.02	25.95	24.52	25.20	24.84	27.93	24.63	24.67	24.36	25.09	24.89
16	24.50	24.90	25.18	24.58	24.79	24.67	27.99	24.77	24.62	24.64	25.12	24.96
17	24.72	24.60	25.09	24.79	24.96	24.50	28.83	24.52	24.75	24.43	25.16	24.97
18	24.38	24.58	24.90	24.86	25.02	24.69	29.24	24.61	24.57	24.45	25.13	24.82
19	24.86	24.72	24.88	25.33	24.85	24.63	28.35	24.80	24.65	24.49	25.01	24.82
20	24.69	24.75	24.97	28.05	24.69	24.86	27.72	24.83	24.66	24.64	25.00	24.77
21	24.35	25.00	25.02	29.24	24.89	24.74	26.62	24.75	25.02	24.68	25.08	24.96
22	24.57	25.29	24.88	27.56	24.97	24.52	26.05	24.59	24.74	24.84	25.13	24.92
23	24.50	25.25	24.65	26.25	25.24	24.72	25.32	24.76	24.66	24.94	25.13	24.76
24	24.69	25.02	25.07	25.73	25.34	24.81	25.76	24.49	24.64	24.91	24.86	24.57
25	24.58	24.78	26.90	25.05	25.15	24.51	29.21	24.63	24.77	24.97	24.64	24.52
26	24.66	25.90	29.36	24.97	25.01	24.70	31.10	24.60	24.57	24.97	24.84	24.66
27	24.61	28.64	28.38	24.90	24.95	24.74	28.50	25.00	24.58	25.06	25.07	24.58
28	24.53	29.35	26.82	24.91	24.91	24.75	27.90	24.93	24.72	25.07	25.15	24.90
29	24.94	27.97	25.93	24.85	---	24.59	27.20	24.74	24.63	24.85	25.10	24.83
30	24.80	26.58	25.47	25.13	---	24.79	26.67	24.62	24.48	24.82	24.79	24.85
31	24.78	---	25.38	25.61	---	25.24	---	24.73	---	24.95	24.80	---
MEAN	24.76	25.69	26.52	25.21	25.24	25.29	29.32	24.84	24.65	24.85	24.97	24.84
MAX	25.83	29.35	29.36	29.24	26.21	27.71	39.15	26.14	25.05	25.80	25.16	25.26
MIN	24.35	24.41	24.65	24.45	24.69	24.50	25.32	24.48	24.31	24.36	24.63	24.52

WTR YR 1987 MEAN 25.51 MAX 39.15 MIN 24.31

GUYANDOTTE RIVER BASIN

03202400 GUYANDOTTE RIVER NEAR BAILEYSVILLE, WV

LOCATION.--Lat 37°36'14", long 81°38'43", Wyoming County, Hydrologic Unit 05070101, on right bank 75 ft upstream from Doublecamp Branch, 3.1 mi east of Baileysville, and at mile 130.8.

DRAINAGE AREA.--306 mi².

PERIOD OF RECORD.--July 1968 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,140.00 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 10, 1969, at site 25 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--19 years, 435 ft³/s, 19.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,700 ft³/s, Apr. 5, 1977, gage height, 26.89 ft, from rating curve extended above 14,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 21 ft³/s, Oct. 14, 1970, gage height, 2.44 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,400 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Apr. 9	0500	5,170	10.08	Apr. 25	0300	*15,600	*18.81

Minimum discharge, 33 ft³/s, Aug. 22, Sept. 29, gage height, 2.63 ft.

DISCHARGE, 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	88	77	302	329	1120	3130	754	824	192	90	53	42
2	113	85	271	326	988	2350	720	714	296	103	54	38
3	108	131	278	297	1200	1640	748	614	237	106	57	36
4	95	129	294	266	1240	1290	753	726	408	115	68	38
5	101	144	278	251	1090	1040	775	649	335	167	57	39
6	127	488	260	240	921	880	747	557	238	205	50	45
7	100	426	236	239	803	841	893	498	196	185	52	60
8	88	341	229	235	701	896	1760	448	168	145	55	65
9	79	1500	329	225	614	1000	4120	404	167	114	59	53
10	70	1370	1020	228	496	951	3550	368	316	100	51	47
11	67	778	986	231	467	682	2510	345	232	90	48	43
12	70	869	1150	221	460	547	1830	329	189	89	46	86
13	78	602	860	216	529	468	1520	330	191	86	44	68
14	256	405	585	202	557	416	1250	296	180	119	43	53
15	295	330	470	216	574	384	1340	336	152	117	42	46
16	199	290	401	239	590	431	2630	366	140	92	43	46
17	150	250	355	255	638	487	2930	297	135	83	42	49
18	119	226	362	280	592	444	2230	271	127	73	43	43
19	98	201	349	1280	536	595	1680	255	121	68	42	47
20	85	189	324	2170	601	766	1320	242	117	69	38	70
21	81	216	302	1240	831	710	1070	567	142	64	37	62
22	74	216	278	901	928	596	897	312	151	62	35	49
23	69	213	270	712	1690	506	922	271	136	63	42	42
24	70	222	524	494	1580	458	5580	236	127	60	49	40
25	82	256	1470	474	1200	416	9060	314	109	59	41	38
26	109	449	981	485	1040	381	2980	261	108	59	37	38
27	111	804	720	357	1510	339	1870	246	115	55	41	36
28	93	608	555	384	2170	336	1480	223	102	56	51	35
29	84	449	456	359	---	310	1180	213	92	57	104	35
30	80	356	415	564	---	318	991	197	88	51	74	47
31	77	---	365	1480	---	567	---	194	---	49	48	---
TOTAL	3316	12620	15675	15396	25666	24175	60090	11903	5307	2851	1546	1436
MEAN	107	421	506	497	917	780	2003	384	177	92.0	49.9	47.9
MAX	295	1500	1470	2170	2170	3130	9060	824	408	205	104	86
MIN	67	77	229	202	460	310	720	194	88	49	35	35
CFSM	.35	1.37	1.65	1.62	3.00	2.55	6.55	1.25	.58	.30	.16	.16
IN.	.40	1.53	1.91	1.87	3.12	2.94	7.31	1.45	.65	.35	.19	.17

CAL YR 1986 TOTAL 116746 MEAN 320 MAX 2300 MIN 49 CFSM 1.05 IN. 14.19
WTR YR 1987 TOTAL 179981 MEAN 493 MAX 9060 MIN 35 CFSM 1.61 IN. 21.88

GUYANDOTTE RIVER BASIN

03202750 CLEAR FORK AT CLEAR FORK, WV

LOCATION.--Lat 37°37'23", long 81°42'27", Wyoming County, Hydrologic Unit 05070101, on left bank 0.2 mi downstream from Walls Branch, 0.7 mi upstream from Spratt Branch, 1.4 mi southwest of Clear Fork, and at mile 2.6.

DRAINAGE AREA.--126 mi².

REVISED RECORDS.--WDR WV-81-1: Drainage area.

PERIOD OF RECORD.--June 1974 to current year. Prior to October 22, 1974, partial record station.

GAGE.--Water-stage recorder. Elevation of gage is 1,150 ft above National Geodetic Vertical Datum of 1929, from topographic map. June 28, 1974 to Oct. 22, 1974, nonrecording gage; Oct. 23, 1974 to Oct. 26, 1977, digital recorder at site 0.9 mi upstream at different datum; Oct. 27, 1977 to Dec. 31, 1980, digital recorder at site 0.2 mi upstream at different datum.

REMARKS.--Estimated daily discharges: Nov. 26 to Dec. 1 and Jan. 2-6. Records good except for periods of no gage-height record, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--13 years, 199 ft³/s, 21.45 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,900 ft³/s, Apr. 5, 1977, gage height, 18.64 ft, site and datum then in use, from rating curve extended above 3,000 ft³/s on basis of slope-area measurement of peak flow; minimum, 2.4 ft³/s, Aug. 22, 1987, gage height, 1.40 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,600 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 19	1900	1,620	6.10	Apr. 8	2400	3,300	8.64
Mar. 1	0400	2,480	7.47	Apr. 25	0400	*4,850	*10.59

Minimum discharge, 2.4 ft³/s, Aug. 22, gage height, 1.40 ft.

DISCHARGE, 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	27	19	e130	137	519	2090	287	211	33	16	6.6	5.6
2	25	44	117	e130	401	1060	300	180	61	21	16	4.5
3	37	45	122	e120	476	597	332	159	50	24	9.2	3.8
4	31	38	113	e110	464	411	349	164	52	56	7.9	3.3
5	36	78	99	e90	370	319	360	134	48	75	7.2	3.1
6	40	412	91	e80	293	265	365	117	38	141	6.6	3.9
7	31	248	85	75	241	227	513	107	33	114	6.5	9.2
8	24	180	83	74	205	211	1450	98	29	73	6.5	37
9	20	631	321	70	176	207	2200	90	28	53	6.3	18
10	18	594	997	71	138	185	1630	83	114	40	6.5	11
11	15	529	612	77	128	151	906	77	65	79	6.9	8.7
12	14	742	606	72	132	135	592	70	47	59	6.1	15
13	22	341	411	66	151	123	477	67	51	45	5.5	51
14	72	197	273	64	157	114	396	62	47	41	4.7	26
15	100	137	216	79	170	111	439	78	37	34	4.2	15
16	62	124	176	111	203	127	984	77	31	26	3.8	11
17	44	103	151	129	265	123	1060	62	31	22	3.7	8.6
18	35	81	176	151	261	114	769	56	26	19	4.2	8.2
19	28	68	178	669	244	162	549	56	24	16	3.7	8.4
20	25	63	168	803	330	196	402	57	22	14	3.3	13
21	21	93	152	583	508	203	312	162	25	14	3.0	13
22	19	103	136	391	560	190	260	99	39	12	2.5	11
23	17	102	119	286	1020	172	275	67	35	11	3.8	8.7
24	16	109	397	208	775	157	2020	57	31	10	7.2	8.3
25	21	128	1140	181	501	147	3240	59	25	10	6.7	6.7
26	29	e240	570	168	436	135	968	51	24	9.0	5.2	5.7
27	29	e400	362	123	948	122	564	57	23	8.5	4.4	5.2
28	25	e310	261	160	1580	120	417	46	20	8.8	7.0	4.3
29	21	e230	213	132	---	110	312	39	18	7.5	14	5.0
30	19	e160	190	322	---	124	259	35	17	7.1	10	6.4
31	17	---	152	871	---	232	---	37	---	6.8	6.7	---
TOTAL	940	6549	8817	6603	11652	8640	22987	2714	1124	1072.7	195.9	338.6
MEAN	30.3	218	284	213	416	279	766	87.5	37.5	34.6	6.32	11.3
MAX	100	742	1140	871	1580	2090	3240	211	114	141	16	51
MIN	14	19	83	64	128	110	259	35	17	6.8	2.5	3.1
CFSM	.24	1.73	2.26	1.69	3.30	2.21	6.08	.69	.30	.27	.05	.09
IN.	.28	1.93	2.60	1.95	3.44	2.55	6.79	.80	.33	.32	.06	.10

CAL YR 1986 TOTAL 56118.5 MEAN 154 MAX 1630 MIN 7.1 CFMS 1.22 IN. 16.57
WTR YR 1987 TOTAL 71633.2 MEAN 196 MAX 3240 MIN 2.5 CFMS 1.56 IN. 21.15

e Estimated

GUYANDOTTE RIVER BASIN

03202915 GUYANDOTTE RIVER BELOW R. D. BAILEY DAM, WV

LOCATION.--Lat 37°35'53", long 81°49'46", Mingo County, Hydrologic Unit 05070101, on right bank, 500 ft upstream from Little Huff Creek, 2,500 ft downstream from R. D. Bailey Dam and 0.5 mi northeast of Justice, and at river mile 111.6.

DRAINAGE AREA.--535 mi².

PERIOD OF RECORD.--November 1978 to September 1982, October 1982 to September 1986 (gage heights, discharge measurements and annual maximum discharge only), October 1986 to current year.

GAGE.--Water-stage recorder. Datum of gage is 880.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since February 1980 by R. D. Bailey Lake at mile 112. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 16,800 ft³/s, June 22, 1979, gage height, 13.90 ft; minimum discharge, 2.1 ft³/s, Dec. 18, 1978; minimum daily discharge, 38 ft³/s, Nov. 22, 23, 1978; minimum gage height observed, 1.91 ft, Aug. 30, 1983 (gates closed) but may have been less Sept. 14, 30, 1983 (gates closed).

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,140 ft³/s, Apr. 25, gage height, 9.62 ft; minimum daily, 47 ft³/s, July 30.

DISCHARGE, 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	112	580	586	3180	5000	107	3760	270	123	52	62
2	190	113	495	621	2080	5150	580	3680	272	123	52	62
3	197	185	450	591	2220	5090	1840	3600	322	124	52	62
4	242	228	518	448	2010	4960	2450	2570	521	123	51	62
5	232	287	506	279	2210	3670	2120	1230	889	194	51	62
6	221	976	417	111	1940	780	1930	980	420	369	51	61
7	217	1270	416	616	1310	747	1790	758	273	646	51	62
8	216	769	415	585	1240	1410	2190	641	269	271	51	99
9	215	1600	824	389	1130	1500	4210	638	210	123	52	123
10	203	3170	2390	358	932	1440	5170	607	262	123	51	106
11	159	3510	2990	434	955	1420	5130	470	485	139	51	84
12	129	3240	2730	432	1480	651	5080	471	411	218	52	97
13	156	2000	2280	303	1030	593	5090	470	252	168	52	184
14	322	1150	1350	308	348	682	5130	469	209	145	52	175
15	604	1020	1030	365	473	524	4140	467	209	190	52	140
16	654	372	774	364	989	658	4200	461	209	162	52	89
17	394	255	780	483	1250	893	5220	456	205	125	52	103
18	256	380	681	619	1250	727	5160	457	134	112	51	157
19	254	431	714	880	1060	888	5090	450	121	80	58	185
20	254	368	654	2440	1410	1340	4060	355	143	80	62	186
21	252	333	610	3710	2170	1260	2490	378	212	80	62	186
22	252	380	553	3640	2290	1090	1850	911	286	80	62	185
23	163	496	494	3230	3060	943	1420	369	255	80	63	167
24	108	533	837	1920	3720	831	4010	245	186	80	62	144
25	115	535	2420	1110	3740	726	5740	359	174	80	62	106
26	133	976	3040	905	2920	688	5590	409	114	80	62	112
27	143	1640	2960	606	3440	605	5540	264	82	80	61	141
28	155	1890	1760	617	4640	447	5460	264	123	67	62	167
29	138	1350	1000	720	---	519	5360	265	123	52	67	167
30	111	854	785	1380	---	549	5120	266	123	47	63	172
31	111	---	687	3190	---	622	---	272	---	52	62	---
TOTAL	6914	30423	36140	32240	54477	46413	113267	26992	7764	4416	1736	3708
MEAN	223	1014	1166	1040	1946	1497	3776	871	259	142	56.0	124
MAX	654	3510	3040	3710	4640	5150	5740	3760	889	646	67	186
MIN	108	112	415	111	348	447	107	245	82	47	51	61

WTR YR 1987 TOTAL 364490 MEAN 999 MAX 5740 MIN 47 CFSM 1.87 IN 25.34

GUYANDOTTE RIVER BASIN

03203600 GUYANDOTTE RIVER AT LOGAN, WV

LOCATION.--Lat 37°50'32", long 81°58'34", Logan County, Hydrologic Unit 05070101, on right bank 200 ft downstream from Middelburg Bridge at Logan, 0.8 mi downstream from Dingess Run, 1.1 mi upstream from Island Creek, and at mile 81.0.

DRAINAGE AREA.--833 mi².

PERIOD OF RECORD.--October 1960 to September 1962 (annual maximum only), October 1962 to current year. Gage-height records collected in this vicinity since November 1915 are contained in reports of National Weather Service.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 640.00 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1962, at datum 1.32 ft lower.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since February 1980 by R. D. Bailey Lake at mile 112. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--25 years, 1,184 ft³/s, 19.30 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 55,000 ft³/s, Mar. 12, 1963, gage height, 34.98 ft, from rating curve extended above 26,000 ft³/s on basis of slope-area measurements at gage heights 25.6 ft and 34.98 ft; minimum discharge, 33 ft³/s, Sept. 17, 1964; minimum gage height, 3.96 ft, Sept. 16, Oct. 2, 1983. Minimum daily discharge since regulation, 69 ft³/s, Aug. 22, 1983, Aug. 19, 20, 1987.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 17,700 ft³/s, Apr. 8, gage height, 18.33 ft; minimum daily, 69 ft³/s, Aug. 19, 20.

DISCHARGE, 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	204	163	921	884	4080	7350	1100	4010	747	188	91	90
2	245	180	768	877	2790	6280	896	3630	835	274	91	86
3	242	178	744	905	2550	5660	1990	3510	599	262	90	81
4	305	278	751	711	2730	5250	2880	3220	890	474	86	83
5	369	401	808	651	1940	4640	2710	1600	1130	415	84	85
6	336	999	685	361	2550	1770	2450	1320	866	651	85	96
7	306	1710	646	465	1580	736	3280	1180	468	908	86	114
8	288	1090	632	856	1490	1510	6770	927	400	847	92	174
9	278	2100	1250	669	1380	1700	10800	894	378	455	91	173
10	273	3380	3430	491	1240	1520	8470	868	532	309	100	169
11	246	3970	3760	627	1040	1560	6660	744	526	266	88	153
12	204	3930	3260	614	1390	1230	5960	687	630	395	81	153
13	228	2860	2960	581	1510	649	5610	693	472	359	78	207
14	457	1330	1820	397	846	980	5540	660	362	307	76	245
15	726	1300	1400	570	508	797	5650	679	303	272	75	218
16	789	982	1160	590	1150	818	8690	675	299	280	77	173
17	708	288	999	628	1620	1010	7920	635	299	228	75	131
18	357	543	1100	841	1660	1060	6550	619	265	184	71	145
19	338	517	999	2410	1610	954	5890	624	204	171	69	214
20	325	596	1040	3780	1920	1420	5200	576	192	141	69	259
21	319	568	884	4340	2890	1430	2850	462	253	137	78	235
22	317	560	866	3960	3220	1320	2420	571	535	135	82	223
23	311	658	754	3590	4880	1170	1810	969	464	131	126	222
24	184	766	1320	2420	5210	1060	4220	408	345	129	101	199
25	171	805	3410	1390	4530	976	9860	440	271	130	88	174
26	200	1160	3630	1270	3870	889	7010	673	313	135	85	139
27	202	1850	3240	1010	4780	872	6270	492	224	136	88	145
28	212	2200	2510	790	7720	697	5930	391	172	134	123	175
29	215	1650	1390	1010	---	665	5610	373	196	120	124	198
30	189	1240	1180	1630	---	789	5390	375	188	104	116	220
31	159	---	1030	4370	---	1530	---	443	---	87	97	---
TOTAL	9703	38252	49347	43688	72684	58292	156386	33348	13358	8764	2763	4979
MEAN	313	1275	1592	1409	2596	1880	5213	1076	445	283	89.1	166
MAX	789	3970	3760	4370	7720	7350	10800	4010	1130	908	126	259
MIN	159	163	632	361	508	649	896	373	172	87	69	81

CAL YR 1986 TOTAL 340320 MEAN 932 MAX 6720 MIN 89 CFSM 1.12 IN 15.20
WTR YR 1987 TOTAL 491564 MEAN 1347 MAX 10800 MIN 69 CFSM 1.62 IN 21.95

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV
(National stream-quality accounting network station)

LOCATION.--Lat 38°13'15", long 82°12'10", Lincoln County, Hydrologic Unit 05070102, on right bank at upstream side of highway bridge at Branchland, opposite mouth of Fourmile Creek, and at mile 35.3. Records include flow of Fourmile Creek.

DRAINAGE AREA.--1,224 mi², includes that of Fourmile Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1915 to September 1917, October 1917 to September 1922 (gage heights only), December 1928 to current year. Prior to October 1959, published as Guyandot River at Branchland. Monthly discharge only for July to September 1916, published in WSP 1305.

REVISED RECORDS.--WSP 853: 1918(M). WSP 1335: 1916-17, 1929-30, 1932-35. WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 547.91 ft above National Geodetic Vertical Datum of 1929. Prior to June 20, 1932, nonrecording gage and June 20, 1932, to Oct. 24, 1968, water-stage recorder at site 20 ft downstream at same datum. Oct. 1, 1942, to Jan. 23, 1969, auxiliary nonrecording gage and Jan. 24, 1969, to Dec. 12, 1986, auxiliary water-stage recorder 4.0 mi upstream from base gage at datum 4.99 ft higher.

REMARKS.--No estimated daily discharges. Water-discharge records good. Flow regulated since February 1980 by R. D. Bailey Lake at mile 112. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--60 years (water years 1916-17, 1930-87), 1,640 ft³/s, 18.20 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 44,500 ft³/s, Mar. 13, 1963, gage height, 43.83 ft; minimum, 3.6 ft³/s, Oct. 25, 1930, gage height, 2.66 ft. Minimum daily discharge since regulation, 92 ft³/s, Aug. 21, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood, probably in 1907, reached a stage of about 44 ft, from floodmark, discharge, 43,500 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,800 ft³/s, Apr. 9, gage height, 26.92 ft; minimum daily, 92 ft³/s, Aug. 21.

DISCHARGE, 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	392	196	1620	1350	5420	10100	2560	5520	572	260	124	141
2	391	199	1740	1280	4620	8780	1950	4300	1210	267	119	122
3	325	208	1720	1220	3460	7240	2130	4070	950	365	126	112
4	341	212	1540	1170	3350	6350	3410	4010	1090	427	126	106
5	480	300	1330	994	2990	5780	4000	3120	1180	694	124	105
6	479	881	1220	924	2900	4310	3970	1980	1310	646	121	108
7	403	1490	1030	657	2640	2110	5920	1640	909	1080	121	122
8	354	2400	965	814	2030	1520	10300	1390	604	1160	121	221
9	329	6870	2060	1020	1890	2120	18100	1160	556	970	125	248
10	314	4610	5450	887	1660	2130	15900	1100	659	907	134	221
11	303	4330	5420	751	1470	1940	10800	1050	649	623	155	242
12	286	5180	4720	841	1390	1890	8040	917	655	595	132	285
13	269	4300	4130	802	1800	1370	7200	909	732	595	119	324
14	493	2730	3210	748	1570	1010	6630	857	596	620	113	356
15	717	1720	2260	636	1080	1180	6840	856	491	500	107	345
16	839	1530	1800	784	887	1040	12900	912	418	413	104	286
17	842	1110	1460	788	1800	1110	16200	819	681	395	106	241
18	725	536	1370	882	2540	1250	11300	785	486	329	107	209
19	420	716	1370	3050	2690	1270	8390	787	405	271	99	188
20	381	696	1270	6500	2730	1350	7150	793	319	243	94	265
21	362	804	1220	5580	3380	1780	5370	699	307	214	92	328
22	351	781	1090	5130	4250	1740	3820	600	432	194	98	295
23	345	773	1030	4620	6360	1580	3100	872	666	186	138	274
24	336	985	1760	3800	7830	1420	2890	887	595	179	188	269
25	264	1480	4790	2690	6630	1310	8840	752	457	169	152	247
26	220	2620	5060	1890	5510	1200	9970	669	586	166	124	224
27	238	3450	4450	1550	4890	1120	7930	891	484	165	117	181
28	240	3130	3900	1300	9110	1080	7120	625	350	164	146	171
29	236	2860	2710	1140	---	903	6530	519	263	157	264	197
30	242	2140	1900	1920	---	903	6130	483	270	151	211	261
31	230	---	1560	4090	---	1720	---	496	---	133	163	---
TOTAL	12147	59237	75155	59808	96877	78606	225390	44468	18882	13238	4070	6694
MEAN	392	1975	2424	1929	3460	2536	7513	1434	629	427	131	223
MAX	842	6870	5450	6500	9110	10100	18100	5520	1310	1160	264	356
MIN	220	196	965	636	887	903	1950	483	263	133	92	105
CAL YR 1986	TOTAL 475865	MEAN 1304	MAX 9880	MIN 149	CFSM 1.07	IN 14.46						
WTR YR 1987	TOTAL 694572	MEAN 1903	MAX 18100	MIN 92	CFSM 1.55	IN 21.11						

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCLAND, WV--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961, 1965, 1975 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1975 to November 1976, February to September 1977.

WATER TEMPERATURE: March to December 1976, February to September 1977.

TURBIDITY: October 1975 to December 1976.

SUSPENDED SEDIMENT DISCHARGE: March 1976 to September 1977.

REMARKS.--Sediment analyses performed by West Virginia Department of Natural Resources.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum daily, 845 microsiemens, Aug. 27, 1976; minimum daily, 108 microsiemens, Feb. 11, 1977.

WATER TEMPERATURE: Maximum daily, 32.0°C, July 14, 1977; minimum daily, 1.0°C, several days in February 1977.

TURBIDITY: Maximum daily, 200 NTU, Mar. 21, Aug. 15, 1976, minimum daily, 1 NTU, on several days in 1976.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,250 mg/L, Dec. 9, 1976; minimum daily mean, 5 mg/L, Oct. 24, 1976, and July 17, 20, 1977.

SEDIMENT LOADS: Maximum daily, 205,000 tons, Apr. 5, 1977; minimum daily, 2.3 tons, July 20, 1977.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	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)	OXYGEN, DIS- SOLVED SATUR- ATION	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD- NESS TOTAL (MG/L AS CACO3)
DEC												
11...	1700	5390	207	7.20	7.0	48	741	10.4	88	3000	820	63
FEB												
24...	1715	7460	179	7.20	5.5	40	749	9.8	79	2200	890	55
MAY												
07...	1600	1650	338	7.30	24.5	8.3	752	7.9	96	1600	78	100
JUN												
25...	1530	422	424	7.60	26.5	6.9	736	5.8	75	380	1500	130
JUL												
29...	1600	158	750	8.10	26.5	1.6	744	6.2	79	K35	51	180
SEP												
02...	1600	118	770	8.00	21.0	2.2	742	7.3	84	130	44	170

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 WATER DIS IT FIELD MG/L AS HCO3	CAR- BONATE WATER DIS IT FIELD MG/L AS CO3	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
DEC												
11...	63	14	6.7	14	2.0	37	0	30	51	5.9	<0.10	7.6
FEB												
24...	30	12	6.1	11	1.7	27	0	22	49	4.9	<0.10	7.3
MAY												
07...	60	22	11	23	2.5	44	0	36	82	13	<0.10	7.9
JUN												
25...	51	29	13	43	3.4	83	0	68	130	14	<0.10	5.5
JUL												
29...	54	40	19	89	4.8	94	0	114	200	33	0.10	2.0
SEP												
02...	41	38	18	89	5.4	154	0	126	210	30	0.20	3.8

GUYANDOTTE RIVER BASIN

03204000 GUYANDOTTE RIVER AT BRANCHLAND, WV--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA TOTAL (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, ORGANIC TOTAL (MG/L AS N)	NITRO- GEN, AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHOROUS TOTAL (MG/L AS P)	PHOS- PHOROUS DIS- SOLVED (MG/L AS P)	PHOS- PHOROUS ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)
DEC 11...	116	104	<0.010	0.620	0.020	0.020	0.68	0.70	0.120	0.010	<0.010	30
FEB 24...	112	109	<0.010	0.540	0.020	0.040	1.4	1.4	0.090	<0.010	<0.010	--
MAY 07...	203	189	<0.010	0.480	0.020	0.030	0.58	0.60	0.020	0.010	<0.010	40
JUN 25...	283	286	<0.010	0.490	0.040	0.030	0.36	0.40	0.030	0.020	<0.010	60
JUL 29...	457	462	<0.010	<0.100	<0.010	0.020	--	0.60	0.020	<0.010	<0.010	--
SEP 02...	468	474	<0.010	0.280	0.030	0.010	--	<0.20	0.030	0.010	<0.010	30

DATE	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)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
DEC 11...	<1	37	<0.5	7	<1	<3	2	34	<5	11	25
FEB 24...	--	--	--	--	--	--	--	--	--	--	--
MAY 07...	<1	62	<0.5	<1	<1	<3	<1	7	<5	22	35
JUN 25...	<1	68	<0.5	<1	<1	<3	<1	41	<5	25	26
JUL 29...	--	--	--	--	--	--	--	--	--	--	--
SEP 02...	<1	80	<0.5	<1	<1	<3	1	15	<5	27	59

DATE	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)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
DEC 11...	0.2	<10	2	<1	<1.0	170	<6	8	694	10100	16
FEB 24...	--	--	--	--	--	--	--	--	216	4350	74
MAY 07...	<0.1	<10	1	<1	<1.0	360	<6	4	24	107	62
JUN 25...	<0.1	<10	<1	<1	<1.0	460	<6	8	109	124	29
JUL 29...	--	--	--	--	--	--	--	--	4	1.7	100
SEP 02...	<0.1	<10	1	1	<1.0	720	<6	61	11	3.5	100

OHIO RIVER MAIN STEM

03206000 OHIO RIVER AT HUNTINGTON, WV

LOCATION.--Lat 38°24'48", long 82°30'02", Lawrence County, Ohio, Hydrologic Unit 05090101, on right bank at lock 28 at Sybene, Ohio, 0.1 mi upstream from Fourpole Creek, 3.0 mi downstream from Symmes Creek, and at mile 311.6, measured downstream from Pittsburgh, Pa.

DRAINAGE AREA.--55,900 mi², approximately.

PERIOD OF RECORD.--August 1934 to September 1986, October 1986 to current year (gage heights only). No low-flow records since October 1968. Gage-height records collected at same site since 1913 are in reports of National Weather Service.

REVISED RECORDS.--WSP 853: 1934, 1936. WSP 893: Drainage area. WSP 1305: 1935(M), 1939(M).

GAGE.--Water-stage recorder. Datum of gage is 490.263 ft, Sandy Hook datum. Prior to July 8, 1942, at datum 1.737 ft higher. Auxiliary water-stage recorder 4.7 mi upstream from base gage at datum 490.102 ft (Sandy Hook datum).

REMARKS.--Flow regulated by Ohio River system of locks, dams, and reservoirs upstream. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--34 years (water years 1935-68), 75,240 ft³/s, 18.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 654,000 ft³/s, Jan. 28, 1937; maximum gage height, 69.45 ft, Jan. 27, 1937, present datum; minimum daily discharge determined, 3,200 ft³/s, Sept. 6, 13, Nov. 2, 1934, Oct. 3, 1935, Oct. 1, 1937.

EXTREMES FOR CURRENT YEAR.--Maximum gage height, 46.84 ft, Apr. 10; minimum, 24.76 ft, July 20.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.50	25.16	28.62	26.88	28.82	28.53	29.35	29.34	25.34	25.14	25.53	25.79
2	25.89	25.25	28.47	26.30	28.53	30.50	32.09	28.02	25.51	25.29	25.36	25.71
3	25.95	25.19	32.50	26.16	28.43	31.79	32.17	27.28	25.58	26.16	25.70	25.58
4	26.08	25.12	34.02	25.89	28.92	32.28	31.42	26.98	25.25	27.77	25.17	25.57
5	27.03	25.30	32.72	25.93	28.44	31.17	31.32	27.21	25.59	28.10	25.60	25.59
6	28.01	25.52	31.50	25.64	27.97	29.46	32.76	26.76	25.26	27.01	25.96	25.52
7	27.36	26.37	29.69	25.44	27.20	27.90	35.96	26.48	25.22	26.47	25.37	25.70
8	26.36	26.75	28.94	25.52	26.65	27.43	40.72	26.24	25.18	26.05	25.23	25.93
9	26.34	30.73	28.38	25.64	26.70	27.11	45.12	25.93	25.31	25.87	25.57	25.76
10	25.87	34.13	31.78	25.44	26.09	27.83	46.60	25.92	25.26	26.05	25.56	25.92
11	25.89	32.46	34.26	25.44	26.18	28.28	44.19	25.33	25.28	25.51	25.56	25.73
12	25.68	29.78	34.08	25.56	26.10	28.20	40.19	25.85	25.19	25.47	25.48	25.32
13	25.77	29.45	33.04	25.35	25.98	27.15	36.43	25.44	25.43	25.46	25.26	25.75
14	25.74	28.41	31.18	25.50	26.34	26.69	34.06	25.56	25.31	25.39	25.48	25.51
15	25.94	26.65	29.16	25.39	26.52	26.12	32.71	25.43	25.22	25.21	25.62	25.29
16	26.00	26.30	27.50	25.65	26.20	25.72	33.87	25.49	25.44	25.26	25.54	25.21
17	26.02	25.69	27.03	25.95	25.86	25.69	36.02	25.51	25.34	25.13	25.52	25.49
18	25.85	25.45	26.54	26.25	26.34	25.74	37.41	25.29	25.02	25.22	25.62	25.79
19	25.64	25.61	26.46	27.27	26.23	25.76	35.04	25.56	25.19	25.00	25.46	25.66
20	25.67	25.65	26.41	31.33	26.15	25.65	33.78	25.90	25.23	25.18	25.55	26.22
21	25.54	26.14	26.60	34.93	26.20	25.81	31.28	25.79	25.23	25.20	25.47	26.03
22	25.55	26.89	26.11	33.29	26.29	25.67	29.32	25.66	25.25	25.12	25.68	26.23
23	25.60	27.12	25.93	30.24	27.43	25.61	28.04	25.76	25.38	25.23	25.62	26.03
24	25.49	26.65	26.23	28.36	27.75	25.27	28.06	25.49	25.53	24.92	25.31	25.62
25	25.08	26.47	29.07	27.06	27.93	25.60	32.92	25.44	25.55	25.09	25.73	25.37
26	25.08	27.78	33.85	26.22	26.93	25.74	36.88	25.30	25.14	25.14	25.49	25.47
27	25.08	32.45	33.84	25.95	26.48	26.01	34.97	25.89	25.11	25.39	25.42	25.57
28	25.17	34.67	31.10	26.10	27.25	26.07	32.81	26.20	25.24	25.24	25.69	25.56
29	25.16	33.29	29.14	25.70	---	25.71	31.54	25.99	25.11	25.13	25.83	25.38
30	25.34	30.64	27.83	26.45	---	25.62	30.26	25.33	25.07	25.18	25.71	25.54
31	25.21	---	27.05	27.39	---	26.74	---	25.69	---	25.52	25.54	---
MEAN	25.84	27.90	29.65	26.91	27.00	27.19	34.58	26.07	25.29	25.61	25.54	25.66
MAX	28.01	34.67	34.26	34.93	28.92	32.28	46.60	29.34	25.59	28.10	25.96	26.23
MIN	25.08	25.12	25.93	25.35	25.86	25.27	28.04	25.29	25.02	24.92	25.17	25.21

WTR YR 1987 MEAN 27.26 MAX 46.60 MIN 24.92

TWELVEPOLE CREEK BASIN

03206600 EAST FORK TWELVEPOLE CREEK NEAR DUNLOW, WV

LOCATION.--Lat 38°01'02", long 82°17'46", Wayne County, Hydrologic Unit 05090102, on left bank 0.2 mi upstream from Maynard Branch, 0.9 mi downstream from McComas Branch, 1.5 mi upstream from Devilstrace Branch, and 7.5 mi east of Dunlow, and at mile 60.2.

DRAINAGE AREA.--38.5 mi².

PERIOD OF RECORD.--October 1964 to current year.

REVISED RECORDS.--WDR WV-82-1: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 710.00 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 22, 1964, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good except for Oct. 31 to Nov. 5 and Aug. 2-4, which are fair. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--23 years, 52.9 ft³/s, 18.66 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,040 ft³/s, Dec. 9, 1978, gage height, 15.84 ft, from rating curve extended above 1,300 ft³/s on basis of slope-area measurement of peak flow; minimum discharge, 0.01 ft³/s, July 2-13, 1966, Sept. 18-28, 1967, Sept. 8, 9, 1973; minimum gage height, 4.44 ft, Sept. 26, 27, 1967.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 840 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Nov. 9	0800	1,480	10.83	Apr. 16	1100	1,360	10.59
Apr. 8	2300	*1,790	*11.43				

Minimum discharge, 0.03 ft³/s, Aug. 22, gage height, 4.45 ft.

DISCHARGE, 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	2.0	2.6	47	37	112	220	63	41	6.4	2.4	.75	.91
2	3.9	2.6	60	38	93	147	69	35	8.5	3.0	.59	.50
3	3.7	2.3	108	32	72	103	72	31	10	5.0	.35	.36
4	5.6	2.3	90	28	55	75	82	32	9.2	13	.26	.30
5	9.1	3.4	67	26	45	60	91	25	5.9	12	.26	.32
6	4.3	32	52	25	40	50	121	22	4.1	8.3	.35	.43
7	2.6	16	42	25	37	43	390	20	3.4	25	.41	.67
8	1.9	142	37	22	35	39	996	17	2.8	12	.37	1.9
9	1.4	761	325	21	29	37	915	15	2.7	20	1.3	2.1
10	1.2	116	428	23	26	32	287	13	3.6	38	2.1	1.4
11	1.1	93	206	22	28	27	162	12	2.8	24	.85	2.2
12	1.0	94	123	19	24	25	126	11	2.4	21	.45	3.3
13	2.9	55	77	18	21	22	107	13	3.2	17	.34	12
14	27	36	57	18	21	21	88	9.5	3.3	43	.27	20
15	13	29	47	23	23	20	184	18	2.6	23	.17	5.6
16	5.9	25	39	23	23	24	973	17	15	18	.14	2.8
17	3.9	21	34	23	36	20	426	11	36	11	.12	2.9
18	3.1	18	37	29	63	19	229	11	11	6.8	.11	8.0
19	2.5	15	30	397	75	30	148	18	5.8	4.9	.09	4.6
20	2.1	14	27	298	100	29	105	14	5.6	3.8	.06	4.3
21	1.9	19	24	163	111	29	78	10	6.9	3.1	.04	3.2
22	1.7	16	22	115	123	27	62	8.0	6.7	2.6	.08	2.4
23	1.6	17	21	81	311	26	53	6.5	6.5	2.2	3.2	1.6
24	1.5	41	195	59	254	25	55	5.9	4.9	2.0	1.5	1.1
25	2.0	72	292	49	161	25	110	31	4.4	1.8	.60	.92
26	2.5	270	164	45	108	22	103	23	16	1.5	.36	.78
27	2.6	234	108	51	176	21	86	22	5.8	1.4	.89	.71
28	2.5	116	77	53	238	20	76	14	3.5	1.2	13	.63
29	2.3	73	60	40	---	18	60	10	2.6	1.0	6.8	.79
30	2.5	52	50	133	---	19	51	7.6	2.2	.93	2.3	9.3
31	2.8	---	40	141	---	64	---	9.2	---	.75	1.3	---
TOTAL	122.1	2390.2	2986	2077	2440	1339	6368	532.7	203.8	329.68	39.41	96.02
MEAN	3.94	79.7	96.3	67.0	87.1	43.2	212	17.2	6.79	10.6	1.27	3.20
MAX	27	761	428	397	311	220	996	41	36	43	13	20
MIN	1.0	2.3	21	18	21	18	51	5.9	2.2	.75	.04	.30
CFSM	.10	2.07	2.50	1.74	2.26	1.12	5.51	.45	.18	.28	.03	.08
IN.	.12	2.31	2.89	2.01	2.36	1.29	6.15	.51	.20	.32	.04	.09
CAL YR 1986	TOTAL 13700.33	MEAN 37.5	MAX 761	MIN .26	CFSM .97	IN. 13.24						
WTR YR 1987	TOTAL 18923.91	MEAN 51.8	MAX 996	MIN .04	CFSM 1.35	IN. 18.28						

BIG SANDY RIVER BASIN

03212750 TUG FORK AT WELCH, WV

LOCATION.--Lat 37°26'28", long 81°36'00", McDowell County, Hydrologic Unit 05070201, on left bank at bridge in the Hemphill section of Welch, 20 ft downstream from Mod Branch at mile 131.5.

DRAINAGE AREA.--174 mi².

PERIOD OF RECORD.--January 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,268.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,490 ft³/s, Apr. 24, 1987, gage height, 11.90 ft; minimum, 24 ft³/s, Sept. 4-5, 1987, gage height, 2.57 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,490 ft³/s, Apr. 24, gage height, 11.90 ft; minimum, 24 ft³/s, Sept. 4-5, gage height, 2.57 ft.

DISCHARGE, 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	53	116	166	506	1420	340	732	145	97	35	35
2	58	75	105	164	464	1070	318	638	154	103	35	33
3	61	70	121	152	552	821	331	567	345	106	45	32
4	61	62	113	145	545	661	338	625	348	131	48	29
5	103	88	106	140	478	553	337	530	238	125	53	30
6	86	188	103	135	410	479	336	479	181	112	48	38
7	72	146	101	134	363	428	409	436	162	105	45	42
8	68	145	99	129	331	403	1100	393	149	100	78	42
9	64	428	138	128	295	399	e2180	356	149	96	63	38
10	64	306	266	128	263	374	e1970	329	174	82	65	39
11	61	208	379	130	248	331	1460	301	139	73	61	38
12	60	233	463	124	248	306	1110	291	136	68	57	49
13	71	167	279	121	246	282	939	277	137	82	56	49
14	142	130	211	116	246	266	791	257	133	76	54	47
15	103	119	185	120	238	250	919	288	124	67	47	36
16	80	111	167	119	237	298	1500	258	116	73	46	33
17	72	102	156	119	236	285	2150	234	113	84	46	32
18	68	94	165	132	227	272	1650	219	111	83	45	34
19	64	92	153	785	225	497	1250	217	111	81	41	48
20	61	95	146	695	260	473	1000	208	109	74	36	57
21	56	102	140	404	350	397	843	194	111	53	36	46
22	52	93	136	331	388	349	727	183	116	50	37	42
23	53	93	132	271	972	315	682	190	109	51	56	40
24	52	106	292	214	770	292	2450	183	108	50	43	34
25	61	115	474	211	569	273	4300	181	99	49	38	33
26	65	150	311	209	467	256	2230	182	149	48	37	33
27	59	170	246	183	832	240	1500	165	124	41	39	33
28	56	155	213	190	1240	238	1180	151	102	38	59	33
29	53	138	194	181	---	219	982	149	90	37	72	34
30	51	125	180	476	---	227	853	155	86	34	46	63
31	50	---	169	791	---	399	---	150	---	35	38	---
TOTAL	2083	4159	6059	7343	12206	13073	36175	9518	4368	2304	1505	1172
MEAN	67.2	139	195	237	436	422	1206	307	146	74.3	48.5	39.1
MAX	142	428	474	791	1240	1420	4300	732	348	131	78	63
MIN	50	53	99	116	225	219	318	149	86	34	35	29
CFSM	.39	.80	1.12	1.36	2.51	2.42	6.93	1.76	.84	.43	.28	.22
IN.	.45	.89	1.30	1.57	2.61	2.79	7.73	2.03	.93	.49	.32	.25

CAL YR 1986 TOTAL 61246 MEAN 168 MAX 994 MIN 50 CFSM .96 IN. 13.09
WTR YR 1987 TOTAL 99965 MEAN 274 MAX 4300 MIN 29 CFSM 1.57 IN. 21.37

e Estimated

BIG SANDY RIVER BASIN

03212980 DRY FORK AT BEARTOWN, WV

LOCATION.--Lat 37°23'43", long 81°48'10", McDowell County, Hydrologic Unit 05070201, on left bank 20 ft upstream from bridge on State Highway 80/3, .4 mi upstream from Grapevine Branch, at mile 7.1.

DRAINAGE AREA.--209 mi².

PERIOD OF RECORD.--February 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,056.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 26 to Dec. 4. Records good. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,210 ft³/s, Apr. 25, 1987, gage height, 9.49 ft; minimum, 20 ft³/s, several days during October 1985, gage height, 2.35 ft.

REVISIONS.--The maximum discharge for the water year 1986 has been revised to 2,820 ft³/s, May 13, 1986, gage height, 6.91 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,210 ft³/s, Apr. 25, gage height, 9.49 ft; minimum, 25 ft³/s, several days during September, gage height, 2.38 ft.

DISCHARGE, 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	47	36	e110	138	843	1660	548	523	129	71	35	31
2	43	39	e90	133	683	1040	495	465	199	74	35	29
3	41	41	e100	130	784	726	501	423	403	76	37	28
4	46	40	e110	118	744	554	499	522	1010	129	36	27
5	69	48	92	114	597	460	503	475	636	149	33	29
6	71	83	88	108	474	401	510	432	326	99	31	41
7	55	112	81	109	397	357	610	395	223	80	36	41
8	47	148	81	104	348	321	2210	356	173	69	38	56
9	45	389	117	100	300	312	3890	320	150	63	38	37
10	45	433	372	101	239	300	2790	291	168	66	39	33
11	42	244	557	99	228	263	1640	266	130	69	35	35
12	38	327	738	94	228	248	1110	255	118	61	33	45
13	42	216	406	92	234	233	915	259	113	59	34	37
14	109	140	262	86	238	224	767	226	108	61	37	33
15	111	111	204	87	226	216	946	224	101	59	37	30
16	79	98	165	88	223	255	2840	210	103	55	37	28
17	61	86	144	91	247	302	3560	186	106	51	32	28
18	52	76	151	102	242	304	1870	173	99	47	31	27
19	45	72	141	1370	249	648	1210	179	96	45	31	32
20	41	68	130	1240	380	753	877	175	96	44	28	43
21	38	72	122	614	606	572	694	159	104	42	30	33
22	37	67	113	450	666	458	572	148	115	41	31	29
23	39	61	110	350	1800	388	741	150	91	41	42	27
24	38	70	334	243	1310	341	2580	166	86	40	34	25
25	45	82	828	235	845	308	5080	218	95	38	30	25
26	47	e140	464	240	623	279	2240	260	143	37	33	25
27	45	e250	320	204	1980	255	1250	247	107	43	34	26
28	44	e200	245	238	2520	242	904	172	85	42	57	28
29	40	e170	200	224	---	214	689	143	77	40	73	25
30	39	e130	177	864	---	222	606	138	73	39	43	47
31	35	---	155	1540	---	494	---	158	---	39	34	---
TOTAL	1576	4049	7207	9706	18254	13350	43647	8314	5463	1869	1134	980
MEAN	50.8	135	232	313	652	431	1455	268	182	60.3	36.6	32.7
MAX	111	433	828	1540	2520	1660	5080	523	1010	149	73	56
MIN	35	36	81	86	223	214	495	138	73	37	28	25
CFSM	.24	.65	1.11	1.50	3.12	2.06	6.96	1.28	.87	.29	.18	.16
IN.	.28	.72	1.28	1.73	3.25	2.38	7.77	1.48	.97	.33	.20	.17

CAL YR 1986 TOTAL 65378 MEAN 179 MAX 1560 MIN 33 CFSM .86 IN. 11.64
WTR YR 1987 TOTAL 115549 MEAN 317 MAX 5080 MIN 25 CFSM 1.51 IN. 20.57

e Estimated

BIG SANDY RIVER BASIN

03213620 TUG FORK AT VULCAN, WV

LOCATION.--Lat 37°33'06", long 82°07'28", Mingo County, Hydrologic Unit 05070201, on right bank at highway bridge at Vulcan, and 5.8 mi downstream from Knox Creek (Kentucky), and 1.9 mi upstream from Peter Creek, and at mile 78.7.

DRAINAGE AREA.--778 mi².

PERIOD OF RECORD.--February 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 695.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. National Weather Service gage-height telemeter and U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 22,200 ft³/s, Apr. 9, 1987, gage height, 18.47 ft; minimum, 71 ft³/s, Oct. 20, 21, 1985, Aug. 22, 1987, gage height, 1.01 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Jan. 19	2300	8,220	11.14	Apr. 16	1000	18,800	16.98
Feb. 27	2400	12,500	13.76	Apr. 25	0800	21,400	18.12
Apr. 9	0200	*22,200	*18.47				

Minimum discharge, 71 ft³/s, Aug. 22, gage height, 1.01 ft.

DISCHARGE, 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	120	490	619	3040	6710	2120	1840	632	287	96	107
2	163	139	433	628	2280	4110	1770	1610	924	638	94	90
3	140	141	440	564	2290	2780	1750	1430	2170	439	93	81
4	134	155	477	509	2180	2110	1830	1840	2390	528	95	77
5	229	189	440	474	1800	1720	1860	1840	2420	857	108	75
6	261	613	403	456	1500	1480	1930	1610	1200	786	105	84
7	220	625	377	449	1300	1300	2630	1410	790	547	103	110
8	170	671	361	436	1160	1190	8450	1250	592	423	101	259
9	147	3130	629	407	1050	1130	16500	1100	485	375	119	196
10	135	2480	1690	408	856	1080	9950	992	577	311	141	134
11	134	1740	1850	413	802	952	5680	901	482	444	134	109
12	129	1960	2590	397	779	880	3820	823	400	616	119	140
13	172	1200	1800	364	778	813	3190	912	406	357	110	249
14	579	756	1170	347	754	759	2690	789	373	443	103	173
15	579	561	911	367	776	732	3230	827	349	379	101	135
16	363	475	742	381	783	803	13700	879	318	268	100	113
17	257	408	633	393	970	900	11800	732	366	226	95	96
18	207	356	651	436	1020	885	6520	648	314	213	92	90
19	177	313	661	3000	1080	1180	4310	601	294	197	86	91
20	159	293	605	5370	1700	1950	3160	619	281	186	84	141
21	144	330	557	2510	2260	1670	2500	542	384	178	79	157
22	135	330	504	1730	2290	1400	2080	490	526	156	73	127
23	129	307	466	1400	5520	1210	1820	509	458	138	102	106
24	126	319	1190	1020	4760	1080	6480	529	394	132	123	95
25	142	404	3880	899	3020	979	17300	1130	342	126	107	89
26	177	824	2310	903	2160	897	8310	1000	748	120	87	85
27	174	1110	1520	797	5820	817	4630	771	808	117	82	83
28	160	923	1150	792	9320	777	3340	585	456	120	145	83
29	145	725	931	757	---	720	2580	471	330	113	287	86
30	134	574	811	1940	---	719	2180	431	271	104	218	111
31	128	---	695	5260	---	1850	---	917	---	100	142	---
TOTAL	6119	22171	31367	34426	62048	45583	158110	30028	20480	9924	3524	3572
MEAN	197	739	1012	1111	2216	1470	5270	969	683	320	114	119
MAX	579	3130	3880	5370	9320	6710	17300	1840	2420	857	287	259
MIN	126	120	361	347	754	719	1750	431	271	100	73	75
CFSM	.25	.95	1.30	1.43	2.85	1.89	6.77	1.25	.88	.41	.15	.15
IN.	.29	1.06	1.50	1.65	2.97	2.18	7.56	1.44	.98	.47	.17	.17

CAL YR 1986 TOTAL 254857 MEAN 698 MAX 6120 MIN 102 CFSM .90 IN. 12.19
WTR YR 1987 TOTAL 427352 MEAN 1171 MAX 17300 MIN 73 CFSM 1.50 IN. 20.43

BIG SANDY RIVER BASIN

03213700 TUG FORK AT WILLIAMSON, WV

LOCATION.--Lat 37°40'23", long 82°16'49", Pike County, Ky., Hydrologic Unit 05070201, on left bank at Williamson, 100 ft upstream from bridge on U.S. Highway 119, 0.8 mi downstream from Pond Creek, and at mile 56.5.

DRAINAGE AREA.--936 mi².

PERIOD OF RECORD.--October 1967 to current year. Gage-height records collected in this vicinity since 1926 are contained in reports of National Weather Service.

GAGE.--Water-stage recorder. Datum of gage is 620.90 ft, Ohio River Datum (levels by U.S. Army Corps of Engineers). Prior to Jan. 21, 1969, at datum 0.92 ft lower.

REMARKS.--Estimated daily discharges: Feb. 23-25. Records good. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--20 years, 1,148 ft³/s, 16.66 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 94,000 ft³/s, Apr. 5, 1977, gage height, 52.56 ft, from floodmarks, from rating curve extended above 18,000 ft³/s; minimum discharge, 59 ft³/s, Oct. 18-20, 1969; minimum gage height, 1.52 ft, Aug. 22, 1987.

EXTREMES OUTSIDE PERIOD OF RECORD.--Floods of Jan. 30, 1957, Mar. 12, 1963, and Mar. 7, 1967, reached stages of 43.6 ft, 44.5 ft, and 40.7 ft respectively, from readings by National Weather Service.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Feb. 28	0600	11,300	19.96	Apr. 16	1600	16,900	25.93
Apr. 9	1000	*19,800	*28.66	Apr. 25	1600	15,600	24.66

Minimum discharge, 72 ft³/s, Aug. 22, gage height, 1.52 ft.

DISCHARGE, 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	237	164	630	785	4070	7830	2800	2320	1110	336	116	141
2	219	165	575	786	2950	5450	2360	2010	1380	727	117	110
3	191	184	564	727	2720	3810	2280	1790	2260	704	107	92
4	177	189	604	661	2680	2920	2390	2060	2130	873	109	84
5	283	261	584	615	2250	2350	2440	2250	3180	1030	109	80
6	327	743	539	588	1860	2000	2590	1950	1620	1210	127	86
7	294	811	504	572	1580	1740	3610	1710	1030	801	114	118
8	235	875	479	556	1410	1560	7740	1510	771	596	125	221
9	198	2970	754	528	1280	1460	17400	1330	645	536	113	276
10	179	3590	2260	516	1050	1400	11100	1190	660	433	155	183
11	171	2150	2260	521	963	1240	6770	1090	639	471	148	142
12	173	2720	2870	514	930	1150	4890	1010	518	874	139	187
13	223	1650	2410	476	917	1060	4100	1040	512	552	121	280
14	521	995	1510	454	899	994	3500	970	472	494	112	239
15	750	740	1120	470	927	954	3650	985	445	533	105	174
16	524	625	914	489	967	1020	13100	1030	398	377	106	140
17	360	539	783	496	1250	1130	12700	909	425	298	101	121
18	284	470	763	547	1380	1120	7940	808	396	254	96	112
19	238	416	784	2130	1460	1390	5460	744	359	242	89	109
20	213	386	731	6420	2110	2290	4130	744	339	224	83	133
21	194	428	680	3490	2790	2160	3310	690	402	210	79	170
22	182	442	623	2310	2960	1820	2740	615	559	201	80	160
23	173	424	581	1820	e5400	1560	2330	606	577	171	120	130
24	165	434	1090	1330	e6100	1370	5100	739	501	157	122	109
25	182	512	4500	1110	e3970	1240	12700	1190	485	149	125	97
26	219	877	3220	1060	2840	1130	9650	1300	800	144	107	93
27	227	1390	2060	923	4480	1040	5520	984	1040	137	94	89
28	213	1170	1490	909	10000	981	4090	784	645	136	163	85
29	195	917	1170	919	---	925	3240	622	442	136	300	85
30	180	740	1000	1760	---	901	2720	588	346	123	285	105
31	168	---	879	5560	---	2020	---	885	---	116	200	---
TOTAL	7895	27977	38931	40042	72193	58015	172350	36453	25086	13245	3967	4151
MEAN	255	933	1256	1292	2578	1871	5745	1176	836	427	128	138
MAX	750	3590	4500	6420	10000	7830	17400	2320	3180	1210	300	280
MIN	165	164	479	454	899	901	2280	588	339	116	79	80
CFSM	.27	1.00	1.34	1.38	2.75	2.00	6.14	1.26	.89	.46	.14	.15
IN.	.31	1.11	1.55	1.59	2.87	2.31	6.85	1.45	1.00	.53	.16	.16

CAL YR 1986 TOTAL 312307 MEAN 856 MAX 7390 MIN 123 CFSM .91 IN. 12.41
WTR YR 1987 TOTAL 500305 MEAN 1371 MAX 17400 MIN 79 CFSM 1.46 IN. 19.88

e Estimated

BIG SANDY RIVER BASIN

03214500 TUG FORK AT KERMIT, WV

LOCATION.--Lat 37°50'14", long 82°24'32", Mingo County, Hydrologic Unit 05070201, behind fire station, at Kermit, 0.8 mi downstream from Wolf Creek, and at mile 34.9.

DRAINAGE AREA.--1,280 mi².

PERIOD OF RECORD.--June 1915 to September 1917, October 1917 to December 1920 (gage heights only), January 1929 to September 1934. Records published as "near Kermit" at different site and datum July 1934 to September 1985. Present site, February 1985 to current year.

GAGE.--Water-stage recorder. Datum of gage is 574.74 (corrected) ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records fair. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--9 years (water years 1916-17, 1930-34, 1986-76), 1,450 ft³/s, 15.38 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,900 ft³/s, Apr. 9, 1987, gage height, 35.12 ft; minimum daily discharge, 107 ft³/s, Oct. 14, 1985; minimum gage height, 1.99 ft, Sept. 26, 1985.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Apr. 6, 1977, reached a stage of 53.7 ft (corrected); May 8, 1984 was about 49 ft (corrected), and Mar. 13, 1963, was about 46 ft (corrected); Jan. 30, 1957 was about 45 ft (corrected).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 11,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage Height (ft)	Date	Time	Discharge (ft ³ /s)	Gage Height (ft)
Feb. 28	1600	14,300	24.38	Apr. 17	0100	22,900	33.24
Apr. 9	1900	*24,900	*35.12	Apr. 26	0300	16,800	27.12

Minimum discharge, 114 ft³/s, Aug. 22, gage height, 2.18 ft.

DISCHARGE, 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	334	191	992	1110	5630	12000	3260	2720	1210	411	165	205
2	279	191	896	1090	3790	7850	2970	2370	2430	648	186	160
3	254	193	876	1010	3200	4990	2850	2110	2600	859	168	136
4	215	199	870	905	3090	3680	3040	2390	2590	1130	160	122
5	295	297	864	837	2670	2930	3160	2630	3400	1400	152	118
6	374	839	803	800	2270	2480	3480	2350	2150	1500	161	117
7	346	993	751	794	1970	2160	5270	2080	1370	1160	166	130
8	291	1270	713	758	1770	1950	11000	1850	1010	818	161	204
9	235	4530	1520	727	1620	1810	22700	1640	821	701	164	317
10	203	5290	4230	702	1360	1700	20600	1470	805	626	174	252
11	187	2910	3470	692	1200	1540	11600	1330	790	792	200	199
12	191	3700	3330	667	1140	1400	6690	1210	666	1480	182	229
13	274	2430	3230	625	1090	1280	5170	1180	619	917	170	394
14	541	1550	2180	585	1090	1180	4290	1160	593	701	155	338
15	897	1110	1660	614	1150	1120	4310	1120	544	699	147	244
16	692	917	1360	645	1190	1220	16300	1170	526	562	145	196
17	486	789	1150	654	1730	1320	20800	1090	554	432	145	165
18	373	678	1090	743	2130	1340	14100	986	528	369	139	150
19	308	605	1070	2790	2270	1700	7710	919	470	337	132	144
20	261	556	1010	8820	2710	2420	5420	871	437	314	124	171
21	236	601	937	5530	3410	2630	4200	825	463	287	117	182
22	214	602	865	3350	3690	2270	3460	747	599	273	117	195
23	200	592	810	2630	6370	1970	2960	695	681	251	159	171
24	186	684	1600	1980	8390	1740	4410	741	621	224	178	147
25	203	903	5620	1610	5680	1580	11600	1190	627	210	161	131
26	244	1940	4800	1500	3900	1430	14400	1770	934	202	152	123
27	266	2680	3020	1280	4560	1290	7230	1220	1190	199	135	120
28	251	1990	2200	1270	13000	1200	4880	967	893	191	203	117
29	231	1520	1750	1210	---	1120	3790	782	605	185	300	114
30	213	1200	1480	2110	---	1060	3150	720	484	180	366	142
31	196	---	1270	6140	---	1970	---	1000	---	169	280	---
TOTAL	9476	41950	56417	54178	92070	74330	234800	43313	31210	18227	5364	5433
MEAN	306	1398	1820	1748	3288	2398	7827	1397	1040	588	173	181
MAX	897	5290	5620	8820	13000	12000	22700	2720	3400	1500	366	394
MIN	186	191	713	585	1090	1060	2850	695	437	169	117	114
CFSM	.24	1.09	1.42	1.37	2.57	1.87	6.11	1.09	.81	.46	.14	.14
IN.	.28	1.22	1.64	1.57	2.68	2.16	6.82	1.26	.91	.53	.16	.16

CAL YR 1986 TOTAL 429003 MEAN 1175 MAX 11900 MIN 180 CFSM .92 IN. 12.47
WTR YR 1987 TOTAL 666768 MEAN 1827 MAX 22700 MIN 114 CFSM 1.43 IN. 19.38

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS
 WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
 01595200 - STONY RIVER NEAR MOUNT STORM, WV

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	TEMPER- ATURE WATER (DEG C)
OCT 27...	1200	6.3	11.5
NOV 24...	0910	150	13.0
JAN 06...	1200	30	3.0
MAR 04...	1200	147	5.0
05...	1515	135	6.0
MAY 08...	1140	105	12.0
JUN 26...	1215	16	22.0
AUG 18...	1300	9.6	24.0

01604500 - PATTERSON CREEK NEAR HEADSVILLE, WV

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)
OCT 07...	1625	8.8	295	7.80	16.0	745	9.0
DEC 02...	1430	83	267	7.50	4.5	744	12.9
JAN 13...	1345	80	275	7.60	3.0	745	13.0
MAR 05...	1400	391	148	7.10	5.0	740	11.5
APR 29...	0825	430	150	7.10	11.0	740	10.3
JUN 23...	1400	32	200	7.40	26.0	743	--
AUG 25...	1530	9.8	270	7.70	21.0	750	--

01607500 - SO FK SO BR POTOMAC R AT BRANDYWINE, WV

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)
OCT 08...	1355	6.0	215	8.00	18.0	--	--
DEC 03...	1200	207	152	7.50	9.0	752	11.3
JAN 15...	0845	35	155	7.40	5.0	752	11.8
MAR 05...	0900	211	97	7.50	3.0	--	12.4
APR 30...	1255	160	120	7.50	11.5	--	10.8
JUN 24...	1200	17	150	7.90	--	--	8.5
AUG 26...	1645	7.2	195	8.20	24.0	--	--

01608000 - SO FK SOUTH BRANCH POTOMAC R NR MOOREFIELD, WV

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	BARO- METRIC PRES- SURE (MM OF HG)	OXYGEN, DIS- SOLVED (MG/L)
OCT 08...	0845	18	220	7.80	14.0	--	8.5
DEC 03...	0925	182	176	7.20	8.0	731	11.1
JAN 14...	0945	86	180	7.50	3.0	738	11.7
MAR 05...	1110	601	123	7.20	3.0	--	12.1
APR 29...	1545	483	125	6.80	14.0	752	9.7
JUN 24...	0845	45	205	7.40	23.0	737	8.3
AUG 26...	1245	24	218	7.80	22.0	743	8.6

DISCHARGE AT PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited 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 usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Crest-stage partial-record stations

The following table contains annual maximum discharge for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1987

					Annual maximum		
Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Date	Gage height (feet)	Dis- charge (ft ³ /s)
Kanawha River basin							
03187000	Gauley River at Camden on Gauley, WV	Lat 38 ^o 21'57", long 80 ^o 36'04", Webster County, Hydrologic Unit 05050005, on right bank in town of Camden on Gauley, 0.2 mile downstream from Coon Creek, and 0.9 mile upstream from Strouds Creek, and at mile 69.6.	236	1909-16, 1930-75*, 1976-87a	01-19-87	11.47	7,410
Guyandotte River basin							
03203000	Guyandotte River at Man, WV	Lat 37 ^o 44'25", long 81 ^o 52'37", Logan County, Hydrologic Unit 05070101, on right bank at downstream side of highway bridge at Man, 500 feet upstream from Buffalo Creek, and 0.7 mile downstream from Huff Creek, and at mile 93.4.	758	1928-62*, 1963-87a	04-08-87	11.83	11,300

* Operated as a continuous-record gaging station.
a Gage-height records on file in district office.

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

Samples are collected at partial-record, special study, and miscellaneous sites to give better areal coverage. The results of these samples are given herein.

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

03193900

- ELK RIVER NEAR WEBSTER SPRINGS, WV

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT									
14...	1400	1050	--	74	--	12.0	3.0	9	26
29...	1300	159	91	98	7.70	11.5	3.0	0	0.0
NOV									
06...	1310	2700	--	71	--	13.0	6.0	44	321
DEC									
09...	1300	380	--	79	--	10.0	6.0	125	128
09...	1500	450	--	81	--	--	15	231	281
10...	1320	2350	--	71	--	7.0	4.7	32	203
JAN									
20...	1420	2150	--	68	--	--	10	29	168
21...	1300	1580	--	72	7.20	3.5	6.0	8	34
MAR									
03...	1300	1060	--	76	7.20	2.5	4.8	9	26
04...	1435	880	--	84	--	4.0	3.0	8	19
APR									
07...	1430	550	--	84	--	5.5	8.5	10	15
09...	1500	2500	71	70	7.00	9.0	8.7	20	135
15...	1435	820	--	65	--	10.0	5.0	19	42
16...	1100	8000	--	63	--	9.0	20	218	4710
21...	1430	496	--	74	--	14.0	4.0	4	5.4
MAY									
29...	1410	135	--	88	--	23.0	1.6	0	0.0
JUN									
02...	1610	78	--	98	--	22.0	6.0	11	2.3
16...	1315	204	--	83	7.00	25.0	2.7	0	0.0
JUL									
15...	1830	88	--	90	--	25.5	20	27	6.4
29...	1415	78	--	123	--	26.0	1.0	0	0.0
AUG									
11...	1345	32	--	99	7.20	26.0	1.0	0	0.0

03194200

- BACK FORK ELK RIVER AT WEBSTER SPRINGS, WV

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT									
14...	1325	400	--	43	--	13.0	2.5	8	8.6
29...	1415	46	--	90	7.10	12.0	3.0	24	3.0
NOV									
06...	1130	1200	--	41	--	13.0	2.5	29	94
DEC									
09...	1230	183	--	52	7.50	11.0	3.0	4	2.0
09...	1530	540	--	47	--	--	3.0	19	28
10...	1610	1470	--	39	--	7.0	6.0	14	56
JAN									
20...	1450	1550	--	68	7.10	3.5	7.0	17	71
21...	1050	581	--	40	6.80	3.0	5.0	11	17
MAR									
03...	1445	475	--	38	6.80	3.0	2.8	6	7.7
04...	1410	340	--	43	--	3.5	2.0	8	7.3
APR									
07...	1340	225	--	52	--	5.5	4.0	6	3.6
09...	1430	1200	37	37	6.30	9.0	4.7	17	55
15...	1510	425	--	48	--	10.5	4.5	10	11
16...	1135	820	--	48	--	9.5	5.5	11	24
21...	1215	180	--	50	6.80	14.0	3.7	3	1.5
MAY									
29...	1315	55	--	64	--	24.0	0.90	0	0.0
JUN									
02...	1515	68	--	53	--	24.0	7.5	7	1.3
16...	1500	110	--	59	--	24.5	2.5	0	0.0
JUL									
15...	1755	29	--	66	--	25.5	1.3	0	0.0
29...	1330	4.0	--	102	--	25.0	1.5	1	0.01
AUG									
11...	1515	9.5	--	97	7.10	26.0	1.2	0	0.0

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

03194700 - ELK RIVER BELOW WEBSTER SPRINGS, WV

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT									
30...	0845	258	81	90	7.20	12.0	5.0	0	0.0
DEC									
09...	1100	474	--	76	7.20	10.5	3.0	3	3.8
JAN									
20...	1130	3600	--	58	6.80	2.5	15	52	505
MAR									
03...	0845	1650	--	64	7.20	3.0	6.2	17	76
APR									
09...	1215	3200	66	62	7.00	7.5	35	99	855
21...	1015	775	--	69	7.20	13.5	4.0	2	4.2
JUN									
16...	0930	331	--	76	7.10	25.0	1.9	0	0.0
JUL									
21...	1230	39	110	112	7.60	25.0	2.6	1	0.11
AUG									
11...	1045	38	110	96	7.20	27.0	0.20	0	0.0

03195100 - RIGHT FORK HOLLY RIVER AT GUARDIAN, WV

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT								
14...	1210	81	55	--	12.0	8.0	12	2.6
29...	1530	11	84	7.10	13.5	4.0	3	0.09
NOV								
06...	1115	237	59	--	14.0	20	49	31
DEC								
10...	1030	398	46	7.50	--	7.0	21	23
JAN								
21...	0900	307	45	6.60	3.5	5.0	10	8.3
MAR								
02...	1445	254	45	7.40	3.0	3.5	9	6.2
04...	1325	128	50	--	4.5	3.0	4	1.4
APR								
07...	1230	290	56	--	6.5	3.0	25	20
15...	1600	153	52	--	11.5	8.5	108	45
20...	1440	118	50	7.40	14.5	3.5	1	0.32
MAY								
29...	1200	10	65	--	23.5	0.40	0	0.0
JUN								
02...	1420	20	78	--	23.5	7.5	5	0.27
15...	1415	28	63	7.30	23.0	3.0	1	0.08
JUL								
15...	1655	7.0	92	--	24.0	2.8	0	0.0
29...	1230	0.10	92	--	24.0	3.2	1	0.00
AUG								
10...	1400	2.2	95	7.50	26.5	3.3	5	0.03

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

03195250

- LEFT FORK HOLLY RIVER NEAR REPLETE, WV

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT									
14...	1100	152	--	33	--	11.0	2.5	3	1.2
30...	1645	13	40	40	6.90	12.5	2.5	0	0.0
NOV									
06...	1010	295	--	37	--	13.5	10	17	14
DEC									
08...	1415	89	40	36	7.10	10.0	3.0	1	0.24
JAN									
21...	1545	280	45	48	6.70	3.0	5.0	6	4.5
MAR									
02...	1330	422	--	33	6.80	3.0	2.5	8	9.1
04...	1220	190	--	--	--	6.0	3.0	5	2.6
APR									
07...	1110	320	--	44	--	5.0	3.0	14	12
15...	1325	200	--	36	--	11.5	3.0	7	3.8
16...	0930	270	--	36	--	9.5	3.0	12	8.7
20...	1230	126	47	44	6.80	14.0	2.5	2	0.68
MAY									
29...	1105	10	--	41	--	22.0	0.80	0	0.0
JUN									
02...	1320	16	--	48	--	23.0	1.2	0	0.0
15...	1150	18	--	53	7.10	24.0	1.7	0	0.0
JUL									
15...	1555	7.2	--	50	--	23.0	1.1	0	0.0
29...	1125	1.6	--	60	--	23.0	1.0	0	0.0
AUG									
10...	1230	1.5	--	73	6.90	26.0	1.2	0	0.0

383443081143201 - BIG SANDY CREEK NEAR AMMA, WV

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT								
02...	1315	20	209	7.40	21.5	10	20	1.1
14...	1435	296	130	--	15.5	80	133	106
NOV								
06...	1230	164	131	--	14.0	30	56	25
25...	1400	122	119	--	10.0	20	17	5.6
DEC								
01...	1215	40	134	7.30	11.5	10	11	1.2
10...	0945	768	90	--	9.0	40	79	164
JAN								
08...	1230	40	135	7.40	6.0	6.0	4	0.43
20...	1035	422	93	--	5.0	25	48	55
FEB								
11...	1130	26	145	7.40	1.0	5.0	9	0.63
MAR								
02...	1030	97	119	--	6.0	6.5	14	3.7
25...	1240	14	173	7.30	12.0	5.5	5	0.19

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

383529081104201 - MIDDLE FORK AT NEWTON, WV

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT								
02...	1120	7.1	142	7.20	21.0	25	31	0.59
09...	1100	2.5	155	7.30	18.5	7.0	4	0.03
14...	1500	103	101	--	15.0	30	46	13
NOV								
05...	1315	20	153	7.30	11.5	60	50	2.7
06...	1330	56	110	--	14.0	25	29	4.4
25...	1415	46	104	--	10.0	10	15	1.9
DEC								
01...	1015	13	117	7.30	11.5	7.0	5	0.18
10...	1005	248	76	--	9.0	30	44	29
JAN								
08...	1030	10	116	7.30	6.0	8.0	6	0.16
20...	1055	145	91	--	4.5	20	85	33
FEB								
11...	1230	12	116	7.30	1.0	8.0	10	0.32
MAR								
02...	1050	40	100	--	5.5	6.0	12	1.3
25...	1415	3.4	130	7.30	12.0	5.0	1	0.01

383051081212501 - BIG SANDY CREEK NEAR CLENDENIN, WV

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT								
02...	0945	28	173	7.20	21.0	20	21	1.6
14...	1405	515	215	--	15.0	75	186	259
30...	0745	5.8	222	7.60	12.5	5.0	3	0.05
NOV								
06...	1115	480	159	--	13.0	70	136	176
25...	1320	248	125	--	10.5	20	32	21
DEC								
01...	1415	92	125	7.30	11.5	10	5	1.2
10...	1045	755	88	--	9.5	45	101	206
31...	1050	99	125	--	3.0	5.0	15	4.0
JAN								
08...	1000	93	127	7.40	6.5	5.0	5	1.3
20...	1000	1480	85	--	5.0	50	115	460
FEB								
11...	1030	66	131	7.40	1.0	7.0	8	1.4
MAR								
02...	1000	203	115	--	6.0	20	19	10
25...	1200	23	162	7.40	11.5	4.5	0	0.0

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

383005081245401 - WILLS CREEK BELOW JORDAN LIGHT CHURCH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT									
03...	1000	0.10	--	563	7.60	21.5	5.5	4	0.00
14...	1330	1.9	--	377	--	14.5	30	54	0.28
28...	1520	0.12	570	520	8.00	15.0	7.0	4	0.00
NOV									
05...	1000	1.1	--	2330	--	12.5	140	247	0.73
05...	1050	1.1	460	477	7.60	12.5	200	40	0.12
06...	0920	2.7	--	290	--	13.0	110	27	0.20
25...	1200	2.7	--	183	--	9.5	60	11	0.08
25...	1400	3.0	--	182	7.60	12.0	50	14	0.11
26...	1110	26	--	138	--	12.0	70	274	19
DEC									
02...	1000	2.3	--	223	7.60	11.0	40	32	0.20
10...	1130	0.03	--	130	--	9.0	15	44	0.00
JAN									
07...	1000	1.6	--	208	7.40	7.0	10	13	0.06
20...	1240	13	--	130	--	5.0	120	50	1.8
FEB									
10...	1030	1.3	--	176	7.50	0.5	3.5	9	0.03
MAR									
02...	1225	5.9	--	148	--	6.5	10	20	0.32
26...	1245	1.2	--	253	7.40	12.0	10	14	0.04

382757081290301 - WILLS CREEK 1 MI ABOVE MOUTH

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDE (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDE (T/DAY)
OCT									
03...	0900	0.55	--	3600	7.40	20.5	10	48	0.07
14...	1305	12	--	1100	--	15.0	110	262	8.5
28...	1330	0.32	3770	3400	8.00	16.0	6.0	6	0.01
NOV									
05...	1000	5.8	980	--	7.50	12.5	--	--	--
06...	0845	11	--	1300	--	13.0	30	39	1.2
25...	1220	14	--	894	--	9.5	10	12	0.45
25...	1300	17	--	780	7.50	12.0	7.0	16	0.73
26...	1030	99	--	408	--	12.0	100	258	69
DEC									
02...	0900	14	--	700	7.40	11.0	50	54	2.0
10...	1140	41	--	411	--	9.0	30	60	6.6
JAN									
07...	0930	8.0	--	767	7.50	8.0	5.0	6	0.13
20...	1300	40	--	--	--	5.0	10	65	7.0
FEB									
10...	1150	4.9	--	1100	7.50	1.0	6.0	9	0.12
MAR									
02...	1240	18	--	537	--	7.0	15	21	1.0
26...	1145	3.5	--	1300	7.50	12.0	30	38	0.36

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY AND MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

382728081295201 - LITTLE SANDY CREEK ABOVE MOUTH OF WILLS CREEK

DATE	TIME	DIS- CHARGE, INST. CUBIC FEET PER SECOND	SPE- CIFIC CON- DUCT- ANCE (US/CM)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	TUR- BID- ITY (NTU)	SEDI- MENT, SUS- PENDED (MG/L)	SEDI- MENT, DIS- CHARGE, SUS- PENDED (T/DAY)
OCT									
03...	1115	6.2	--	266	7.30	22.0	5.0	5	0.08
14...	1235	61	--	234	--	15.5	120	189	31
NOV									
06...	1030	58	--	175	--	13.5	55	75	12
25...	1235	64	--	137	--	9.0	15	13	2.2
26...	0930	430	--	105	--	12.5	100	240	279
DEC									
10...	1155	202	--	101	--	9.0	30	73	40
JAN									
07...	1215	32	150	154	7.20	7.0	8.0	6	0.52
20...	1315	196	--	106	--	5.0	6.5	70	37
FEB									
11...	1400	26	140	143	7.30	1.0	10	21	1.5
MAR									
02...	1250	80	--	115	--	7.0	10	21	4.5
26...	1045	14	155	174	7.30	11.5	120	86	3.3

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK

The following seventeen pages list the water-quality analyses for weekly precipitation samples collected at a miscellaneous site in Fayette County. This site is part of the National Atmospheric Deposition Program which has operated nationwide since 1978.

LOCATION.--Lat 37°58'48", long 80°57'00", Fayette County, Hydrologic Unit 05050004, in Babcock State Park, 0.95 mi west of main park entrance, 2.1 mi southwest of Clifftop.

PERIOD OF RECORD.--September 1983 to current year.

REMARKS.--Laboratory analyses were performed by the Central Analytical Laboratory of the Illinois State Water Survey in Champaign, Illinois.

WATER QUALITY DATA, WATER YEAR OCTOBER 1982 TO SEPTEMBER 1983

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)
SEP 06-13	0.113	61.8	54.1	3.93	4.01	1.03	0.225
SEP 13-20	0.691	44.0	41.1	4.00	4.08	0.190	0.033
SEP 20-27	1.194	15.9	14.2	4.37	4.61	0.120	0.016
SEP 27- OCT 04	0.975	17.5	14.5	4.47	4.59	0.080	0.022

DATE	SODIUM ATM DEP WET D (MG/L)	POTAS- SIUM ATM DEP WET D (MG/L)	SULFATE ATM DEP WET DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP WET DIS (MG/L)	NI- TROGEN NITRATE ATM DEP WET DIS AS NO2 (MG/L)	NI- TROGEN AMMON. ATM DEP WET DIS AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)
SEP 06-13	0.484	0.269	6.72	0.57	3.12	0.270	<0.010
SEP 13-20	0.060	0.047	4.51	0.20	1.92	0.400	0.005
SEP 20-27	0.023	0.039	1.32	0.09	0.78	0.040	<0.003
SEP 27- OCT 04	0.085	0.011	1.37	0.08	0.76	0.040	<0.003

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)	SODIUM ATM DEP WET D (MG/L)	POTAS- SIUM ATM DEP WET D (MG/L)
OCT 04-11	0.001	38.8	15.3	4.29	4.55	0.080	0.022	0.082	0.057
OCT 11-18	2.406	6.2	5.6	4.97	5.02	0.050	0.013	0.031	0.027
OCT 18-25	--	--	--	--	--	--	--	--	--
OCT 25- NOV 01	0.114	54.6	55.4	3.92	4.02	0.300	0.091	0.261	0.122
NOV 01-08	0.482	28.8	28.4	4.17	4.33	0.240	0.044	0.101	0.045
NOV 08-15	1.956	15.7	14.6	4.52	4.60	0.090	0.022	0.043	0.029
NOV 15-22	1.598	27.0	24.0	4.27	4.43	0.120	0.045	0.115	0.037
NOV 22-29	0.283	8.2	5.8	4.84	5.40	0.130	0.038	0.104	0.077
NOV 29- DEC 06	1.421	12.6	12.3	4.79	4.68	0.090	0.014	0.029	0.027
DEC 06-13	2.199	13.4	13.4	4.49	4.61	0.050	0.014	0.038	0.019
DEC 13-20	0.026	--	33.9	--	4.46	0.850	0.167	0.667	0.368
DEC 20-27	--	--	--	--	--	--	--	--	--
DEC 27 1983- JAN 03 1984	0.685	11.3	10.3	4.71	4.84	0.150	0.027	0.203	0.119
JAN 03-10	0.361	32.2	28.2	4.08	4.33	0.180	0.034	0.243	0.140
JAN 10-17	1.076	10.1	9.9	4.57	4.73	0.050	0.013	0.034	0.010
JAN 17-24	1.015	16.2	14.6	3.99	4.54	0.080	0.016	0.088	0.040

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCTANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCTANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)	SODIUM ATM DEP WET D (MG/L)	POTAS- SIUM ATM DEP WET D (MG/L)
JAN 31-									
FEB 07	0.410	50.5	48.2	--	4.07	0.360	0.069	0.183	0.037
FEB 07-14	0.003	11.9	8.4	4.90	4.82	0.070	0.020	0.099	0.023
FEB 14-21	0.177	95.8	98.5	3.77	3.78	1.06	0.159	0.232	0.109
FEB 21-28	3.516	10.3	8.9	4.77	4.86	0.090	0.018	0.028	0.022
FEB 28-									
MAR 06	1.184	28.1	26.0	4.30	4.36	0.380	0.068	0.084	0.019
MAR 06-13	0.977	38.4	37.4	4.22	4.19	0.600	0.084	0.125	0.060
MAR 13-20	0.287	54.7	57.7	3.92	4.01	0.390	0.107	0.160	0.041
MAR 20-27	2.825	20.3	16.9	4.42	4.50	0.100	0.021	0.047	0.025
MAR 27-									
APR 03	2.880	20.3	16.8	4.51	4.53	0.300	0.029	0.035	0.027
APR 03-10	2.459	19.4	18.0	4.36	4.49	0.130	0.020	0.022	0.017
APR 10-17	2.135	38.2	34.3	4.13	4.21	0.260	0.046	0.072	0.037
APR 17-24	2.503	25.2	22.7	4.21	4.38	0.180	0.022	0.063	0.046
APR 24-									
MAY 01	3.132	29.1	20.5	4.44	4.52	0.370	0.042	0.157	0.062
MAY 01-08	4.830	14.6	12.4	4.65	4.76	0.120	0.027	0.063	0.041
MAY 08-15	0.995	29.0	27.0	4.18	4.32	0.180	0.040	0.070	0.088
MAY 15-22	0.001	--	--	--	--	--	--	--	--
MAY 22-29	2.051	14.5	13.7	4.55	4.61	0.060	0.022	0.029	0.028
MAY 29-									
JUN 05	0.062	--	61.8	--	4.10	0.810	0.300	0.368	0.075
DATE	SULFATE ATM DEP WET DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP WET DIS (MG/L)	NI- TROGEN NITRATE ATM DEP WET DIS AS NO3 (MG/L)	NI- TROGEN AMMON. ATM DEP WET DIS AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)	VOLUME ATM DEP BULK (L)	SPEC. CONDUCTANCE FIELD ATM DEP BLK T (US/CM)	SPEC. CONDUCTANCE LAB ATM DEP BLK T (US/CM)	PH FIELD ATM DEP BLK T (UNITS)
OCT 04-11	1.70	0.14	0.67	0.090	0.007	--	--	--	--
OCT 11-18	0.64	0.09	0.32	<0.020	<0.003	--	--	--	--
OCT 18-25	--	--	--	--	--	5.818	16.0	12.3	4.57
OCT 25-									
NOV 01	4.68	0.87	3.17	0.180	0.005	--	--	--	--
NOV 01-08	3.15	0.15	1.68	0.310	<0.003	--	--	--	--
NOV 08-15	1.29	0.10	0.87	0.050	<0.003	--	--	--	--
NOV 15-22	2.24	0.14	1.59	0.300	<0.003	--	--	--	--
NOV 22-29	0.68	0.13	0.58	0.060	<0.003	--	--	--	--
NOV 29-									
DEC 06	1.23	0.08	0.68	0.050	<0.003	--	--	--	--
DEC 06-13	1.20	0.11	0.69	0.060	<0.003	--	--	--	--
DEC 13-20	3.75	0.76	4.97	0.560	<0.010	--	--	--	--
DEC 20-27	--	--	--	--	--	0.623	--	13.0	--
DEC 27 1983-									
JAN 03 1984	1.30	0.24	0.85	<0.020	<0.003	--	--	--	--
JAN 03-10	2.02	0.43	3.03	0.490	<0.003	--	--	--	--
JAN 10-17	1.01	0.08	0.48	0.070	<0.003	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	SULFATE ATM DEP WET DIS AS SO ₄ (MG/L)	CHLO- RIDE ATM DEP WET DIS (MG/L)	NI- TROGEN NITRATE ATM DEP WET DIS AS NO ₃ (MG/L)	NI- TROGEN AMMON. ATM DEP WET DIS AS NH ₄ (MG/L)	PHOS- PHOROUS ORTHO ATM DEP WET DIS AS PO ₄ (MG/L)	VOLUME ATM DEP BULK (L)	SPEC. CONDUCTANCE FIELD ATM DEP BLK T (US/CM)	SPEC. CONDUCTANCE LAB ATM DEP BLK T (US/CM)	PH FIELD ATM DEP BLK T (UNITS)
JAN									
17-24	0.98	0.16	1.54	0.070	<0.003	--	--	--	--
JAN									
24-31	--	--	--	--	--	--	--	--	--
JAN 31-									
FEB 07	2.95	0.69	4.95	0.570	<0.003	--	--	--	--
FEB									
07-14	0.67	0.19	0.55	<0.020	<0.003	--	--	--	--
FEB									
14-21	9.51	0.47	5.81	0.760	<0.003	--	--	--	--
FEB									
21-28	0.90	0.08	0.58	0.080	<0.003	--	--	--	--
FEB 28-									
MAR 06	1.96	0.23	2.64	0.120	<0.003	--	--	--	--
MAR									
06-13	3.26	0.29	3.43	0.400	<0.003	--	--	--	--
MAR									
13-20	5.27	0.16	3.35	0.400	<0.003	--	--	--	--
MAR									
20-27	1.42	0.09	1.02	0.110	0.010	--	--	--	--
MAR 27-									
APR 03	1.52	0.11	1.14	0.100	<0.003	--	--	--	--
APR									
03-10	1.32	0.08	1.13	0.120	0.010	--	--	--	--
APR									
10-17	3.04	0.14	2.17	0.460	<0.003	--	--	--	--
APR									
17-24	2.07	0.13	1.29	0.240	<0.003	--	--	--	--
APR 24-									
MAY 01	2.98	0.23	1.21	0.390	<0.003	--	--	--	--
MAY									
01-08	1.19	0.13	0.86	0.220	<0.003	--	--	--	--
MAY									
08-15	2.63	0.13	1.25	0.160	<0.003	--	--	--	--
MAY									
15-22	--	--	--	--	--	--	--	--	--
MAY									
22-29	1.29	0.11	0.60	0.060	<0.003	--	--	--	--
MAY 29-									
JUN 05	8.09	0.55	4.00	1.16	<0.003	--	--	--	--

DATE	CALCIUM ATM DEP BLK DIS (MG/L)	MAG- NESIUM ATM DEP BLK DIS (MG/L)	SODIUM ATM DEP BLK D (MG/L)	POTAS- SIUM ATM DEP BLK D (MG/L)	SULFATE ATM DEP BLK DIS AS SO ₄ (MG/L)	CHLO- RIDE ATM DEP BLK DIS (MG/L)	NI- TROGEN NITRATE ATM DEP BLK DIS AS NO ₃ (MG/L)	NI- TROGEN AMMON. ATM DEP BLK DIS AS NH ₄ (MG/L)	PHOS- PHOROUS ORTHO ATM DEP BLK DIS AS PO ₄ (MG/L)
OCT									
04-11	--	--	--	--	--	--	--	--	--
OCT									
11-18	--	--	--	--	--	--	--	--	--
OCT									
18-25	0.220	0.075	0.061	0.435	2.21	0.23	0.13	<0.020	<0.003
OCT 25-									
NOV 01	--	--	--	--	--	--	--	--	--
NOV									
01-08	--	--	--	--	--	--	--	--	--
NOV									
08-15	--	--	--	--	--	--	--	--	--
NOV									
15-22	--	--	--	--	--	--	--	--	--
NOV									
22-29	--	--	--	--	--	--	--	--	--
NOV 29-									
DEC 06	--	--	--	--	--	--	--	--	--
DEC									
06-13	--	--	--	--	--	--	--	--	--
DEC									
13-20	--	--	--	--	--	--	--	--	--
DEC									
20-27	0.210	0.024	0.081	0.029	0.96	0.14	1.34	0.080	<0.003

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	CALCIUM ATM DEP BLK DIS (MG/L)	MAG- NESIUM ATM DEP BLK DIS (MG/L)	SODIUM ATM DEP BLK D (MG/L)	POTAS- SIUM ATM DEP BLK D (MG/L)	SULFATE ATM DEP BLK DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP BLK DIS (MG/L)	NI- TROGEN NITRATE ATM DEP BLK DIS AS NO3 (MG/L)	NI- TROGEN AMMON. ATM DEP BLK DIS AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP BLK DIS AS PO4 (MG/L)
DEC 27 1983-									
JAN 03 1984	--	--	--	--	--	--	--	--	--
JAN 03-10	--	--	--	--	--	--	--	--	--
JAN 10-17	--	--	--	--	--	--	--	--	--
JAN 17-24	--	--	--	--	--	--	--	--	--
JAN 24-31	--	--	--	--	--	--	--	--	--
JAN 31-									
FEB 07	--	--	--	--	--	--	--	--	--
FEB 07-14	--	--	--	--	--	--	--	--	--
FEB 14-21	--	--	--	--	--	--	--	--	--
FEB 21-28	--	--	--	--	--	--	--	--	--
FEB 28-									
MAR 06	--	--	--	--	--	--	--	--	--
MAR 06-13	--	--	--	--	--	--	--	--	--
MAR 13-20	--	--	--	--	--	--	--	--	--
MAR 20-27	--	--	--	--	--	--	--	--	--
MAR 27-									
APR 03	--	--	--	--	--	--	--	--	--
APR 03-10	--	--	--	--	--	--	--	--	--
APR 10-17	--	--	--	--	--	--	--	--	--
APR 17-24	--	--	--	--	--	--	--	--	--
APR 24-									
MAY 01	--	--	--	--	--	--	--	--	--
MAY 01-08	--	--	--	--	--	--	--	--	--
MAY 08-15	--	--	--	--	--	--	--	--	--
MAY 15-22	--	--	--	--	--	--	--	--	--
MAY 22-29	--	--	--	--	--	--	--	--	--
MAY 29-									
JUN 05	--	--	--	--	--	--	--	--	--

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)
JUN 05-12	0.00	--	5.6	--	6.08	0.290	0.155
JUN 12-19	0.888	41.2	40.1	4.05	4.16	0.370	0.064
JUN 19-26	0.948	44.4	44.6	4.01	4.05	0.170	0.043
JUN 26-							
JUL 03	3.590	49.5	49.9	4.03	3.99	0.110	0.018
JUL 03-10	2.862	16.6	14.6	4.56	4.63	0.110	0.020
JUL 10-17	3.622	19.2	18.4	4.46	4.42	0.100	0.019
JUL 17-24	1.735	17.7	22.2	4.29	4.33	0.070	0.018
JUL 24-31	3.414	88.4	85.5	3.80	3.73	0.170	0.020
JUL 31-							
AUG 07	1.587	14.4	15.3	4.67	4.59	0.250	0.048
AUG 07-14	1.550	42.6	41.6	4.09	4.07	0.120	0.031

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCTANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCTANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)
AUG							
14-21	1.285	72.6	71.8	3.77	3.81	0.410	0.064
AUG							
21-28	0.696	24.7	19.5	4.34	4.43	0.100	0.045
AUG 28-							
SEP 04	2.615	28.5	28.9	4.30	4.25	0.180	0.026
SEP							
04-11	0.056	--	85.5	--	3.89	1.25	0.483
SEP							
11-18	1.684	34.2	29.9	4.19	4.18	0.110	0.023
SEP							
18-25	0.008	--	60.4	--	6.66	--	--
SEP 25-							
OCT 02	2.300	29.4	26.5	4.31	4.25	0.060	0.020

DATE	SODIUM ATM DEP WET D (MG/L)	POTAS- SIUM ATM DEP WET D (MG/L)	SULFATE ATM DEP WET DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP WET DIS (MG/L)	NI- TROGEN NITRATE ATM DEP WET DIS AS NO3 (MG/L)	NI- TROGEN AMMON. ATM DEP WET DIS AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)
JUN							
05-12	0.498	0.037	0.68	0.24	0.05	<0.020	<0.003
JUN							
12-19	0.119	0.065	4.37	0.19	2.36	0.530	<0.003
JUN							
19-26	0.053	0.037	4.64	0.14	1.83	0.340	<0.003
JUN 26-							
JUL 03	0.021	0.037	4.55	0.11	2.06	0.360	<0.003
JUL							
03-10	0.043	0.056	1.45	0.10	0.80	0.150	<0.003
JUL							
10-17	0.039	0.025	1.58	0.11	0.87	0.110	<0.003
JUL							
17-24	0.006	0.011	1.44	0.07	0.90	0.110	<0.003
JUL							
24-31	0.019	0.028	8.63	0.11	2.32	0.570	<0.003
JUL 31-							
AUG 07	0.159	0.044	1.28	0.24	1.09	<0.020	<0.003
AUG							
07-14	0.079	0.022	4.00	0.13	2.00	0.250	<0.003
AUG							
14-21	0.019	0.025	7.65	0.13	3.31	0.690	<0.003
AUG							
21-28	0.125	0.084	2.07	0.14	0.75	0.180	<0.003
AUG 28-							
SEP 04	0.049	0.036	3.04	0.10	1.30	0.330	<0.003
SEP							
04-11	0.639	0.148	9.28	1.13	8.14	1.26	<0.003
SEP							
11-18	0.050	0.015	2.82	0.12	1.32	0.180	<0.003
SEP							
18-25	--	--	--	--	--	--	--
SEP 25-							
OCT 02	0.040	0.027	2.17	0.12	1.44	0.160	<0.003

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)
OCT							
02-09	0.001	8.7	6.6	4.65	5.00	0.080	0.034
OCT							
09-16	0.00	67.3	57.6	3.91	3.95	0.310	0.093
OCT							
16-23	0.894	11.4	10.5	4.55	4.75	0.090	0.029
OCT							
23-30	1.766	13.8	13.6	4.48	4.56	0.040	0.016
OCT 30-							
NOV 06	2.366	25.8	24.2	4.28	4.33	0.110	0.021
NOV							
06-13	1.413	21.7	20.0	4.30	4.44	0.110	0.050
NOV							
13-20	3.080	16.8	15.1	4.38	4.54	0.050	0.012
NOV							
20-27	0.00	--	--	--	--	--	--
NOV 27-							
DEC 04	2.331	78.4	7.9	4.59	4.89	0.040	0.009
DEC							
04-11	1.348	30.9	29.2	4.19	4.26	0.080	0.024
DEC							
11-18	0.234	33.3	28.9	4.26	4.34	0.150	0.061
DEC							
18-26	2.996	19.6	16.4	4.46	4.53	0.030	0.012
DEC 26 1984-							
JAN 02 1985	1.478	13.9	12.4	4.60	4.66	0.040	0.022
JAN							
02-08	1.281	18.5	18.3	4.46	4.44	0.050	0.013
JAN							
08-15	0.560	37.7	35.2	4.11	4.21	0.230	0.054
JAN							
15-22	0.001	22.0	21.7	4.41	4.43	0.100	0.048
JAN							
22-29	0.199	73.1	74.1	4.14	4.11	1.70	0.287
JAN 29-							
FEB 05	3.164	18.9	17.8	4.48	4.42	0.130	0.011
FEB							
05-12	1.056	14.3	13.3	4.58	4.75	0.090	0.016
FEB							
12-19	0.657	30.8	29.2	4.26	4.21	0.120	0.013
FEB							
19-26	0.870	12.4	11.1	4.65	4.66	0.060	0.012
FEB 26-							
MAR 05	0.343	55.1	49.2	4.00	4.10	0.290	0.069
MAR							
05-12	2.966	30.9	27.1	4.19	4.34	0.130	0.036
MAR							
12-19	0.217	55.6	63.2	4.01	4.02	0.740	0.126
MAR							
19-26	--	31.1	30.2	4.23	4.27	0.140	0.031
MAR 26-							
APR 02	0.972	22.4	15.7	4.49	4.64	0.180	0.042
APR							
02-09	0.892	28.7	29.2	4.34	4.27	0.270	0.044
APR							
09-16	0.582	33.3	30.0	--	4.29	0.250	0.054
APR							
16-23	0.112	19.1	23.9	4.46	4.30	0.100	0.027
APR							
23-30	0.359	52.0	53.5	--	4.00	0.200	0.049
APR 30-							
MAY 07	2.021	12.3	12.7	4.66	4.62	0.060	0.013
MAY							
07-14	0.672	48.8	40.2	4.18	4.16	0.600	0.181
MAY							
14-21	5.274	31.1	32.7	4.25	4.17	0.100	0.018
MAY							
21-28	4.851	22.7	23.3	4.33	4.29	0.040	0.008
MAY 28-							
JUN 04	1.050	45.5	42.9	4.09	4.06	0.240	0.042

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	SODIUM ATM DEP WET D (MG/L)	POTAS- SIUM ATM DEP WET D (MG/L)	SULFATE ATM DEP WET DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP WET DIS (MG/L)	NI- TROGEN NITRATE ATM DEP WET DIS AS NO3 (MG/L)	NI- TROGEN AMMON. ATM DEP WET DIS AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)
OCT 02-09	0.104	0.016	0.70	0.15	0.51	0.070	<0.003
OCT 09-16	0.161	0.065	6.49	0.29	2.64	0.570	0.008
OCT 16-23	0.081	0.025	1.03	0.11	0.64	<0.020	<0.003
OCT 23-30	0.067	0.043	1.15	0.10	0.66	0.100	<0.003
OCT 30- NOV 06	0.036	0.027	1.83	0.18	1.72	0.310	0.006
NOV 06-13	0.167	0.028	2.09	0.33	1.15	0.220	0.006
NOV 13-20	0.053	0.013	1.27	0.13	0.70	0.110	<0.003
NOV 20-27	--	--	--	--	--	--	--
NOV 27- DEC 04	0.028	0.014	0.67	0.07	0.57	0.070	<0.003
DEC 04-11	0.066	0.022	2.11	0.15	1.84	0.290	<0.003
DEC 11-18	0.205	0.060	3.24	0.22	1.69	0.420	<0.003
DEC 18-26	0.050	0.017	1.46	0.07	0.78	0.150	<0.003
DEC 26 1984- JAN 02 1985	0.129	0.021	1.13	0.19	0.66	0.080	<0.003
JAN 02-08	0.031	0.013	1.41	0.12	1.01	0.150	<0.003
JAN 08-15	0.112	0.040	1.90	0.63	3.46	0.330	0.005
JAN 15-22	0.114	0.019	1.47	0.17	2.07	0.180	<0.003
JAN 22-29	1.31	0.214	7.95	2.08	11.0	0.650	<0.003
JAN 29- FEB 05	0.019	0.019	1.59	0.07	0.82	0.070	<0.003
FEB 05-12	0.037	0.031	0.99	0.11	0.87	<0.020	0.006
FEB 12-19	0.029	0.014	1.42	0.09	3.03	0.150	<0.003
FEB 19-26	0.039	0.005	1.00	0.05	0.71	0.060	<0.003
FEB 26- MAR 05	0.166	0.038	5.14	0.29	2.43	0.910	<0.003
MAR 05-12	0.124	0.023	2.51	0.21	1.13	0.340	0.009
MAR 12-19	0.113	0.059	4.83	0.60	5.47	0.950	<0.003
MAR 19-26	0.046	0.030	2.44	0.13	1.42	0.200	<0.003
MAR 26- APR 02	0.181	0.056	1.53	0.32	1.12	0.270	<0.003
APR 02-09	0.051	0.035	1.94	0.34	2.41	0.320	<0.003
APR 09-16	0.069	0.029	2.56	0.28	2.73	0.360	<0.003
APR 16-23	0.062	0.028	1.58	0.17	1.72	<0.020	<0.003
APR 23-30	0.070	0.077	4.67	0.23	3.12	0.440	<0.003
APR 30- MAY 07	0.030	0.028	1.07	0.08	0.81	0.090	<0.003
MAY 07-14	0.090	0.555	5.31	0.23	2.05	0.150	0.010
MAY 14-21	0.021	0.032	3.05	0.10	1.72	0.330	<0.010
MAY 21-28	0.018	0.015	2.15	0.05	0.95	0.150	<0.010
MAY 28- JUN 04	0.056	0.044	4.12	0.18	2.48	0.510	<0.010

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)	SODIUM ATM DEP WET D (MB/L)	POTAS- SIUM ATM DEP WET D (MG/L)
JUN 04-11	1.595	48.5	50.3	4.02	3.98	0.150	0.032	0.069	0.050
JUN 11-18	0.003	29.8	30.6	4.30	4.18	0.090	0.016	0.019	0.027
JUN 18-25	0.597	40.5	39.9	--	4.08	0.340	0.056	0.042	0.043
JUN 25- JUL 02	0.222	15.1	10.3	4.56	4.83	0.160	0.063	0.127	0.035
JUL 02-09	0.001	74.9	70.9	3.85	3.84	0.380	0.072	0.030	0.045
JUL 09-16	1.832	32.5	32.5	4.18	4.18	0.180	0.031	0.046	0.035
JUL 16-23	0.002	--	--	--	--	--	--	--	--
JUL 23-30	2.014	16.1	15.7	4.85	4.93	0.180	0.035	0.045	0.189
JUL 30- AUG 06	--	--	--	--	--	--	--	--	--
AUG 06-13	--	--	--	--	--	--	--	--	--
AUG 13-20	1.193	6.6	6.7	4.88	4.86	0.060	0.019	0.011	0.015
AUG 20-27	1.628	29.9	23.9	4.26	4.30	0.050	0.014	0.016	0.014
AUG 27- SEP 03	0.082	37.6	43.5	4.14	4.09	0.510	0.098	0.140	0.034
SEP 03-10	5.494	43.2	39.6	4.09	4.09	0.180	0.042	0.056	0.044
SEP 10-17	0.127	--	82.6	--	3.81	0.570	0.145	0.164	0.044
SEP 17-24	0.203	18.6	18.4	4.50	4.49	0.100	0.056	0.051	0.037
SEP 24- OCT 01	0.204	46.4	44.4	4.04	4.08	0.140	0.053	0.046	0.043
DATE	SULFATE ATM DEP WET DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP WET DIS (MG/L)	NI- TROGEN NITRATE ATM DEP WET DIS AS NO3 (MG/L)	NI- TROGEN AMMON. ATM DEP WET DIS AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)	VOLUME ATM DEP BULK (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP BLK T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP BLK T (US/CM)	PH FIELD ATM DEP BLK T (UNITS)
JUN 04-11	4.50	0.24	2.81	0.490	<0.010	--	--	--	--
JUN 11-18	2.82	0.07	1.51	0.250	<0.010	--	--	--	--
JUN 18-25	4.19	0.14	1.99	0.310	<0.010	--	--	--	--
JUN 25- JUL 02	1.17	0.16	0.98	0.050	<0.010	--	--	--	--
JUL 02-09	6.77	0.39	4.32	0.510	<0.010	--	--	--	--
JUL 09-16	3.29	0.13	1.57	0.280	<0.010	--	--	--	--
JUL 16-23	--	--	--	--	--	--	--	--	--
JUL 23-30	2.16	0.14	1.27	0.470	0.090	--	--	--	--
JUL 30- AUG 06	--	--	--	--	--	3.083	30.4	30.7	4.20
AUG 06-13	--	--	--	--	--	1.905	8.2	7.6	4.83
AUG 13-20	0.48	0.08	0.46	<0.020	<0.010	--	--	--	--
AUG 20-27	2.42	0.05	0.86	<0.020	<0.010	--	--	--	--
AUG 27- SEP 03	4.40	0.38	2.66	0.090	<0.010	--	--	--	--
SEP 03-10	4.22	0.15	1.24	0.210	<0.010	--	--	--	--
SEP 10-17	8.79	0.37	3.94	0.530	0.020	--	--	--	--
SEP 17-24	1.83	0.09	1.03	0.190	<0.010	--	--	--	--
SEP 24- OCT 01	3.91	0.11	2.46	0.330	<0.010	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

DATE	CALCIUM ATM DEP BLK DIS (MG/L)	MAG- NESIUM ATM DEP BLK DIS (MG/L)	SODIUM ATM DEP BLK D (MG/L)	POTAS- SIUM ATM DEP BLK D (MG/L)	SULFATE ATM DEP BLK DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP BLK DIS (MG/L)	NI- TROGEN NITRATE ATM DEP BLK DIS AS NO3 (MG/L)	NI- TROGEN AMMON. ATM DEP BLK DIS AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP BLK DIS AS PO4 (MG/L)
JUN									
04-11	--	--	--	--	--	--	--	--	--
JUN									
11-18	--	--	--	--	--	--	--	--	--
JUN									
18-25	--	--	--	--	--	--	--	--	--
JUN 25-									
JUL 02	--	--	--	--	--	--	--	--	--
JUL									
02-09	--	--	--	--	--	--	--	--	--
JUL									
09-16	--	--	--	--	--	--	--	--	--
JUL									
16-23	--	--	--	--	--	--	--	--	--
JUL									
23-30	--	--	--	--	--	--	--	--	--
JUL 30-									
AUG 06	0.090	0.018	0.023	0.067	2.82	0.10	0.56	<0.020	<0.010
AUG									
06-13	0.020	0.010	0.030	0.006	0.59	0.08	0.37	<0.020	<0.010
AUG									
13-20	--	--	--	--	--	--	--	--	--
AUG									
20-27	--	--	--	--	--	--	--	--	--
AUG 27-									
SEP 03	--	--	--	--	--	--	--	--	--
SEP									
03-10	--	--	--	--	--	--	--	--	--
SEP									
10-17	--	--	--	--	--	--	--	--	--
SEP									
17-24	--	--	--	--	--	--	--	--	--
SEP 24-									
OCT 01	--	--	--	--	--	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)	SODIUM ATM DEP WET D (MG/L)	POTAS- SIUM ATM DEP WET D (MG/L)
OCT									
01-08	1.973	21.6	21.4	4.39	4.38	0.070	0.020	0.025	0.013
OCT									
08-15	0.116	61.5	56.8	3.95	4.00	0.290	0.097	0.287	0.099
OCT									
15-22	1.967	20.6	21.2	4.45	4.40	0.150	0.050	0.058	0.323
OCT									
22-29	0.798	23.2	18.4	4.45	4.43	0.040	0.022	0.064	0.018
OCT 29-									
NOV 05	8.431	8.8	8.9	4.89	4.75	0.020	0.008	0.012	0.007
NOV									
05-12	1.891	21.3	20.6	4.45	4.38	0.030	0.014	0.013	0.004
NOV									
12-19	0.405	42.2	44.2	4.28	4.07	0.230	0.075	0.317	0.050
NOV									
19-26	--	--	--	--	--	--	--	--	--
NOV 26-									
DEC 03	3.695	18.9	16.1	4.57	4.51	0.020	0.008	0.031	0.010
DEC									
03-10	0.801	39.7	40.2	4.23	4.10	0.100	0.021	0.058	0.022
DEC									
10-17	--	--	--	--	--	--	--	--	--
DEC									
17-24	--	--	--	--	--	--	--	--	--
DEC									
24-31	0.705	44.1	32.6	--	4.15	0.090	0.017	0.069	0.021
DEC 31 1985-									
JAN 07 1986	0.106	90.0	94.8	3.78	3.73	0.580	0.096	0.178	0.092

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)	SODIUM ATM DEP WET D (MG/L)	POTAS- SIUM ATM DEP WET D (MG/L)
JAN									
14-21	3.029	12.7	13.0	4.66	4.59	0.050	0.010	0.037	0.008
JAN									
21-28	1.122	35.2	35.9	4.20	4.15	0.120	0.025	0.086	0.021
JAN 28-									
FEB 04	1.637	27.6	26.0	4.33	4.30	0.110	0.025	0.168	0.032
FEB									
04-11	1.818	27.3	28.0	4.37	4.24	0.050	0.009	0.025	0.012
FEB									
11-18	1.613	26.5	23.7	4.35	4.30	0.080	0.015	0.060	0.014
FEB									
18-25	1.030	36.6	34.4	4.18	4.18	0.190	0.022	0.046	0.023
FEB 25-									
MAR 04	0.813	63.3	60.9	4.00	3.96	0.360	0.036	0.049	0.023
MAR									
04-11	1.155	29.0	29.8	4.35	4.30	0.160	0.030	0.096	0.029
MAR									
11-18	2.507	14.9	13.1	4.64	4.62	0.050	0.008	0.040	0.026
MAR									
18-25	0.049	--	47.7	--	4.11	0.240	0.059	0.098	0.013
MAR 25-									
APR 01	0.515	50.5	45.5	4.05	4.14	0.420	0.067	0.119	0.048
APR									
01-08	0.415	52.0	45.8	4.16	4.20	0.960	0.125	0.234	0.112
APR									
08-15	0.640	51.2	46.3	4.12	4.13	0.560	0.146	0.054	0.057
APR									
15-22	2.459	39.0	41.1	4.11	4.12	0.120	0.022	0.014	0.030
APR									
22-29	0.910	75.3	67.9	3.97	3.98	1.44	0.234	0.106	0.230
APR 29-									
MAY 06	0.00	--	53.1	--	4.23	0.820	0.268	0.303	0.124
MAY									
06-13	1.264	29.7	28.4	4.24	4.25	0.170	0.030	0.045	0.076
MAY									
13-20	3.209	13.5	13.7	4.60	4.65	0.050	0.013	0.036	0.031
MAY									
20-27	0.841	--	41.2	--	4.12	0.110	0.029	0.023	0.025
MAY 27-									
JUN 03	0.259	93.0	92.5	3.78	3.76	0.380	0.058	0.042	0.044

DATE	SULFATE ATM DEP WET DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP WET DIS (MG/L)	NI- TROGEN NITRATE ATM DEP AS NO3 (MG/L)	NI- TROGEN AMMON. ATM DEP AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP AS PO4 (MG/L)	VOLUME ATM DEP BULK (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP BLK T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP BLK T (US/CM)	PH FIELD ATM DEP BLK T (UNITS)
OCT									
01-08	1.92	0.06	1.07	0.150	<0.010	--	--	--	--
OCT									
08-15	6.95	0.44	3.09	0.790	<0.010	--	--	--	--
OCT									
15-22	1.88	0.10	0.90	<0.020	<0.010	--	--	--	--
OCT									
22-29	1.61	0.10	0.88	0.040	<0.010	--	--	--	--
OCT 29-									
NOV 05	0.76	<0.03	0.34	<0.020	<0.010	--	--	--	--
NOV									
05-12	1.66	0.06	1.09	<0.020	<0.010	--	--	--	--
NOV									
12-19	3.68	0.44	2.82	0.270	<0.010	--	--	--	--
NOV									
19-26	--	--	--	--	--	1.552	14.8	15.0	4.69
NOV 26-									
DEC 03	1.44	0.06	0.68	<0.020	<0.010	--	--	--	--
DEC									
03-10	3.05	0.31	2.86	0.390	<0.010	--	--	--	--
DEC									
10-17	--	--	--	--	--	2.307	23.3	19.1	4.44
DEC									
17-24	--	--	--	--	--	0.00	--	3.1	--
DEC									
24-31	1.72	0.26	2.91	0.220	<0.010	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SULFATE ATM DEP WET DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP WET DIS (MG/L)	NI- TROGEN NITRATE ATM DEP WET DIS AS NO3 (MG/L)	NI- TROGEN AMMON. ATM DEP WET DIS AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)	VOLUME ATM DEP BULK (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP BLK T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP BLK T (US/CM)	PH FIELD ATM DEP BLK T (UNITS)
DEC 31 1985-									
JAN 07 1986	9.84	0.29	6.52	1.87	<0.010	--	--	--	--
JAN 07-14	2.72	0.50	2.62	0.430	<0.010	--	--	--	--
JAN 14-21	0.99	0.09	0.81	<0.020	<0.010	--	--	--	--
JAN 21-28	2.47	0.33	2.96	0.390	<0.010	--	--	--	--
JAN 28-FEB 04	2.20	0.26	1.86	0.330	<0.010	--	--	--	--
FEB 04-11	2.05	0.08	1.91	0.150	<0.010	--	--	--	--
FEB 11-18	1.22	0.30	2.36	0.120	<0.010	--	--	--	--
FEB 18-25	3.55	0.11	2.17	0.360	<0.010	--	--	--	--
FEB 25-MAR 04	5.26	0.28	5.66	1.37	<0.010	--	--	--	--
MAR 04-11	2.81	0.21	2.50	0.600	<0.010	--	--	--	--
MAR 11-18	1.15	0.10	0.80	0.070	<0.010	--	--	--	--
MAR 18-25	4.57	0.45	3.53	0.590	0.090	--	--	--	--
MAR 25-APR 01	4.74	0.30	3.50	0.870	<0.010	--	--	--	--
APR 01-08	6.25	0.42	4.15	1.07	<0.010	--	--	--	--
APR 08-15	5.33	0.37	4.03	1.19	<0.010	--	--	--	--
APR 15-22	3.45	0.20	3.00	0.460	<0.010	--	--	--	--
APR 22-29	8.64	0.45	5.73	1.15	<0.010	--	--	--	--
APR 29-MAY 06	6.86	0.65	2.88	<0.100	<0.050	--	--	--	--
MAY 06-13	2.79	0.12	1.90	0.230	0.010	--	--	--	--
MAY 13-20	1.19	0.07	0.66	0.080	0.010	--	--	--	--
MAY 20-27	3.67	0.14	2.20	0.310	<0.010	--	--	--	--
MAY 27-JUN 03	9.18	0.28	4.87	1.06	<0.010	--	--	--	--
DATE	CALCIUM ATM DEP BLK DIS (MG/L)	MAG- NESIUM ATM DEP BLK DIS (MG/L)	SODIUM ATM DEP BLK D (MG/L)	POTAS- SIUM ATM DEP BLK D (MG/L)	SULFATE ATM DEP BLK DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP BLK DIS (MG/L)	NI- TROGEN NITRATE ATM DEP BLK DIS AS NO3 (MG/L)	NI- TROGEN AMMON. ATM DEP BLK DIS AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP BLK DIS AS PO4 (MG/L)
OCT 01-08	--	--	--	--	--	--	--	--	--
OCT 08-15	--	--	--	--	--	--	--	--	--
OCT 15-22	--	--	--	--	--	--	--	--	--
OCT 22-29	--	--	--	--	--	--	--	--	--
OCT 29-NOV 05	--	--	--	--	--	--	--	--	--
NOV 05-12	--	--	--	--	--	--	--	--	--
NOV 12-19	--	--	--	--	--	--	--	--	--
NOV 19-26	0.030	0.011	0.016	0.014	1.34	0.05	0.66	<0.020	<0.010
NOV 26-DEC 03	--	--	--	--	--	--	--	--	--
DEC 03-10	--	--	--	--	--	--	--	--	--
DEC 10-17	0.080	0.011	0.032	0.008	1.55	0.07	0.99	<0.020	<0.010
DEC 17-24	0.110	0.016	0.062	0.015	0.17	0.08	0.48	<0.020	0.030

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	CALCIUM ATM DEP BLK DIS (MG/L)	MAG- NESIUM ATM DEP BLK DIS (MG/L)	SODIUM ATM DEP BLK D (MG/L)	POTAS- SIUM ATM DEP BLK D (MG/L)	SULFATE ATM DEP BLK DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP BLK DIS (MG/L)	NI- TROGEN NITRATE ATM DEP BLK DIS AS NO3 (MG/L)	NI- TROGEN AMMON. ATM DEP BLK DIS AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP BLK DIS AS PO4 (MG/L)
DEC									
24-31	--	--	--	--	--	--	--	--	--
DEC 31 1985-									
JAN 07 1986	--	--	--	--	--	--	--	--	--
JAN									
07-14	--	--	--	--	--	--	--	--	--
JAN									
14-21	--	--	--	--	--	--	--	--	--
JAN									
21-28	--	--	--	--	--	--	--	--	--
JAN 28-									
FEB 04	--	--	--	--	--	--	--	--	--
FEB									
04-11	--	--	--	--	--	--	--	--	--
FEB									
11-18	--	--	--	--	--	--	--	--	--
FEB									
18-25	--	--	--	--	--	--	--	--	--
FEB 25-									
MAR 04	--	--	--	--	--	--	--	--	--
MAR									
04-11	--	--	--	--	--	--	--	--	--
MAR									
11-18	--	--	--	--	--	--	--	--	--
MAR									
18-25	--	--	--	--	--	--	--	--	--
MAR 25-									
APR 01	--	--	--	--	--	--	--	--	--
APR									
01-08	--	--	--	--	--	--	--	--	--
APR									
08-15	--	--	--	--	--	--	--	--	--
APR									
15-22	--	--	--	--	--	--	--	--	--
APR									
22-29	--	--	--	--	--	--	--	--	--
APR 29-									
MAY 06	--	--	--	--	--	--	--	--	--
MAY									
06-13	--	--	--	--	--	--	--	--	--
MAY									
13-20	--	--	--	--	--	--	--	--	--
MAY									
20-27	--	--	--	--	--	--	--	--	--
MAY 27-									
JUN 03	--	--	--	--	--	--	--	--	--

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)
JUN							
03-10	1.531	48.5	45.4	4.03	4.07	0.110	0.023
JUN							
10-17	0.712	40.0	34.6	4.24	4.28	0.490	0.085
JUN							
17-24	1.545	57.0	55.2	4.00	4.02	0.280	0.036
JUN 24-							
JUL 01	6.663	37.0	35.4	4.16	4.14	0.090	0.014
JUL							
01-08	3.333	30.0	31.9	4.22	4.21	0.050	0.009
JUL							
08-15	3.197	38.0	37.5	4.16	4.12	0.180	0.032
JUL							
15-22	0.246	90.0	88.3	3.78	3.75	0.500	0.097
JUL							
22-29	2.116	53.5	51.7	4.05	4.02	0.380	0.123
JUL 29-							
AUG 05	0.242	112.0	107.0	3.62	3.66	0.420	0.060
AUG							
05-12	1.479	26.1	25.1	4.33	4.31	0.100	0.015
AUG							
12-19	2.136	54.0	54.2	3.97	3.97	0.150	0.018

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)
AUG							
19-26	1.245	31.0	30.7	4.22	4.21	0.080	0.019
AUG 26-							
SEP 02	2.622	31.5	31.6	4.20	4.20	0.140	0.024
SEP							
02-09	2.695	15.8	15.8	4.55	4.51	0.050	0.012
SEP							
09-16	0.00	19.5	18.9	4.43	4.43	0.060	0.014
SEP							
16-23	0.754	50.0	50.2	3.99	3.99	0.050	0.018
SEP							
23-30	2.574	22.0	21.7	4.39	4.34	0.070	0.013
SEP 30-							
OCT 07	0.002	14.0	14.3	4.58	4.57	0.060	0.017

DATE	SODIUM ATM DEP WET D (MG/L)	POTAS- SIUM ATM DEP WET D (MG/L)	SULFATE ATM DEP WET DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP WET DIS (MG/L)	NI- TROGEN NITRATE ATM DEP WET DIS AS NO3 (MG/L)	NI- TROGEN AMMON. ATM DEP WET DIS AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)
JUN							
03-10	0.059	0.017	4.63	0.13	2.04	0.300	<0.010
JUN							
10-17	0.162	0.123	4.00	0.33	2.17	0.220	<0.010
JUN							
17-24	0.024	0.021	5.37	0.15	3.10	0.520	<0.010
JUN 24-							
JUL 01	0.045	0.013	3.84	0.10	1.26	0.240	<0.010
JUL							
01-08	0.017	0.011	3.23	0.08	1.23	0.220	<0.010
JUL							
08-15	0.070	0.031	3.65	0.15	1.78	0.090	<0.010
JUL							
15-22	0.212	0.091	9.28	0.39	4.23	0.470	<0.010
JUL							
22-29	0.018	0.767	5.82	0.08	1.97	0.270	<0.010
JUL 29-							
AUG 05	0.030	0.023	11.1	0.22	4.80	0.640	<0.010
AUG							
05-12	0.032	0.019	2.49	0.08	1.15	0.140	<0.010
AUG							
12-19	0.029	0.025	5.84	0.10	2.15	0.580	<0.010
AUG							
19-26	0.046	0.019	3.12	0.10	1.37	0.280	<0.010
AUG 26-							
SEP 02	0.071	0.022	3.25	0.11	1.60	0.200	<0.010
SEP							
02-09	0.010	0.011	1.32	0.06	0.88	<0.020	<0.010
SEP							
09-16	0.077	0.014	1.95	0.07	1.04	0.150	<0.010
SEP							
16-23	0.123	0.017	5.07	0.16	2.32	0.380	<0.010
SEP							
23-30	0.091	0.016	1.91	0.15	1.20	0.110	<0.010
SEP 30-							
OCT 07	0.097	0.017	1.33	0.13	0.73	0.090	<0.010

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)	SODIUM ATM DEP WET D (MG/L)	POTAS- SIUM ATM DEP WET D (MG/L)
OCT									
07-14	2.127	4.5	4.4	5.03	5.07	0.020	0.004	0.018	0.004
OCT									
14-21	0.139	26.5	25.2	4.30	4.33	0.090	0.017	0.196	0.043
OCT									
21-28	0.693	34.5	34.7	4.21	4.17	0.170	0.024	0.036	0.053

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCTANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCTANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)	SODIUM ATM DEP WET D (MG/L)	POTAS- SIUM ATM DEP WET D (MG/L)
OCT 28-									
NOV 04	0.585	18.8	17.8	4.48	4.51	0.020	0.021	0.161	0.016
NOV 04-10	3.813	20.0	19.1	4.52	4.40	0.020	0.005	0.030	0.011
NOV 10-18	1.316	26.7	26.9	4.33	4.25	0.030	0.011	0.111	0.013
NOV 18-25	0.002	22.0	22.8	4.43	4.37	0.050	0.007	0.028	0.026
NOV 25-									
DEC 02	1.448	9.4	10.0	4.73	4.71	0.050	0.007	0.053	0.018
DEC 02-09	1.121	13.5	11.7	4.71	4.60	0.030	0.005	0.022	0.014
DEC 09-16	1.323	9.5	8.1	4.80	4.79	0.010	0.005	0.072	0.006
DEC 16-23	0.00	34.6	35.5	4.16	4.17	0.070	0.014	0.142	0.031
DEC 23-30	2.110	8.0	8.6	4.82	4.76	0.040	0.005	0.016	0.012
DEC 30 1986-									
JAN 06 1987	0.00	23.2	23.2	5.06	4.33	0.060	0.006	0.128	0.007
JAN 06-13	0.287	61.0	38.2	3.94	4.11	0.150	0.029	0.074	0.033
JAN 13-20	2.571	10.9	10.3	4.67	4.63	0.020	0.005	0.013	0.007
JAN 20-27	1.522	10.0	10.4	5.02	4.67	0.050	0.006	0.019	0.005
JAN 27-									
FEB 03	0.282	45.5	46.4	4.11	4.05	0.220	0.046	0.190	0.046
FEB 03-10	0.452	17.0	16.0	4.61	4.59	0.300	0.085	0.090	0.021
FEB 10-17	1.597	26.0	23.7	4.37	4.39	0.130	0.024	0.103	0.032
FEB 17-24	--	--	--	--	--	--	--	--	--
FEB 24-									
MAR 03	1.416	12.0	10.5	4.65	4.66	0.060	0.016	0.021	0.012
MAR 03-10	0.224	29.0	25.4	4.33	4.37	0.230	0.042	0.059	0.017
MAR 10-17	0.687	22.0	19.4	4.40	4.42	0.110	0.025	0.073	0.022
MAR 17-24	0.532	25.2	23.6	4.36	4.42	0.340	0.031	0.104	0.031
MAR 24-31	2.647	16.2	16.4	4.49	4.48	0.080	0.017	0.036	0.010
MAR 31-									
APR 07	--	--	--	--	--	--	--	--	--
APR 07-14	--	--	--	--	--	--	--	--	--
APR 14-21	--	--	--	--	--	--	--	--	--
APR 21-28	--	--	--	--	--	--	--	--	--
APR 28-									
MAY 05	1.297	23.2	20.6	4.49	4.49	0.300	0.040	0.022	0.068
MAY 05-12	0.00	--	1.6	--	5.58	0.020	0.008	0.011	0.007
MAY 12-19	0.002	16.5	16.5	4.55	4.48	0.090	0.019	0.053	0.022
MAY 19-26	2.892	28.0	27.5	4.28	4.30	0.070	0.018	0.023	0.032
MAY 26-									
JUN 02	0.002	23.5	19.0	4.30	4.45	0.060	0.019	0.058	0.043
JUN 02-09	0.368	66.0	64.8	3.92	3.89	0.130	0.039	0.229	0.070

DATE	SULFATE	CHLO-	NI-	NI-	PHOS-	VOLUME	SPEC.	SPEC.	PH
	ATM DEP	RIDE	TROGEN	TROGEN	PHOROUS		CONDUCT-	CONDUCT-	
	WET DIS	ATM DEP	NITRATE	AMMON.	ORTHO		TANCE	TANCE	
	AS SO4	WET DIS	ATM DEP	WET DIS	ATM DEP		FIELD	LAB	
	(MG/L)	(MG/L)	(MG/L)	(MG/L)	(MG/L)	ATM DEP	ATM DEP	ATM DEP	
			AS NO3	AS NH4	AS PO4	BULK	BLK T	BLK T	BLK T
			(MG/L)	(MG/L)	(MG/L)	(L)	(US/CM)	(US/CM)	(UNITS)
OCT									
07-14	0.34	<0.03	<0.03	<0.020	<0.010	--	--	--	--
OCT									
14-21	2.90	0.14	0.99	0.170	<0.010	--	--	--	--
OCT									
21-28	2.74	0.10	2.22	<0.020	<0.010	--	--	--	--

ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	SULFATE ATM DEP WET DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP WET DIS (MG/L)	NI- TROGEN NITRATE ATM DEP WET DIS AS NO3 (MG/L)	NI- TROGEN AMMON. ATM DEP WET DIS AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)	VOLUME ATM DEP BULK (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP BLK T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP BLK T (US/CM)	PH FIELD ATM DEP BLK T (UNITS)
OCT 28-									
NOV 04	1.23	0.28	0.94	0.100	<0.010	--	--	--	--
NOV									
04-10	1.65	0.06	0.79	0.090	<0.010	--	--	--	--
NOV									
10-18	2.34	0.17	1.19	0.110	<0.010	--	--	--	--
NOV									
18-25	2.19	0.05	1.15	0.160	<0.010	--	--	--	--
NOV 25-									
DEC 02	0.74	0.09	0.51	0.020	<0.010	--	--	--	--
DEC									
02-09	0.88	<0.03	0.83	0.030	<0.010	--	--	--	--
DEC									
09-16	0.62	0.05	0.46	<0.020	<0.010	--	--	--	--
DEC									
16-23	2.97	0.06	2.95	0.280	<0.010	--	--	--	--
DEC									
23-30	0.73	<0.03	0.54	0.060	<0.010	--	--	--	--
DEC 30 1986-									
JAN 06 1987	1.53	0.11	2.10	0.210	<0.010	--	--	--	--
JAN									
06-13	2.35	0.13	4.17	0.330	<0.010	--	--	--	--
JAN									
13-20	0.85	0.05	0.61	0.020	<0.010	--	--	--	--
JAN									
20-27	0.58	0.13	1.00	0.090	<0.010	--	--	--	--
JAN 27-									
FEB 03	3.57	0.50	4.40	0.720	<0.010	--	--	--	--
FEB									
03-10	1.24	0.38	1.85	0.250	<0.010	--	--	--	--
FEB									
10-17	2.26	0.14	2.14	0.480	<0.010	--	--	--	--
FEB									
17-24	--	--	--	--	--	2.518	11.0	10.5	4.82
FEB 24-									
MAR 03	0.92	0.06	0.50	<0.020	<0.010	--	--	--	--
MAR									
03-10	2.66	0.20	2.26	0.420	<0.010	--	--	--	--
MAR									
10-17	1.75	0.12	1.75	0.150	<0.010	--	--	--	--
MAR									
17-24	2.48	0.21	1.58	0.200	<0.010	--	--	--	--
MAR									
24-31	1.76	0.11	0.70	0.050	<0.010	--	--	--	--
MAR 31-									
APR 07	--	--	--	--	--	3.901	29.3	28.7	4.22
APR									
07-14	--	--	--	--	--	0.474	--	30.6	4.18
APR									
14-21	--	--	--	--	--	3.131	14.9	13.3	4.53
APR									
21-28	--	--	--	--	--	5.854	25.7	24.6	4.28
APR 28-									
MAY 05	2.36	0.07	1.55	0.430	<0.010	--	--	--	--
MAY									
05-12	<0.03	<0.03	<0.03	0.030	<0.010	--	--	--	--
MAY									
12-19	1.65	0.11	0.89	0.150	<0.010	--	--	--	--
MAY									
19-26	2.62	0.09	1.33	0.270	<0.010	--	--	--	--
MAY 26-									
JUN 02	1.66	0.10	1.03	0.240	<0.010	--	--	--	--
JUN									
02-09	5.68	0.37	4.02	0.400	<0.010	--	--	--	--

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

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ANALYSES OF SAMPLES COLLECTED AT PARTIAL-RECORD, SPECIAL STUDY, AND MISCELLANEOUS SITES

3758480805700 - BABCOCK STATE PARK--Continued

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	VOLUME ATM DEP WET (L)	SPEC. CONDUCT- TANCE FIELD ATM DEP WET T (US/CM)	SPEC. CONDUCT- TANCE LAB ATM DEP WET T (US/CM)	PH FIELD ATM DEP WET T (UNITS)	PH LAB ATM DEP WET T (UNITS)	CALCIUM ATM DEP WET DIS (MG/L)	MAG- NESIUM ATM DEP WET DIS (MG/L)
JUN 09-16	1.573	45.7	47.4	4.13	4.05	0.340	0.042
JUN 16-23	0.345	30.0	30.5	4.22	4.20	0.100	0.018
JUN 23-30	0.133	172.0	175.4	3.40	3.49	0.470	0.061
JUN 30- JUL 07	6.215	15.5	15.1	4.73	4.51	0.030	0.006
JUL 07-14	1.833	20.0	21.2	4.43	4.38	0.060	0.011
JUL 14-21	0.00	--	--	--	--	--	--
JUL 21-28	0.082	110.0	102.5	3.68	3.75	0.650	0.114
JUL 28- AUG 04	0.00	--	--	--	--	--	--
AUG 04-11	0.254	33.0	31.4	4.23	4.21	0.170	0.039
AUG 11-18	0.00	--	--	--	--	--	--
AUG 18-25	0.002	22.0	17.7	4.41	4.50	0.100	0.011
AUG 25- SEP 01	1.089	30.0	30.6	4.33	4.22	0.100	0.013
SEP 01-08	1.592	3.5	3.3	5.15	5.30	0.020	0.008
SEP 08-15	2.120	45.0	45.3	4.05	4.01	0.040	0.011
SEP 15-22	1.654	22.0	22.4	4.55	4.38	0.120	0.016
SEP 22-29	0.010	--	30.7	--	4.60	0.680	0.112
SEP 29- OCT 06	2.677	21.5	20.8	4.47	4.43	0.270	0.052

DATE	SODIUM ATM DEP WET D (MG/L)	POTAS- SIUM ATM DEP WET D (MG/L)	SULFATE ATM DEP WET DIS AS SO4 (MG/L)	CHLO- RIDE ATM DEP WET DIS (MG/L)	NI- TROGEN NITRATE ATM DEP WET DIS AS NO3 (MG/L)	NI- TROGEN AMMON. ATM DEP WET DIS AS NH4 (MG/L)	PHOS- PHOROUS ORTHO ATM DEP WET DIS AS PO4 (MG/L)
JUN 09-16	0.050	0.048	5.26	0.18	2.23	0.590	<0.020
JUN 16-23	0.075	0.040	2.42	0.13	1.88	0.030	<0.020
JUN 23-30	0.141	0.054	19.5	0.36	6.88	1.08	0.030
JUN 30- JUL 07	0.033	0.017	1.38	0.05	0.64	0.110	<0.020
JUL 07-14	0.066	0.032	1.80	0.11	0.99	0.040	<0.020
JUL 14-21	--	--	--	--	--	--	--
JUL 21-28	0.147	0.065	9.44	0.59	7.84	1.01	<0.020
JUL 28- AUG 04	--	--	--	--	--	--	--
AUG 04-11	0.063	0.066	2.98	0.13	1.59	0.120	<0.020
AUG 11-18	--	--	--	--	--	--	--
AUG 18-25	0.030	0.011	1.57	0.05	1.04	0.080	<0.020
AUG 25- SEP 01	0.048	0.035	2.77	0.11	1.61	0.160	<0.020
SEP 01-08	0.051	<0.003	0.21	0.07	0.29	<0.020	<0.020
SEP 08-15	0.024	0.019	4.83	0.10	1.67	0.450	<0.020
SEP 15-22	0.038	0.025	2.22	0.09	1.11	0.250	<0.020
SEP 22-29	0.742	0.037	3.75	0.60	<0.22	<0.150	<0.150
SEP 29- OCT 06	0.073	0.033	2.46	0.15	1.35	0.310	<0.020

GROUND-WATER-QUALITY RECORDS

REMARK CODES.--The following remark codes may appear with the water-quality data in this section:

<u>PRINTED OUTPUT</u>	<u>REMARK</u>
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

GROUND-WATER RECORDS GROUND-WATER LEVELS

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM

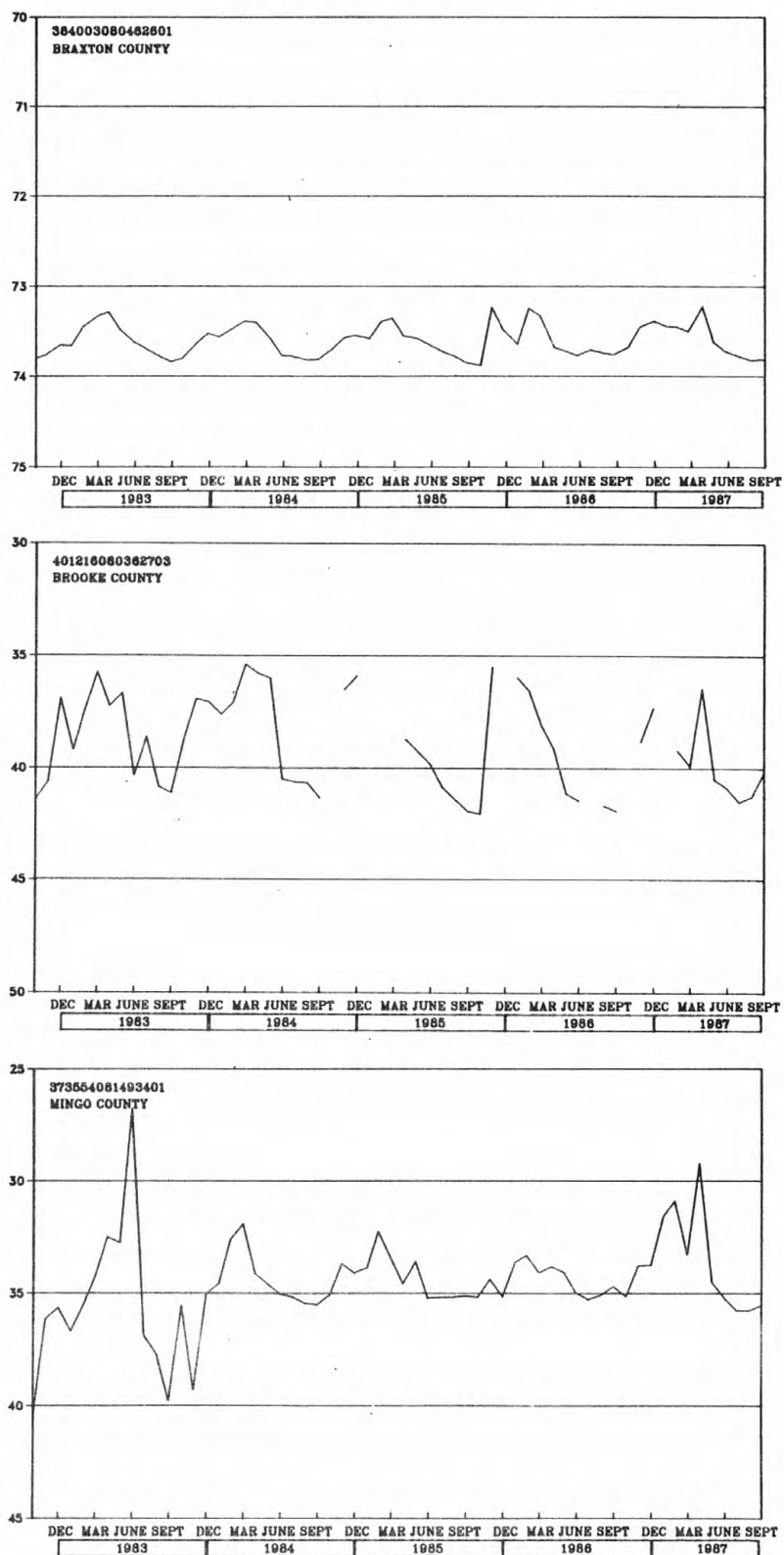


Figure 6.—End of month water levels for selected observation wells, October 1982 to September 1987.

GROUND WATER RECORDS

GROUND WATER LEVELS

BERKELEY COUNTY

392725077582401. Local number 20-5-7.
 LOCATION.--Lat 39°27'25", long 77°58'24", Hydrologic Unit 02070004, at John Street and Porter Avenue, Martinsburg.
 Owner: Martinsburg Mills, Inc.
 AQUIFER.--Beekmantown Group of Lower Ordovician age.
 WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in., depth 250 ft, cased with steel to 10 ft.
 INSTRUMENTATION.--Digital water-level recorder--60-minute punch.
 DATUM.--Elevation of land-surface datum is about 445 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, 3.30 ft above land-surface datum.
 REMARKS.--No water-level record Apr. 17-26, due to float hanging.
 PERIOD OF RECORD.--November 1956 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.00 ft, estimated, below land-surface datum, June 24, 1972; lowest, 68.45 ft below land-surface datum, Dec. 7, 1969.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
 NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	56.50	56.10	53.66	52.56	49.39	46.91	43.68	39.56	43.07	48.09	55.11	56.54
10	56.92	55.39	53.98	53.86	49.75	48.07	41.87	40.56	44.65	49.03	55.09	52.89
15	56.51	55.53	54.52	54.56	50.78	49.19	43.72	41.53	44.82	50.19	55.72	54.45
20	56.91	55.63	54.08	51.13	51.98	50.09	---	41.88	45.99	51.35	56.05	55.26
25	57.19	55.17	50.72	50.91	50.86	51.16	---	42.88	46.21	52.66	56.16	55.70
EOM	57.09	55.46	51.50	51.70	51.02	51.38	40.71	44.00	47.27	54.11	56.38	55.76

WTR YR 1987 HIGH 39.56 MAY 5 LOW 57.19 OCT 25

BRAXTON COUNTY

384003080462601. Local number, 34-2-15.
 LOCATION.--Lat 38°40'03", long 80°46'26", Hydrologic Unit 05050007, at Kanawha Street, Gassaway.
 Owner: Claude Cunningham.
 AQUIFER.--Conemaugh Group of Upper Pennsylvanian age.
 WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 100 ft, cased with steel.
 INSTRUMENTATION.--Weekly measurement with chalked tape by observer.
 DATUM.--Elevation of land-surface datum is about 1,100 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.92 ft above land-surface datum.
 PERIOD OF RECORD.--October 1953 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 72.28 ft below land-surface datum, Mar. 7, 1973; lowest measured, 74.88 ft below land-surface datum, Aug. 11, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1986	73.74	JAN 07, 1987	73.40	APR 15, 1987	73.33	JUL 22, 1987	73.78
08	73.73	14	73.43	22	73.28	29	73.78
15	73.71	21	73.44	29	73.22	AUG 05	73.79
22	73.68	28	73.44	MAY 06	73.33	12	73.81
29	73.67	FEB 04	73.44	13	73.45	19	73.82
NOV 05	73.66	11	73.44	20	73.56	25	73.82
12	73.64	18	73.43	27	73.62	SEP 02	73.82
19	73.48	25	73.45	JUN 03	73.69	09	73.82
26	73.45	MAR 04	73.47	10	73.70	16	73.81
DEC 03	73.38	11	73.48	17	73.71	23	73.81
10	73.36	18	73.50	24	73.72	30	73.81
17	73.33	25	73.50	JUL 01	73.74		
24	73.34	APR 01	73.48	08	73.75		
31	73.38	08	73.43	15	73.77		

BROOKE COUNTY

401216080362703. Project number P-1.
 LOCATION.--Lat 40°12'16", long 80°36'27", Hydrologic Unit 05030106, about 2.5 mi west of Bethany on hilltop about 1,700 ft west of Buffalo Creek.
 Owner: C. E. Reeves.
 AQUIFER.--Waynesburg coal in the Monongahela Group of Pennsylvanian age.
 WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 50.5 ft, cased with steel to 46.5 ft.
 INSTRUMENTATION.--Continuous strip-chart water-level recorder.
 DATUM.--Elevation of land-surface datum is about 1,150 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.20 ft above land-surface datum.
 REMARKS.--Aquifer test data available. No water-level record Oct. 14 to Nov. 4, Jan. 8-12, Jan. 20 to Feb. 4, and Aug. 7, 8, 27, due to recorder malfunction.
 PERIOD OF RECORD.--July 1982 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.87 ft below land-surface datum, Apr. 3, 1985; lowest, 42.09 ft below land-surface datum, Oct. 17, 18, 29, 1985 (42.83 ft on Sept. 22, 1982, result of recharge test).

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
 NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	41.69	41.65	37.72	37.55	36.85	38.08	37.22	36.68	40.85	41.02	41.30	41.32
10	41.64	41.36	37.47	---	37.23	37.98	36.34	37.21	41.01	41.18	41.39	40.89
15	---	40.43	37.50	37.70	37.63	38.80	37.29	38.65	40.86	41.33	41.57	40.76
20	---	40.25	38.10	---	38.36	39.38	37.81	39.45	40.91	41.52	41.69	40.32
25	---	40.10	38.18	---	39.03	40.93	36.64	40.05	40.78	41.62	41.48	39.94
EOM	---	38.82	37.32	---	39.20	39.90	36.44	40.50	40.87	41.50	41.23	40.17

GROUND WATER LEVELS

FAYETTE COUNTY

380154080571301.

LOCATION.--Lat 38°01'54", long 80°57'13", Hydrologic Unit 05050005, 1.6 mi south of U.S. Route 60 on State Route 11, near Clifftop.

Owner: Nuttall heirs.

AQUIFER.--New River Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 41.5 ft, cased with wrought iron.

INSTRUMENTATION.--Weekly measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is about 2,280 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing cover, 1.00 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.15 ft below land-surface datum, July 1, 1986; lowest measured, 11.82 ft below land-surface datum, June 30, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 04, 1986	3.48	MAY 06, 1986	9.40	JUN 17, 1986	9.71	JUL 29, 1986	10.35
25	7.82	13	10.10	24	10.38	AUG 05	11.07
MAR 11	5.46	20	3.29	JUL 01	3.15	12	11.40
18	6.60	27	8.58	08	8.38	19	10.95
APR 28	7.40	JUN 03	9.33	15	7.46	26	11.16
29	7.84	10	8.19	22	9.43	SEP 02	9.16

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB 17, 1987	5.91	APR 21, 1987	6.95	JUN 16, 1987	11.11	AUG 18, 1987	11.81
24	6.58	28	6.49	23	11.41	25	11.43
MAR 03	4.98	MAY 05	6.59	30	11.82	SEP 01	11.48
10	8.71	12	9.05	JUL 07	9.23	08	11.08
17	9.90	19	9.40	14	9.08	15	8.58
24	9.73	26	9.87	28	10.54	22	8.97
31	5.68	JUN 02	10.47	AUG 04	11.10	29	10.13
APR 07	3.82	09	11.13	11	11.41		

GILMER COUNTY

385604080495901. Local number, 33-3-1.

LOCATION.--Lat 38°56'04", long 80°49'59", Hydrologic Unit 05030203, at Glenville State College Campus, Glenville.

Owner: Glenville State College.

AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Dug unused water-table well, diameter 3 ft, depth 25 ft, cased with concrete tile.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is about 820 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of concrete cover at land-surface datum.

REMARKS.--West Virginia index well.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.58 ft below land-surface datum, Jan. 26, 1958; lowest measured, 18.75 ft below land-surface datum, Nov. 30, 1953.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 06, 1986	16.50	JAN 12, 1987	15.93	APR 20, 1987	15.47	JUL 20, 1987	16.86
13	16.84	19	16.00	27	15.68	27	17.14
20	16.54	26	15.54	MAY 04	15.92	AUG 03	17.32
27	16.85	FEB 02	14.98	11	16.36	10	17.42
NOV 03	17.18	09	15.31	18	16.73	17	17.59
10	15.00	16	15.78	22	16.84	24	17.31
17	15.45	23	15.56	26	16.98	SEP 01	17.31
24	15.56	MAR 02	15.38	JUN 01	17.14	07	17.35
DEC 01	15.32	09	15.74	08	17.18	14	17.36
08	15.37	16	16.21	15	17.08	21	17.01
15	15.28	23	16.45	22	17.06	28	17.30
22	15.75	30	16.80	29	17.10		
30	15.41	APR 06	15.38	JUL 06	17.39		
JAN 05, 1987	15.60	13	15.26	13	16.52		

GROUND WATER LEVELS

GRANT COUNTY

391652079181401.

LOCATION.--Lat 39°16'52", long 79°18'14", Hydrologic Unit 02070002, about 200 ft north of U.S. Route 50, about 3.5 mi west of Mount Storm.

Owner: Buffalo Coal Company.

AQUIFER.--Thin bed of coal in the Conemaugh Group of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 24 ft, cased with plastic to 23 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 2,890 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelter base, 1.50 ft above land-surface datum.

REMARKS.--Well is near reclaimed surface mine. No water-level record Sept. 15-30, due to recorder malfunction.

PERIOD OF RECORD.--June 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.33 ft below land-surface datum, Mar. 11-15, 1979; lowest, 21.24 ft below land-surface datum, Nov. 28, 29, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	16.71	17.11	13.66	12.33	12.59	13.57	11.39	10.72	13.15	15.60	16.45	17.22
10	17.04	17.09	12.86	12.44	12.51	12.54	11.47	10.57	13.73	15.89	16.67	16.91
15	16.88	16.75	12.61	12.98	12.69	11.88	11.07	11.11	14.22	15.96	16.98	---
20	17.21	16.24	12.28	12.79	13.18	11.71	10.57	11.82	14.84	16.32	17.04	---
25	17.13	15.66	12.29	12.29	13.44	11.83	10.43	12.56	15.16	16.44	17.20	---
EOM	17.33	14.61	12.16	12.13	13.65	11.55	10.31	12.91	15.41	16.44	17.21	---

WTR YR 1987 HIGH 10.31 APR 30 LOW 17.39 NOV 1

GREENBRIER COUNTY

374804080174001. Local number, 45-8-2.

LOCATION.--Lat 37°48'04", long 80°17'40", Hydrologic Unit 05050003, at Fish Culture Station, U.S. Fish and Wildlife Service Hatchery, White Sulphur Springs.

Owner: U.S. Government.

AQUIFER.--Marcellus Formation and Harrell Shale of Middle Devonian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 61 ft, cased with steel.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is about 1,875 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 0.90 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.80 ft below land-surface datum, Mar. 16, 1955; lowest measured, 14.82 ft below land-surface datum, Aug. 29, 1981.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 04, 1986	5.95	JAN 24, 1987	5.08	APR 18, 1987	4.62	JUL 11, 1987	6.65
11	6.24	31	4.96	25	4.30	18	6.75
18	6.05	FEB 07	5.03	MAY 02	5.37	25	6.85
25	5.95	14	5.08	09	5.40	AUG 01	6.19
NOV 29	5.22	21	5.18	16	5.58	08	6.65
DEC 06	5.24	28	5.05	23	5.60	15	9.60
13	5.03	MAR 07	5.02	30	5.53	22	11.10
20	5.20	14	5.21	JUN 06	5.67	29	6.10
27	5.04	21	5.20	13	5.67	SEP 05	6.20
JAN 03, 1987	5.26	28	5.20	20	5.92	12	5.55
10	5.26	APR 04	5.10	27	6.30	19	5.72
17	5.19	11	5.08	JUL 04	6.36	26	5.83

375747080465901. Project number, M005.

LOCATION.--Lat 37°57'47", long 80°46'59", Hydrologic Unit 05050005, 0.40 mi southwest on Rt. 20 from the junction of U.S. Route 60 and State Route 20 in Rainelle.

Owner: Chesapeake and Ohio Railroad.

AQUIFER.--Bluestone and Princeton Formations of Upper Mississippian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 10.5 in., depth 119 ft, cased with galvanized iron to 59.5 ft.

INSTRUMENTATION.--January 1980 to October 1982, periodic measurement with chalked tape by USGS personnel; October 1982 to current year, digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 2,380 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 4.50 ft below land-surface datum.

REMARKS.--No water-level record Nov. 1 to Dec. 22, and Jan. 28 to Feb. 4, due to timer malfunction and water damage. Because of a problem of surface water running into the well it was dropped from the Network effective Sept. 30, 1987.

PERIOD OF RECORD.--January 1980 to September 1987, discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level, 18.94 ft below land-surface datum, Mar. 17, 1986; lowest, 29.91 ft below land-surface datum, Apr. 12, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	21.95	---	---	20.90	21.41	20.34	20.76	20.79	21.78	24.61	25.94	27.45
10	22.20	---	---	21.00	21.02	19.71	20.04	21.59	22.00	24.88	26.31	26.92
15	22.02	---	---	21.34	20.61	20.47	20.49	21.73	22.72	24.49	26.98	26.86
20	21.74	---	---	20.66	20.79	20.68	20.23	21.94	23.86	24.79	26.66	26.79
25	22.25	---	20.36	20.86	20.77	20.42	20.77	22.57	23.43	25.43	26.99	26.90
EOM	23.57	---	20.85	---	20.71	21.18	20.64	20.97	24.25	26.00	26.71	26.80

GROUND WATER LEVELS

HAMPSHIRE COUNTY

391257078404601. Local number, 23-6-46.

LOCATION.--Lat 39°12'57", long 78°40'46", Hydrologic Unit 02070003, about 4 mi south of Augusta on State Route 7.

Owner: Loring Hott.

AQUIFER.--Hampshire Formation of Upper Devonian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 24 ft, cased with tile.

INSTRUMENTATION.--Continuous strip-chart water-level recorder.

DATUM.--Elevation of land-surface datum is about 1,400 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing at land-surface datum.

REMARKS.--No water-level record Nov. 11 to Dec. 1, Jan. 22 to Mar. 2, Mar. 14, Apr. 8-11, 18, 19, 24-28, July 2 to Aug. 24, due to recorder malfunction.

PERIOD OF RECORD.--February 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.30 ft below land-surface datum, Sept. 25, 1975; lowest, 16.69 ft, estimated, below land-surface datum, July 15, 1973.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	14.51	14.90	8.50	10.55	---	1.70	0.84	0.82	11.28	---	---	14.41
10	14.77	14.67	10.71	9.01	---	6.65	---	6.28	12.22	---	---	13.88
15	14.77	---	10.87	9.91	---	12.14	0.80	10.29	12.47	---	---	13.46
20	14.91	---	10.77	0.79	---	14.90	0.88	11.15	12.87	---	---	9.22
25	14.95	---	1.12	---	---	15.54	---	11.68	12.71	---	14.24	12.23
EOM	15.13	---	8.55	---	---	0.87	1.72	12.17	12.99	---	14.20	12.15

WTR YR 1987 HIGH 0.79 JAN 20 AND OTHERS LOW 15.54 MAR 25

HARDY COUNTY

385714078441301. Local number, 25-4-5.

LOCATION.--Lat 38°57'14", long 78°44'13", Hydrologic Unit 02070003, about 3 mi east of Lost River near entrance to Trout Pond Recreation Area.

Owner: U.S. Forest Service.

AQUIFER.--Helderberg Group of Early Devonian age and Tonoloway Formation of Late Silurian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 460 ft, cased with steel to 190 ft.

INSTRUMENTATION.--Continuous strip-chart water-level recorder prior to November 1976, then periodic measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is about 1,920 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of well casing, 0.90 ft above land-surface datum.

PERIOD OF RECORD.--March 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 263.00 ft, estimated, below land-surface datum, July 15, 1972; lowest, 274.80 ft below land-surface datum, Oct. 1, 1985.

NOTE.--Water-level measurement Oct. 7, 1986, 270.30 ft below land-surface datum. Water-level measurement Apr. 29, 1987, 271.15 ft below land-surface datum.

LEWIS COUNTY

390553080280802. Local number, 16-1-9.

LOCATION.--Lat 39°05'53", long 80°28'08", Hydrologic Unit 05020002, at Jackson's Mill State 4-H Camp, Jackson's Mill.

Owner: West Virginia University.

AQUIFER.--Conemaugh Group and Allegheny Formation of Upper and Middle Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 12 in., depth 122 ft, cased.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer prior to October 1977, then periodic measurement by USGS personnel.

DATUM.--Elevation of land-surface datum is about 1,020 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Drilled hole in steel plate covering casing at land-surface datum.

REMARKS.--Water level affected by stage of West Fork River.

PERIOD OF RECORD.--May 1961 to May 1976, October 1977 to current year. No measurements May 1976 to October 1977, observer resigned.

REVISED RECORDS.--WDR WV-85-1: Highest water level.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.00 ft below land-surface datum, Dec. 11, 1972; lowest measured, 24.80 ft below land-surface datum, Oct. 6, 1977.

NOTE.--Water-level measurement Oct. 23, 1986, 22.83 ft below land-surface datum. Water-level measurement May 12, 1987, 22.80 ft below land-surface datum.

390008080283401. Project number, SJ4.

LOCATION.--Lat 39°00'08", long 80°28'34", Hydrologic Unit 05020002, about 75 ft northeast of County Route 30 bridge across West Fork River at Brownsville.

Owner: U.S. Geological Survey.

AQUIFER.--Monongahela Formation of the Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 102 ft, cased with galvanized iron to 18 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch to Nov. 4, 1985; then periodic measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is about 1,026 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Three hacksaw marks on top of casing at land-surface datum.

PERIOD OF RECORD.--March 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.30 ft below land-surface datum, Aug. 31, 1984; lowest, 12.64 ft below land-surface datum, Oct. 7, 8, 10, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 23, 1986	9.93	MAY 12, 1987	9.82	AUG 18, 1987	11.10		

GROUND WATER LEVELS

MARION COUNTY

393057080161901.

LOCATION.--Lat 39°30'57", long 80°16'19", Hydrologic Unit 05020003, on State Route 250/9, 1.20 mi west of Farmington.

Owner: Richard White.

AQUIFER.--Dunkard Group of Pennsylvanian and Permian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 74 ft, cased with steel to 6 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch to February 1986, then periodic measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is about 1,140 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, flush with instrument shelf 0.30 ft above land-surface datum.

REMARKS.--Well appeared to have caved in Aug. 10, 1987, unable to measure water level.

PERIOD OF RECORD.--June 1977 to September 1987, discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.70 ft below land-surface datum, Apr. 23, 1984; lowest, 56.32 ft below land-surface datum, Oct. 18-20, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 09, 1986	42.60	FEB 25, 1987	47.58	APR 14, 1987	39.28	JUN 05, 1987	46.59

393101080150501.

LOCATION.--Lat 39°31'01", long 80°15'05", Hydrologic Unit 05020003, about 1,250 ft north of State Route 91 and 100 ft west of State Route 15 in Farmington.

Owner: State of West Virginia.

AQUIFER.--Open to a mine in Pittsburgh coal, Member of Monongahela Group of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 266 ft, cased with steel to 252 ft.

INSTRUMENTATION.--Daily water-level measurements by observer.

DATUM.--Elevation of land-surface datum is about 970 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of steel plate at land-surface datum.

REMARKS.--Well formerly used by U.S. Bureau of Mines to back fill abandoned mine with shale slurry. Water level affected by mine pumpage. No water-level record Dec. 25, Feb. 28, May 25, July 20, 25. Some unpublished daily values also missing.

PERIOD OF RECORD.--April 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 151.79 ft below land-surface datum, Sept. 9, 1987; lowest measured, 219.47 ft below land-surface datum, May 12, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	155.56	155.47	155.70	155.64	155.62	155.17	154.58	154.04	153.32	152.76	152.39	152.33
10	155.72	155.84	155.68	155.21	155.32	154.86	154.52	153.84	153.28	152.76	152.22	152.11
15	155.67	155.62	155.62	155.42	155.31	154.73	154.25	153.79	153.02	152.76	152.33	152.21
20	155.69	155.74	155.68	155.52	155.30	154.67	154.44	153.99	152.93	---	152.28	151.98
25	155.56	155.68	---	155.37	155.29	154.58	154.32	---	152.82	---	152.34	152.12
EOM	155.82	155.70	155.59	155.41	---	154.68	154.12	153.34	152.90	152.41	152.30	152.01

WTR YR 1987 HIGH 151.79 SEP 9 LOW 155.86 OCT 18, NOV 1

MASON COUNTY

385451082062001. Local number, 38-3-54.

LOCATION.--Lat 38°54'51", long 82°06'20", Hydrologic Unit 05030202, about 0.50 mi east of intersection of State Route 62 and Secondary State Route 13.

Owner: West Virginia University, Ohio Valley Agricultural Experiment Station.

AQUIFER.--Conemaugh Group of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 131 ft, cased with steel to 60 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 615 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--November 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.26 ft below land-surface datum, Aug. 22-25, 1980; lowest, 26.20 ft below land-surface datum, Jan. 1, 1966, (33.27 ft below land-surface datum, Oct. 29, 1984, due to pumping).

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	25.51	25.66	25.52	25.35	25.32	25.31	25.18	24.92	25.04	25.21	25.45	25.69
10	25.58	25.57	25.47	25.32	25.32	25.30	25.16	24.92	25.08	25.25	25.48	25.68
15	25.57	25.61	25.46	25.32	25.32	25.30	25.09	24.91	25.05	25.29	25.54	25.69
20	25.63	25.60	25.43	25.27	25.32	25.30	25.04	24.92	25.12	25.36	25.58	25.72
25	25.64	25.63	25.38	25.30	25.32	25.30	24.98	24.97	25.14	25.39	25.63	25.78
EOM	25.68	25.56	25.38	25.29	25.33	25.23	24.93	25.00	25.20	25.43	25.65	25.76

WTR YR 1987 HIGH 24.91 MAY 15 AND OTHERS LOW 25.80 SEP 27, 28

GROUND WATER LEVELS

MERCER COUNTY

372149081055001. Local number, 48-5-1.

LOCATION.--Lat 37°21'49", long 81°05'50", Hydrologic Unit 05050002, at Princeton Water Service, Company No. 1 well, Princeton.

Owner: West Virginia Service Company.

AQUIFER.--Hinton Formation of Upper Mississippian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 249 ft, cased. Measured depth 165 ft, Oct. 24, 1985.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is about 2,387 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing extension, 5.50 ft above land-surface datum. Prior to September 1975 measuring point was top of casing at land-surface datum.

REMARKS.--Water level affected by nearby pumping.

PERIOD OF RECORD.--March 1960 to current year.

REVISED RECORDS.--WDR WV-79-1: 1977-78 (water levels).

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.14 ft above land-surface datum, Apr. 15, 1987, (flowing at land-surface datum, many days 1968 to 1985); lowest measured, 90.58 ft below land-surface datum, Dec. 10, 1969.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1986	.29	JAN 07, 1987	+5.54	APR 15, 1987	+2.14	JUL 22, 1987	5.89
08	.34	14	+3.31	22	+9.93	29	6.34
15	.27	21	+4.47	29	.35	AUG 05	6.81
22	.54	28	+7.78	MAY 06	1.57	12	5.80
29	.54	FEB 04	+1.13	13	.82	19	7.44
NOV 05	.01	11	+1.22	20	.10	26	7.75
12	+4.42	18	+8.80	27	.11	SEP 02	7.86
19	+2.24	25	+1.26	JUN 03	.29	09	7.70
26	+5.59	MAR 04	+1.48	10	.32	16	7.65
DEC 03	+2.25	11	+1.19	17	3.34	23	7.97
10	+8.81	18	+1.41	24	3.39	30	8.00
17	+7.78	25	+1.06	JUL 01	3.19		
24	+1.10	APR 01	+1.34	08	4.43		
31	+4.44	08	+1.38	15	6.00		

NOTE: Water levels with "+" are above land surface.

MINERAL COUNTY

392114079081101. Local number, 22-5-23.

LOCATION.--Lat 39°21'14", long 79°08'11", Hydrologic Unit 02070002, 2.20 mi north of U.S. Route 50 on State

Route 42 at Sulphur City near Elk Garden.

Owner: Gerald Whisner.

AQUIFER.--Conemaugh Group of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 37 ft, cased with steel.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer 1968 to 1976, periodic measurement with chalked tape by USGS personnel 1977 to current year.

DATUM.--Elevation of land-surface datum is about 2,480 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing extension, 0.70 ft above land-surface datum.

REMARKS.--Well flows at times. Water level affected by nearby pumpage at times. Well depth 6 ft, Oct. 24, 1980.

PERIOD OF RECORD.--August 1968 to October 1976, May 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.69 ft above land-surface datum, many days since 1968; lowest measured, 10.81 ft below land-surface datum, Oct. 29, 1968.

NOTE.--Water-level measurement Oct. 27, 1986, 7.95 ft below land-surface datum. Flowing at land-surface datum May 8, 1987.

MINGO COUNTY

373554081493401.

LOCATION.--Lat 37°35'54", long 81°49'34", Hydrologic Unit 05070101, downstream of toe of R. D. Bailey Dam northeast of Justice.

Owner: U.S. Army Corps of Engineers.

AQUIFER.--New River Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 8 in., depth 66 ft, cased with steel.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 920 ft above National Geodetic Vertical Datum of 1929. Measuring

point: Top edge of recorder shelter base, flush with top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--March 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.05 ft below land-surface datum, Apr. 27, 28, 1987; lowest, 44.29 ft below land-surface datum, Oct. 6, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	34.59	34.71	34.26	34.28	32.10	30.50	32.36	32.42	33.60	35.19	35.80	35.80
10	34.71	32.23	32.04	34.31	33.31	32.98	30.20	33.33	34.78	35.30	35.83	35.56
15	34.04	33.05	33.29	34.30	34.53	34.05	29.88	33.69	34.83	35.15	35.81	35.51
20	34.64	34.33	33.89	32.02	32.96	32.98	29.98	34.09	35.21	35.57	35.80	35.41
25	35.08	34.20	32.06	33.09	31.17	33.82	29.59	34.38	34.89	35.62	35.82	35.70
EOM	35.15	33.78	33.74	31.56	30.88	33.26	29.19	34.51	35.21	35.78	35.77	35.53

WTR YR 1987 HIGH 29.07 APR 28 LOW 35.85 AUG 18

GROUND WATER LEVELS

MONONGALIA COUNTY

394006080194801. Local number, 9-1-47.

LOCATION.--Lat 39°40'06", long 80°19'48", Hydrologic Unit 05020005, 1 mi east of Wadestown on State Route 7.

Owner: Howard Shriver.

AQUIFER.--Dunkard Group of Pennsylvanian and Permian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 65 ft, cased with steel.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is about 1,060 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 1.20 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.98 ft below land-surface datum, Apr. 7, 1987; lowest measured, 11.35 ft below land-surface datum, Aug. 6, 1971.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 07, 1986	6.09	JAN 13, 1987	4.52	APR 21, 1987	4.25	JUL 21, 1987	6.40
14	6.45	20	4.30	28	4.27	28	6.90
21	6.39	27	4.38	MAY 05	4.99	AUG 04	6.85
28	5.60	FEB 03	4.33	12	4.88	11	7.21
NOV 04	4.95	10	4.28	19	4.79	18	7.30
11	4.69	17	4.21	26	5.00	24	7.23
18	4.47	MAR 03	4.28	JUN 02	5.15	SEP 01	7.09
29	4.35	10	4.30	09	5.70	08	7.35
DEC 06	4.30	17	5.06	16	6.02	15	7.29
13	4.17	24	5.48	23	5.95	22	7.25
21	4.28	31	5.79	30	5.75	29	7.39
30	4.85	APR 07	3.98	JUL 07	6.06		
JAN 06, 1987	4.41	14	4.45	14	6.27		

392923079571801. Local number, 9-7-33.

LOCATION.--Lat 39°29'23", long 79°57'18", Hydrologic Unit 05020003, 1 mi northwest of Halleck on Secondary State Route 79.

Owner: Paul H. Price.

AQUIFER.--Buffalo Mahoning sandstone member of Conemaugh Group of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 141 ft, cased with steel to 21 ft.

INSTRUMENTATION.--Digital water-level recorder, 1961-62, 1978 to 1985; monthly measurement with chalked tape by

USGS personnel, 1953 to 1961, 1962 to 1978, 1985 to current year.

DATUM.--Elevation of land-surface datum is about 1,850 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing, 0.35 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.95 ft below land-surface datum, Jan. 4, 1960; lowest measured, 80.57 ft below land-surface datum, Oct. 25, 1973.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24, 1986	71.05	JAN 20, 1987	43.81	APR 27, 1987	55.77	JUL 20, 1987	74.12
NOV 25	48.00	FEB 24	52.00	MAY 27	63.75	AUG 21	71.98
DEC 24	55.55	MAR 27	65.09	JUN 22	56.75	SEP 23	71.22

MORGAN COUNTY

393043078174001. Local number, 19-5-14.

LOCATION.--Lat 39°30'43", long 78°17'40", Hydrologic Unit 02070004, on Cacapon State Park south of Berkeley Springs on U.S. Route 522.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Tonoloway Formation of Upper Silurian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., reported depth 250 ft, cased with steel to 33 ft.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer, 1971-75; monthly measurement with chalked tape by USGS personnel, 1976-77; digital water-level recorder--60-minute punch, 1977 to current year.

DATUM.--Elevation of land-surface datum is about 875 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top edge of recorder shelter base, 1.10 ft above land-surface datum. Prior to Aug. 16, 1977 measuring point was 1.20 ft above land-surface datum.

PERIOD OF RECORD.--July 1971 to July 1973, November 1974 to March 1975, July 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.14 ft below land-surface datum, May 21, 1980; lowest measured, 38.56 ft below land-surface datum, Sept. 25, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	32.62	32.48	32.72	32.93	32.31	32.34	31.12	32.79	33.71	34.80	36.54	37.89
10	36.37	32.91	31.58	32.76	32.76	32.72	32.06	33.30	34.06	35.28	36.15	32.89
15	35.15	34.58	32.76	32.89	32.76	32.89	32.66	33.30	33.94	34.11	36.88	33.37
20	35.91	32.75	32.72	30.99	32.86	33.24	32.36	33.11	34.60	35.64	37.39	32.77
25	36.86	32.89	30.81	32.55	32.73	33.42	32.58	33.42	34.22	35.77	36.83	34.11
EOM	35.94	32.89	32.61	32.61	32.60	31.44	33.16	33.60	34.97	36.32	37.13	33.14

WTR YR 1987 HIGH 30.21 APR 4 LOW 37.89 SEP 5

GROUND WATER LEVELS

NICHOLAS COUNTY

381513081094201. Project number, T-2.

LOCATION.--Lat 38°15'13", long 81°09'42", Hydrologic Unit 05050005, about 3 mi east of Belva and Route 16 on left of Secondary Route 20/21.

Owner: Burt Whiston.

AQUIFER.--Kanawha Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 95 ft, cased with galvanized iron to 13 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is 742.6 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--July 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level 2.52 ft below land-surface datum, Apr. 25, 1983; lowest, 12.71 ft below land-surface datum, Aug. 21, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	11.56	12.15	10.88	10.72	10.08	10.51	10.27	10.77	11.23	11.65	12.48	12.48
10	11.96	9.90	9.59	10.78	10.65	10.71	9.21	11.19	11.02	11.84	12.41	12.41
15	11.66	10.42	10.62	10.96	10.67	10.97	10.35	11.46	11.23	12.04	12.52	12.36
20	11.74	11.25	10.84	9.21	10.24	11.27	9.89	11.06	11.52	12.15	12.66	12.39
25	11.95	10.54	9.98	10.25	10.07	11.37	7.60	11.49	11.55	12.28	12.35	12.48
EOM	12.28	10.21	10.55	9.63	9.58	11.17	10.33	11.72	11.85	12.49	12.26	12.45

WTR YR 1987 HIGH 7.60 APR 25 LOW 12.69 AUG 21

POCAHONTAS COUNTY

380653080155301.

LOCATION.--Lat 38°06'53", long 80°15'53", Hydrologic Unit 05050003, on Droop Mountain State Park north of Droop on U.S. Route 219.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Mauch Chunk Group of Upper Mississippian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 86 ft, cased with steel.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer, 1970-76; periodic measurement by USGS personnel, 1978-80; digital water-level recorder--60-minute punch, 1980 to current year.

DATUM.--Elevation of land-surface datum is about 3,000 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top edge of recorder shelter base at land-surface datum. May 28, 1980 to July 7, 1983, measuring point 0.65 ft above land-surface datum. Prior to May 28, 1980 measuring point was top of casing at land-surface datum.

PERIOD OF RECORD.--December 1970 to January 1976, April 1978 to current year. Published as local well number "44-4-1", 1973-78.

REVISED RECORDS.--WDR WV-79-1: Well location, well characteristics, and water levels. WDR WV-83-1: Station identification number and lowest water level.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.86 ft below land-surface datum, May 30, 1982; lowest, 70.12 ft below land-surface datum, Sept. 4, 1983. (73.39 ft below land-surface datum, Oct. 25, 1984, due to pumping.)

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	69.97	69.17	68.71	68.95	68.76	68.55	68.64	68.69	69.13	69.03	69.90	70.07
10	70.02	68.88	68.54	68.98	68.92	67.90	68.40	68.96	69.30	69.57	69.94	69.91
15	69.59	69.22	68.71	68.82	68.63	67.69	68.68	69.16	69.45	69.69	69.98	69.76
20	69.96	69.08	68.70	68.39	68.78	67.92	67.90	68.95	69.35	69.75	70.04	69.90
25	69.98	69.20	68.33	68.72	68.95	68.48	67.78	68.68	69.50	69.77	70.01	69.96
EOM	70.00	68.94	68.75	68.76	68.88	67.58	68.17	69.01	69.60	69.87	70.03	69.30

WTR YR 1987 HIGH 67.29 APR 24 LOW 70.08 SEP 3

PRESTON COUNTY

393306079474501. Local number, 11-3-8.

LOCATION.--Lat 39°33'06", long 79°47'45", Hydrologic Unit 05020003, East Depot Street, Masontown.

Owner: G. E. Lemmons.

AQUIFER.--Pottsville Group of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled domestic artesian well, diameter 8 in., depth 785 ft, cased to 350 ft, perforated at or near Upper Freeport coal.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer, 1941-46, and 1948-50; digital water-level recorder--60-minute punch, 1946-48; monthly measurement by USGS personnel, 1950 to current year.

DATUM.--Elevation of land-surface datum is about 1,770 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of extended casing, 3.53 ft above land-surface datum. Prior to July 1978 measuring point was 3.00 ft below land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.15 ft below land-surface datum, Jan. 20, 1947; lowest measured, 108 ft below land-surface datum, Feb. 3, 1959.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 24, 1986	45.32	JAN 20, 1987	47.10	APR 27, 1987	45.58	JUL 20, 1987	47.76
NOV 25	45.45	FEB 24	47.77	MAY 27	47.85	AUG 21	47.07
DEC 24	45.99	MAR 27	47.72	JUN 22	47.84	SEP 22	47.83

GROUND WATER LEVELS

PUTNAM COUNTY

382545081553101.

LOCATION.--Lat 38°25'45", long 81°55'31", Hydrologic Unit 05050008, about 2 mi south of I-64 Winfield exit on Poplar Fork Road.

Owner: Lloyd and Susie Fridley.

AQUIFER.--Conemaugh Formation of Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water table well, diameter 6 in., depth 102 ft, cased with steel.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 750 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 1.20 ft above land-surface datum.

REMARKS.--Well dropped from Network June 26, 1987. Owner started pumping well.

PERIOD OF RECORD.--June 1985 to June 1987. Discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 35.23 ft below land-surface datum, Feb. 19, 1986; lowest, 37.90 ft below land-surface datum, Aug. 9, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	NOON VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	37.11	37.16	35.90	36.10	36.04	35.96	35.96	36.42	36.79	---	---	---
10	37.20	36.24	35.90	35.98	36.29	36.05	35.81	36.31	36.93	---	---	---
15	37.11	36.00	35.98	36.19	36.15	36.34	36.02	36.58	36.94	---	---	---
20	37.04	36.23	35.99	35.97	36.04	36.33	35.94	36.69	37.22	---	---	---
25	36.88	36.23	35.98	35.94	35.78	36.63	36.09	36.71	37.79	---	---	---
EOM	37.05	35.77	36.25	35.92	35.62	36.67	36.22	37.30	---	---	---	---

WTR YR 1987 HIGH 35.49 MAR 1 LOW 37.79 JUN 25

RANDOLPH COUNTY

385341079575401. Local number, 18-3-110.

LOCATION.--Lat 38°53'41", long 79°57'54", Hydrologic Unit 05020001, 0.20 mi east of Coalton High School, Coalton.

Owner: Presbyterian Church.

AQUIFER.--Homewood Sandstone Member of Kanawha Formation of Early Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled exploratory water-table well, diameter 6 in., depth 155 ft, cased to 18 ft.

INSTRUMENTATION.--Monthly measurement with chalked tape by USGS personnel, 1966-67; digital water-level recorder--60-minute punch, 1968-77; periodic measurement with chalked tape by USGS personnel, 1977 to current year.

DATUM.--Elevation of land-surface datum is 2,171 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.60 ft above land-surface datum. Prior to Jan. 4, 1983, measuring point was 2.45 ft above land-surface datum.

REMARKS.--Water level affected by nearby pumping.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.85 ft below land-surface datum, Dec. 12, 1966; lowest, 23.35 ft below land-surface datum, Oct. 28, 1971.

NOTE.--Water-level measurement Oct. 22, 1986, 14.84 ft below land-surface datum. Water-level measurement May 12, 1987, 14.72 ft below land-surface datum.

385100079522901. Project number, H-63.

LOCATION.--Lat 38°51'00", long 79°52'29", Hydrologic Unit 05020001, 1,800 ft west of U.S. Route 250 and 0.60 mi north of intersection of State Route 33 and U.S. Route 250, at Beverly.

Owner: Edsel Lucas.

AQUIFER.--Shale of Upper-Middle Devonian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 98 ft, cased with plastic to 14 ft.

INSTRUMENTATION.--Periodic measurement with chalked tape by USGS personnel, 1978-79, and 1982 to current year; digital water-level recorder--60-minute punch, 1979-82.

DATUM.--Elevation of land-surface datum is about 1,940 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of casing 3.00 ft above land-surface datum.

REMARKS.--U.S. Geological Survey Test Well No. 2. Geologic log and aquifer test data available. At times, water level affected by stage of Tygart Valley River.

PERIOD OF RECORD.--November 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.00 ft above land-surface datum, Mar. 20, 1982; lowest, 3.60 ft below land surface datum, Oct. 16, 1985.

NOTE.--Water level measurement Oct. 22, 1986, 2.22 ft below land-surface datum. Water-level measurement May 6, 1987, 2.14 ft below land-surface datum.

RITCHIE COUNTY

391226081024901. Local number, 28-3-3.

LOCATION.--Lat 39°12'26", long 81°02'49", Hydrologic Unit 05030203, at Stout and East South Street, Harrisville.

Owner: Terry Stonestreet.

AQUIFER.--Dunkard Group of Pennsylvanian and Permian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 118 ft, cased with steel.

INSTRUMENTATION.--Weekly measurements with chalked tape by observer, 1966; graphic water-level recorder, 1968-70; digital water-level recorder--60-minute punch, 1970-75; monthly measurements with chalked tape by USGS personnel, 1975-76; digital water-level recorder--60-minute punch, 1976 to current year.

DATUM.--Elevation of land-surface datum is about 840 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.20 ft above land-surface datum.

REMARKS.--Formerly public-supply well.

PERIOD OF RECORD.--August 1966 to October 1966, April 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.46 ft below land-surface datum, Jan. 25, 1978; lowest measured, 21.80 ft below land-surface datum, Sept. 7, 1966.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DAY	NOON VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	19.45	19.81	19.19	19.32	19.33	19.33	19.00	19.59	20.39	20.78	21.09	20.97
10	19.91	19.24	18.94	19.18	19.46	19.71	18.93	19.67	20.75	20.75	21.01	20.44
15	19.73	19.00	19.21	19.42	19.57	19.65	19.06	19.85	20.50	20.83	21.15	20.29
20	19.82	19.07	19.30	19.33	19.71	19.74	19.26	19.91	20.58	21.02	21.12	20.23
25	19.89	19.23	19.06	19.36	19.42	19.79	19.13	20.14	20.68	21.11	20.91	20.29
EOM	20.17	19.05	19.30	19.20	19.29	19.56	19.31	20.29	20.77	21.17	20.69	20.07

GROUND WATER LEVELS

TUCKER COUNTY

390135079275601. Local number, 15-6-17.

LOCATION.--Lat 39°01'35", long 79°27'56", Hydrologic Unit 05020004, at Cansan Valley State Park off W. Va. State Route 32.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Pocono Group of Lower Mississippian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 281 ft, cased with steel.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer, 1971-75; periodic measurement by USGS personnel, 1978-80; digital water-level recorder--60-minute punch, 1980 to current year.

DATUM.--Elevation of land-surface datum is about 3,275 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of recorder shelter base, 1.60 ft above land-surface datum. Prior to May 29, 1980 measuring point was top of casing, 1.55 ft above land-surface datum.

REMARKS.--No water-level record Oct. 26, due to recorder malfunction. New recorder installed.

PERIOD OF RECORD.--June 1971 to December 1975, April 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.48 ft below land-surface datum, Nov. 5, 1985; lowest measured, 11.79 ft below land-surface datum, Aug. 21, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	10.08	9.39	9.19	9.98	9.76	9.30	9.64	9.25	10.00	10.38	11.47	11.08
10	10.26	8.79	9.12	10.11	9.90	8.68	8.79	9.75	10.38	10.66	11.46	10.57
15	10.06	9.31	9.45	10.08	9.90	9.55	9.11	10.09	10.27	10.71	11.65	10.56
20	10.18	9.40	9.68	8.77	10.08	9.63	8.83	9.98	10.48	10.90	11.73	10.20
25	10.23	9.24	9.28	9.61	10.14	9.47	9.39	10.38	9.51	11.17	11.06	10.39
EOM	10.08	9.25	9.73	9.75	10.18	9.54	9.56	9.75	10.08	11.53	10.96	10.16

WTR YR 1987 HIGH 8.37 APR 18 LOW 11.78 AUG 21

TYLER COUNTY

393211081021201. Project number, B028.

LOCATION.--Lat 39°32'11", long 81°02'12", Hydrologic Unit 05030201, 2.50 mi southwest of Sistersville on Route 2, 15 ft northwest of gravel road, between railroad and river.

Owner: U.S. Geological Survey.

AQUIFER.--Monongahela Formation of the Upper Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 70 ft, cased with steel to 58 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 620 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of well casing, 3.90 ft above land-surface datum.

REMARKS.--Aquifer test data available.

PERIOD OF RECORD.--November 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.05 ft below land-surface datum, Nov. 29, 1985; lowest, 22.69 ft below land-surface datum, Oct. 3, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987
NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	17.06	18.67	15.34	18.83	17.57	18.01	15.77	18.13	18.82	17.45	18.48	18.94
10	18.65	17.08	16.42	18.92	18.71	18.06	13.83	18.74	18.86	18.69	18.48	18.78
15	18.80	18.35	17.49	18.81	18.64	18.77	15.85	18.75	18.90	18.76	18.85	18.78
20	18.84	18.39	18.05	17.67	18.73	19.04	17.74	18.81	18.75	18.86	18.70	17.84
25	18.56	18.58	17.58	18.53	18.65	18.80	16.03	19.14	18.60	19.08	18.95	18.32
EOM	18.63	17.02	18.08	18.18	18.88	18.20	17.95	18.74	18.70	18.41	18.77	18.81

WTR YR 1987 HIGH 12.00 APR 8 LOW 19.20 AUG 7

WAYNE COUNTY

375827082211501. Local number, 50-6-5.

LOCATION.--Lat 37°58'27", long 82°21'15", Hydrologic Unit 05090102, on Cabwaylingo State Forest on Secondary State Route 35.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Kanawha Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 119 ft, cased with steel to 10 ft.

INSTRUMENTATION.--Weekly measurement with chalked tape by observer.

DATUM.--Elevation of land-surface datum is about 740 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing cover, 1.33 ft above land-surface datum. Prior to Nov. 27, 1979 measuring point was top of casing, 1.30 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.07 ft below land-surface datum, Dec. 10, 1986; lowest measured, 32.17 ft below land-surface datum, July 21, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 01, 1986	29.57	DEC 31, 1986	28.77	APR 01, 1987	28.67	JUL 08, 1987	29.07
08	29.67	JAN 07, 1987	28.77	08	28.47	15	29.17
15	29.67	14	28.97	15	27.77	22	29.27
22	29.57	21	28.27	22	28.07	AUG 05	29.17
29	29.42	28	28.57	MAY 06	28.67	12	29.27
NOV 05	29.02	FEB 04	28.67	13	28.87	19	29.27
12	28.37	11	31.17	20	29.07	24	29.37
19	29.27	18	28.57	23	29.07	SEP 02	29.37
26	28.77	24	28.77	JUN 03	29.07	09	29.32
DEC 03	28.47	MAR 04	28.77	10	29.17	16	29.32
10	27.07	11	28.77	17	29.27	23	29.37
17	28.07	18	28.67	24	29.07		

GROUND WATER LEVELS

WEBSTER COUNTY

382008080292801. Project number, M006.

LOCATION.--Lat 38°20'08", long 80°29'28", Hydrologic Unit 05050005, at Bishop Knob Campground about 0.50 mi from junction of U.S. Forest Service Roads 81 and 82 and about 4 mi from Dyer.

Owner: U.S. Forest Service.

AQUIFER.--Kanawha Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 80 ft, cased with galvanized iron to 60 ft.

INSTRUMENTATION.--Periodic measurement with chalked tape by USGS personnel, 1980-82; digital water-level recorder--60-minute punch, 1982 to current year.

DATUM.--Elevation of land-surface datum is about 3,100 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of extended casing, 2.00 ft above land-surface datum.

PERIOD OF RECORD.--March 1980 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.05 ft below land-surface datum, Jan. 7, 1985; lowest, 27.02 ft below land-surface datum, Oct. 15, 1983.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	23.02	22.53	21.57	22.52	22.65	23.07	23.38	22.28	23.71	24.69	25.97	26.46
10	23.06	22.00	21.73	22.90	22.68	22.51	22.76	22.53	23.79	24.63	26.25	26.40
15	23.09	21.42	21.54	23.59	22.77	22.44	22.24	23.31	23.83	24.62	26.64	25.93
20	22.48	21.50	21.75	22.80	22.88	22.83	22.09	23.62	24.12	24.83	26.91	25.51
25	22.53	21.56	21.93	22.48	23.43	23.55	22.15	22.78	24.16	25.29	26.88	25.34
EOM	23.00	21.34	21.89	22.63	23.47	24.05	21.82	23.29	24.50	25.68	26.48	25.27

WTR YR 1987 HIGH 21.24 DEC 2 LOW 26.98 AUG 22

WETZEL COUNTY

392858080373401. Local number, 6-6-8.

LOCATION.--Lat 39°28'58", long 80°37'34", Hydrologic Unit 05030201, on Secondary State Route 82 in Lewis-Wetzel Public Hunting Area near Jacksonburg.

Owner: West Virginia Department of Natural Resources.

AQUIFER.--Dunkard Group of Pennsylvanian and Permian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 76 ft, cased with steel.

INSTRUMENTATION.--Weekly measurements with chalked tape by observer.

DATUM.--Elevation of land-surface datum is about 890 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.10 ft above land-surface datum.

REMARKS.--Observer unable to measure well due to illness, October 1986 to April 1987. Attempted to measure well in April and found well filled with stone, unable to measure. Well discontinued.

PERIOD OF RECORD.--September 1971 to April 1987, discontinued.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 6.10 ft below land-surface datum, Nov. 28, 1973; lowest measured, 20.90 ft below land-surface datum, Oct. 5, 1977.

WYOMING COUNTY

373839081255201. Local number, 54-2-12.

LOCATION.--Lat 37°38'39", long 81°25'52", Hydrologic Unit 05070101, at Twin Falls State Park.

Owner: U.S. Geological Survey.

AQUIFER.--New River Formation of Lower Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 80 ft, cased with steel to 28 ft.

INSTRUMENTATION.--Digital water-level recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is about 2,015 ft above National Geodetic Vertical Datum of 1929.

Measuring point: Top of recorder shelter floor, 2.62 ft above land-surface datum.

REMARKS.--Aquifer test data available. Water-level record affected by nearby pumping at times.

PERIOD OF RECORD.--December 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.19 ft below land-surface datum, Mar. 13, 1980; lowest, 50.40 ft below land-surface datum, Sept. 30, 1987.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

NOON VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	38.76	35.58	27.85	25.69	25.08	24.43	24.54	25.43	28.14	30.67	38.83	48.17
10	38.40	33.62	27.02	25.17	24.77	24.74	24.50	26.60	27.84	30.71	40.35	48.99
15	37.88	31.60	26.71	25.47	25.83	24.31	24.29	27.10	27.55	31.22	42.13	49.56
20	37.30	30.08	26.14	25.16	25.28	24.53	24.27	27.13	28.70	33.10	43.85	49.96
25	37.37	29.27	25.75	24.84	24.95	24.43	24.07	27.54	28.72	35.41	45.45	50.21
EOM	36.68	28.05	25.77	24.84	24.29	24.74	23.87	29.05	29.77	37.29	47.05	50.35

WTR YR 1987 HIGH 23.66 MAR 1 LOW 50.35 SEP 30

SPECIAL STUDY AND MISCELLANEOUS SITES

WATER QUALITY DATA, WATER YEAR OCTOBER 1986 TO SEPTEMBER 1987

380935079590301 - MINNEHAHA SPRINGS

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (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 WATER WH IT FIELD MG/L AS HCO3	CAR- BONATE WATER WH IT FIELD MG/L AS CO3	ALKA- LITY WAT WH TOT IT FIELD MG/L AS CACO3
OCT 1986 09...	1020	225	7.50	20.0	130	42	5.2	2.2	--	107	0	88
MAY 1987 01...	0910	205	7.30	20.5	120	41	5.1	2.1	1.0	104	0	85

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	TRITIUM TOTAL (PCI/L)
OCT 1986 09...	37	0.80	--	153	50	50	3	<10	<8	2	2.8
MAY 1987 01...	37	0.50	0.20	150	60	<60	6	20	<20	1	2.4

390745078282201 - CAPON SPRING

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (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 WATER WH IT FIELD MG/L AS HCO3	CAR- BONATE WATER WH IT FIELD MG/L AS CO3	ALKA- LITY WAT WH TOT IT FIELD MG/L AS CACO3
OCT 1986 07...	1000	233	7.20	18.0	140	49	4.9	4.6	--	162	0	
APR 1987 28...	1440	250	7.00	18.5	140	46	5.7	1.1	0.80	158	0	
DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	TRITIUM TOTAL (PCI/L)
OCT 1986 07...	133	16	2.1	--	160	40	40	3	<10	<7	3	2.2
APR 1987 28...	130	4.9	0.50	0.10	144	10	7	<3	<10	<7	3	1.7

393734078134601 - BERKLEY SPRINGS

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE WATER (DEG C)	HARD- NESS TOTAL (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 WATER WH IT FIELD MG/L AS HCO3	CAR- BONATE WATER WH IT FIELD MG/L AS CO3	ALKA- LITY WAT WH TOT IT FIELD MG/L AS CACO3
OCT 1986 06...	1400	260	7.10	22.0	140	47	5.8	1.2	--	157	0	
APR 1987 28...	1210	250	6.80	22.0	140	49	4.9	4.7	1.0	162	0	
DATE	TIME	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	TRITIUM TOTAL (PCI/L)
OCT 1986 06...	129	8.2	0.70	--	135	40	<0	<3	<10	<7	3	4.0
APR 1987 28...	133	16	2.9	0.10	157	<10	<5	5	10	7	3	4.8

	Page		Page
A			
Access to WATSTORE data.....	13	Colfax, Tygart Valley River at.....	61
Accuracy of stage and water discharge records..	8	Collection and computation of data, stage and water-discharge records.....	6
Acre-foot, definition of.....	14	Collection of ground-water data.....	11
Adenosine triphosphate (ATP), definition of....	14	Collection and examination of data, water-quality data.....	9-10
Alderson, Greenbrier River at.....	137	Color unit, definition of.....	15
Algae, definition of.....	14	Contents, definition of.....	15
Algal growth potential, definition of.....	14	Control, definition of.....	15
Amma, Big Sandy Creek near.....	190	Control structure, definition of.....	15
Analyses of samples collected at partial- record, special study, and miscellaneous sites.....	188-210	Cooperation, explanation of.....	1,8,11
Aquifer, definition of.....	14	Craigsville, Gauley River near.....	146
explanation of.....	12	Cranberry River near Richwood.....	145
Artesian, definition of.....	14	Crest-stage partial-record stations, annual maximum discharge at.....	187
Artificial substrate, definition of.....	19	Cubic feet per second per square mile, definition of.....	15
Ash mass, definition of.....	14	Cubic foot per second, definition of.....	15
Ashford, Big Coal River at.....	165	Cubic foot per second day, definition of.....	15
Average discharge, explanation of.....	8	Cumberland, Md., North Branch Potomac River near.....	32
B			
Babcock State Park precipitation gage.....	194-210	D	
Bacteria, definition of.....	14	Data, collection and computation of ground-water levels.....	11
Back Fork Elk River at Webster Springs.....	188	collection and computation of ground-water quality.....	12
Baileysville, Guyandotte River near.....	172	collection and computation of stage and water discharge.....	6
Barrackville, Buffalo Creek at.....	67	presentation, ground-water levels.....	11
Beartown, Dry Fork at.....	182	ground-water quality.....	12
Bed load, definition of.....	18	stage and water discharge.....	7
Bed load discharge, definition of.....	18	surface-water quality.....	10
Bed material, definition of.....	14	Datum of ground-water levels, explanation of..	12
Belington, Tygart Valley River at.....	55	Davis, Blackwater River at.....	70
Belva, Gauley River above.....	149	Definition of terms.....	14
Ben Dale, West Fork River at.....	63	Diatoms, definition of.....	17
Benwood, Ohio River at, near Wheeling.....	78-79	Discharge at partial-record stations and miscellaneous sites.....	187
Berkeley County, ground-water records in.....	213	Discharge, definition of.....	15
Berkeley Springs.....	224	Dissolved, definition of.....	15
Big Coal River at Ashford.....	165	Dissolved-solids concentration, definition of.....	15
Big Sandy Creek at Rockville.....	74	Downstream order system.....	5
near Amma.....	190	Drainage area, definition of.....	15
near Clendenin.....	191	explanation of stage and water discharge..	7
Biochemical oxygen demand, definition of.....	14	explanation of surface-water quality.....	10
Biomass, definition of.....	14	Drainage basin, definition of.....	15
Blackwater River at Davis.....	70	Dry Fork at Beartown.....	182
Blue-green algae, definition of.....	17	Dry Fork at Hendricks.....	69
Bluestone River near Pipestem.....	133	Dry mass, definition of.....	14
Bottom material, definition of.....	15	Dunlow, East Fork Twelvepole Creek near.....	180
Branchland, Guyandotte River at.....	176-178	Durbin, Greenbrier River at.....	134
Brandywine, South Fork South Branch Potomac River at.....	36,186	Dyer, Williams River at.....	144
Braxton County, ground-water records in.....	213	E	
Brooke County, ground-water records in.....	213	East Fork Twelvepole near Dunlow.....	180
Buckeye, Greenbrier River at.....	136	Elk River at Clay.....	160
Buckhannon River at Hall.....	57	at Queen Shoals.....	161
Buckhannon, Sand Run near.....	56	at Sutton.....	155-158
Buffalo Creek at Barrackville.....	67	below Webster Springs.....	152,189
Burnsville Dam, Little Kanawha River below....	83	near Frametown.....	159
Butcherville, West Fork River at.....	64	near Webster Springs.....	188
C			
Cacapon River near Great Cacapon.....	40	Elkins, Tygart Valley River at.....	53
Cairo, North Bend Run near.....	90-108	Tygart Valley River near.....	54
Camden on Gauley, Gauley River at.....	187	Elkview, Little Sandy Creek near.....	162-163
Capon Spring.....	224	Elm Grove, Wheeling Creek at.....	77
Cells/volume, definition of.....	15	Enterprise, West Fork River at.....	66
Charleston, Kanawha River at.....	164	Explanation of the records.....	5-13
Cheat River at Lake Lynn, Pa.....	75	Explanation of water-quality records.....	9-11
at Rowlesburg.....	73	Extremes, explanation of: ground-water levels.....	12
near Parsons.....	72	stage and water discharge.....	8
Chemical oxygen demand, definition of.....	15	surface-water quality.....	11
Chlorophyll, definition of.....	15	Fecal coliform bacteria, definition of.....	14
Cisco, Hughes River at.....	109		
Clay, Elk River at.....	160		
Clear Fork at Clear Fork.....	173		
Clendenin, Big Sandy Creek near.....	191		
Coal River at Tornado.....	166-167		
Cobun Creek at Morgantown.....	68		

INDEX

	Page		Page
F			
Fayette County, ground-water records in.....	214	Little, Middle Island Creek at.....	80
Fecal streptococcal bacteria, definition of....	14	Little Kanawha River at Glenville.....	84
Frametown, Elk River near.....	159	at Grantsville.....	85
Franklin, South Branch Potomac River at.....	34	at Palestine.....	87-89
		below Burnsville Dam.....	83
G			
Gage, explanation of.....	7	near Wildcat.....	82
Gage height, definition of.....	15	West Fork at Rocksdales.....	86
Gaging station, definition of.....	15	Little Sandy Creek above mouth	
Gauley River above Belva.....	149	of Wills Creek.....	193
at Camden on Gauley.....	187	near Elkview.....	162-163
below Summersville Dam.....	147	Location, explanation of:	
near Craigsville.....	146	ground-water levels.....	12
Gilmer County, ground-water records in.....	214	stage and water-discharge.....	7
Glasgow, Kanawha River at.....	151	surface-water quality.....	10
Glen Lyn, Va., New River at.....	129-132	Logan, Guyandotte River at.....	175
Glenville, Little Kanawha River at.....	84	Luke, Md., North Branch Potomac River at.....	31
Grafton, Three Fork Creek near.....	60		
Grafton, Tygart Valley River at Tygart Dam near	59	M	
Grant County, ground-water records in.....	215	Man, Guyandotte River at.....	187
Grantsville, Little Kanawha River at.....	85	Marion County, ground-water records in.....	217
Great Cacapon, Cacapon River near.....	40	Marietta, Oh., Ohio River near.....	81
Green algae, definition of.....	17	Marlinton, Knapp Creek at.....	135
Greenbrier County, ground-water records in.....	215	Martins Ferry, Oh., Ohio River at.....	76
Greenbrier River at Alderson.....	137	Martinsburg, Opequon Creek near.....	42
at Buckeye.....	136	Mason County, ground-water records in.....	217
at Durbin.....	134	Meadow River near Mount Lookout.....	148
at Hilldale.....	138	Mean concentration, definition of.....	18
Ground-water level records, explanation of.....	11	Mean discharge, definition of.....	15
Guardian, Right Fork Holly River at.....	153,189	Measuring point, definition of.....	16
Guyandotte River at Branchland.....	176-178	Mercer County, ground-water records in.....	218
at Logan.....	175	Metamorphic stage, definition of.....	16
at Man.....	187	Methylene blue active substance,	
below R. D. Bailey Dam.....	174	definition of.....	16
near Baileysville.....	172	Micrograms per gram, definition of.....	16
		Microsiemens, definition of.....	16
H			
Hall, Buckhannon River at.....	57	Micrograms per liter, definition of.....	16
Hampshire County, ground-water records in.....	216	Middle Fork at Newton.....	191
Hancock, Md., Potomac River at.....	41	Middle Island Creek at Little.....	80
Hardness, definition of.....	15	Milligrams of carbon per area or volume	
Hardy County, ground-water records in.....	216	per unit time, definition of.....	17
Headsville, Patterson Creek near.....	33,186	Milligrams of oxygen per area or volume	
Hendricks, Dry Fork at.....	69	per unit time, definition of.....	18
Hilldale, Greenbrier River at.....	138	Milligrams per liter, definition of.....	16
Hinton, New River at.....	139	Millville, Shenandoah River at.....	47-49
Hughes River at Cisco.....	109	Mineral County, ground-water records in.....	218
Huntington, Ohio River at.....	179	Mingo County, ground-water records in.....	218
Hydrologic bench-mark network, definition of...	5,16	Minnehaha Springs.....	224
Hydrologic conditions, summary of.....	2	Miscellaneous temperature measurements	
Hydrologic unit, definition of.....	16	and field determinations.....	186
I			
Identifying estimated daily discharge.....	8	Monongalia County, ground-water records in...	219
Instantaneous discharge, definition of.....	15	Moorefield, South Fork South Branch	
Instrumentation, explanation of.....	10,12	Potomac River near.....	37,186
Introduction.....	1	Morgan County, ground-water records in.....	219
K			
Kanawha Falls, Kanawha River at.....	150	Morgantown, Cobun Creek at.....	68
Kanawha River at Charleston.....	164	Mount Clare, West Fork River near.....	65
at Glasgow.....	151	Mount Lookout, Meadow River near.....	148
at Kanawha Falls.....	150	Mount Storm, Stony River near.....	29-30,186
at Poca.....	168		
at Winfield Dam, at Winfield.....	169-170	N	
Kermit, Tug Fork at.....	185	National Geodetic Vertical Datum of 1929,	
Knapp Creek at Marlinton.....	135	definition of.....	16
L			
Laboratory measurements, explanation of.....	10	National stream-quality accounting network	
Lake Lynn, Pa., Cheat River at.....	75	(NASQAN) stations.....	43-46,47-49,78-79
Land-surface datum, definition of.....	16	87-89,129-132,169-170,176-178	
Latitude-longitude system, definition of.....	6	definition of.....	5,16
Left Fork Holly River near Replete.....	154,190	National trends network, definition of.....	5,16
Lewis County, ground-water records in.....	216	Natural substrate, definition of.....	19
		Nephelometric turbidity units, definition of...	16
		New River at Glen Lyn, Va.....	129-132
		at Hinton.....	139
		at Thurmond.....	143
		Newton, Middle Fork at.....	191
		Nicholas County, ground-water records in.....	220
		North Bend Run near Cairo.....	90-108

INDEX

227

	Page		Page
North Branch Potomac River at Luke, Md.....	31	Randolph County, ground-water records in.....	221
at Steyer, Md.....	28	Records, accuracy of.....	8
Near Cumberland, Md.....	32	arrangement of.....	9
Numbering system for wells and miscellaneous		explanation of ground-water levels.....	11
sites.....	6	ground-water quality.....	12
		stage and water discharge.....	6
		surface-water quality.....	9
		other available.....	9
O		Recoverable from bottom material,	
Ohio River at Benwood near Wheeling.....	78-79	definition of.....	18
at Huntington.....	179	Remarks codes.....	11,27,211
at Martins Ferry, Oh.....	76	Remarks, explanation of:	
at Point Pleasant.....	171	ground-water levels.....	12
near Marietta, Oh.....	81	stage and water discharge.....	7
On-site measurements and sample collection,		surface-water quality.....	10
surface-water quality.....	9	Replete, Left Fork Holly River near.....	154,190
Opequon Creek near Martinsburg.....	42	Return period, definition of.....	18
Organic mass, definition of.....	14	Revised records, explanation of.....	7
Organism, definition of.....	16	Revisions, stage and water-discharge records.	8
Organism count/area, definition of.....	16	surface-water quality records.....	11
Organism count/volume, definition of.....	16	Richwood, Cranberry River near.....	145
		Right Fork Holly River at Guardian.....	153,189
P		Ritchie County, ground-water records in.....	221
Palestine, Little Kanawha River at.....	87-89	Robinson Run near Petroleum.....	110-128
Parameter code, definition of.....	16	Rocksdale, West Fork Little Kanawha River at.	86
Parsons, Cheat River near.....	72	Rockville, Big Sandy Creek at.....	74
Shavers Fork at.....	71	Rowlesburg, Cheat River at.....	73
Partial-record station, definition of.....	17	Runoff in inches, definition of.....	18
Partial-record and miscellaneous sites,			
discharge at.....	187		
Particle size, classification of.....	17		
definition of.....	17		
Patterson Creek near Headsville.....	33,186	S	
Paw Paw, Potomac River at.....	39	Sand Run near Buckhannon.....	56
Percent composition, definition of.....	17	Sediment, definition of.....	18
Period of record, explanation of:		explanation of.....	10
ground-water levels.....	12	Seven-day, 10-year low flow, definition of...	18
stage and water discharge.....	7	Shavers Fork at Parsons.....	71
surface-water quality.....	10	Shenandoah River at Millville.....	47-49
Periphyton, definition of.....	17	Shepherdstown, Potomac River at.....	43-46
Pesticides, definition of.....	17	Soak Creek at Sophia.....	140-142
Petersburg, South Branch Potomac River near...	35	Sodium-adsorption-ratio, definition of.....	18
Petroleum, Robinson Run near.....	110-128	Solute, definition of.....	18
Philippi, Tygart Valley River at.....	58	Sophia, Soak Creek at.....	140-142
Phytoplankton, definition of.....	17	South Branch Potomac River at Franklin.....	34
Picocurie, definition of.....	17	near Petersburg.....	35
Pipestem, Bluestone River near.....	133	near Springfield.....	38
Plankton, definition of.....	17	South Fork South Branch Potomac River	
Poca, Kanawha River at.....	168	at Brandywine.....	36,186
Pocahontas County, ground-water records in....	220	near Moorefield.....	37,186
Point of Rocks, Md., Potomac River at.....	50-52	Specific conductance, definition of.....	19
Point Pleasant, Ohio River at.....	171	Special networks and programs.....	5
Potomac River at Hancock, Md.....	41	Springfield, South Branch Potomac River near.	38
at Paw Paw.....	39	Stage and water-discharge records,	
at Point of Rocks, Md.....	50-52	explanation of.....	6
at Shepherdstown.....	43-46	Stage-discharge relation, definition of.....	19
North Branch, at Luke, Md.....	31	Station identification numbers,	
at Steyer, Md.....	28	definition of.....	5
near Cumberland, Md.....	32	Steyer, Md., North Branch Potomac River at...	28
South Branch, at Franklin.....	34	Stony River near Mount Storm.....	29-30,186
near Petersburg.....	35	Streamflow, definition of.....	19
near Springfield.....	38	Substrate, definition of.....	19
Potomac River, South Fork South Branch,		Summersville Dam, Gauley River below.....	147
at Brandywine.....	36,186	Surface area, definition of.....	19
near Moorefield.....	37,186	Surficial bed material, definition of.....	19
Preston County, ground-water records in.....	220	Suspended, definition of.....	19
Primary productivity, definition of.....	17	recoverable, definition of.....	19
Publications on techniques of water-resources		Suspended sediment, definition of.....	18
investigations.....	21-22	Suspended-sediment concentration,	
Putnam County, ground-water records in.....	221	definition of.....	18
		Suspended-sediment discharge, definition of..	18
Q		Suspended-sediment load, definition of.....	18
Queen Shoals, Elk River at.....	161	Suspended, total, definition of.....	19
		Sutton, Elk River at.....	155-158
R		T	
R. D. Bailey Dam, Guyandotte River below.....	174	Taxonomy, definition of.....	19
Radiochemical program, definition of.....	5,18	Thermograph, definition of.....	19

INDEX

	Page		Page
Three Fork Creek near Grafton.....	60	Brooke County.....	213
Thurmond, New River at.....	143	Fayette County.....	214
Time-weighted average, definition of.....	20	Gilmer County.....	214
Tons per acre-foot, definition of.....	20	Grant County.....	215
Tons per day, definition of.....	20	Greenbrier County.....	215
Tornado, Coal River at.....	166-167	Hampshire County.....	216
Total coliform bacteria, definition of.....	14	Hardy County.....	216
Total, definition of.....	20	Lewis County.....	216
Total discharge, definition of.....	20	Marion County.....	217
Total organism count, definition of.....	16	Mason County.....	217
Total recoverable, definition of.....	20	Mercer County.....	218
Total sediment discharge, definition of.....	18	Mineral County.....	218
Tritium network, definition of.....	5, 20	Mingo County.....	218
Tucker County, ground-water records in.....	222	Monongalia County.....	219
Turbidity, definition of.....	20	Morgan County.....	219
Tug Fork at Kermit.....	185	Nicholas County.....	220
at Vulcan.....	183	Pocahontas County.....	220
at Welch.....	181	Preston County.....	220
at Williamson.....	184	Putnam County.....	221
Twelvepole Creek, East Fork near Dunlow.....	180	Randolph County.....	221
Tyler County, ground-water records in.....	222	Ritchie County.....	221
Tygart Valley River at Belington.....	55	Tucker County.....	222
at Colfax.....	61	Tyler County.....	222
at Elkins.....	53	Wayne County.....	222
Tygart Valley River at Philippi.....	58	Webster County.....	223
at Tygart Dam near Grafton.....	59	Wetzel County.....	223
near Elkins.....	54	Wyoming County.....	223
V			
Vulcan, Tug Fork at.....	183	West Fork Little Kanawha River at Rocksdales..	86
W			
Walkersville, West Fork River at.....	62	West Fork River at Ben Dale.....	63
Water-quality records, explanation of.....	9	at Butcherville.....	64
Water temperature, explanation of.....	10	at Enterprise.....	66
Water year, definition of.....	20	at Walkersville.....	62
WATSTORE data, access to.....	13	near Mount Clare.....	65
Wayne County, ground-water records in.....	222	Wet mass, definition of.....	14
Webster County, ground-water records in.....	223	Wetzel County, ground-water records in.....	223
Webster Springs, Back Fork Elk River at.....	188	Wheeling Creek at Elm Grove.....	77
Elk River below.....	152, 189	Wheeling, Ohio River at Benwood near.....	78-79
Elk River near.....	188	Wildcat, Little Kanawha River near.....	82
Weighted average, definition of.....	20	Williams River at Dyer.....	144
Welch, Tug Fork at.....	181	Williamson, Tug Fork at.....	184
Well characteristics, explanation of.....	12	Wills Creek, below Jordan Light Church.....	192
Well description and ground-water levels:		one mile above mouth.....	192
Berkeley County.....	213	Winfield, Kanawha River at Winfield Dam at... 169-170	
Braxton County.....	213	WDR, definition of.....	20
		WSP, definition of.....	20
		Wyoming County, ground-water records in.....	223
		Z	
		Zooplankton, definition of.....	17

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
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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