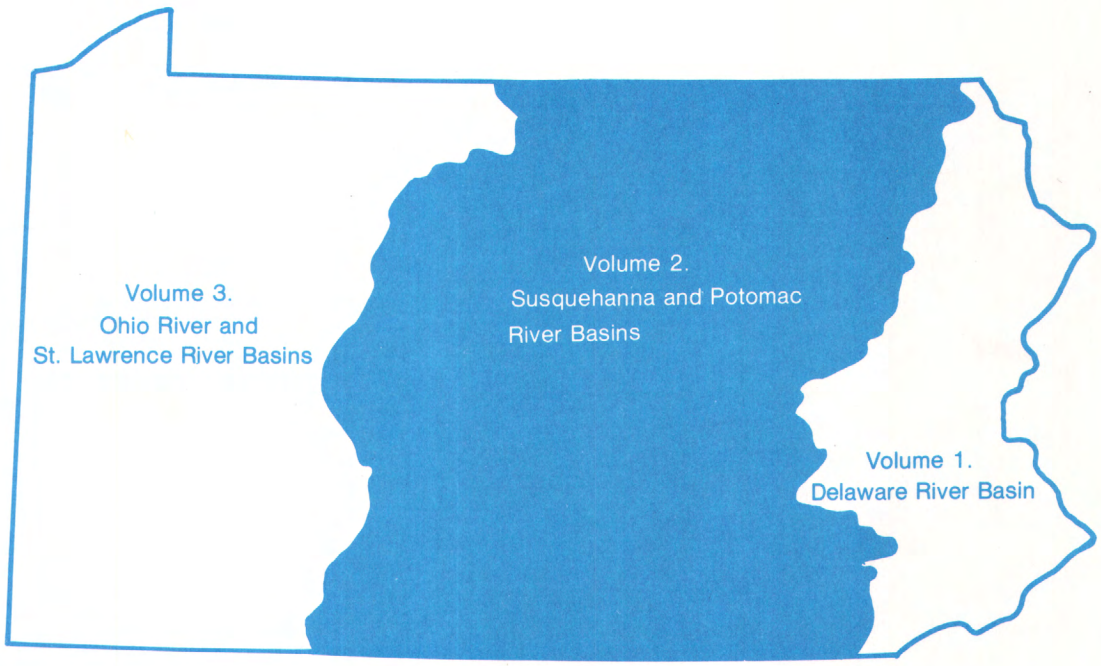
Water Resources Data Pennsylvania Water Year 1988

Volume 2. Susquehanna and Potomac River Basins



U.S. GEOLOGICAL SURVEY WATER DATA REPORT PA-88-2

Prepared in cooperation with the Pennsylvania Department of Environmental Resources, the U.S. Army Corps of Engineers, Baltimore District, The Susquehanna River Basin Commission, and with other State, municipal, and Federal agencies

CALENDAR FOR WATER YEAR 1988

1987

OCTOBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

NOVEMBER

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					

DECEMBER

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

1988

JANUARY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

FEBRUARY

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29					

MARCH

S	M	T	W	T	F	S
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

APRIL

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

MAY

S	M	T	W	T	F	S
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

JUNE

S	M	T	W	T	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

JULY

S	M	T	W	T	F	S
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

AUGUST

S	M	T	W	T	F	S
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			

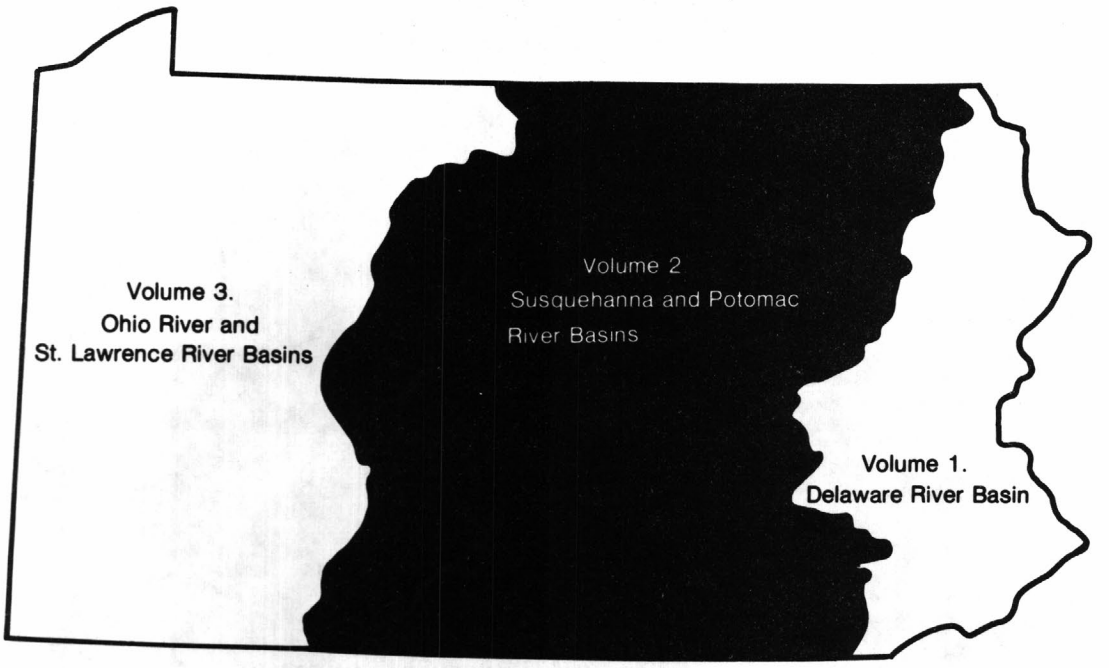
SEPTEMBER

S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

Water Resources Data Pennsylvania Water Year 1988

Volume 2. Susquehanna and Potomac River Basins

by W.C. Loper, T.E. Behrendt, and W.P. Schaffstall



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT PA-88-2
Prepared in cooperation with the Pennsylvania Department of Environmental Resources, the U.S. Army Corps of Engineers, Baltimore District, The Susquehanna River Basin Commission, and with other State, municipal, and Federal agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

MANUEL LUJAN JR., SECRETARY

GEOLOGICAL SURVEY

Dallas L. Peck, Director

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

1989

PREFACE

This volume of the annual hydrologic data report of Pennsylvania is one of a series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provide the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for Pennsylvania are contained in 3 volumes.

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

Volume 2 was prepared in cooperation with the Commonwealth of Pennsylvania and other agencies under the general supervision of David E. Click, District Chief, Pennsylvania District; David J. Wangsness, Subdistrict Chief, Harrisburg Subdistrict; Robert A. Hainly, Chief of Hydrologic Data Section, Harrisburg Subdistrict, and William P. Schaffstall, Chief, Williamsport Field Office. It is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

G. E. Baumbach
E. M. Cain
D. C. Chichester
R. W. Conger
R. R. Durlin
J. T. Fisher
D. K. Fishel
D. J. Hippe
J. D. Hollenbach
M. S. Johnson
M. E. Jones
J. F. Kerestes
E. H. Koerkle
M. J. Langland
P. L. Lietman
W. D. Pope
L. A. Reed
D. A. Saad
M. V. Truhlar

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. USGS/WRD/HD-89/259	2.	3. Recipient's Accession No.

4. Title and Subtitle
Water Resources Data for Pennsylvania
Water Year 1988
Volume 2. Susquehanna and Potomac River Basins

5. Report Date
April 1989

6.

7. Author(s)
W.C. Loper, T.E. Behrendt, and W.P. Schaffstall

8. Performing Organization Rept. No.
USGS-WDR-PA-88-2

9. Performing Organization Name and Address
U.S. Geological Survey, Water Resources Division
P.O. Box 1107
Harrisburg, PA 17108

10. Project/Task/Work Unit No.

11. Contract(C) or Grant(G) No.
(C)
(G)

12. Sponsoring Organization Name and Address
U.S. Geological Survey, Water Resources Division
P.O. Box 1107
Harrisburg, PA 17108

13. Type of Report & Period Covered
Annual Oct. 1, 1987 to Sept. 30, 1988

14.

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

16. Abstract (Limit: 200 words)

Water resources data for the 1987 water year for Pennsylvania consist of records of discharge and water quality of streams; contents and elevations of lakes and reservoirs; and water levels and water quality of ground-water wells. This report, Volume 2, includes records from the Susquehanna and Potomac River basins. Specifically, it contains: (1) Discharge records for 99 continuous record streamflow-gaging stations and 14 crest-stage partial-record stations; (2) elevation and contents records for 13 lakes and reservoirs; (3) water-quality records for 17 streamflow-gaging stations, for 10 ungaged streamsites, and for 16 wells or springs; and (4) water-level records for 39 observation wells. Location of these sites are shown in figures 7-10. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements and analyses and represent 4 special study and miscellaneous streamflow sites. These data together with the data in Volumes 1 and 3, represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State, local, and Federal agencies in Pennsylvania.

17. Document Analysis a. Descriptors

*Pennsylvania, *Hydrologic data, *Groundwater, *Surface waters, *Water Quality, Gaging stations, Streamflow, Flow Rates, Lakes, Reservoirs, Chemical analysis, Sediments, Water Temperature, Water analysis, Water levels, Water wells, Data collections, Sites.

b. Identifiers/Open-Ended Terms

c. COSATI Field/Group

18. Availability Statement	19. Security Class (This Report)	21. No. of Pages
No restrictions on distribution This report may be purchased from: National Technical Information Service Springfield, VA 22161	Unclassified	284
	20. Security Class (This Page) Unclassified	22. Price

CONTENTS

ILLUSTRATIONS

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

[Letters after station name designates type of data: (d) discharge, (c) chemical, (t) water temperature, (s) sediment, (e) elevation, gage heights, or contents, (r) radiochemical.]

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

(Letter after local well number designates type of data: (l) water level, (c) chemical)

INTRODUCTION

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

This report, Volume 2, specifically contains (1) discharge records for 99 continuous record streamflow-gaging stations, 14 crest-stage partial-record stations, and 4 special study and miscellaneous streamflow sites; (2) elevation and contents records for 13 lakes and reservoirs; (3) water-quality records for 17 streamflow-gaging stations, for 10 ungaged streamsites, and for 16 wells or springs; and (4) water-level records for 39 observation wells.

Publications similar to this report are published annually by the Geological Survey for all States. For the purpose of archiving, these official reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report PA-88-2." These water-data reports, beginning with the 1971 water year, are for sale as paper copy or microfiche by the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

The annual series of Water Data Reports for Pennsylvania began with the 1961 water-year report and contained only data relating to quantities of surface water. Starting with the 1964 water year, a companion report (part 2) was introduced that contained only data relating to water quality. Beginning with the 1975 water year the report was changed to its present format of three volumes, with each volume containing data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to the introduction of this series and for several years concurrent with it, water-resources data for Pennsylvania were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States," which was released in numbered parts as determined by natural drainage basins. For the 1961-70 water years, the data were published in two 5-year reports. Data prior to 1961 are included in two reports: "Compilation of Records of Surface Waters of the United States through 1950," and "Compilation of Records of Surface Waters of the United States, October 1950 to September 1960." Data for Pennsylvania are published in Parts 1, 3, 4. Data on chemical quality, temperature, and suspended sediment for the 1941-70 water years were published annually under the title "Quality of Surface Waters of the United States," and ground-water levels for the 1935-74 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 U.S. Geological Survey, Books and Open-File Reports, Federal Center, Bldg. 41, Box 25425, Denver, Colorado 80225.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of title page or by contacting the District Hydrologic Information Specialist, telephone (717) 782-3851.

COOPERATION

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

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

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

Susquehanna River Basin Commission, Robert J. Bielo, Executive Director;

University Area Joint Authority, David A. Allison, Chairman;

Letort Regional Authority, Kenwood E. Giffhorn, Executive Director;

Lancaster County Planning Commission, John R. Ahlfeld, Planning Director;

City of Harrisburg, Stephen R. Reed, Mayor.

Federal Energy Regulatory Commission Licensees:
  Philadelphia Electric Co.,
  Susquehanna Electric Co.,
  Safe Harbor Water Power Corp.

The following Federal agencies assisted in the data-collection program by providing funds or services:

Corps of Engineers, U.S. Army, in collecting records for 25 streamflow-gaging stations, 11 reservoir stations, and 4 crest-stage gages;

National Weather Service, NOAA, U.S. Department of Commerce;

Soil Conservation Service, U.S. Department of Agriculture.

The following organizations aided in collecting records: City of Lancaster, Hershey Foods Corporation, P.H. Glatfelter Co., Pennsylvania Gas and Water Co., and York Water Co.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

The Susquehanna River flows generally southward from southern New York to the Chesapeake Bay in Maryland. At the point where the River enters Maryland, it drains 27,215 mi^2 (square miles). The majority of this area--20,962 mi^2--is located in central Pennsylvania. Streams in the basin are located in the Appalachian Plateau, Valley and Ridge, and Piedmont physiographic provinces. The underlying geology includes rocks of Precambrian to Triassic age.

Precipitation and Streamflow

Annual precipitation for the 1988 water year was below normal in the drainage basin. The basin wide total amounted to approximately 87 percent of normal. Most of the basin received below-normal precipitation for 8 or more months of the year. Of the below-normal months, precipitation in half was 1 or more inches below normal. The largest negative departures occurred in June; on the average, only 30 percent of the normal precipitation occurred. Figure 1 shows the National Oceanic and Atmospheric Administration's (NOAA) Climatological Divisions, and selected streamflow stations located within the Divisions. The figure presents a comparison of the June 1988 precipitation with the normal June precipitation for Divisions 4-8.

In contrast, May was the only month when precipitation 1 inch or greater above normal fell basinwide. Figure 2 shows the monthly precipitation departures from normal for NOAA Divisions 4-8. Precipitation data are from NOAA (1987-88) and local National Weather Service office records.

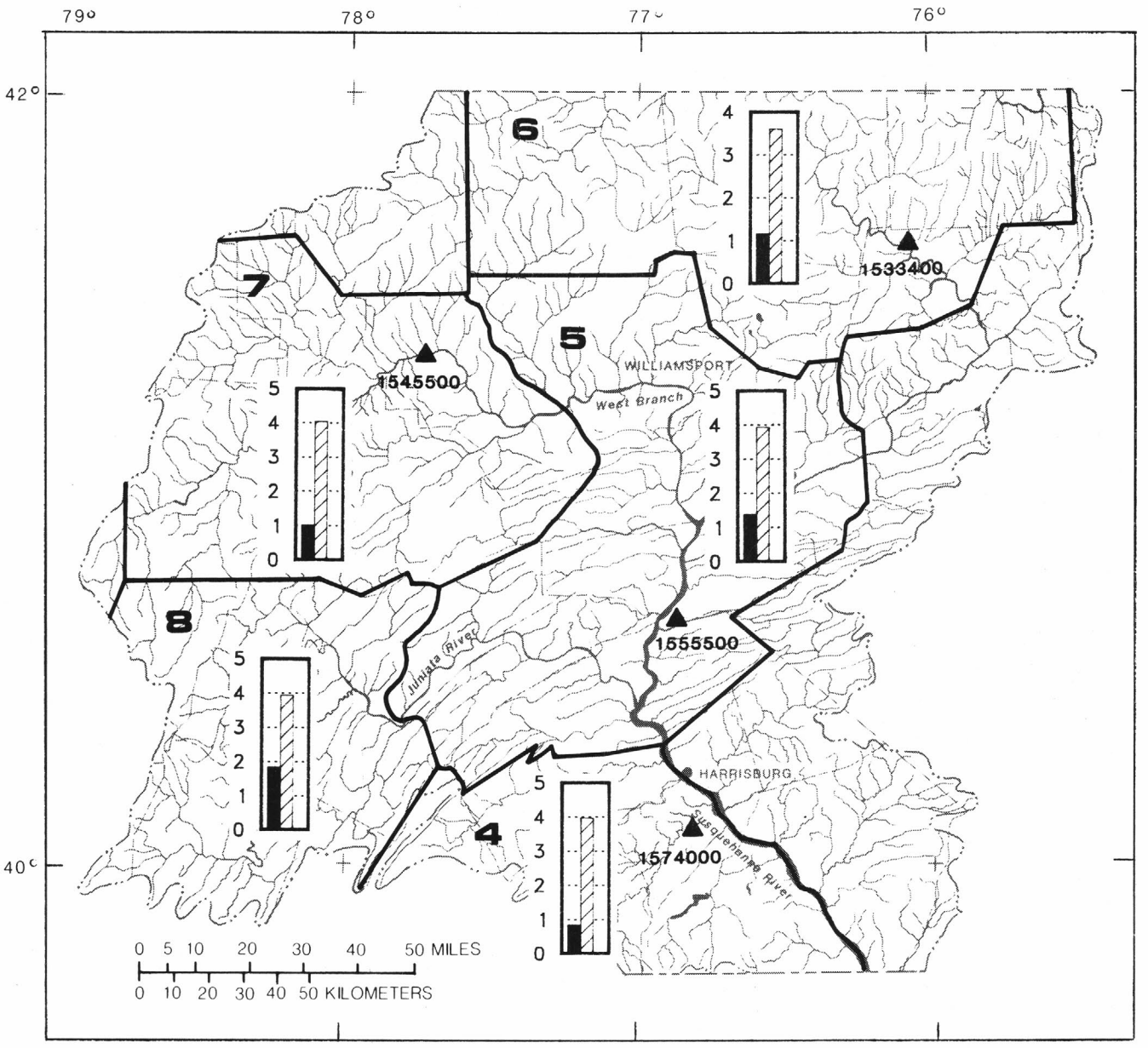
Monthly mean streamflows at four USGS gaging stations located in NOAA Divisions 4-7 were below the long-term median monthly flows about one-half of the year. Although no extreme low flows were recorded, the mean streamflow for April was well below the 25th percentile for long-term mean April flows. Figure 3 shows mean April 1988 streamflows and the 25th, 50th (median), and 75th percentiles of the long-term April streamflows for the four stations. A percentile indicates, in percent, the number of values expected to be equal to or less than the value correponding to that percentile. For example, the value corresponding to the 75th percentile would not be expected to be exceeded by 75 percent of the values, and 50 percent of the values are expected to fall within the limits of the 25th and 75th percentiles. In Divisions 6 and 7, streamflow for July was also below the 25th percentile for the Susquehanna River at Meshoppen (01533400) and for the West Branch Susquehanna River at Renovo (01545500).

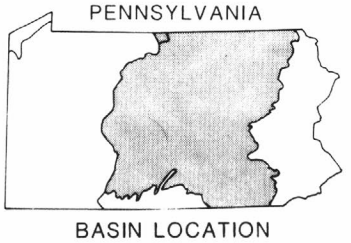
Surface-Water Quality

Surface-water-nutrient data collected during the 1988 water year at four special network stations were compared to data collected at those sites from 1980-87. Figure 4 presents statistical information about dissolved-nitrite plus nitrate-nitrogen concentrations, total-ammonia plus organic nitrogen concentrations, total-phosphorus concentrations, and streamflows at the time of sampling, during 1980-87 for those stations. Also shown are the median values for the 1988 water year.

For the 1988 water year, median dissolved-nitrite plus nitrate concentrations were above the median for the 1980-87 sample values at two stations and below the median at the two remaining stations. The median concentration sampled at Young Womans Creek was above the 75th percentile and the median concentration sampled at the West Branch Susquehanna at Lewisburg was below the 25th percentile. At Young Womans Creek, the median total-ammonia plus organic nitrogen concentration was substantially above the 50th percentile for 1980-87 sample values. The median total-ammonia plus organic nitrogen concentration for two of the remaining three stations was below the 25th percentile for 1980-87 values. Median total phosphorus concentrations at three of the four stations were above the 1980-87 median total-phosphorus concentrations. The median total-phosphorus concentration for the Susquehanna River at Danville was above the 95th percentile.

Several ongoing or completed studies in the lower Susquehanna River basin (Fishel and Lietman, 1986; Chichester, 1988) have demonstrated that land use can have a substantial influence on the nutrient concentrations in streams. Studies of surface-water quality in the Conestoga River, Pequea Creek, and Muddy Creek subbasins indicate that streams draining land areas having elevated concentrations of surface nutrients commonly have elevated nutrient concentrations during stormflow and baseflow conditions. Stormflow nitrogen and phosphorus concentrations appear to be responsive to the prevailing surface and near-surface conditions. Baseflow nitrogen concentrations appear to reflect land use conditions over a broader time period in conjunction with factors such as geology and season. Baseflow phosphorus concentrations also appear to be dependent on land use conditions.





EXPLANATION

- June 1988 precipitation
- Normal June precipitation
- NOAA Climatological Division boundary
- Basin boundary
- ▲ 1574000 Streamflow station and number

Figure 1.--Comparison of June 1988 and normal June precipitation in NOAA Climatological Divisions 4-8 and streamflow station locations.

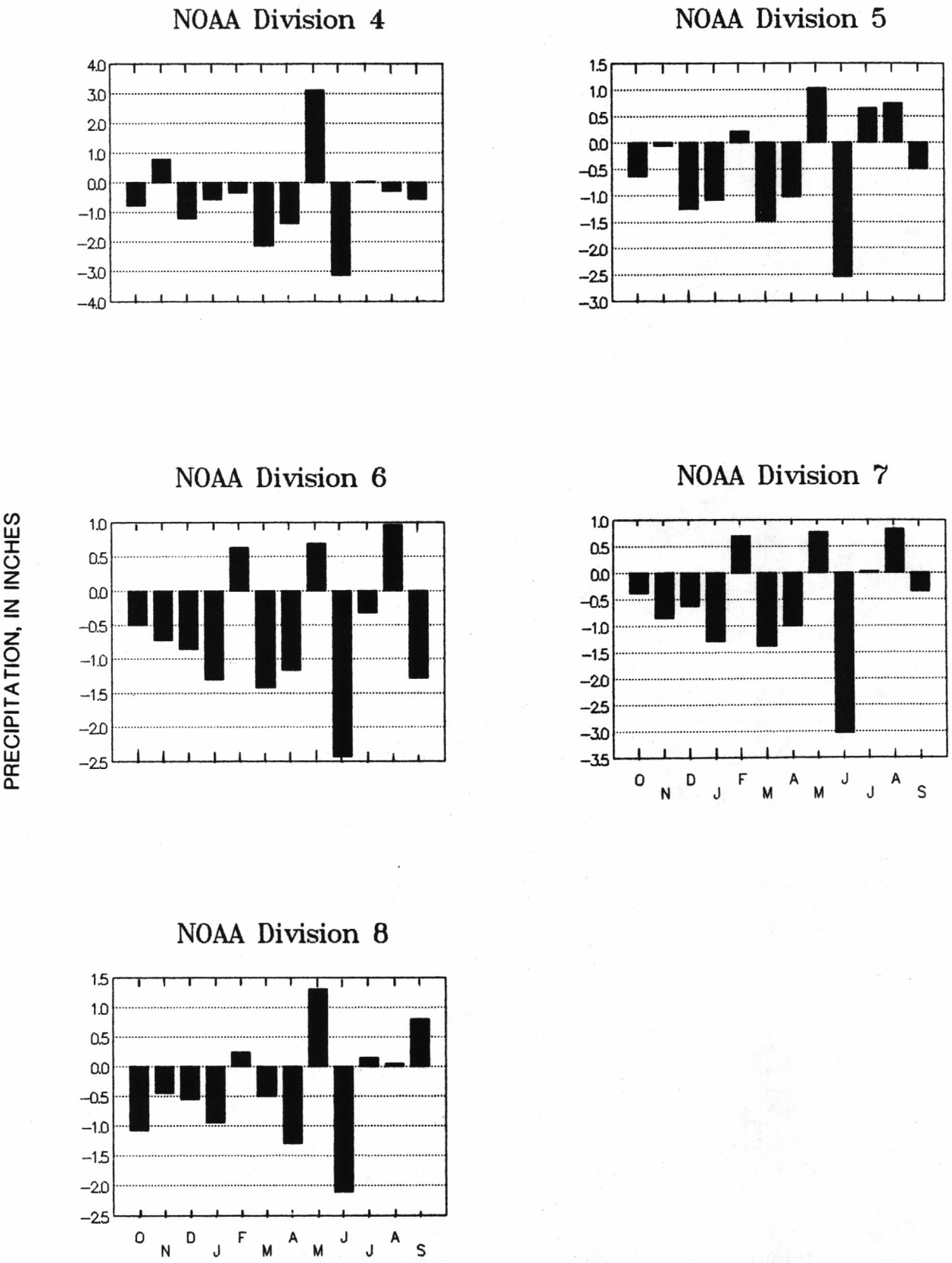


Figure 2.--Departures from normal precipitation by NOAA Divisions in the Susquehanna River basin for the 1988 water year.

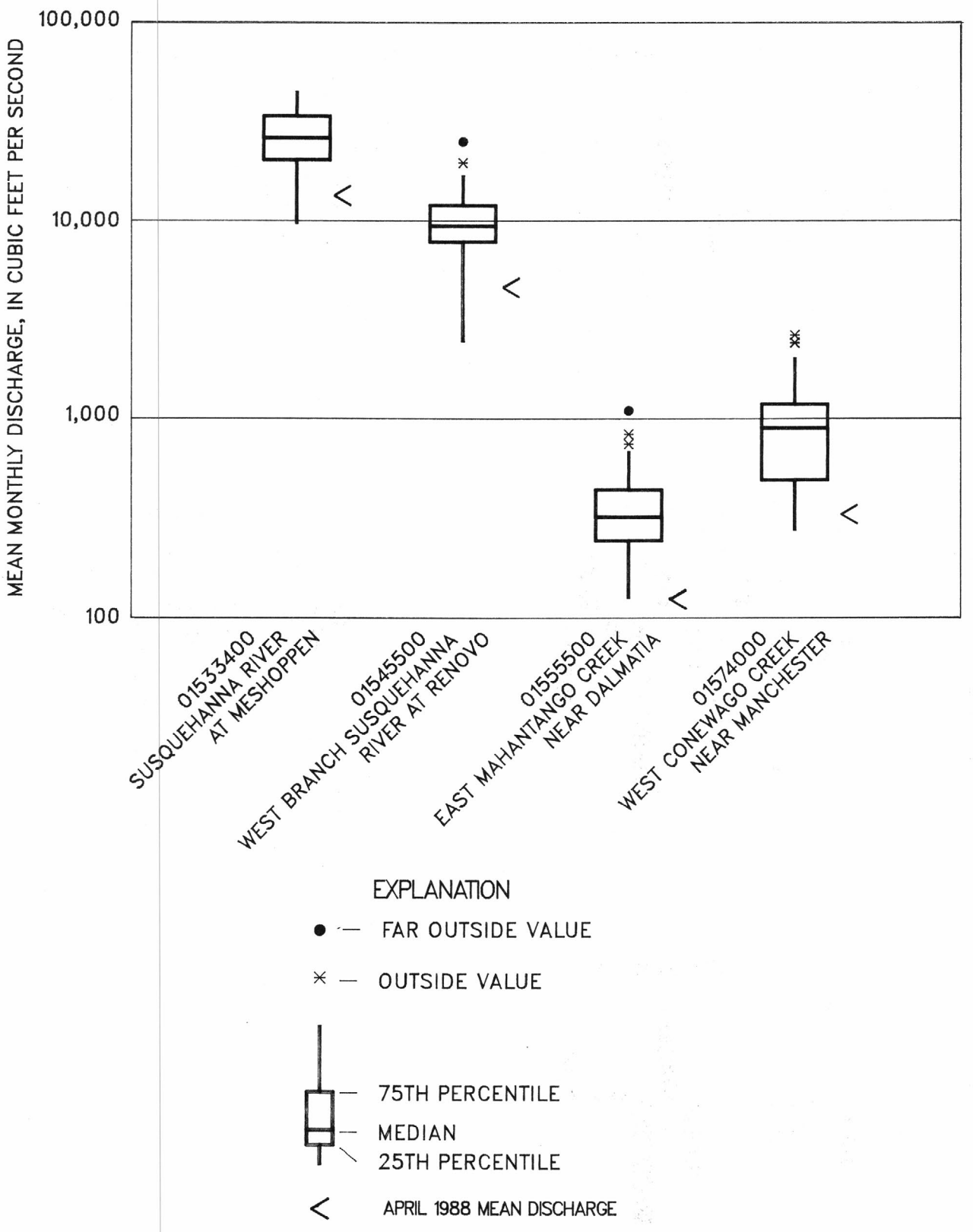


Figure 3.--Mean April discharges for the 1988 water year and the period of record at streamflow stations located in NOAA Divisions 4-7.

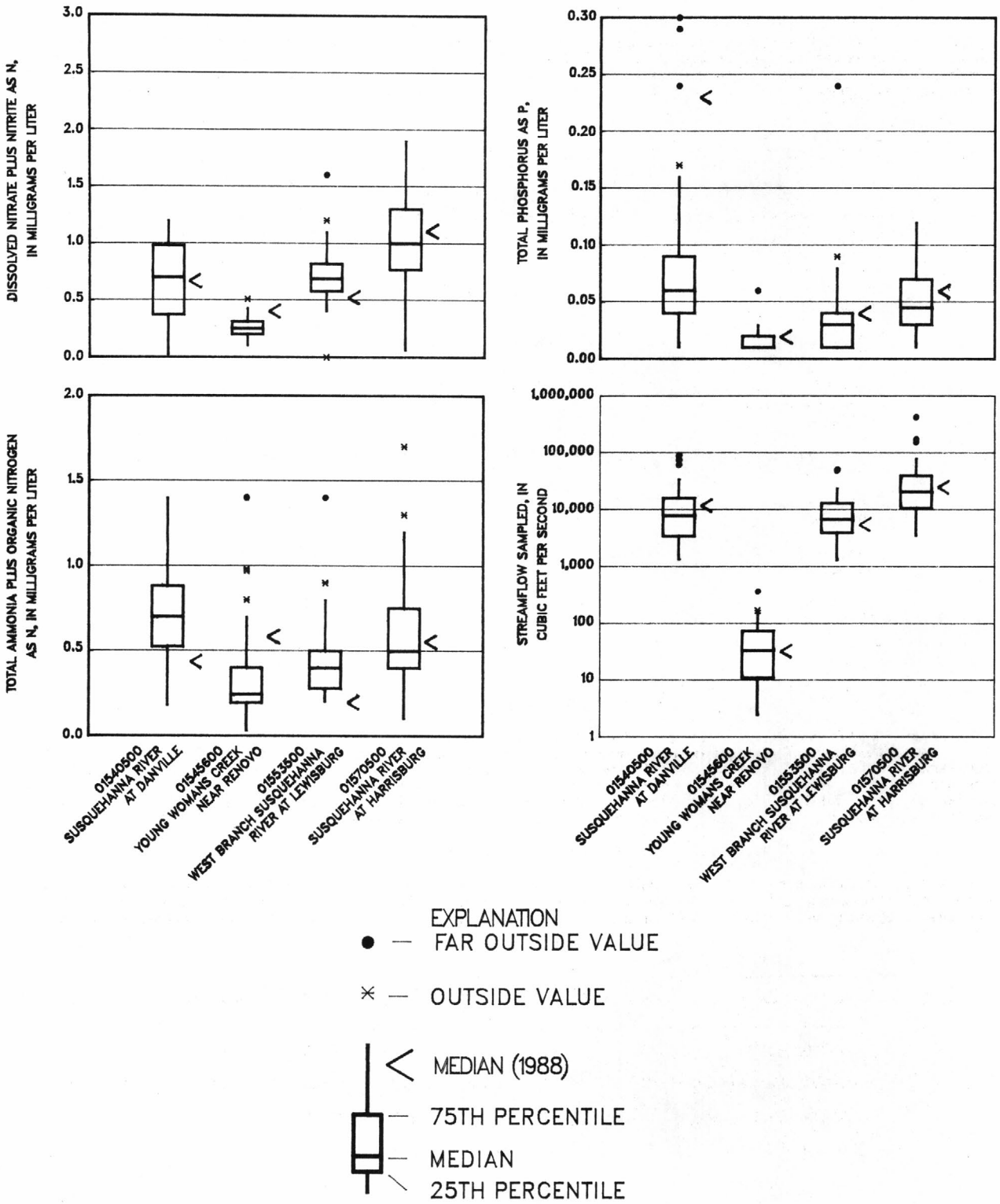


Figure 4.--Median for 1988 water year and interquartile values for 1980-87 of selected nutrients and streamflow at four water-quality network stations.

Reservoirs

The following table lists the mean annual storage and minimum contents of eight major reservoirs in the basin. For the 1988 water year, total storage in all the reservoirs was within 5 percent of their 1971-80 mean contents, with the exception of Curwensville Lake (01541180) and Foster Joseph Sayers Lake (01547480). The maximum departure from the 1971-80 mean contents was -16.3 percent at Foster Joseph Sayers Lake (01547480). All 1988 water-year minimum contents were greater than the 1971-80 average minimums.

	Mean contents (acre-feet)			Minimum contents (acre-feet)	
	1971-80	1988	Departure (percent)	1971-80	1988
Stillwater Lake (01534180)	680	677	-0.4	347	383
Curwensville Lake (01541180)	8,280	7,260	-12.3	1,610	4,750
Glendale Lake (01541340)	25,500	25,850	+1.4	14,700	24,720
First Fork Sinnemahoning Creek Reservoir (01543900)	2,210	2,330	+5.0	568	2,310
Kettle Creek Lake (01544800)	1,900	1,810	-4.7	1,260	1,760
Foster Joseph Sayers Lake (01547480)	20,900	17,490	-16.3	4,960	6,420
Raystown Lake (01563100)	504,000	515,000	+2.2	425,000	507,000
DeHart Reservoir (01568400)	17,800	17,370	-2.4	13,200	14,120

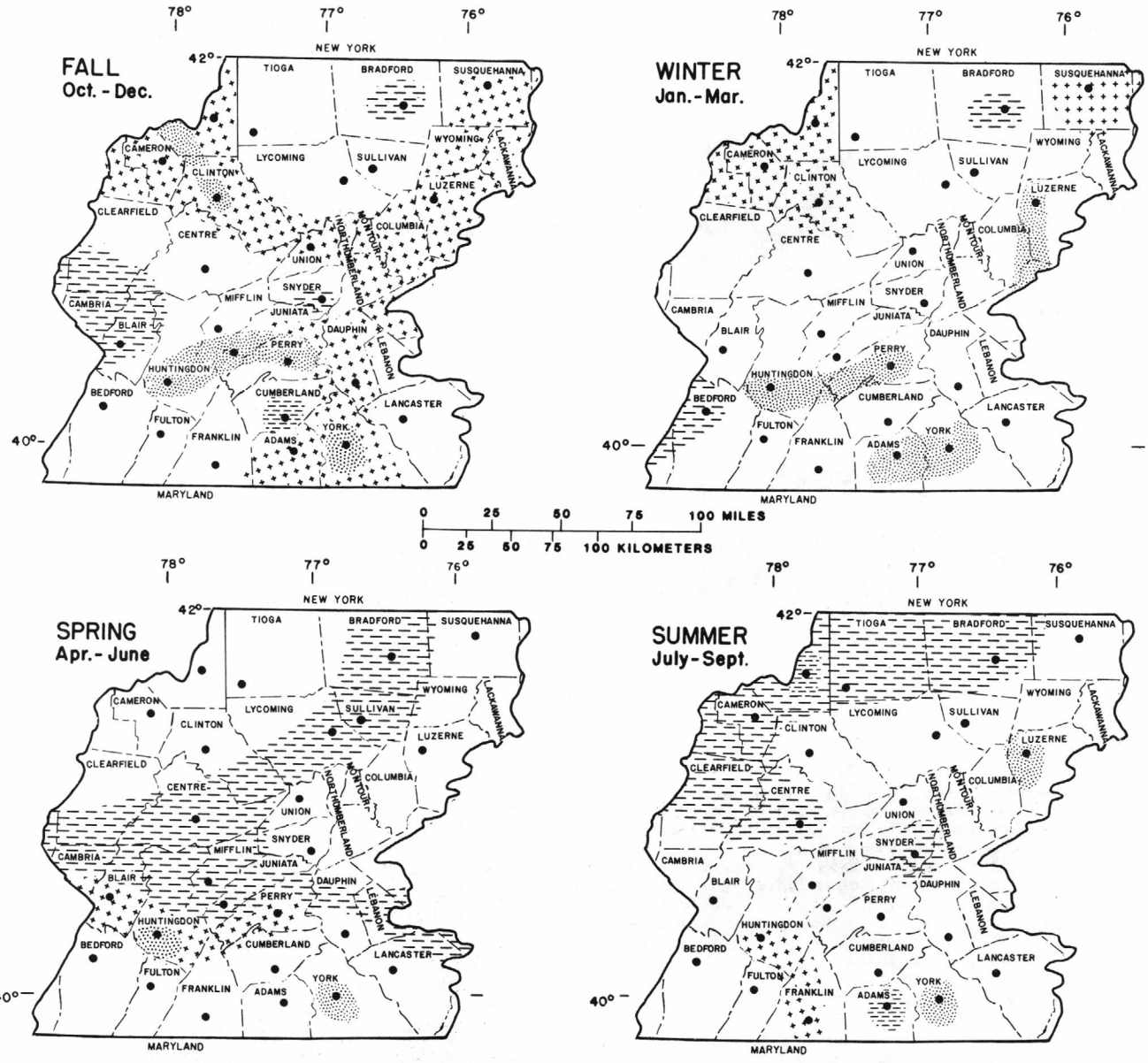
Ground Water

The geologic environment in which ground water occurs controls the availability of the water and its natural quality. The Susquehanna River basin is underlain predominantly with shale, sandstone, and limestone rock, and its aquifers are varied and complex. Within the basin, adjacent aquifers are usually only slightly related. For this reason, changes in ground-water quantity or quality generally are related only to causal factors within that particular aquifer. Additionally, hydrologic conditions in some aquifers may depend on conditions in the overlying soils. As a result, it commonly is difficult to define any basinwide trends.

Ground-Water Conditions

The following table presents ground-water-level data for seven wells in the Susquehanna River basin. The table includes the least, greatest, and average maximum depth below land surface for the period of record, as well as the 1988 water year average maximum depth below land surface and departure from the long-term average.

Well	County	Years of record	Maximum depth below land surface (feet) Least	Greatest	Average	1988WY	Departure 1988WY
DA-350	Dauphin	24	1.15	6.95	4.95	4.89	+0.06
HU-301	Huntingdon	19	48.82	55.96	53.93	53.09	+ .84
LN-514	Lancaster	25	16.92	35.47	32.14	31.18	+ .96
LU-243	Luzerne	33	36.08	58.70	53.48	52.30	+1.18
PO-72	Potter	20	5.20	39.12	20.61	20.58	+ .03
SU-34	Sullivan	22	7.42	31.12	26.74	27.06	- .32
UN-51	Union	18	25.26	42.24	38.14	38.22	- .08



EXPLANATION

GROUND-WATER LEVELS

- MUCH ABOVE NORMAL--More than one standard deviation above long-term water level
- ABOVE NORMAL--One-half to one standard deviation above long-term water level
- NORMAL--Within one-half standard deviation of long-term water level
- BELOW NORMAL--One-half to one standard deviation below long-term water level
- MUCH BELOW NORMAL--More than one standard deviation below long-term water level
- ● OBSERVATION WELL

Figure 5.--Relationship between mean 1988 seasonal water levels and long-term mean water levels.

Figure 5 shows the relation between the 1988 water-year seasonal mean ground-water levels and the long-term mean (normal) ground-water levels. The fall season shows normal or above normal levels over the majority of the basin. Ground-water levels declined through winter and spring with few exceptions. Most of the water levels were at or below normal by spring. Little change occurred in the ground-water levels in the basin between spring and summer. The exception was a group of wells in the northwest area of the basin that fell to below normal levels, and a group in the central area of the basin that rose to normal levels.

Ground-Water Quality

Two studies of ground-water quality in the Conestoga River basin document the presence of elevated concentrations of nitrate nitrogen in areas underlain by carbonate rock. Fishel and Lietman (1986) found that elevated levels of nitrate nitrogen were related to the presence of agriculture and carbonate geology. Mean nitrate concentrations in agricultural area wells were typically two to three times higher than wells in nonagricultural areas. Also, mean nitrate concentrations in wells located in carbonate rock were generally three times higher than in wells located in noncarbonate rock. Gerhart (1986) found that short-term nitrate concentrations were affected by surface-water infiltration through carbonate rock features such as fractures and sinkholes.

An ongoing study in the Conestoga River basin (Chichester, 1988) is being conducted to deter- mine whether nitrate concentrations in the ground water can be reduced by using different methods of surface application for nutrients.

References

Chichester, D.C., 1988, Evaluation of Agricultural Best-Management Practices in the Conestoga River Headwaters, Pennsylvania: U.S. Geological Survey Open-file Report 88-96, 36 p.

Fishel, D.K., and Lietman, P.L., 1986, Occurrence of Nitrate and Herbicides in Ground Water in the Upper Conestoga River Basin, Pennsylvania: U.S. Geological Survey Water-Resources Investigation 85-4202, 8 p.

Gerhart, J.M., 1986, Ground-water recharge and its effects on nitrate concentration beneath a manured field site in Pennsylvania: Ground Water, v.24, no.4, p. 483-9.

U.S. Department of Commerce, 1987-88, Climatological Data for Pennsylvania, Volume 92-93: National Oceanic and Atmospheric Administration, National Environmental Satellite, Data, and Information Service.

SPECIAL NETWORKS AND PROGRAMS

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

National Stream-Quality Accounting Network (NASQAN) is a data-collection network designed by the U.S. Geological Survey to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Most of the 500 or so sites in NASQAN are located at the downstream ends of hydrologic accounting units designed by the U.S. Geological Survey Office of Water Data Coordination in consultation with the Federal 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 in this report are for the 1988 water year that began October 1, 1987, and ended September 30, 1988. 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 location of these stations and wells are shown in figures 7-10. 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 in this report, whether streamsite or well, 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 Pennsylvania, for some miscellaneous surface-water sites where only random water-quality samples or discharge 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 main-stream station are listed before that station. A station on a tributary that enters between two main-stream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is situated with respect to the stream to which it is immediately tributary is indicated by an indention in a list of stations in the front of the report. Each indention represents one rank. This downstream-order system of indention 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 in downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. A station number can be from 8 to 15 digits in length and normally appears to the left of the station name. For example, an 8-digit number for a station such as 01570500, includes a 2-digit part number "01" plus a 6-digit downstream-order number "570500." The part number designates major river basins; for example, part "01" is the North Atlantic Slope basin.

Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote the degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. See figure 6 below.

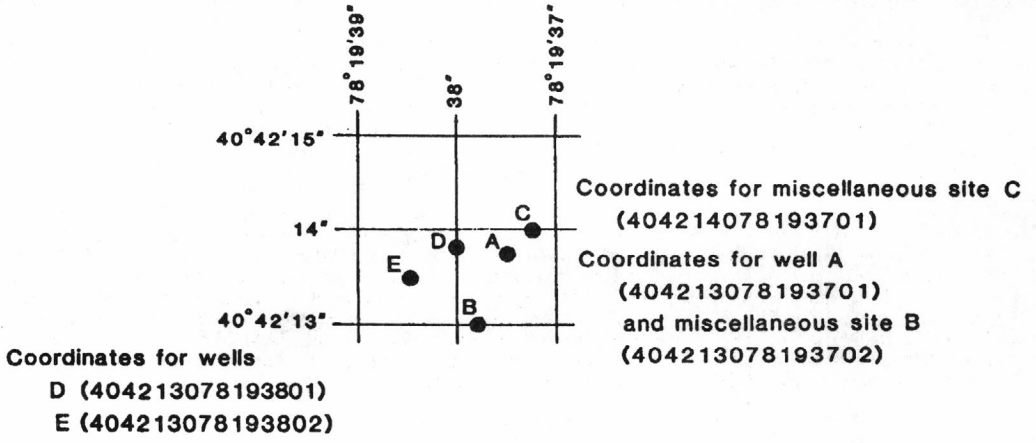


Figure 6.--System for numbering wells and miscellaneous sites (latitude and longitude).

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

Records of Stage and Water Discharge

Records of stage and water discharge may be continuous or partial. Continuous records of discharge are those obtained using a continuous stage-recording device through which either instantaneous water discharges may be computed for any time, or mean discharges may be computed for any period of time, during the period of record. Because daily mean discharges or, for reservoirs end-of-day contents, commonly are published for such 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-record stations," or "Low-flow partial-record stations." Records of miscellaneous discharge measurements or of measurements from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all continuous-record and partial-record stations for which data are given in this report are shown in figures 7, 8, and 10.

Data Collection and Computation

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

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage, with digital recorders that punch stage values on paper tapes at selected time intervals, or with Data Collection Platforms (DCP's) that electronically record and then transmit the data via satellite to ground receiving stations. 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 each recorded stage value (gage height) 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 to compute discharge.

When computing records of lake or reservoir contents, it is necessary to have available from surveys, curves or tables defining the relation between 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 relation changes because of deposition of sediment in the lake or reservoir, periodic surveys may be necessary to redefine the relation. Even when this is done, the contents computed may increase in error as the time elapsed since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relation much as other stream discharges are computed.

For some gaging stations, there are periods when no gage-height data are collected or when the recorded gage height is so imprecise or incorrect that it cannot be used to compute daily mean discharge or end-of-day contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information. Information explaining how estimated daily-discharge values are identified in station records is included in the next two sections, "Data Presentation" (REMARKS paragraph) and "Identifying Estimated Daily Discharge."

Data Presentation

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

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

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

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

REVISED RECORD.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

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

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

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

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

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 equal to or greater than a selected base discharge are presented under this heading. These peaks, excluding the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

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

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

The daily table for stream-gaging stations gives mean discharge for each day and is followed by monthly and yearly summaries. In the monthly summary below the daily table, the line headed "TOTAL" gives the sum of the daily figures. The line headed "MEAN" gives the average flow in cubic feet per second during the month. The lines headed "MAX" and "MIN" give the maximum and minimum daily discharges, respectively, for the month. Discharge for the month also is usually expressed in cubic feet per second per square mile (line headed "CFSM"), or in inches (line headed "IN."), or in acre-feet (line headed "AC-FT"). Figures for cubic feet per second per square mile and runoff in inches are ommitted if there is extensive regulation or diversion or if the drainage area includes large noncontributing areas. In the yearly summary below the monthly summary, the figures shown are the appropriate discharges for the calendar and water years. At some stations monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversions or reservoir contents are given. These figures are identified by a symbol and corresponding footnote.

Data collected at partial-record stations follow the information for continuous-record sites. Data for partial-record discharge stations are presented in two tables. The first is a table of annual maximum stage and discharge at crest-stage stations, and the second is a table of discharge measurements at low-flow partial-record stations. The tables of partial-record stations are followed by a listing of discharge measurements made at sites other than continuous-record or partial-record stations. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

The accuracy attributed to the records is indicated under "REMARKS." "Excellent" means that about 95 percent of the daily discharges are within 5 percent of 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 ft^3/s (cubic foot per second); to the nearest tenth from 1.0 to 10 ft^3/s; to whole numbers from 10 to 1,000 ft^3/s; and to 3 significant figures when greater than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

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

Other Records Available

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

Information on the availability of unpublished data or statistical analyses may be obtained from the District office (telephone number: 717-782-3851).

Records of Surface-Water Quality

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

Classification of Records

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

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figures 7 and 8.

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

During the collection of water-quality data, assurance that the data obtained represent the in-situ quality of the water is a major concern. Certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made onsite when the samples are collected. To assure that measurements made in the laboratory also represent the in-situ water, carefully prescribed procedures need to be followed when collecting the samples, when treating the samples to prevent changes in quality pending analysis, and when 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, Chapter D2; Book 3, Chapter C2; Book 5, Chapters A1, A3, and A4. All of these references are listed on a following page in this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the U.S. Geological Survey District Office.

One sample can define adequately the water quality at a given time if the mixture of solutes throughout the stream cross section is homogeneous. However, the concentration of solutes at different locations in the cross section may vary widely with different rates of water discharge, depending on the source of material and the turbulence and mixing of the stream. Some streams must be sampled through several vertical sections to obtain a representative sample needed for an accurate mean concentration and for use in calculating load. All samples collected for the National Stream Quality Accounting Network (see definitions) are obtained from several verticals. Whether samples are obtained from the centroid of flow or from several verticals, depends on flow conditions and other factors that must be evaluated by the collector.

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

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are determined from data that are recorded at 15-, 30-, or 60-minute intervals by digital recorders that punch each value on a paper tape, or with Data Collection Platforms (DCP's). More detailed records (hourly values) may be obtained from the U.S. Geological Survey District Office whose address is given on the back of the title page of this report.

Water Temperature

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

Sediment

Suspended-sediment concentrations are determined from samples collected by hand or by pump samplers. Samples are collected by hand using depth-integrating samplers at single or multiple verticals in the cross section. Samples are collected by pump samplers using an intake set to a fixed location in the cross section. The intake is located at a site that best represents the entire cross section on the basis of simultaneous samples collected at various stages by the pumping sampler and by hand. During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, every 15 minutes). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily discharges of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar discharge.

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

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

Laboratory Measurements

Sediment samples, samples for biochemical-oxygen demand (BOD), samples for indicator bacteria, and daily samples for specific conductance are analyzed locally. The remaining samples are analyzed in the Geological Survey laboratory in Arvada, Colorado. If other laboratories are used, they are identified in the "Remarks" or "Cooperation" paragraph of each water-quality station description. Methods used in analyzing sediment samples and computing sediment records are given in Techniques of Water Resources Investigations, Book 5, Chapter C1. Methods used by the Geological Survey laboratory are given in Techniques of Water Resources Investigations, Book 1, Chapter D2, Book 3, Chapter C2; Book 5, Chapters A1, A3, and A4. Methods used by other laboratories are approved by the U.S. Geological Survey, Water Resources Division.

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 constituents 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 streamflow-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 often 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 recorder, 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 constituents measured daily or more frequently. None are given for constituents measured less frequently, because the true maximums or minimums may not have been sampled. Extremes, when given, are provided for both the period of record and for the current water year.

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

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

Remark Codes

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

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

Records of Ground-Water Levels

Ground-water level data from a basic network of observation wells and from ground-water projects are published herein. Locations of observation wells in the basic network are shown in figures 7 and 10. The locations of observation wells for projects are shown in figure 9.

Data Collection and Computation

Water levels are measured 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 above the station description. The secondary identification number is the local well number, an alphanumeric number, derived from the county location of the well.

Water-level records are obtained from direct measurements with a steel tape, from the graph or punched tape of a water-stage recorder, or with Data Collection Platforms. The water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for each day.

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

Data Presentation

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

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

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

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

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

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

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

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

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

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

Records of Ground-Water Quality

Records of ground-water quality are obtained at wells and springs included in ground-water projects. Records of ground-water quality in this report may involve a variety of types of data and measurement frequencies. The locations of ground-water-quality stations are shown in figure 9.

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 collected by trained personnel.

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

Data Presentation

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

ACCESS TO WATSTORE DATA

The U.S. Geological Survey is the principal Federal water-data agency and, as such, collects and disseminates about 70 percent of the water data currently being used by numerous State, local, private, and other Federal agencies to develop and manage our water resources. As part of the Geological Survey's program of releasing water data to the public, a large-scale computerized system has been developed for the storage and retrieval of water data collected through its activities. The National WATer Data STOrage and REtrieval System (WATSTORE) was established in 1972 to provide an effective and efficient means for the processing and maintenance of water data collected through the activities of the U.S. Geological Survey and to facilitate release of the data to the public. A variety of useful products, ranging from data tables to complex statistical analyses such as Log Pearson Type III, can be produced using WATSTORE. The system resides on the central computer facilities of the U.S. Geological Survey at its National Center in Reston, Virginia, and consists of related files and data bases.

* Station Header File - Contains descriptive information on over 440,000 sites throughout the United States and its terratories where the U.S. Geological Survey collects or has collected data.

* Daily Values File - Contains over 220 million daily values of stream flows, stages, reservoir contents, water temperatures, specific conductances, sediment concentrations, sediment discharges, and ground-water levels.

* Peak Flow File - Contains approximately 500,000 maximum (peak) streamflow and gage-height values at surface-water sites.

* Water Quality File - Contains approximately 2 million analyses of water samples that describe the chemical, physical, biological, and radiochemical characteristics of both surface and ground water.

* Ground-Water Site Inventory Data Base - Contains inventory data for over 900,000 wells, springs, and other sources of ground water. The data includes site location, geohydrologic characteristics, well-construction history, and one-time field measurements such as water temperature.

In 1976, the U.S. Geological Survey opened WATSTORE to the public for direct access. The signing of a Memorandum of Agreement with the Survey is required to obtain direct access to WATSTORE. The system can be accessed either synchronously or asynchronously. The requestor will be expected to pay all computer costs he/she incurs. Direct access may be obtained by contacting:

U.S. Geological Survey
National Water Data Exchange
421 USGS National Center
Reston, Virginia 22092

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5-1/4 and 3-1/2 inch floppy disk. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division's District offices. (See address on the back of the title page.)

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also the table for converting Inch-pound units to International System (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 multi-celled plants, containing chlorophyll and lacking roots, stems, and leaves.

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

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

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

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

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warmblooded 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 ± 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

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

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

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 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).

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

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

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

Continuous record station is a station where streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses. Data may be collected continuously or periodically.

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)[1] is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

Cubic feet per second per square mile [$(ft^3/s)/mi^2$][1] 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.

Data Collection Platform (DCP) is an electronic instrument which collects, processes, stores, and transmits data from various sensors to an earth-orbiting Geostationary Operational Environmental Satellite (GOES) and/or through landline telemetry.

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.

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

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

Dissolved refers to that material in a representative water sample which passes through a 0.45 μm 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 specific location is that area, measured in a horizontal plane, enclosed by a topographic divide from which direct surface runoff from precipitation normally drains by gravity into the stream above the specified point. Figures of drainage area given herein include all closed basins, or noncontribution areas, within the area unless otherwise noted.

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

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

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

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations and is expressed as the equivalent concentration of calcium carbonate ($CaCO_3$).

---

[1]Until appropriate changes can be made to the WATSTORE and PRIME computer systems, the unit abbreviations "CFS" and "CFSM" will appear in some computer-generated table headings and summaries.

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

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

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

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

Miscellaneous record site is a site where limited streamflow and/or water-quality data are collected on a random basis for use in hydrologic analyses.

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).

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 unit area habitat, usually square meters (m^2), acres, or hectare. Periphyton, benthic organisms, and macrophytes are expressed in these terms.

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

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

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

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

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

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

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, fungicides, herbicides, and rodenticides.

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

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

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

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

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

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algal mats or floating "moss" in lakes. Their concentrations are expressed as number of cells 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 [mg C/(m^2.time)] for periphyton and macrophytes and [mg C/(m^3.time)] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg O/(m^2.time)] for periphyton and macrophytes and [mg O/(m^3.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.

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

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 only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

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

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

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

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) x discharge (ft^3/s) x 0.0027.

Suspended-sediment load is 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 ($Q_{7,10}$) 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 genrally 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 the solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in 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.

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

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

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

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

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

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

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

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

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

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

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 an instrument that records temperature whether on a chart, a tape, or any other medium.

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

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

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

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

Total 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 would be 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.

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, 1980, is called the "1980 water year."

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to a State annual hydrologic-data reports.

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 references 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. J. 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-A12. Fluorometric procedures for dye tracing, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 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-A16. Measurement of discharge using tracers, by F. A. Kilpatrick and E. D. Cobb: USGS--TWRI Book 3, Chapter A16. 1985. 52 pages.

3-A17. Acoustic velocity meter systems, by Antonius Laenen: USGS--TWRI Book 3, Chapter A17. 1985. 38 pages.

3-B1. Aquifer-test design, observation, and data analysis, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS--Continued

3-B2. Introduction to ground-water hydraulics, a programed test for self-instruction, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.

3-B3. Type curves for selected problems of flow to wells in confined aquifers, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

3-B5. Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems--An introduction, by O. L. Franke, T. E. Reilly, and G. D. Bennett: USGS--TWRI Book 3, Chapter B5. 1987. 15 pages.

3-B6. The principle of superposition and its application in ground-water hydraulics, by T. E. Reilly, O. L. Franke, and G. D. Bennett: USGS--TWRI Book 3, Chapter B6. 1987. 28 pages.

3-C1. Fluvial sediment concepts, by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.

3-C2. Field methods for measurement of fluvial sediment, by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.

3-C3. Computation of fluvial-sediment discharge, by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.

4-A1. Some statistical tools in hydrology, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.

4-A2. Frequency curves, by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.

4-B1. Low-flow investigations, by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.

4-B2. Storage analyses for water supply, by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.

4-B3. Regional analyses of streamflow characteristics, by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.

4-D1. Computation of rate and volume of stream depletion by wells, by C. T. Jenkins: USGS-TWRI Book 4, Chapter D1. 1970. 17 pages.

5-A1. Methods for determination of inorganic substances in water and fluvial sediments, by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.

5-A2. Determination of minor elements in water by emission spectroscopy, by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.

5-A3. Methods for analysis of organic substances in water, by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.

5-A4. Methods for collection and analysis of aquatic biological and microbiological samples, edited by P. E. Greeson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.

5-A5. Methods for determination of radioactive substances in water and fluvial sediments, by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.

5-A6. Quality assurance practices for the chemical and biological analyses of water and fluvial 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.

6-A1. A modular three-dimensional finite-difference ground-water flow model, by M. G. McDonald and A. W. Harbaugh: USGS--TWRI Book 6, Chapter A1. 1988. 586 pages.

7-C1. Finite difference model for aquifer simulation in two dimensions with results of numerical experiments, by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.

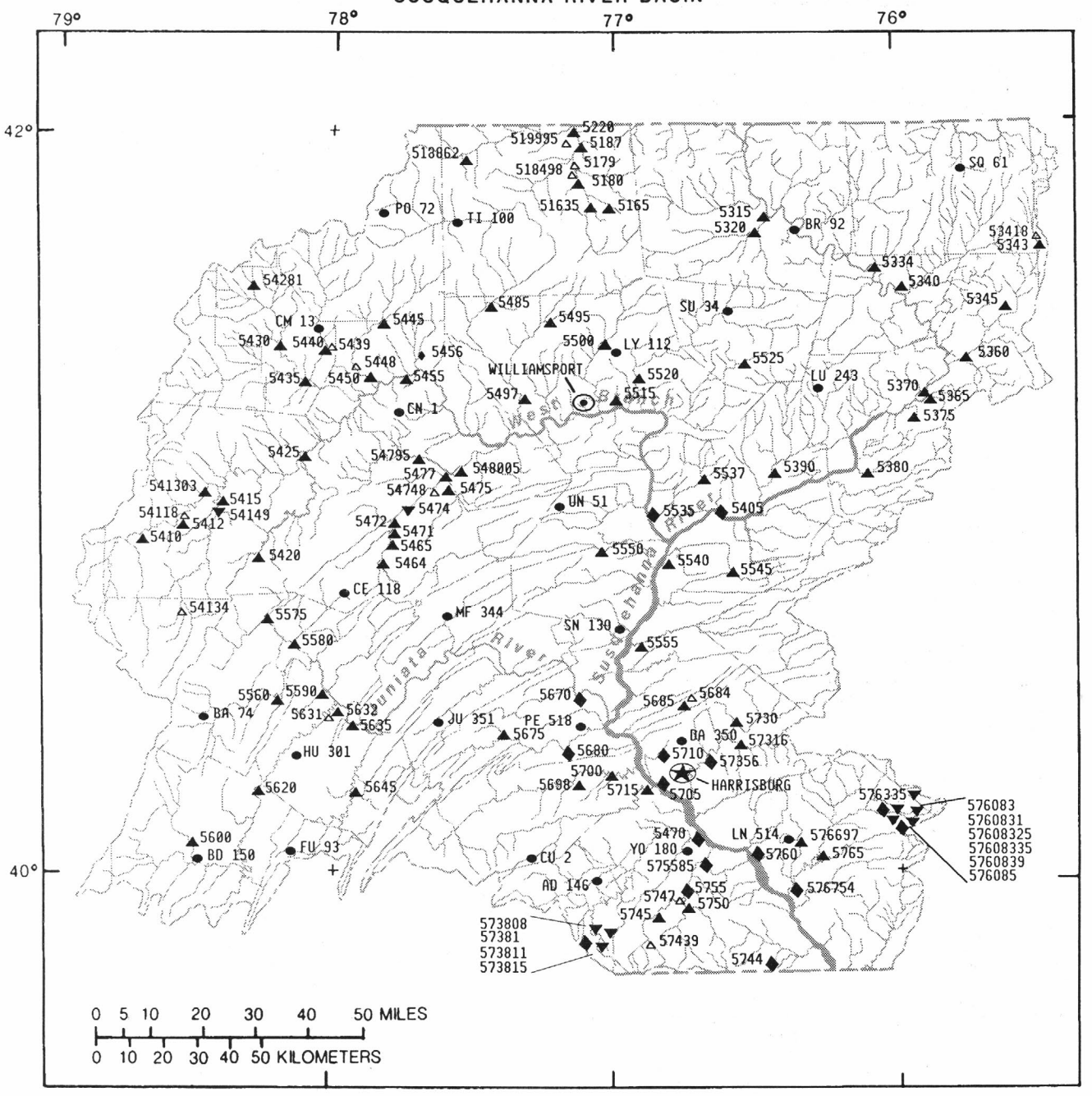
7-C2. Computer model of two-dimensional solute transport and dispersion in ground water, by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.

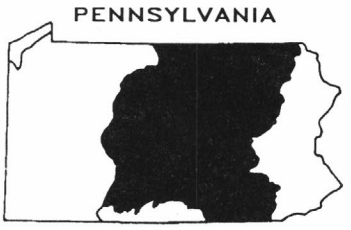
7-C3. A model for simulation of flow in singular and interconnected channels, by R. W. Schaffrannek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.

8-A1. Methods of measuring water levels in deep wells, by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.

8-A2. Installation and service manual for U.S. Geological Survey manometers, by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.

8-B2. Calibration and maintenance of vertical-axis type current meters, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.





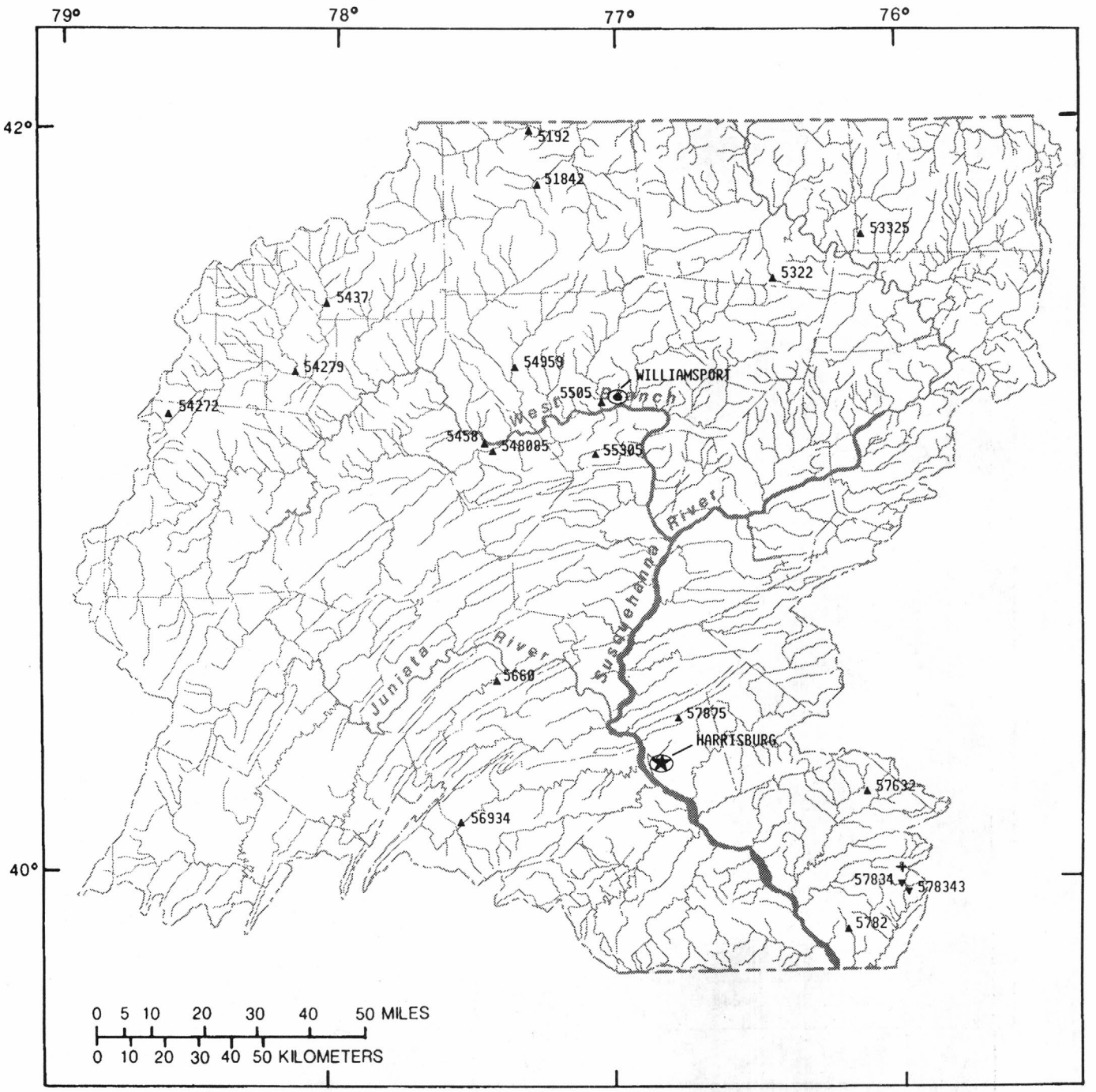
EXPLANATION

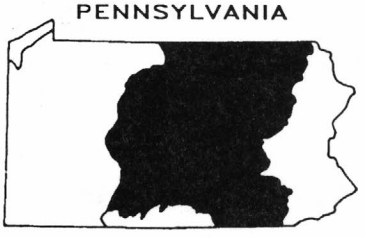
- ▲ 5745 Streamflow station and number
- ▼ 576335 Water-quality station and number
- ◆ 5774 Streamflow and water-quality station and number
- ● AD 146 Observation well and number
- △ 57439 Lake and number

NOTE - Downstream station numbers abbreviated: First two digits (part number), and last two digits (if zeros) are omitted.

EXAMPLE - Station number 01573560 is shown as 57356, station number 01570500 is shown as 5705.

Figure 7.--Location of continuous data-collection stations and network observation wells.





BASIN LOCATION

EXPLANATION

▲ 5745 Streamflow station and number

▼ 576335 Water-quality station and number

NOTE - Downstream station numbers abbreviated: First two digits (part number), and last two digits (if zeros) are omitted.

EXAMPLE - Station number 01573560 is shown as 57356, station number 01570500 is shown as 5705.

Figure 8.--Location of partial-record data-collection stations.

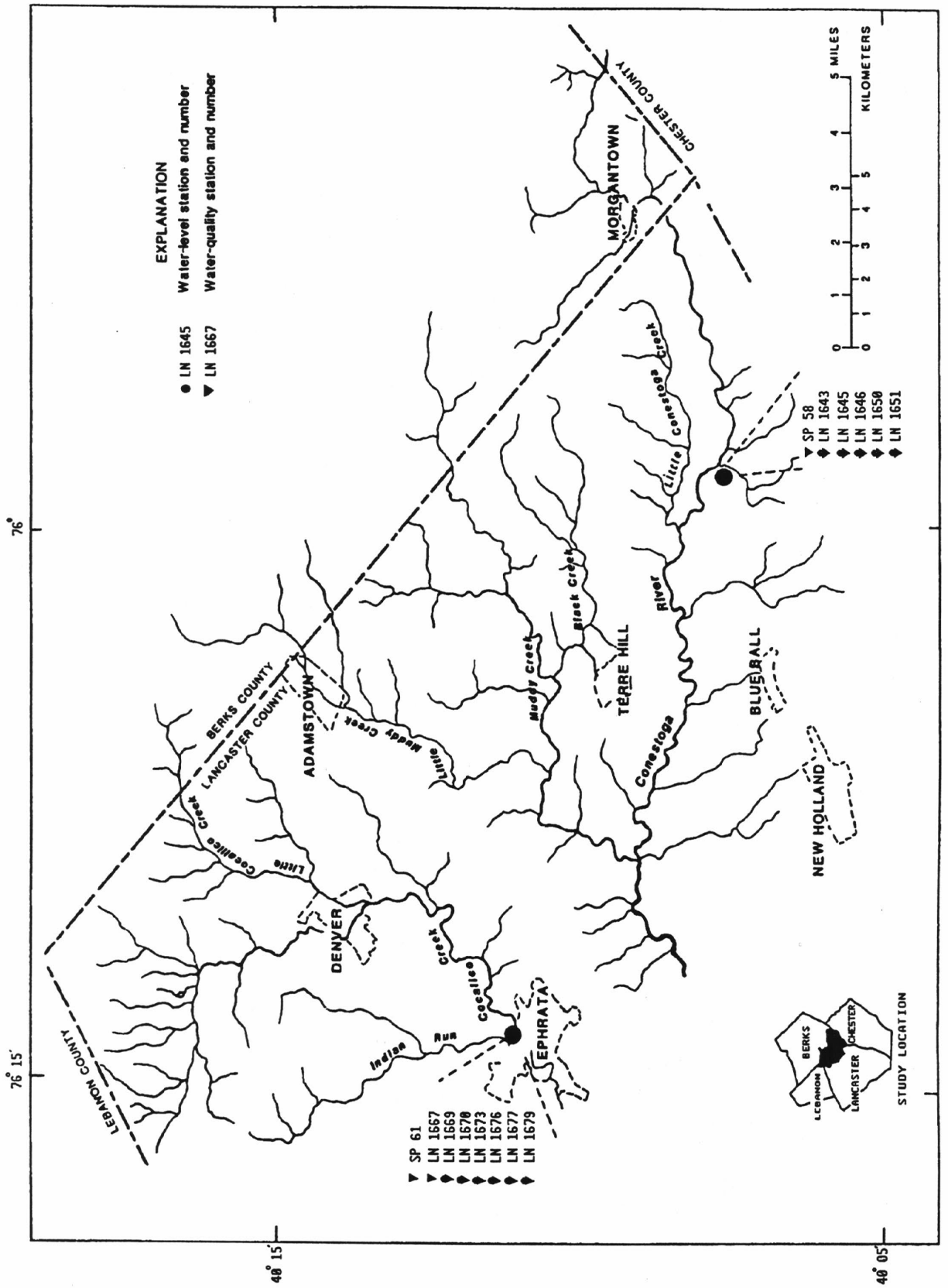
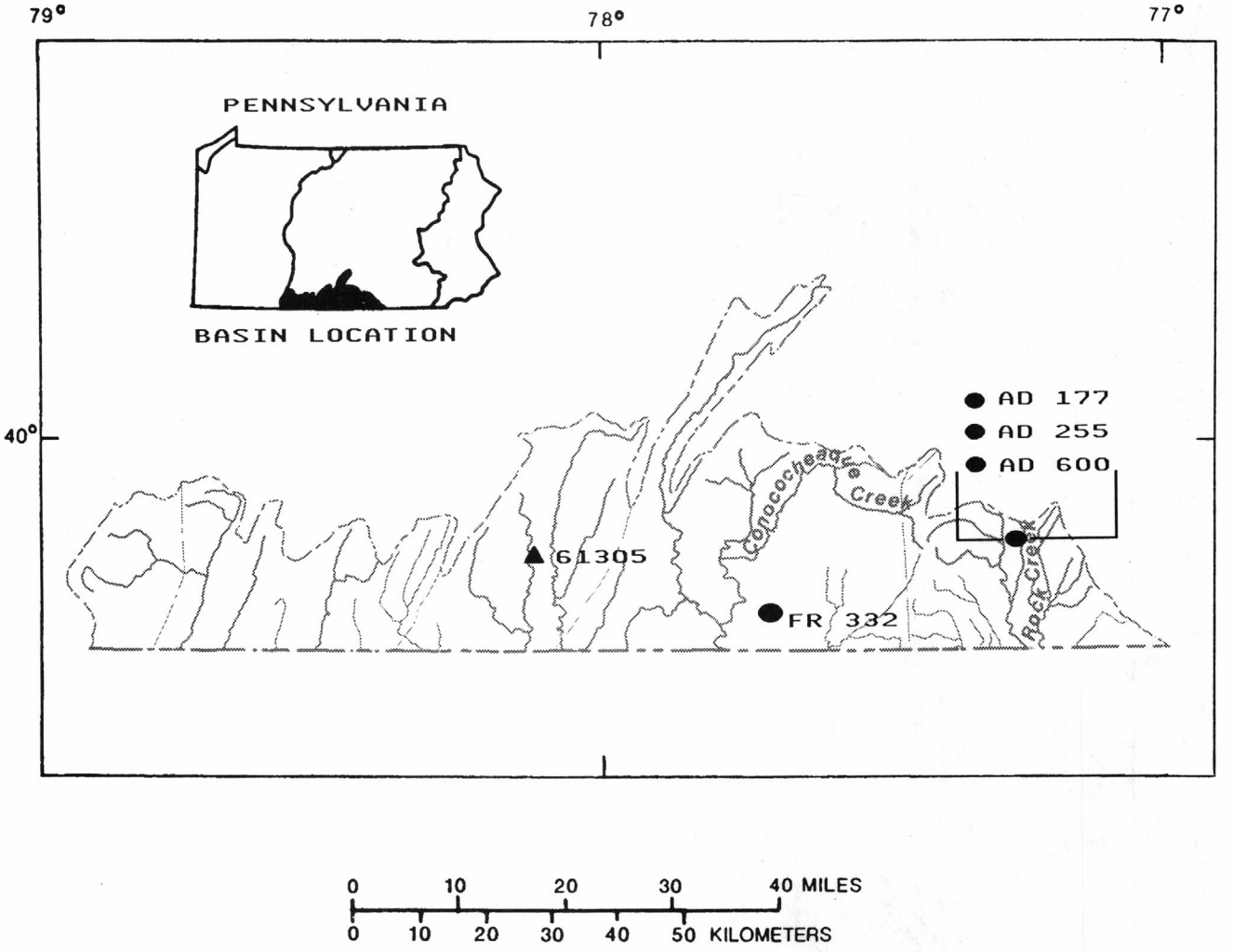


Figure 9.--Location of water-level and quality of ground-water data-collection stations in northern Lancaster county.



EXPLANATION

▲61305 Streamflow station and number

●FR 332 Observation well and local number

NOTE - Downstream station numbers abbreviated: First two digits (part number), and last two digits (if zeros) are omitted.

EXAMPLE - Station number 01613050 is shown as 61305, station number 01601000 is shown as 6010.

Figure 10.--Location of continuous and partial-record data-collection stations, Potomac River basin.

NORTH ATLANTIC SLOPE BASINS

SUSQUEHANNA RIVER BASIN

CHEMUNG RIVER BASIN

01516350 TIOGA RIVER NEAR MANSFIELD, PA

LOCATION.--Lat 41°47'34", long 77°04'44", Tioga County, Hydrologic Unit 02050104, on left bank on Township Route 754, 0.6 mi downstream from Slate Creek, and 1.0 mi south of Mansfield.

DRAINAGE AREA.--153 mi^2.

PERIOD OF RECORD.--July 1976 to current year.

REVISED RECORDS.--WDR PA-84-2: 1980-83 (P).

GAGE.--Water-stage recorder. Datum of gage is 1,121.28 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--12 years, 204 ft^3/s, 18.11 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,490 ft^3/s, Feb. 14, 1984, gage height, 14.68 ft, from rating curve extended above 6,000 ft^3/s; maximum gage height, 16.17 ft, May 14, 1978; minimum daily discharge, 9.6 ft^3/s, Sept. 20, 1983.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in September 1975 reached an approximate stage of 20.13 ft, from flood-marks, approximate discharge, 18,000 ft^3/s.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	1245	*9,300	*14.62	No other peak greater than base discharge.			

Minimum daily discharge, 15 ft^3/s, Aug. 5, 6, 11, 16, 22, 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	94	347	e150	426	92	299	195	118	24	19	50
2	59	88	280	e110	1050	81	283	151	118	24	17	39
3	75	85	232	e94	520	97	258	139	210	23	17	33
4	67	81	218	e92	369	119	266	130	226	22	16	36
5	55	76	190	e80	245	104	230	124	157	21	15	62
6	49	73	166	e78	186	110	199	216	120	20	15	49
7	119	70	146	e86	167	201	191	192	101	20	22	37
8	116	68	139	e84	e150	202	190	144	96	19	20	32
9	86	66	147	e80	e135	281	188	125	92	18	17	29
10	71	67	198	e75	e120	407	175	124	90	18	16	27
11	94	67	171	e71	e110	279	156	127	74	18	15	25
12	114	65	158	e68	e105	266	140	117	65	17	31	24
13	90	66	147	e72	e100	379	127	104	59	17	24	24
14	78	79	132	e62	e98	380	116	131	53	17	19	24
15	71	85	147	e56	e96	293	107	136	47	16	17	22
16	67	79	189	e60	e94	248	102	119	44	16	15	21
17	63	78	150	e66	e92	219	97	116	43	29	16	23
18	59	294	125	e70	e96	204	93	173	42	36	24	25
19	56	204	118	e100	e120	192	88	3930	40	25	23	23
20	53	166	155	e150	294	188	84	1790	38	22	18	23
21	54	135	192	e160	207	163	79	814	36	47	16	29
22	52	119	119	e110	133	145	74	586	34	59	15	27
23	48	119	141	e80	149	134	71	444	32	34	15	25
24	47	115	129	e64	152	152	177	486	32	31	26	24
25	45	110	146	e56	131	352	182	399	29	25	27	23
26	44	105	163	e54	107	1270	125	321	28	23	26	21
27	45	99	138	e52	99	733	86	258	28	23	22	20
28	284	94	128	e50	97	479	113	218	27	109	20	20
29	168	171	119	e50	95	386	120	189	26	29	274	19
30	121	646	109	e80	---	335	258	159	25	22	218	19
31	104	---	e130	e190	---	288	---	136	---	20	81	---
TOTAL	2528	3664	5069	2650	5743	8779	4674	12293	2130	844	1116	855
MEAN	81.5	122	164	85.5	198	283	156	397	71.0	27.2	36.0	28.5
MAX	284	646	347	190	1050	1270	299	3930	226	109	274	62
MIN	44	65	109	50	92	81	71	104	25	16	15	19
CFSM	.53	.80	1.07	.56	1.29	1.85	1.02	2.59	.46	.18	.24	.19
IN.	.61	.89	1.23	.64	1.40	2.13	1.14	2.99	.52	.21	.27	.21

CAL YR 1987 TOTAL 54223 MEAN 149 MAX 2690 MIN 14 CFSM .97 IN. 10.45
WTR YR 1988 TOTAL 50345 MEAN 138 MAX 3930 MIN 15 CFSM .90 IN. 12.24

e Estimated

01516500 COREY CREEK NEAR MAINESBURG, PA

LOCATION.--Lat 41°47'27", long 77°00'54", Tioga County, Hydrologic Unit 02050104, on right bank 30 ft upstream from bridge on Township Route 818, 500 ft upstream from small left-bank tributary, 1.1 mi west of Mainesburg, 3.5 mi east of Mansfield, and 4.2 mi upstream from mouth.

DRAINAGE AREA.--12.2 mi^2.

PERIOD OF RECORD.--May 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,337.50 ft above National Geodetic Vertical Datum of 1929. Prior to June 28, 1954, nonrecording gage at site 30 ft downstream at same datum.

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

AVERAGE DISCHARGE.--34 years, 12.3 ft^3/s, 13.69 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,580 ft^3/s, June 23, 1972, gage height, 10.44 ft, from flood-mark, from rating curve extended above 490 ft^3/s on basis of slope-area measurements at gage height 7.88 ft and at peak flow; no flow on many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 280 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	1215	*1,010	*6.03	No other peak greater than base discharge.			

Minimum daily discharge, 0.14 ft^3/s, Aug. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	2.4	14	e10	e25	e8.4	18	11	5.4	.75	.37	.97
2	2.4	2.3	12	e8.2	48	e8.0	16	10	7.8	.90	.35	.70
3	3.4	2.1	9.9	e7.0	32	e10	14	9.5	7.4	.74	.32	.60
4	2.7	2.1	9.6	e6.8	21	e9.6	15	8.9	9.1	.57	.27	1.3
5	2.2	2.1	8.6	e6.0	e18	e12	12	9.6	5.3	.46	.22	1.4
6	2.0	2.0	7.5	e5.4	e15	e16	11	13	4.0	.40	.18	.88
7	5.4	2.0	6.6	e5.0	e13	e20	10	11	3.5	.37	.41	.70
8	3.2	1.9	6.7	e4.5	e11	25	10	8.8	3.6	.34	.38	.57
9	2.4	1.8	8.4	e5.0	e9.8	39	10	8.1	3.6	.29	.25	.48
10	2.2	2.0	9.0	e4.5	e9.0	37	9.1	8.5	2.9	.28	.15	.32
11	3.6	2.0	7.7	e4.4	e8.2	22	8.1	8.4	2.5	.25	.18	.28
12	3.3	2.0	7.6	e4.2	e7.7	19	7.5	7.4	2.1	.25	1.6	.33
13	2.7	2.3	7.1	e4.3	e7.2	26	7.0	8.6	1.8	.21	.62	.46
14	2.2	2.7	6.4	e4.0	e7.2	22	6.6	11	1.5	.19	.50	.40
15	2.0	2.5	9.1	e3.6	e7.6	20	6.2	8.0	1.4	.22	.35	.28
16	1.8	2.3	10	e3.8	e7.2	16	6.0	7.6	1.4	.21	.14	.28
17	1.8	2.4	7.5	e4.0	e7.0	13	5.6	8.0	1.5	1.1	1.9	.37
18	1.7	6.6	6.2	e4.4	e6.7	12	5.6	11	1.3	.94	3.2	.61
19	1.7	4.3	6.0	e4.9	e7.8	10	5.3	268	1.1	.72	.91	.40
20	1.7	3.8	9.4	e5.5	e50	9.8	4.7	93	1.0	.72	.60	.48
21	1.7	3.2	9.5	e4.9	e30	e9.2	4.4	53	e.92	2.9	.48	.67
22	1.6	3.1	7.4	e3.9	e20	e8.4	4.1	39	e.85	1.7	.37	.61
23	1.6	2.8	7.1	e3.4	10	e7.6	5.2	27	e.80	.84	.37	.56
24	1.5	3.0	6.6	e3.1	e9.4	9.7	12	29	e.74	.77	1.5	.61
25	1.4	3.0	7.4	e2.8	e9.0	17	7.1	24	.60	.67	.88	.54
26	1.4	2.8	7.3	e2.5	e8.4	76	6.3	18	.56	.60	.62	.51
27	1.7	2.7	6.5	e2.3	e8.0	43	6.5	14	.62	.52	.45	.34
28	10	2.6	6.1	e2.2	e7.6	27	7.9	11	.60	.87	.38	.40
29	3.7	13	e5.8	e2.2	e7.6	21	10	8.7	.60	.56	14	.47
30	2.9	27	e7.0	e5.4	---	18	16	7.1	.69	.44	5.0	.33
31	2.6	---	e11	e15	---	15	---	5.7	---	.41	1.7	---
TOTAL	81.4	114.8	251.0	153.2	428.4	606.7	267.2	765.9	75.18	20.19	38.65	16.85
MEAN	2.63	3.83	8.10	4.94	14.8	19.6	8.91	24.7	2.51	.65	1.25	.56
MAX	10	27	14	15	50	76	18	268	9.1	2.9	14	1.4
MIN	1.4	1.8	5.8	2.2	6.7	7.6	4.1	5.7	.56	.19	.14	.28
CFSM	.22	.31	.66	.41	1.21	1.60	.73	2.03	.21	.05	.10	.05
IN.	.25	.35	.77	.47	1.31	1.85	.81	2.34	.23	.06	.12	.05

CAL YR 1987 TOTAL 3999.00 MEAN 11.0 MAX 356 MIN .83 CFSM .90 IN. 12.19
WTR YR 1988 TOTAL 2819.47 MEAN 7.70 MAX 268 MIN .14 CFSM .63 IN. 8.60

e Estimated

01518000 TIOGA RIVER AT TIOGA, PA

LOCATION.--Lat 41°54'30", long 77°07'47", Tioga County, Hydrologic Unit 02050104, on left bank 130 ft upstream from highway bridge on Township Route 667 at Tioga, 0.8 mi upstream from Crooked Creek, and 0.9 mi downstream from Tioga Dam.

DRAINAGE AREA.--282 mi^2.

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

REVISIONS.--WSP 871: 1938.

GAGE.--Water-stage recorder. Datum of gage is 1,021.0 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 9, 1953, at site 20 ft upstream at datum 2.11 ft higher. Sept. 9, 1953, to Aug. 10, 1954, at site 130 ft downstream at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Discharges include flow diverted from Crooked Creek into Tioga River since Oct. 1, 1977. Flow regulated since November 1979 by Tioga Dam (station 01517900). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,000 ft^3/s, June 22, 1972, gage height, 19.70 ft, from floodmark, from rating curve extended above 8,000 ft^3/s on basis of slope-area and contracted-opening measurement at gage height 15.47 ft, and slope-area measurement of peak flow; no flow Mar. 6, 1979, Aug. 29, 1980, result of shutoff at Tioga Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,540 ft^3/s, May 20, gage height, 6.60 ft; minimum daily, 36 ft^3/s, July 7, 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	127	108	686	183	386	288	619	533	307	50	56	125
2	170	141	535	183	1350	291	600	387	258	50	56	85
3	140	141	413	189	1190	345	590	304	166	50	56	69
4	68	141	372	178	695	465	586	247	274	50	55	97
5	65	138	372	166	540	436	486	186	365	49	51	108
6	64	131	351	154	392	373	369	339	349	41	48	84
7	62	122	304	131	314	423	369	307	268	36	48	84
8	102	118	251	128	322	604	364	233	193	36	48	76
9	134	116	217	124	380	899	364	269	135	e40	47	66
10	133	110	215	138	406	1320	372	290	135	e40	47	63
11	132	100	215	155	412	955	388	378	134	e40	45	60
12	157	98	418	167	395	786	331	426	108	e41	39	56
13	211	96	457	178	367	779	283	286	87	41	39	56
14	256	95	236	176	306	782	266	238	87	41	39	54
15	255	121	221	172	261	785	206	293	87	41	39	50
16	233	181	300	170	261	685	166	294	72	41	40	50
17	151	177	388	148	258	598	194	297	59	41	41	50
18	64	244	293	133	258	567	221	334	59	39	42	50
19	71	372	222	171	292	522	223	1500	59	40	42	50
20	77	372	218	218	344	494	224	4890	67	40	42	49
21	75	301	374	231	558	384	224	3520	73	42	42	49
22	72	160	390	232	689	295	184	3380	71	104	42	48
23	74	153	268	201	600	325	160	2680	61	88	42	45
24	83	150	365	174	498	327	207	1290	55	56	42	45
25	85	150	461	194	416	381	253	1700	54	56	42	45
26	85	150	461	194	340	1880	185	1020	54	57	42	45
27	85	149	235	161	297	1350	204	307	54	56	42	46
28	463	146	99	137	292	611	204	307	50	56	41	46
29	407	214	90	143	277	870	320	307	48	56	194	46
30	265	606	125	143	---	913	533	307	49	56	504	47
31	210	---	183	180	---	756	---	307	---	56	319	---
TOTAL	4576	5301	9735	5252	13096	20489	9695	27156	3838	1530	2272	1844
MEAN	148	177	314	169	452	661	323	876	128	49.4	73.3	61.5
MAX	463	606	686	232	1350	1880	619	4890	365	104	504	125
MIN	62	95	90	124	258	288	160	186	48	36	39	45

CAL YR 1987 TOTAL 122550 MEAN 336 MAX 5290 MIN 38
WTR YR 1988 TOTAL 104784 MEAN 286 MAX 4890 MIN 36

e Estimated

01518700 TIOGA RIVER AT TIOGA JUNCTION, PA

LOCATION.--Lat 41°57'09", long 77°06'56", Tioga County, Hydrologic Unit 02050104, on left bank 0.3 mi upstream from bridge on Township Route 722 at Tioga Junction, 3.3 mi downstream from Crooked Creek, and 5.0 mi downstream from Tioga and Hammond Dams.

DRAINAGE AREA.--446 mi^2.

PERIOD OF RECORD.--July 1976 to current year.

GAGE.--Water-stage recorder. Datum of gage is 990.43 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since November 1979 by Tioga Dam (01517900) and Hammond Dam (station 01518498). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeters at station.

AVERAGE DISCHARGE.--12 years, 510 ft^3/s, 15.53 in/yr, adjusted for storage since November 1979.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,900 ft^3/s, Feb. 25, 1977, gage height, 16.70 ft, from rating curve extended above 4,000 ft^3/s; minimum daily, 16 ft^3/s, Aug. 26, 27, 28, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of September 1975 reached a stage of about 22.1 ft, from floodmarks, discharge, about 48,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 7,030 ft^3/s, May 20, gage height, 13.60 ft; minimum daily, 22 ft^3/s, July 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	121	111	661	e190	378	286	691	579	305	49	65	151
2	182	151	531	e190	1400	288	664	433	275	48	65	106
3	169	148	400	e190	1370	350	654	320	177	47	64	82
4	85	144	357	e180	740	466	661	279	264	45	63	106
5	80	142	351	e170	595	441	555	215	365	45	58	131
6	77	135	339	e160	434	373	406	353	345	38	53	97
7	78	127	296	e140	e350	443	398	345	265	25	53	97
8	109	123	257	e140	333	623	389	250	204	22	53	91
9	150	122	222	e130	395	942	392	282	140	30	53	78
10	148	118	226	e150	414	1580	403	310	138	34	53	73
11	155	106	222	e160	416	1110	417	378	136	34	52	70
12	178	104	371	e180	394	881	354	427	115	35	44	65
13	225	102	e460	e180	370	899	299	317	87	36	42	64
14	265	102	e250	e180	316	902	276	243	88	36	41	61
15	263	114	e230	e180	269	882	232	303	87	36	39	57
16	240	180	e310	e180	269	752	184	307	76	38	42	57
17	181	178	e390	e160	266	644	207	314	58	43	46	57
18	77	228	e300	140	268	601	237	329	57	37	46	57
19	82	350	e225	174	299	552	236	2390	56	39	45	57
20	91	348	e225	244	376	517	236	6150	65	41	45	56
21	88	304	e380	256	562	420	236	3880	73	94	45	57
22	86	163	e390	247	715	312	200	3680	69	147	45	56
23	87	157	273	221	606	351	171	3030	59	159	46	52
24	102	155	343	186	516	359	212	1710	51	70	48	49
25	102	154	449	211	408	420	281	1950	49	67	46	50
26	102	154	443	211	350	1980	193	1350	49	73	45	50
27	103	150	274	e180	311	1690	218	350	49	101	45	51
28	377	149	121	e150	301	682	223	335	47	75	48	49
29	445	206	108	e160	279	975	326	327	47	69	195	50
30	264	606	e160	159	---	1020	613	315	49	68	510	53
31	234	---	e190	193	---	836	---	309	---	68	342	---
TOTAL	4946	5331	9754	5592	13700	22577	10564	31760	3845	1749	2437	2130
MEAN	160	178	315	180	472	728	352	1025	128	56.4	78.6	71.0
MAX	445	606	661	256	1400	1980	691	6150	365	159	510	151
MIN	77	102	108	130	266	286	171	215	47	22	39	49
MEAN‡	163	205	319	149	434	745	377	1023	125	61.3	70.1	61.1
CFSM‡	.37	.46	.72	.33	.97	1.67	.85	2.29	.28	.14	.16	.14
IN.‡	.43	.51	.83	.38	1.05	1.93	.95	2.64	.31	.16	.18	.16

CAL YR 1987 TOTAL 135601 MEAN 372 MAX 5870 MIN 42 MEAN‡ 373 CFSM‡ .84 IN.‡ 11.36
WTR YR 1988 TOTAL 114385 MEAN 313 MAX 6150 MIN 22 MEAN‡ 312 CFSM‡ .70 IN.‡ 9.54

e Estimated

‡ Adjusted for change in contents in Tioga and Hammond Lakes.

01518862 COWANESQUE RIVER AT WESTFIELD, PA

LOCATION.--Lat 41°55'23", long 77°31'56", Tioga County, Hydrologic Unit 02050104, on left bank 800 ft downstream from Mill Creek, at Westfield, and 0.5 mi upstream from bridge on State Highway 49.

DRAINAGE AREA.--90.6 mi^2.

PERIOD OF RECORD.--August 1983 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,337.58 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--5 years, 89.3 ft^3/s, 13.39 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,050 ft^3/s, Aug. 13, 1984, gage height, 8.47 ft, from flood-marks, from rating curve extended above 1,000 ft^3/s; minimum daily, 1.2 ft^3/s, Aug. 23, 1988.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	1315	*1,360	*4.21				

Minimum daily discharge, 1.2 ft^3/s, Aug. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	35	147	e80	e170	e58	170	73	50	4.6	11	6.1
2	56	35	134	e64	e450	83	151	66	55	5.2	8.4	4.5
3	128	35	116	e56	e350	119	147	62	47	4.9	6.6	3.6
4	69	35	110	e54	e260	99	217	59	49	3.8	5.5	7.9
5	56	36	98	e48	e200	94	158	62	38	3.6	4.6	12
6	49	36	87	e46	e150	107	143	79	30	3.4	4.3	7.8
7	63	37	78	e52	e120	123	135	63	28	2.8	4.8	5.7
8	58	42	76	e50	e110	171	127	55	29	2.7	4.3	4.9
9	48	40	108	e48	e100	266	117	52	28	2.4	3.6	4.2
10	43	40	113	e43	e90	257	102	64	25	2.1	3.0	3.8
11	106	38	93	e35	e82	201	92	57	22	2.0	2.9	3.0
12	83	38	90	e31	e76	189	83	51	20	2.2	2.7	3.0
13	68	40	89	e29	e70	239	76	47	17	2.0	2.4	3.2
14	60	40	80	e27	e66	190	69	49	14	2.0	2.2	3.8
15	55	37	86	e25	e66	160	65	45	11	1.7	1.9	2.9
16	51	35	95	e27	e64	147	61	52	11	1.9	1.7	2.4
17	47	36	79	e30	e62	122	57	57	12	6.8	1.7	2.4
18	43	125	70	e44	e62	110	56	87	11	7.8	1.9	3.2
19	41	78	64	e76	e86	103	52	540	9.2	4.8	1.7	3.3
20	38	73	158	e170	e72	96	47	373	8.2	5.7	1.3	3.5
21	36	64	173	e190	e86	e85	44	312	6.5	62	1.4	4.1
22	34	101	118	e120	e100	e80	42	271	6.3	33	1.3	3.7
23	33	72	112	e100	e76	78	53	198	8.5	17	1.2	4.7
24	31	61	101	e90	e62	122	95	225	8.3	27	3.9	6.2
25	34	58	103	e76	e56	187	63	171	6.3	17	3.1	4.9
26	32	58	99	e58	e52	480	52	141	6.3	15	3.3	4.1
27	30	54	83	e54	e52	420	50	116	6.3	15	3.6	3.6
28	67	51	78	e52	e50	276	57	96	5.5	81	10	3.4
29	46	166	e74	e49	e46	221	64	80	4.6	27	23	3.1
30	41	201	e60	e56	---	187	94	67	4.2	18	18	3.0
31	39	---	e58	e74	---	157	---	56	---	18	8.8	---
TOTAL	1628	1797	3030	1954	3286	5227	2739	3726	577.2	402.4	154.1	132.0
MEAN	52.5	59.9	97.7	63.0	113	169	91.3	120	19.2	13.0	4.97	4.40
MAX	128	201	173	190	450	480	217	540	55	81	23	12
MIN	30	35	58	25	46	58	42	45	4.2	1.7	1.2	2.4
CFSM	.58	.66	1.08	.70	1.25	1.86	1.01	1.33	.21	.14	.05	.05
IN.	.67	.74	1.24	.80	1.35	2.15	1.12	1.53	.24	.17	.06	.05

CAL YR 1987 TOTAL 27802.9 MEAN 76.2 MAX 725 MIN 3.8 CFSM .84 IN. 11.42
WTR YR 1988 TOTAL 24652.7 MEAN 67.4 MAX 540 MIN 1.2 CFSM .74 IN. 10.12

e Estimated

01520000 COWANESQUE RIVER NEAR LAWRENCEVILLE, PA

LOCATION.--Lat 41°59'48", long 77°08'25", Tioga County, Hydrologic Unit 02050104, on left bank on SR 4022, 0.5 mi downstream from Cowanesque Dam, 0.8 mi upstream from highway bridge on U.S. Route 15 in Lawrenceville, and 1.4 mi upstream from mouth.

DRAINAGE AREA.--298 mi^2.

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

REVISED RECORDS.--WDR PA-72-1: 1971(M).

GAGE.--Water-stage recorder. Datum of gage is 983.96 ft above National Geodetic Vertical Datum of 1929. Prior to July 1976 at site 1.1 mi upstream at datum 14.07 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since December 1979 by Cowanesque Dam (station 01519995). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeters at station.

AVERAGE DISCHARGE.--37 years, 290 ft^3/s, 13.22 in/yr, adjusted for storage since December 1979.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 43,700 ft^3/s, Sept. 26, 1975, gage height, 18.13 ft, site and datum then in use, from floodmark, from rating curve extended above 6,000 ft^3/s on basis of slope-area measurement of peak flow; minimum discharge before construction of Cowanesque Dam, 0.8 ft^3/s, Aug. 31, Sept. 1, 27, 1964; no flow Aug. 22, 1978, during dam construction.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,740 ft^3/s, Mar. 26, gage height, 10.31 ft; minimum daily, 10 ft^3/s, July 9, 10, 14-16, 18, Aug. 20-23, 25, 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139	98	444	115	378	173	496	309	105	14	21	12
2	79	84	366	195	881	144	563	185	84	13	21	15
3	221	70	351	190	562	305	511	185	103	13	19	20
4	308	70	340	156	436	435	833	177	144	13	18	27
5	156	76	252	80	308	250	584	158	125	13	18	33
6	28	90	206	48	192	217	438	199	73	13	18	33
7	98	72	195	44	183	377	470	203	58	13	18	32
8	150	66	171	66	206	528	425	151	57	11	18	30
9	146	88	252	64	237	1060	365	117	57	10	18	29
10	119	108	363	55	197	1100	311	108	74	10	18	28
11	251	106	291	58	195	741	272	143	51	11	19	29
12	297	87	224	64	163	751	236	147	37	11	19	30
13	106	67	238	61	148	791	185	123	36	11	18	30
14	140	64	214	54	140	781	181	112	25	10	18	27
15	148	61	219	50	153	541	156	108	24	10	18	25
16	117	63	285	48	163	429	154	99	20	10	18	25
17	102	85	285	41	152	361	148	135	15	11	19	25
18	122	196	174	50	147	324	131	181	15	10	21	25
19	96	256	117	67	157	284	122	1700	15	11	16	24
20	64	159	277	164	199	296	109	2710	15	11	10	24
21	90	115	601	307	298	207	95	2580	20	99	10	21
22	90	94	444	153	229	143	90	2020	16	270	10	18
23	83	114	317	99	184	232	97	1070	18	36	10	19
24	64	159	313	73	281	276	271	1030	18	41	11	19
25	55	159	308	85	257	446	257	732	18	32	10	18
26	55	159	274	84	170	1850	190	520	18	39	10	18
27	72	132	239	61	155	1550	131	359	18	67	11	18
28	227	117	216	61	146	1090	129	289	15	28	13	18
29	179	178	203	61	132	717	265	247	13	42	16	18
30	98	919	162	76	---	567	364	209	14	86	14	18
31	99	---	61	153	---	480	---	144	---	77	13	---
TOTAL	3999	4112	8402	2883	7049	17446	8579	16450	1301	1046	491	708
MEAN	129	137	271	93.0	243	563	286	531	43.4	33.7	15.8	23.6
MAX	308	919	601	307	881	1850	833	2710	144	270	21	33
MIN	28	61	61	41	132	143	90	99	13	10	10	12
MEAN‡	129	137	270	93.8	243	563	287	529	47.4	37.3	14.2	13.7
CFSM‡	.43	.46	.91	.31	.82	1.89	.96	1.78	.16	.13	.05	.05
IN.‡	.50	.51	1.05	.36	.88	2.18	1.07	2.05	.18	.15	.06	.06

CAL YR 1987 TOTAL 82154 MEAN 225 MAX 3300 MIN 11 MEAN‡ 225 CFSM‡ .76 IN.‡ 10.27
WTR YR 1988 TOTAL 72466 MEAN 198 MAX 2710 MIN 10 MEAN‡ 198 CFSM‡ .66 IN.‡ 9.05

‡ Adjusted for change in contents in Cowanesque Lake.

RESERVOIRS IN CHEMUNG RIVER BASIN

01517900 TIOGA LAKE.--Lat 41°53'57", long 77°08'21", Tioga County, Hydrologic Unit 02050104, at Tioga Dam on Tioga River, 0.8 mi south of Tioga, and 1.7 mi upstream from Crooked Creek. DRAINAGE AREA, 280 mi^2. PERIOD OF RECORD, November 1979 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by rolled earth and rockfill dam. Flood flows are routed to Hammond Lake through a connecting channel with weir at elevation 1,101.0 ft and to Hammond Dam spillway with crest at elevation 1,131.0 ft. Storage began in November 1979. Capacity at elevation 1,131.0 ft is 62,000 acre-ft. Recreation lake elevation is 1,081.0 ft, capacity 9,500 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Flow is regulated by two service gates and low-flow by-pass system. U.S. Army Corps of Engineers satellite and landline telemeters at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 32,560 acre-ft, Feb. 16, 1984, elevation, 1,109.34 ft; minimum, 2,210 acre-ft, Oct. 25, 1980, elevation, 1,060.05 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 17,920 acre-ft, May 19, elevation, 1,094.40 ft; minimum, 7,950 acre-ft, Mar. 25, elevation, 1,077.50 ft.

01518498 HAMMOND LAKE.--Lat 41°53'56", long 77°08'52", Tioga County, Hydrologic Unit 02050104, at Hammond Dam on Crooked Creek, 3.0 mi upstream from mouth, and 0.8 mi southwest of Tioga. DRAINAGE AREA, 122 mi^2. PERIOD OF RECORD, November 1979 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by rolled earth and rockfill dam with concrete chute spillway with uncontrolled weir at elevation 1,131.0 ft. Storage began in November 1979. Capacity at elevation 1,131.0 ft is 63,000 acre-ft. Recreation lake elevation is 1,086.0 ft, capacity 8,850 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Flow is regulated by two gates through a connecting channel that discharges into Tioga Lake, and a low-flow outlet to Crooked Creek. U.S. Army Corps of Engineers satellite and landline telemeters at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 30,620 acre-ft, Feb. 16, 1984, elevation, 1,109.34 ft; minimum, 2,430 acre-ft, Oct. 24, 1980, elevation, 1,074.00 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 15,380 acre-ft, May 20, elevation, 1,094.56 ft; minimum, 7,490 acre-ft, Mar 6, elevation, 1,084.05 ft.

01519995 COWANESQUE LAKE.--Lat 41°59'05", long 77°09'05", Tioga County, Hydrologic Unit 02050104, at Cowanesque Dam on Cowanesque River, 1.8 mi southwest of Lawrenceville, and 2.5 mi upstream from mouth. DRAINAGE AREA, 298 mi^2. PERIOD OF RECORD, December 1979 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by rolled earth and rockfill dam with concrete chute spillway with uncontrolled weir at elevation 1,117.0 ft. Storage began in December 1979. Capacity at elevation 1,117.0 ft is 89,110 acre-ft. Recreation lake elevation is 1,045.0 ft, capacity 7,330 acre-ft. Reservoir is used for flood control control and recreation. Figures given herein represent total contents. Flow is regulated by two service gates and low-flow by-pass system. U.S. Army Corps of Engineers satellite and landline telemeters at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 32,110 acre-ft, Feb. 16, 1984, elevation, 1,079.57 ft; minimum, 65 acre-ft, June 23, 1980, elevation, 1,011.50 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 12,930 acre-ft, May 20, elevation, 1,056.38 ft; minimum, 7,100 acre-ft, Sept 30, elevation, 1,044.45 ft.

Reservoirs in Chemung River basin--Continued

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s/day)	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s/day)
	01517900 Tioga Lake			01518498 Hammond Lake		
Sept. 30	1,081.49	9,740	--	1,086.10	8,910	--
Oct. 31	1,081.63	9,810	+ 1.1	1,086.31	9,040	+ 2.1
Nov. 30	1,083.60	10,800	+16.6	1,087.24	9,640	+10.1
Dec. 31	1,083.70	10,850	+ 0.8	1,087.52	9,840	+ 3.3
CAL YR 1987	--	--	+ 0.4	--	--	+ 0.4
Jan. 31	1,081.41	9,700	-18.7	1,086.38	9,080	-12.4
Feb. 29	1,079.92	9,010	-12.0	1,084.18	7,580	-26.1
Mar. 31	1,081.19	9,590	+ 9.4	1,084.94	8,060	+ 7.8
Apr. 30	1,081.88	9,930	+ 5.7	1,086.61	9,220	+19.5
May 31	1,081.60	9,790	- 2.3	1,086.63	9,230	+ 0.2
June 30	1,081.45	9,720	- 1.2	1,086.47	9,140	- 1.5
July 31	1,081.96	9,970	+ 4.1	1,086.56	9,190	+ 0.8
Aug. 31	1,081.19	9,590	- 6.2	1,086.33	9,050	- 2.3
Sept. 30	1,080.46	9,260	- 5.5	1,085.92	8,790	- 4.4
WTR YR 1988	--	--	- 0.7	--	--	- 0.2

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s/day)
	01519995 Cowanesque Lake		
Sept. 30	1,045.30	7,460	--
Oct. 31	1,045.25	7,440	- 0.3
Nov. 30	1,045.32	7,460	+ 0.3
Dec. 31	1,045.10	7,370	- 1.5
CAL YR 1987	--	--	- 0.1
Jan. 31	1,045.22	7,420	+ 0.8
Feb. 29	1,045.16	7,400	- 0.3
Mar. 31	1,045.16	7,400	0
Apr. 30	1,045.36	7,480	+ 1.3
May 31	1,045.00	7,330	- 2.4
June 30	1,045.58	7,570	+ 4.0
July 31	1,046.10	7,790	+ 3.6
Aug. 31	1,045.85	7,690	- 1.6
Sept. 30	1,044.45	7,100	- 9.9
WTR YR 1988	--	--	- 0.5

01531500 SUSQUEHANNA RIVER AT TOWANDA, PA

LOCATION.--Lat 41°45'55", long 76°26'28", Bradford County, Hydrologic Unit 02050106, on right bank at Bridge Street in Towanda, and 1.8 mi upstream from Towanda Creek.

DRAINAGE AREA.--7,797 mi^2.

PERIOD OF RECORD.--October 1913 to current year. Monthly discharge only for some periods, published in WSP 1302. Gage-height records collected at same site since October 1892 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1922, 1929.

GAGE.--Water-stage recorder. Datum of gage is 694.38 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 18, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 7 flood-control reservoirs, which have a combined capacity of 356,800 acre-ft. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter and National Weather Service landline telemeter at station.

AVERAGE DISCHARGE.--75 years, 10,540 ft^3/s, 18.36 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 320,000 ft^3/s, June 24, 1972, gage height, 33.43 ft, from floodmarks, from rating curve extended above 180,000 ft^3/s; minimum, 334 ft^3/s, Sept. 23, 24, 1964; minimum gage height, -0.56 ft, Aug. 17, 1965.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 68,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 20	1930	*63,400	*12.62				

Minimum daily discharge, 711 ft^3/s, Aug. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4340	9090	25000	6410	7520	6240	21000	20200	6680	1190	2260	8090
2	4920	7890	23500	7160	22300	5930	21300	15900	6380	1180	2070	5370
3	4910	7240	18900	7590	39500	6220	19500	12900	6170	1180	1900	3920
4	4990	6660	15200	6860	33400	7250	19000	11000	5890	1160	1800	3470
5	4800	6430	13400	5820	23700	7170	22600	9630	5730	1190	1670	4190
6	4320	6250	12300	5030	17000	6810	19400	9050	5490	1180	1500	3700
7	4220	6430	11200	5200	13100	7160	16400	9180	4970	1100	1630	3230
8	4930	6010	10100	5030	11700	8520	14500	8690	4470	1030	1410	2900
9	5070	5700	9140	4930	10600	11200	13200	7600	4050	951	1460	2540
10	4920	5610	9270	4720	11300	20100	12000	6850	3700	927	1380	2280
11	4620	5910	10800	4710	9950	23600	10900	6510	3400	835	1310	2030
12	4960	6110	10700	4960	9630	20700	9830	6550	3200	824	1320	1810
13	5640	5890	10200	4840	8550	19400	8920	6560	2970	744	1300	1670
14	5420	5800	9940	4140	7730	23100	8150	6260	2760	745	1160	1640
15	5210	5960	9150	3710	7600	22400	7600	6190	2580	724	1010	1560
16	4820	6150	10000	e3600	7590	18700	7000	5930	2400	737	870	1460
17	4340	5850	10700	e3800	7560	15600	6630	5750	2230	799	889	1400
18	3940	5750	9920	e4200	7630	13800	6520	5940	2160	1010	915	1420
19	3540	7380	9090	e4800	7530	12600	6180	9410	1990	1180	881	1420
20	3380	8460	8870	6210	8180	11400	6090	48100	1900	1380	777	1450
21	3190	7960	13600	10700	10400	9920	5790	44200	1820	1630	787	1510
22	3180	7020	15400	12300	9600	8530	5500	30100	1720	4450	736	1570
23	3220	6270	12900	10400	9610	7610	5350	24900	1690	5710	711	1670
24	3230	5990	10900	8870	8910	7780	6370	21100	1660	4520	796	1660
25	3180	6100	10000	7510	8530	11600	7660	21800	1590	4210	820	1630
26	3060	6250	10700	7020	7540	26200	7140	19400	1550	3470	866	1760
27	3000	6170	12400	6370	6910	45300	6440	15400	1440	5050	832	1860
28	4300	6020	11900	5770	6350	43400	7940	12700	1430	4200	956	1820
29	11900	5890	10100	5050	6290	35400	12800	10300	1410	3160	2070	1630
30	15800	13500	8980	5220	---	28100	20400	8520	1270	2550	7760	1490
31	11500	---	6540	5320	---	23500	---	7390	---	2290	8970	---
TOTAL	158850	201740	370800	188250	346210	515240	342110	434010	94700	61306	52816	72150
MEAN	5124	6725	11960	6073	11940	16620	11400	14000	3157	1978	1704	2405
MAX	15800	13500	25000	12300	39500	45300	22600	48100	6680	5710	8970	8090
MIN	3000	5610	6540	3600	6290	5930	5350	5750	1270	724	711	1400
CFSM	.66	.86	1.53	.78	1.53	2.13	1.46	1.80	.40	.25	.22	.31
IN.	.76	.96	1.77	.90	1.65	2.46	1.63	2.07	.45	.29	.25	.34

CAL YR 1987 TOTAL 3184031 MEAN 8723 MAX 72700 MIN 881 CFSM 1.12 IN. 15.19
WTR YR 1988 TOTAL 2838182 MEAN 7755 MAX 48100 MIN 711 CFSM .99 IN. 13.54

e Estimated

01532000 TOWANDA CREEK NEAR MONROETON, PA

LOCATION.--Lat 41°42'25", long 76°29'06", Bradford County, Hydrologic Unit 02050106, on left bank on Township Route 406, 0.8 mi southwest of Monroeton and 1.0 mi upstream from South Branch Towanda Creek.

DRAINAGE AREA.--215 mi^2.

PERIOD OF RECORD.--February 1914 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1051: 1943-44(M). WSP 1302: 1922(M), 1924, 1925-26(M), 1928, 1929(M), 1930-31. WSP 1432: 1921(M), 1932(M), 1933, 1934-35(M), 1936, 1938(M), 1940. WDR PA-78-2: 1972(M). WDR PA-87-2: 1978-79.

GAGE.--Water-stage recorder. Datum of gage is 765.53 ft above National Geodetic Vertical Datum of 1929. Nonrecording gage Aug. 27, 1976, to Oct. 20, 1977, at present site and datum. Nonrecording gage Sept. 26, 1975, to Aug. 26, 1976, at bridge 0.6 mi downstream at datum 11.82 ft lower. Water-stage recorder Oct. 1, 1942, to Sept. 25, 1975, 0.6 mi downstream at datum 11.82 ft lower. Prior to Oct. 1, 1942, nonrecording gage at present site at datum 8.62 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--74 years, 286 ft^3/s, 18.06 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 74,000 ft^3/s, June 22, 1972, gage height, 15.3 ft in gage well, 16.9 ft from floodmark, site and datum then in use; minimum observed, 0.7 ft^3/s, Sept. 15, 17, 21, 22, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	0100	4,680	10.76	May 19	1500	*6,680	*11.54

Minimum daily discharge, 5.0 ft^3/s, Aug. 6, 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	75	820	e170	472	156	277	297	108	11	9.2	91
2	42	70	538	e140	2090	145	263	249	166	11	7.5	64
3	39	65	392	e110	1200	222	246	226	129	11	6.2	49
4	38	64	332	e100	763	223	243	205	126	10	5.6	184
5	35	63	273	e80	487	178	222	197	104	9.5	5.2	293
6	32	59	221	e74	e300	184	195	364	87	9.0	5.0	169
7	80	55	186	e72	e270	302	186	572	74	8.4	5.8	117
8	101	55	168	e90	e250	350	179	377	69	7.9	5.9	87
9	75	55	167	e90	e230	500	177	305	70	7.4	5.7	70
10	63	56	192	e86	e210	761	171	264	66	6.9	5.3	57
11	66	61	173	e80	e190	493	154	239	58	6.8	5.0	47
12	88	60	162	e80	e180	447	143	209	51	7.3	55	41
13	76	64	152	e86	e160	598	133	186	44	7.5	21	41
14	66	86	136	e70	e150	613	122	213	39	7.1	11	39
15	61	105	157	e64	e140	470	117	185	34	6.8	8.2	32
16	56	101	257	e64	e140	379	117	165	31	7.3	6.5	27
17	53	131	192	e70	e130	325	112	155	31	14	7.2	24
18	49	774	158	e80	e130	293	108	186	30	20	21	26
19	48	453	142	e100	e160	267	102	2830	26	13	17	25
20	46	316	173	e230	797	242	94	2090	23	11	11	26
21	44	237	217	e280	535	194	89	1010	20	12	8.7	65
22	44	182	176	e240	299	174	86	764	18	15	7.5	51
23	41	171	158	e220	266	177	82	573	17	14	6.9	41
24	40	145	144	e190	240	215	127	440	16	12	13	38
25	39	136	147	e150	202	380	123	367	15	9.6	16	32
26	38	126	159	e130	171	1200	101	306	14	8.8	13	28
27	38	118	139	e130	174	788	96	244	14	8.6	11	25
28	140	110	126	e120	160	528	186	202	13	8.0	10	23
29	139	533	123	e120	158	412	186	168	12	7.2	595	22
30	99	2230	e88	e130	---	350	361	143	11	6.6	448	20
31	85	---	e140	e150	---	303	---	122	---	7.7	157	---
TOTAL	1909	6756	6608	3796	10654	11869	4798	13853	1516	302.4	1510.4	1854
MEAN	61.6	225	213	122	367	383	160	447	50.5	9.75	48.7	61.8
MAX	140	2230	820	280	2090	1200	361	2830	166	20	595	293
MIN	32	55	88	64	130	145	82	122	11	6.6	5.0	20
CFSM	.29	1.05	.99	.57	1.71	1.78	.74	2.08	.24	.05	.23	.29
IN.	.33	1.17	1.14	.66	1.84	2.05	.83	2.40	.26	.05	.26	.32

CAL YR 1987 TOTAL 77343.5 MEAN 212 MAX 5540 MIN 4.8 CFSM .99 IN 13.38
WTR YR 1988 TOTAL 65425.8 MEAN 179 MAX 2830 MIN 5.0 CFSM .83 IN. 11.32

e Estimated

01533400 SUSQUEHANNA RIVER AT MESHOPPEN, PA

LOCATION.--Lat 41°36'26", long 76°03'02", Wyoming County, Hydrologic Unit 02050106, on right bank 0.7 mi south of Meshoppen, 0.7 mi downstream from Meshoppen Creek, 2.3 mi upstream from bridge on State Highway 87, and 2.4 mi upstream from Mehoopany Creek.

DRAINAGE AREA.--8,720 mi^2.

PERIOD OF RECORD.--October 1976 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 640 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 7 flood-control reservoirs, which have a combined capacity of 356,800 acre-ft. National Weather Service satellite and landline telemeter at station.

AVERAGE DISCHARGE.--12 years, 11,750 ft^3/s, 18.30 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 207,000 ft^3/s, Mar. 6, 1979, gage height, 35.06 ft; minimum, 677 ft^3/s, July 16, 1988.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1972 reached a stage of 43.51 ft, from floodmark information by local resident, discharge, about 331,000 ft^3/s, from rating curve extended above 220,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 70,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 21	0200	*73,300	*22.49	No other peak greater than base discharge.			

Minimum discharge, 677 ft^3/s, July 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4300	9850	25200	e6000	13600	6860	21700	22700	7470	1250	2090	9480
2	4730	8410	25700	e6150	30600	6680	21500	18100	7010	1180	2040	6700
3	4860	7470	21000	e6200	44700	6650	20300	14600	6730	1160	1870	4670
4	4780	6930	16900	e4950	40500	8040	19100	12500	6470	1150	1750	3730
5	4930	6520	14400	e4600	29000	8290	21900	11200	6090	1150	1660	4490
6	4580	6160	13200	e4350	20800	7690	20500	10400	5850	1160	1540	4480
7	4380	6270	11900	e3750	16000	8140	17300	11300	5410	1150	1420	3670
8	4620	6160	10900	e3700	13400	9840	15200	10600	4880	1090	1500	3060
9	5060	5750	9860	e3400	12000	12100	14000	9210	4480	1010	1320	2620
10	4960	5570	9410	e3250	12100	19000	12800	8070	4090	941	1350	2280
11	4830	5640	10500	e3100	11700	25400	11800	7380	3600	905	1290	2040
12	4740	6000	11100	e3000	10900	23100	10900	7100	3260	849	1240	1830
13	5340	5990	10600	e2950	9940	20800	9950	7260	3000	821	1270	1700
14	5430	5830	10300	e2900	9130	23600	9080	6890	2750	747	1230	1550
15	5280	5960	9740	e2850	8690	24300	8420	6770	2540	744	1100	1510
16	4970	6120	10200	e2800	8500	20800	7840	6480	2360	708	949	1410
17	4620	6120	11200	e3150	8480	17200	7200	6080	2220	812	862	1330
18	4310	6600	10600	e3700	8470	15000	6990	6130	2080	889	887	1290
19	3900	7600	9810	e4650	8470	13800	6740	8760	2040	1070	885	1290
20	3550	8780	9230	e5700	9700	12600	6440	45900	1870	1180	869	1300
21	3400	8680	12200	e9000	13000	11300	6230	60800	1820	1400	784	1350
22	3190	7660	15900	e12500	11500	9930	5840	36500	1730	1740	771	1410
23	3200	6780	14100	e11500	11200	8700	5580	28600	1660	5710	722	1470
24	3260	6360	11900	e9800	10300	8410	5940	23300	1620	5020	806	1530
25	3250	6170	10800	e8300	10100	10400	7810	23000	1590	4410	816	1500
26	3120	6380	10800	e7500	8840	20500	7950	20800	1540	3790	821	1470
27	3010	6390	11900	e6900	7980	46700	7110	17500	1480	3770	860	1560
28	4010	6230	e10900	e6200	7320	49300	8290	14000	1400	4960	840	1630
29	7820	6300	e9400	e5500	6950	40600	12300	11900	1400	3620	1540	1550
30	14600	14200	e8200	e6600	---	31400	19700	10000	1350	2670	6430	1410
31	13100	---	e7100	e8400	---	25200	---	8490	---	2260	8710	---
TOTAL	156130	208880	384950	173350	413870	552330	356410	492320	99790	59316	50222	75310
MEAN	5036	6963	12420	5592	14270	17820	11880	15880	3326	1913	1620	2510
MAX	14600	14200	25700	12500	44700	49300	21900	60800	7470	5710	8710	9480
MIN	3010	5570	7100	2800	6950	6650	5580	6080	1350	708	722	1290
CFSM	.58	.80	1.42	.64	1.64	2.04	1.36	1.82	.38	.22	.19	.29
IN.	.67	.89	1.64	.74	1.77	2.36	1.52	2.10	.43	.25	.21	.32

CAL YR 1987 TOTAL 3446380 MEAN 9442 MAX 85200 MIN 1120 CFSM 1.08 IN. 14.70
WTR YR 1988 TOTAL 3022878 MEAN 8259 MAX 60800 MIN 708 CFSM .95 IN. 12.90

e Estimated

01534000 TUNKHANNOCK CREEK NEAR TUNKHANNOCK, PA

LOCATION.--Lat 41°33'30", long 75°53'42", Wyoming County, Hydrologic Unit 02050106, on left bank 300 ft upstream from bridge on U.S. Highway 6 at Dixon, 3.0 mi northeast of Tunkhannock, and 4.0 mi upstream from mouth.

DRAINAGE AREA.--383 mi^2.

PERIOD OF RECORD.--February 1914 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1965, published as "at Dixon".

REVISED RECORDS.--WSP 756: Drainage area. WSP 1051: 1921(M), 1932, 1934-35(M), 1936, 1938(M), 1939-40, 1942-44, 1945(M). WSP 1302: 1922, 1923(M), 1924-25, 1927-28. WSP 1432: 1919(M), 1920, 1933, 1934(P). WDR PA-85-2: 1954(P), 1955(M), 1956(P), 1957(M), 1958-64(P), 1967-71(P), 1977(M), 1978(P), 1981(M), 1982-84(P).

GAGE.--Water-stage recorder. Datum of gage is 610.50 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Department of Transportation benchmark). Prior to Aug. 10, 1938, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--74 years, 539 ft^3/s, 19.11 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 32,200 ft^3/s, Apr. 5, 1947, gage height, 13.96 ft, from rating curve extended above 14,000 ft^3/s on basis of contracted-opening measurement of peak flow; maximum gage height, 15.77 ft, Mar. 15, 1986; minimum discharge, 6.2 ft^3/s, Sept. 24, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 2	1545	5,920	7.33	May 20	0915	*13,200	*10.63

Minimum discharge, 26 ft^3/s, Aug. 23, 24.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	314	500	1640	478	606	349	484	711	308	56	77	140
2	236	440	1220	448	3860	299	507	586	334	55	65	107
3	192	402	988	363	2340	400	478	506	283	58	57	88
4	182	368	901	e285	1540	465	527	456	260	54	53	85
5	176	338	842	e210	1080	421	533	417	229	50	47	269
6	161	297	727	e148	859	421	449	472	197	46	44	205
7	168	276	631	e130	661	570	399	804	175	43	58	144
8	231	261	567	e130	e570	646	383	593	162	42	80	112
9	203	248	543	e130	e500	717	355	479	158	41	67	95
10	174	275	574	e130	e546	1530	320	426	155	40	56	86
11	168	298	530	e128	e460	899	287	407	139	39	49	78
12	238	292	485	e128	e405	757	260	371	129	38	46	71
13	244	311	472	e123	e385	854	241	325	123	38	50	70
14	215	367	431	e118	e375	905	225	323	113	36	43	71
15	186	361	431	e111	e390	738	217	295	113	38	39	69
16	148	327	749	e105	e370	607	238	264	101	44	35	61
17	141	308	605	e102	e340	536	237	255	101	54	31	54
18	133	705	505	e103	e333	490	220	254	104	68	31	51
19	124	680	457	e123	e390	454	208	572	95	64	30	49
20	120	551	593	e192	e500	416	189	7740	89	61	29	48
21	129	491	928	e482	896	326	174	3250	85	68	28	59
22	157	379	763	e380	580	284	163	2020	81	100	27	67
23	140	357	657	e250	545	294	152	1600	79	88	26	59
24	127	375	585	e202	500	306	182	1210	77	75	44	57
25	118	367	600	e180	443	402	184	1140	74	72	68	54
26	114	367	721	e162	372	1280	162	921	72	70	69	50
27	121	380	584	e155	398	1330	152	692	69	150	55	46
28	1700	330	512	e150	367	975	631	562	65	125	47	44
29	1060	378	497	e148	343	733	561	472	60	94	148	45
30	785	3170	341	e172	---	627	901	403	58	79	524	42
31	615	---	371	237	---	539	---	354	---	76	217	---
TOTAL	8820	14199	20450	6203	20954	19570	10019	28880	4088	1962	2240	2476
MEAN	285	473	660	200	723	631	334	932	136	63.3	72.3	82.5
MAX	1700	3170	1640	482	3860	1530	901	7740	334	150	524	269
MIN	114	248	341	102	333	284	152	254	58	36	26	42
CFSM	.74	1.24	1.72	.52	1.89	1.65	.87	2.43	.36	.17	.19	.22
IN.	.86	1.38	1.99	.60	2.04	1.90	.97	2.81	.40	.19	.22	.24

CAL YR 1987 TOTAL 175957 MEAN 482 MAX 5500 MIN 37 CFSM 1.26 IN. 17.10
WTR YR 1988 TOTAL 139861 MEAN 382 MAX 7740 MIN 26 CFSM 1.00 IN. 13.58

e Estimated

01534180 STILLWATER LAKE NEAR FOREST CITY, PA

LOCATION.--Lat 41°41'46", long 75°29'10", Susquehanna County, Hydrologic Unit 02050107, at Stillwater Dam on Lackawanna River, 0.3 mi downstream from confluence of East and West Branches, 1.4 mi south of Union Dale, and 3.5 mi north of Forest City.

DRAINAGE AREA.--37.1 mi^2.

PERIOD OF RECORD.--December 1959 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir formed by an earthfill dam, rock faced, with ungated concrete spillway at elevation 1,621.00 ft. Storage began in December 1959. Capacity at elevation 1,621.00 ft is 12,000 acre-ft. Reservoir is used for flood control and municipal water supply. Figures given herein represent total contents. Flood storage is regulated by power-operated slide gate; water supply storage is regulated by a weir formed by stop logs. U.S. Army Corps of Engineers satellite and landline telemeters at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 6,470 acre-ft, Mar. 16, 1986, elevation, 1,605.61 ft; minimum, 242 acre-ft, Sept. 10, 1960, elevation, 1,568.85 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,930 acre-ft, Mar. 27, elevation, 1,584.72 ft; minimum, 383 acre-ft, July 14, elevation, 1,572.44 ft.

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s/day)
Sept. 30	1,573.25	457	--
Oct. 31	1,576.51	803	+ 5.6
Nov. 30	1,579.66	1,200	+ 6.7
Dec. 31	1,574.30	561	-10.4
CAL YR 1987	--	--	+ 0.10
Jan. 31	1,573.21	453	- 1.8
Feb. 29	1,573.33	465	+ 0.2
Mar. 31	1,579.73	1,210	+12.1
Apr. 30	1,580.43	1,310	+ 1.6
May 31	1,573.35	467	-13.6
June 30	1,572.56	393	- 1.2
July 31	1,572.62	399	+ 0.1
Aug. 31	1,573.53	484	+ 1.4
Sept. 30	1,572.46	384	1.7
WTR YR 1988	--	--	- 0.14

01534300 LACKAWANNA RIVER NEAR FOREST CITY, PA

LOCATION.--Lat 41°40'47", long 75°28'20", Susquehanna County, Hydrologic Unit 02050107, on left bank 1,600 ft upstream from bridge on State Highway 171, 1.3 mi downstream from Stillwater Dam, 1.6 mi below confluence of East and West Branches, and 2.2 mi north of Forest City.

DRAINAGE AREA.--38.8 mi^2.

PERIOD OF RECORD.--October 1958 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,551.28 ft above National Geodetic Vertical Datum of 1929. Prior to Dec. 11, 1958, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since December 1959 by Stillwater Dam (station 01534180). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--30 years, 71.6 ft^3/s, 25.06 in/yr, adjusted for storage since December 1959.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,390 ft^3/s, Jan. 22, 1959, gage height, 6.41 ft, from rating curve extended above 930 ft^3/s; no flow part of each day July 21, 22, 1978, result of shutoff at Stillwater Dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 549 ft^3/s, Feb. 5, gage height, 4.07 ft; minimum daily, 1.3 ft^3/s, Aug. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39	130	163	67	e30	35	92	168	42	6.7	8.8	33
2	36	116	167	66	e42	32	102	91	48	8.3	7.0	20
3	34	88	164	58	e98	36	113	69	47	8.3	5.5	13
4	33	64	159	54	e185	39	113	80	45	7.8	4.6	13
5	31	58	153	58	285	42	112	73	42	7.0	3.9	27
6	29	48	144	43	270	39	110	118	34	6.3	3.5	32
7	30	44	134	39	218	39	96	231	30	5.8	4.6	25
8	33	42	122	e35	132	44	62	156	28	5.7	7.2	18
9	31	42	102	e32	107	61	52	129	27	5.0	7.2	13
10	29	45	90	e29	93	137	51	90	27	4.8	6.1	9.4
11	30	48	92	e31	75	159	55	65	25	4.3	5.1	7.2
12	38	47	89	e25	64	158	58	55	22	4.3	4.6	5.6
13	37	46	85	e22	e58	161	55	50	19	3.7	4.3	5.2
14	33	49	78	e21	e53	167	46	48	17	3.7	3.7	5.4
15	30	53	71	e20	e50	193	47	43	16	4.2	3.5	4.9
16	27	53	72	e20	e48	158	46	40	14	4.1	3.0	4.2
17	24	53	65	e21	e46	52	45	38	14	5.7	2.4	3.6
18	23	80	81	e24	e45	53	46	38	14	7.7	2.4	3.5
19	22	106	57	32	e43	57	46	60	14	8.8	2.0	3.5
20	21	100	60	41	e43	90	45	208	12	9.5	1.8	4.3
21	25	86	71	49	67	93	40	404	11	15	1.8	6.3
22	28	85	79	52	73	73	32	363	9.6	17	1.6	7.1
23	28	57	75	48	54	59	29	309	9.3	15	1.3	7.9
24	26	57	68	43	49	62	31	216	9.1	13	3.4	8.5
25	25	56	75	e35	45	172	35	174	8.9	10	8.2	7.3
26	24	59	101	e31	41	290	42	154	8.6	11	7.1	6.6
27	25	61	107	e30	39	382	46	125	8.2	21	5.9	5.6
28	112	57	99	e27	39	366	137	97	7.6	21	5.1	5.2
29	143	56	90	e25	35	265	111	77	6.9	16	23	4.7
30	143	136	e85	e25	---	234	141	62	6.4	13	83	4.6
31	137	---	68	e26	---	115	---	51	---	11	59	---
TOTAL	1326	2022	3066	1129	2427	3863	2036	3882	622.6	284.7	290.6	314.6
MEAN	42.8	67.4	98.9	36.4	83.7	125	67.9	125	20.8	9.18	9.37	10.5
MAX	143	136	167	67	285	382	141	404	48	21	83	33
MIN	21	42	57	20	30	32	29	38	6.4	3.7	1.3	3.5
MEAN‡	48.4	74.1	88.5	34.6	83.9	137	69.5	111	19.6	9.28	10.8	8.8
CFSM‡	1.25	1.91	2.28	.89	2.16	3.53	1.79	2.87	.51	.24	.28	.23
IN.‡	1.44	2.13	2.63	1.03	2.33	4.07	2.00	3.31	.57	.28	.32	.26

CAL YR 1987 TOTAL 25745.1 MEAN 70.6 MAX 706 MIN 4.4 MEAN‡ 70.6 CFSM‡ 1.82 IN.‡ 24.72
WTR YR 1988 TOTAL 21263.5 MEAN 58.1 MAX 404 MIN 1.3 MEAN‡ 58.0 CFSM‡ 1.49 IN.‡ 20.34

e Estimated

‡ Adjusted for change in contents in Stillwater Lake.

01534500 LACKAWANNA RIVER AT ARCHBALD, PA

LOCATION.--Lat 41°30'16", long 75°32'33", Lackawanna County, Hydrologic Unit 02050107, on right bank along SR 1012 in Archbald, 0.5 mi upstream from White Oak Run and Gilmartin Street bridge.

DRAINAGE AREA.--108 mi^2.

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 889.33 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Regulation at low flow by mine pumps upstream from station. Flow regulated since December 1959 by Stillwater Dam (station 01534180) about 17 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeters at station.

AVERAGE DISCHARGE.--49 years, 203 ft^3/s, 25.53 in/yr, adjusted for storage since December 1959.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,510 ft^3/s, May 22, 1942, gage height, 10.58 ft, from rating curve extended above 1,900 ft^3/s on basis of slope-area measurement of peak flow; minimum, 3.0 ft^3/s, Oct. 9, 11, 1943; minimum gage height, 1.08 ft, Oct. 18, 1941.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,850 ft^3/s, May 20, gage height, 5.28 ft, from rating curve extended as explained above; minimum, 18 ft^3/s, Aug. 22, gage height, 1.70 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	175	279	440	193	202	e117	265	338	153	35	50	92
2	157	258	410	176	639	114	260	259	156	36	45	72
3	140	225	376	153	584	131	264	215	145	33	41	57
4	141	192	355	e135	502	146	269	215	138	32	38	86
5	127	175	330	e120	478	138	254	208	128	30	35	110
6	119	162	301	e107	e450	137	241	252	113	29	41	97
7	137	150	278	e98	e339	158	225	442	104	27	37	85
8	129	141	261	e92	e334	176	189	317	98	26	35	75
9	119	148	247	e88	e245	229	163	265	101	26	36	65
10	113	154	241	e87	e220	517	155	235	94	23	35	57
11	126	155	232	e86	e200	411	152	201	87	28	33	48
12	134	149	225	e86	e185	404	152	176	80	32	33	42
13	125	156	214	e84	e175	463	146	165	75	25	32	47
14	118	166	200	e79	168	472	131	162	71	26	26	43
15	113	169	206	e75	164	443	138	144	66	30	23	40
16	107	164	220	e74	170	408	134	134	62	31	23	37
17	100	167	200	e75	163	259	126	128	63	44	24	37
18	96	285	183	e79	159	240	125	139	61	34	24	33
19	91	261	174	e87	151	229	121	209	52	34	23	30
20	90	249	197	e107	197	e215	116	1050	49	41	22	30
21	112	222	234	150	e175	e200	111	872	48	87	19	37
22	109	194	216	e130	e165	e190	98	726	46	72	19	33
23	98	181	209	e116	e154	189	92	588	45	52	20	36
24	96	178	198	e106	e145	209	99	463	44	52	75	34
25	95	171	232	e100	e135	320	92	408	41	46	65	29
26	89	176	257	e92	e129	761	95	347	38	104	45	29
27	97	170	245	e88	e124	732	111	288	37	135	38	29
28	465	161	233	88	e120	671	302	242	36	86	31	29
29	361	182	229	91	e118	475	276	208	34	69	90	29
30	327	551	197	98	---	460	317	183	33	59	155	29
31	302	---	183	98	---	304	---	164	---	67	126	---
TOTAL	4608	5991	7723	3238	6990	9918	5219	9743	2298	1451	1339	1497
MEAN	149	200	249	104	241	320	174	314	76.6	46.8	43.2	49.9
MAX	465	551	440	193	639	761	317	1050	156	135	155	110
MIN	89	141	174	74	118	114	92	128	33	23	19	29
MEAN‡	155	207	239	102	241	332	176	300	75.4	46.9	44.6	48.2
CFSM‡	1.44	1.92	2.21	.94	2.23	3.07	1.63	2.78	.70	.43	.41	.45
IN.‡	1.66	2.14	2.55	1.08	2.40	3.54	1.82	3.20	.78	.50	.47	.50

CAL YR 1987	TOTAL 78468	MEAN 215	MAX 1420	MIN 32	MEAN‡ 215	CFSM‡ 1.99	IN.‡ 27.04			
WTR YR 1988	TOTAL 60015	MEAN 164	MAX 1050	MIN 19	MEAN‡ 164	CFSM‡ 1.52	IN.‡ 20.65			

e Estimated

‡ Adjusted for change in contents in Stillwater Lake.

01536000 LACKAWANNA RIVER AT OLD FORGE, PA

LOCATION.--Lat 41°21'33", long 75°44'41", Lackawanna County, Hydrologic Unit 02050107, on right bank 100 ft downstream from bridge on SR 3017, 150 ft upstream from Delaware, Lackawanna, and Western Railroad bridge in Old Forge, and 0.5 mi upstream from St. Johns Creek.

DRAINAGE AREA.--332 mi^2.

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

REVISED RECORDS.--WSP 1432: 1939(M), 1940, 1945.

GAGE.--Water-stage recorder. Datum of gage is 595.26 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1974, water-stage recorder at same site and datum. Oct. 1, 1974, to Aug. 17, 1975, nonrecording gage at site 150 ft upstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since December 1959 by Stillwater Dam (station 01534180) about 33 mi upstream. Several measurements of water temperature were made during the year. National Weather Service satellite and landline telemeters at station.

AVERAGE DISCHARGE.--50 years, 491 ft^3/s, 20.08 in/yr, adjusted for storage since December 1959.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,000 ft^3/s, Aug. 19, 1955, gage height, 20.05 ft, from floodmark, from rating curve extended above 3,800 ft^3/s on basis of slope-area measurements at gage heights 15.30 ft, 16.49 ft, and at peak flow; minimum, 20 ft^3/s, Sept. 21, 1964, gage height, 1.28 ft.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,490 ft^3/s, May 20, gage height, 8.19 ft, from rating curve extended as explained above; minimum, 37 ft^3/s, Aug. 23, gage height, 2.10 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	386	532	1210	332	470	e251	626	857	406	63	105	164
2	369	475	1030	300	1990	241	615	681	404	65	86	121
3	337	418	849	261	1760	280	584	515	355	58	79	103
4	346	375	764	e245	1280	369	638	470	320	54	76	286
5	308	346	683	e195	1030	357	619	446	295	54	69	277
6	261	320	574	161	934	335	535	621	272	52	343	185
7	305	300	504	e156	702	363	496	1060	250	50	246	148
8	278	287	456	e151	608	398	455	757	235	47	110	124
9	253	287	428	e150	466	471	407	583	253	47	85	114
10	240	309	423	e149	436	1210	386	553	236	55	77	106
11	272	329	406	e146	380	990	366	485	199	70	72	93
12	287	319	387	e142	e365	874	359	440	164	111	69	90
13	270	324	374	e138	e345	942	345	397	142	77	68	185
14	262	332	343	e130	329	1020	300	371	127	53	62	102
15	259	359	361	e127	332	871	312	334	117	58	61	84
16	270	348	389	e125	359	789	322	315	131	59	56	83
17	271	369	361	e128	334	566	308	299	121	191	61	89
18	260	829	325	e132	335	487	297	343	108	88	60	85
19	248	716	313	e158	324	447	295	1130	94	63	59	77
20	238	618	351	e253	467	422	278	4820	89	138	57	73
21	258	518	404	331	e465	402	267	3070	81	434	51	98
22	258	414	377	e260	e409	357	253	2240	77	346	48	77
23	222	387	359	e240	356	341	234	1780	101	128	62	80
24	185	374	342	e220	e335	355	261	1330	77	103	260	72
25	175	359	356	e200	e300	446	256	1350	72	110	240	64
26	166	350	396	e180	283	1620	250	1070	68	200	93	64
27	226	342	375	e165	e270	1600	280	930	68	298	76	64
28	1270	329	354	153	e260	1360	866	722	67	192	67	63
29	954	402	356	e162	e256	1030	755	571	63	131	284	58
30	756	1580	294	e172	---	989	932	468	61	105	324	55
31	623	---	292	221	---	735	---	408	---	187	242	---
TOTAL	10813	13247	14436	5883	16180	20918	12897	29416	5053	3687	3648	3284
MEAN	349	442	466	190	558	675	430	949	168	119	118	109
MAX	1270	1580	1210	332	1990	1620	932	4820	406	434	343	286
MIN	166	287	292	125	256	241	234	299	61	47	48	55
MEAN‡	355	449	456	188	558	687	432	935	167	119	119	107
CFSM‡	1.07	1.35	1.37	.57	1.68	2.07	1.30	2.82	.50	.36	.36	.32
IN.‡	1.23	1.51	1.58	.66	1.81	2.39	1.45	3.25	.56	.42	.42	.36

CAL YR 1987	TOTAL 176991	MEAN 485	MAX 4410	MIN 55	MEAN‡ 485	CFSM‡ 1.46	IN.‡ 19.84			
WTR YR 1988	TOTAL 139462	MEAN 381	MAX 4820	MIN 47	MEAN‡ 381	CFSM‡ 1.15	IN.‡ 15.62			

e Estimated

‡ Adjusted for change in contents in Stillwater Lake.

01536500 SUSQUEHANNA RIVER AT WILKES-BARRE, PA

LOCATION.--Lat 41°15'03", long 75°52'52", Luzerne County, Hydrologic Unit 02050107, on left bank at foot of West Union Street, 800 ft downstream from North Street bridge in Wilkes-Barre, and 1.6 mi upstream from Toby Creek.

DRAINAGE AREA.--9,960 mi^2, approximately.

PERIOD OF RECORD.--April 1899 to current year. Monthly discharge only for some periods, published in WSP 1302. Gage-height records collected at same site since November 1890, contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 109: 1900-1905. WSP 351: Drainage area. WSP 781: 1902(M). WSP 1302: 1916. WSP 1432: 1901-5, 1907, 1909, 1913, 1937(M). WDR PA-86-2: 1960(M) 1964(M) 1975(M) 1979(M).

GAGE.--Water-stage recorder. Datum of gage is 512.07 ft above National Geodetic Vertical Datum of 1929. See WSP 1722 for history of changes prior to Mar. 23, 1949.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 8 flood-control reservoirs, which have a combined capacity of 368,800 acre-ft. U.S. Army Corps of Engineers satellite telemeter and National Weather Service landline telemeter at station.

AVERAGE DISCHARGE.--89 years, 13,330 ft^3/s, 18.17 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 345,000 ft^3/s, June 24, 1972, from slope-area measurement of peak flow near West Pittston and adjusted for flow from intervening area, gage height, 40.91 ft, from floodmark; minimum, 528 ft^3/s, Sept. 27, 1964, gage height, -1.78 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1899, 33.1 ft, Mar. 18, 1865, from floodmarks, discharge, about 232,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 82,000 ft^3/s and maximum(*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 21	2300	*66,600	*14.49				

Minimum discharge, 1,010 ft^3/s, Aug. 23, gage height, -0.41 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5720	12700	25800	e7300	7790	8120	24700	25500	9330	1640	2750	9930
2	5580	10500	29500	e7200	20400	7880	23000	22000	8620	1560	2510	8990
3	5850	9260	25700	e7200	50500	7810	22900	17700	8180	1480	2390	6280
4	5800	8480	20700	e5750	49000	8760	21300	15000	7730	1450	2170	5130
5	5700	7850	17400	e5500	35900	9730	21900	13300	7340	1440	2030	5650
6	5570	7460	15500	e5250	26500	9390	23600	12600	6890	1420	2020	5940
7	5390	7080	14100	e5050	19100	9490	20000	13800	6490	1410	2250	5000
8	5250	7180	12800	e4450	15900	10700	17400	13500	5910	1410	1800	4210
9	5650	6850	11800	e4000	e13900	12800	15800	11800	5460	1350	1830	3720
10	5780	6580	11000	e3750	e13800	18600	14500	10400	4970	1290	1640	3270
11	5740	6550	11100	e3550	e13500	27200	13400	9390	4540	1230	1630	2880
12	5710	6740	12200	e3450	e12800	27100	12500	8760	4160	1320	1580	2580
13	5770	6970	12100	e3350	e11800	24300	11500	8510	3890	1220	1530	2610
14	6350	7010	11500	e3300	e10900	25100	10500	8420	3650	1120	1560	2270
15	6130	7000	11200	e3300	e10000	27500	9800	7990	3410	1070	1510	2060
16	5930	7100	11500	e3250	e9900	24800	9280	7690	3190	1090	1350	1960
17	5550	7260	12300	e3700	9920	20600	8600	7300	3100	1370	1250	1860
18	5130	8580	12200	e4700	9830	17700	8100	7150	2950	1290	1220	1830
19	4760	9820	11300	e5600	9910	16000	7900	9270	2690	1310	1170	1750
20	4410	10200	10800	e7050	10900	14800	7480	42600	2570	1610	1170	1740
21	4290	10700	11800	e9500	14600	13400	7260	61500	2350	2240	1150	1810
22	4150	9620	16000	e11800	14000	11900	6840	49700	2240	2670	1060	1920
23	4010	8540	16400	e14000	12900	10700	6440	36300	2140	3370	1060	1960
24	3950	7790	14100	e11800	12500	9770	6420	28900	2010	6210	1410	1960
25	3970	7380	12500	e10000	11700	10400	7580	26300	1950	4990	1710	1950
26	3900	7330	12100	e8600	10800	17600	8880	24900	1920	4760	1420	1900
27	3890	7470	12500	e7700	9780	41600	8390	21500	1830	4470	1270	1850
28	6400	7280	13600	e7200	9030	54000	9400	17200	1780	5180	1240	1930
29	8270	7180	e11700	e6450	8260	46700	12500	14600	1690	4980	1610	1970
30	14100	16500	e10000	e6100	---	38100	18700	12400	1670	3820	4730	1870
31	16400	---	e9000	6490	---	29200	---	10600	---	3300	9530	---
TOTAL	185100	250960	440200	196340	465820	611750	396570	576580	124650	73070	61550	98780
MEAN	5971	8365	14200	6334	16060	19730	13220	18600	4155	2357	1985	3293
MAX	16400	16500	29500	14000	50500	54000	24700	61500	9330	6210	9530	9930
MIN	3890	6550	9000	3250	7790	7810	6420	7150	1670	1070	1060	1740
CFSM	.60	.84	1.43	.64	1.61	1.98	1.33	1.87	.42	.24	.20	.33
IN.	.69	.94	1.64	.73	1.74	2.28	1.48	2.15	.47	.27	.23	.37

CAL YR 1987 TOTAL 3929680 MEAN 10755 MAX 91800 MIN 1260 CFSM 1.08 IN. 14.68
WTR YR 1988 TOTAL 3481370 MEAN 9512 MAX 61500 MIN 1060 CFSM .96 IN. 13.00

e Estimated

01537000 TOBY CREEK AT LUZERNE, PA

LOCATION.--Lat 41°16'57", long 75°53'46", Luzerne County, Hydrologic Unit 02050107, on left bank at Luzerne, 150 ft upstream from bridge on State Highway 309, 0.5 mi upstream from inlet works of flood basin, and 2.5 mi upstream from mouth.

DRAINAGE AREA.--32.4 mi^2.

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

GAGE.--Water-stage recorder and concrete control. Datum of gage is 574.60 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Slight regulation by Huntsville Reservoir 5.9 mi upstream, usable capacity 5,900 acre-ft. Diversion from reservoir for municipal supply. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--47 years, 45.5 ft^3/s, 19.07 in/yr, adjusted for diversion.

COOPERATION.--Records of diversion provided by Pennsylvania Gas and Water Co.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,390 ft^3/s, June 22, 1972, gage height, 6.07 ft in gage well, 7.59 ft from floodmarks, from rating curve extended above 1,200 ft^3/s on basis of slope-area measurement of peak flow; minimum, 0.1 ft^3/s, Sept. 12, 1944; minimum daily, 0.5 ft^3/s, Sept. 20, Oct. 8, 1946.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 380 ft^3/s, Feb. 2, gage height, 2.10 ft; minimum daily, 6.3 ft^3/s, July 7.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37	35	66	e18	73	e28	36	48	28	10	16	13
2	32	33	57	e18	253	33	36	43	31	11	13	12
3	31	32	50	e18	198	40	35	43	25	9.9	11	11
4	30	31	49	e16	145	62	42	40	24	9.6	9.6	97
5	27	30	44	e15	106	54	38	43	22	8.2	8.4	68
6	25	27	39	e15	86	55	32	63	19	7.0	13	33
7	38	26	34	e15	78	66	30	74	18	6.3	13	22
8	30	26	33	e14	60	69	32	56	18	11	9.7	17
9	26	26	32	e14	51	88	29	54	22	9.1	8.2	15
10	23	30	32	e14	46	122	26	64	18	9.4	7.5	14
11	36	30	29	e14	40	91	22	61	17	8.7	7.0	13
12	31	30	30	e13	e37	81	20	57	16	11	15	12
13	26	33	28	e13	e33	83	19	54	14	9.8	14	27
14	24	35	25	e12	e32	74	18	53	13	9.0	9.3	15
15	23	34	32	e12	e31	64	23	50	13	9.1	8.0	13
16	22	31	37	e12	e30	55	25	49	13	14	9.1	11
17	22	31	29	e13	e32	49	21	41	14	30	12	12
18	21	81	25	e15	e34	45	20	38	13	13	12	12
19	20	52	23	23	40	43	19	157	13	11	10	11
20	20	48	38	57	92	40	18	216	12	38	10	10
21	24	41	37	e50	75	33	18	115	11	93	10	12
22	20	33	31	e38	56	28	16	92	11	57	9.5	11
23	19	30	29	e30	52	28	17	81	11	19	12	13
24	18	31	28	e24	49	30	19	66	11	17	41	13
25	20	31	31	e21	43	32	16	73	10	14	33	12
26	18	30	30	e19	37	85	15	55	11	27	14	12
27	41	27	27	e17	e34	66	31	46	11	23	11	12
28	110	26	25	e17	e30	52	66	40	9.7	16	11	11
29	52	49	28	e18	e29	45	46	36	9.9	15	54	11
30	41	117	23	e21	---	42	57	32	9.6	12	35	11
31	37	---	20	32	---	39	---	28	---	30	17	---
TOTAL	944	1116	1041	628	1902	1722	842	1968	468.2	568.1	463.3	556
MEAN	30.5	37.2	33.6	20.3	65.6	55.5	28.1	63.5	15.6	18.3	14.9	18.5
MAX	110	117	66	57	253	122	66	216	31	93	54	97
MIN	18	26	20	12	29	28	15	28	9.6	6.3	7.0	10
(†)	4.72	4.70	4.46	4.79	4.39	4.85	4.76	5.06	5.45	5.88	6.10	5.60
MEAN‡	35.2	41.9	38.1	25.1	70.0	60.4	32.9	68.6	21.1	24.2	21.0	24.1
CFSM‡	1.09	1.29	1.18	.77	2.16	1.86	1.02	2.12	.65	.75	.65	.74
IN.‡	1.26	1.44	1.36	.89	2.33	2.14	1.14	2.44	.72	.86	.75	.83

CAL YR 1987 TOTAL 15545.8 MEAN 42.6 MAX 522 MIN 6.8 MEAN‡ 47.8 CFSM‡ 1.47 IN.‡ 20.02
WTR YR 1988 TOTAL 12218.6 MEAN 33.4 MAX 253 MIN 6.3 MEAN‡ 38.4 CFSM‡ 1.19 IN.‡ 16.16

e Estimated
† Diversion for municipal supply, equivalent in cubic feet per second.
‡ Adjusted for diversion.

01537500 SOLOMON CREEK AT WILKES-BARRE, PA

LOCATION.--Lat 41°13'39", long 75°54'17", Luzerne County, Hydrologic Unit 02050107, on right bank at southwest city limits of Wilkes-Barre, 20 ft downstream from Central Railroad of Pennsylvania bridge, 0.4 mi downstream from Spring Run, and 3.4 mi upstream from mouth.

DRAINAGE AREA.--15.7 mi^2.

PERIOD OF RECORD.--March 1940 to current year. Monthly discharge only for March 1940, published in WSP 1302.

REVISED RECORDS.--WSP 1272: Drainage area. WSP 1382: 1940, 1942, 1944(P), 1945-47, 1949(M), 1951-52, 1953-54(M).

GAGE.--Water-stage recorder and broad-crested weir. Datum of gage is 548.31 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Some regulation by mine pumps upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--48 years, 18.8 ft^3/s, 16.26 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 2,450 ft^3/s, Aug. 18, 1955, gage height, 9.83 ft, from rating curve extended above 570 ft^3/s on basis of computation of peak flow through culvert; no flow Sept. 4-13, 15-20, 1983.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 16, 1933, reached a stage of 11.4 ft, from floodmark, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 320 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 22	0315	*148	*2.86				

Minimum daily discharge, 1.1 ft^3/s, July 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10	20	30	e4.8	29	e9.2	15	48	15	e1.8	2.0	1.8
2	7.7	18	28	e4.6	80	e9.2	14	40	17	e1.9	1.9	1.8
3	7.3	16	24	e4.5	68	9.8	12	32	11	e1.7	1.8	1.8
4	6.7	15	23	e4.0	50	14	16	25	9.4	e1.5	1.7	6.6
5	5.5	13	20	3.7	42	14	13	22	8.0	e1.3	1.7	2.7
6	4.9	12	17	3.7	e32	13	12	33	6.6	e1.2	1.7	2.2
7	11	10	15	e3.7	e26	14	12	48	5.8	e1.3	1.6	2.1
8	5.8	9.4	14	e3.6	e22	16	12	39	5.2	e1.7	1.6	2.1
9	5.0	8.8	13	e3.6	21	21	11	34	7.6	e1.4	2.1	2.0
10	4.6	10	11	e3.6	15	35	9.9	27	5.0	e1.2	2.4	2.0
11	8.8	9.7	10	e3.5	13	33	9.2	23	3.8	e1.1	2.3	2.0
12	6.4	9.5	10	e3.4	e12	31	8.6	21	e3.3	e1.5	2.2	1.9
13	5.4	10	8.9	e3.2	e11	30	7.9	19	e3.0	e1.4	2.2	15
14	5.2	12	7.9	e3.1	e10	26	7.3	17	e2.7	e1.2	2.1	6.2
15	5.2	14	8.9	e3.1	e10	22	8.0	14	e2.5	e1.3	2.1	3.9
16	5.0	15	8.8	e3.1	e9.8	19	7.5	12	e2.3	e1.9	2.2	3.5
17	4.9	21	7.6	e3.4	e10	17	6.8	11	e2.1	e2.7	2.7	3.9
18	4.8	35	6.9	e4.2	e11	15	7.4	14	e2.1	e2.1	2.3	4.1
19	4.6	30	6.7	6.1	12	14	6.9	57	e2.0	e1.7	2.1	3.6
20	4.4	28	10	19	24	13	6.1	91	e2.0	e4.0	2.1	3.9
21	5.7	24	9.0	12	e19	e12	6.2	63	e1.9	e7.3	2.0	4.5
22	4.5	21	8.5	11	e16	e10	6.0	93	e1.9	e4.0	2.0	3.0
23	3.9	19	8.5	e9.4	e14	9.0	6.3	64	e1.8	e3.0	2.0	2.8
24	3.9	17	8.4	e8.0	e12	11	7.3	48	e1.8	e2.4	2.4	3.3
25	3.7	15	8.7	e7.0	e11	16	5.9	53	e2.0	e2.1	2.2	2.4
26	3.5	13	8.4	e6.0	e10	25	5.7	38	e1.8	e2.7	2.0	3.1
27	11	12	8.0	e5.6	e10	20	12	32	e1.8	e2.0	1.9	4.3
28	46	11	7.8	e5.6	e9.8	18	45	25	e1.8	e1.6	1.8	2.1
29	29	17	7.3	e6.2	e9.5	17	45	21	e1.7	e1.5	20	2.4
30	26	40	5.8	7.4	---	17	58	17	e1.7	e1.9	4.2	2.5
31	23	---	e5.4	10	---	15	---	14	---	e3.0	2.0	---
TOTAL	283.4	505.4	366.5	180.1	619.1	545.2	400.0	1095	134.6	65.4	83.3	103.5
MEAN	9.14	16.8	11.8	5.81	21.3	17.6	13.3	35.3	4.49	2.11	2.69	3.45
MAX	46	40	30	19	80	35	58	93	17	7.3	20	15
MIN	3.5	8.8	5.4	3.1	9.5	9.0	5.7	11	1.7	1.1	1.6	1.8
CFSM	.58	1.07	.75	.37	1.36	1.12	.85	2.25	.29	.13	.17	.22
IN.	.67	1.20	.87	.43	1.47	1.29	.95	2.59	.32	.15	.20	.25

CAL YR 1987 TOTAL 5126.10 MEAN 14.0 MAX 151 MIN .27 CFSM .89 IN. 12.15
WTR YR 1988 TOTAL 4381.50 MEAN 12.0 MAX 93 MIN 1.1 CFSM .76 IN. 10.38

e Estimated

01538000 WAPWALLOPEN CREEK NEAR WAPWALLOPEN, PA

LOCATION.--Lat 41°03'33", long 76°05'38", Luzerne County, Hydrologic Unit 02050107, on left bank 100 ft upstream from Harts Bridge on SR 3012, 2.2 mi southeast of Wapwallopen, and 3.7 mi upstream from mouth.

DRAINAGE AREA.--43.8 mi^2.

PERIOD OF RECORD.--October 1919 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1302: 1926(M), 1929(M), 1938(M). WSP 1432: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 752.41 ft above National Geodetic Vertical Datum of 1929 (Penn Central Railroad benchmark). Prior to Mar. 15, 1930, nonrecording gage at same site and datum.

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

AVERAGE DISCHARGE.--69 years, 64.7 ft^3/s, 20.06 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,410 ft^3/s, June 22, 1972, gage height, 11.04 ft, from rating curve extended above 1,400 ft^3/s on basis of contracted-opening measurement of peak flow; minimum, 1.1 ft^3/s, Aug. 4, 1955, gage height, 0.44 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 580 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 2	1630	*1,620	*6.62	May 19	2200	847	4.85

Minimum discharge, 1.9 ft^3/s, July 16, gage height, 0.88 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46	56	124	e28	245	e46	69	158	67	12	40	17
2	40	52	102	e28	639	48	73	131	135	12	29	14
3	38	49	89	e26	217	62	65	114	76	11	25	13
4	42	48	84	e25	174	103	90	100	62	11	23	35
5	35	45	77	e24	146	98	83	98	54	10	21	49
6	32	43	68	e23	e122	83	67	156	46	10	19	23
7	46	42	61	e23	e110	93	62	208	42	9.6	18	18
8	39	39	58	e23	e97	108	66	138	39	9.2	17	16
9	37	39	57	e23	e81	129	62	119	46	8.1	16	14
10	32	49	56	e23	e72	176	57	110	40	9.0	15	14
11	38	49	53	e22	e64	133	53	112	34	8.1	15	12
12	41	50	52	e22	e58	122	50	92	31	8.9	14	12
13	33	54	49	e21	e55	127	48	81	29	11	13	27
14	30	63	45	e20	e52	113	45	82	26	9.4	13	21
15	29	71	49	e20	e51	99	48	68	24	8.4	12	15
16	28	70	59	e20	e49	88	57	63	23	12	11	13
17	27	81	49	e21	e49	80	53	60	22	62	14	12
18	26	119	43	e24	e53	75	50	73	22	45	19	15
19	26	93	40	e49	61	72	56	388	20	18	13	13
20	25	84	55	e127	121	66	46	505	18	50	12	12
21	32	75	62	e100	106	58	43	286	17	225	11	12
22	30	72	50	e78	94	54	40	287	17	197	11	12
23	26	63	46	e64	73	51	38	235	16	69	11	11
24	25	60	44	e54	69	52	48	180	15	62	18	11
25	24	57	44	e46	62	53	41	213	14	42	22	9.5
26	23	55	44	e44	61	153	37	156	14	47	15	9.2
27	27	50	40	e39	55	131	41	125	14	75	12	9.2
28	202	48	38	e38	51	96	239	105	13	46	11	8.9
29	94	64	e36	e41	50	84	163	91	13	37	76	8.6
30	73	231	e33	e48	---	78	225	78	12	31	69	8.5
31	63	---	e30	e80	---	72	---	67	---	50	23	---
TOTAL	1309	1971	1737	1224	3137	2803	2115	4679	1001	1215.7	638	464.9
MEAN	42.2	65.7	56.0	39.5	108	90.4	70.5	151	33.4	39.2	20.6	15.5
MAX	202	231	124	127	639	176	239	505	135	225	76	49
MIN	23	39	30	20	49	46	37	60	12	8.1	11	8.5
CFSM	.96	1.50	1.28	.90	2.47	2.06	1.61	3.45	.76	.90	.47	.35
IN.	1.11	1.67	1.48	1.04	2.66	2.38	1.80	3.97	.85	1.03	.54	.39

CAL YR 1987 TOTAL 23976.1 MEAN 65.7 MAX 695 MIN 8.5 CFSM 1.50 IN. 20.36
WTR YR 1988 TOTAL 22294.6 MEAN 60.9 MAX 639 MIN 8.1 CFSM 1.39 IN. 18.94

e Estimated

01539000 FISHING CREEK NEAR BLOOMSBURG, PA

LOCATION.--Lat 41°04'41", long 76°25'53", Columbia County, Hydrologic Unit 02050107, on left bank 25 ft downstream from Bowmans Mill bridge on SR 4034, 0.8 mi downstream from Green Creek, 0.9 mi west of Orangeville, and 5.5 mi north of Bloomsburg.

DRAINAGE AREA.--274 mi^2.

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

REVISED RECORDS.--WSP 1202: 1939-42, 1948(P), 1950.

GAGE.--Water-stage recorder. Datum of gage is 543.84 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good except those for June 29 to July 21 and Aug. 9-24, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--50 years, 478 ft^3/s, 23.69 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,900 ft^3/s, June 22, 1972, gage height, 15.18 ft, from floodmark in gage shelter, from rating curve extended above 9,500 ft^3/s on basis of contracted-opening measurement at gage height 12.08 ft; minimum, 7.6 ft^3/s, July 19, 1939, gage height, 1.71 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 2	1930	*4,010	*6.27	No other peak greater than base discharge.			

Minimum discharge, 27 ft^3/s, July 16, gage height, 1.40 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	439	305	1820	333	439	304	526	581	277	44	389	551
2	360	283	1240	272	2490	270	507	520	357	44	248	403
3	326	267	929	221	2810	357	459	467	316	42	193	323
4	299	257	787	249	1820	496	527	440	259	40	161	1050
5	277	245	675	210	1250	490	510	409	225	39	141	2040
6	260	230	579	157	890	462	434	575	196	38	126	1120
7	372	217	492	184	700	524	412	601	174	36	151	778
8	342	207	440	183	678	557	420	514	164	34	131	598
9	288	207	413	204	608	636	390	472	172	34	111	474
10	248	218	414	209	545	1110	353	454	164	32	101	395
11	250	220	379	198	449	911	326	405	144	32	96	330
12	298	211	361	204	439	802	304	356	132	31	93	288
13	251	213	343	192	403	823	288	320	122	31	110	404
14	238	223	305	184	363	844	268	306	113	29	103	355
15	238	221	332	178	324	745	271	278	104	31	92	271
16	234	212	516	171	346	645	273	260	98	30	79	228
17	203	212	417	157	341	573	253	254	96	75	78	213
18	186	942	362	185	405	516	240	295	94	141	131	248
19	175	845	341	247	396	480	235	1870	90	74	89	224
20	168	677	442	517	912	439	213	2760	88	67	77	206
21	182	557	505	575	732	365	199	1680	84	168	72	278
22	180	444	450	446	473	318	186	1440	80	594	70	276
23	163	404	433	318	474	334	178	1160	72	229	68	236
24	152	372	405	300	411	328	201	906	65	282	258	231
25	143	339	408	287	345	409	191	871	60	195	457	211
26	137	324	416	286	283	1060	170	694	58	365	282	193
27	146	294	373	239	309	1090	178	572	55	917	203	179
28	686	272	347	233	287	847	519	482	50	444	165	166
29	484	444	351	226	287	717	436	412	46	363	797	156
30	389	3110	255	217	---	646	633	356	44	240	1750	149
31	342	---	258	219	---	581	---	309	---	369	829	---
TOTAL	8456	12972	15788	7801	20209	18679	10100	21019	3999	5090	7651	12574
MEAN	273	432	509	252	697	603	337	678	133	164	247	419
MAX	686	3110	1820	575	2810	1110	633	2760	357	917	1750	2040
MIN	137	207	255	157	283	270	170	254	44	29	68	149
CFSM	1.00	1.58	1.86	.92	2.54	2.20	1.23	2.47	.49	.60	.90	1.53
IN.	1.15	1.76	2.14	1.06	2.74	2.54	1.37	2.85	.54	.69	1.04	1.71

CAL YR 1987 TOTAL 149433 MEAN 409 MAX 4350 MIN 35 CFSM 1.49 IN. 20.28
WTR YR 1988 TOTAL 144338 MEAN 394 MAX 3110 MIN 29 CFSM 1.44 IN. 19.60

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA

(National stream-quality accounting network station)

LOCATION.--Lat 40°57'29", long 76°37'10", Montour County, Hydrologic Unit 02050107, on right bank 200 ft upstream from Mill Street bridge on State Highway 54 at Danville and 0.8 mi upstream from Mahoning Creek.

DRAINAGE AREA.--11,220 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1899 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1904, 1914-17, 1923. WSP 1432: 1900-03, 1905-06, 1908-10, 1912-13, 1933.

GAGE.--Water-stage recorder. Datum of gage is 431.29 ft above National Geodetic Vertical Datum of 1929. Prior to June 29, 1939, nonrecording gage at or near Mill Street bridge at same datum. Since Oct. 1, 1971, water-stage recorder for Susquehanna River at Sunbury (station 01553990), used as an auxiliary gage.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 8 flood-control reservoirs which have a combined capacity of 368,800 acre-ft. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--89 years, 15,270 ft^3/s, 18.48 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 363,000 ft^3/s, June 25, 1972, from rating curve extended above 250,000 ft^3/s; maximum gage height, 32.32 ft, June 24, 1972 (backwater from West Branch Susquehanna River); minimum discharge, 508 ft^3/s, Sept. 27, 1964, gage height, 1.51 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1865, reached a stage of 28 ft, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 83,500 ft^3/s, May 21, gage height, 14.81 ft; minimum, 1,360 ft^3/s, July 16, gage height, 2.09 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7550	17900	27700	e10000	e7700	9760	29900	25100	12200	2100	5870	10600
2	7280	14200	33800	e8700	e11000	9500	26400	28100	11500	2120	4530	10900
3	7130	12100	33100	e8000	e26000	9440	25600	23400	10700	2050	3830	9230
4	7320	10800	28100	e7600	56300	10300	24700	19500	9910	1950	3480	7510
5	7100	9980	23300	e6400	48200	12400	23700	16800	9190	1890	3150	10000
6	6950	9230	20000	e5800	37300	12600	25600	15900	8630	1850	2910	8260
7	7170	8710	18000	e5500	29000	12300	24700	16400	8050	1820	2830	7520
8	6990	8300	16400	e5400	21500	12700	21800	17100	7570	1770	3100	6220
9	6620	8390	15000	e5500	17900	14100	19200	15800	7060	1770	2590	5230
10	6830	8230	13900	e5400	14500	18400	17700	14000	6640	1770	2500	4600
11	7080	8150	13000	e5200	16400	26300	16400	12800	5950	1660	2330	4080
12	7200	e8100	13300	e5700	16100	31800	15200	11600	5440	1610	2240	3650
13	7000	e8300	14300	e5800	15800	29800	14100	10700	5000	1600	2200	3820
14	6940	8550	13800	e4800	14300	27900	13000	10600	4670	1670	2250	4040
15	7480	8730	13300	e4600	12100	29800	12000	10200	4400	1520	2130	3320
16	7230	8820	13400	e5100	11400	30100	11400	9720	4130	1450	2040	2900
17	6950	9020	13700	e6200	12800	26400	10800	9380	3880	1750	1910	2740
18	6500	11400	14300	e8600	13200	22200	9980	9140	3750	3190	2070	2770
19	6060	13600	13800	e11000	12400	19700	9610	13500	3590	2330	1980	2680
20	5660	13800	13200	e15000	13300	18100	9210	30400	3300	2110	1770	2540
21	5360	13800	13000	e17000	15400	16600	8670	73200	3140	3970	1670	2500
22	5220	13300	14600	e16000	17500	14900	8370	72400	2940	5840	1630	2600
23	5000	12000	18900	e15000	16100	13400	7870	48800	2800	4830	1560	2610
24	4780	10700	18000	e14000	15300	12100	7570	37900	2700	5320	1620	2640
25	4680	9780	15700	e14000	14200	11500	7560	32300	2560	7530	2010	2650
26	4680	9250	14300	e11000	13400	14000	9000	30700	2480	6290	2530	2580
27	4630	9150	14000	e9200	12300	27700	9970	27400	2430	8480	2320	2510
28	6860	9130	14500	e7600	11300	52000	11100	23400	2340	7010	1990	2430
29	9820	8960	e13000	e6800	10400	53100	12600	19200	2260	6910	1970	2430
30	11300	15400	e11000	e6700	---	44800	16900	16500	2180	6400	5200	2470
31	17800	---	e10000	e6800	---	36400	---	14200	---	5880	6490	---
TOTAL	219170	317780	522400	264400	533100	680100	460610	716140	161390	106440	84700	138030
MEAN	7070	10590	16850	8529	18380	21940	15350	23100	5380	3434	2732	4601
MAX	17800	17900	33800	17000	56300	53100	29900	73200	12200	8480	6490	10900
MIN	4630	8100	10000	4600	7700	9440	7560	9140	2180	1450	1560	2430
CFSM	.63	.94	1.50	.76	1.64	1.96	1.37	2.06	.48	.31	.24	.41
IN.	.73	1.05	1.73	.88	1.77	2.25	1.53	2.37	.54	.35	.28	.46

CAL YR 1987 TOTAL 4702480 MEAN 12880 MAX 103000 MIN 1610 CFSM 1.15 IN. 15.59
WTR YR 1988 TOTAL 4204260 MEAN 11490 MAX 73200 MIN 1450 CFSM 1.02 IN. 13.94

e Estimated

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA.--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1946-53, 1957 to current year.

REMARKS.--Agency collection codes: 42011 - Susquehanna River Basin Commission, 1028 - U.S. Geological Survey.
Agency analyzing codes: 9813 - Pa. Department of Environmental Resources, 80020 - U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	PH (STAND-ARD UNITS)	TUR-BID-ITY (FTU)	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)
NOV 06...	1245	1028	80020	9090	222	7.00	4.8	768	11.2	93	40
APR 14...	1030	1028	80020	13100	210	7.70	2.1	765	11.6	101	K710
MAY 25...	1000	1028	80020	32300	155	7.20	31	761	8.0	79	560
SEP 01...	1315	1028	80020	11000	325	7.30	21	775	8.0	93	840

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	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)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3)	ALKA-LINITY WAT WH TOT FET FIELD (MG/L AS CACO3)
NOV 06...	K11	82	35	23	6.0	8.6	18	0.4	2.0	58	48
APR 14...	140	82	26	24	5.4	8.5	18	0.4	1.3	70	56
MAY 25...	220	56	15	16	3.9	6.3	19	0.4	1.2	50	41
SEP 01...	K2200	110	58	27	9.2	21	30	0.9	2.1	58	48

DATE	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3)	ALKA-LINITY LAB (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)
NOV 06...	48	42	40	12	0.10	3.6	127	127	0.17	3120
APR 14...	57	49	32	13	0.10	3.0	119	125	0.16	4210
MAY 25...	41	29	31	8.8	0.20	4.5	94	100	0.13	8200
SEP 01...	48	47	52	31	0.10	1.9	176	175	0.24	5230

DATE	ALUM-INUM, DIS-SOLVED (µG/L AS AL)	ARSENIC DIS-SOLVED (µG/L AS AS)	BARIUM, DIS-SOLVED (µG/L AS BA)	BERYL-LIUM, DIS-SOLVED (µG/L AS BE)	CADMIUM DIS-SOLVED (µG/L AS CD)	CHRO-MIUM, DIS-SOLVED (µG/L AS CR)	COBALT, DIS-SOLVED (µG/L AS CO)	COPPER, DIS-SOLVED (µG/L AS CU)	IRON, DIS-SOLVED (µG/L AS FE)	LEAD, DIS-SOLVED (µG/L AS PB)
NOV 06...	30	<1	27	<0.5	<1	<1	<3	3	400	<5
APR 14...	20	<1	24	<0.5	<1	<1	<3	3	220	<5
MAY 25...	20	<1	23	<0.5	<1	<1	<3	3	89	<5
SEP 01...	40	<1	26	<0.5	<1	<1	<3	5	38	<5

(K) Results based on non-ideal colony count.
(<) Actual value is known to be less than the value shown.

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	LITHIUM DIS-SOLVED (µG/L AS LI)	MANGA-NESE, DIS-SOLVED (µG/L AS MN)	MERCURY DIS-SOLVED (µG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (µG/L AS MO)	NICKEL, DIS-SOLVED (µG/L AS NI)	SELE-NIUM, DIS-SOLVED (µG/L AS SE)	SILVER, DIS-SOLVED (µG/L AS AG)	STRON-TIUM, DIS-SOLVED (µG/L AS SR)	VANA-DIUM, DIS-SOLVED (µG/L AS V)	ZINC, DIS-SOLVED (µG/L AS ZN)
NOV 06...	9	140	--	<10	12	<1	<1.0	96	<6	9
APR 14...	66	110	<0.1	<10	3	<1	<1.0	85	<6	9
MAY 25...	17	55	--	<10	6	<1	1.0	58	<6	8
SEP 01...	7	44	<0.1	<10	3	<1	<1.0	140	<6	4

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
OCT 14...	1230	42011	9813	6940	280	8.00	12.0	--	--
NOV 06...	1245	1028	80020	9090	222	7.00	7.5	--	<0.010
17...	0915	42011	9813	8960	221	7.10	8.5	--	--
DEC 17...	1100	42011	9813	13700	200	--	2.5	--	--
JAN 28...	1200	42011	9813	7600	260	7.70	0.0	--	--
FEB 04...	1140	42011	9813	57400	--	6.90	0.0	--	--
04...	1710	42011	9813	57000	--	7.50	0.0	--	--
05...	1245	42011	9813	48100	164	7.60	0.0	--	--
06...	1230	42011	9813	37400	--	7.70	--	--	--
07...	1200	42011	9813	29200	--	7.70	--	--	--
08...	1145	42011	9813	21600	--	7.70	--	--	--
10...	1100	42011	9813	14100	--	--	--	--	--
17...	1115	42011	9813	12400	205	7.10	5.0	--	--
MAR 17...	1200	42011	9813	26500	145	8.00	4.0	--	--
APR 12...	1330	42011	9813	15100	201	7.70	11.0	--	--
14...	1030	1028	80020	13100	210	7.70	9.5	0.790	0.020
MAY 18...	1400	42011	9813	9130	230	8.00	17.5	--	--
19...	1230	42011	9813	12000	200	8.10	18.0	--	--
20...	1145	42011	9813	26900	175	8.00	16.0	--	--
21...	1345	42011	9813	74900	150	7.90	14.0	--	--
22...	1445	42011	9813	68300	130	7.40	19.5	--	--
23...	1130	42011	9813	48500	135	7.60	19.0	--	--
25...	1000	1028	80020	32300	155	7.20	15.0	0.670	0.010
25...	1027	42011	9813	32200	--	--	--	--	--
25...	1200	42011	9813	32000	145	7.70	16.5	--	--
JUN 01...	1245	42011	9813	12100	205	--	26.0	--	--
21...	1100	42011	9813	3140	310	9.10	30.0	--	--
JUL 11...	1030	42011	9813	1650	435	8.50	29.0	--	--
AUG 18...	1040	42011	9813	2080	405	8.70	28.0	--	--
SEP 01...	1315	1028	80020	11000	325	7.30	23.5	--	<0.010
16...	1020	42011	9813	2890	285	8.80	18.0	--	--

(<) Actual value is known to be less than the value shown.

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)
OCT									
14...	0.660	--	0.020	0.020	0.44	0.26	0.46	0.28	1.1
NOV									
06...	--	0.630	0.060 [a]	0.070 [a]	0.34	--	0.40	--	--
17...	0.920	--	0.050	0.040	0.45	0.36	0.50	0.40	1.4
DEC									
17...	0.880	--	0.100	0.100	0.26	0.24	0.36	0.34	1.2
JAN									
28...	1.16	--	0.180	0.160	0.42	0.38	0.60	0.54	1.8
FEB									
04...	0.960	--	0.160	0.150	1.7	0.89	1.9	1.0	2.9
04...	0.920	--	0.120	0.100	0.70	0.28	0.82	0.38	1.7
05...	0.840	--	0.080	0.080	0.92	0.38	1.0	0.46	1.8
06...	0.900	--	0.100	0.100	0.58	0.58	0.68	0.68	1.6
07...	0.940	--	0.110	0.100	0.57	0.42	0.68	0.52	1.6
08...	0.960	--	0.150	0.140	0.49	0.32	0.64	0.46	1.6
10...	1.06	--	0.160	0.160	0.34	0.19	0.50	0.35	1.6
17...	1.12	--	0.200	0.200	0.10	--	0.30	0.14	1.4
MAR									
17...	0.900	--	0.080	0.080	0.17	--	0.25	<0.20	1.2
APR									
12...	0.920	--	0.020	0.020	0.21	--	0.23	<0.20	1.1
14...	--	0.810	0.030 [a]	0.040 [a]	0.47	--	0.50	--	--
MAY									
18...	0.460	--	0.020	0.020	0.74	0.31	0.76	0.33	1.2
19...	0.560	--	0.040	0.030	0.93	0.50	0.97	0.53	1.5
20...	0.500	--	0.060	0.060	--	--	--	--	--
21...	0.680	--	0.020	0.020	1.9	0.57	1.9	0.59	2.6
22...	0.560	--	0.050	0.030	1.4	0.48	1.4	0.51	2.0
23...	0.560	--	0.100	0.080	--	--	--	--	--
25...	--	0.680	0.070	0.070	1.2	--	1.3	--	--
25...	0.680	--	0.020 [a]	0.040 [a]	0.72	0.70	0.74	0.74	1.4
25...	0.660	--	0.080	0.080	--	--	--	--	--
JUN									
01...	0.560	--	0.020	0.010	--	--	<0.20	<0.20	--
21...	0.260	--	0.020 [a]	0.040 [a]	0.52	--	0.54	<0.20	0.80
JUL									
11...	0.060	--	0.030 [a]	0.040 [a]	0.48	--	0.51	<0.20	0.57
AUG									
18...	0.140	--	0.020 [a]	0.040 [a]	0.47	--	0.49	<0.20	0.63
SEP									
01...	--	0.330	0.020	0.020	1.4	--	1.4	--	--
16...	0.240	--	0.040	0.030	0.52	0.27	0.56	0.30	0.80

DATE	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORGANIC TOTAL (MG/L AS P)	PHOS-PHOROUS ORGANIC DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT									
14...	0.050	0.020	0.016	0.05	0.00	3.4	10	187	--
NOV									
06...	0.050	0.020	0.010	0.05	0.01	--	--	--	--
17...	0.070	0.050	0.010	0.07	0.04	2.2	19	460	--
DEC									
17...	0.100	0.050	0.006	0.10	0.04	2.6	11	407	--
JAN									
28...	0.040 [a]	0.080 [a]	0.017	0.04	0.06	2.7	10	205	--
FEB									
04...	0.300	0.040	0.002	0.30	0.04	4.7	191	29600	--
04...	0.300	0.040	0.004	0.30	0.04	3.6	158	24300	--
05...	0.060	0.030	0.004	0.06	0.03	3.9	79	10300	--
06...	0.090	0.040	0.006	0.09	0.03	4.1	30	3030	--
07...	0.060	0.050	0.013	0.06	0.04	4.2	29	2290	--
08...	0.070	0.030	0.008	0.07	0.02	3.0	21	1220	--
10...	0.080	0.020	0.015	0.08	0.00	2.5	23	876	--
17...	0.070	0.040	0.010	0.07	0.03	2.6	12	402	--
MAR									
17...	0.070	0.020	0.007	0.07	0.01	2.5	24	1720	--
APR									
12...	0.080	0.040	0.003	0.08	0.04	2.4	19	775	--
14...	0.060	0.030	0.020	0.06	0.01	--	10	354	84
MAY									
18...	0.120	0.020	0.006	0.12	0.01	2.9	19	468	--
19...	0.130	0.020	0.007	0.13	0.01	3.1	36	1170	--
20...	0.030	0.020	0.002	0.03	0.02	1.6	102	7410	--
21...	0.110	0.060	0.004	0.11	0.06	5.3	286	57800	--
22...	0.200	0.040	0.004	0.20	0.04	4.9	251	46300	--
23...	0.080	0.040	0.009	0.08	0.03	4.3	113	14800	--
25...	0.320	0.030	<0.010	0.32	0.03	--	71	6190	95
25...	0.160	0.040	0.040	0.16	0.0	3.6	73	6350	--
25...	0.110	0.020	0.006	0.11	0.01	3.4	71	6130	--
JUN									
01...	0.110	0.030	<0.002	0.11	0.03	3.5	26	849	--
21...	0.080	0.020	0.004	0.08	0.02	4.4	14	119	--
JUL									
11...	0.080	0.030	0.005	0.08	0.02	4.2	8	36	--
AUG									
18...	0.090	0.020	0.004	0.09	0.02	4.8	12	67	--
SEP									
01...	0.290	0.040	0.020	0.29	0.02	--	110	3270	82
16...	0.100	0.050	0.008	0.10	0.04	4.1	12	94	--

(a) Results within limits of analytical precision.
(<) Actual value is known to be less than the value shown.

01540500 SUSQUEHANNA RIVER AT DANVILLE, PA--Continued

CROSS-SECTION ANALYSES, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (µS/CM)	TEMPERATURE WATER (DEG C)	SEDIMENT, SUSPENDED (MG/L)
NOV					
06...	1201	20	215	7.0	--
06...	1203	55	212	7.0	78
06...	1205	85	215	7.0	--
06...	1211	195	216	7.0	34
06...	1213	235	223	7.5	19
06...	1215	265	226	7.5	--
06...	1218	395	228	7.5	--
06...	1220	425	230	7.5	16
06...	1222	455	229	7.5	17
06...	1227	575	225	7.5	--
06...	1233	625	212	7.5	15
06...	1244	665	175	7.5	15
06...	1248	775	230	7.5	--
06...	1250	825	230	7.5	17
06...	1252	865	230	8.0	14
06...	1259	955	230	7.5	--
06...	1302	995	220	8.0	14
06...	1306	1030	213	8.0	13
06...	1309	1140	214	8.0	--
06...	1311	1180	210	8.0	18
06...	1314	1220	207	8.0	--

DATE	TIME	SAMPLE LOCATION, CROSS SECTION (FT FM L BANK)	SPECIFIC CONDUCTANCE (µS/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	OXYGEN, DISSOLVED (MG/L)	SEDIMENT, SUSPENDED (MG/L)
APR							
14...	1300	1250	186	7.78	11.0	12.3	14
14...	1305	1050	195	7.72	10.5	12.2	6
14...	1310	890	208	8.00	10.5	12.0	25
14...	1315	820	208	7.65	10.5	12.6	8
14...	1319	680	172	7.40	10.5	12.1	10
14...	1323	620	208	7.45	10.5	12.5	8
14...	1326	480	207	7.45	10.5	12.0	29
14...	1330	430	204	7.71	10.5	11.5	9
14...	1333	300	203	7.60	10.5	12.0	9
14...	1335	230	194	7.40	10.5	11.8	9
14...	1338	100	187	7.67	10.5	11.8	8
14...	1340	30	180	7.74	10.5	11.7	3

01541000 WEST BRANCH SUSQUEHANNA RIVER AT BOWER, PA

LOCATION.--Lat 40°53'49", long 78°40'38", Clearfield County, Hydrologic Unit 02050201, on right bank at downstream side of highway bridge on Township Route 418 at Bower and 4.6 mi downstream from Chest Creek and Mahaffey.

DRAINAGE AREA.--315 mi^2.

PERIOD OF RECORD.--October 1913 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 726: Drainage area: WSP 1302: 1914-17, 1918(M), 1922-23, 1924(M), 1925-29, 1930-31(M), 1933(M).

GAGE.--Water-stage recorder. Datum of gage is 1,207.14 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1929, nonrecording gage at same site and datum.

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

AVERAGE DISCHARGE.--75 years, 557 ft^3/s, 24.01 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 31,500 ft^3/s, Mar. 18, 1936, gage height, 19.74 ft, from floodmark in gage shelter, from rating curve extended above 7,200 ft^3/s on basis of slope-area measurement of peak flow; minimum, 14 ft^3/s, Aug. 29, 1939; minimum daily, 16 ft^3/s, Sept. 29, Oct. 1, 6, 13, 1930, Aug. 29, Aug. 31 to Sept. 2, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1913, about 18.5 ft, May 13, 1889, discharge, about 27,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 29	2130	5,580	10.65	Feb. 2	2000	*8,620	*12.30
Jan. 20	--	Unknown	ice jam				

Minimum discharge, 41 ft^3/s, Aug. 14, 16, 17, gage height, 4.02 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	291	147	1410	e740	861	425	616	471	267	73	80	78
2	223	142	995	e640	7090	401	618	397	254	75	68	64
3	424	138	754	e520	5230	512	550	361	242	70	64	57
4	369	135	675	e490	3870	1540	707	338	243	70	60	184
5	287	132	588	e380	2550	1460	661	372	213	68	61	267
6	253	126	491	e350	1560	1100	579	485	189	66	129	146
7	271	122	429	e360	1100	1000	812	405	173	63	91	101
8	302	118	401	e370	e890	861	877	353	168	61	64	82
9	273	123	500	e380	e760	983	730	329	188	61	58	72
10	238	162	738	e350	e660	1550	649	583	253	60	54	66
11	261	170	618	e340	e580	1170	583	542	184	63	52	60
12	278	164	577	e340	e500	979	529	453	155	60	50	52
13	244	165	522	e350	e440	1070	482	416	146	57	49	150
14	226	193	452	e320	e420	936	439	486	137	54	46	195
15	206	210	710	e350	454	802	414	410	127	55	45	121
16	194	196	1040	e330	446	693	399	417	124	54	42	88
17	178	189	760	e350	397	628	385	407	133	51	42	130
18	170	332	629	e450	419	578	367	528	134	50	53	441
19	165	299	553	e800	437	559	377	2020	121	106	65	211
20	163	261	1220	e1500	756	542	332	1380	114	130	64	155
21	164	254	1510	1430	e740	471	311	1180	107	323	55	178
22	155	212	1060	895	599	432	294	887	109	269	48	154
23	151	205	877	703	716	461	279	709	92	141	53	127
24	144	229	731	610	719	662	287	726	86	163	125	134
25	143	217	688	568	585	669	269	692	83	113	80	119
26	137	208	730	492	513	1260	246	535	85	108	71	104
27	138	205	647	409	505	1260	235	455	87	135	62	110
28	171	193	576	e350	459	1030	234	398	86	92	55	96
29	181	2120	566	e340	429	865	363	353	75	80	93	85
30	170	3090	459	e370	---	754	604	317	75	73	252	77
31	159	---	428	488	---	656	---	286	---	80	120	---
TOTAL	6729	10457	22334	16365	34685	26309	14228	17691	4450	2924	2251	3904
MEAN	217	349	720	528	1196	849	474	571	148	94.3	72.6	130
MAX	424	3090	1510	1500	7090	1550	877	2020	267	323	252	441
MIN	137	118	401	320	397	401	234	286	75	50	42	52
CFSM	.69	1.11	2.29	1.68	3.80	2.69	1.51	1.81	.47	.30	.23	.41
IN.	.79	1.23	2.64	1.93	4.10	3.11	1.68	2.09	.53	.35	.27	.46

CAL YR 1987 TOTAL 176524 MEAN 484 MAX 5130 MIN 78 CFSM 1.54 IN. 20.85
WTR YR 1988 TOTAL 162327 MEAN 444 MAX 7090 MIN 42 CFSM 1.41 IN. 19.17

e Estimated

01541200 WEST BRANCH SUSQUEHANNA RIVER AT CURWENSVILLE, PA

LOCATION.--Lat 40°57'41", long 78°31'10", Clearfield County, Hydrologic Unit 02050201, on left bank 30 ft downstream from bridge on State Highway 453, 0.8 mi downstream from Curwensville Dam, 1.1 mi south of Curwensville, and 1.8 mi upstream from Anderson Creek.

DRAINAGE AREA.--367 mi^2.

PERIOD OF RECORD.--October 1955 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,124.52 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 24, 1956, nonrecording gage and crest-stage gage 30 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since November 1965 by Curwensville Dam (station 01541180). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--33 years, 655 ft^3/s, 24.24 in/yr, adjusted for storage since November 1965.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,700 ft^3/s, Mar. 10, 1964, gage height, 14.19 ft; no flow at times; minimum daily, 19 ft^3/s, Aug. 16, 17, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,210 ft^3/s, Feb. 3, gage height, 7.26 ft; minimum daily, 49 ft^3/s, Sept. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	315	170	2610	524	717	463	711	157	277	72	98	234
2	342	170	1700	744	2740	468	684	162	274	72	72	177
3	342	170	1060	675	4130	480	681	162	274	72	72	96
4	422	170	735	622	4210	1010	675	162	272	72	72	72
5	382	169	678	584	4230	1840	724	201	272	72	72	174
6	288	142	587	389	3840	1430	709	318	226	72	72	260
7	265	131	471	317	3370	1260	815	425	205	72	72	189
8	309	131	438	349	2820	1080	1030	501	111	72	72	92
9	327	129	438	414	995	1140	891	422	67	72	72	56
10	307	145	695	416	879	1740	763	477	115	72	72	52
11	263	180	836	375	776	1650	726	745	140	72	72	50
12	260	245	644	313	663	1320	638	620	148	72	72	49
13	276	269	547	297	576	1200	553	468	193	72	72	64
14	288	225	547	312	439	1290	492	445	213	72	72	114
15	288	193	674	327	410	1020	463	444	192	72	72	142
16	227	352	1050	296	508	894	459	444	131	72	72	144
17	194	475	1240	278	540	805	456	490	117	72	64	195
18	193	475	889	301	509	694	439	542	113	73	70	253
19	193	475	661	406	498	646	512	2020	109	77	72	304
20	193	537	733	869	639	626	345	1830	108	74	70	304
21	193	596	1430	1150	907	580	307	1560	93	183	67	191
22	193	588	1880	1730	805	500	309	1250	83	282	65	151
23	193	576	1410	1640	852	488	315	856	76	278	66	151
24	193	427	871	1230	916	533	317	744	74	247	70	151
25	183	317	744	812	820	735	294	744	72	159	70	151
26	178	317	778	685	629	1260	277	642	72	75	70	151
27	141	317	817	517	575	1510	224	527	72	74	70	151
28	122	241	737	450	575	1360	172	450	72	138	70	151
29	209	858	692	368	496	1120	151	417	72	172	73	113
30	269	3370	498	364	---	890	155	359	72	157	129	55
31	209	---	386	478	---	806	---	323	---	144	228	---
TOTAL	7757	12560	27476	18232	40064	30838	15287	18907	4315	3357	2432	4437
MEAN	250	419	886	588	1382	995	510	610	144	108	78.5	148
MAX	422	3370	2610	1730	4230	1840	1030	2020	277	282	228	304
MIN	122	129	386	278	410	463	151	157	67	72	64	49
MEAN‡	245	382	844	593	1376	996	541	653	153	106	83.1	138
CFSM‡	.67	1.04	2.30	1.62	3.75	2.71	1.47	1.78	.42	.29	.23	.38
IN.‡	.77	1.16	2.65	1.87	4.04	3.12	1.64	2.05	.47	.33	.27	.42

CAL YR 1987 TOTAL 207299 MEAN 568 MAX 4130 MIN 73 MEAN‡ 566 CFSM‡ 1.63 IN.‡ 21.00
WTR YR 1988 TOTAL 185662 MEAN 507 MAX 4230 MIN 49 MEAN‡ 506 CFSM‡ 1.38 IN.‡ 18.79

‡ Adjusted for change in contents in Curwensville Lake.

01541303 WEST BRANCH SUSQUEHANNA RIVER AT HYDE, PA

LOCATION.--Lat 41°00'16", long 78°27'25", Clearfield County, Hydrologic Unit 02050201, on right bank 60 ft downstream from bridge on SR 1001 at intersection with State Highway 879 at Hyde.

DRAINAGE AREA.--474 mi^2.

PERIOD OF RECORD.--October 1978 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,093.90 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since November 1965 by Curwensville Dam (station 01541180) located about 5 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeters at station.

AVERAGE DISCHARGE.--10 years, 878 ft^3/s, 25.15 in/yr, adjusted for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,360 ft^3/s, Feb. 13, 1984, gage height, 10.82 ft from rating curve extended above 6,000 ft^3/s; maximum gage height, 11.45 ft, Feb. 18, 1981, (backwater from ice); minimum daily discharge, 46 ft^3/s, Sept. 14, 1982.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 10, 1964, reached a stage of 18.1 ft, from floodmarks, discharge, 19,400 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,160 ft^3/s, Feb. 2, gage height, 9.14 ft; maximum recorded gage height, 9.92 ft, Jan. 20 (ice jam); minimum daily discharge, 76 ft^3/s, Aug. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	407	210	3330	e680	923	557	952	248	373	87	135	271
2	439	208	2100	922	4010	564	907	238	368	89	93	226
3	464	208	1470	894	5020	642	883	233	377	87	89	143
4	519	206	1010	753	4950	1170	901	234	379	87	87	200
5	499	205	918	e670	4630	2020	934	262	352	86	86	223
6	385	185	793	e500	4250	1710	904	415	314	85	113	318
7	352	153	649	e430	3770	1440	1050	495	277	83	112	258
8	394	152	581	e480	3260	1320	1350	589	224	83	94	156
9	429	160	602	e580	1410	1360	1180	531	152	82	89	97
10	409	185	882	e580	1090	2200	1010	618	169	81	85	95
11	368	228	1050	e500	1010	2110	955	907	211	81	85	93
12	366	296	885	e420	856	1730	857	802	207	81	86	91
13	370	324	740	e390	e720	1680	737	631	234	80	85	184
14	377	290	721	e420	e530	1710	671	611	268	79	83	152
15	373	234	860	e440	e490	1420	614	592	258	84	80	189
16	322	342	1250	e400	e620	1170	598	626	183	81	79	183
17	263	529	1460	e370	674	1070	582	657	165	79	78	257
18	261	575	1100	e400	620	914	543	740	160	81	76	336
19	258	566	796	e500	624	847	611	2590	154	148	113	336
20	258	618	1060	e1200	771	806	434	2500	150	103	91	371
21	255	714	1880	e1500	1060	743	368	1980	144	230	84	269
22	247	684	2340	1980	1040	640	375	1630	96	339	78	195
23	244	658	1850	1790	994	611	380	1190	93	321	97	193
24	240	547	1170	1420	1070	646	382	1040	92	325	128	190
25	236	394	1000	953	967	897	359	1020	90	225	93	188
26	225	387	1020	822	773	1570	326	884	88	118	88	184
27	204	382	1040	e620	695	1930	297	735	90	105	83	182
28	175	329	946	e510	684	1700	237	606	88	128	79	180
29	227	1290	878	e440	601	1420	221	571	87	181	116	170
30	339	4150	e650	e430	---	1180	260	480	87	164	131	93
31	284	---	e510	e600	---	1050	---	441	---	181	243	---
TOTAL	10189	15409	35541	22594	48112	38827	19878	25096	5930	4064	3059	6023
MEAN	329	514	1146	729	1659	1252	663	810	198	131	98.7	201
MAX	519	4150	3330	1980	5020	2200	1350	2590	379	339	243	371
MIN	175	152	510	370	490	557	221	233	87	79	76	91
MEAN‡	324	477	1104	734	1653	1253	694	853	208	129	103	191
CFSM‡	.68	1.01	2.33	1.55	3.49	2.64	1.46	1.80	.44	.27	.22	.40
IN.‡	.78	1.13	2.69	1.79	3.76	3.04	1.63	2.08	.49	.31	.25	.45

CAL YR 1987 TOTAL 254228 MEAN 697 MAX 4900 MIN 137 MEAN‡ 697 CFSM‡ 1.47 IN.‡ 19.96
WTR YR 1988 TOTAL 234722 MEAN 641 MAX 5020 MIN 76 MEAN‡ 640 CFSM‡ 1.35 IN.‡ 18.40

e Estimated

‡ Adjusted for change in contents in Curwensville Lake.

01541490 LITTLE CLEARFIELD CREEK AT DIMELING, PA

LOCATION.--Lat 40°58'10", long 78°24'35", Clearfield County, Hydrologic Unit 02050201, on left bank 800 ft upstream from mouth and 4.0 mi southeast of Clearfield.

DRAINAGE AREA.--44.5 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1987 to October 1988 (discontinued).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 1,150 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,490 ft^3/s, Feb. 2, 1988, gage height, 4.61 ft; minimum, 1.8 ft^3/s, Aug. 17, 1988, gage height, 0.37 ft.

DISCHARGE, CUBIC FEET PER SECOND, NOVEMBER 1987 TO OCTOBER 1988
MEAN VALUES

DAY	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	---	e250	e50	e130	40	75	26	25	4.9	6.4	6.1	6.2
2	---	e100	e45	e820	37	76	24	24	5.2	5.4	5.0	6.2
3	---	e78	e35	511	50	67	22	24	5.1	4.8	4.3	7.2
4	---	e64	e30	429	134	84	22	24	4.8	4.4	33	7.3
5	---	e53	e23	293	103	75	23	21	4.5	4.2	28	6.1
6	---	e46	e21	220	92	66	30	18	4.0	4.2	13	5.9
7	---	e41	e20	163	101	104	26	17	3.9	4.9	8.9	5.9
8	---	e37	e19	140	90	119	22	16	3.9	4.7	7.1	5.9
9	---	e38	e18	101	117	101	22	19	4.1	3.7	6.4	5.9
10	---	e42	e18	83	192	88	47	18	3.3	3.5	6.0	6.0
11	---	e36	e17	76	142	77	40	15	3.3	3.1	5.4	6.9
12	---	e35	e17	63	118	67	33	14	3.4	3.1	4.9	7.7
13	---	e33	e17	56	132	61	32	14	3.5	2.9	28	7.1
14	---	e29	e16	e52	107	55	44	13	3.2	2.8	17	6.3
15	---	e70	e16	e48	89	50	35	12	3.2	2.2	9.8	5.9
16	e16	e100	e16	e46	74	46	44	12	3.0	2.1	7.7	5.9
17	e30	e80	e16	e44	64	43	42	12	3.0	1.9	25	5.9
18	e23	e60	e25	e44	59	40	72	12	2.7	2.4	31	6.0
19	e20	e50	e50	e52	57	39	376	11	16	7.2	16	6.3
20	e19	e150	e200	74	53	34	232	10	14	6.1	13	6.8
21	e17	e140	e100	138	45	33	153	9.6	39	4.7	12	6.3
22	e16	e100	e80	127	44	30	108	8.6	25	3.7	10	7.6
23	e15	e90	e72	84	43	28	84	8.1	11	4.8	10	10
24	e14	e70	e68	84	47	30	81	7.2	11	19	10	12
25	e14	e53	e66	63	50	27	67	7.0	10	8.5	9.5	18
26	e14	e41	e62	56	120	24	53	6.8	7.7	6.3	8.4	12
27	e13	e34	e64	51	149	23	46	6.2	10	6.4	7.6	9.4
28	e12	e30	e70	46	118	23	39	6.0	7.7	5.0	7.0	8.6
29	e80	e26	e64	42	101	24	35	5.7	6.5	12	6.6	8.2
30	e600	e24	e54	---	89	32	31	5.3	5.9	21	6.2	7.7
31	---	e30	e70	---	78	---	28	---	7.3	8.4	---	6.9
TOTAL	---	2030	1439	4136	2735	1641	1939	401.5	240.1	179.8	362.9	234.1
MEAN	---	65.5	46.4	143	88.2	54.7	62.5	13.4	7.75	5.80	12.1	7.55
MAX	---	250	200	820	192	119	376	25	39	21	33	18
MIN	---	24	16	42	37	23	22	5.3	2.7	1.9	4.3	5.9
CFSM	---	1.47	1.04	3.20	1.98	1.23	1.41	.30	.17	.13	.27	.17
IN.	---	1.70	1.20	3.46	2.29	1.37	1.62	.34	.20	.15	.30	.20

e Estimated

01541490 LITTLE CLEARFIELD CREEK AT DIMELING, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January to October 1988 (discontinued).

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: January to October 1988.
pH: January to October 1988.
WATER TEMPERATURE: January to October 1988.

INSTRUMENTATION.--Water-quality monitor January to October 1988. Digital recorder set for 60-minute recording interval.

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25°C, JANUARY 1988 TO OCTOBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1										---	---	---
2										---	---	---
3										---	---	---
4										---	---	---
5										---	---	---
6										---	---	---
7										401	374	385
8										415	404	411
9										410	402	406
10										425	403	409
11										447	419	428
12										445	431	437
13										442	428	433
14										448	432	440
15										480	450	463
16										500	482	492
17										504	491	499
18										492	448	477
19										443	366	410
20										362	178	245
21										229	186	213
22										254	230	241
23										271	253	260
24										279	270	273
25										290	276	282
26										301	286	294
27										320	301	312
28										343	320	332
29										354	336	344
30										361	351	354
31										359	329	347
MONTH										504	178	367

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	325	260	302	377	368	372	295	281	289	419	402	411
2	261	140	170	382	373	378	298	292	294	412	402	407
3	176	149	162	379	357	369	304	295	299	418	412	415
4	190	176	183	354	251	298	304	290	297	423	418	420
5	214	191	202	257	236	248	288	281	285	423	415	420
6	243	215	229	270	257	264	295	285	291	416	399	404
7	270	244	256	264	255	258	296	254	278	406	399	403
8	290	271	279	268	256	264	253	233	240	406	399	403
9	312	291	302	266	249	260	235	233	234	407	383	405
10	330	314	321	247	213	223	243	235	239	414	360	380
11	349	332	341	227	213	219	256	243	249	370	336	346
12	366	350	358	239	228	233	268	256	260	340	338	339
13	386	366	377	241	238	239	330	269	289	343	337	339
14	404	387	396	252	239	243	337	322	327	338	319	327
15	414	387	402	267	253	260	363	332	345	328	323	327
16	421	414	418	281	267	274	370	346	357	329	308	320
17	435	421	429	295	282	289	396	348	374	316	309	313
18	445	436	440	309	295	303	399	365	384	312	224	295
19	442	426	435	320	309	315	414	381	391	227	154	177
20	425	366	400	328	320	323	411	377	394	185	163	174
21	349	312	326	347	328	336	423	411	418	210	186	197
22	380	326	352	367	334	350	433	422	428	231	212	221
23	357	317	337	369	347	361	442	433	436	254	232	243
24	321	315	317	367	351	360	442	435	439	273	253	262
25	331	317	326	349	317	340	448	441	445	286	272	278
26	348	330	339	319	255	290	448	421	436	308	287	296
27	351	343	348	253	231	238	433	426	429	330	309	320
28	363	246	334	237	231	234	436	433	434	348	330	338
29	375	363	368	251	237	243	437	424	431	366	349	358
30	---	---	---	263	251	256	431	410	417	384	367	375
31	---	---	---	279	263	270	---	---	---	404	385	394
MONTH	445	140	326	382	213	287	448	233	348	423	154	332

01541490 LITTLE CLEARFIELD CREEK AT DIMELING, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25°C, JANUARY 1988 TO OCTOBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	411	399	403	623	613	618	586	570	577	658	611	625
2	427	416	420	622	610	617	595	578	585	656	608	621
3	433	424	429	637	618	626	602	578	587	633	593	618
4	438	423	429	647	629	637	600	579	587	671	473	557
5	448	438	445	658	617	644	623	587	606	562	488	516
6	475	449	457	624	611	617	635	622	626	542	513	521
7	499	462	478	625	616	621	653	631	639	538	521	530
8	485	473	479	623	607	615	663	624	642	551	537	543
9	485	473	480	616	600	609	659	639	646	586	546	556
10	494	476	484	621	609	616	690	640	663	568	554	561
11	503	496	499	634	615	623	722	669	694	615	561	574
12	508	493	499	634	620	627	729	693	708	621	566	583
13	523	508	517	636	622	629	738	709	719	647	482	546
14	535	521	528	642	624	630	748	708	721	520	499	511
15	545	533	539	654	637	645	746	709	724	564	511	525
16	547	535	542	660	635	651	758	724	733	560	516	526
17	556	545	550	663	637	655	734	719	729	590	459	517
18	559	546	552	674	610	659	776	728	740	489	444	466
19	573	556	566	697	587	628	823	612	722	513	482	493
20	575	561	568	613	589	599	743	671	705	502	497	500
21	573	558	566	612	452	540	725	670	692	499	474	487
22	571	557	563	464	435	448	731	688	701	498	479	488
23	587	572	578	472	446	460	745	621	686	514	494	506
24	589	576	579	491	474	484	760	597	664	513	508	510
25	591	579	585	508	474	491	693	618	645	525	512	517
26	596	586	592	535	505	518	736	636	667	544	527	536
27	611	595	603	535	517	525	681	646	663	555	544	550
28	603	598	600	550	524	536	669	645	655	565	555	561
29	617	598	607	559	544	551	712	575	646	569	561	564
30	617	606	611	561	551	556	599	554	576	584	568	578
31	---	---	---	597	521	566	657	584	618	---	---	---
MONTH	617	399	525	697	435	588	823	554	663	671	444	540

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	595	583	588									
2	596	585	593									
3	603	596	600									
4	606	590	597									
5	613	605	607									
6	621	611	615									
7	623	617	620									
8	626	623	624									
9	630	622	625									
10	629	607	625									
11	631	614	626									
12	627	608	614									
13	616	612	613									
14	628	617	621									
15	638	628	631									
16	638	636	637									
17	638	634	636									
18	648	620	635									
19	646	627	638									
20	627	620	624									
21	628	617	624									
22	629	624	625									
23	624	601	610									
24	603	585	595									
25	586	567	571									
26	578	571	574									
27	577	566	572									
28	566	562	565									
29	565	559	562									
30	561	557	559									
31	579	561	567									
MONTH	648	557	606									

01541490 LITTLE CLEARFIELD CREEK AT DIMELING, PA--Continued

PH (STANDARD UNITS), JANUARY 1988 TO OCTOBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1										---	---	---
2										---	---	---
3										---	---	---
4										---	---	---
5										---	---	---
6										---	---	---
7										7.62	7.51	7.55
8										7.50	7.44	7.47
9										7.46	7.42	7.44
10										7.45	7.42	7.44
11										7.42	7.40	7.41
12										7.41	7.39	7.40
13										7.48	7.40	7.44
14										7.49	7.45	7.47
15										7.48	7.45	7.47
16										7.47	7.43	7.45
17										7.49	7.43	7.46
18										7.70	7.48	7.57
19										7.78	7.63	7.74
20										7.61	7.32	7.48
21										7.40	6.95	7.22
22										7.27	7.19	7.24
23										7.31	7.26	7.29
24										7.32	7.13	7.25
25										7.34	7.25	7.30
26										7.35	7.33	7.34
27										7.34	7.31	7.32
28										7.31	7.29	7.30
29										7.34	7.28	7.30
30										7.39	7.33	7.36
31										7.49	7.37	7.43
MONTH										7.78	6.95	7.41

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	7.46	7.30	7.42	---	---	---	7.70	7.58	7.65	7.83	7.72	7.77
2	7.31	6.84	6.98	7.79	7.73	7.77	7.72	7.58	7.65	7.82	7.69	7.75
3	7.19	6.97	7.09	7.82	7.73	7.78	7.78	7.58	7.67	7.81	7.70	7.75
4	7.27	7.19	7.22	7.73	7.59	7.65	7.79	7.56	7.65	7.83	7.70	7.75
5	---	---	---	7.61	7.56	7.59	7.81	7.62	7.69	7.77	7.68	7.72
6	---	---	---	7.62	7.59	7.60	7.82	7.60	7.70	7.87	7.69	7.77
7	---	---	---	7.64	7.60	7.62	7.65	7.54	7.62	7.84	7.68	7.75
8	---	---	---	7.64	7.61	7.63	7.63	7.52	7.56	7.81	7.65	7.72
9	---	---	---	7.63	7.55	7.60	7.61	7.48	7.54	7.81	7.61	7.73
10	---	---	---	7.56	7.49	7.52	7.60	7.48	7.53	7.75	7.57	7.66
11	---	---	---	7.55	7.49	7.53	7.60	7.49	7.53	7.76	7.59	7.67
12	---	---	---	7.60	7.55	7.58	7.61	7.49	7.55	7.74	7.57	7.64
13	---	---	---	7.63	7.56	7.60	7.76	7.51	7.61	7.71	7.51	7.59
14	---	---	---	7.66	7.60	7.63	7.78	7.62	7.69	7.72	7.51	7.60
15	---	---	---	7.70	7.63	7.67	7.79	7.64	7.72	7.68	7.48	7.57
16	---	---	---	7.72	7.66	7.69	7.80	7.67	7.73	7.65	7.40	7.51
17	---	---	---	7.78	7.70	7.74	7.84	7.69	7.76	7.66	7.44	7.54
18	---	---	---	7.80	7.74	7.77	7.86	7.71	7.77	7.55	7.40	7.45
19	---	---	---	7.85	7.76	7.80	7.87	7.72	7.79	7.45	7.30	7.36
20	---	---	---	7.87	7.80	7.83	7.87	7.72	7.79	7.54	7.35	7.46
21	---	---	---	7.85	7.80	7.83	7.89	7.74	7.81	7.67	7.50	7.58
22	---	---	---	7.89	7.68	7.83	7.85	7.75	7.80	7.80	7.59	7.70
23	---	---	---	7.94	7.86	7.89	7.82	7.73	7.77	7.91	7.67	7.78
24	---	---	---	7.96	7.80	7.88	7.82	7.71	7.77	7.89	7.70	7.78
25	---	---	---	7.90	7.72	7.83	7.81	7.74	7.77	7.98	7.77	7.88
26	---	---	---	7.75	7.56	7.68	7.91	7.72	7.80	7.93	7.83	7.87
27	---	---	---	7.59	7.52	7.56	7.91	7.78	7.85	7.96	7.78	7.88
28	---	---	---	7.63	7.53	7.57	7.94	7.80	7.86	7.93	7.81	7.86
29	---	---	---	7.65	7.55	7.59	7.88	7.78	7.83	7.88	7.77	7.83
30	---	---	---	7.73	7.58	7.64	7.86	7.76	7.81	7.85	7.76	7.80
31	---	---	---	7.74	7.62	7.68	---	---	---	7.81	7.73	7.77
MONTH	7.46	6.84	7.18	7.96	7.49	7.69	7.94	7.48	7.71	7.98	7.30	7.69

01541490 LITTLE CLEARFIELD CREEK AT DIMELING, PA--Continued

PH (STANDARD UNITS), JANUARY 1988 TO OCTOBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.75	7.68	7.71	8.06	7.84	7.94	7.84	7.57	7.70	8.17	7.87	7.99
2	7.72	7.65	7.68	8.05	7.84	7.93	7.92	7.65	7.77	8.17	7.82	7.97
3	7.68	7.61	7.65	8.02	7.82	7.91	7.92	7.64	7.78	8.19	7.78	7.94
4	7.69	7.56	7.62	8.01	7.78	7.88	7.91	7.70	7.79	7.79	7.63	7.71
5	7.62	7.52	7.56	7.94	7.73	7.83	7.89	7.72	7.79	8.10	7.82	7.92
6	7.75	7.59	7.66	8.00	7.75	7.85	7.77	7.63	7.70	8.09	7.79	7.91
7	7.88	7.73	7.80	7.97	7.73	7.83	7.92	7.66	7.76	8.21	7.79	7.96
8	8.10	7.79	7.94	8.15	7.73	7.95	7.95	7.74	7.83	8.10	7.83	7.94
9	8.02	7.72	7.86	8.15	7.86	7.98	8.43	7.89	8.10	8.21	7.82	7.96
10	7.99	7.73	7.85	8.11	7.84	7.95	8.45	8.10	8.24	8.18	7.80	7.96
11	7.96	7.69	7.80	8.05	7.78	7.90	8.37	7.99	8.17	8.27	7.83	8.01
12	7.93	7.62	7.75	7.91	7.73	7.82	8.19	7.87	8.02	8.20	7.82	7.98
13	7.84	7.59	7.69	7.82	7.67	7.75	8.00	7.74	7.89	7.98	7.56	7.79
14	7.82	7.53	7.65	7.76	7.62	7.70	7.86	7.56	7.73	8.20	7.90	8.01
15	7.75	7.44	7.59	7.74	7.61	7.69	7.67	7.36	7.54	8.14	7.87	7.97
16	7.58	7.40	7.48	7.75	7.62	7.69	7.54	7.29	7.43	8.15	7.84	7.95
17	7.59	7.39	7.48	7.77	7.62	7.70	7.47	7.22	7.35	7.87	7.63	7.75
18	7.84	7.36	7.55	7.75	7.58	7.70	7.63	7.32	7.50	8.05	7.63	7.82
19	7.95	7.62	7.77	8.05	7.61	7.85	7.83	7.58	7.70	8.08	7.73	7.87
20	7.85	7.59	7.70	8.11	7.91	8.00	8.12	7.70	7.88	7.91	7.73	7.80
21	8.09	7.53	7.77	7.93	7.71	7.81	8.21	7.91	8.03	8.13	7.71	7.88
22	8.05	7.73	7.88	8.01	7.78	7.86	8.19	7.92	8.05	8.27	7.96	8.08
23	8.01	7.71	7.84	8.06	7.77	7.87	8.22	7.81	8.00	8.21	7.95	8.07
24	7.96	7.74	7.84	8.15	7.78	7.94	8.13	7.76	7.93	8.32	8.04	8.15
25	7.99	7.71	7.84	8.17	7.82	7.97	8.21	7.94	8.06	8.29	8.08	8.17
26	7.91	7.66	7.80	8.13	7.78	7.92	8.15	7.91	8.01	8.29	8.09	8.17
27	7.98	7.75	7.85	8.10	7.79	7.93	8.16	7.84	7.97	8.23	8.07	8.14
28	8.13	7.76	7.91	8.00	7.71	7.87	8.12	7.75	7.90	8.29	8.06	8.15
29	8.09	7.83	7.95	7.84	7.57	7.71	7.81	7.72	7.77	8.24	8.07	8.14
30	8.06	7.84	7.95	7.83	7.54	7.65	8.15	7.82	7.98	8.18	8.03	8.09
31	---	---	---	7.75	7.59	7.66	8.17	7.91	8.02	---	---	---
MONTH	8.13	7.36	7.75	8.17	7.54	7.84	8.45	7.22	7.85	8.32	7.56	7.98

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.12	8.00	8.04									
2	8.10	7.95	8.01									
3	8.12	7.97	8.05									
4	8.13	8.03	8.08									
5	8.17	8.03	8.08									
6	8.18	8.00	8.08									
7	8.15	8.00	8.07									
8	8.17	8.03	8.08									
9	8.16	8.02	8.07									
10	8.15	7.99	8.06									
11	8.12	7.99	8.04									
12	8.12	7.99	8.05									
13	8.10	7.99	8.04									
14	8.04	7.95	8.00									
15	8.04	7.93	7.97									
16	8.04	7.90	7.96									
17	8.03	7.90	7.95									
18	8.01	7.90	7.95									
19	8.01	7.89	7.95									
20	8.01	7.90	7.95									
21	7.96	7.88	7.92									
22	7.94	7.84	7.89									
23	7.99	7.89	7.93									
24	7.97	7.84	7.91									
25	8.03	7.77	7.92									
26	7.95	7.87	7.90									
27	7.89	7.79	7.86									
28	7.81	7.76	7.79									
29	7.80	7.72	7.75									
30	7.79	7.72	7.75									
31	7.80	7.74	7.77									
MONTH	8.18	7.72	7.96									

01541490 LITTLE CLEARFIELD CREEK AT DIMELING, PA--Continued

TEMPERATURE, WATER (°C), JANUARY 1988 TO OCTOBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1										---	---	---
2										---	---	---
3										---	---	---
4										---	---	---
5										---	---	---
6										---	---	---
7										.0	.0	.0
8										.0	.0	.0
9										.0	.0	.0
10										.0	.0	.0
11										.0	.0	.0
12										.0	.0	.0
13										.0	.0	.0
14										.0	.0	.0
15										.0	.0	.0
16										.0	.0	.0
17										.0	.0	.0
18										.0	.0	.0
19										.0	.0	.0
20										.0	.0	.0
21										.0	.0	.0
22										.0	.0	.0
23										.0	.0	.0
24										.0	.0	.0
25										.0	.0	.0
26										.0	.0	.0
27										.0	.0	.0
28										.0	.0	.0
29										.0	.0	.0
30										.0	.0	.0
31										.0	.0	.0
MONTH										.0	.0	.0

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	.0	.0	.0	3.0	.5	1.5	9.0	8.5	9.0	10.0	6.0	8.0
2	2.5	.0	1.0	3.0	.0	1.5	12.5	8.0	10.0	11.0	6.0	8.5
3	3.5	2.5	3.0	3.0	2.0	2.5	13.5	10.0	11.5	11.5	6.5	9.5
4	3.0	1.5	2.5	2.0	.5	1.0	14.5	11.0	12.5	12.0	9.0	10.5
5	1.5	.0	1.0	2.0	.0	.5	14.0	9.0	11.5	11.0	10.5	10.5
6	.0	.0	.0	2.5	.0	1.0	13.0	9.5	11.5	14.5	10.0	12.0
7	.0	.0	.0	2.5	1.0	2.0	11.0	9.0	9.5	19.5	11.0	15.0
8	.0	.0	.0	5.0	1.5	3.0	9.0	7.5	8.5	20.0	11.0	15.5
9	.0	.0	.0	3.5	3.0	3.0	9.0	6.0	7.5	16.5	14.0	15.5
10	.0	.0	.0	5.0	3.0	3.5	10.5	5.0	7.5	16.5	13.0	14.5
11	.0	.0	.0	5.0	1.5	3.0	11.5	5.5	8.5	16.0	12.5	14.0
12	.0	.0	.0	5.5	2.0	4.0	10.0	6.5	8.5	17.5	10.0	13.5
13	.0	.0	.0	5.0	3.0	4.5	11.5	5.5	8.5	18.5	11.5	15.0
14	.0	.0	.0	3.0	1.5	2.5	9.0	6.5	8.0	19.5	13.0	16.0
15	.0	.0	.0	1.5	.0	1.0	8.0	6.0	7.5	19.5	12.5	16.0
16	.0	.0	.0	1.0	.0	.5	6.0	4.5	5.0	19.0	15.5	17.5
17	.0	.0	.0	3.5	.0	1.5	11.0	3.0	6.5	18.5	15.5	17.0
18	.5	.0	.0	2.0	.5	1.5	9.0	7.0	8.0	16.0	13.0	14.5
19	.0	.0	.0	3.0	1.0	2.0	10.0	4.5	7.0	13.0	12.0	12.5
20	.5	.0	.0	2.5	.5	1.5	9.5	4.0	7.0	12.5	11.5	12.0
21	.0	.0	.0	2.5	.0	.5	10.0	6.5	8.0	13.5	11.5	12.5
22	.0	.0	.0	2.0	.0	.5	12.0	4.5	8.0	16.0	12.0	14.0
23	.0	.0	.0	5.5	.0	2.5	10.5	6.5	8.5	17.5	13.0	15.0
24	.5	.0	.0	8.0	3.0	5.5	9.5	6.5	8.0	17.5	14.5	16.0
25	.0	.0	.0	11.0	5.5	8.0	13.0	5.0	8.5	15.5	12.0	14.0
26	.0	.0	.0	10.0	7.5	8.5	14.5	6.0	10.0	16.0	9.5	12.5
27	.5	.0	.0	8.0	4.5	6.0	12.0	8.5	10.5	18.0	11.0	14.0
28	1.5	.0	.5	7.5	3.5	5.5	11.0	7.0	9.0	20.0	13.0	16.0
29	3.0	.0	1.0	10.0	5.0	7.5	8.5	7.0	7.5	20.0	14.0	17.0
30	---	---	---	11.0	6.5	8.5	8.0	6.5	7.5	21.5	15.0	18.5
31	---	---	---	11.0	6.0	8.5	---	---	---	23.0	16.0	19.5
MONTH	3.5	.0	.5	11.0	.0	3.5	14.5	3.0	8.5	23.0	6.0	14.0

01541490 LITTLE CLEARFIELD CREEK AT DIMELING, PA--Continued

TEMPERATURE, WATER (°C), JANUARY 1988 TO OCTOBER 1988

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	22.0	17.0	19.5	15.5	10.0	12.5	26.5	20.5	23.5	21.5	15.0	18.0
2	20.5	15.5	18.0	20.0	9.5	14.0	30.0	21.0	25.0	21.5	15.0	18.0
3	17.0	14.0	15.0	22.5	11.5	16.5	30.0	23.5	26.5	21.5	15.5	18.5
4	16.0	11.5	14.0	23.5	13.0	18.0	29.0	22.0	25.5	19.0	18.0	18.5
5	19.5	11.0	15.0	23.5	15.5	19.5	29.0	24.0	26.0	18.0	15.5	17.0
6	23.0	15.0	18.5	26.0	16.5	21.0	26.5	23.5	24.5	15.0	12.5	14.0
7	23.5	18.0	20.5	25.5	17.5	21.5	28.0	21.5	24.0	16.0	12.0	13.5
8	21.0	17.5	19.5	29.5	18.0	24.0	28.5	19.5	23.5	17.5	11.5	14.0
9	18.5	14.5	16.5	28.0	21.5	24.5	27.5	19.0	23.0	17.5	12.5	15.0
10	15.5	11.0	13.5	28.5	20.5	24.0	28.0	20.5	24.0	19.5	13.5	16.0
11	19.5	10.0	14.0	28.0	21.0	24.0	29.0	21.5	25.0	18.0	13.0	15.5
12	21.5	12.5	16.5	28.0	22.5	25.0	30.0	22.5	26.0	18.5	12.0	15.0
13	22.5	14.0	18.5	29.5	19.0	24.0	30.5	22.5	26.5	18.5	16.5	17.5
14	24.0	15.5	20.0	29.5	20.5	24.5	29.5	23.5	26.5	18.0	14.0	15.5
15	25.0	17.5	21.0	30.0	23.0	26.0	29.0	22.5	25.5	17.0	13.0	15.0
16	20.5	17.5	19.0	30.5	20.5	25.5	27.5	19.0	23.5	15.5	11.5	13.5
17	24.0	17.0	19.5	27.5	23.0	25.5	28.0	20.0	23.5	14.5	13.5	14.0
18	24.0	15.5	19.5	31.0	21.0	25.5	26.5	22.0	24.0	17.5	14.5	15.5
19	24.0	15.5	19.5	24.5	23.5	24.0	22.0	19.0	20.0	20.0	16.0	18.0
20	24.5	17.0	20.5	24.0	22.5	23.5	21.0	18.5	19.5	21.0	18.5	19.5
21	26.5	18.5	22.0	23.0	21.0	22.0	23.0	17.0	20.0	19.0	16.5	18.0
22	24.0	18.0	21.0	26.0	20.0	22.5	23.0	15.0	18.5	18.0	15.5	16.5
23	26.5	19.0	22.0	22.5	20.0	21.0	18.0	15.5	17.0	18.5	16.0	17.0
24	24.5	15.0	19.5	25.0	19.5	21.5	20.5	16.5	18.0	16.5	14.5	15.5
25	25.5	16.0	20.0	25.5	19.0	22.0	22.0	16.0	19.0	15.0	14.0	14.5
26	21.0	16.0	19.0	24.0	20.0	21.5	23.0	18.0	20.0	16.0	13.0	14.5
27	21.0	13.0	16.5	25.0	20.0	22.5	23.0	16.5	19.5	17.0	12.5	14.5
28	18.5	12.0	15.5	26.5	20.5	23.0	25.0	19.5	22.0	16.5	13.0	14.5
29	22.0	14.0	17.0	29.5	21.0	25.0	22.0	19.5	21.0	16.0	12.5	13.5
30	19.5	11.5	15.0	28.0	22.0	24.5	21.5	18.0	19.5	15.0	10.5	12.0
31	---	---	---	29.0	22.5	25.0	20.5	16.0	18.0	---	---	---
MONTH	26.5	10.0	18.0	31.0	9.5	22.5	30.5	15.0	22.5	21.5	10.5	15.5

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

01541500 CLEARFIELD CREEK AT DIMELING, PA

LOCATION.--Lat 40°58'18", long 78°24'22", Clearfield County, Hydrologic Unit 02050201, on right bank at downstream side of highway bridge on SR 2024 at Dimeling, 600 ft downstream from Little Clearfield Creek, and 4.0 mi southeast of Clearfield.

DRAINAGE AREA.--371 mi^2.

PERIOD OF RECORD.--October 1913 to current year. Monthly discharges only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 756: Drainage area. WSP 891: 1936-39. WSP 1302: 1915-17, 1918-19(M). WSP 1502: 1939. WDR PA-87-2: 1986(M).

GAGE.--Water-stage recorder. Datum of gage is 1,146.08 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 17, 1928, nonrecording gage and Oct. 17, 1928, to Oct. 25, 1967, water-stage recorder at site 200 ft upstream at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since December 1960 by Glendale Dam (station 01541340) about 25 mi upstream. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--75 years, 580 ft^3/s, 21.23 in/yr, adjusted for storage since December 1960.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,600 ft^3/s, Mar. 18, 1936, gage height, 18.49 ft, from floodmark in gage shelter, from rating curve extended above 15,000 ft^3/s; minimum, 6.0 ft^3/s, Oct. 1, 9, 1925; minimum daily, 7.1 ft^3/s, Oct 1, 1925.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 6,360 ft^3/s, Feb 2, gage height, 9.23 ft; minimum daily, 30 ft^3/s, Aug. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	281	184	852	e580	e1000	483	695	361	358	e74	e76	e92
2	256	176	636	e500	5480	469	674	302	332	e78	e70	e70
3	348	175	528	e410	4850	569	612	282	313	e76	e66	e58
4	396	172	483	e390	3780	1420	607	269	291	e70	e62	e145
5	301	170	452	e300	2880	1620	606	273	264	e65	e60	281
6	260	166	395	e280	1790	1190	545	383	242	e58	e59	219
7	274	160	350	e290	1320	1120	746	433	222	e56	e66	151
8	287	158	325	e300	1200	987	1150	361	207	e56	e68	e115
9	286	158	330	e310	968	1070	906	330	211	e58	e51	e100
10	269	174	389	e280	845	1630	784	456	355	e52	e49	e85
11	295	186	395	e270	772	1380	696	571	235	e49	e44	e75
12	325	200	365	e260	706	1160	626	454	196	e49	e44	e64
13	315	196	358	e280	619	1180	567	414	178	e50	e41	e115
14	281	207	332	e260	521	1100	514	455	164	e47	e39	198
15	266	238	431	e240	565	937	472	407	155	e46	e35	201
16	e245	264	762	e220	530	818	446	413	147	e45	e32	137
17	e230	264	603	e230	483	788	418	435	152	e44	e30	148
18	e215	264	499	e250	474	755	394	563	144	e43	e36	519
19	e205	266	442	e350	481	718	378	3920	135	e105	e90	301
20	e200	248	744	e1300	635	690	342	2710	126	e100	e80	205
21	e190	238	1250	e1200	782	619	317	1810	121	e190	e66	214
22	e180	209	927	e730	602	556	297	1330	116	255	e52	216
23	174	207	769	e570	697	542	282	1050	111	186	e70	189
24	165	230	664	e490	762	584	280	1060	106	144	e160	171
25	164	226	606	e450	651	679	275	1120	102	160	e98	169
26	159	216	632	e400	575	944	252	811	e100	150	e80	157
27	162	204	635	e330	550	1390	240	678	e96	152	e60	151
28	210	194	539	e280	524	1160	238	586	e89	110	e52	143
29	241	539	e430	e270	496	972	259	511	e84	e76	e95	130
30	220	1470	e370	e300	---	859	347	445	e80	e78	e260	117
31	198	---	e350	e400	---	768	---	396	---	e82	e140	---
TOTAL	7598	7759	16843	12720	35538	29157	14965	23589	5432	2804	2231	4936
MEAN	245	259	543	410	1225	941	499	761	181	90.5	72.0	165
MAX	396	1470	1250	1300	5480	1630	1150	3920	358	255	260	519
MIN	159	158	325	220	474	469	238	269	80	43	30	58
MEAN‡	242	265	548	412	1219	947	490	762	169	85.9	70.4	177
CFSM‡	.65	.71	1.48	1.11	3.29	2.55	1.32	2.05	.46	.23	.19	.48
IN.‡	.75	.79	1.71	1.28	3.55	2.94	1.47	2.36	.51	.27	.22	.54

CAL YR 1987 TOTAL 192781 MEAN 528 MAX 6200 MIN 103 MEAN‡ 528 CFSM‡ 1.42 IN.‡ 19.34
WTR YR 1988 TOTAL 163572 MEAN 447 MAX 5480 MIN 30 MEAN‡ 447 CFSM‡ 1.20 IN.‡ 16.39

e Estimated
‡ Adjusted for change in contents in Glendale Lake.

01542000 MOSHANNON CREEK AT OSCEOLA MILLS, PA

LOCATION.--Lat 40°50'58", long 78°16'05", Clearfield County, Hydrologic Unit 02050201, on left bank 10 ft upstream from Penn Central Railroad bridge at Osceola Mills and 0.1 mi downstream from Trout Run.

DRAINAGE AREA.--68.8 mi^2.

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1232: 1941-46, 1948, 1950-51, Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,446.98 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--48 years, 111 ft^3/s, 21.91 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,120 ft^3/s, June 23, 1972, gage height 14.25 ft, from rating curve extended above 1,800 ft^3/s on basis of contracted-opening measurements at gage heights 7.58 ft, 9.00 ft, and 14.25 ft; minimum, 1.0 ft^3/s, Jan. 30, 1981, result of freezeup; minimum daily, 3.6 ft^3/s, Oct. 17, 24, 1980.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 600 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 2	1530	995	4.58	May 19	1145	*1,250	*5.26

Minimum daily discharge, 12 ft^3/s, Aug. 28.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	42	36	81	e110	e130	78	149	67	126	29	16	18
2	43	36	78	e74	788	82	148	62	115	27	16	16
3	79	36	75	e64	606	114	134	59	108	26	16	15
4	49	37	78	e58	555	211	136	59	99	25	16	49
5	41	35	74	e41	378	150	123	77	89	25	16	35
6	39	34	69	e39	e260	145	113	95	82	24	18	22
7	48	33	65	e40	e210	147	194	84	76	24	18	19
8	44	33	65	e43	e180	142	183	82	71	23	16	17
9	41	36	68	e43	e160	182	161	86	84	22	15	16
10	38	40	69	e40	e150	235	156	136	68	22	15	15
11	55	40	64	e38	e140	215	149	115	62	21	15	15
12	50	39	64	e40	e130	212	143	106	57	21	15	14
13	43	41	61	e41	e110	234	134	109	54	20	15	25
14	40	49	59	e38	e110	216	125	116	50	20	15	21
15	39	50	88	e37	e105	199	120	103	47	21	14	17
16	38	45	94	e37	e105	179	114	121	47	19	13	15
17	37	45	77	e39	101	164	106	111	48	19	13	33
18	37	53	70	e48	102	153	103	228	43	19	14	31
19	36	48	67	e50	99	147	96	981	41	34	21	22
20	39	49	140	e160	120	138	88	697	39	24	16	22
21	41	50	141	e100	117	123	84	471	37	65	14	25
22	36	53	117	e86	99	112	80	347	36	29	13	21
23	35	49	116	e78	115	111	75	277	35	20	20	24
24	34	53	110	e76	108	110	77	295	34	22	28	22
25	34	50	117	e74	92	106	70	256	34	17	17	20
26	32	48	118	e72	84	166	66	204	33	25	14	20
27	37	46	105	e66	82	208	65	183	32	27	13	18
28	67	44	e90	e60	79	174	65	169	31	18	12	18
29	47	79	e80	e55	79	169	75	155	30	17	99	17
30	41	112	e74	e56	---	163	82	142	29	16	42	17
31	38	---	e80	e64	---	152	---	127	---	17	22	---
TOTAL	1320	1399	2654	1867	5394	4937	3414	6120	1737	738	607	639
MEAN	42.6	46.6	85.6	60.2	186	159	114	197	57.9	23.8	19.6	21.3
MAX	79	112	141	160	788	235	194	981	126	65	99	49
MIN	32	33	59	37	79	78	65	59	29	16	12	14
CFSM	.62	.68	1.24	.88	2.70	2.31	1.65	2.87	.84	.35	.28	.31
IN.	.71	.76	1.44	1.01	2.92	2.67	1.85	3.31	.94	.40	.33	.35

CAL YR 1987	TOTAL 39178	MEAN 107	MAX 941	MIN 27	CFSM 1.56	IN. 21.18
WTR YR 1988	TOTAL 30826	MEAN 84.2	MAX 981	MIN 12	CFSM 1.22	IN. 16.67

e Estimated

01542500 WEST BRANCH SUSQUEHANNA RIVER AT KARTHAUS, PA

LOCATION.--Lat 41°07'03", long 78°06'33", Clearfield County, Hydrologic Unit 02050201, on left bank 900 ft upstream from bridge on State Highway 879 at Karthaus, 1,000 ft upstream from Mosquito Creek, and 3.3 mi downstream from Moshannon Creek. Records include flow of Mosquito Creek.

DRAINAGE AREA.--1,462 mi^2, includes that of Mosquito Creek.

PERIOD OF RECORD.--February 1940 to current year. October 1918 to September 1920 (gage heights only) in reports of Water Supply Commission of Pennsylvania.

GAGE.--Water-stage recorder. Datum of gage is 830.59 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1920, nonrecording gage at site 900 ft downstream at datum 20.88 ft lower. Feb. 21 to Sept. 30, 1940, nonrecording gage at site 900 ft downstream at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since December 1960 by Glendale Dam (station 01541340) about 70 mi upstream and since November 1965 by Curwensville Dam (station 01541180) about 50 mi upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter and National Weather Service landline telemeter at station.

AVERAGE DISCHARGE.--48 years, 2,495 ft^3/s, 23.18 in/yr, adjusted for storage since December 1960.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 84,300 ft^3/s, June 23, 1972, gage height 18.57 ft, from rating curve extended above 50,000 ft^3/s; minimum, 100 ft^3/s, Sept. 26, 27, 1964, gage height, 0.43 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 24.5 ft, Mar. 18, 1936, from floodmarks at highway bridge, discharge, about 135,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 16,600 ft^3/s, Feb. 3, gage height, 8.70 ft; minimum daily, 212 ft^3/s, Aug. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1110	832	6660	2000	2190	1700	3150	1200	1710	337	474	635
2	1170	758	4480	2300	10400	1640	2970	1140	1540	337	379	531
3	1390	725	3770	2180	15300	1740	2830	1050	1480	337	319	455
4	1440	715	2830	2030	12500	2500	2760	1010	1530	329	284	463
5	1430	669	2560	1880	11000	4510	2750	1010	1360	319	267	828
6	1240	678	2290	1270	8890	4440	2640	1260	1250	307	278	771
7	1190	669	2020	1180	7360	3630	2740	1570	1080	298	322	735
8	1170	620	1780	1210	6570	3710	3890	1610	1030	289	312	586
9	1200	619	1630	1420	4940	3490	3790	1590	969	278	274	431
10	1170	650	1870	1430	3520	5060	3300	1790	885	273	255	342
11	1220	687	2280	1360	3210	5730	3100	2260	984	267	248	306
12	1260	730	2290	1250	2900	4990	2890	2400	891	263	241	288
13	1230	809	1990	1230	2560	4920	2620	2060	810	258	236	403
14	1170	879	1870	1150	2060	4910	2420	2030	774	252	235	564
15	1130	885	1930	1040	2060	4560	2230	1990	791	251	233	474
16	1090	844	2720	1060	2080	3790	2100	2000	740	256	221	525
17	1000	1000	3150	1030	2060	3460	2010	2120	686	258	214	545
18	915	1300	2860	1050	1980	3110	1880	2560	635	256	212	872
19	873	1380	2270	1240	1920	2860	1830	6550	600	383	215	1180
20	851	1320	2440	2470	2030	2640	1770	9760	564	414	255	944
21	857	1410	4070	3830	2550	2460	1480	7060	542	502	291	906
22	843	1410	4620	3970	2530	2200	1370	5900	486	815	254	761
23	772	1350	4410	3600	2470	2040	1330	4730	457	834	e280	654
24	766	1380	3460	3310	2690	2020	1360	4030	413	812	e320	616
25	795	1250	2940	2750	2570	2250	1320	4050	404	698	e360	566
26	670	1110	2880	2350	2240	3240	1220	3550	393	565	338	546
27	697	1060	2830	1890	1980	5140	1140	2990	378	645	292	511
28	851	1030	2680	1540	1920	4830	1100	2610	363	465	274	494
29	859	1160	2480	1490	1850	4260	1040	2340	356	376	383	478
30	920	6530	2240	1470	---	3790	1090	2110	348	382	652	447
31	937	---	1740	1700	---	3360	---	1900	---	422	738	---
TOTAL	32216	34459	88040	57680	126330	108980	66120	88230	24449	12478	9656	17857
MEAN	1039	1149	2840	1861	4356	3515	2204	2846	815	403	311	595
MAX	1440	6530	6660	3970	15300	5730	3890	9760	1710	834	738	1180
MIN	670	619	1630	1030	1850	1640	1040	1010	348	251	212	288
MEAN‡	1031	1118	2803	1868	4344	3522	2226	2890	813	397	314	596
CFSM‡	.71	.76	1.92	1.28	2.97	2.41	1.52	1.98	.56	.27	.21	.41
IN.‡	.82	.85	2.21	1.48	3.20	2.78	1.70	2.28	.62	.31	.24	.46

CAL YR 1987	TOTAL 744378	MEAN 2039	MAX 14900	MIN 379	MEAN‡ 2039	CFSM‡ 1.39	IN.‡ 18.95			
WTR YR 1988	TOTAL 666495	MEAN 1821	MAX 15300	MIN 212	MEAN‡ 1820	CFSM‡ 1.24	IN.‡ 16.95			

e Estimated

‡ Adjusted for change in contents in Curwensville and Glendale Lakes.

01542810 WALDY RUN NEAR EMPORIUM, PA

LOCATION.--Lat 41°34'44", long 78°17'34", Cameron County, Hydrologic Unit 02050202, on left bank 15 ft downstream from highway bridge on Township Route 318 at North Creek Chapel, 0.1 mi upstream from mouth, and 5.5 mi northwest of Emporium.

DRAINAGE AREA.--5.24 mi^2.

PERIOD OF RECORD.--Occasional discharge measurements and annual maximum, water years 1963-64. August 1964 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,263.62 ft above National Geodetic Vertical Datum of 1929. July 25, 1963, to Aug. 27, 1964, crest-stage gage at same site and datum.

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

AVERAGE DISCHARGE.--24 years, 8.70 ft^3/s, 22.55 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 828 ft^3/s, Sept. 28, 1967, gage height, 6.32 ft, from rating curve extended above 80 ft^3/s on basis of slope-area measurements at gage heights 5.09 ft, 5.86 ft, and at peak flow; no flow Sept. 14-19, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 29	Unknown	*122	*4.50	May 19	1315	103	4.41

Minimum daily discharge, 0.11 ft^3/s, Aug. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	2.4	29	e5.8	e7.0	e2.2	8.7	4.9	2.8	.42	.40	.88
2	3.3	2.6	17	e7.3	39	e3.0	7.3	5.3	2.6	.42	.33	.65
3	3.3	2.7	12	e5.0	42	3.7	7.0	5.3	4.1	.33	.28	.54
4	2.9	2.9	9.6	e4.5	27	4.1	12	5.3	2.7	.29	.23	4.0
5	2.9	3.2	7.3	e3.6	18	5.7	15	5.5	2.2	.25	.35	3.0
6	2.9	3.1	6.0	e3.2	e12	6.3	15	5.3	1.9	.23	4.6	2.0
7	3.3	3.0	5.2	e2.8	e9.0	4.4	13	4.8	1.8	.21	1.4	1.3
8	2.9	3.1	4.8	e3.0	e8.0	5.4	9.9	4.8	1.6	.19	.80	.84
9	2.7	3.5	6.0	e3.2	e7.0	13	8.4	5.1	1.6	.19	.57	.66
10	2.7	3.4	12	e2.8	e5.0	28	7.5	8.6	1.4	.18	.47	.58
11	4.0	3.6	15	e2.5	e4.5	23	6.7	11	1.2	.18	.47	.48
12	4.2	3.8	14	e2.3	e4.2	21	6.0	11	1.1	.17	.43	.43
13	4.8	3.7	10	e2.7	e4.1	36	5.4	11	.99	.15	.34	.62
14	4.5	3.5	8.0	1.9	e3.6	31	4.9	9.6	.90	.23	.37	.43
15	4.1	3.1	9.4	2.2	e3.3	20	4.6	9.3	.85	.32	.27	.35
16	3.8	2.9	11	2.9	e3.0	13	4.1	32	.88	.34	.20	.29
17	3.4	4.3	9.5	3.2	e2.8	9.8	3.7	33	.91	1.1	.21	.48
18	3.2	11	7.8	4.0	e2.6	8.0	3.7	25	.75	.54	.21	.51
19	2.9	14	7.0	2.9	e2.9	6.9	3.3	75	.68	1.6	.16	.41
20	2.7	12	16	22	3.3	6.0	3.0	54	.65	1.2	.15	.50
21	2.7	9.0	32	15	4.0	7.2	3.0	26	.61	3.6	.14	.47
22	2.4	6.8	24	14	e5.0	7.9	2.6	16	.56	1.5	.11	.37
23	2.4	5.8	17	11	3.3	4.3	3.3	11	.65	.79	1.4	.63
24	2.1	5.2	12	9.1	e2.8	5.3	4.4	10	.53	.95	2.9	.51
25	2.2	4.6	9.9	7.3	e2.6	20	4.4	7.7	.50	.92	.78	.41
26	2.0	4.5	8.6	e6.4	e2.5	69	4.7	6.4	.53	.75	1.1	.35
27	2.3	4.0	8.1	e5.6	e2.8	44	5.0	5.6	.53	.70	.56	.33
28	2.7	4.0	7.8	e4.5	e2.5	26	5.1	5.0	.45	.50	.51	.30
29	2.6	e54	e7.0	e3.5	e2.3	18	5.1	4.5	.48	.40	3.9	.27
30	2.4	69	e6.0	e3.2	---	13	5.1	3.8	.42	.47	2.5	.26
31	2.4	---	e5.6	e3.2	---	10	---	3.1	---	.72	1.4	---
TOTAL	93.8	258.7	354.6	170.6	236.1	475.2	191.9	424.9	36.87	19.84	27.54	22.85
MEAN	3.03	8.62	11.4	5.50	8.14	15.3	6.40	13.7	1.23	.64	.89	.76
MAX	4.8	69	32	22	42	69	15	75	4.1	3.6	4.6	4.0
MIN	2.0	2.4	4.8	1.9	2.3	2.2	2.6	3.1	.42	.15	.11	.26
CFSM	.58	1.65	2.18	1.05	1.55	2.93	1.22	2.62	.23	.12	.17	.15
IN.	.67	1.84	2.52	1.21	1.68	3.37	1.36	3.02	.26	.14	.20	.16

CAL YR 1987 TOTAL 2872.99 MEAN 7.87 MAX 94 MIN .23 CFSM 1.50 IN. 20.40
WTR YR 1988 TOTAL 2312.90 MEAN 6.32 MAX 75 MIN .11 CFSM 1.21 IN. 16.42

e Estimated

01543000 DRIFTWOOD BRANCH SINNEMAHONING CREEK AT STERLING RUN, PA

LOCATION.--Lat 41°24'48", long 78°11'50", Cameron County, Hydrologic Unit 02050202, on downstream side of second pier from left bank of highway bridge on SR 3002 at village of Sterling Run and 300 ft upstream from Sterling Run.

DRAINAGE AREA.--272 mi^2.

PERIOD OF RECORD.--October 1913 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1272: Drainage area. WSP 1502: 1933(M), 1934-38, 1939(M).

GAGE.--Water-stage recorder. Datum of gage is 894.84 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1913, to Sept. 30, 1931, nonrecording gage and Oct. 1, 1931, to Sept. 30, 1932, water-stage recorder at present site and datum. Oct. 1, 1932, to Sept. 30, 1942, nonrecording gage at site 800 ft upstream at same datum.

REMARKS.--Records poor. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--75 years, 449 ft^3/s, 22.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 47,800 ft^3/s, July 18, 1942, gage height, 14.70 ft, from floodmarks at highway bridge, from rating curve extended above 11,000 ft^3/s on basis of slope-area measurement of peak flow; minimum observed, 0.4 ft^3/s, Sept. 12, 13, 14, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 29	2130	*4,200	*4.08				

Minimum daily discharge, 9.1 ft^3/s, Aug. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	288	150	1880	e220	e290	159	798	298	224	24	59	84
2	289	152	1350	e150	1220	149	688	282	199	24	38	64
3	335	152	1060	e130	1680	183	630	272	201	24	29	51
4	340	153	945	e150	1600	212	843	264	236	22	23	241
5	340	155	780	e130	1270	199	849	264	173	20	21	266
6	325	155	636	e120	925	206	835	282	142	17	99	157
7	316	155	510	e110	737	241	846	274	125	15	97	115
8	315	155	388	e110	e580	232	835	254	117	13	56	91
9	310	155	340	e130	e510	446	753	235	110	12	40	67
10	299	155	340	e120	e440	1100	675	456	91	11	31	62
11	289	155	340	e115	400	1040	606	506	84	11	25	55
12	289	155	329	e160	376	949	550	505	81	11	48	48
13	289	155	328	e190	297	1290	426	508	73	11	37	57
14	289	154	328	e140	250	1300	343	596	68	11	25	83
15	289	148	329	e120	220	1030	316	547	57	9.9	24	57
16	291	148	357	e130	220	869	305	1010	54	13	17	44
17	291	148	371	e170	220	671	281	1370	57	55	14	52
18	266	540	376	e200	220	534	262	1350	59	77	13	88
19	259	628	376	e210	209	437	247	2580	54	43	12	89
20	244	630	489	e360	202	355	220	2600	52	54	11	82
21	225	628	910	e640	202	255	200	1850	49	139	10	112
22	224	531	966	e620	204	219	194	1370	41	168	9.5	85
23	209	453	963	e600	249	220	180	1080	38	70	9.1	78
24	200	400	853	e520	235	264	416	1090	38	140	177	93
25	194	338	761	e450	198	619	352	1020	36	95	113	82
26	188	328	657	e360	183	2220	318	873	32	70	80	69
27	158	316	529	e320	181	2130	310	747	31	66	67	60
28	149	282	476	e290	168	1690	310	574	30	54	43	52
29	148	1380	461	e270	163	1330	310	424	29	41	236	47
30	148	3010	284	e255	---	1080	310	322	25	32	277	43
31	148	---	e180	e250	---	870	---	262	---	52	120	---
TOTAL	7944	12064	18892	7740	13649	22499	14208	24065	2606	1404.9	1860.6	2574
MEAN	256	402	609	250	471	726	474	776	86.9	45.3	60.0	85.8
MAX	340	3010	1880	640	1680	2220	849	2600	236	168	277	266
MIN	148	148	180	110	163	149	180	235	25	9.9	9.1	43
CFSM	.94	1.48	2.24	.92	1.73	2.67	1.74	2.85	.32	.17	.22	.32
IN.	1.09	1.65	2.58	1.06	1.87	3.08	1.94	3.29	.36	.19	.25	.35

CAL YR 1987 TOTAL 159393.0 MEAN 437 MAX 3010 MIN 17 CFSM 1.61 IN. 21.81
WTR YR 1988 TOTAL 129506.5 MEAN 354 MAX 3010 MIN 9.1 CFSM 1.30 IN. 17.71

e Estimated

01543500 SINNEMAHONING CREEK AT SINNEMAHONING, PA

LOCATION.--Lat 41°19'02", long 78°06'12", Cameron County, Hydrologic Unit 02050202, on left bank 0.2 mi upstream from Grove Run and 0.7 mi upstream from Penn Central Railroad bridge at Sinnemahoning.

DRAINAGE AREA.--685 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 769.36 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--50 years, 1,134 ft^3/s, 22.48 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 60,800 ft^3/s, June 23, 1972, gage height, 21.78 ft, from rating curve extended above 31,000 ft^3/s on basis of slope-area measurement at gage height 21.58 ft; minimum, 1.2 ft^3/s, Sept. 4, 1939, gage height, 1.18 ft; minimum daily, 1.4 ft^3/s, Sept. 3, 1939.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 21.94 ft, Mar. 18, 1936, from floodmark, discharge, 61,200 ft^3/s, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 8,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	0300	*9,820	7.69	Feb. 2	1130	ice jam	*8.05

Minimum daily discharge, 21 ft^3/s, Aug. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	787	330	5390	1160	e1050	603	1490	765	603	58	143	170
2	644	334	3680	838	e2500	557	1360	711	541	59	93	122
3	1130	331	2650	597	5060	729	1210	677	594	59	69	95
4	934	333	2180	e640	4610	841	1550	659	672	56	58	307
5	823	337	1720	e540	3410	737	1540	667	489	51	50	746
6	752	336	1380	e500	e2150	758	1440	775	402	46	80	395
7	799	330	1110	e480	e1700	855	1610	704	350	42	247	261
8	832	332	954	e470	e1500	846	1710	637	318	39	126	196
9	726	346	955	e520	e1300	1300	1490	615	288	35	84	154
10	646	371	1370	e480	e1050	3070	1380	1030	266	32	65	129
11	753	360	1420	e460	e940	3020	1260	1170	239	31	54	110
12	864	358	1470	e450	e860	2700	1130	1140	222	30	58	91
13	808	363	1400	e560	e790	3430	1000	1110	202	28	67	123
14	763	372	1150	e520	e740	3380	906	1260	184	27	50	225
15	715	365	1130	e420	e780	2720	863	1090	168	32	44	147
16	668	340	1480	e420	e700	2090	786	1620	157	35	38	103
17	619	337	1240	e480	628	1660	726	2100	171	120	31	106
18	577	1090	1050	e500	643	1390	683	2120	166	140	27	249
19	529	1270	948	e700	633	1230	651	5170	141	85	25	222
20	493	1180	1490	e1100	767	1090	584	5650	125	81	24	169
21	487	1050	2990	e1600	818	860	551	3980	116	214	23	259
22	439	857	2840	e1450	697	779	509	2850	105	481	21	202
23	404	815	2430	e1350	905	797	486	2140	97	192	23	181
24	383	757	1950	e1250	887	787	1120	2220	91	219	223	236
25	372	669	1820	e1100	798	959	986	1970	83	211	229	198
26	357	649	1630	e980	730	3820	896	1610	76	164	151	157
27	344	618	1350	e800	732	4330	852	1340	74	172	137	136
28	416	556	1220	e700	641	3390	835	1110	73	133	92	118
29	401	2570	1190	e540	631	2620	813	933	67	95	267	105
30	378	8490	915	e560	---	2110	842	802	61	77	667	94
31	355	---	751	e700	---	1690	---	692	---	118	278	---
TOTAL	19198	26446	53253	22865	38650	55148	31259	49317	7141	3162	3544	5806
MEAN	619	882	1718	738	1333	1779	1042	1591	238	102	114	194
MAX	1130	8490	5390	1600	5060	4330	1710	5650	672	481	667	746
MIN	344	330	751	420	628	557	486	615	61	27	21	91
CFSM	.90	1.29	2.51	1.08	1.95	2.60	1.52	2.32	.35	.15	.17	.28
IN.	1.04	1.44	2.89	1.24	2.10	2.99	1.70	2.68	.39	.17	.19	.32

CAL YR 1987 TOTAL 391465 MEAN 1073 MAX 8490 MIN 64 CFSM 1.57 IN. 21.27
WTR YR 1988 TOTAL 315789 MEAN 863 MAX 8490 MIN 21 CFSM 1.26 IN. 17.15

e Estimated

01544000 FIRST FORK SINNEMAHONING CREEK NEAR SINNEMAHONING, PA

LOCATION.--Lat 41°24'06", long 78°01'28", Cameron County, Hydrologic Unit 02050202, on right bank on Township Route 357, 350 ft downstream from Woodrock Run, 1,500 ft upstream from Roaring Run, 0.8 mi downstream from George B. Stevenson Dam (First Fork Sinnemahoning Creek Reservoir), and 7.5 mi northeast of Sinnemahoning.

DRAINAGE AREA.--245 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 878.71 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 1, 1954, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow regulated since Jan. 31, 1956 by George B. Stevenson Dam (station 01543900). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--35 years, 391 ft^3/s, 21.67 in/yr, adjusted for storage since January 1956.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,200 ft^3/s, Mar. 1, 1956, gage height, 6.60 ft; minimum daily, 0.10 ft^3/s, Aug. 8, 1975.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,150 ft^3/s, May 20, gage height, 3.59 ft; minimum daily, 4.8 ft^3/s, Aug. 20-22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	256	168	1470	373	319	178	629	324	235	24	31	53
2	241	180	1050	302	1410	162	552	360	212	20	23	40
3	486	170	758	202	2410	176	483	379	217	17	17	27
4	595	176	662	230	1830	215	495	364	211	15	16	65
5	528	190	481	204	1120	226	494	348	157	15	15	160
6	466	183	439	130	791	209	505	355	145	15	14	109
7	460	180	341	126	547	224	575	312	135	14	14	57
8	369	180	283	181	600	241	515	290	119	10	14	45
9	330	180	289	209	404	378	508	280	119	9.9	16	39
10	332	156	345	199	376	853	460	392	114	8.8	18	35
11	385	146	386	152	375	998	408	409	98	8.8	17	31
12	396	179	440	143	316	846	356	409	90	8.6	9.7	25
13	391	201	469	172	290	1090	338	409	81	8.1	9.9	41
14	412	176	408	144	244	1380	308	431	65	8.6	16	39
15	369	176	386	98	246	1100	285	424	64	10	9.1	17
16	335	160	403	119	233	796	263	483	63	12	11	17
17	300	150	366	143	184	599	230	869	62	35	14	39
18	271	331	303	154	200	530	212	1030	45	32	5.8	60
19	251	507	285	154	193	470	218	2830	62	56	5.3	40
20	246	511	362	262	250	396	200	4030	54	37	4.8	39
21	213	533	734	333	226	299	187	2480	40	63	4.8	86
22	193	431	910	355	151	232	173	1470	40	132	4.8	79
23	175	347	830	361	237	265	161	941	51	80	5.7	56
24	165	327	641	356	239	285	245	864	56	40	68	65
25	175	289	562	326	184	421	290	714	49	32	64	65
26	163	264	489	288	184	2560	257	614	37	30	40	54
27	145	242	453	220	184	3620	269	532	28	40	36	44
28	188	214	474	175	181	2710	289	431	26	43	26	36
29	188	349	469	167	176	1420	289	361	25	29	66	36
30	173	1610	358	246	---	1040	324	318	25	20	160	31
31	157	---	263	259	---	743	---	265	---	30	103	---
TOTAL	9354	8906	16109	6783	14100	24662	10518	23718	2725	903.8	858.9	1530
MEAN	302	297	520	219	486	796	351	765	90.8	29.2	27.7	51.0
MAX	595	1610	1470	373	2410	3620	629	4030	235	132	160	160
MIN	145	146	263	98	151	162	161	265	25	8.1	4.8	17
MEAN‡	302	297	520	219	486	796	351	765	90.5	29.7	27.7	50.8
CFSM‡	1.23	1.21	2.12	.89	1.98	3.25	1.43	3.12	.37	.12	.11	.21
IN.‡	1.42	1.35	2.44	1.03	2.14	3.75	1.60	3.60	.41	.14	.13	.23

CAL YR 1987 TOTAL 130508.0 MEAN 358 MAX 2260 MIN 18 MEAN‡ 358 CFSM‡ 1.46 IN.‡ 19.82
WTR YR 1988 TOTAL 120167.7 MEAN 328 MAX 4030 MIN 4.8 MEAN‡ 328 CFSM‡ 1.34 IN.‡ 18.24

‡ Adjusted for change in contents in First Fork Sinnemahoning Creek Reservoir.

01544500 KETTLE CREEK AT CROSS FORK, PA

LOCATION.--Lat 41°28'33", long 77°49'34", Clinton County, Hydrologic Unit 02050203, on right bank just upstream from abutment of former highway bridge on Township Route 318, 0.2 mi downstream from Potter-Clinton County line, and 0.7 mi southeast of Cross Fork.

DRAINAGE AREA.--136 mi^2.

PERIOD OF RECORD.--October 1940 to current year. Monthly discharge only for October, November 1940, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 1,027.12 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--48 years, 225 ft^3/s, 22.47 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,300 ft^3/s, June 23, 1972, gage height, 11.76 ft, from floodmark in gage well, from rating curve extended above 9,200 ft^3/s on basis of slope-area measurement of peak flow; minimum daily, 1.2 ft^3/s, Sept. 2-4, 1971.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 14.0 ft, Mar. 18, 1936, from information by local residents, discharge, about 20,000 ft^3/s, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	1930	*3,220	*5.54	No other peak greater than base discharge.			

Minimum daily discharge, 8.4 ft^3/s, Aug. 21, 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	142	121	404	e230	e200	78	382	214	118	17	14	20
2	142	126	403	e140	e700	79	329	225	110	19	12	17
3	240	123	354	e120	1080	101	299	219	140	16	11	17
4	260	125	321	e130	896	118	297	203	111	16	10	17
5	262	127	272	e100	600	108	276	196	90	14	9.6	17
6	240	120	234	e95	e420	109	266	191	79	13	10	17
7	252	111	200	e92	e350	121	270	168	71	12	18	17
8	218	106	181	e97	e300	132	249	154	69	12	13	19
9	199	108	176	e100	e250	193	226	149	64	12	10	19
10	192	101	181	e93	e200	375	209	181	57	11	8.9	17
11	215	98	181	e90	e180	423	195	214	51	12	8.8	15
12	205	95	200	e93	e170	416	182	235	47	14	9.6	14
13	209	97	205	e93	e150	550	169	252	42	11	8.9	18
14	204	97	193	e90	e140	644	158	261	42	9.7	8.8	18
15	195	94	200	e86	e130	559	152	236	41	10	9.0	13
16	183	90	206	e82	e120	443	142	282	40	11	9.1	12
17	169	97	185	e77	e110	358	131	384	43	70	9.6	23
18	156	168	166	e100	e100	304	127	480	38	45	12	30
19	142	195	156	e120	e110	265	117	2170	34	25	11	19
20	133	226	198	e150	137	231	106	2350	32	26	9.0	21
21	129	226	266	e200	117	193	100	1380	30	92	8.4	32
22	115	214	310	e130	112	168	93	904	28	72	8.4	21
23	106	191	316	e110	127	158	97	644	28	34	17	24
24	97	180	287	e110	107	163	180	514	25	29	56	25
25	97	165	288	e110	100	247	167	395	23	25	22	19
26	88	155	266	e100	93	1100	172	310	24	21	20	17
27	88	137	256	e96	100	1350	178	253	23	20	16	15
28	138	128	263	e94	95	1030	181	213	20	17	12	15
29	120	173	264	e94	90	746	203	182	19	15	90	15
30	119	332	215	e92	---	563	208	158	17	14	59	15
31	122	---	e170	e92	---	433	---	135	---	18	27	---
TOTAL	5177	4326	7517	3406	7284	11758	5861	13852	1556	732.7	548.1	558
MEAN	167	144	242	110	251	379	195	447	51.9	23.6	17.7	18.6
MAX	262	332	404	230	1080	1350	382	2350	140	92	90	32
MIN	88	90	156	77	90	78	93	135	17	9.7	8.4	12
CFSM	1.23	1.06	1.78	.81	1.85	2.79	1.44	3.29	.38	.17	.13	.14
IN.	1.42	1.18	2.06	.93	1.99	3.22	1.60	3.79	.43	.20	.15	.15

CAL YR 1987 TOTAL 66541.0 MEAN 182 MAX 1440 MIN 13.0 CFSM 1.34 IN. 18.21
WTR YR 1988 TOTAL 62575.8 MEAN 171 MAX 2350 MIN 8.4 CFSM 1.26 IN. 17.12

e Estimated

01545000 KETTLE CREEK NEAR WESTPORT, PA

LOCATION.--Lat 41°19'12", long 77°52'27", Clinton County, Hydrologic Unit 02050203, on left bank on SR 4001, 0.4 mi upstream from Short Bond Run, 3.5 mi upstream from mouth and Westport, and 5.0 mi downstream from Alvin R. Bush Dam (Kettle Creek Lake).

DRAINAGE AREA.--233 mi^2.

PERIOD OF RECORD.--October 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is 728.24 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 14, 1956, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since February 1962 by Alvin R. Bush Dam (station 01544800). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--34 years, 368 ft^3/s, 21.45 in/yr, adjusted for storage since February 1962.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,970 ft^3/s, Mar. 8, 1956, gage height, 10.48 ft; maximum gage height, 13.31 ft, Jan. 22, 1959 (backwater from ice); minimum discharge, 3.0 ft^3/s, Dec. 6, 1964, gage height, 1.12 ft; minimum daily, 4.4 ft^3/s, Nov. 3, 6, 12, 1964.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,430 ft^3/s, May 20, gage height, 7.82 ft; minimum daily, 9.5 ft^3/s, Aug. 17-22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	238	185	703	351	e230	148	635	330	206	25	34	39
2	198	185	708	e280	961	e145	584	330	207	25	24	26
3	295	185	583	e260	2040	170	476	348	194	25	17	25
4	344	185	526	e260	1610	207	477	348	221	25	13	30
5	382	185	422	e240	1100	190	456	337	176	25	13	99
6	359	185	361	e170	792	183	418	340	150	25	16	95
7	365	170	307	e160	e560	220	459	311	117	21	15	46
8	335	157	267	e170	646	224	447	271	126	21	13	27
9	287	164	270	e180	e470	293	393	265	123	15	16	20
10	277	167	290	e170	402	606	369	344	101	15	16	21
11	295	160	278	e150	e340	765	356	400	99	15	15	21
12	321	141	313	e140	328	745	321	464	78	15	13	21
13	321	152	337	e160	274	893	304	485	77	15	13	30
14	316	154	325	e140	e240	1140	280	508	71	15	13	39
15	295	148	332	e120	e230	989	257	447	65	19	12	29
16	276	139	335	e150	e230	756	260	453	58	25	10	55
17	256	144	305	e170	e220	633	230	713	52	31	9.5	27
18	249	205	269	e160	212	527	218	957	60	97	9.5	62
19	208	253	249	e190	e200	444	213	2710	58	66	9.5	68
20	193	301	295	e350	216	403	196	4310	35	40	9.5	55
21	205	329	464	e330	224	319	178	2850	38	67	9.5	49
22	184	283	592	e220	e170	260	172	1480	40	132	9.5	48
23	169	280	596	e200	258	255	166	1090	42	68	12	50
24	149	266	531	e190	e200	256	279	866	38	49	16	49
25	137	236	500	e180	e170	312	309	680	29	57	17	46
26	142	231	478	e170	160	1270	305	488	32	43	29	36
27	133	208	417	e170	169	2140	325	407	35	46	37	31
28	166	183	435	e160	e180	1620	332	360	35	31	36	22
29	206	216	457	e150	e150	1250	335	307	35	21	61	21
30	190	554	354	e180	---	960	352	263	33	21	120	21
31	185	---	e300	e200	---	733	---	215	---	29	108	---
TOTAL	7676	6351	12599	6121	12982	19056	10102	23677	2631	1124	746.0	1208
MEAN	248	212	406	197	448	615	337	764	87.7	36.3	24.1	40.3
MAX	382	554	708	351	2040	2140	635	4310	221	132	120	99
MIN	133	139	249	120	150	145	166	215	29	15	9.5	20
MEAN‡	248	213	405	197	448	615	337	764	90.1	36.5	23.3	41.0
CFSM‡	1.06	.91	1.74	.85	1.92	2.64	1.45	3.28	.39	.16	.10	.18
IN.‡	1.22	1.02	2.01	.98	2.07	3.04	1.62	3.78	.44	.18	.12	.20

CAL YR 1987	TOTAL 103367.0	MEAN 283	MAX 2010	MIN 12	MEAN‡ 283	CFSM‡ 1.21	IN.‡ 16.54
WTR YR 1988	TOTAL 104273.0	MEAN 285	MAX 4310	MIN 9.5	MEAN‡ 285	CFSM‡ 1.22	IN.‡ 16.68

e Estimated

‡ Adjusted for change in contents in Kettle Creek Lake.

01545500 WEST BRANCH SUSQUEHANNA RIVER AT RENOVO, PA

LOCATION.--Lat 41°19'28", long 77°45'03", Clinton County, Hydrologic Unit 02050203, on right bank at abandoned Eighth Street bridge abutment at South Renovo and 1.0 mi upstream from Paddy Run.

DRAINAGE AREA.--2,975 mi^2.

PERIOD OF RECORD.--October 1907 to current year. Monthly discharge only for some periods, published in WSP 1302. Gage height records collected July 1895 to December 1903 and October 1905 to September 1974 are contained in reports of U.S. Weather Bureau.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1908-10, 1912-13, 1914-15(M). WSP 2103: 1968 (monthly mean).

GAGE.--Water-stage recorder. Datum of gage is 634.19 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 17, 1930, nonrecording gage at same site and datum.

REMARKS.--Records excellent except those for estimated daily discharges, which are fair. Flow slightly regulated by 4 flood-control reservoirs which have a combined capacity of 316,000 acre-ft. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeters at station.

AVERAGE DISCHARGE.--81 years, 4,965 ft^3/s, 22.67 in/yr, adjusted for storage 1961-75.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 236,000 ft^3/s, Mar. 18, 1936, gage height, 29.39 ft, from floodmark in gage shelter, from rating curve extended above 87,000 ft^3/s on basis of slope-area measurement of peak flow; minimum, 80 ft^3/s, Dec. 6, 1908, gage height, -1.10 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1895, 27.3 ft, June 1, 1889, from floodmark, discharge, about 211,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 31,200 ft^3/s, Feb. 3, gage height, 9.73 ft; minimum, 248 ft^3/s, Aug. 19, 20, 21, gage height, -0.40 ft.

REVISIONS.--The minimum daily discharge for calendar year 1986 and water year 1987 has been revised to 456 ft^3/s, Sept. 17, 18, 1986, and 496 ft^3/s, Aug. 21, 1987, respectively; revised daily discharges, in cubic feet per second, for November 15-28, 1986, and revised monthly and yearly summaries are given below. These figures supercede those published in the 1987 report.

Nov. 15....6850	Nov. 19.... 6440	Nov. 23.... 9970	Nov. 27....37300
16....6020	20.... 7120	24.... 9400	28....28200
17....5210	21.... 9030	25....10300	
18....5040	22....11200	26....13500	

	TOTAL	MEAN	MAX	MIN	CFSM	IN.
November 1986	286230	9541	37300	1750	3.21	3.58
CAL YR 1986	1977236	5417	37300	456	1.82	24.72
WTR YR 1987	1827239	5006	37300	496	1.68	22.85

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2800	1710	15800	3580	3530	2890	6740	2790	3120	477	653	1150
2	2470	1560	11600	4350	13600	2720	6260	2760	2790	468	679	863
3	2950	1570	8560	3600	29300	2800	5750	2680	2640	468	534	715
4	3720	1500	7210	3330	24400	3520	5670	2580	2910	468	435	665
5	3610	1490	5830	e2700	20000	5310	5900	2490	2540	461	381	1460
6	3350	1440	5160	e2200	15600	6110	5580	2700	2220	433	344	1650
7	3180	1430	4430	e2100	12300	5580	5690	2940	1970	410	416	1280
8	3190	1410	3860	e2300	11200	5420	6730	2960	1810	392	566	1060
9	2920	1380	3510	e2900	9120	5700	7010	2880	1720	371	470	826
10	2790	1400	3970	e3100	6590	9270	6340	3340	1590	348	399	652
11	2830	1430	4440	e2800	5840	11900	5820	4310	1490	339	359	537
12	3290	1420	4820	e2400	5350	10700	5410	4750	1510	333	335	481
13	3190	1520	4780	e2200	4720	11100	4970	4580	1370	332	311	577
14	3130	1620	4260	e2100	3960	12200	4490	4530	1280	323	304	751
15	2950	1670	4080	e2000	3670	10900	4150	4420	1220	340	296	869
16	2790	1620	4930	e2000	3740	8930	3840	4450	1190	345	281	669
17	2600	1570	5480	e1900	3500	7420	3570	6070	1140	386	266	725
18	2380	2320	5120	e1900	3340	6510	3280	7510	1090	510	252	1070
19	2190	3600	4440	e2200	3270	5830	3160	18700	1010	576	251	1470
20	2060	3580	4370	e3500	3360	5340	3020	29400	907	608	248	1470
21	2010	3540	7880	e6400	3930	4670	2720	20600	845	740	266	1360
22	1880	3400	9650	6540	3840	4050	2470	14300	786	1340	311	1340
23	1780	3070	9290	6120	4060	3740	2330	10900	731	1450	296	1130
24	1550	3010	7760	5650	4230	3670	2830	9240	691	1190	377	1040
25	1520	2900	6580	5120	4170	3870	3300	8390	636	1220	740	1020
26	1540	2520	6200	4340	3710	8990	3030	7380	591	958	756	902
27	1370	2440	5660	3620	3420	15700	2810	6150	573	881	595	824
28	1600	2250	5420	2940	3210	14300	2790	5360	552	898	527	739
29	1840	2350	5250	2470	3030	11200	2680	4570	531	670	593	695
30	1770	15900	4630	2710	---	9130	2710	4080	503	538	1380	660
31	1710	---	3880	3080	---	7630	---	3500	---	621	1440	---
TOTAL	76960	76620	188850	102150	219990	227100	131050	211310	41956	18894	15061	28650
MEAN	2483	2554	6092	3295	7586	7326	4368	6816	1399	609	486	955
MAX	3720	15900	15800	6540	29300	15700	7010	29400	3120	1450	1440	1650
MIN	1370	1380	3510	1900	3030	2720	2330	2490	503	323	248	481
CFSM	.83	.86	2.05	1.11	2.55	2.46	1.47	2.29	.47	.20	.16	.32
IN.	.96	.96	2.36	1.28	2.75	2.84	1.64	2.64	.52	.24	.19	.36

CAL YR 1987 TOTAL 1558219 MEAN 4269 MAX 29100 MIN 496 CFSM 1.43 IN. 19.50
WTR YR 1988 TOTAL 1338591 MEAN 3657 MAX 29400 MIN 248 CFSM 1.23 IN. 16.74

e Estimated

01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA

(Hydrologic bench-mark station and radiochemical program)

LOCATION.--Lat 41°23'22", long 77°41'28", Clinton County, Hydrologic Unit 02050203, on left bank on SR 4005, 0.3 mi downstream from Laurelly Fork, 1.5 mi upstream from Left Branch Young Womans Creek, 3.7 mi upstream from mouth, and 5.0 mi northeast of Renovo.

DRAINAGE AREA.--46.2 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--December 1964 to current year.

GAGE.--Water-stage recorder and concrete control. Elevation of gage is 780 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--23 years, 73.9 ft^3/s, 21.72 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,370 ft^3/s, June 23, 1972, gage height, 7.98 ft, from rating curve extended above 1,000 ft^3/s on basis of slope-area measurement of peak flow; minimum, 1.0 ft^3/s, Aug. 22, 23, 1988, gage height, 1.40 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 460 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	1900	*1,120	*4.24	No other peak greater than base discharge.			

Minimum daily discharge, 1.1 ft^3/s, Aug. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36	39	89	e70	e45	30	106	61	50	8.9	5.1	7.4
2	32	40	91	e60	e150	30	98	63	47	10	4.0	5.5
3	54	40	85	e56	268	36	91	61	52	8.1	3.4	4.5
4	45	40	82	e60	238	40	90	60	44	7.0	3.3	17
5	44	40	75	e52	190	37	82	60	38	6.3	3.0	18
6	43	39	67	e39	152	37	77	60	34	5.7	2.8	11
7	54	36	60	e33	e140	40	78	54	31	5.0	3.1	8.8
8	48	35	55	e34	e110	44	73	50	29	4.5	2.7	6.9
9	45	34	55	e36	95	65	67	50	29	4.2	2.2	5.6
10	43	33	58	e35	84	111	63	63	26	4.1	2.0	4.8
11	54	32	56	e32	74	119	61	61	24	3.8	1.8	4.1
12	51	31	59	e29	71	123	58	61	22	3.7	1.7	3.8
13	51	31	59	e32	64	154	55	64	21	3.4	1.8	12
14	50	32	55	e30	e60	175	53	70	19	3.9	1.6	8.2
15	48	29	60	e26	57	165	51	67	18	5.0	1.4	5.7
16	46	27	63	e30	51	143	49	80	18	3.8	1.2	4.4
17	44	29	59	e34	47	120	46	104	18	16	1.4	11
18	42	54	53	e33	47	105	46	137	16	12	2.0	16
19	40	54	50	e40	47	95	43	697	15	9.9	1.5	11
20	39	61	67	e70	49	85	41	850	15	9.9	1.3	12
21	38	63	85	e56	43	73	39	442	14	36	1.2	18
22	35	59	90	e42	e44	e64	36	301	13	22	1.1	12
23	32	55	91	e38	43	61	38	225	13	12	2.2	12
24	30	52	86	e36	40	63	55	178	12	9.6	23	12
25	29	48	88	e34	38	78	51	142	11	7.9	10	9.5
26	27	45	85	e32	38	158	52	114	10	6.6	11	8.0
27	29	42	82	e31	37	187	53	95	11	6.9	7.2	6.9
28	53	40	85	e29	34	167	52	81	9.4	5.8	4.4	6.2
29	42	55	86	e29	32	148	61	70	9.1	4.9	36	5.8
30	41	86	e77	e30	---	131	61	62	8.5	4.4	20	5.5
31	40	---	e63	e35	---	114	---	55	---	7.2	10	---
TOTAL	1305	1301	2216	1223	2388	2998	1826	4538	677.0	258.5	173.4	273.6
MEAN	42.1	43.4	71.5	39.5	82.3	96.7	60.9	146	22.6	8.34	5.59	9.12
MAX	54	86	91	70	268	187	106	850	52	36	36	18
MIN	27	27	50	26	32	30	36	50	8.5	3.4	1.1	3.8
CFSM	.91	.94	1.55	.85	1.78	2.09	1.32	3.17	.49	.18	.12	.20
IN.	1.05	1.05	1.78	.98	1.92	2.41	1.47	3.65	.55	.21	.14	.22

CAL YR 1987 TOTAL 19137.4 MEAN 52.4 MAX 323 MIN 3.4 CFSM 1.13 IN. 15.41
WTR YR 1988 TOTAL 19177.5 MEAN 52.4 MAX 850 MIN 1.1 CFSM 1.13 IN. 15.44

e Estimated

01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: October 1980 to September 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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)
OCT												
27...	1215	26	38	7.70	6.5	0.30	729	11.8	100	K1	K23	14
FEB												
02...	1030	215	34	7.50	1.5	12	743	13.0	95	K16	K26	15
APR												
19...	1030	43	38	7.30	5.0	0.30	--	12.2	--	K1	K14	13
JUL												
29...	1040	4.7	50	6.90	20.0	0.60	761	8.0	88	K5	K8	18

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)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3)	ALKA-LINITY WAT WH TOT FET FIELD (MG/L AS CACO3)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3)	ALKA-LINITY LAB (MG/L AS CACO3)
OCT											
27...	6	4.0	1.0	0.90	11	0.1	0.80	7	8	6	8.0
FEB											
02...	9	4.3	1.1	1.0	12	0.1	0.90	4	6	3	5.0
APR											
19...	8	3.7	0.98	0.80	11	0.1	0.70	5	6	4	6.0
JUL											
29...	8	5.2	1.3	1.4	13	0.1	1.0	12	11	9	11

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, 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)
OCT											
27...	8.6	1.3	0.10	3.9	38	26	0.05	2.66	<0.010	0.210	<0.010
FEB											
02...	10	1.3	0.10	3.7	31	30	0.04	18.0	<0.010	0.810	0.020
APR											
19...	8.6	0.90	0.10	3.7	29	25	0.04	3.39	<0.010	0.450	0.030
JUL											
29...	8.6	1.7	0.10	3.9	36	31	0.05	0.46	<0.010	0.320	0.020

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA + 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)	PHOS-PHOROUS ORGANIC TOTAL (MG/L AS P)	PHOS-PHOROUS ORGANIC DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT											
27...	0.020	--	3.0	<0.010	<0.010	<0.010	--	--	5	0.35	55
FEB											
02...	0.010	0.78	0.80	0.030	0.010	<0.010	0.03	0.01	155	90	70
APR											
19...	0.020	--	<0.20	<0.010	<0.010	<0.010	--	--	2	0.23	100
JUL											
29...	0.020	0.18	0.20	0.030	0.020	<0.010	0.03	0.02	0	0.0	100

(K) Results based on non-ideal colony count.
(<) Actual value is known to be less than the value shown.

01545600 YOUNG WOMANS CREEK NEAR RENOVO, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	ALUM-INUM, DIS-SOLVED (µG/L AS AL)	ARSENIC DIS-SOLVED (µG/L AS AS)	BARIUM, DIS-SOLVED (µG/L AS BA)	BERYL-LIUM, DIS-SOLVED (µG/L AS BE)	CADMIUM DIS-SOLVED (µG/L AS CD)	CHRO-MIUM, DIS-SOLVED (µG/L AS CR)	COBALT, DIS-SOLVED (µG/L AS CO)	COPPER, DIS-SOLVED (µG/L AS CU)	IRON, DIS-SOLVED (µG/L AS FE)
OCT 27...	1215	26	<10	<1	27	<0.5	<1	9	<3	<1	9
FEB 02...	1030	215	20	<1	28	<0.5	<1	<1	<3	<1	25
APR 19...	1030	43	<10	1	23	<0.5	<1	<1	<3	<1	9
JUL 29...	1040	4.7	<10	<1	27	<0.5	<1	<1	<3	2	23

DATE	LEAD, DIS-SOLVED (µG/L AS PB)	LITHIUM DIS-SOLVED (µG/L AS LI)	MANGA-NESE, DIS-SOLVED (µG/L AS MN)	MERCURY DIS-SOLVED (µG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (µG/L AS MO)	NICKEL, DIS-SOLVED (µG/L AS NI)	SELE-NIUM, DIS-SOLVED (µG/L AS SE)	SILVER, DIS-SOLVED (µG/L AS AG)	STRON-TIUM, DIS-SOLVED (µG/L AS SR)	VANA-DIUM, DIS-SOLVED (µG/L AS V)	ZINC, DIS-SOLVED (µG/L AS ZN)
OCT 27...	<5	<4	3	<0.1	<10	1	<1	<1.0	26	<6	9
FEB 02...	<5	<4	19	<0.1	<10	<1	<1	<1.0	27	<6	21
APR 19...	<5	4	3	<0.1	<10	1	<1	1.0	24	<6	<3
JUL 29...	<5	<4	9	<0.1	<10	3	<1	<1.0	35	<6	11

RADIOCHEMICAL ANALYSES, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	GROSS ALPHA, DIS-SOLVED (µG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (µG/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)
OCT 27...	1215	26	0.80	<0.4	<0.4	0.7	<0.4	0.7	<0.4	0.02
APR 19...	1030	43	0.70	<0.4	<0.4	0.7	<0.4	0.7	<0.4	0.05

(<) Actual value is known to be less than the value shown.

01546400 SPRING CREEK AT HOUSERVILLE, PA

LOCATION.--Lat 40°50'01", long 77°49'40", Centre County, Hydrologic Unit 02050204, on right bank 15 ft upstream from bridge on Township Route 365, 0.7 mi north of Houserville, 1.3 mi downstream from Slab Cabin Run, and 3.3 mi northeast of State College.

DRAINAGE AREA.--58.5 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 926.63 ft above National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 687 ft^3/s, Mar. 15, 1986, gage height, 6.79 ft; minimum, 16 ft^3/s, Oct. 29, 1985, gage height, 2.56 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 230 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	0915	275	4.58	Aug. 29	1045	*351	*4.98

Minimum daily discharge, 20 ft^3/s, Nov. 6, 8, Aug. 9-12, 14, 16-18, 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	22	31	39	50	42	61	38	58	29	23	37
2	25	22	30	35	115	42	59	38	55	29	22	35
3	28	22	30	33	133	46	58	38	54	28	21	32
4	22	22	31	34	154	75	61	37	51	28	21	63
5	22	21	30	e26	119	64	56	39	48	27	21	41
6	25	20	29	e26	e105	60	54	40	46	25	23	36
7	40	21	29	e28	e94	63	71	37	46	25	23	33
8	34	20	29	e30	e86	64	70	36	44	25	21	31
9	32	21	29	e29	e78	69	62	38	56	25	20	30
10	31	24	28	e28	71	83	61	49	44	25	20	29
11	34	24	28	e27	66	75	61	42	41	25	20	28
12	32	24	28	e29	65	72	59	40	39	24	20	28
13	31	25	27	e28	63	74	57	39	38	24	21	45
14	31	26	26	e28	60	70	55	39	38	23	20	29
15	31	25	36	e28	56	68	54	38	37	24	21	28
16	30	25	30	e28	53	65	52	45	38	23	20	27
17	25	31	29	e28	51	61	50	54	37	25	20	39
18	21	40	28	e29	50	59	50	158	35	23	20	29
19	22	31	28	e32	51	58	49	243	34	38	37	29
20	23	31	43	e95	72	57	46	196	33	35	22	31
21	23	31	35	e58	64	55	45	160	32	41	21	28
22	23	30	36	e50	57	53	44	127	32	27	20	27
23	22	30	36	e46	53	50	44	109	31	28	32	28
24	22	30	35	e44	50	50	45	110	31	27	31	26
25	22	29	39	e45	48	49	42	109	30	25	23	26
26	22	29	41	e42	47	82	41	87	30	33	21	26
27	30	28	37	e39	46	71	44	79	30	27	21	26
28	30	29	37	e38	44	68	42	74	30	25	38	26
29	24	44	38	e35	43	68	41	69	29	24	211	24
30	23	34	36	e33	---	64	40	65	29	23	73	24
31	22	---	35	33	---	62	---	61	---	25	44	---
TOTAL	825	811	1004	1123	2044	1939	1574	2334	1176	835	971	941
MEAN	26.6	27.0	32.4	36.2	70.5	62.5	52.5	75.3	39.2	26.9	31.3	31.4
MAX	40	44	43	95	154	83	71	243	58	41	211	63
MIN	21	20	26	26	43	42	40	36	29	23	20	24
CFSM	.45	.46	.55	.62	1.20	1.07	.90	1.29	.67	.46	.54	.54
IN.	.52	.52	.64	.71	1.30	1.23	1.00	1.48	.75	.53	.62	.60

CAL YR 1987 TOTAL 19469 MEAN 53.3 MAX 352 MIN 20 CFSM .91 IN. 12.38
WTR YR 1988 TOTAL 15577 MEAN 42.6 MAX 243 MIN 20 CFSM .73 IN. 9.91

e Estimated

01546500 SPRING CREEK NEAR AXEMANN, PA

LOCATION.--Lat 40°53'23", long 77°47'40", Centre County, Hydrologic Unit 02050204, on right bank at upstream side of bridge on SR 3001, 1.6 mi west of Axemann, 1.8 mi southwest of Bellefonte, and 2.5 mi upstream from Logan Branch.

DRAINAGE AREA.--87.2 mi^2.

PERIOD OF RECORD.--October 1940 to current year.

GAGE.--Water-stage recorder. Datum of gage is 788.81 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 19, 1940, nonrecording gage at same site and datum.

REMARKS.-- Records fair. Occasional regulation at low flow by fish hatchery and Rockview Penitentiary. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--48 years, 91.7 ft^3/s, 14.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,410 ft^3/s, June 23, 1972, gage height, 7.47 ft in gage well, 8.75 ft from floodmarks, from rating curve extended above 1,400 ft^3/s on basis of contracted-opening measurement of peak flow; minimum, 9.6 ft^3/s, Nov. 24, 1941, gage height, 1.69 ft; minimum daily, 20 ft^3/s, Dec. 20, 30, 1963, Jan. 28, 29, 31, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1936 reached a stage of 8.6 ft, from information by local residents, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 350 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	Unknown	394	3.42	Aug. 29	1330	*456	*3.55

Minimum daily discharge, 41 ft^3/s, Oct. 18, 19, Nov. 4, 6, Dec. 14, Aug. 17, 18, 27, Sept. 30.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	46	50	62	95	80	99	66	110	57	46	54
2	48	45	49	59	166	78	97	65	105	57	46	50
3	57	42	48	54	201	81	93	65	100	54	45	49
4	48	41	50	55	221	118	97	64	97	52	45	84
5	47	42	48	43	189	106	90	66	92	52	44	59
6	47	41	46	47	166	102	85	73	89	51	44	51
7	58	42	45	50	149	106	102	67	88	50	48	49
8	48	42	45	54	144	108	109	64	90	50	45	48
9	47	42	45	53	133	109	98	65	112	50	45	47
10	45	46	44	51	125	128	95	88	91	50	44	46
11	48	47	43	48	118	122	93	80	84	49	43	45
12	46	46	43	51	117	118	91	76	80	49	43	45
13	44	47	42	50	109	120	90	76	78	48	42	61
14	43	48	41	50	103	115	87	78	75	48	42	46
15	43	47	54	49	103	111	86	77	74	48	42	45
16	42	47	50	49	100	107	84	88	72	48	42	44
17	42	49	45	50	96	103	81	100	77	49	41	53
18	41	78	42	59	94	99	83	e250	70	48	41	47
19	41	60	42	59	92	98	80	e370	67	79	60	45
20	42	60	64	180	111	97	77	e300	66	60	45	46
21	42	60	54	102	115	93	75	e240	64	92	43	45
22	43	58	56	89	95	89	73	e200	63	59	42	44
23	42	57	60	83	96	86	73	e180	62	51	42	44
24	42	57	58	80	94	86	76	e170	59	57	71	44
25	43	56	64	80	91	86	71	e170	59	49	45	43
26	43	54	67	79	87	119	69	e160	58	51	42	43
27	44	52	62	72	87	112	72	e150	58	62	41	43
28	62	52	62	70	84	106	73	133	56	48	43	42
29	47	67	64	70	82	106	69	126	53	47	290	42
30	46	63	57	67	---	101	68	120	53	46	132	41
31	47	---	59	68	---	98	---	115	---	47	69	---
TOTAL	1427	1534	1599	2033	3463	3188	2536	3942	2302	1658	1753	1445
MEAN	46.0	51.1	51.6	65.6	119	103	84.5	127	76.7	53.5	56.5	48.2
MAX	62	78	67	180	221	128	109	370	112	92	290	84
MIN	41	41	41	43	82	78	68	64	53	46	41	41
CFSM	.53	.59	.59	.75	1.37	1.18	.97	1.46	.88	.61	.65	.55
IN.	.61	.65	.68	.87	1.48	1.36	1.08	1.68	.98	.71	.75	.62

CAL YR 1987 TOTAL 30362 MEAN 83.2 MAX 435 MIN 41 CFSM .95 IN. 12.95
WTR YR 1988 TOTAL 26880 MEAN 73.4 MAX 370 MIN 41 CFSM .84 IN. 11.47

e Estimated

01547100 SPRING CREEK AT MILESBURG, PA

LOCATION.--Lat 40°55'54", long 77°47'13", Centre County, Hydrologic Unit 02050204, on left bank 60 ft downstream from privately-owned bridge, 400 ft west of State Highway 144, and 0.8 mi upstream from mouth and Milesburg.

DRAINAGE AREA.--142 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 696.42 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Occasional regulation at low flow by fish hatchery and Rockview Penitentiary. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--21 years, 232 ft^3/s, 22.19 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,170 ft^3/s, June 23, 1972, gage height, 13.20 ft, from peak-stage indicator, from rating curve extended above 900 ft^3/s on basis of computation of peak flow-over-dam; minimum, 60 ft^3/s, Sept. 30, 1969, gage height, 2.22 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 570 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	0845	657	4.59	Aug. 29	1400	*746	*4.84

Minimum daily discharge, 117 ft^3/s, Aug. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	149	132	149	156	202	175	214	163	213	149	133	173
2	148	131	148	151	387	174	211	161	205	148	131	163
3	157	128	148	147	459	180	207	159	203	146	132	158
4	147	127	149	149	453	231	212	159	199	145	132	205
5	144	127	147	137	378	215	203	162	192	141	130	181
6	145	126	145	138	328	211	197	169	188	140	130	165
7	156	124	143	143	294	218	222	160	184	138	134	159
8	144	124	143	147	281	222	230	155	182	137	130	157
9	141	125	144	146	261	229	218	155	200	140	129	151
10	140	129	143	141	245	253	216	181	183	137	126	148
11	144	129	140	137	231	246	219	168	177	136	121	145
12	141	128	140	141	229	243	213	162	170	137	121	144
13	138	128	138	141	215	246	211	160	170	136	121	179
14	134	130	136	138	205	236	207	158	167	136	120	149
15	135	130	152	137	205	231	202	156	168	137	119	142
16	134	128	150	136	200	222	197	167	167	134	118	141
17	132	133	144	137	195	215	193	208	167	136	117	172
18	131	159	140	146	194	208	193	385	162	134	118	165
19	131	144	141	148	194	206	190	612	160	171	136	152
20	132	142	167	278	214	203	185	537	159	150	126	153
21	132	142	160	204	216	195	181	457	156	188	124	152
22	131	138	160	186	195	190	177	384	153	159	121	146
23	133	138	163	180	196	186	177	343	153	149	130	149
24	133	137	161	176	193	185	180	328	151	152	161	143
25	134	136	166	177	188	183	174	326	152	144	130	139
26	134	134	166	174	183	236	170	288	153	143	124	139
27	142	132	160	165	185	234	170	266	151	154	122	136
28	154	132	160	161	180	223	173	249	149	141	139	137
29	135	150	162	160	178	224	168	238	146	137	482	135
30	133	168	153	158	---	218	167	228	145	138	289	132
31	133	---	152	159	---	212	---	220	---	140	195	---
TOTAL	4317	4031	4670	4894	7084	6650	5877	7664	5125	4473	4541	4610
MEAN	139	134	151	158	244	215	196	247	171	144	146	154
MAX	157	168	167	278	459	253	230	612	213	188	482	205
MIN	131	124	136	136	178	174	167	155	145	134	117	132
CFSM	.98	.95	1.06	1.11	1.72	1.51	1.38	1.74	1.20	1.02	1.03	1.08
IN.	1.13	1.06	1.22	1.28	1.86	1.74	1.54	2.01	1.34	1.17	1.19	1.21

CAL YR 1987 TOTAL 71711 MEAN 196 MAX 769 MIN 124 CFSM 1.38 IN. 18.79
WTR YR 1988 TOTAL 63936 MEAN 175 MAX 612 MIN 117 CFSM 1.23 IN. 16.75

01547200 BALD EAGLE CREEK BELOW SPRING CREEK AT MILESBURG, PA

LOCATION.--Lat 40°56'35", long 77°47'12", Centre County, Hydrologic Unit 02050204, on right bank 130 ft downstream from bridge on State Highway 144 at Milesburg and 250 ft downstream from Spring Creek.

DRAINAGE AREA.--265 mi^2.

PERIOD OF RECORD.--October 1955 to current year. Monthly discharge only for October and November 1955 published in WSP 1722. Prior to October 1967, published as North Bald Eagle Creek below Spring Creek at Milesburg.

GAGE.--Water-stage recorder. Datum of gage is 682.49 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 31, 1956, nonrecording gage at site 130 ft upstream at same datum.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeters at station.

AVERAGE DISCHARGE.--33 years, 401 ft^3/s, 20.55 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,300 ft^3/s, June 23, 1972, gage height, 11.67 ft, from floodmark in gage well, from rating curve extended above 9,000 ft^3/s; minimum, 50 ft^3/s, Aug. 3, 1966, gage height, -0.80 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 2	1000	*3,200	*4.22	May 19	1045	*3,200	*4.22

Minimum daily discharge, 121 ft^3/s, Aug. 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	184	158	392	292	497	263	337	225	274	144	134	195
2	168	157	331	244	2650	256	337	216	259	144	129	176
3	229	153	290	211	1780	311	324	212	252	142	129	164
4	191	151	283	247	1450	676	332	212	248	140	127	341
5	174	148	269	195	984	571	318	222	235	137	125	327
6	169	146	245	188	716	533	298	348	220	136	125	221
7	187	144	229	201	560	531	470	307	215	134	128	189
8	176	143	219	206	531	507	600	288	212	133	124	174
9	167	144	221	212	455	566	514	279	238	136	124	163
10	160	152	229	201	415	718	460	416	217	133	123	156
11	168	157	223	185	371	617	422	392	204	131	121	150
12	172	156	221	188	361	556	387	354	193	133	124	147
13	164	161	218	193	312	575	360	331	190	132	126	211
14	156	182	208	184	300	528	335	319	182	132	126	184
15	154	182	291	173	309	478	319	292	178	132	126	157
16	153	172	391	169	299	426	306	302	175	131	128	147
17	149	179	310	173	285	390	288	521	178	133	125	255
18	146	303	274	192	293	364	279	1210	170	132	126	341
19	145	256	254	224	299	355	270	2700	166	177	145	224
20	147	234	479	762	371	341	254	1670	164	152	138	206
21	147	221	538	784	431	313	246	1090	160	211	135	219
22	145	201	453	615	356	289	239	796	157	192	129	187
23	145	199	399	487	367	284	235	650	156	155	136	186
24	143	198	348	428	344	280	240	602	154	161	189	176
25	142	191	343	395	310	280	230	574	153	149	154	161
26	141	185	339	347	291	370	220	463	153	145	138	157
27	151	178	307	279	292	433	226	405	150	155	130	150
28	221	175	292	261	277	384	240	366	147	145	144	147
29	188	307	294	253	269	367	229	336	143	136	863	143
30	170	607	237	268	---	355	237	313	140	136	436	138
31	163	---	225	271	---	340	---	292	---	141	242	---
TOTAL	5115	5940	9352	9028	16175	13257	9552	16703	5683	4490	5249	5792
MEAN	165	198	302	291	558	428	318	539	189	145	169	193
MAX	229	607	538	784	2650	718	600	2700	274	211	863	341
MIN	141	143	208	169	269	256	220	212	140	131	121	138
CFSM	.62	.75	1.14	1.10	2.10	1.61	1.20	2.03	.71	.55	.64	.73
IN.	.72	.83	1.31	1.27	2.27	1.86	1.34	2.34	.80	.63	.74	.81

CAL YR 1987 TOTAL 117209 MEAN 321 MAX 2370 MIN 130 CFSM 1.21 IN. 16.45
WTR YR 1988 TOTAL 106336 MEAN 291 MAX 2700 MIN 121 CFSM 1.10 IN. 14.93

01547400 BALD EAGLE CREEK NEAR MILESBURG, PA

LOCATION.--Lat 40°58'31", long 77°44'35", Centre County, Hydrologic Unit 02050204, on left bank at bridge on SR 1003 at Curtin, 250 ft downstream from Nittany Creek, 500 ft downstream from Antis Run, and 3.5 mi downstream from Milesburg.

DRAINAGE AREA.--296 mi^2.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURE: July 1967 to current year.

INSTRUMENTATION.--Water-temperature recorder since July 1967.

REMARKS.--The temperature recorder measures the water temperature of the inflow to Foster Joseph Sayers Lake. Interruptions in the record are due to malfunctions of the equipment.

EXTREMES FOR PERIOD OF RECORD.--
WATER TEMPERATURE (water years 1967-81, 1983-88): Maximum, 29.0°C, July 17, 18, Aug. 9, 23, 1968, June 27, 30, July 16, 1969; minimum, 0.0°C on many days during winter periods.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum recorded, 22.5°C, June 21, July 29, Aug. 15; minimum, 0.5°C on several days during winter period.

TEMPERATURE, WATER (°C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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

01547400 BALD EAGLE CREEK NEAR MILESBURG, PA--Continued

TEMPERATURE, WATER (°C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	19.5	16.5	18.0	15.5	13.0	14.5	21.5	18.0	19.5	18.0	14.0	16.0
2	18.5	15.5	17.0	18.0	13.5	15.5	22.0	18.0	20.0	18.0	14.0	16.0
3	16.5	14.0	15.0	19.5	14.0	17.0	22.0	19.0	20.5	18.0	14.5	16.0
4	15.0	13.0	14.5	20.0	15.0	18.0	22.0	19.0	20.5	17.5	16.0	16.5
5	17.5	12.5	15.0	21.0	16.0	19.0	22.0	19.0	20.5	17.0	15.0	16.0
6	19.0	15.0	17.0	21.5	17.0	19.5	20.5	19.0	20.0	15.0	12.5	14.0
7	19.0	16.5	18.0	21.5	17.5	20.0	21.0	18.0	19.5	15.0	12.0	13.5
8	18.5	16.0	17.5	21.5	18.0	20.0	21.5	17.5	19.5	16.0	12.0	14.0
9	16.5	14.5	16.0	20.0	18.0	19.0	21.0	17.5	19.5	16.0	12.5	14.5
10	16.0	13.0	14.5	21.5	17.0	19.5	21.5	18.0	20.0	17.5	14.0	15.5
11	18.0	12.0	15.0	21.0	17.5	19.5	21.5	18.5	20.0	16.0	13.5	15.0
12	19.5	14.0	17.0	21.5	18.5	20.0	21.5	19.0	20.0	16.0	12.5	14.5
13	20.0	15.0	18.0	21.5	17.0	19.5	21.5	18.5	20.0	17.5	15.0	16.0
14	21.0	16.0	19.0	21.0	18.0	19.5	21.0	19.0	20.0	17.0	14.0	16.0
15	21.5	17.0	19.5	21.5	18.5	20.0	22.5	19.0	20.5	16.5	13.5	15.0
16	19.5	17.0	18.5	21.5	18.0	20.0	22.0	18.0	20.0	15.0	12.0	14.0
17	20.5	16.0	18.5	21.0	18.5	20.0	20.5	18.0	19.5	14.0	13.0	13.5
18	20.5	16.0	18.5	22.0	18.0	20.5	20.5	18.5	19.5	16.0	14.0	15.0
19	20.5	15.5	18.5	21.5	19.0	19.5	18.5	16.5	17.5	17.5	15.0	16.0
20	21.0	17.0	19.5	19.0	17.5	18.5	17.5	16.0	16.5	18.0	16.0	17.0
21	22.5	17.5	20.0	21.0	17.0	18.5	18.5	15.5	17.5	17.0	15.0	16.0
22	21.5	17.5	19.5	22.0	18.0	20.0	18.5	15.0	17.0	17.0	14.0	15.5
23	21.5	18.0	19.5	20.0	17.5	18.5	16.5	15.0	15.5	18.0	14.5	16.0
24	20.0	16.0	18.5	20.0	16.5	18.0	18.0	15.0	16.5	16.0	14.0	15.0
25	21.5	16.0	19.0	21.0	17.0	19.0	19.5	15.5	17.5	14.5	13.5	14.0
26	20.0	16.0	18.5	19.5	17.0	18.5	20.0	16.0	18.0	15.0	12.5	13.5
27	19.0	14.0	16.5	19.5	16.0	18.0	19.0	15.0	17.5	16.0	12.5	14.0
28	19.0	14.5	17.0	21.0	17.0	19.0	19.5	16.5	18.0	15.5	13.0	14.5
29	19.0	15.5	17.5	22.5	18.0	20.5	19.0	18.0	18.5	13.5	12.0	13.0
30	17.5	14.0	16.0	22.0	18.5	20.5	18.5	16.0	17.5	15.0	12.5	13.5
31	---	---	---	22.0	19.0	20.5	18.0	15.0	16.5	---	---	---
MONTH	22.5	12.0	17.5	22.5	13.0	19.0	22.5	15.0	19.0	18.0	12.0	15.0

01547500 BALD EAGLE CREEK AT BLANCHARD, PA

LOCATION.--Lat 41°03'06", long 77°36'17", Centre County, Hydrologic Unit 02050204, on left bank 0.4 mi downstream from Foster Joseph Sayers Dam, 0.7 mi upstream from Marsh Creek, and 0.9 mi south of Blanchard.

DRAINAGE AREA.--339 mi^2.

PERIOD OF RECORD.--May 1954 to current year. Prior to October 1967, published as North Bald Eagle Creek at Blanchard.

REVISED RECORDS.--WSP 1903: 1956(M).

GAGE.--Water-stage recorder. Datum of gage is 579.79 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since March 1971 by Foster Joseph Sayers Dam (station 01547480). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

AVERAGE DISCHARGE.--34 years, 460 ft^3/s, 18.43 in/yr, adjusted for storage since March 1971.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,100 ft^3/s, Mar. 10, 1964, gage height, 11.59 ft, from rating curve extended above 4,100 ft^3/s; no flow parts of June 16, Nov. 10, 1970, due to construction of Foster Joseph Sayers Dam, May 12, 18, 19, 1976, Mar. 6, 1979, result of shutoff at dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 2,580 ft^3/s, May 22, gage height, 6.39 ft; minimum daily, 122 ft^3/s, May 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	229	173	819	291	450	313	217	236	284	152	167	345
2	233	176	590	291	502	314	217	229	295	152	167	269
3	238	176	384	291	1320	347	217	225	297	152	167	199
4	238	176	291	291	1750	496	217	223	300	152	167	248
5	1260	176	252	291	1700	553	217	221	300	152	167	315
6	2040	176	252	228	1270	555	221	221	288	152	167	372
7	2030	176	252	187	961	557	225	221	259	152	167	262
8	1960	176	252	192	1300	564	274	221	244	152	165	229
9	1870	176	343	224	1510	564	304	221	244	152	148	229
10	1750	176	394	238	1250	564	310	222	244	152	139	229
11	912	176	292	238	742	571	264	225	244	152	139	222
12	301	153	249	243	396	571	229	225	234	152	139	179
13	241	126	247	225	396	571	229	223	211	152	139	182
14	734	126	247	205	396	543	229	221	203	152	139	196
15	1090	126	316	199	396	456	229	221	196	154	135	196
16	1040	126	613	199	396	395	229	221	182	154	131	190
17	555	126	495	199	396	395	229	221	174	152	139	199
18	270	130	327	205	396	304	229	454	174	152	139	214
19	447	159	281	218	365	248	229	298	174	207	139	308
20	338	185	398	700	347	248	229	122	174	262	139	448
21	240	191	720	1030	430	235	229	877	174	289	139	372
22	212	195	721	824	509	229	229	2430	172	392	139	264
23	177	195	489	613	487	229	229	2500	169	420	139	226
24	165	195	428	507	487	229	229	2420	161	374	166	203
25	165	195	437	507	421	229	229	2020	152	284	191	203
26	148	195	437	437	344	229	229	920	152	216	193	203
27	135	195	368	345	309	229	231	301	152	172	166	203
28	135	195	291	283	309	229	236	273	152	167	135	203
29	158	266	291	261	310	229	236	273	152	165	606	203
30	172	639	291	261	---	224	236	273	152	162	889	203
31	172	---	291	336	---	217	---	273	---	167	444	---
TOTAL	19655	5651	12058	10559	19845	11637	7057	17231	6309	6017	6206	7314
MEAN	634	188	389	341	684	375	235	556	210	194	200	244
MAX	2040	639	819	1030	1750	571	310	2500	300	420	889	448
MIN	135	126	247	187	309	217	217	122	152	152	131	179
MEAN‡	231	239	382	339	685	508	363	673	208	169	210	225
CFSM‡	.68	.71	1.13	1.00	2.02	1.50	1.07	1.99	.61	.50	.62	.66
IN.‡	.78	.79	1.30	1.15	2.18	1.73	1.19	2.29	.68	.58	.71	.74

CAL YR 1987 TOTAL 139584 MEAN 382 MAX 2040 MIN 126 MEAN‡ 382 CFSM‡ 1.13 IN.‡ 15.33
WTR YR 1988 TOTAL 129539 MEAN 354 MAX 2500 MIN 122 MEAN‡ 352 CFSM‡ 1.04 IN.‡ 14.12

‡ Adjusted for change in contents in Foster Joseph Sayers Lake.

01547700 MARSH CREEK AT BLANCHARD, PA

LOCATION.--Lat 41°03'34", long 77°36'22", Centre County, Hydrologic Unit 02050204, on right bank 20 ft downstream from highway bridge on SR 1002, 0.5 mi southwest of Blanchard, 0.6 mi downstream from bridge on State Highway 150, and 0.6 mi upstream from mouth.

DRAINAGE AREA.--44.1 mi^2.

PERIOD OF RECORD.--October 1955 to current year. Monthly discharge only for October 1955, published in WSP 1722.

REVISED RECORDS.--WDR PA-72-1: 1971 (runoff in $(ft^3/s)/mi^2$, and inches).

GAGE.--Water-stage recorder. Datum of gage is 586.16 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 31, 1956, nonrecording gage at site 20 ft upstream at same datum.

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

AVERAGE DISCHARGE.--33 years, 58.3 ft^3/s, 17.95 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,900 ft^3/s, June 18, 1984, gage height, 7.85 ft, from rating curve extended above 4,900 ft^3/s; no flow Aug. 30, 31, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 450 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 1	2330	ice jam	3.75	May 19	Unknown	*1,340	*4.20

Minimum daily discharge, 1.5 ft^3/s, Aug. 18, 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	21	91	e45	e70	33	48	e24	28	3.6	9.3	8.3
2	22	22	82	e25	773	32	47	e19	25	3.8	6.1	6.5
3	34	21	71	e24	604	44	46	e18	25	3.5	5.0	5.6
4	26	21	67	e24	469	80	46	e17	22	3.4	4.2	21
5	24	20	58	e17	292	72	42	e22	20	3.1	3.7	18
6	24	19	50	e17	198	77	40	e38	18	2.9	3.5	11
7	31	18	43	e19	e130	87	70	e26	17	2.6	3.9	8.9
8	24	17	40	e20	e94	91	93	e22	16	2.3	3.2	7.3
9	22	17	40	e20	e76	118	97	e24	18	2.5	2.8	6.3
10	20	18	40	e19	e62	169	92	e46	14	4.4	2.5	5.7
11	23	19	38	e18	e56	165	84	e40	12	2.7	2.7	4.9
12	21	19	39	e20	e52	146	74	e33	11	2.4	3.9	4.4
13	20	22	37	e22	e45	152	65	e32	10	2.0	2.6	11
14	18	27	33	19	e40	137	57	e45	9.6	2.0	2.5	7.4
15	18	28	56	16	e35	112	52	e35	8.9	3.5	2.7	5.5
16	17	27	71	16	e32	89	47	e48	8.6	2.4	2.0	4.6
17	16	35	68	17	e30	74	42	e44	9.1	2.8	1.6	20
18	16	98	61	21	e34	64	40	e300	8.3	2.3	1.5	23
19	15	94	56	25	38	59	37	e1200	7.5	10	1.5	15
20	16	86	81	102	59	53	33	752	7.1	5.4	1.6	16
21	16	72	84	85	60	45	31	420	6.5	15	1.9	16
22	14	59	90	e76	54	40	28	249	6.1	12	1.7	11
23	14	50	88	e68	54	37	26	159	5.9	5.6	1.9	11
24	13	45	77	e58	49	36	26	114	5.4	5.0	8.7	9.6
25	13	40	76	e52	43	36	24	85	5.1	4.1	4.5	8.8
26	12	37	66	e45	39	51	e22	66	4.9	3.6	3.0	8.0
27	14	32	57	e36	39	58	e20	53	4.8	8.4	2.4	7.0
28	39	30	53	e35	36	54	e19	46	4.4	7.4	2.5	6.3
29	25	63	52	e32	34	53	e21	40	4.0	4.4	116	5.9
30	24	101	e42	e35	---	51	e30	35	3.5	3.5	26	5.6
31	23	---	e32	e37	---	49	---	31	---	27	12	---
TOTAL	640	1178	1839	1065	3597	2364	1399	4083	345.7	163.6	247.4	299.6
MEAN	20.6	39.3	59.3	34.4	124	76.3	46.6	132	11.5	5.28	7.98	9.99
MAX	39	101	91	102	773	169	97	1200	28	27	116	23
MIN	12	17	32	16	30	32	19	17	3.5	2.0	1.5	4.4
CFSM	.47	.89	1.35	.78	2.81	1.73	1.06	2.99	.26	.12	.18	.23
IN.	.54	.99	1.55	.90	3.03	1.99	1.18	3.44	.29	.14	.21	.25

CAL YR 1987 TOTAL 15262.3 MEAN 41.8 MAX 241 MIN 2.2 CFSM .95 IN. 12.87
WTR YR 1988 TOTAL 17221.3 MEAN 47.1 MAX 1200 MIN 1.5 CFSM 1.07 IN. 14.53

e Estimated

01547950 BEECH CREEK AT MONUMENT, PA

LOCATION.--Lat 41°06'42", long 77°42'09", Centre County, Hydrologic Unit 02050204, on right bank 800 ft downstream from bridge at Monument, 850 ft downstream from Monument Run, 0.6 mi upstream from Twin Run, and 8.7 mi upstream from mouth.

DRAINAGE AREA.--152 mi^2.

PERIOD OF RECORD.--August 1968 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 750 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--20 years, 274 ft^3/s, 24.48 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,740 ft^3/s, June 23, 1972, gage height, 15.22 ft, from rating curve extended above 2,000 ft^3/s on basis of slope-area measurement of peak flow; minimum, 8.8 ft^3/s, Nov. 17, 1980; minimum gage height, 5.08 ft, Oct. 15, 18, 1972.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 2	1700	1,550	8.54	May 19	1445	*2,320	*9.40

Minimum daily discharge, 16 ft^3/s, Aug. 18, 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	193	151	326	e210	e200	136	259	123	194	39	34	31
2	171	156	331	e150	1260	134	252	117	178	40	25	25
3	233	153	309	e140	1370	158	239	115	171	37	22	22
4	200	152	302	e130	1200	201	240	113	160	34	20	57
5	194	150	272	e100	937	188	225	123	144	33	19	68
6	191	147	244	e100	753	193	213	175	132	31	18	42
7	219	142	220	e110	620	219	282	160	124	30	18	34
8	202	137	206	e120	533	227	332	156	118	28	17	29
9	188	139	204	e120	449	298	314	161	124	28	17	25
10	180	143	210	e110	385	485	309	201	111	28	19	23
11	204	141	199	e100	329	544	301	209	100	27	18	21
12	201	136	200	e100	307	560	286	208	93	26	18	19
13	189	137	195	e110	274	630	268	215	87	24	17	47
14	182	147	183	e92	249	607	249	224	82	24	38	39
15	176	145	214	e90	229	546	234	214	77	36	28	27
16	170	141	242	e94	213	470	220	225	75	26	18	22
17	163	152	220	e100	194	403	204	261	78	30	17	64
18	157	209	206	e110	189	354	197	484	72	26	16	107
19	150	207	200	e150	187	322	187	1910	66	93	17	60
20	149	215	268	e260	197	293	172	1790	63	47	21	54
21	151	219	351	246	194	255	163	1260	59	74	20	66
22	138	207	367	e210	175	227	153	965	55	67	16	52
23	130	198	379	e190	175	212	147	770	53	40	17	54
24	124	192	348	e170	170	207	150	650	50	39	65	51
25	121	180	350	e150	157	207	139	542	49	35	31	45
26	116	172	319	e140	151	267	130	439	47	30	20	42
27	121	161	283	e130	148	323	130	364	46	38	17	39
28	191	154	268	e120	143	298	135	309	43	32	17	37
29	165	201	262	e110	139	288	133	270	41	27	128	35
30	156	366	e220	e120	---	283	134	238	39	24	94	34
31	153	---	e180	e140	---	268	---	213	---	39	44	---
TOTAL	5278	5150	8078	4222	11527	9803	6397	13204	2731	1132	886	1271
MEAN	170	172	261	136	397	316	213	426	91.0	36.5	28.6	42.4
MAX	233	366	379	260	1370	630	332	1910	194	93	128	107
MIN	116	136	180	90	139	134	130	113	39	24	16	19
CFSM	1.12	1.13	1.71	.90	2.62	2.08	1.40	2.80	.60	.24	.19	.28
IN.	1.29	1.26	1.98	1.03	2.82	2.40	1.57	3.23	.67	.28	.22	.31

CAL YR 1987 TOTAL 83028 MEAN 227 MAX 1030 MIN 32 CFSM 1.50 IN. 20.32
WTR YR 1988 TOTAL 69679 MEAN 190 MAX 1910 MIN 16 CFSM 1.25 IN. 17.05

e Estimated

01548005 BALD EAGLE CREEK NEAR BEECH CREEK STATION, PA

LOCATION.--Lat 41°04'51", long 77°32'59", Clinton County, Hydrologic Unit 02050204, on right bank at abandoned railroad bridge, 1.5 mi downstream from Beech Creek Station, 1.5 mi downstream from Beech Creek, and 4.2 mi downstream from Foster Joseph Sayers Dam.

DRAINAGE AREA.--562 mi^2.

PERIOD OF RECORD.--July 1910 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1967, published as North Bald Eagle Creek at Beech Creek Station.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1111: 1936(M). WSP 1302: 1911(M), 1912-15, 1918, 1922, 1923-25(M), 1931. WSP 1502: 1919, 1920(M).

GAGE.--Water-stage recorder. Datum of gage is 560.00 ft above National Geodetic Vertical Datum of 1929. Prior to October 1984 at site 1.2 mi upstream at datum 11.74 ft higher. July 1910, to Jan. 10, 1930, nonrecording gage.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated since March 1971 by Foster Joseph Sayers Dam (station 01547480). Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite and landline telemeter at station.

AVERAGE DISCHARGE.--78 years, 813 ft^3/s, 19.65 in/yr, adjusted for storage since March 1971.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,600 ft^3/s, Mar. 18, 1936, gage height, 14.42 ft from rating curve extended above 12,000 ft^3/s; minimum, 29 ft^3/s, Aug. 22, 1930, gage height, 1.21 ft (site and datum then in use); minimum daily, 80 ft^3/s, Jan. 16, 24, 25, 1931.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 5,060 ft^3/s, May 19, gage height, 11.46 ft; minimum daily, 140 ft^3/s, Aug. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	471	345	1200	559	676	476	553	370	518	203	211	390
2	428	345	990	508	2820	462	549	354	504	203	192	304
3	457	345	741	464	3530	523	536	348	485	203	189	237
4	459	345	647	486	3670	829	532	348	480	202	186	285
5	546	341	584	461	3020	889	518	349	460	200	181	395
6	2200	340	544	344	2320	904	487	398	439	197	179	436
7	2240	335	510	309	1780	934	583	407	402	191	179	315
8	2160	326	488	333	1960	953	767	395	377	189	179	268
9	2060	322	522	375	2100	1040	794	392	369	191	163	263
10	1950	325	602	366	1820	1290	791	431	371	189	148	261
11	1210	325	514	358	1250	1320	713	473	350	189	148	252
12	524	309	464	350	837	1340	643	469	340	189	148	207
13	451	284	464	378	779	1400	612	468	312	189	148	215
14	881	284	450	421	721	1350	581	474	298	187	151	251
15	1210	295	447	311	701	1190	559	474	294	189	157	237
16	1270	297	696	382	690	1030	533	491	286	186	140	221
17	745	305	759	326	654	953	507	554	269	188	148	241
18	432	427	585	341	653	792	491	891	69	189	148	360
19	542	482	531	359	629	670	473	4140	262	286	148	352
20	499	500	569	955	666	633	450	3350	257	351	148	484
21	401	494	920	1370	751	566	443	2780	257	358	148	470
22	364	456	1150	1110	776	509	429	3800	252	484	148	321
23	322	447	942	877	773	491	415	3510	245	477	148	289
24	302	442	824	732	751	483	413	3250	237	447	213	256
25	302	423	830	732	664	480	402	2770	222	332	246	251
26	280	409	826	671	542	578	377	1610	222	271	219	249
27	263	391	710	e510	497	649	374	802	215	217	185	244
28	351	378	600	e420	485	635	377	696	210	206	164	241
29	349	485	595	443	480	613	377	635	210	191	888	241
30	345	1090	542	469	---	603	377	589	203	189	1200	241
31	345	---	517	523	---	568	---	539	---	257	513	---
TOTAL	24359	11892	20763	16243	36995	25153	15656	36557	9615	7540	7363	8777
MEAN	786	396	670	524	1276	811	522	1179	320	243	238	293
MAX	2240	1090	1200	1370	3670	1400	794	4140	518	484	1200	484
MIN	263	284	447	309	480	462	374	348	203	186	140	207
MEAN‡	383	447	663	522	1277	944	650	1296	318	218	248	274
CFSM‡	.68	.80	1.18	.93	2.27	1.68	1.16	2.31	.57	.39	.44	.49
IN.‡	.78	.89	1.36	1.07	2.45	1.94	1.29	2.66	.64	.45	.51	.55

CAL YR 1987 TOTAL 231965 MEAN 636 MAX 2910 MIN 191 MEAN‡ 636 CFSM‡ 1.13 IN.‡ 15.37
WTR YR 1988 TOTAL 220913 MEAN 604 MAX 4140 MIN 140 MEAN‡ 602 CFSM‡ 1.07 IN.‡ 14.59

e Estimated

‡ Adjusted for change in contents in Foster Joseph Sayers Lake.

01548500 PINE CREEK AT CEDAR RUN, PA

LOCATION.--Lat 41°31'18", long 77°26'52", Lycoming County, Hydrologic Unit 02050205, on left bank at upstream side of highway bridge on Township Route 762 at village of Cedar Run, 2,000 ft downstream from Cedar Run, and 1.2 mi upstream from Gamble Run.

DRAINAGE AREA.--604 mi^2.

PERIOD OF RECORD.--July 1918 to current year. Monthly discharge only for some periods, published in WSP 1302.

GAGE.--Water-stage recorder. Datum of gage is 780.36 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 13, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite and landline telemeter at station.

AVERAGE DISCHARGE.--70 years, 832 ft^3/s, 18.71 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 66,000 ft^3/s, June 23, 1972, gage height, 16.0 ft, from flood-mark, from rating curve extended above 16,000 ft^3/s on basis of slope-area measurement of peak flow; minimum, 8.0 ft^3/s, Sept. 1, 2, 3, 1939.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 2	1700	ice jam	*7.95	May 19	1630	*10,400	7.10

Minimum daily discharge, 37 ft^3/s, Aug. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	410	386	1280	e850	e1000	355	1550	643	594	85	81	114
2	336	375	1280	e640	e2500	329	1460	636	572	88	68	81
3	568	364	1140	e580	3000	462	1320	649	634	87	56	64
4	517	360	1050	e560	2510	535	1390	656	671	80	50	93
5	460	356	913	e410	1900	453	1300	646	503	73	46	172
6	438	347	787	e380	1460	463	1210	709	421	66	44	157
7	512	328	675	e350	e1100	548	1190	654	375	61	43	107
8	527	318	608	e370	e1000	642	1100	584	362	55	62	79
9	438	314	594	e380	e900	1010	989	552	341	51	50	66
10	401	322	698	e350	848	1840	880	617	311	49	41	56
11	465	312	668	e320	734	1640	793	735	278	44	41	47
12	582	309	684	e330	695	1580	726	684	253	47	41	40
13	513	317	714	e350	e660	1970	652	686	235	45	46	47
14	508	341	659	e330	e640	2050	621	836	214	44	62	45
15	469	336	650	e310	e740	1800	583	756	197	44	75	44
16	444	311	719	e290	e600	1500	549	785	186	38	59	42
17	413	310	650	e300	e460	1260	517	935	186	102	60	43
18	392	753	572	e310	e430	1100	488	986	181	159	60	58
19	363	746	529	e330	e430	983	469	6220	161	121	69	61
20	339	733	604	e560	e440	890	430	7850	149	90	65	53
21	333	725	984	e600	e460	727	404	5040	142	155	46	68
22	305	637	901	e400	e480	643	384	3420	131	392	37	95
23	278	620	898	e340	e490	658	374	2460	126	188	38	70
24	260	579	851	e330	e400	690	629	2310	119	124	88	65
25	252	541	861	e330	e400	1070	529	1910	112	124	102	69
26	251	502	868	e320	e410	4100	469	1540	109	103	90	58
27	239	460	784	e280	e390	4870	456	1270	109	88	61	52
28	560	419	769	e250	378	3610	481	1080	103	271	54	46
29	524	458	e780	e230	365	2610	556	909	94	253	250	42
30	429	1410	e680	e250	---	2050	663	781	87	129	461	41
31	403	---	e660	e290	---	1660	---	678	---	93	189	---
TOTAL	12929	14289	24510	11920	25820	44098	23162	48217	7956	3349	2535	2075
MEAN	417	476	791	385	890	1423	772	1555	265	108	81.8	69.2
MAX	582	1410	1280	850	3000	4870	1550	7850	671	392	461	172
MIN	239	309	529	230	365	329	374	552	87	38	37	40
CFSM	.69	.79	1.31	.64	1.47	2.36	1.28	2.58	.44	.18	.14	.11
IN.	.80	.88	1.51	.73	1.59	2.72	1.43	2.97	.49	.21	.16	.13

CAL YR 1987 TOTAL 234436 MEAN 642 MAX 4930 MIN 42 CFSM 1.06 IN. 14.45
WTR YR 1988 TOTAL 220860 MEAN 603 MAX 7850 MIN 37 CFSM 1.00 IN. 13.60

e Estimated

01549500 BLOCKHOUSE CREEK NEAR ENGLISH CENTER, PA

LOCATION.--Lat 41°28'25", long 77°13'52", Lycoming County, Hydrologic Unit 02050205, on right bank just downstream from bridge on State Highway 284, 0.7 mi upstream from Blacks Creek, 1.7 mi upstream from confluence with Texas Creek, and 5.0 mi northeast of English Center.

DRAINAGE AREA.--37.7 mi^2.

PERIOD OF RECORD.--October 1940 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 951: 1941. WSP 1031: 1942-44(M). WSP 1502: 1942. WDR PA-75-2: 1973(P), 1974(P).

GAGE.--Water-stage recorder. Datum of gage is 1,041.85 ft above National Geodetic Vertical Datum of 1929.

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

AVERAGE DISCHARGE.--48 years, 57.9 ft^3/s, 20.86 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,260 ft^3/s, June 23, 1972, gage height, 9.34 ft, from rating curve extended above 1,200 ft^3/s on basis of contracted-opening measurement at gage height 8.81 ft; no flow Aug. 6, 7, 31, Sept. 2, 1962.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936 reached a stage of 9.0 ft, from floodmark, discharge, 5,780 ft^3/s, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	1300	*1,320	*4.79

No other peak greater than base discharge.

Minimum daily discharge, 0.75 ft^3/s, Aug. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	38	117	e34	e110	e22	75	36	29	3.9	3.1	15
2	27	36	102	e30	e400	e24	68	35	30	3.9	2.7	11
3	34	34	84	e35	299	36	63	34	32	3.4	2.5	8.6
4	27	32	75	e30	200	37	66	38	32	3.1	2.3	20
5	24	30	63	e25	128	e33	55	39	24	2.9	2.1	19
6	23	28	54	e20	e97	e33	50	45	20	2.7	2.2	13
7	80	26	47	e21	e88	e35	48	41	18	2.4	3.1	11
8	53	24	44	e24	e90	e50	44	38	17	2.3	3.0	9.0
9	45	23	45	e28	e94	101	41	37	19	2.3	2.2	7.8
10	42	22	46	e26	e55	146	38	42	16	2.7	1.8	6.9
11	49	22	43	e26	e44	110	36	41	14	2.2	1.6	6.1
12	44	21	42	e23	e40	110	34	37	12	2.2	1.5	5.8
13	39	22	40	e22	e45	141	32	37	11	2.1	1.5	9.6
14	36	24	37	e20	e38	128	30	41	10	1.8	1.3	7.6
15	33	22	40	e19	e35	104	30	36	9.6	1.8	1.5	6.1
16	31	20	47	e20	34	82	29	36	9.1	2.0	1.0	5.2
17	29	22	40	e22	31	68	27	37	9.2	24	.86	7.2
18	27	92	37	e25	31	59	26	57	9.3	13	.88	9.6
19	25	60	36	e30	e30	53	24	645	7.8	7.1	1.6	7.6
20	24	58	47	e88	e40	48	22	495	7.3	11	1.2	11
21	24	51	58	e66	e42	41	21	294	6.5	41	.92	18
22	21	43	49	e40	e59	38	19	185	5.9	29	.75	12
23	19	40	48	e25	e34	37	21	131	6.0	13	1.0	10
24	18	38	46	e23	e31	43	35	110	5.4	9.5	12	9.8
25	17	35	52	e22	e30	76	25	83	5.0	7.2	11	8.5
26	16	33	52	e20	e32	324	21	65	4.8	5.8	5.6	7.7
27	18	30	47	e18	e27	235	23	52	4.9	5.1	4.4	7.0
28	105	28	47	e17	e25	155	30	45	4.4	4.4	3.1	6.5
29	52	82	47	e15	e23	119	32	40	4.1	3.8	199	6.2
30	45	162	e43	e16	---	100	44	36	3.8	3.3	58	5.9
31	41	---	e45	e25	---	82	---	32	---	3.8	24	---
TOTAL	1100	1198	1620	855	2232	2670	1109	2920	387.1	222.7	357.71	288.7
MEAN	35.5	39.9	52.3	27.6	77.0	86.1	37.0	94.2	12.9	7.18	11.5	9.62
MAX	105	162	117	88	400	324	75	645	32	41	199	20
MIN	16	20	36	15	23	22	19	32	3.8	1.8	.75	5.2
CFSM	.94	1.06	1.39	.73	2.04	2.28	.98	2.50	.34	.19	.31	.26
IN.	1.09	1.18	1.60	.84	2.20	2.63	1.09	2.88	.38	.22	.35	.28

CAL YR 1987	TOTAL 15588.60	MEAN 42.7	MAX 417	MIN 1.5	CFSM 1.13	IN. 15.38
WTR YR 1988	TOTAL 14960.21	MEAN 40.9	MAX 645	MIN .75	CFSM 1.08	IN. 14.76

e Estimated

01549700 PINE CREEK BELOW LITTLE PINE CREEK NEAR WATERVILLE, PA

LOCATION.--Lat 41°16'25", long 77°19'28", Lycoming County, Hydrologic Unit 02050205, on left bank on State Highway 44, on abutment of abandoned bridge 0.9 mi downstream from Ramsey Run, 4.0 mi downstream from Little Pine Creek, 4.0 mi south of Waterville, and 9.2 mi upstream from mouth.

DRAINAGE AREA.--944 mi^2.

PERIOD OF RECORD.--October 1957 to current year.

REVISED RECORDS.--WDR PA-72-1: 1964(P).

GAGE.--Water-stage recorder. Datum of gage is 570.62 ft above National Geodetic Vertical Datum of 1929. Prior to June 16, 1982, nonrecording gage at same site and datum.

REMARKS.--Records fair. Flood flows subject to regulation by Little Pine Creek Reservoir 8.5 mi upstream, capacity, 24,900 acre-ft. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--31 years, 1,396 ft^3/s, 20.08 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 104,000 ft^3/s, June 23, 1972, gage height, 22.76 ft, from floodmarks, from rating curve extended above 22,000 ft^3/s on basis of slope-area measurement of peak flow; minimum observed, 25 ft^3/s, Sept. 25, 26, 27, 1964; minimum gage height observed, 0.97 ft, Sept. 13, 1964.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 9,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 2	--	Unknown	ice jam	May 19	2000	*18,200	*8.54

Minimum daily discharge, 29 ft^3/s, Aug. 20.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	753	783	2150	e1380	e1000	586	2240	1030	949	122	122	257
2	688	755	2100	e1150	e6300	540	2220	972	871	126	101	182
3	800	727	1920	e910	5890	638	1980	970	879	129	91	143
4	945	707	1750	e870	4700	853	1960	983	1060	127	80	153
5	731	672	1570	e710	3390	768	1970	988	841	119	73	212
6	726	653	1360	e600	2650	754	1800	1070	688	107	71	244
7	758	628	1190	e540	2010	863	1750	1050	602	102	75	196
8	871	588	1060	e580	1860	961	1630	948	554	93	68	152
9	833	578	1010	e600	e1600	1380	1490	886	533	87	78	127
10	748	558	1080	e540	e1300	2660	1350	948	493	90	74	112
11	746	553	1110	e500	e1100	2730	1240	1160	439	87	64	97
12	937	536	1090	e520	e1100	2590	1140	1130	399	83	58	87
13	917	536	1110	e560	e1000	3080	1050	1110	364	79	50	123
14	911	548	1060	e520	e960	3490	977	1270	334	77	49	118
15	864	570	1040	e490	e940	3100	911	1250	302	73	47	99
16	765	550	1130	e460	e900	2580	865	1200	281	72	49	89
17	728	535	1100	e470	e770	2150	820	1430	274	105	41	101
18	687	1010	977	e480	e700	1860	774	1540	272	220	38	150
19	644	1400	898	e530	e720	1660	745	9540	256	209	30	149
20	607	1300	938	e640	e810	1510	685	14300	236	180	29	147
21	571	1280	1430	e680	e900	1270	642	9510	214	186	33	173
22	526	1140	1560	e620	e720	1090	610	6270	200	508	33	177
23	488	1080	1510	e540	880	1070	582	4110	186	381	33	178
24	463	1040	1460	e520	805	1070	793	3460	174	219	71	150
25	445	958	1410	e520	726	1410	894	2980	168	161	137	132
26	435	889	1470	e500	655	4950	751	2390	158	157	141	130
27	427	822	1370	e450	652	6770	721	1990	153	144	125	114
28	673	758	1310	e400	640	5280	741	1700	150	124	103	105
29	1080	770	e1220	e370	589	3890	827	1460	144	329	445	93
30	909	2010	e1160	e390	---	3100	966	1260	131	223	961	90
31	838	---	e1300	e450	---	2550	---	1100	---	158	467	---
TOTAL	22514	24934	40843	18490	46267	67203	35124	80005	12305	4877	3837	4280
MEAN	726	831	1318	596	1595	2168	1171	2581	410	157	124	143
MAX	1080	2010	2150	1380	6300	6770	2240	14300	1060	508	961	257
MIN	427	535	898	370	589	540	582	886	131	72	29	87
CFSM	.77	.88	1.40	.63	1.69	2.30	1.24	2.73	.43	.17	.13	.15
IN.	.89	.98	1.61	.73	1.82	2.65	1.38	3.15	.48	.19	.15	.17

CAL YR 1987 TOTAL 373558 MEAN 1023 MAX 8810 MIN 74 CFSM 1.08 IN. 14.72
WTR YR 1988 TOTAL 360679 MEAN 985 MAX 14300 MIN 29 CFSM 1.04 IN. 14.21

e Estimated

01550000 LYCOMING CREEK NEAR TROUT RUN, PA

LOCATION.--Lat 41°25'06", long 77°01'59", Lycoming County, Hydrologic Unit 02050206, on right bank 150 ft upstream from bridge on Township Route 840, 0.5 mi downstream from Grays Run, and 2.6 mi northeast of Trout Run.

DRAINAGE AREA.--173 mi^2.

PERIOD OF RECORD.--December 1913 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 756: Drainage area. WSP 921: 1933, 1934(M), 1935-39. WSP 1302: 1914-16, 1922(M), 1932-25, 1926(M), 1927-28, 1930, 1931(M). WSP 1502: 1920-21(M), 1932(M), 1933.

GAGE.--Water-stage recorder. Datum of gage is 693.95 ft above National Geodetic Vertical Datum of 1929. Prior to June 1, 1939, nonrecording gage at site 150 ft downstream at same datum.

REMARKS.--Records fair. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--74 years, 283 ft^3/s, 22.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 25,900 ft^3/s, June 22, 1972, gage height, 20.19 ft, from floodmark in gage shelter, from rating curve extended above 5,300 ft^3/s on basis of slope-area measurement of peak flow; minimum, 3.2 ft^3/s, Sept. 27, 1936; minimum daily, 4.0 ft^3/s, Sept. 19-24, 27-28, 1936, Sept. 1, 1968.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	1545	*6,050	*9.29	Aug. 29	1515	4,540	8.10

Minimum daily discharge, 14 ft^3/s, July 11, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	237	180	777	e160	e80	117	432	235	164	e27	29	225
2	190	166	611	e120	1850	110	407	214	179	e27	26	154
3	206	154	488	e110	1310	147	379	205	171	e25	23	115
4	186	144	430	e110	914	168	382	205	163	e25	22	457
5	164	133	367	e78	613	138	347	210	140	e23	20	462
6	150	125	314	e58	e400	140	311	318	123	e22	22	306
7	375	116	271	e66	e350	168	294	307	111	e19	23	226
8	340	110	251	e80	e320	203	276	265	103	e18	21	173
9	279	105	239	e76	e280	324	257	251	108	e17	20	139
10	249	103	259	e72	e250	543	241	252	99	e16	19	113
11	273	101	238	e68	e230	430	219	246	88	e14	18	91
12	278	98	221	e76	e220	431	205	220	79	e21	26	78
13	239	96	214	e70	e200	608	192	203	70	e21	24	96
14	213	105	186	e52	e180	594	182	224	63	e16	22	82
15	196	113	201	e50	e160	473	173	195	56	e16	20	64
16	180	107	293	e50	e150	391	163	180	51	e14	20	53
17	164	111	235	e52	e140	338	147	177	49	e40	19	57
18	153	772	203	e58	e130	312	141	214	45	e86	22	68
19	143	515	190	e60	e140	286	134	2790	e42	e44	22	58
20	135	421	220	e63	243	262	122	2130	e41	e42	21	96
21	137	343	273	e130	264	212	116	1180	e39	e40	19	200
22	128	266	236	e98	198	188	109	829	e37	125	17	133
23	117	236	219	e75	193	196	108	637	e36	62	17	115
24	108	214	204	e68	170	237	180	511	e36	55	70	105
25	104	196	219	e66	152	445	146	431	e35	39	65	91
26	97	178	230	e66	135	1620	121	362	e35	41	39	81
27	98	156	200	e62	139	1110	121	307	e35	76	25	73
28	453	136	189	e50	125	793	186	265	e32	40	61	66
29	292	290	188	e41	122	637	188	232	e29	31	2040	61
30	228	1250	e150	e43	---	548	271	206	e28	28	1010	56
31	202	---	e190	e45	---	474	---	182	---	34	380	---
TOTAL	6314	7040	8506	2273	9658	12643	6550	14183	2287	1104	4182	4094
MEAN	204	235	274	73.3	333	408	218	458	76.2	35.6	135	136
MAX	453	1250	777	160	1850	1620	432	2790	179	125	2040	462
MIN	97	96	150	41	80	110	108	177	28	14	17	53
CFSM	1.18	1.36	1.59	.42	1.93	2.36	1.26	2.64	.44	.21	.78	.79
IN.	1.36	1.51	1.83	.49	2.08	2.72	1.41	3.05	.49	.24	.90	.88

CAL YR 1987 TOTAL 79933.7 MEAN 219 MAX 1970 MIN 5.3 CFSM 1.27 IN. 17.19
WTR YR 1988 TOTAL 78834.0 MEAN 215 MAX 2790 MIN 14 CFSM 1.25 IN. 16.95

e Estimated

01551500 WEST BRANCH SUSQUEHANNA RIVER AT WILLIAMSPORT, PA

LOCATION.--Lat 41°14'10", long 76°59'49", Lycoming County, Hydrologic Unit 02050206, on right bank 100 ft upstream from Market Street Bridge on State Highway 15 at South Williamsport and 350 ft upstream from Hagermans Run.

DRAINAGE AREA.--5,682 mi^2.

PERIOD OF RECORD.--March 1895 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 756: Drainage area. WSP 1302: 1925-28. WSP 1502: 1895-1904, 1912-13, 1919.

GAGE.-- Water-stage recorder. Datum of gage is 494.98 ft above National Geodetic Vertical Datum of 1929. Mar. 1, 1895, to Sept. 30, 1928, nonrecording gage at bridge 100 ft downstream at same datum. Prior to July 1980, 100 ft downstream on left bank at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 6 flood-control reservoirs which have a combined capacity of 440,200 acre-ft. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter and National Weather Service and city of Williamsport landline telemeters at station.

AVERAGE DISCHARGE.--93 years, 8,936 ft^3/s, 21.36 in/yr, adjusted for storage 1961-75.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 279,000 ft^3/s, June 23, 1972, gage height, 34.75 ft, from rating curve extended above 210,000 ft^3/s on basis of slope-area measurement at gage height 33.57 ft; minimum, 162 ft^3/s, Sept. 17, 1943; minimum gage height, -0.78 ft, Sept. 13, 1983; minimum daily discharge, 251 ft^3/s, Sept. 13, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known prior to 1895, 32.4 ft, June 1, 1889, discharge, about 252,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 72,300 ft^3/s, May 20, gage height, 15.08 ft; minimum, 539 ft^3/s, Aug. 23, gage height, -0.47 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5320	4130	24800	6670	6410	5290	12600	5470	6420	1040	1630	4310
2	5150	4030	21100	6960	18700	5060	11800	5340	5860	1020	1350	3150
3	4930	3820	16000	6330	51900	5030	10900	5190	5530	1040	1270	2450
4	5920	3730	13400	5530	46000	6070	10300	5100	5480	1010	1130	2970
5	6000	3610	11400	e4800	36600	7010	10400	5070	5470	993	975	4400
6	7280	3450	9660	e4500	28600	8850	9970	5360	4650	953	956	3960
7	7880	3360	8550	e4100	21900	9350	9780	5830	4140	908	1140	3840
8	7970	3280	7560	e4000	19000	9070	10400	5760	3780	864	1080	2970
9	7570	3200	6890	e3900	18000	9800	11300	5540	3590	826	1050	2490
10	6990	3220	6820	e4000	14500	12900	10800	5660	3390	793	1010	2120
11	6760	3270	7370	e3800	11600	18700	9900	6660	3070	779	911	1790
12	5940	3180	7670	e3500	10200	19300	9180	7510	2840	785	871	1580
13	5990	3160	7870	e3400	9140	18700	8530	7690	2760	768	787	1660
14	5740	3300	7520	e3700	8300	21200	7850	7580	2520	738	726	1760
15	6270	3490	7280	e3200	7250	20500	7290	7690	2330	753	694	1690
16	6110	3520	7870	e2900	7190	17600	6850	7380	2200	804	621	1730
17	5580	3430	8970	e2700	6910	14600	6350	8320	2150	998	632	1700
18	4840	4880	8720	e3200	6430	12600	6020	11000	2090	1110	608	2220
19	4360	6860	7900	e4300	6330	11200	5700	33900	1990	1240	602	2330
20	4300	7730	7560	e5400	6970	10100	5360	69600	1890	1490	588	2830
21	3970	7470	9040	8110	7660	9030	5090	52100	1770	1480	574	3600
22	3690	7040	13800	11400	7440	7850	4680	35600	1690	1970	559	3090
23	3510	6570	14400	10800	7360	7120	4390	26900	1580	2660	608	2850
24	3290	6160	13400	9850	7480	6880	4370	21500	1530	2530	911	2480
25	3030	5890	11600	9500	7240	7130	5280	19200	1470	2030	1030	2190
26	2920	5580	10800	8970	6660	11800	5330	16300	1360	2020	1130	2070
27	2960	5040	10100	8410	6170	24200	5050	12800	1260	1870	1330	1910
28	3910	4760	9270	6550	5820	26100	5010	10700	1220	1490	1190	1750
29	4750	4970	9160	5500	5490	21100	5150	9340	1150	1480	11800	1620
30	4650	12500	8370	4800	---	17300	5230	8160	1100	1440	13200	1530
31	4320	---	6800	5260	---	14700	---	7270	---	1680	6280	---
TOTAL	161900	144630	321650	176040	403250	396140	230860	441520	86280	39562	57243	75040
MEAN	5223	4821	10380	5679	13910	12780	7695	14240	2876	1276	1847	2501
MAX	7970	12500	24800	11400	51900	26100	12600	69600	6420	2660	13200	4400
MIN	2920	3160	6800	2700	5490	5030	4370	5070	1100	738	559	1530
CFSM	.92	.85	1.83	1.00	2.45	2.25	1.35	2.51	.51	.22	.32	.44
IN.	1.06	.95	2.11	1.15	2.64	2.59	1.51	2.89	.56	.26	.37	.49

CAL YR 1987	TOTAL 2742692	MEAN 7514	MAX 48800	MIN 911	CFSM 1.32	IN. 17.96		
WTR YR 1988	TOTAL 2534115	MEAN 6924	MAX 69600	MIN 559	CFSM 1.22	IN. 16.59		

e Estimated

01552000 LOYALSOCK CREEK AT LOYALSOCKVILLE, PA

LOCATION.--Lat 41°19'31", long 76°54'43", Lycoming County, Hydrologic Unit 02050206, on right bank 30 ft downstream from bridge on State Highway 973 at Loyalsockville, 2.5 mi downstream from Wallis Run, and 7.3 mi upstream from mouth. Prior to June 13, 1988, at site 500 feet downstream on left bank.

DRAINAGE AREA.--443 mi^2.

PERIOD OF RECORD.--August 1925 to September 1974, October 1975 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1969, published as "at Loyalsock".

REVISED RECORDS.--WSP 756: Drainage area. WSP 871: 1938(M). WSP 1051: 1926(M), 1933(M), 1936(M). WSP 1302: 1926-30. WSP 1502: 1932-33, 1935(M), 1937(M).

GAGE.--Water-stage recorder. Datum of gage is 585.63 ft above National Geodetic Vertical Datum of 1929. August 1925, to Sept. 16, 1926, nonrecording gage, and Sept. 17, 1926, to June 13, 1988, water-stage recorder at site 500 feet downstream on left bank at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--62 years, 757 ft^3/s, 23.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88,700 ft^3/s, June 23, 1972, gage height, 14.74 ft, from floodmark in gage well, from rating curve extended above 16,000 ft^3/s on basis of slope-area measurement of peak flow; minimum, 11 ft^3/s, Sept. 25, 26, Nov. 24, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Sept. 26, 1975, reached a stage of 14.50 ft, from floodmark, discharge, 84,600 ft^3/s, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 02	1630	11,800	8.04	Aug. 29	1700	*52,000	*12.41
May 19	1730	8,560	7.73				

Minimum daily discharge, 41 ft^3/s, July 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1210	506	2560	e580	e560	381	783	854	361	61	103	1500
2	797	464	1740	e460	6550	344	731	633	455	56	104	993
3	640	431	1340	e330	4420	419	701	538	451	56	89	708
4	551	415	1130	e300	2900	465	684	493	376	56	72	1410
5	474	394	985	e210	e2000	399	686	478	337	55	66	2520
6	415	367	855	e200	e1600	400	595	627	287	52	68	1610
7	807	338	757	e200	e1100	471	549	1100	258	48	68	1130
8	924	325	683	e240	e1000	554	514	891	235	47	62	836
9	691	314	653	e260	e900	738	495	726	235	46	60	647
10	583	314	689	e240	e800	1470	478	646	240	44	58	529
11	577	336	659	e230	e700	1370	452	590	217	43	53	431
12	750	324	610	e230	e660	1240	416	523	187	41	56	369
13	643	317	600	e250	e540	1630	391	471	169	51	52	476
14	547	351	551	e200	e490	1900	367	461	151	47	51	508
15	482	425	564	e180	e450	1510	350	432	138	45	47	372
16	446	465	837	e180	e420	1200	342	388	129	42	44	296
17	407	483	763	e200	e400	995	334	377	131	89	42	287
18	376	2350	657	e230	e390	881	324	406	125	303	47	374
19	342	1930	606	e290	e380	788	317	4070	123	230	67	344
20	317	1370	654	e500	e700	703	299	4870	114	269	62	412
21	315	1090	777	e880	1150	550	277	2950	106	169	52	743
22	316	844	728	e720	1020	484	262	2120	96	355	46	587
23	284	762	663	e660	726	512	250	1660	90	322	45	460
24	264	700	619	e580	589	534	285	1440	86	210	135	402
25	248	637	606	e520	497	800	297	1200	79	149	227	342
26	223	596	630	e450	485	2140	264	985	73	163	172	296
27	219	543	590	e400	457	2090	248	792	71	247	113	263
28	784	489	547	e370	418	1560	349	647	68	186	157	241
29	978	628	550	e360	385	1210	511	545	66	129	20300	220
30	700	4490	e430	e380	---	1020	814	471	64	104	6870	207
31	582	---	e470	e400	---	888	---	409	---	102	2500	---
TOTAL	16892	22998	24503	11230	32687	29646	13365	32793	5518	3817	31888	19513
MEAN	545	767	790	362	1127	956	445	1058	184	123	1029	650
MAX	1210	4490	2560	880	6550	2140	814	4870	455	355	20300	2520
MIN	219	314	430	180	380	344	248	377	64	41	42	207
CFSM	1.23	1.73	1.78	.82	2.54	2.16	1.01	2.39	.42	.28	2.32	1.47
IN.	1.42	1.93	2.06	.94	2.74	2.49	1.12	2.75	.46	.32	2.68	1.64

CAL YR 1987 TOTAL 214824 MEAN 589 MAX 8240 MIN 31 CFSM 1.33 IN. 18.04
WTR YR 1988 TOTAL 244850 MEAN 669 MAX 20300 MIN 41 CFSM 1.51 IN. 20.56

e Estimated

01552500 MUNCY CREEK NEAR SONESTOWN, PA

LOCATION.--Lat 41°21'25", long 76°32'06", Sullivan County, Hydrologic Unit 02050206, on right bank 150 ft downstream from Slip Run, 185 ft downstream from bridge on SR 2002, and 1.2 mi east of Sonestown.

DRAINAGE AREA.--23.8 mi^2.

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1502: 1941-42.

GAGE.--Water-stage recorder. Datum of gage is 1,025.01 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 31, 1941, nonrecording gage at same site and datum.

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

AVERAGE DISCHARGE.--48 years, 48.4 ft^3/s, 27.62 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,260 ft^3/s, June 22, 1972, gage height, 8.94 ft, from rating curve extended above 3,400 ft^3/s; minimum, 0.1 ft^3/s, Sept. 11, 12, 13, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of about 9.3 ft, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 29	2245	1,110	4.46	Aug. 29	1515	*3,460	*6.44
Feb. 2	0845	1,590	4.88				

Minimum daily discharge, 1.9 ft^3/s, July 11, 14-16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	94	36	153	e37	e100	22	48	78	20	3.2	11	58
2	66	33	104	e25	818	e22	44	65	29	3.5	7.1	40
3	55	30	80	e21	281	25	41	55	20	3.1	5.9	30
4	44	29	69	e20	153	25	45	48	18	2.8	5.2	245
5	37	27	56	e18	101	30	40	49	16	2.7	4.8	155
6	32	25	47	e14	79	31	37	57	14	2.4	4.6	86
7	85	23	41	e13	e68	27	35	60	13	2.3	5.4	59
8	51	22	39	e16	e58	33	34	47	12	2.1	4.6	43
9	42	23	39	e18	e49	61	33	42	14	2.0	3.9	34
10	38	24	39	e16	e42	99	30	41	11	2.0	3.5	28
11	58	22	36	e14	e37	72	27	38	10	1.9	3.3	22
12	49	21	36	e14	e33	74	25	33	9.5	2.7	3.2	19
13	40	22	33	e16	e30	106	24	30	8.6	2.3	3.6	34
14	36	24	30	e15	e27	95	23	29	7.8	1.9	3.2	23
15	33	25	38	e12	e25	75	23	26	7.2	1.9	2.9	17
16	30	25	45	e11	e23	61	22	24	6.8	1.9	2.4	14
17	28	52	37	e16	e22	51	21	23	7.6	33	7.8	17
18	26	276	33	e23	e21	45	20	32	6.9	12	9.3	19
19	24	129	32	e40	e22	41	19	343	6.1	42	4.2	16
20	23	93	42	e60	e60	36	17	232	5.7	12	3.4	19
21	26	69	46	e50	e46	e36	17	148	5.3	51	3.1	31
22	22	55	39	e43	e39	e36	16	100	5.0	51	2.7	21
23	20	46	38	e38	e34	e29	16	78	4.8	18	3.3	20
24	19	41	35	e34	e31	38	19	63	4.4	17	36	19
25	18	36	38	e30	e28	63	16	55	4.0	12	24	16
26	17	35	37	e27	e27	194	15	44	4.0	10	11	15
27	21	31	33	e21	e25	128	18	36	3.9	12	8.1	14
28	99	29	32	e18	24	87	38	31	3.6	9.1	7.3	12
29	54	250	e31	e19	24	71	72	27	3.3	7.5	1200	12
30	45	374	e40	e20	---	61	101	24	3.2	6.5	302	11
31	40	---	e52	e20	---	52	---	21	---	13	102	---
TOTAL	1272	1927	1450	739	2327	1826	936	1979	284.7	344.8	1798.8	1149
MEAN	41.0	64.2	46.8	23.8	80.2	58.9	31.2	63.8	9.49	11.1	58.0	38.3
MAX	99	374	153	60	818	194	101	343	29	51	1200	245
MIN	17	21	30	11	21	22	15	21	3.2	1.9	2.4	11
CFSM	1.72	2.70	1.97	1.00	3.37	2.47	1.31	2.68	.40	.47	2.44	1.61
IN.	1.99	3.01	2.27	1.16	3.64	2.85	1.46	3.09	.44	.54	2.81	1.80

CAL YR 1987 TOTAL 13983.4 MEAN 38.3 MAX 727 MIN 1.7 CFSM 1.61 IN. 21.86
WTR YR 1988 TOTAL 16033.3 MEAN 43.8 MAX 1200 MIN 1.9 CFSM 1.84 IN. 25.06

e Estimated

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA
(National stream-quality accounting network station)

LOCATION.--Lat 40°58'05", long 76°52'25", Northumberland County, Hydrologic Unit 02050206, at downstream side of left abutment of Market Street bridge on State Highway 45 at Lewisburg, 0.2 mi downstream from Buffalo Creek, and 7.4 mi upstream from mouth.

DRAINAGE AREA.--6,847 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1939 to current year. Monthly discharge only for some periods, published in WSP 1302. September 1913 to August 1923 (gage heights only), are contained in reports of Water Supply Commission of Pennsylvania or Pennsylvania Department of Forests and Waters.

GAGE.--Water-stage recorder. Datum of gage is 428.20 ft above National Geodetic Vertical Datum of 1929. Sept. 21, 1913, to Aug. 31, 1923, Dec. 7, 1939, to July 2, 1940, and Oct. 20, 1987, to Sept. 30, 1988, nonrecording gage at same site and datum. Since Oct. 1, 1942, water-stage recorder for Susquehanna River at Sunbury (station 01553990) used as an auxiliary gage.

REMARKS.--Records fair. Gage inoperative Oct. 20, 1987, to Sept. 30, 1988, due to bridge construction. Records for this period were determined by downstream routing of daily discharges from West Branch Susquehanna River at Williamsport (station 01551500). Flow slightly regulated by 6 flood-control reservoirs, which have a combined capacity of 440,200 acre-ft. U.S. Army Corps of Engineers satellite telemeter and National Weather Service landline telemeter at station.

AVERAGE DISCHARGE.--49 years, 10,820 ft^3/s, 21.46 in/yr, adjusted 1961-75.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 300,000 ft^3/s, June 24, 1972, gage height, 34.23 ft, from floodmarks (backwater from Susquehanna River); minimum, 390 ft^3/s, Nov. 16, 1964, gage height, 0.57 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 19, 1936, reached a stage of 32.1 ft, from floodmarks (backwater from Susquehanna River), discharge, 287,000 ft^3/s from slope-area measurement at Watsontown, 8.0 mi upstream.

EXTREMES FOR CURRENT YEAR.--Maximum daily discharge, 80,300 ft^3/s, May 20,; minimum daily, 705 ft^3/s, Aug. 22.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7980	e5260	e30500	e7960	e7790	e6130	e14300	e7420	e7220	e1220	e1900	e7580
2	7620	e5070	e25000	e7980	e34100	e5830	e13400	e6800	e6870	e1190	e1610	e5320
3	6770	e4790	e19000	e7310	e61700	e5960	e12500	e6430	e6520	e1210	e1500	e4000
4	7060	e4660	e15900	e6200	e52400	e7100	e11800	e6230	e6310	e1180	e1330	e6420
5	7860	e4490	e13600	e5280	e41000	e7910	e11900	e6170	e6210	e1160	e1170	e10000
6	8260	e4270	e11500	e4950	e32100	e9750	e11300	e6790	e5280	e1110	e1150	e7510
7	10300	e4120	e10200	e4550	e24300	e10400	e11000	e8260	e4710	e1060	e1340	e6330
8	10500	e4010	e9070	e4540	e21200	e10700	e11500	e7730	e4300	e1010	e1260	e4810
9	10000	e3880	e8340	e4480	e20000	e13000	e12400	e7150	e4110	e971	e1230	e3910
10	9250	e3930	e8350	e4540	e16300	e16200	e11900	e7100	e3550	e934	e1180	e3290
11	8880	e4020	e8820	e4310	e13100	e21700	e10900	e7980	e3250	e918	e1070	e2740
12	8390	e3900	e9020	e4010	e11700	e22100	e10100	e8670	e3130	e921	e1040	e2390
13	7960	e3870	e9220	e3920	e10300	e22300	e9380	e8740	e2850	e925	e948	e2730
14	7570	e4090	e8740	e4150	e9380	e25400	e8670	e8610	e2640	e885	e884	e2870
15	7610	e4430	e8480	e3600	e8250	e23800	e8070	e8650	e2640	e896	e843	e2500
16	7850	e4540	e9720	e3300	e8120	e20200	e7610	e8240	e2500	e941	e763	e2380
17	7380	e4540	e10600	e3150	e7790	e16800	e7090	e9160	e2450	e1280	e781	e2340
18	6550	e10400	e10200	e3730	e7290	e14500	e6780	e11900	e2390	e1770	e770	e3040
19	5820	e11200	e9240	e4990	e7170	e12900	e6400	e43100	e2280	e1810	e792	e3090
20	e5750	e10800	e9010	e6570	e8560	e11600	e6020	e80300	e2160	e2080	e768	e3730
21	5480	e9900	e10800	e10000	e10200	e10300	e5700	e58600	e2030	e1940	e734	e5220
22	5080	e8920	e15400	e12200	e9660	e8940	e5260	e40300	e1930	e2820	e705	e4370
23	4880	e8260	e15900	e12300	e8950	e8250	e4950	e30500	e1810	e3370	e754	e3860
24	e3880	e9180	e14900	e11100	e8780	e8080	e5010	e24700	e1760	e3010	e1280	e3360
25	e3590	e7300	e12900	e10700	e8340	e8940	e5940	e21800	e1680	e2380	e1550	e2940
26	e3420	e6900	e12200	e9970	e7730	e16700	e5910	e18500	e1560	e2380	e1510	e2720
27	e4650	e6240	e11400	e9290	e7180	e28800	e5610	e14500	e1460	e2410	e1610	e2490
28	e4890	e5850	e10500	e7360	e6750	e29600	e5820	e12100	e1410	e1900	e1540	e2280
29	e6900	e6100	e10400	e6290	e6350	e23800	e6730	e10500	e1340	e1780	e55800	e2110
30	e6210	e22700	e9350	e5640	---	e19600	e7140	e9200	e1280	e1700	e28200	e1990
31	e5620	---	e7890	e6140	---	e16700	---	e8170	---	e1940	e11700	---
TOTAL	213960	197620	376150	200510	476490	463990	261090	514300	97630	49101	127712	118320
MEAN	6902	6587	12130	6468	16430	14970	8703	16590	3254	1584	4120	3944
MAX	10500	22700	30500	12300	61700	29600	14300	80300	7220	3370	55800	10000
MIN	3420	3870	7890	3150	6350	5830	4950	6170	1280	885	705	1990
CFSM	1.01	.96	1.77	.94	2.40	2.19	1.27	2.42	.48	.23	.60	.58
IN.	1.16	1.07	2.04	1.09	2.59	2.52	1.42	2.79	.53	.27	.69	.64

CAL YR 1987 TOTAL 3383640 MEAN 9270 MAX 54500 MIN 1280 CFSM 1.35 IN. 18.38
WTR YR 1988 TOTAL 3096873 MEAN 8461 MAX 80300 MIN 705 CFSM 1.24 IN. 16.83

e Estimated

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1945-53, 1956-58, 1960 to current year.

REMARKS.--Agency collection codes: 42011 - Susquehanna River Basin Commission, 1028 - U.S. Geological Survey.
Agency analyzing codes: 9813 - Pa. Department of Environmental Resources, 80020 - U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (µS/CM)	PH (STANDARD UNITS)	TURBIDITY (FTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
NOV 06...	0830	1028	80020	5440	215	6.40	1.2	766	11.6	96	K4
APR 15...	1000	1028	80020	11300	172	7.20	0.60	762	11.0	99	K8
JUL 26...	1000	1028	80020	4420	310	7.70	2.9	750	5.4	65	K1100
SEP 01...	0930	1028	80020	10200	190	6.90	8.5	775	8.8	93	400

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE WATER DIS IT FIELD (MG/L AS HCO3)	ALKALINITY WAT WH TOT FET FIELD (MG/L AS CACO3)
NOV 06...	K8	81	56	20	7.6	5.2	12	0.3	1.6	31	25
APR 15...	30	64	45	16	5.9	4.3	12	0.2	1.1	23	19
JUL 26...	K1300	140	78	35	12	7.4	10	0.3	2.0	72	59
SEP 01...	K1200	75	47	20	6.1	5.5	13	0.3	1.7	36	28

DATE	ALKALINITY WAT DIS TOT IT FIELD (MG/L AS CACO3)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)
NOV 06...	26	21	61	7.0	0.10	2.6	122	123	0.17	1790
APR 15...	19	13	51	5.9	0.10	4.5	96	103	0.13	2930
JUL 26...	59	56	74	9.6	0.20	3.0	201	179	0.27	2400
SEP 01...	29	24	47	7.2	0.10	4.6	96	114	0.13	2640

DATE	ALUMINUM, DISSOLVED (µG/L AS AL)	ARSENIC DISSOLVED (µG/L AS AS)	BARIUM, DISSOLVED (µG/L AS BA)	BERYLLIUM, DISSOLVED (µG/L AS BE)	CADMIUM DISSOLVED (µG/L AS CD)	CHROMIUM, DISSOLVED (µG/L AS CR)	COBALT, DISSOLVED (µG/L AS CO)	COPPER, DISSOLVED (µG/L AS CU)	IRON, DISSOLVED (µG/L AS FE)	LEAD, DISSOLVED (µG/L AS PB)
NOV 06...	20	<1	30	<0.5	<1	<1	<3	3	6	<5
APR 15...	10	<1	30	<0.5	<1	<1	6	4	5	<5
JUL 26...	20	3	38	<0.5	<1	1	<3	7	33	<5
SEP 01...	20	<1	31	1	1	<1	<3	4	21	<5

DATE	LITHIUM DISSOLVED (µG/L AS LI)	MANGANESE, DISSOLVED (µG/L AS MN)	MERCURY DISSOLVED (µG/L AS HG)	MOLYBDENUM, DISSOLVED (µG/L AS MO)	NICKEL, DISSOLVED (µG/L AS NI)	SELENIUM, DISSOLVED (µG/L AS SE)	SILVER, DISSOLVED (µG/L AS AG)	STRONTIUM, DISSOLVED (µG/L AS SR)	VANADIUM, DISSOLVED (µG/L AS V)	ZINC, DISSOLVED (µG/L AS ZN)
NOV 06...	8	390	<0.1	<10	14	<1	<1.0	120	<6	19
APR 15...	8	460	<0.1	<10	10	<1	<1.0	88	<6	20
JUL 26...	22	79	<0.1	<10	3	<1	<1.0	260	<6	40
SEP 01...	6	77	--	<10	5	<1	1.0	120	<6	13

(K) Results based on non-ideal colony count.
(<) Actual value is known to be less than the value shown.

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE FIELD (µS/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)
OCT									
14...	1100	42011	9813	7500	--	7.40	11.0	--	0.520
NOV									
06...	0830	1028	80020	5440	215	6.40	7.5	<0.010	--
17...	1030	42011	9813	5200	205	7.40	8.0	--	0.520
DEC									
17...	1300	42011	9813	11500	155	6.40	2.5	--	0.640
JAN									
28...	1050	42011	9813	6500	180	8.00	0.0	--	0.880
FEB									
04...	1400	42011	9813	54500	--	6.20	0.0	--	0.720
04...	1800	42011	9813	53500	--	7.00	0.0	--	0.720
05...	1130	42011	9813	43200	117	7.10	1.5	--	0.720
06...	1400	42011	9813	32900	--	7.20	--	--	0.740
07...	1315	42011	9813	26200	--	7.20	--	--	0.780
08...	1245	42011	9813	24400	--	7.30	--	--	0.780
10...	1230	42011	9813	19100	--	--	2.0	--	0.820
17...	1245	42011	9813	9000	190	7.60	4.5	--	0.840
MAR									
17...	1030	42011	9813	19700	130	7.60	4.0	--	0.720
APR									
12...	1200	42011	9813	12100	178	7.20	12.0	--	0.580
15...	1000	1028	80020	11300	172	7.20	10.5	<0.010	--
MAY									
18...	1530	42011	9813	11300	160	8.10	17.0	--	0.360
19...	1100	42011	9813	24800	150	8.20	16.0	--	0.400
20...	1000	42011	9813	83000	90	8.20	14.0	--	0.520
21...	1200	42011	9813	68200	65	7.20	14.5	--	0.480
22...	1315	42011	9813	42300	85	7.50	16.0	--	0.520
23...	1000	42011	9813	35000	112	8.00	16.0	--	0.780
25...	1030	42011	9813	24400	120	7.90	15.0	--	0.600
JUN									
01...	1140	42011	9813	9000	160	--	23.0	--	0.500
21...	1245	42011	9813	2200	250	8.10	30.0	--	0.540
JUL									
11...	1145	42011	9813	790	335	8.90	29.0	--	0.560
26...	1000	1028	80020	4420	310	7.70	24.0	<0.010	--
AUG									
18...	1200	42011	9813	730	355	8.20	27.0	--	0.760
SEP									
01...	0930	1028	80020	10200	190	6.90	19.0	<0.010	--
16...	1145	42011	9813	2400	260	8.90	18.0	--	0.500

DATE	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN ORGANIC TOTAL (MG/L AS N)	NITROGEN ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)
OCT									
14...	--	0.020	0.020	0.12	--	0.14	<0.20	0.66	0.020
NOV		a	a						
06...	0.500	0.020	0.030	0.18	--	0.20	--	--	0.030
17...	--	0.020	<0.010	0.32	--	0.34	0.19	0.86	0.040
DEC									
17...	--	0.040	0.040	0.26	0.10	0.30	0.14	0.94	0.070
JAN									
28...	--	0.060	0.060	0.58	0.34	0.64	0.40	1.5	0.040
FEB									
04...	--	0.060	0.040	1.1	0.32	1.1	0.36	1.9	0.210
04...	--	0.060	0.020	1.1	0.34	1.1	0.36	1.9	0.230
05...	--	0.040	0.020	0.50	0.24	0.54	0.26	1.3	0.030
06...	--	0.020	0.020	0.44	0.42	0.46	0.44	1.2	0.020
07...	--	0.020	0.020	0.42	0.18	0.44	0.20	1.2	0.030
08...	--	0.070	0.070	0.45	0.27	0.52	0.34	1.3	0.030
10...	--	0.060	0.060	0.18	0.12	0.24	0.18	1.1	0.050
17...	--	0.100	0.090	0.04	--	0.14	<0.20	0.98	0.040
MAR									
17...	--	0.040	0.040	--	--	<0.20	<0.20	--	0.040
APR									
12...	--	0.020	0.020	0.23	--	0.25	<0.20	0.83	0.050
15...	0.510	a 0.040	a 0.060	0.16	--	0.20	--	--	0.040
MAY									
18...	--	0.030	0.030	0.76	0.45	0.79	0.48	1.2	0.090
19...	--	0.030	0.020	0.68	0.39	0.71	0.41	1.1	0.110
20...	--	<0.010	<0.010	--	--	1.6	0.45	2.1	0.040
21...	--	0.030	0.030	0.76	0.46	0.79	0.49	1.3	0.080
22...	--	0.030	0.020	0.58	0.39	0.61	0.41	1.1	0.060
23...	--	0.010	0.010	1.2	0.36	1.2	0.37	1.9	0.070
25...	--	0.030	0.030	--	--	<0.20	<0.20	--	0.050
JUN									
01...	--	0.040	0.020	--	--	<0.20	<0.20	--	0.060
21...	--	a 0.020	a 0.040	0.26	--	0.28	<0.20	0.82	0.070
JUL		a	a						
11...	--	0.030	0.070	0.30	0.14	0.33	0.21	0.89	0.110
26...	--	0.050	0.010	1.0	--	1.1	--	--	0.080
AUG									
18...	--	0.030	0.020	0.20	--	0.23	<0.20	0.99	0.110
SEP									
01...	0.950	0.060	0.060	0.54	--	0.60	--	--	0.060
16...	--	0.060	0.040	0.75	0.74	0.81	0.78	1.3	0.050

(<) Actual value is known to be less than the value shown.
(a) Results within limits of analytical precision.

01553500 WEST BRANCH SUSQUEHANNA RIVER AT LEWISBURG, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORGANIC TOTAL (MG/L AS P)	PHOS-PHOROUS ORGANIC DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT								
14...	<0.020	0.003	0.02	--	<1.0	--	--	--
NOV								
06...	0.020	0.010	0.03	0.01	--	11	162	64
17...	0.040	0.006	0.04	0.03	3.3	--	--	--
DEC								
17...	0.050	0.004	0.07	0.05	<1.0	11	342	--
JAN								
28...	0.040	0.015	0.04	0.02	1.6	9	158	--
FEB								
04...	0.050	0.003	0.21	0.05	2.1	371	54600	--
04...	0.020	<0.002	0.23	0.02	2.2	130	18800	--
05...	<0.020	<0.002	0.03	--	2.4	66	7700	--
06...	0.020	0.003	0.02	0.02	2.0	38	3380	--
07...	0.030	<0.002	0.03	0.03	1.8	25	1770	--
08...	0.020	0.002	0.03	0.02	1.2	30	1980	--
10...	0.020	0.007	0.05	0.01	1.1	18	928	--
17...	0.020	0.002	0.04	0.02	1.8	6	146	--
MAR								
17...	0.020	0.003	0.04	0.02	1.0	13	691	--
APR								
12...	0.020	<0.002	0.05	0.02	1.2	8	261	--
15...	0.040	0.030	0.04	0.01	--	6	183	92
MAY								
18...	0.030	0.006	0.09	0.02	1.5	12	366	--
19...	0.030	0.004	0.11	0.03	2.3	37	2480	--
20...	0.030	0.003	0.04	0.03	4.0	195	43700	--
21...	0.030	0.005	0.08	0.02	2.7	59	10900	--
22...	0.030	0.004	0.06	0.03	1.9	23	2630	--
23...	0.030	0.003	0.07	0.03	4.2	18	1700	--
25...	0.020	0.007	0.05	0.01	1.5	17	1120	--
JUN								
01...	0.030	<0.002	0.06	0.03	1.4	6	146	--
21...	0.040	0.014	0.07	0.03	1.9	2	12	--
JUL								
11...	0.060	0.031	0.11	0.03	2.5	4	8.5	--
26...	0.060	0.010	0.08	0.05	--	--	--	--
AUG								
18...	0.050	0.025	0.11	0.02	2.5	5	9.9	--
SEP								
01...	0.060	0.030	0.06	0.03	--	18	496	85
16...	0.050	0.010	0.05	0.04	2.5	7	45	--

(<) Actual value is known to be less than the value shown.

01553700 CHILLISQUAQUE CREEK AT WASHINGTONVILLE, PA

LOCATION.--Lat 41°03'42", long 76°40'50", Montour County, Hydrologic Unit 02050206, on left bank 60 ft upstream from bridge on State Highway 54 and 0.7 mi north of U.S. Post Office in Washingtonville.

DRAINAGE AREA.--51.3 mi^2.

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

REVISED RECORDS.--WDR PA-82-2: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 503.70 ft above National Geodetic Vertical Datum of 1929 (Pennsylvania Power and Light Co. benchmark).

REMARKS.--No estimated daily discharges. Records good. Flow includes diversion from West Branch Susquehanna River. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--9 years, 71.6 ft^3/s, 18.95 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,510 ft^3/s, June 28, 1983, gage height, 10.82 ft, from rating curve extended above 1,300 ft^3/s; minimum daily, 11 ft^3/s, Oct. 6-8, 1982.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	1400	*1,250	*6.30	No other peak greater than base discharge.			

Minimum daily discharge, 13 ft^3/s, June 25-27.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49	40	198	37	185	48	42	34	22	16	35	33
2	39	38	128	32	664	44	44	31	24	15	26	26
3	37	36	93	28	304	60	41	31	27	14	23	24
4	34	34	84	30	214	141	66	30	25	14	22	169
5	31	32	69	27	115	150	54	31	22	14	20	156
6	29	28	58	26	74	104	44	45	20	14	25	67
7	56	26	50	23	58	102	58	55	20	15	24	44
8	41	25	48	23	55	91	95	39	20	15	20	34
9	36	25	47	25	46	106	71	35	22	16	20	29
10	32	27	47	25	44	173	60	34	20	16	20	26
11	42	30	44	22	40	109	54	32	19	17	21	23
12	44	33	44	22	43	91	49	29	19	18	19	20
13	37	49	41	23	37	95	45	27	18	19	18	38
14	35	55	37	25	45	80	41	25	17	17	18	25
15	33	44	67	21	34	66	40	23	17	18	17	19
16	31	38	90	20	35	55	38	24	16	19	17	17
17	30	42	57	20	46	49	34	24	15	51	18	21
18	29	348	49	29	91	46	35	29	15	32	19	28
19	27	157	47	40	91	44	33	566	15	23	18	21
20	26	101	95	214	457	42	30	291	14	22	18	20
21	28	68	86	142	148	36	29	136	14	55	19	34
22	24	53	63	80	78	33	28	104	15	55	19	23
23	23	44	61	55	68	32	28	68	14	29	19	20
24	23	40	56	52	56	33	29	55	14	29	24	19
25	23	38	58	48	48	35	27	73	13	24	22	18
26	22	40	54	46	42	96	24	45	13	32	19	17
27	29	37	46	37	43	76	27	36	13	57	19	16
28	197	35	43	33	41	58	41	31	14	31	18	16
29	74	281	42	33	48	50	35	27	15	25	182	15
30	56	576	44	33	---	46	45	25	15	24	123	15
31	47	---	33	34	---	42	---	23	---	56	49	---
TOTAL	1264	2420	1979	1305	3250	2233	1287	2058	527	802	931	1033
MEAN	40.8	80.7	63.8	42.1	112	72.0	42.9	66.4	17.6	25.9	30.0	34.4
MAX	197	576	198	214	664	173	95	566	27	57	182	169
MIN	22	25	33	20	34	32	24	23	13	14	17	15
CFSM	.79	1.57	1.24	.82	2.18	1.40	.84	1.29	.34	.50	.59	.67
IN.	.92	1.75	1.44	.95	2.36	1.62	.93	1.49	.38	.58	.68	.75

CAL YR 1987 TOTAL 19881 MEAN 54.5 MAX 582 MIN 13 CFSM 1.06 IN. 14.42
WTR YR 1988 TOTAL 19089 MEAN 52.2 MAX 664 MIN 13 CFSM 1.02 IN. 13.84

RESERVOIRS IN WEST BRANCH SUSQUEHANNA RIVER BASIN

01541180 CURWENSVILLE LAKE.--Lat 40°57'13", long 78°31'40", Clearfield County, Hydrologic Unit 02050201, at Curwensville Dam on West Branch Susquehanna River, 0.7 mi upstream from State Highway 453, 1.2 mi south of Curwensville, and 2.5 mi upstream from Anderson Creek. DRAINAGE AREA, 365 mi^2. PERIOD OF RECORD, November 1965 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir formed by earthfill dam with excavated chute spillway and concrete control sill at elevation 1,228.00 ft. Storage began in November 1965. Capacity at elevation 1,228.00 ft is 124,200 acre-ft. Conservation pool elevation is 1,155.00 ft, capacity, 4,870 acre-ft. Reservoir is used for flood control, recreation and study of water quality. Figures given herein represent total contents. Flow regulated by three gates and low-flow by-pass system. U.S. Army Corps of Engineers satellite and landline telemetry at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 87,650 acre-ft, June 25, 1972, elevation, 1,214.11 ft; minimum, 252 acre-ft, Nov. 6, 1968, elevation, 1,136.70 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 18,950 acre-ft, Feb. 4, elevation, 1,171.86 ft; minimum, 4,180 acre-ft, Dec. 3, elevation, 1,153.70 ft.

01541340 GLENDALE LAKE.--Lat 40°41'50", long 78°32'15", Cambria County, Hydrologic Unit 02050201, at Glendale Dam on Beaverdam Run, 1.0 mi upstream from Dutch Run, 1.3 mi southwest of Flinton, 1.9 mi above mouth, and 3.4 mi south of Coalport. DRAINAGE AREA, 41.9 mi^2. PERIOD OF RECORD, January 1963 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir formed by an earth and rockfill dam with ungated concrete spillway at elevation 1,435.00 ft. Storage began Dec. 1, 1960. Capacity at elevation 1,435.00 ft is 41,200 acre-ft of which 15,900 acre-ft is controlled storage above elevation 1,427.00 ft. Dead storage is 25,300 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Outflow is controlled by 72-inch gate and an 8-inch bypass valve.

COOPERATION.--Records provided by Pennsylvania Department of Environmental Resources.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 33,390 acre-ft, June 24, 1972, elevation, 1,431.63 ft; minimum, 10,640 acre-ft, Nov. 16, 1965, elevation, 1,415.53 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 26,500 acre-ft, Feb. 1-9, Mar. 31, elevation, 1,427.75 ft; minimum observed, 24,720 acre-ft, Aug. 23, elevation, 1,426.61 ft.

01543900 FIRST FORK SINNEMAHONING CREEK RESERVOIR.--Lat 41°24'25", long 78°01'10", Cameron County, Hydrologic Unit 02050202, at control tower of George B. Stevenson Dam, on First Fork Sinnemahoning Creek, 8.0 mi northeast of Sinnemahoning, and 8.0 mi upstream from mouth. DRAINAGE AREA, 243 mi^2. PERIOD OF RECORD, January 1956 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by an earthfill dam. Storage began Jan. 31, 1956. Capacity, 75,800 acre-ft between elevations 890.00 ft (sill of outlet gates) and 1,026.00 ft (crest of spillway). No dead storage. Ordinary minimum (conservation) pool elevation is 920.00 ft, capacity, 2,000 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. U.S. Army Corps of Engineers satellite and landline telemetry at station.

COOPERATION.--Records provided by Pennsylvania Department of Environmental Resources.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 62,030 acre-ft, June 26, 1972, elevation, 1,015.87 ft; minimum, (after first filling), 37 acre-ft many days in October 1973, elevation, 891.84 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 3,640 acre-ft, May 20, elevation, 928.72 ft; minimum, 2,080 acre-ft, Dec. 2, elevation, 920.27 ft.

01544800 KETTLE CREEK LAKE (formerly published as Alvin R. Bush Reservoir).--Lat 41°21'37", long 77°55'27", Clinton County, Hydrologic Unit 02050203, at control tower of dam on Kettle Creek, 1.1 mi downstream from Sugar Camp Run, and 8.5 mi upstream from mouth and Westport. DRAINAGE AREA, 226 mi^2. PERIOD OF RECORD, February 1962 to current year. GAGE, water-stage recorder. Datum of gage is National Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir formed by an earthfill embankment, rock faced, with ungated concrete spillway at elevation 937.00 ft. Storage began Feb. 7, 1962; water in reservoir first reached conservation pool elevation in March 1962. Total capacity at elevation 937.00 ft is 75,000 acre-ft. No dead storage. Ordinary minimum (conservation) pool elevation is 840.00 ft, capacity, 1,590 acre-ft. Reservoir is used for flood control and recreation. Figures given herein represent total contents. Storage is regulated by three gates and low-flow bypass system. U.S. Army Corps of Engineers satellite and landline telemetry at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 51,660 acre-ft, June 25, 1972, elevation, 919.13 ft; minimum, no storage, June 7, 1962.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 4,150 acre-ft, May 20, elevation, 851.82 ft; minimum, 1,650 acre-ft, Feb. 9, elevation, 840.40 ft.

Reservoirs in West Branch Susquehanna River basin-Continued

01547480 FOSTER JOSEPH SAYERS LAKE.--Lat 41°02'53", long 77°36'35", Centre County, Hydrologic Unit 02050204, at Foster Joseph Sayers Dam, on Bald Eagle Creek, 1.0 mi upstream from Marsh Creek, and 1.2 mi south of Blanchard. DRAINAGE AREA, 339 mi^2. PERIOD OF RECORD, March 1971 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir formed by an earthfill dam with ungaged concrete ogee weir at elevation 657.00 ft with abutting concrete gravity walls and partially paved exit channel. Storage began in March 1971. Capacity at elevation 657.00 ft is 99,100 acre-ft. Dead storage is 25 acre-ft. Ordinary minimum (conservation) pool elevation is 610.0 ft, capacity, 6,300 acre-ft. Reservoir used for flood control and recreation. Figures given herein represent total contents. Regulation is accomplished by two gates. U.S. Army Corps of Engineers satellite and landline telemetry at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 103,900 acre-ft, June 25, 1972, elevation, 658.41 ft; minimum, 3,250 acre-ft, Oct. 27, 1987, elevation, 604.45 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 41,090 acre-ft, May 21, elevation, 636.39 ft; minimum, 3,250 acre-ft, Oct. 27, elevation, 604.45 ft.

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s/day)	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s/day)
	01541180 Curwensville Lake			01541340 Glendale Lake		
Sept. 30	1,162.35	9,830	--	1,427.38	25,910	--
Oct. 31	1,161.97	9,520	- 5.0	1,427.26	25,720	- 3.1
Nov. 30	1,159.00	7,340	- 36.6	1,427.48	26,070	+ 5.9
Dec. 31	1,154.80	4,770	- 41.8	1,427.66	26,360	+ 4.7
CAL YR 1987	--	--	0	--	--	+ 0.4
Jan. 31	1,155.39	5,090	+ 5.2	1,427.73	26,470	+ 1.8
Feb. 29	1,154.77	4,750	- 5.9	1,427.53	26,150	- 5.6
Mar. 31	1,154.86	4,800	+ 0.8	1,427.75	26,500	+ 5.7
Apr. 30	1,157.99	6,650	+ 31.1	1,427.43	25,990	- 8.6
May 31	1,161.67	9,290	+ 42.9	1,427.46	26,040	+ 0.8
June 30	1,162.44	9,910	+ 10.4	1,427.01	25,320	- 12.1
July 31	1,162.31	9,800	- 1.8	1,426.83	25,040	- 4.6
Aug. 31	1,162.65	10,080	+ 4.6	1,426.76	24,940	- 1.6
Sept. 30	1,161.89	9,460	- 10.4	1,427.21	25,640	+ 11.8
WTR YR 1988	--	--	- 0.5	--	--	- 0.4

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s/day)	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s/day)
	01543900 F. F. Sinnemahoning Cr. Reservoir			01544800 Kettle Creek Lake		
Sept. 30	921.18	2,320	--	841.33	1,790	--
Oct. 31	921.37	2,340	+ 0.3	841.20	1,770	- 0.3
Nov. 30	921.21	2,320	- 0.3	841.51	1,820	+ 0.8
Dec. 31	921.50	2,350	+ 0.5	841.15	1,760	- 1.0
CAL YR 1987	--	--	+ 0.1	--	--	0
Jan. 31	921.31	2,330	- 0.3	841.24	1,780	+ 0.3
Feb. 29	921.40	2,340	+ 0.2	841.12	1,760	- 0.3
Mar. 31	921.06	2,310	- 0.5	841.20	1,770	+ 0.2
Apr. 30	921.32	2,330	+ 0.3	841.18	1,770	0
May 31	921.20	2,320	- 0.2	841.14	1,760	- 0.2
June 30	921.01	2,300	- 0.3	842.00	1,900	+ 2.4
July 31	921.29	2,330	+ 0.5	842.04	1,910	+ 0.2
Aug. 31	921.31	2,330	0	841.78	1,860	- 0.8
Sept. 30	921.22	2,320	- 0.2	841.99	1,900	+ 0.7
WTR YR 1988	--	--	0	--	--	+ 0.2

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s/day)
	01547480 Foster Joseph Sayers Lake		
Sept. 30	629.97	28,750	--
Oct. 31	605.89	3,960	-403
Nov. 30	611.03	6,990	+ 50.9
Dec. 31	610.38	6,550	- 7.2
CAL YR 1987	--	--	+ 0.3
Jan. 31	610.18	6,420	- 2.1
Feb. 29	610.27	6,480	+ 1.0
Mar. 31	619.86	14,690	+133
Apr. 30	625.90	22,320	+128
May 31	630.40	29,520	+117
June 30	630.32	29,370	- 2.5
July 31	629.40	27,810	- 25.4
Aug. 31	629.79	28,450	+ 10.4
Sept. 30	629.10	27,320	- 19.0
WTR YR 1988	--	--	- 2.0

01554000 SUSQUEHANNA RIVER AT SUNBURY, PA

LOCATION.--Lat 40°50'04", long 76°49'37", Snyder County, Hydrologic Unit 02050301, on right bank at borough of Shamokin Dam, on grounds of Pennsylvania Power and Light Co. generating plant, 1.0 mi downstream from Shamokin Creek, 1.5 mi downstream from Sunbury Fabridam, and 1.8 mi south of Sunbury.

DRAINAGE AREA.--18,300 mi^2, approximately (excluding that of Shamokin Creek).

PERIOD OF RECORD.--October 1937 to current year. June 1918 to September 1918 (gage heights only), in reports of Pennsylvania Department of Forests and Waters.

REVISED RECORDS.--WSP 891: 1936(M). WDR PA-79-2: 1978(M).

GAGE.--Water-stage recorder. Datum of gage is 408.61 ft above National Geodetic Vertical Datum of 1929. See WSP 1903 for history of changes prior to Dec. 13, 1937. Dec. 13, 1937, to Mar. 23, 1967, water-stage recorder at site 1.7 mi upstream at datum 11.05 ft higher.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 14 flood-control reservoirs which have a capacity of about 809,000 acre-ft, and during low flow by Fabridam upstream. U.S. Army Corps of Engineers satellite telemeter and National Weather Service landline telemeter at station.

AVERAGE DISCHARGE.--51 years, 26,490 ft^3/s, 19.66 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 620,000 ft^3/s, June 24, 1972, gage height, 35.80 ft; minimum, 964 ft^3/s, Oct. 16, 1971, gage height, 4.83 ft, result of shutoff at Fabridam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 143,000 ft^3/s, May 21, gage height, 18.29 ft; minimum, 1,790 ft^3/s, Aug. 19, gage height, 5.70 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17500	24900	57300	19800	e16000	17600	47300	32300	21300	3220	9310	18200
2	16800	20900	62700	18000	e22000	16900	42100	37000	19800	3180	7270	16500
3	14200	18400	56900	e15000	e50000	16600	40300	32100	18800	3100	5890	14400
4	14200	16800	47600	e14000	114000	18600	39100	27600	16000	3030	5190	12000
5	15400	15600	40600	e13000	94700	22200	37700	24900	16700	2930	4650	18500
6	15000	14600	34600	e11000	72100	23500	39000	23800	15600	2860	4190	16400
7	16800	13900	30700	e9800	56800	25000	38400	24800	14100	2770	4180	14200
8	18000	13200	27600	e9300	45900	25100	36300	26000	12600	2650	4500	12000
9	16900	13100	25100	e9400	40600	26500	34100	24500	12200	2590	4110	9850
10	16200	13000	23400	e8600	34500	33000	32400	22200	11500	2540	3710	8420
11	16000	12900	22600	e8100	32400	46900	30000	21200	10500	2450	3560	7320
12	15800	12700	22900	e7900	30500	55700	27700	21200	9550	2450	3310	6340
13	15100	12800	24300	e8100	28700	53200	25800	20600	8800	2370	3190	6340
14	14700	13200	24000	e8500	25100	52600	23900	20300	8240	2350	3060	6760
15	14800	13800	22400	e7900	22300	55100	22100	20000	7640	2290	2950	6140
16	15300	14100	24100	e8400	20800	53300	20900	19300	7090	2170	2780	5400
17	14700	14400	24700	e9100	22100	46500	19800	18500	6670	2310	5620	5070
18	13500	19300	25700	e11000	22500	39700	18400	20300	6390	4130	3650	5280
19	12300	25900	24800	e13000	21600	35300	17600	40700	6130	4390	2370	5690
20	11500	26000	23600	e16000	24800	32000	16800	108000	5790	3950	2380	5630
21	11000	25200	23900	e20000	27800	29100	15800	138000	5430	5130	2270	6190
22	10500	24100	28400	e26000	28500	26100	15100	121000	5040	7770	2180	7040
23	10000	22000	36100	e30000	27000	23400	14200	85900	4720	8470	2120	6480
24	9470	20000	35500	e27000	25500	21500	13400	68000	4390	8150	2580	6170
25	9050	18500	31600	e26000	24500	20600	13500	57600	4220	10700	3080	5740
26	8790	17500	28500	e23000	22800	24800	15400	52200	4110	9330	4160	5310
27	8720	16800	27200	e20000	19000	50200	16800	45500	3840	11500	3930	5050
28	11700	16200	26500	e18000	21400	82400	17600	39100	3680	10900	3630	4760
29	16700	16700	27100	e16000	18800	80800	19300	31900	3560	9060	4400	4540
30	18300	33300	25500	e15000	---	68000	23400	28300	3390	8950	38000	4450
31	23700	---	21700	e15000	---	56300	---	23500	---	8940	19500	---
TOTAL	442630	539800	957600	461900	1012700	1178500	774200	1276300	277780	156630	171720	256170
MEAN	14280	17990	30890	14900	34920	38020	25810	41170	9259	5053	5539	8539
MAX	23700	33300	62700	30000	114000	82400	47300	138000	21300	11500	38000	18500
MIN	8720	12700	21700	7900	16000	16600	13400	18500	3390	2170	2120	4450
CFSM	.78	.98	1.69	.81	1.91	2.08	1.41	2.25	.51	.28	.30	.47
IN.	.90	1.10	1.95	.94	2.06	2.40	1.57	2.59	.56	.32	.35	.52

CAL YR 1987 TOTAL 8349220 MEAN 22870 MAX 157000 MIN 3460 CFSM 1.25 IN. 16.97
WTR YR 1988 TOTAL 7505930 MEAN 20510 MAX 138000 MIN 2120 CFSM 1.12 IN. 15.26

e Estimated

01554500 SHAMOKIN CREEK NEAR SHAMOKIN, PA

LOCATION.--Lat 40°48'37", long 76°35'04", Northumberland County, Hydrologic Unit 02050301, on right bank at Weigh Scales, 1.0 mi downstream from Trout Run, 1.1 mi upstream from Bennys Run, and 2.0 mi northwest of Shamokin.

DRAINAGE AREA.--54.2 mi^2.

PERIOD OF RECORD.--November 1939 to current year. Prior to October 1964, published as "at Weigh Scales".

GAGE.--Water-stage recorder and concrete control. Datum of gage is 606.28 ft above National Geodetic Vertical Datum of 1929. Nov. 14, 1939, to Jan. 9, 1967, water-stage recorder at site 0.4 mi upstream at datum 2.00 ft higher, and Jan. 10 to Dec. 10, 1967, nonrecording gage at site 0.4 mi downstream at datum 11.50 ft lower.

REMARKS.--No estimated daily discharges. Records good. Regulation by mine pumps upstream from station. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--48 years, 85.5 ft^3/s, 21.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,070 ft^3/s, June 22, 1972, gage height, 8.72 ft, from rating curve extended above 560 ft^3/s on basis of slope-area measurement of peak flow; minimum, 3.2 ft^3/s, Feb. 15, 1940, gage height, 0.42 ft, site and datum then in use.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 17	1700	*563	*3.74				

Minimum discharge, 29 ft^3/s, Sept. 29, gage height 2.20 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	82	66	127	71	85	74	85	72	107	59	52	34
2	79	69	128	69	138	74	84	70	107	59	49	33
3	80	67	125	68	121	82	83	70	94	58	47	33
4	77	66	123	69	136	135	88	70	90	57	46	89
5	75	64	115	65	120	111	82	74	86	57	45	45
6	74	63	107	65	111	98	80	82	83	56	51	37
7	105	63	102	64	105	100	82	81	80	55	48	36
8	75	62	97	65	102	98	83	75	79	54	44	35
9	73	63	95	65	97	101	80	74	96	52	43	34
10	72	69	92	64	92	104	77	75	81	52	42	35
11	77	67	89	63	88	100	77	78	77	52	41	34
12	70	67	88	63	94	100	75	74	76	52	41	33
13	68	69	83	62	85	101	75	74	75	50	40	82
14	67	71	81	61	81	98	74	75	73	49	40	39
15	67	71	91	59	86	95	75	72	72	48	39	36
16	66	73	84	59	88	93	76	72	71	50	38	35
17	65	107	79	59	82	90	74	73	70	103	38	40
18	65	177	77	66	80	89	78	100	69	62	39	38
19	63	129	76	66	82	88	79	316	67	55	38	35
20	63	126	90	91	110	88	74	312	67	60	38	38
21	66	117	78	69	90	83	74	261	66	71	37	35
22	61	108	76	64	81	81	72	222	64	60	36	34
23	60	102	75	62	82	80	71	194	63	53	41	34
24	60	97	74	61	80	79	71	175	63	82	51	33
25	59	92	75	62	80	79	70	163	63	54	41	34
26	58	88	76	62	78	133	69	141	62	55	36	33
27	100	83	73	59	78	91	70	128	61	59	35	32
28	121	80	72	58	77	85	79	119	61	59	35	31
29	73	128	73	58	76	85	72	111	59	51	76	30
30	69	180	70	59	---	85	78	104	59	53	41	30
31	67	---	70	63	---	85	---	98	---	65	34	---
TOTAL	2257	2684	2761	1991	2705	2885	2307	3705	2241	1802	1322	1147
MEAN	72.8	89.5	89.1	64.2	93.3	93.1	76.9	120	74.7	58.1	42.6	38.2
MAX	121	180	128	91	138	135	88	316	107	103	76	89
MIN	58	62	70	58	76	74	69	70	59	48	34	30
CFSM	1.34	1.65	1.64	1.18	1.72	1.72	1.42	2.21	1.38	1.07	.79	.71
IN.	1.55	1.84	1.90	1.37	1.86	1.98	1.58	2.54	1.54	1.24	.91	.79

CAL YR 1987 TOTAL 30266 MEAN 82.9 MAX 440 MIN 35 CFSM 1.53 IN. 20.77
WTR YR 1988 TOTAL 27807 MEAN 76.0 MAX 316 MIN 30 CFSM 1.40 IN. 19.09

01555000 PENNS CREEK AT PENNS CREEK, PA

LOCATION.--Lat 40°52'00", long 77°02'55", Union County, Hydrologic Unit 02050301, on left bank 200 ft downstream from bridge on State Highway 104, 0.8 mi northeast of Penns Creek, and 2.9 mi upstream from Sweitzers Run.

DRAINAGE AREA.--301 mi^2.

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1965, published as Penn Creek at Penns Creek.

REVISED RECORDS.--WSP 891: 1934(M). WSP 1502: 1933(M), 1934, 1936(M). WDR PA-72-1: 1933-34(M), 1936(M), 1940(M), 1951(M). WDR PA-79-2: 1978.

GAGE.--Water-stage recorder. Datum of gage is 506.72 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 1, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--59 years, 436 ft^3/s, 19.67 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 34,600 ft^3/s, June 23, 1972, gage height, 14.85 ft, from floodmark in gage well, from rating curve extended above 6,800 ft^3/s on basis of contracted-opening measurement of peak flow; minimum, 7.0 ft^3/s, Sept. 27, 1932, gage height, 0.85 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Feb. 3	0200	3,510	6.37	May 19	1330	*6,540	*8.61

Minimum discharge, 60 ft^3/s, Aug. 18, gage height, 1.25 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	353	191	745	e250	e260	318	479	272	462	116	99	172
2	256	186	648	e260	e520	305	473	251	443	117	100	137
3	248	181	572	e240	1800	339	456	240	418	112	88	117
4	248	178	551	e220	1430	592	475	232	399	107	81	213
5	219	194	514	e230	1150	613	460	253	362	105	77	242
6	209	184	463	e190	895	523	423	370	331	100	78	184
7	378	171	424	e180	750	542	530	396	319	99	149	144
8	346	164	398	e170	e640	524	694	348	311	91	150	127
9	277	161	382	e180	e570	552	600	326	321	92	103	115
10	251	172	382	e170	e540	780	562	349	313	90	89	109
11	256	184	365	e170	e520	730	538	429	274	87	85	101
12	251	181	351	e160	e500	674	514	392	252	92	79	95
13	232	191	333	e160	e460	678	491	366	239	90	78	129
14	212	204	306	e170	e380	658	465	350	220	81	76	136
15	198	209	341	e150	e360	605	450	334	207	82	73	112
16	192	215	405	e140	e350	553	434	338	201	79	68	98
17	183	218	356	e150	e340	523	406	364	201	86	65	103
18	177	586	311	e160	e350	497	391	818	192	82	62	151
19	171	522	295	e170	e340	482	375	5100	181	137	64	147
20	167	452	345	e200	e430	466	349	4010	172	143	70	125
21	171	416	424	e500	739	427	331	2530	165	145	71	119
22	164	369	393	e340	469	400	313	1840	156	144	67	113
23	156	349	379	e280	467	384	298	1430	151	128	66	105
24	149	333	373	e240	437	373	300	1180	146	134	97	103
25	145	319	388	e220	394	374	283	1100	142	107	105	99
26	142	307	416	e200	361	589	267	898	137	94	85	94
27	146	290	396	e170	352	646	263	766	133	98	72	90
28	319	277	371	e160	338	558	286	675	127	192	67	86
29	304	746	374	e150	325	525	289	605	125	129	214	83
30	220	1050	317	e160	---	510	300	548	116	103	635	80
31	201	---	e260	e170	---	490	---	497	---	102	266	---
TOTAL	6941	9200	12578	6310	16467	16230	12495	27607	7216	3364	3479	3729
MEAN	224	307	406	204	568	524	416	891	241	109	112	124
MAX	378	1050	745	500	1800	780	694	5100	462	192	635	242
MIN	142	161	260	140	260	305	263	232	116	79	62	80
CFSM	.74	1.02	1.35	.68	1.89	1.74	1.38	2.96	.80	.36	.37	.41
IN.	.86	1.14	1.55	.78	2.04	2.01	1.54	3.41	.89	.42	.43	.46

CAL YR 1987 TOTAL 130456 MEAN 357 MAX 1810 MIN 52 CFSM 1.19 IN. 16.10
WTR YR 1988 TOTAL 125616 MEAN 343 MAX 5100 MIN 62 CFSM 1.14 IN. 15.52

e Estimated

01555500 EAST MAHANTANGO CREEK NEAR DALMATIA, PA

LOCATION.--Lat 40°36'40", long 76°54'44", Northumberland County, Hydrologic Unit 02050301, on right bank at bridge on SR 3017, 2.0 mi upstream from mouth, and 3.2 mi south of Dalmatia.

DRAINAGE AREA.--162 mi^2.

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1945, published as Mahantango Creek East near Dalmatia.

REVISED RECORDS.--WSP 891: 1933(M). WSP 1302: 1930(M), 1938(M).

GAGE.--Water-stage recorder. Datum of gage is 401.22 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1929, to Feb. 11, 1930, nonrecording gage, and Feb. 12, 1930, to Nov. 18, 1973, water-stage recorder at present site and datum. Nov. 19, 1973, to June 18, 1974, nonrecording gage at site 2 mi upstream at different datum.

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

AVERAGE DISCHARGE.--59 years, 224 ft^3/s, 18.78 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 69,900 ft^3/s, June 22, 1972, gage height, 26.62 ft, from floodmark in gage shelter, from rating curve extended above 5,100 ft^3/s on basis of slope-area measurement of peak flow; minimum, 1.3 ft^3/s, Oct. 7, 1957, Nov. 3, 1964; minimum gage height, 0.84 ft, Sept. 21, 1932.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	0630	2,030	5.68	May 19	2200	*3,390	*7.20
Jan. 20	1030	2,190	5.91				

Minimum discharge, 14 ft^3/s, Aug. 18, 19, 20, 23, Sept. 2, minimum gage height, 1.15 ft, Aug. 18, 19.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	92	145	930	e110	e90	161	189	132	160	34	46	30
2	72	129	626	e100	910	150	179	119	171	33	40	20
3	67	116	466	e90	937	161	168	116	151	31	35	18
4	66	109	395	e75	792	450	167	117	140	29	31	59
5	60	100	327	e85	690	817	156	124	130	28	27	115
6	55	91	274	e75	515	550	143	181	117	27	25	66
7	95	82	232	e56	396	446	155	177	108	25	25	43
8	101	79	208	e52	368	378	179	155	103	24	27	34
9	78	76	193	e49	320	349	157	143	154	22	26	29
10	70	88	184	e47	260	353	143	142	156	21	22	27
11	70	112	171	e45	225	317	133	162	111	20	19	24
12	76	109	162	e43	244	291	126	146	100	20	16	24
13	64	124	150	e39	235	284	122	132	93	27	25	74
14	59	174	134	e37	199	263	118	139	84	27	40	103
15	56	250	141	e35	227	238	114	126	78	20	25	62
16	54	312	183	e45	238	216	115	122	75	17	19	41
17	52	381	157	e70	243	199	110	123	73	18	16	41
18	50	1020	137	175	238	186	115	235	70	32	15	54
19	48	771	128	292	233	184	142	1870	64	53	14	51
20	46	532	154	673	654	175	116	2070	60	88	15	38
21	49	397	181	429	484	160	107	1130	58	139	17	37
22	51	300	167	263	334	145	102	761	54	120	16	34
23	47	255	168	208	290	140	102	580	50	70	15	31
24	42	223	159	183	258	135	103	476	46	124	19	29
25	40	196	160	150	220	130	113	417	41	116	30	27
26	39	179	173	e130	200	263	94	345	42	72	30	26
27	44	160	163	e110	185	313	94	284	41	72	24	25
28	430	147	154	e100	176	261	121	245	39	65	18	22
29	337	241	158	e90	166	238	121	216	37	53	29	21
30	230	1650	134	e80	---	222	135	192	36	44	59	19
31	178	---	e100	e70	---	207	---	173	---	59	46	---
TOTAL	2818	8548	7069	4006	10327	8382	3939	11350	2642	1530	811	1224
MEAN	90.9	285	228	129	356	270	131	366	88.1	49.4	26.2	40.8
MAX	430	1650	930	673	937	817	189	2070	171	139	59	115
MIN	39	76	100	35	90	130	94	116	36	17	14	18
CFSM	.56	1.76	1.41	.80	2.20	1.67	.81	2.26	.54	.30	.16	.25
IN.	.65	1.96	1.62	.92	2.37	1.92	.90	2.61	.61	.35	.19	.28

CAL YR 1987 TOTAL 69632.9 MEAN 191 MAX 2840 MIN 9.0 CFSM 1.18 IN. 15.99
WTR YR 1988 TOTAL 62646 MEAN 171 MAX 2070 MIN 14 CFSM 1.06 IN. 14.39

e Estimated

01556000 FRANKSTOWN BRANCH JUNIATA RIVER AT WILLIAMSBURG, PA

LOCATION.--Lat 40°27'47", long 78°12'00", Blair County, Hydrologic Unit 02050302, on left bank 10 ft downstream from highway bridge on SR 2015 at Williamsburg and 2.5 mi upstream from Clover Creek.

DRAINAGE AREA.--291 mi^2.

PERIOD OF RECORD.--October 1916 to current year. Monthly figures only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 756: Drainage area. WDR PA-71-1: 1954(M), 1960(M), 1961(M).

GAGE.--Water-stage recorder. Datum of gage is 831.78 ft above National Geodetic Vertical Datum of 1929 (Penn Central Railroad benchmark). Prior to Aug. 14, 1928, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Some regulation at low flow by mill above station. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--72 years, 393 ft^3/s, 18.34 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft^3/s, Mar. 18, 1936, gage height, 18.58 ft, from floodmark in gage shelter, from rating curve extended above 14,000 ft^3/s on basis of slope-area measurement of peak flow; minimum, 13 ft^3/s, July 24, 1934, gage height, 0.97 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 19.1 ft, from floodmark, discharge, about 35,500 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,200 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	1000	*4,370	*9.63	No other peaks greater than base discharge.			

Minimum daily discharge, 55 ft^3/s, Aug. 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	173	102	429	359	427	298	354	227	256	81	77	92
2	143	104	352	338	1290	278	335	220	243	81	73	88
3	210	104	297	256	1440	267	314	219	223	80	71	83
4	155	105	283	294	1540	1570	330	218	211	77	67	316
5	137	103	266	198	1070	1630	303	345	196	76	67	256
6	130	100	233	164	744	1030	262	955	180	73	65	145
7	143	98	213	188	566	809	277	823	170	71	67	117
8	130	98	203	206	534	645	1060	664	160	70	64	103
9	121	98	198	219	444	623	901	514	602	70	61	95
10	116	126	225	198	402	793	714	717	264	69	60	90
11	135	150	214	177	357	670	589	535	190	71	59	85
12	132	143	222	186	341	607	501	440	167	68	60	82
13	121	158	215	191	292	609	438	393	152	66	60	495
14	114	205	197	170	264	553	389	362	140	63	57	255
15	110	222	316	153	279	504	366	329	133	63	57	171
16	109	196	378	154	277	443	335	360	132	62	55	147
17	107	187	305	157	256	400	304	347	159	62	56	636
18	105	227	270	220	271	363	290	1430	129	62	64	467
19	105	197	249	324	272	352	273	3510	119	68	67	268
20	105	185	635	2230	571	340	248	2470	114	182	72	217
21	111	182	612	951	598	308	233	2030	109	394	74	197
22	104	166	494	637	382	279	219	1360	104	186	61	179
23	101	162	433	501	401	270	209	990	101	116	67	176
24	100	160	380	430	375	263	271	1010	96	142	188	156
25	96	155	398	400	331	278	222	691	92	109	95	172
26	95	150	471	366	301	369	204	553	90	94	73	194
27	101	145	383	290	298	556	196	464	89	139	66	175
28	184	142	353	265	280	458	201	406	85	129	64	156
29	136	405	368	250	265	430	218	359	84	93	460	117
30	118	763	304	249	---	405	260	317	81	84	218	105
31	111	---	267	289	---	374	---	285	---	80	113	---
TOTAL	3858	5338	10163	11010	14868	16774	10816	23543	4871	3081	2758	5835
MEAN	124	178	328	355	513	541	361	759	162	99.4	89.0	194
MAX	210	763	635	2230	1540	1630	1060	3510	602	394	460	636
MIN	95	98	197	153	256	263	196	218	81	62	55	82
CFSM	.43	.61	1.13	1.22	1.76	1.86	1.24	2.61	.56	.34	.31	.67
IN.	.49	.68	1.30	1.41	1.90	2.14	1.38	3.01	.62	.39	.35	.75

CAL YR 1987 TOTAL 123862 MEAN 339 MAX 6300 MIN 70 CFSM 1.16 IN. 15.83
WTR YR 1988 TOTAL 112915 MEAN 309 MAX 3510 MIN 55 CFSM 1.06 IN. 14.43

01557500 BALD EAGLE CREEK AT TYRONE, PA

LOCATION.--Lat 40°41'01", long 78°14'02", Blair County, Hydrologic Unit 02050302, on left bank 0.2 mi upstream from plant of West Virginia Pulp and Paper Co. at Tyrone, 0.2 mi upstream from Laurel Run, and 1.3 mi upstream from mouth.

DRAINAGE AREA.--44.1 mi^2.

PERIOD OF RECORD.--October 1944 to current year. Prior to October 1967, published as South Bald Eagle Creek at Tyrone.

REVISED RECORDS.--WSP 1903: 1954(M). WDR PA-75-2: 1974.

GAGE.--Water-stage recorder. Datum of gage is 921.80 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1944, to Nov. 15, 1950, water-stage recorder, and Nov. 16, 1950, to Nov. 30, 1952, nonrecording gage at site 0.5 mi downstream at datum 17.99 ft lower.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Prior to Nov. 30, 1952, daily discharges were affected by diversion by West Virginia Pulp and Paper Co. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--44 years, 75.5 ft^3/s, 23.25 in/yr, adjusted for diversion from October 1950 to November 1952.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 5,140 ft^3/s, Nov. 25, 1950, gage height, 7.5 ft, from floodmarks, site and datum then in use, from rating curve extended above 2,100 ft^3/s on basis of contracted-opening measurement of peak flow; minimum, 1.4 ft^3/s, Sept. 12, 13, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, about 15 ft, Mar. 17 or 18, 1936, site and datum in use prior to Dec. 1, 1952.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 940 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 20	--	Unknown	ice jam	May 19	0345	*1,110	*3.36
Feb. 2	--	Unknown	ice jam				

Minimum discharge, 2.2 ft^3/s, Aug. 16, 17, gage height, -0.12 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	e23	64	e48	e90	44	e66	41	54	12	5.4	7.2
2	20	e22	59	e45	e200	45	e64	40	51	12	4.8	5.6
3	37	e22	55	e37	432	74	e63	40	48	11	4.9	4.7
4	25	e21	56	e38	374	201	e62	41	45	10	4.6	102
5	21	e22	52	e32	241	149	e61	69	41	9.4	4.4	36
6	20	e21	48	e29	e160	121	e60	80	38	8.9	4.2	17
7	28	e21	45	e28	e110	106	e150	75	36	8.4	4.4	11
8	24	e20	43	e29	e90	95	e120	71	34	8.0	3.8	8.1
9	22	e21	44	e32	e82	115	e110	73	42	7.7	3.6	7.0
10	21	24	45	e29	e75	140	e96	117	33	7.5	3.4	5.7
11	25	24	44	e28	e70	124	e84	94	30	7.3	3.3	4.7
12	27	23	45	e27	e63	113	e76	87	28	7.3	3.1	4.2
13	23	25	44	e29	e52	114	e70	79	26	7.1	3.1	36
14	22	28	42	e27	e36	108	e63	72	24	7.0	3.1	15
15	21	26	77	e23	e39	98	e60	64	23	7.9	2.9	9.1
16	20	24	76	e24	e47	86	e55	66	22	7.0	2.4	7.1
17	e20	25	62	e26	50	76	e52	71	22	6.5	2.3	71
18	e19	34	55	e32	53	70	e49	235	20	6.3	2.5	43
19	e19	30	51	e48	53	65	e46	768	19	9.0	4.3	23
20	e20	30	133	e250	74	62	e44	424	19	14	4.7	25
21	e21	32	128	e160	72	55	41	278	17	31	4.1	24
22	e20	45	111	e120	e60	53	39	198	16	14	3.3	15
23	e19	39	95	e98	63	50	38	153	16	11	5.8	16
24	e19	30	79	e82	59	49	40	145	15	15	15	15
25	e19	28	82	e74	55	53	36	129	14	8.6	5.9	12
26	e20	28	81	e60	54	71	34	100	14	10	4.1	10
27	e20	26	68	e40	49	72	35	88	13	11	3.5	8.7
28	e41	26	e62	e41	47	70	36	79	13	7.8	3.7	7.7
29	e30	80	e60	e44	46	70	42	69	12	7.1	95	7.1
30	e25	84	e50	e49	---	68	46	62	12	6.8	24	7.0
31	e24	---	e46	e58	---	e67	---	56	---	6.1	10	---
TOTAL	716	904	2002	1687	2896	2684	1838	3964	797	302.7	249.6	564.9
MEAN	23.1	30.1	64.6	54.4	99.9	86.6	61.3	128	26.6	9.76	8.05	18.8
MAX	41	84	133	250	432	201	150	768	54	31	95	102
MIN	19	20	42	23	36	44	34	40	12	6.1	2.3	4.2
CFSM	.52	.68	1.46	1.23	2.26	1.96	1.39	2.90	.60	.22	.18	.43
IN.	.60	.76	1.69	1.42	2.44	2.26	1.55	3.34	.67	.26	.21	.48

CAL YR 1987	TOTAL 22030.8	MEAN 60.4	MAX 665	MIN 7.2	CFSM 1.37	IN. 18.58
WTR YR 1988	TOTAL 18605.2	MEAN 50.8	MAX 768	MIN 2.3	CFSM 1.15	IN. 15.69

e Estimated

01558000 LITTLE JUNIATA RIVER AT SPRUCE CREEK, PA

LOCATION.--Lat 40°36'45", long 78°08'27", Huntingdon County, Hydrologic Unit 02050302, on right bank on SR 4006, 150 ft downstream from Penn Central Railroad bridge, 0.5 mi northwest of village of Spruce Creek, and 0.5 mi upstream from Spruce Creek.

DRAINAGE AREA.--220 mi^2.

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

GAGE.--Water-stage recorder. Datum of gage is 751.15 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--50 years, 372 ft^3/s, 22.96 in/yr.

EXTREMES PERIOD OF RECORD.--Maximum discharge, 28,600 ft^3/s, June 23, 1972, gage height, 16.98 ft, from rating curve extended above 5,600 ft^3/s on basis of slope-area measurement of peak flow; minimum, 45 ft^3/s, Sept. 26, 1943, Oct. 4, 1949; minimum gage height, 1.41 ft, Sept. 26, 1943.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 19.1 ft, from floodmarks 175 ft downstream, discharge, 39,800 ft^3/s, from rating curve extended as explained above.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	0515	*4,880	*7.29	No other peak greater than base discharge.			

Minimum discharge, 61 ft^3/s, Aug. 15, 17, gage height, 1.69 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	132	108	340	357	414	236	370	215	296	91	77	97
2	114	108	309	310	1570	224	352	208	285	92	76	92
3	199	107	276	244	1600	288	333	205	262	90	75	88
4	138	106	285	280	1540	984	336	205	247	88	74	441
5	118	107	264	201	1140	774	307	311	224	86	73	282
6	115	103	232	161	815	620	288	473	206	84	71	156
7	142	100	210	179	637	565	715	409	191	83	71	123
8	122	98	198	207	584	498	728	377	179	83	69	108
9	119	101	193	219	506	530	620	368	347	83	68	100
10	111	117	213	190	454	729	557	578	217	82	68	97
11	136	121	197	169	406	645	504	505	177	81	68	94
12	134	117	202	171	387	600	459	461	159	81	69	91
13	118	118	198	183	344	611	417	437	150	80	68	277
14	113	144	179	151	303	580	382	407	142	79	67	163
15	109	137	295	133	304	534	358	363	136	80	67	114
16	108	126	353	139	283	483	336	388	128	79	65	100
17	105	127	289	141	265	439	309	366	126	75	65	626
18	103	158	253	182	283	404	294	1060	121	76	71	468
19	102	143	230	280	283	387	274	3410	115	80	76	261
20	104	139	487	1260	396	371	250	1950	113	93	76	219
21	110	143	526	782	433	332	240	1430	109	207	75	216
22	99	136	467	591	322	304	220	1120	105	122	69	161
23	93	136	427	489	361	292	213	856	104	93	75	151
24	93	140	374	422	348	294	232	846	102	96	149	152
25	94	138	406	398	307	296	200	656	100	88	86	136
26	96	133	425	364	279	371	185	543	99	92	75	131
27	96	128	365	294	271	474	182	485	97	97	71	117
28	205	126	361	265	260	439	188	435	94	92	76	110
29	136	257	381	247	248	428	209	392	94	86	584	105
30	120	474	325	250	---	414	268	354	93	81	232	102
31	113	---	288	266	---	389	---	319	---	78	116	---
TOTAL	3697	4196	9548	9525	15343	14535	10326	20132	4818	2798	3022	5378
MEAN	119	140	308	307	529	469	344	649	161	90.3	97.5	179
MAX	205	474	526	1260	1600	984	728	3410	347	207	584	626
MIN	93	98	179	133	248	224	182	205	93	75	65	88
CFSM	.54	.64	1.40	1.40	2.40	2.13	1.56	2.95	.73	.41	.44	.81
IN.	.63	.71	1.61	1.61	2.59	2.46	1.75	3.40	.81	.47	.51	.91

CAL YR 1987 TOTAL 111453 MEAN 305 MAX 3980 MIN 77 CFSM 1.39 IN. 18.84
WTR YR 1988 TOTAL 103318 MEAN 282 MAX 3410 MIN 65 CFSM 1.28 IN. 17.47

01559000 JUNIATA RIVER AT HUNTINGDON, PA

LOCATION.--Lat 40°29'05", long 78°01'09", Huntingdon County, Hydrologic Unit 02050302, on right bank 170 ft downstream from Smithfield Bridge on State Highway 26 at Huntingdon and 0.8 mi upstream from Standing Stone Creek.

DRAINAGE AREA.--816 mi^2.

PERIOD OF RECORD.--September 1941 to current year. Gage-height records collected in this vicinity for the period May 1895 to December 1938 are contained in reports of U.S. Weather Bureau. Prior to October 1950, published as Frankstown Branch Juniata River at Huntingdon.

REVISED RECORDS.--WDR PA-73-1: 1936(M). WDR PA-80-2: 1972(M). WDR PA-84-2: 1936(M) 1972(M).

GAGE.--Water-stage recorder. Datum of gage is 599.69 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for October 1 to June 20, which are fair. Flow regulated September 1941 to June 1972, and since December 1985 by Warrior Ridge Hydroelectric Plant (reservoir capacity 400 acre-ft), 4 mi upstream. National Weather Service satellite telemeter and U.S. Army Corps of Engineers landline telemeter at station.

AVERAGE DISCHARGE.--47 years, 1,094 ft^3/s, 18.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 57,000 ft^3/s, June 23, 1972, gage height, 20.03 ft, from rating curve extended above 22,000 ft^3/s on basis of computation of peak flow-over-dam, slope-conveyance study, and Pennsylvania Department of Environmental Resources step-backwater study; minimum discharge recorded, 14 ft^3/s, Feb. 8, 1948, Aug. 2, 1954.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 21.87 ft, from floodmark, discharge, 81,000 ft^3/s, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 5,500 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 20	1700	6,460	6.30	May 19	1300	*10,900	*8.49
Feb. 3	0145	5,880	5.97				

Minimum daily discharge, 209 ft^3/s, Aug. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	573	315	1160	963	1050	749	1020	721	901	285	315	574
2	422	312	930	955	2850	812	996	680	791	301	273	508
3	538	309	804	808	4400	759	966	662	782	317	276	446
4	484	305	781	863	4020	2160	948	658	725	295	284	1060
5	398	298	760	1140	3270	3530	930	765	693	294	287	1570
6	392	304	643	1120	2340	2340	867	1620	614	302	277	855
7	422	274	594	938	1870	1970	1590	1590	612	297	270	712
8	389	234	574	696	1750	1680	2910	1370	557	302	244	578
9	380	314	544	714	1450	1580	2170	1190	1090	253	299	493
10	350	282	587	818	1310	1880	1850	1690	902	287	252	439
11	372	357	569	747	1170	1880	1610	1600	615	295	279	411
12	406	356	571	764	1110	1670	1430	1330	559	284	265	366
13	370	368	571	671	997	1630	1300	1220	533	249	295	911
14	347	417	533	810	889	1600	1170	1130	492	244	307	1060
15	339	475	614	706	937	1380	1110	1050	474	286	245	630
16	337	471	1040	664	871	1360	1020	1090	458	238	310	547
17	334	434	830	602	843	1200	971	1380	549	237	209	941
18	303	530	712	594	857	1120	915	2660	479	224	297	2110
19	323	519	671	907	859	1080	866	9030	414	279	388	1010
20	295	471	1120	4050	1030	1020	798	6280	417	306	373	778
21	301	455	1710	2880	1660	967	776	5250	390	789	417	732
22	338	401	1320	1860	1040	874	728	3630	384	708	361	607
23	293	430	1180	1480	1080	847	699	2850	369	388	410	589
24	284	403	1060	1280	1050	831	759	2790	350	382	715	608
25	285	398	1070	1190	938	831	708	2220	350	375	661	547
26	282	394	1260	1130	869	985	666	1740	322	334	500	537
27	259	372	1140	894	847	1350	626	1500	349	340	424	548
28	425	370	1020	870	822	1260	667	1290	297	437	411	526
29	447	468	1040	816	795	1160	678	1180	323	325	1350	430
30	360	1840	916	821	---	1140	745	1050	320	315	1870	407
31	302	---	834	792	---	1090	---	945	---	312	842	---
TOTAL	11350	12876	27158	33543	42974	42735	32489	62161	16111	10280	13706	21530
MEAN	366	429	876	1082	1482	1379	1083	2005	537	332	442	718
MAX	573	1840	1710	4050	4400	3530	2910	9030	1090	789	1870	2110
MIN	259	234	533	594	795	749	626	658	297	224	209	366
CFSM	.45	.53	1.07	1.33	1.82	1.69	1.33	2.46	.66	.41	.54	.88
IN.	.52	.59	1.24	1.53	1.96	1.95	1.48	2.83	.73	.47	.62	.98

CAL YR 1987 TOTAL 345703 MEAN 947 MAX 14200 MIN 234 CFSM 1.16 IN. 15.76
WTR YR 1988 TOTAL 326913 MEAN 893 MAX 9030 MIN 209 CFSM 1.09 IN. 14.90

01560000 DUNNING CREEK AT BELDEN, PA

LOCATION.--Lat 40°04'18", long 78°29'34", Bedford County, Hydrologic Unit 02050303, on left bank 10 ft upstream from highway bridge on SR 1014, 0.8 mi southeast of Belden, 3.8 mi north of Bedford, and 4.3 mi above mouth.

DRAINAGE AREA.--172 mi^2.

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

REVISED RECORDS.--WSP 971: 1940(M). WSP 1502: 1940-41. WDR PA-72-1: 1967(M).

GAGE.--Water-stage recorder. Datum of gage is 1,051.16 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--49 years, 227 ft^3/s, 17.92 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,400 ft^3/s, July 20, 1977, gage height, 14.15 ft, from rating curve extended above 9,200 ft^3/s on basis of contracted-opening measurement at gage height 12.67 ft and contracted-opening and flow-over-road measurement at gage height 13.03 ft; minimum, 2.6 ft^3/s, Sept. 6, 1964, gage height, 1.03 ft; minimum gage height, 0.92 ft, Jan. 8, 1954, result of freeze-up.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 17.8 ft, Mar. 18, 1936, from floodmarks (backwater from Raystown Branch Juniata River), discharge, about 16,900 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 22	0515	*3,020	*8.03	May 19	0545	2,520	7.34
Mar. 5	1115	2,650	7.53				

Minimum discharge, 12 ft^3/s, Aug. 14, 15, 17, gage height, 1.13 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	33	424	e170	143	120	178	153	92	20	20	19
2	55	32	303	e160	206	109	164	167	88	20	19	16
3	70	32	226	e160	328	106	149	162	78	20	17	15
4	59	32	205	e170	1080	335	168	150	72	19	17	55
5	51	31	179	e190	939	1850	147	285	64	18	16	93
6	47	30	145	e220	811	1070	133	900	58	17	15	45
7	51	30	121	e240	560	677	587	851	53	17	15	33
8	48	30	110	e200	427	511	643	597	49	16	14	26
9	45	30	108	e140	315	412	549	431	121	16	13	22
10	42	40	117	e110	238	408	424	472	75	15	13	20
11	43	58	116	e90	193	382	331	331	54	15	12	18
12	45	55	128	e82	162	332	271	275	47	15	13	16
13	41	69	125	e81	146	303	230	242	42	15	12	58
14	38	108	115	e80	120	280	198	215	39	14	12	58
15	36	128	207	e100	e110	245	182	190	37	14	12	37
16	36	112	254	e84	e96	213	160	185	35	14	13	29
17	35	113	217	e80	e94	189	144	168	46	14	12	193
18	34	130	188	e80	e96	169	131	858	36	13	14	202
19	34	112	164	e80	e96	165	122	2060	33	17	17	104
20	35	e110	538	127	e101	152	107	1300	31	31	17	74
21	36	e100	564	331	298	135	99	1050	30	86	17	58
22	34	e90	472	1620	257	116	91	762	28	60	14	48
23	33	e84	364	630	215	117	89	562	27	43	14	41
24	32	e88	271	436	e180	119	118	547	26	149	23	38
25	31	e90	264	326	e150	127	94	348	24	51	25	61
26	31	e92	310	263	e140	181	84	262	24	35	23	91
27	32	90	239	226	e120	247	81	214	23	32	21	58
28	51	93	224	181	e110	222	82	178	22	31	18	50
29	47	334	228	169	e100	216	89	150	21	27	26	43
30	38	618	187	159	---	206	146	125	21	23	58	39
31	35	---	172	144	---	189	---	106	---	21	27	---
TOTAL	1319	2994	7285	7129	7831	9903	5991	14296	1396	898	559	1660
MEAN	42.5	99.8	235	230	270	319	200	461	46.5	29.0	18.0	55.3
MAX	74	618	564	1620	1080	1850	643	2060	121	149	58	202
MIN	31	30	108	80	94	106	81	106	21	13	12	15
CFSM	.25	.58	1.37	1.34	1.57	1.86	1.16	2.68	.27	.17	.10	.32
IN.	.29	.65	1.58	1.54	1.69	2.14	1.30	3.09	.30	.19	.12	.36

CAL YR 1987 TOTAL 71051 MEAN 195 MAX 4000 MIN 12 CFSM 1.13 IN. 15.37
WTR YR 1988 TOTAL 61261 MEAN 167 MAX 2060 MIN 12 CFSM .97 IN. 13.25

e Estimated

01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA
(National stream-quality accounting network station)

LOCATION.--Lat 40°12'57", long 78°15'56", Bedford County, Hydrologic Unit 02050303, on left bank 500 ft downstream from bridge on State Highway 913, 0.5 mi west of Saxton, and 1.5 mi upstream from Shoup Run.

DRAINAGE AREA.--756 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1911 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 1302: 1912-13(M), 1914-15. WSP 1502: 1934, 1936.

GAGE.--Water-stage recorder. Datum of gage is 795.77 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1931, nonrecording gage at site 0.8 mi downstream at datum 4.82 ft lower.

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

AVERAGE DISCHARGE.--77 years, 913 ft^3/s, 16.40 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 80,500 ft^3/s, Mar. 18, 1936, gage height, 24.54 ft, from floodmark in gage shelter, from rating curve extended above 21,000 ft^3/s on basis of slope-area measurement of peak flow; minimum, 39 ft^3/s, Sept. 6, 7, 12, 1966, gage height, 0.84 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 23.0 ft at present site and datum, from floodmarks, discharge, about 71,300 ft^3/s, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 7,700 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 20	2330	Unknown	a*12.69	May 24	1545	7,960	7.83
May 19	1145	*14,500	11.21				

(a) Ice jam.

Minimum discharge, 92 ft^3/s, Aug. 15, 17, 18, gage height, 1.10 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	214	170	e1200	769	e820	485	655	473	730	145	161	168
2	263	161	e960	923	e1200	478	661	462	631	144	145	136
3	247	156	e800	744	3350	432	604	445	587	143	134	120
4	220	154	e660	e730	3300	1110	632	486	548	140	125	145
5	221	151	e600	e710	3470	5590	634	491	491	136	117	157
6	200	148	e540	e560	2340	3780	615	1840	428	133	113	225
7	204	147	e500	e540	1690	2580	1460	3650	377	129	111	208
8	211	142	e480	e550	1380	1940	4620	2700	341	125	114	163
9	211	142	465	e560	1200	1540	3610	1950	457	124	127	141
10	195	160	446	e550	947	1390	2630	1770	690	120	111	129
11	190	184	445	e450	915	1280	1950	1600	476	118	105	119
12	187	216	489	e420	790	1120	1540	1230	346	121	106	114
13	183	243	436	e430	603	1050	1280	1060	301	117	107	164
14	179	311	418	e460	409	962	1070	947	272	116	99	147
15	173	525	428	e380	547	910	970	815	249	116	97	178
16	165	679	631	e370	666	766	843	783	268	116	99	177
17	158	620	700	e380	611	726	762	838	305	111	95	170
18	157	617	613	e400	493	654	681	2230	271	108	97	205
19	155	636	567	e500	507	622	685	12300	246	116	105	541
20	152	579	712	e1000	617	655	602	8590	225	147	107	298
21	154	543	1800	e4300	1180	561	556	6520	207	212	110	229
22	150	e540	1480	e1800	927	510	525	4400	197	291	112	193
23	148	e520	1310	e1300	777	470	474	3620	185	285	114	172
24	147	e500	1000	e1100	763	489	487	6260	176	257	137	158
25	144	e490	935	e920	797	435	582	4300	168	429	127	164
26	141	e470	1000	e760	625	542	471	2730	163	278	129	175
27	143	e460	1150	e520	552	764	416	1980	157	208	140	330
28	173	e500	965	e470	548	852	410	1570	152	177	121	237
29	182	e760	1010	e460	512	728	438	1250	150	222	144	192
30	204	e1700	905	e480	---	694	399	1020	150	212	150	172
31	186	---	e760	e540	---	708	---	867	---	173	151	---
TOTAL	5657	12624	24405	24076	32536	34823	31262	79177	9944	5269	3710	5727
MEAN	182	421	787	777	1122	1123	1042	2554	331	170	120	191
MAX	263	1700	1800	4300	3470	5590	4620	12300	730	429	161	541
MIN	141	142	418	370	409	432	399	445	150	108	95	114
CFSM	.24	.56	1.04	1.03	1.48	1.49	1.38	3.38	.44	.22	.16	.25
IN.	.28	.62	1.20	1.18	1.60	1.71	1.54	3.90	.49	.26	.18	.28

CAL YR 1987 TOTAL 277287 MEAN 760 MAX 17200 MIN 90 CFSM 1.01 IN. 13.64
WTR YR 1988 TOTAL 269210 MEAN 736 MAX 12300 MIN 95 CFSM .97 IN. 13.25

e Estimated

01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-56, 1958-64, 1966-68, 1972-76, 1987 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	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 05...	1130	154	325	8.30	11.0	1.1	750	10.7	99	60	120
FEB 02...	1000	1290	200	7.50	4.0	20	756	12.4	95	150	930
APR 13...	1015	1250	170	7.80	10.0	3.3	760	10.8	96	K2500	25
MAY 18...	1530	2490	165	7.40	16.0	41	752	8.4	86	--	--
JUL 27...	0945	212	340	8.20	21.0	4.4	760	7.6	86	K1700	150
AUG 31...	1000	141	370	8.00	16.0	5.5	761	8.0	81	K7000	260

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)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	BICAR-BONATE WATER DIS IT FIELD (MG/L AS HCO3)	ALKA-LINITY WAT WH TOT FET FIELD (MG/L AS CACO3)	ALKA-LINITY WAT DIS TOT IT FIELD (MG/L AS CACO3)
NOV 05...	150	42	39	13	6.8	9	0.2	2.4	132	109	109
FEB 02...	66	25	18	5.1	7.8	19	0.4	6.3	50	41	41
APR 13...	65	28	17	5.5	5.4	15	0.3	1.5	47	37	39
MAY 18...	69	31	18	5.8	5.2	14	0.3	1.8	46	38	38
JUL 27...	140	41	38	12	9.8	13	0.4	3.1	125	103	102
AUG 31...	170	53	39	17	7.7	9	0.3	2.7	140	115	115

DATE	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
NOV 05...	41	12	0.20	0.76	187	185	0.25	77.8	--	<0.010	0.930
FEB 02...	23	17	0.10	5.6	122	115	0.17	425	1.57	0.030	1.60
APR 13...	26	8.7	0.10	5.4	102	99	0.14	344	1.59	0.010	1.60
MAY 18...	28	8.1	0.30	4.9	100	100	0.14	672	1.19	0.010	1.20
JUL 27...	38	14	0.20	5.1	203	189	0.28	116	--	<0.010	1.60
AUG 31...	46	13	0.10	3.9	201	204	0.27	76.5	--	<0.010	1.10

DATE	NITRO-GEN AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN ORGANIC TOTAL (MG/L AS N)	NITRO-GEN 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)	PHOS-PHOROUS ORGANIC TOTAL (MG/L AS P)	PHOS-PHOROUS ORGANIC DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (µG/L AS AL)	ARSENIC DIS-SOLVED (µG/L AS AS)
NOV 05...	0.030	0.030	0.27	0.30	0.010	<0.010	<0.010	0.01	--	90	<1
FEB 02...	0.110	0.110	0.59	0.70	0.100	0.040	0.020	0.10	0.02	--	--
APR 13...	0.020	0.040	0.28	0.30	0.100	0.100	0.070	0.10	0.03	30	<1
MAY 18...	0.050	0.030	0.35	0.40	0.020	0.010	<0.010	0.02	0.01	40	<1
JUL 27...	<0.010	0.010	--	0.40	0.050	0.030	0.010	0.05	0.02	--	--
AUG 31...	0.020	0.020	0.38	0.40	0.040	0.020	<0.010	0.04	0.02	150	<1

(K) Results based on non-ideal colony count.
(<) Actual value is known to be less than the value shown.

01562000 RAYSTOWN BRANCH JUNIATA RIVER AT SAXTON, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	BARIUM, DIS-SOLVED (µG/L AS BA)	BERYL-LIUM, DIS-SOLVED (µG/L AS BE)	CADMIUM DIS-SOLVED (µG/L AS CD)	CHRO-MIUM, DIS-SOLVED (µG/L AS CR)	COBALT, DIS-SOLVED (µG/L AS CO)	COPPER, DIS-SOLVED (µG/L AS CU)	IRON, DIS-SOLVED (µG/L AS FE)	LEAD, DIS-SOLVED (µG/L AS PB)	LITHIUM DIS-SOLVED (µG/L AS LI)	MANGA-NESE, DIS-SOLVED (µG/L AS MN)	MERCURY DIS-SOLVED (µG/L AS HG)
NOV 05...	48	<0.5	<1	<1	<3	3	13	<5	5	23	<0.1
FEB 02...	--	--	--	--	--	--	--	--	--	--	--
APR 13...	36	<0.5	<1	<1	<3	6	25	<5	<4	47	<0.1
MAY 18...	40	<0.5	<1	<1	<3	1	22	<5	4	75	<0.1
JUL 27...	--	--	--	--	--	--	--	--	--	--	--
AUG 31...	58	<0.5	<1	<1	<3	3	15	<5	6	21	0.2

DATE	MOLYB-DENUM, DIS-SOLVED (µG/L AS MO)	NICKEL, DIS-SOLVED (µG/L AS NI)	SELE-NIUM, DIS-SOLVED (µG/L AS SE)	SILVER, DIS-SOLVED (µG/L AS AG)	STRON-TIUM, DIS-SOLVED (µG/L AS SR)	VANA-DIUM, DIS-SOLVED (µG/L AS V)	ZINC, DIS-SOLVED (µG/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 05...	<10	2	<1	<1.0	320	<6	7	12	5.0	67
FEB 02...	--	--	--	--	--	--	--	43	150	98
APR 13...	<10	1	<1	1.0	110	<6	7	11	37	100
MAY 18...	<10	6	<1	<1.0	110	<6	<3	110	740	89
JUL 27...	--	--	--	--	--	--	--	23	13	86
AUG 31...	<10	2	<1	<1.0	340	<6	10	14	5.3	91

CROSS-SECTION ANALYSIS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SAMPLE LOC-ATION, CROSS SECTION (FT FM L BANK)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	SEDI-MENT, SUS-PENDED (MG/L)
NOV 05...	1056	180	--	--	--
05...	1057	172	142	11.5	7
05...	1059	165	327	11.5	--
05...	1103	158	255	11.5	--
05...	1106	150	330	11.5	5
05...	1109	142	330	11.5	--
05...	1111	135	330	11.5	6
05...	1114	128	330	11.0	--
05...	1116	120	329	11.0	7
05...	1117	112	329	11.0	--
05...	1119	105	329	11.0	3
05...	1121	98	329	11.0	--
05...	1123	90	329	11.0	7
05...	1125	82	328	11.0	--
05...	1127	75	328	11.0	5
05...	1129	68	328	11.0	--
05...	1131	60	328	11.0	5
05...	1132	52	311	11.0	--
05...	1135	45	312	11.0	7
05...	1137	38	146	11.0	--
05...	1139	30	137	11.5	14
05...	1140	0	--	--	--

(<) Actual value is known to be less than the value shown.

01563100 RAYSTOWN LAKE NEAR HUNTINGDON, PA

LOCATION.--Lat 40°26'06", long 78°00'25", Huntingdon County, Hydrologic Unit 02050303, at Raystown Dam on Raystown Branch Juniata River, 3.5 mi south of Huntingdon, and 5.7 mi upstream from mouth.

DRAINAGE AREA.--959 mi^2.

PERIOD OF RECORD.--October 1972 to current year.

GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir is formed by earthfill dam with a gated spillway in right abutment at elevation 768.6 ft and an ungated spillway, separate from embankment, at elevation 812.0 ft. Storage began November 1972. Capacity at elevation 768.6 ft is 383,500 acre-ft. Capacity at elevation 812.0 ft is 762,000 acre-ft. Conservation pool elevation is 786.0 ft and capacity is 514,000 acre-ft. Lake is used for flood control, low-flow augmentation, and recreation. Figures given herein represent total contents. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 589,700 acre-ft, March 7, 1979, elevation, 794.81 ft; minimum, 2,240 acre-ft, March 2, 1973, elevation, 628.80 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 537,540 acre-ft, May 20, elevation, 788.77 ft; minimum, 506,690 acre-ft, Sept. 12, elevation, 785.16 ft.

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s/day)
Sept. 30	786.01	514,080	--
Oct. 31	785.98	513,830	- 4.1
Nov. 30	786.57	518,840	+ 84.2
Dec. 31	785.92	513,300	- 90.1
CAL YR 1987	--	--	- 4.8
Jan. 31	786.06	514,510	+ 19.7
Feb. 29	786.30	516,550	+ 35.5
Mar. 31	786.48	518,080	+ 24.9
Apr. 30	786.56	518,760	+ 11.4
May 31	786.45	517,820	- 15.3
June 30	786.29	516,460	- 22.9
July 31	786.10	514,850	- 26.2
Aug. 31	785.33	508,170	-109.
Sept. 30	785.46	509,300	+ 19.0
WTR YR 1988	--	--	- 6.6

01563200 RAYSTOWN BRANCH JUNIATA RIVER BELOW RAYSTOWN DAM NEAR HUNTINGDON, PA

LOCATION.--Lat 40°25'44", long 77°59'29", Huntingdon County, Hydrologic Unit 02050303, on left bank 1.0 mi downstream from Raystown Dam on Township Route 430, 4.0 mi south of Huntingdon, and 4.7 mi upstream from mouth.

DRAINAGE AREA.--960 mi^2.

PERIOD OF RECORD.--January 1946 to current year. Published as "near Huntingdon" prior to Oct. 1, 1969.

GAGE.--Water-stage recorder. Datum of gage is 597.36 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers benchmark). Prior to Oct. 1, 1969, water-stage recorder at site 4.3 mi upstream at datum 22.72 ft higher.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since October 1972 by Raystown Dam (station 01563100). National Weather Service satellite telemeter and U.S. Army Corps of Engineers landline telemeter at station.

AVERAGE DISCHARGE.--42 years, 1,137 ft^3/s, 16.08 in/yr, adjusted for storage since October 1972.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,500 ft^3/s, Nov. 25, 1950, gage height, 16.74 ft, site and datum then in use, from rating curve extended above 16,000 ft^3/s on basis of computation of flow-over-dam at peak flow; maximum gage height at present site and datum, 18.54 ft, Apr. 3, 1970; minimum daily discharge, 5.0 ft^3/s, Oct. 30, 1957, May 18, 1973.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 31.0 ft, discharge, 87,000 ft^3/s, at previous site and datum, by computation of flow-over-dam.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 12,900 ft^3/s, May 20, gage height, 13.54 ft; minimum daily, 185 ft^3/s, July 15.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	231	204	1330	941	553	875	888	489	861	241	207	204
2	198	202	2480	941	1490	734	789	502	702	222	209	204
3	200	201	2850	942	3740	709	789	565	858	216	198	203
4	201	201	1940	647	6100	1240	821	603	757	206	201	205
5	201	202	942	481	5120	4760	740	641	690	204	203	204
6	202	203	942	482	3380	7000	767	2390	487	206	200	204
7	278	203	651	482	2970	3720	1960	3430	381	190	201	204
8	328	204	491	482	1600	2710	5450	3430	344	207	202	204
9	280	204	490	482	556	1730	4980	2750	622	205	200	207
10	255	205	493	483	509	1410	2860	2260	735	204	213	204
11	256	204	491	483	1030	1410	2580	2260	702	204	226	204
12	256	201	492	483	1170	1340	2200	1510	582	213	209	205
13	257	201	490	483	790	1180	1810	1130	452	204	199	206
14	257	204	490	488	689	1170	1290	1190	408	189	202	202
15	256	382	490	503	504	983	1060	1170	303	185	204	202
16	219	495	783	504	504	853	1310	1180	243	202	205	203
17	201	789	948	504	613	853	1160	1180	325	204	210	204
18	202	945	946	504	690	853	1010	3680	531	209	205	203
19	202	940	947	505	690	855	777	6510	600	217	207	203
20	202	941	948	2090	690	853	883	12800	389	202	205	203
21	202	942	1720	4700	1070	854	579	12500	256	201	211	204
22	202	943	2520	4020	1890	852	561	8710	258	223	203	204
23	202	670	1260	1990	1940	845	576	4540	257	203	204	208
24	203	490	952	1990	985	843	709	7750	266	208	206	202
25	203	491	954	1570	656	639	763	7070	268	193	204	214
26	203	490	955	1310	658	497	633	2170	267	201	204	206
27	205	491	1290	1040	658	502	510	2490	267	199	197	199
28	204	491	1900	644	657	1030	537	2250	266	201	204	203
29	204	493	1900	553	866	1400	572	1730	265	202	206	207
30	204	493	1280	553	---	1160	513	1320	263	204	204	206
31	204	---	940	553	---	1010	---	1080	---	207	204	---
TOTAL	6918	13325	35305	31833	42768	44870	40077	101280	13605	6372	6353	6131
MEAN	223	444	1139	1027	1475	1447	1336	3267	454	206	205	204
MAX	328	945	2850	4700	6100	7000	5450	12800	861	241	226	214
MIN	198	201	490	481	504	497	510	489	243	185	197	199
MEAN‡	219	528	1049	1047	1510	1472	1347	3252	431	180	96	223
CFSM‡	.23	.55	1.09	1.09	1.57	1.53	1.40	3.39	.45	.19	.10	.23
IN.‡	.26	.61	1.26	1.26	1.69	1.76	1.56	3.91	.50	.22	.12	.26

CAL YR 1987	TOTAL 368531	MEAN 1010	MAX 13700	MIN 192	MEAN‡ 1005	CFSM‡ 1.05	IN.‡ 14.21			
WTR YR 1988	TOTAL 348837	MEAN 953	MAX 12800	MIN 185	MEAN‡ 946	CFSM‡ .99	IN.‡ 13.42			

‡ Adjusted for change in contents in Raystown Lake.

01563500 JUNIATA RIVER AT MAPLETON DEPOT, PA

LOCATION.--Lat 40°23'32", long 77°56'07", Huntingdon County, Hydrologic Unit 02050304, on right bank 0.2 mi downstream from Scrub Run and 0.3 mi downstream from bridge on State Highway 655 at Mapleton Depot.

DRAINAGE AREA.--2,030 mi^2.

PERIOD OF RECORD.--October 1937 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WDR PA-73-1: 1936(M).

GAGE.--Water-stage recorder. Datum of gage is 557.31 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good. Flow regulated since October 1972 by Raystown Dam (station 01563100) 12 mi upstream. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter and U.S. Army Corps of Engineers and National Weather Service landline telemeters at station.

AVERAGE DISCHARGE.--51 years, 2,507 ft^3/s, 16.77 in/yr, adjusted for storage since October 1972.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 125,000 ft^3/s, June 23, 1972, gage height, 33.07 ft, from rating curve extended above 39,000 ft^3/s on basis of runoff comparison with upstream and downstream stations; minimum, 68 ft^3/s, Sept. 13, 1964, gage height, 1.15 ft; minimum daily, 101 ft^3/s, Aug. 21, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 18, 1936, reached a stage of 38.2 ft, from floodmark, discharge, 165,000 ft^3/s from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 23,300 ft^3/s, May 20, gage height, 13.94 ft; minimum, 315 ft^3/s, Aug. 18, gage height, 1.91 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1120	671	2810	2360	2060	2020	2480	1420	2330	634	567	711
2	771	680	3890	2290	4970	1860	2280	1360	1770	590	520	603
3	936	666	4220	2020	9870	1800	2190	1380	1950	621	511	579
4	911	656	3520	1910	11400	4190	2250	1490	1820	570	500	835
5	779	650	2160	1410	10100	9240	2170	1600	1690	565	506	1720
6	730	648	2060	1330	6630	10700	2030	4220	1460	556	500	1020
7	885	617	1720	1370	5560	6650	3900	5660	1180	549	532	848
8	994	563	1350	1350	4360	5300	9210	5350	1130	542	501	689
9	885	670	1350	1380	2580	4070	8500	4590	1830	507	464	639
10	781	662	1360	1330	2300	4010	5500	4500	2120	545	497	597
11	823	758	1380	1240	2510	3980	5010	4620	1610	544	506	550
12	854	789	1340	1220	2910	3680	4220	3600	1390	543	499	579
13	809	770	1350	1290	2200	3440	3720	2830	1180	510	470	863
14	763	966	1290	1240	1980	3370	2960	2780	1060	531	481	1370
15	746	1220	1360	1190	1800	2990	2620	2620	964	490	478	856
16	718	1350	2160	1140	1750	2740	2800	2720	891	484	441	767
17	664	1540	2210	1140	1740	2540	2560	3040	1020	511	460	878
18	638	2010	2100	1250	1900	2410	2390	7560	1160	511	417	2360
19	660	2020	2010	1640	1910	2370	1990	18800	1220	517	502	1290
20	621	1860	2510	6700	2200	2330	2090	21400	1060	633	523	1010
21	624	1840	3850	8550	3260	2240	1650	19400	789	1040	529	965
22	665	1770	4570	7080	3320	2110	1510	13900	763	1120	504	834
23	622	1530	3130	4220	3700	2090	1520	8580	754	740	500	812
24	607	1220	2470	3770	2630	2060	1720	10800	736	673	739	831
25	604	1180	2460	3420	1970	1890	1800	11200	722	680	748	819
26	609	1150	2760	2910	1870	2120	1590	4670	712	613	576	798
27	610	1130	2820	2430	1840	2710	1360	4630	688	613	511	772
28	834	1120	3450	1880	1800	2880	1400	4190	685	665	500	756
29	930	1270	3480	1650	1900	3240	1470	3520	683	614	980	696
30	785	2870	2800	1650	---	2970	1490	2910	671	574	2050	609
31	681	---	2080	1640	---	2630	---	2510	---	575	915	---
TOTAL	23659	34846	76020	74000	103020	106630	86380	187850	36038	18860	18427	26656
MEAN	763	1162	2452	2387	3552	3440	2879	6060	1201	608	594	889
MAX	1120	2870	4570	8550	11400	10700	9210	21400	2330	1120	2050	2360
MIN	604	563	1290	1140	1740	1800	1360	1360	671	484	417	550
MEAN‡	759	1246	2362	2407	3588	3465	2890	6045	1178	582	485	908
CFSM‡	.37	.61	1.16	1.19	1.77	1.71	1.42	2.98	.58	.29	.24	.45
IN.‡	.43	.68	1.34	1.37	1.91	1.97	1.58	3.44	.65	.33	.28	.50

CAL YR 1987 TOTAL 850687 MEAN 2331 MAX 27200 MIN 483 MEAN‡ 2326 CFSM‡ 1.15 IN.‡ 15.56
WTR YR 1988 TOTAL 792386 MEAN 2165 MAX 21400 MIN 417 MEAN‡ 2158 CFSM‡ 1.06 IN.‡ 14.48

‡ Adjusted for change in contents in Raystown Lake.

01564500 AUGHWICK CREEK NEAR THREE SPRINGS, PA

LOCATION.--Lat 40°12'45", long 77°55'32", Huntingdon County, Hydrologic Unit 02050304, on right bank 10 ft downstream from bridge on State Highway 994, 300 ft upstream from East Broad Top Railroad bridge, 350 ft upstream from Three Springs Creek, and 3.5 mi northeast of Three Springs. Records include flow of Three Springs Creek.

DRAINAGE AREA.--205 mi^2, includes that of Three Springs Creek.

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

GAGE.--Water-stage recorder. Datum of gage is 618.65 ft above National Geodetic Vertical Datum of 1929, unadjusted.

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

AVERAGE DISCHARGE.--50 years, 243 ft^3/s, 16.10 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 23,700 ft^3/s, June 22, 1972, gage height, 19.20 ft, from rating curve extended above 7,100 ft^3/s on basis of contracted-opening measurement of peak flow; minimum, 0.8 ft^3/s, Sept. 2, 3, 4, 11, 12, 13, 1966, gage height, 1.74 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of about 19.3 ft, discharge, about 24,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,100 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 20	1345	2,290	7.98	May 19	1200	*5,540	*11.60

Minimum discharge, 9.7 ft^3/s, Aug. 12, 13, 17, 19, gage height, 2.20 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	43	514	e170	e210	e110	137	89	191	22	42	25
2	50	39	355	e150	e350	e110	135	81	174	21	25	17
3	47	37	261	e130	822	e120	130	77	149	20	18	14
4	44	36	224	e110	894	537	137	75	136	20	15	32
5	39	36	194	e100	812	1330	140	109	121	19	13	104
6	35	33	159	e90	567	758	123	694	107	18	11	61
7	81	30	135	e90	420	571	519	821	93	16	14	32
8	102	28	122	e86	e360	444	1310	557	83	16	31	24
9	69	29	115	e84	e310	370	843	429	142	14	17	19
10	55	35	114	e80	e260	347	618	497	182	14	12	17
11	51	54	108	e76	e230	288	485	408	100	14	12	15
12	49	63	104	e72	e200	252	390	331	81	15	11	14
13	47	77	98	e68	e180	241	326	281	70	16	11	40
14	41	145	86	e66	e160	224	276	246	61	16	13	58
15	37	310	95	e65	e170	196	244	216	55	15	13	36
16	35	249	172	e65	e160	174	216	213	50	13	11	24
17	33	194	142	e65	e150	158	191	296	95	12	10	22
18	31	387	121	e80	e150	146	179	1300	84	12	11	27
19	30	349	113	142	e150	150	189	4330	55	11	11	30
20	29	256	234	1150	e140	145	157	2170	48	33	11	26
21	29	196	382	807	e140	135	140	1610	46	37	12	23
22	29	146	311	513	e150	116	128	1110	41	38	12	21
23	29	123	266	395	e160	112	119	785	37	36	12	19
24	27	115	217	338	e150	109	134	1140	33	32	17	17
25	26	102	209	e270	e140	106	129	857	31	42	21	20
26	26	94	261	e220	e130	143	109	630	29	28	19	26
27	26	88	243	e190	e120	210	101	492	27	22	17	30
28	78	85	e210	e180	e120	176	103	400	26	20	14	25
29	105	142	e190	e170	e110	153	101	330	26	18	23	19
30	62	841	e170	e170	---	146	97	271	25	17	68	17
31	49	---	e160	e180	---	141	---	225	---	39	45	---
TOTAL	1468	4362	6085	6372	7915	8218	7906	21070	2398	666	572	854
MEAN	47.4	145	196	206	273	265	264	680	79.9	21.5	18.5	28.5
MAX	105	841	514	1150	894	1330	1310	4330	191	42	68	104
MIN	26	28	86	65	110	106	97	75	25	11	10	14
CFSM	.23	.71	.96	1.00	1.33	1.29	1.29	3.32	.39	.10	.09	.14
IN.	.27	.79	1.10	1.16	1.44	1.49	1.43	3.82	.44	.12	.10	.15

CAL YR 1987 TOTAL 74525.1 MEAN 204 MAX 4980 MIN 5.6 CFSM 1.00 IN. 13.52
WTR YR 1988 TOTAL 67886 MEAN 185 MAX 4330 MIN 10 CFSM .90 IN. 12.32

e Estimated

01567000 JUNIATA RIVER AT NEWPORT, PA

LOCATION.--Lat 40°28'42", long 77°07'46", Perry County, Hydrologic Unit 02050304, on right bank at downstream side of bridge on State Highway 34 at Newport and 1,000 ft upstream from Little Buffalo Creek.

DRAINAGE AREA.--3,354 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1899 to current year. Monthly discharge only for some periods, published in WSP 1302.

REVISED RECORDS.--WSP 756: Drainage area. WSP 781: 1902(M). WSP 1302: 1915-17. WSP 1502: 1899-1908, 1914, 1924, 1936. WSP 1722: 1916.

GAGE.--Water-stage recorder. Datum of gage is 363.93 ft above National Geodetic Vertical Datum of 1929. Prior to July 16, 1929, nonrecording gage at same site and datum.

REMARKS.--Records fair. Flow regulated since October 1972 by Raystown Dam (station 01563100) about 75 mi upstream. National Weather Service satellite and landline telemeters at station.

AVERAGE DISCHARGE.--89 years, 4,280 ft^3/s, 17.37 in/yr, adjusted for storage since October 1972.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 190,000 ft^3/s, Mar. 19, 1936, gage height, 34.24 ft, from floodmark in gage shelter, from rating curve extended above 100,000 ft^3/s; minimum, 195 ft^3/s, July 27, 1966, gage height, 2.81 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 35.9 ft, from floodmarks, discharge, 209,000 ft^3/s, from rating curve extended above 100,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 37,800 ft^3/s, May 19, gage height, 14.46 ft; minimum daily discharge, 697 ft^3/s, July 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1360	1220	6010	3190	2880	2650	3460	2090	3640	915	782	2070
2	1510	1100	5250	3300	5190	2870	3330	2040	3350	907	769	1460
3	1410	1060	5440	3310	11100	2700	3150	1880	2790	888	772	1170
4	1230	1040	5630	3120	15900	3830	3080	1840	2780	835	749	1760
5	1300	1020	5130	2810	17300	9390	3120	1970	2610	864	734	2040
6	1230	975	3600	1680	13100	14300	3080	2650	2440	809	753	2290
7	1280	949	3180	1330	9270	13200	3120	5540	2200	793	972	2240
8	1480	944	2900	e1500	7800	9160	6430	7660	1910	773	1070	1600
9	1490	924	2470	e1800	6360	7420	13200	6820	2260	760	830	1400
10	1460	943	2500	e1700	4530	6150	10800	6100	2660	754	770	1230
11	1320	1130	2470	e1600	3990	5850	7770	6400	3150	717	769	1130
12	1240	1160	2490	e1600	3850	5520	6830	6300	2310	796	752	1050
13	1240	1260	2480	e1700	4100	5140	5850	5230	2030	784	772	1230
14	1230	1410	2450	e1600	3490	4860	5170	4170	1730	795	764	1490
15	1160	1670	2100	e1500	3350	4660	4430	3840	1570	731	756	1840
16	1110	2160	2310	e1500	3010	4330	3870	3610	1470	734	737	1730
17	1080	2500	2750	e1600	2910	3910	3880	3690	1410	697	724	1390
18	1040	3340	3130	e1700	2860	3710	3640	5400	1420	707	717	1490
19	986	4010	2870	e2100	3040	3560	3450	24800	1480	731	750	2380
20	957	3760	3020	e3000	3770	3430	3050	33800	1560	795	789	2400
21	972	3270	3830	16400	4520	3320	2900	28900	1520	934	842	1740
22	919	2910	5060	11800	4670	3180	2620	24400	1280	1060	911	1490
23	909	2680	5900	9020	4620	3020	2270	16900	1130	1450	869	1430
24	930	2530	4680	5830	4860	2930	2340	12000	1070	1300	1000	1310
25	896	2020	3750	5140	4040	2870	2330	16000	1050	999	1090	1270
26	869	1850	3750	4820	3110	2970	2490	12500	1020	915	1130	1280
27	895	1770	4040	4050	2900	3040	2350	6920	995	906	1170	1260
28	1280	1720	3990	3530	2820	3490	2070	6290	970	839	990	1190
29	1410	2900	4550	3040	2720	3610	2000	5680	958	825	1130	1140
30	1480	6480	4490	2730	---	3880	2060	4910	926	881	1680	1110
31	1410	---	4000	2610	---	3790	---	4170	---	884	2390	---
TOTAL	37083	60705	116220	110610	162060	152740	124140	274500	55689	26778	28933	46610
MEAN	1196	2023	3749	3568	5588	4927	4138	8855	1856	864	933	1554
MAX	1510	6480	6010	16400	17300	14300	13200	33800	3640	1450	2390	2400
MIN	869	924	2100	1330	2720	2650	2000	1840	926	697	717	1050
MEAN‡	1192	2107	3659	3588	5624	4952	4149	8840	1833	838	824	1573
CFSM‡	.36	.63	1.09	1.07	1.68	1.48	1.24	2.64	.55	.25	.25	.47
IN.‡	.42	.70	1.26	1.23	1.81	1.71	1.38	3.04	.61	.29	.29	.52

CAL YR 1987 TOTAL 1298510 MEAN 3558 MAX 42300 MIN 709 MEAN‡ 3553 CFSM‡ 1.06 IN.‡ 14.50
WTR YR 1988 TOTAL 1196068 MEAN 3268 MAX 33800 MIN 697 MEAN‡ 3261 CFSM‡ .97 IN.‡ 13.27

e Estimated

‡ Adjusted for change in contents in Raystown Lake.

01567000 JUNIATA RIVER AT NEWPORT, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1945 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1964 to current year.
WATER TEMPERATURE: October 1944 to September 1953, April 1958 to September 1962, October 1964 to current year.
SUSPENDED-SEDIMENT DISCHARGE: January 1951 to current year.

INSTRUMENTATION.--Sediment sampler and shelter attached to downstream bridge rail 447 ft from left bank.

REMARKS.--Once-daily water temperatures and laboratory specific conductance values obtained from sediment samples.

COOPERATION.--Water-quality samples collected by Susquehanna River Basin Commission and analyzed by the Pa. Department of Environmental Resources. Suspended-sediment samples analyzed by the U.S. Geological Survey.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: (Water years 1965-86) Maximum daily, 558 microsiemens, Oct. 27, 1969; minimum daily, 107 microsiemens, Dec. 2, 1984.
WATER TEMPERATURE: Maximum daily, 33.0°C, July 23, 24, 1987, Aug. 2, 1988; minimum daily, 0.0°C on many days during winter periods based on unpublished records.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,130 mg/L, Mar. 2, 1954; minimum daily mean, <1 mg/L on many days.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 365,000 tons, June 23, 1972; minimum daily, <.01 ton on many days.

EXTREMES FOR CURRENT YEAR.--
WATER TEMPERATURE: Maximum daily, 33.0°C, Aug. 2,; minimum daily, 0.0°C on several days during January and possibly February based on unpublished records.
SUSPENDED-SEDIMENT CONCENTRATIONS: Maximum daily mean, 232 mg/L, Jan. 21; minimum daily mean, 1 mg/L, Dec. 10, May 3, Aug. 2, Sept. 11, 20.
SUSPENDED-SEDIMENT DISCHARGE: Maximum daily, 14,900 tons, May 20; minimum daily, 2.1 tons, Aug. 2.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE FIELD (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NO2+NO3 TOTAL (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, ORGANIC DIS-SOLVED (MG/L AS N)
OCT										
14...	1420	1270	280	9.10	13.0	0.880	0.010	0.010	0.71	0.33
NOV										
17...	1300	2500	263	8.60	13.0	1.08	<0.010	<0.010	--	--
DEC										
17...	1330	2750	270	8.10	5.0	1.50	0.060	0.060	0.22	0.20
JAN										
28...	1445	3420	235	7.80	1.0	1.52	0.050	0.050	--	--
FEB										
04...	1530	16700	185	--	--	1.34	0.060	0.040	1.1	0.40
04...	1945	16800	176	7.55	2.5	1.38	0.060	0.040	1.0	0.28
05...	1000	17800	179	7.70	2.5	1.42	0.040	0.020	0.68	0.34
06...	1530	11800	179	7.75	--	1.44	0.020	0.020	0.70	0.29
07...	1430	9080	185	7.75	--	1.54	0.020	0.020	0.45	0.26
08...	1430	7770	191	7.90	3.0	1.50	0.070	0.060	0.33	0.24
10...	1330	4500	200	--	4.0	1.62	0.040	0.030	0.26	0.13
17...	1450	2900	215	8.00	6.0	1.62	0.040	0.040	0.26	--
MAR										
17...	0830	3860	209	8.10	3.0	1.48	0.040	0.040	--	--
APR										
12...	1030	7070	177	7.60	10.0	1.18	0.020	0.020	0.29	--
MAY										
18...	1100	4740	165	7.70	17.0	1.06	0.030	0.030	0.89	0.61
19...	0815	18500	135	7.60	15.0	1.14	0.020	0.020	1.8	0.79
19...	1400	29100	143	7.90	16.0	1.22	0.040	0.020	1.9	0.36
20...	0745	34200	127	7.50	14.0	1.12	0.050	0.040	1.2	0.48
20...	1400	32600	122	8.00	14.5	1.12	0.030	0.030	1.2	0.49
21...	0900	29500	130	8.00	14.0	1.30	0.030	0.030	0.76	0.53
22...	1015	25000	161	7.90	16.0	1.30	0.020	0.020	0.92	--
23...	0730	18500	160	7.50	15.0	1.28	0.050	0.050	--	--
25...	0800	14500	160	7.70	16.0	1.38	0.060	0.060	--	--
JUN										
01...	1430	3650	202	--	26.0	1.28	0.010	0.010	--	--
21...	1430	1530	250	9.60	32.0	0.540	0.020	0.020	0.73	--
JUL										
11...	1315	706	285	8.50	32.0	0.420	[a] 0.040	[a] 0.060	[a] 0.17	[a] 0.25
AUG										
17...	1100	717	285	9.00	28.0	<0.040	[a] 0.020	[a] 0.030	0.42	0.26
SEP										
16...	1320	1680	290	9.10	20.0	0.820	0.040	0.040	0.40	0.35

(a) Results within limits of analytical precision.
(<) Actual value is known to be less than the value shown.

01567000 JUNIATA RIVER AT NEWPORT, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT									
14...	0.72	0.34	1.6	0.050	0.030	0.016	13	3	10
NOV									
17...	0.42	0.38	1.5	0.060	0.040	0.025	2.5	3	20
DEC									
17...	0.28	0.26	1.8	0.120	0.090	0.039	1.6	10	74
JAN									
28...	<0.20	<0.20	--	0.060	0.050	0.028	2.1	11	102
FEB									
04...	1.2	0.44	2.5	0.260	0.040	0.016	3.6	113	5100
04...	1.1	0.32	2.5	0.250	0.060	0.016	3.5	96	4350
05...	0.72	0.36	2.1	0.060	0.050	0.017	3.5	68	3270
06...	0.72	0.31	2.2	0.050	0.030	0.009	2.6	44	1400
07...	0.47	0.28	2.0	0.040	0.040	0.013	2.4	39	956
08...	0.40	0.30	1.9	0.050	0.030	0.011	1.9	19	399
10...	0.30	0.16	1.9	0.050	0.030	0.018	1.7	11	134
17...	0.30	<0.20	1.9	0.060	0.040	0.024	1.9	6	47
MAR									
17...	<0.20	<0.20	--	0.060	0.040	0.013	1.8	10	104
APR									
12...	0.31	<0.20	1.5	0.070	0.040	0.004	2.1	24	458
MAY									
18...	0.92	0.64	2.0	0.140	0.040	0.005	2.7	44	563
19...	1.8	0.81	2.9	0.260	0.040	0.006	4.8	217	10800
19...	1.9	0.38	3.1	0.280	0.040	0.008	4.7	226	17800
20...	1.3	0.52	2.4	0.100	0.060	0.011	5.1	182	16800
20...	1.2	0.52	2.3	0.130	0.060	0.009	4.9	176	15500
21...	0.79	0.56	2.1	0.140	0.050	0.010	2.8	64	5100
22...	0.94	<0.20	2.2	0.120	0.040	0.007	2.7	53	3580
23...	<0.20	<0.20	--	0.050	0.030	0.007	2.5	35	1750
25...	<0.20	<0.20	--	0.090	0.020	0.004	2.3	53	2070
JUN									
01...	<0.20	<0.20	--	0.100	0.030	<0.002	2.6	19	187
21...	0.75	<0.20	1.3	0.110	0.020	0.006	4.6	18	74
JUL	a	a							
11...	0.21	0.31	0.63	0.080	0.070	0.041	3.7	6	11
AUG									
17...	0.44	0.29	--	0.110	0.050	<0.002	4.8	4	7.7
SEP									
16...	0.44	0.39	1.3	0.070	0.060	0.019	3.8	6	27

(a) Results within limits of analytical precision.
(<) Actual value is known to be less than the value shown.

01567000 JUNIATA RIVER AT NEWPORT, PA--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25°C, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	281	287	205	202	202	224	196	212	194			---
2	288	295	209	200	186	223	199	216	200			---
3	271	300	183	201	183	221	202	224	217			---
4	276	301	171	---	170	223	192	231	206			---
5	287	306	185	---	160	192	205	229	210			---
6	303	303	180	---	---	177	194	220	210			---
7	313	295	186	---	---	184	194	197	217			---
8	289	286	194	---	169	177	176	183	221			---
9	269	289	213	---	172	192	172	173	215			---
10	276	287	217	---	184	192	170	174	218			---
11	---	---	213	---	197	190	169	171	221			---
12	267	---	205	---	188	198	172	173	236			---
13	293	296	210	---	---	192	170	166	227			---
14	306	295	225	---	---	193	174	167	219			---
15	289	283	232	---	204	202	179	172	231			---
16	291	275	229	---	210	203	180	203	233			---
17	295	278	229	---	215	203	---	177	243			---
18	296	256	226	---	198	203	181	171	---			294
19	289	238	223	---	---	201	198	133	243			303
20	313	223	194	---	208	210	193	129	238			261
21	317	216	194	---	201	198	202	154	247			291
22	322	216	206	162	213	204	198	162	254			283
23	325	219	206	196	235	209	183	163	257			269
24	316	223	197	186	208	212	202	163	266			265
25	312	224	192	---	204	215	206	165	270			261
26	311	229	186	---	202	214	216	174	268			270
27	319	233	185	---	218	205	215	170	263			277
28	322	241	191	---	228	197	214	176	255			277
29	314	230	200	---	224	193	220	182	259			281
30	302	192	---	213	---	205	217	185	---			291
31	295	---	---	205	---	194	---	186	---			---
MEAN	298	261	203	196	199	201	193	181	234			279

TEMPERATURE, WATER (°C), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
ONCE-DAILY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.5	11.0	7.0	1.0	4.5	5.0	12.0	13.0	24.5	22.0	32.0	25.0
2	18.0	11.0	6.0	.0	3.5	6.0	13.0	14.5	23.0	24.0	33.0	25.0
3	14.5	11.5	5.0	.0	3.0	5.0	12.0	15.0	19.5	26.5	32.5	23.5
4	14.0	13.0	5.0	---	3.0	4.0	16.0	14.0	19.5	27.0	32.0	21.5
5	16.0	11.5	5.0	---	2.5	4.0	17.0	14.0	21.5	29.0	32.0	21.0
6	14.5	8.0	4.5	---	---	5.0	16.0	14.0	23.0	31.0	28.0	20.0
7	15.0	9.0	4.0	---	---	5.0	12.0	16.0	23.5	32.0	30.5	20.0
8	14.0	10.0	4.0	---	1.0	6.0	11.0	16.5	24.0	32.0	31.0	20.5
9	13.5	10.0	4.5	---	1.5	6.0	9.5	16.0	21.0	31.0	32.0	21.0
10	15.5	4.5	5.0	---	2.0	7.0	10.5	16.5	21.0	32.0	32.0	18.5
11	12.0	---	6.0	---	2.0	8.0	12.0	17.0	22.0	31.0	32.0	22.0
12	13.5	---	6.0	---	1.0	8.5	10.0	18.0	23.5	30.0	32.0	22.5
13	13.5	5.0	4.5	---	---	8.5	12.5	19.5	26.0	31.0	32.0	24.0
14	14.0	5.0	5.0	---	---	5.5	11.0	20.0	28.0	31.5	32.5	23.5
15	15.0	6.5	4.0	---	1.0	4.0	11.0	19.0	28.5	32.0	32.0	22.0
16	15.0	7.0	3.0	---	1.0	4.0	9.0	18.0	27.0	31.0	30.0	21.0
17	14.0	9.0	2.5	---	3.0	4.0	10.5	18.0	27.0	30.0	30.0	18.0
18	14.0	10.0	3.0	---	3.0	3.0	10.0	17.0	---	32.0	29.0	19.5
19	15.0	9.5	3.5	---	---	3.5	9.0	15.0	28.0	30.0	24.5	21.5
20	13.5	8.0	3.5	---	4.0	4.0	11.0	14.0	29.0	28.0	22.0	22.0
21	13.5	3.0	3.0	---	2.0	4.5	11.5	14.0	30.0	28.0	25.5	20.5
22	13.0	3.0	4.0	2.0	3.0	5.0	13.0	15.5	30.5	28.0	26.0	21.0
23	13.0	4.0	4.5	2.0	3.0	7.5	12.0	18.0	29.0	27.5	23.0	23.0
24	13.5	5.0	5.0	2.0	3.0	11.0	11.0	18.5	27.0	27.5	25.5	19.0
25	13.0	7.0	5.0	---	2.0	14.0	14.0	17.0	27.0	29.0	26.0	18.0
26	12.0	8.0	5.0	---	3.0	13.5	15.0	17.5	26.0	27.5	26.0	20.0
27	9.0	6.0	4.0	---	2.5	11.0	15.0	19.0	26.0	28.0	27.5	21.0
28	10.0	5.0	3.5	---	4.0	12.0	14.0	20.5	26.0	29.0	26.5	21.0
29	9.0	6.0	2.0	---	5.0	13.5	12.0	21.5	26.5	32.0	24.0	16.5
30	9.5	6.0	---	1.5	---	13.0	12.0	23.0	22.5	31.0	25.0	19.0
31	10.0	---	---	3.0	---	13.0	---	24.0	---	30.0	24.5	---
MEAN	13.5	7.5	4.5	1.5	2.5	7.0	12.0	17.0	25.0	29.5	28.5	21.0

01567000 JUNIATA RIVER AT NEWPORT, PA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		OCTOBER			NOVEMBER			DECEMBER	
1	1360	6	22	1220	3	9.9	6010	55	892
2	1510	9	37	1100	8	24	5250	30	425
3	1410	10	38	1060	5	14	5440	41	602
4	1230	7	23	1040	4	11	5630	24	365
5	1300	5	18	1020	5	14	5130	16	222
6	1230	6	20	975	4	11	3600	6	58
7	1280	7	24	949	4	10	3180	7	60
8	1480	6	24	944	4	10	2900	4	31
9	1490	6	24	924	7	17	2470	2	13
10	1460	5	20	943	9	23	2500	1	6.8
11	1320	4	14	1130	6	18	2470	3	20
12	1240	3	10	1160	5	16	2490	2	13
13	1240	3	10	1260	4	14	2480	3	20
14	1230	3	10	1410	8	30	2450	3	20
15	1160	4	13	1670	17	77	2100	3	17
16	1110	4	12	2160	7	41	2310	4	25
17	1080	4	12	2500	3	20	2750	6	45
18	1040	6	17	3340	6	54	3130	7	59
19	986	5	13	4010	18	195	2870	6	46
20	957	4	10	3760	12	122	3020	6	49
21	972	11	29	3270	24	212	3830	10	103
22	919	10	25	2910	21	165	5060	26	355
23	909	5	12	2680	6	43	5900	33	526
24	930	6	15	2530	3	20	4680	16	202
25	896	4	9.7	2020	5	27	3750	9	91
26	869	3	7.0	1850	3	15	3750	10	101
27	895	3	7.2	1770	2	9.6	4040	11	120
28	1280	3	10	1720	2	9.3	3990	9	97
29	1410	3	11	2900	31	497	4550	10	123
30	1480	4	16	6480	85	1490	4490	8	97
31	1410	3	11	---	---	---	4000	5	54
TOTAL	37083	---	523.9	60705	---	3218.8	116220	---	4857.8

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JANUARY			FEBRUARY			MARCH	
1	3190	3	26	2880	4	31	2650	10	72
2	3300	4	36	5190	18	292	2870	10	77
3	3310	6	54	11100	78	2430	2700	9	66
4	3120	6	51	15900	91	3920	3830	16	188
5	2810	6	46	17300	90	4210	9390	67	2020
6	1680	6	27	13100	59	2110	14300	96	3710
7	1330	6	22	9270	36	901	13200	42	1510
8	1500	6	24	7800	20	421	9160	21	519
9	1800	6	29	6360	12	206	7420	15	301
10	1700	6	28	4530	10	122	6150	14	232
11	1600	6	26	3990	9	97	5850	14	221
12	1600	6	26	3850	8	83	5520	15	224
13	1700	6	28	4100	6	66	5140	15	208
14	1600	6	26	3490	6	57	4860	14	184
15	1500	6	24	3350	6	54	4660	10	126
16	1500	6	24	3010	6	49	4330	8	94
17	1600	6	26	2910	7	55	3910	7	74
18	1700	6	28	2860	6	46	3710	5	50
19	2100	6	34	3040	6	49	3560	7	67
20	3000	130	1050	3770	17	173	3430	6	56
21	16400	232	10300	4520	38	464	3320	6	54
22	11800	156	4970	4670	20	252	3180	5	43
23	9020	42	1020	4620	17	212	3020	5	41
24	5830	17	268	4860	17	223	2930	6	47
25	5140	15	208	4040	11	120	2870	11	85
26	4820	14	182	3110	7	59	2970	12	96
27	4050	12	131	2900	8	63	3040	15	123
28	3530	10	95	2820	9	69	3490	19	179
29	3040	9	74	2720	8	59	3610	18	175
30	2730	7	52	---	---	---	3880	21	220
31	2610	4	28	---	---	---	3790	18	184
TOTAL	110610	---	18963	162060	---	16893	152740	---	11246

01567000 JUNIATA RIVER AT NEWPORT, PA--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		APRIL			MAY			JUNE	
1	3460	14	131	2090	3	17	3640	17	167
2	3330	12	108	2040	2	11	3350	15	136
3	3150	13	111	1880	1	5.1	2790	17	128
4	3080	13	108	1840	2	9.9	2780	17	128
5	3120	13	110	1970	2	11	2610	10	70
6	3080	14	116	2650	2	14	2440	6	40
7	3120	12	101	5540	27	488	2200	6	36
8	6430	39	896	7660	41	848	1910	5	26
9	13200	80	2880	6820	24	442	2260	7	43
10	10800	36	1090	6100	15	247	2660	12	86
11	7770	22	462	6400	35	654	3150	8	68
12	6830	19	350	6300	26	442	2310	9	56
13	5850	16	253	5230	17	240	2030	5	27
14	5170	15	209	4170	9	101	1730	4	19
15	4430	13	155	3840	7	73	1570	5	21
16	3870	10	104	3610	6	58	1470	6	24
17	3880	8	84	3690	8	80	1410	5	19
18	3640	9	88	5400	31	508	1420	4	15
19	3450	9	84	24800	196	14300	1480	3	12
20	3050	8	66	33800	164	14900	1560	7	29
21	2900	9	70	28900	62	4860	1520	11	45
22	2620	8	57	24400	50	3290	1280	8	28
23	2270	6	37	16900	35	1620	1130	6	18
24	2340	7	44	12000	32	1040	1070	5	14
25	2330	5	31	16000	53	2380	1050	5	14
26	2490	6	40	12500	29	1010	1020	5	14
27	2350	7	44	6920	21	392	995	8	21
28	2070	6	34	6290	23	391	970	13	34
29	2000	6	32	5680	27	414	958	11	28
30	2060	5	28	4910	25	331	926	6	15
31	---	---	---	4170	20	225	---	---	---
TOTAL	124140	---	7923	274500	---	49402.0	55689	---	1381

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN-TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
		JULY			AUGUST			SEPTEMBER	
1	915	6	15	782	3	6.3	2070	5	28
2	907	6	15	769	1	2.1	1460	4	16
3	888	5	12	772	3	6.3	1170	6	19
4	835	7	16	749	4	8.1	1760	8	38
5	864	7	16	734	5	9.9	2040	7	39
6	809	6	13	753	6	12	2290	4	25
7	793	7	15	972	8	21	2240	3	18
8	773	7	15	1070	6	17	1600	2	8.6
9	760	5	10	830	4	9.0	1400	4	15
10	754	4	8.1	770	7	15	1230	3	10
11	717	4	7.7	769	5	10	1130	1	3.1
12	796	3	6.4	752	4	8.1	1050	2	5.7
13	784	10	21	772	7	15	1230	3	10
14	795	14	30	764	7	14	1490	3	12
15	731	11	22	756	5	10	1840	4	20
16	734	10	20	737	6	12	1730	2	9.3
17	697	9	17	724	7	14	1390	3	11
18	707	7	13	717	6	12	1490	2	8.0
19	731	8	16	750	3	6.1	2380	3	19
20	795	11	24	789	5	11	2400	1	6.5
21	934	9	23	842	4	9.1	1740	6	28
22	1060	9	26	911	5	12	1490	5	20
23	1450	8	31	869	2	4.7	1430	5	19
24	1300	9	32	1000	4	11	1310	5	18
25	999	6	16	1090	5	15	1270	4	14
26	915	6	15	1130	5	15	1280	4	14
27	906	6	15	1170	10	32	1260	4	14
28	839	6	14	990	10	27	1190	4	13
29	825	9	20	1130	6	18	1140	4	12
30	881	6	14	1680	6	27	1110	4	12
31	884	4	9.5	2390	7	45	---	---	---
TOTAL	26778	---	527.7	28933	---	434.7	46610	---	485.2
YEAR	1196068		115856.1						

01567500 BIXLER RUN NEAR LOYSVILLE, PA

LOCATION.--Lat 40°22'15", long 77°24'09", Perry County, Hydrologic Unit 02050305, on right bank 400 ft upstream from bridge on State Highway 850 at Bixler, 2.3 mi upstream from mouth, and 3.6 mi west of Loysville.

DRAINAGE AREA.--15.0 mi^2.

PERIOD OF RECORD.--January 1954 to current year.

GAGE.--Water-stage recorder. Datum of gage is 601.22 ft above National Geodetic Vertical Datum of 1929. Prior to May 14, 1954, nonrecording gage and crest-stage gage 400 ft downstream at same datum.

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

AVERAGE DISCHARGE.--34 years, 18.6 ft^3/s, 16.84 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 8,780 ft^3/s, Nov. 1, 1956, gage height, 10.39 ft, from rating curve extended above 2,700 ft^3/s on basis of slope-area measurement of peak flow; minimum, 1.5 ft^3/s, Feb. 2, 1959.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 29	1645	*450	*6.01	May 18	0900	294	5.44
Jan. 20	0430	334	5.60				

Minimum daily discharge, 3.1 ft^3/s, Aug. 16-18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.1	e5.8	43	e11	40	13	10	8.2	14	6.2	4.2	3.8
2	4.4	e5.4	28	e10	53	14	9.9	7.8	14	6.2	3.9	3.6
3	4.7	e5.2	22	e9.0	57	28	9.9	7.7	14	6.2	3.8	3.6
4	4.2	e5.1	21	e7.5	53	85	11	8.0	13	5.5	3.8	50
5	4.2	e5.0	17	e7.0	39	44	9.7	17	12	4.8	3.7	15
6	4.3	e4.7	15	e6.5	28	35	9.6	24	11	4.7	5.4	8.1
7	11	e4.4	13	e6.0	28	29	35	20	10	4.5	5.7	6.1
8	5.4	e4.2	12	e6.4	22	25	30	16	10	4.5	4.0	5.3
9	4.6	4.3	11	e6.5	20	25	24	15	21	4.5	3.7	4.9
10	4.4	6.5	11	e6.5	19	22	20	26	11	4.4	3.6	4.5
11	4.8	7.3	10	e6.2	18	20	18	27	9.9	4.3	3.6	4.1
12	4.6	7.8	10	e6.0	16	19	16	20	9.1	4.5	3.6	4.0
13	4.2	11	8.9	e6.2	15	19	15	18	8.5	4.5	3.5	15
14	4.0	14	8.2	e5.8	14	17	14	16	7.9	4.2	3.4	6.9
15	3.9	13	12	e5.5	17	16	14	15	7.6	4.1	3.3	5.2
16	3.9	11	12	5.2	16	15	13	22	7.6	4.0	3.1	4.6
17	3.8	12	9.2	5.5	16	14	12	19	8.1	4.4	3.1	8.2
18	3.8	43	8.3	9.7	15	14	13	158	7.5	4.0	3.1	8.5
19	3.9	20	8.3	8.9	70	14	12	160	7.2	4.2	3.9	6.2
20	4.6	16	22	131	35	14	11	112	7.1	7.1	6.7	5.7
21	5.0	13	16	29	24	13	10	84	6.7	6.2	4.4	5.5
22	5.1	11	15	22	23	12	9.8	58	6.5	4.7	3.4	5.0
23	5.0	10	14	19	20	12	10	43	6.3	4.6	4.0	5.1
24	5.0	9.4	12	17	18	12	11	35	6.2	5.2	7.0	5.1
25	e5.0	8.6	14	17	16	11	9.3	28	6.3	4.3	4.0	5.7
26	e5.0	8.1	16	16	16	14	8.9	23	6.3	4.2	3.5	5.3
27	e5.2	7.7	13	14	15	12	9.0	20	6.1	5.1	3.6	4.6
28	e6.5	7.8	e12	13	14	11	8.9	21	6.1	5.7	3.4	4.4
29	e14	137	e10	12	14	10	9.2	19	6.2	4.3	15	4.2
30	e8.0	87	e10	12	---	10	9.1	17	6.2	4.8	6.5	4.2
31	e6.4	---	e10	12	---	9.8	---	16	---	6.2	4.3	---
TOTAL	164.0	505.3	443.9	449.4	751	608.8	402.3	1080.7	273.4	152.1	138.2	222.4
MEAN	5.29	16.8	14.3	14.5	25.9	19.6	13.4	34.9	9.11	4.91	4.46	7.41
MAX	14	137	43	131	70	85	35	160	21	7.1	15	50
MIN	3.8	4.2	8.2	5.2	14	9.8	8.9	7.7	6.1	4.0	3.1	3.6
CFSM	.35	1.12	.95	.97	1.73	1.31	.89	2.32	.61	.33	.30	.49
IN.	.41	1.25	1.10	1.11	1.86	1.51	1.00	2.68	.68	.38	.34	.55

CAL YR 1987 TOTAL 5171.1 MEAN 14.2 MAX 210 MIN 3.0 CFSM .94 IN. 12.82
WTR YR 1988 TOTAL 5191.5 MEAN 14.2 MAX 160 MIN 3.1 CFSM .95 IN. 12.87

e Estimated

01568000 SHERMAN CREEK AT SHERMANS DALE, PA

LOCATION.--Lat 40°19'24", long 77°10'09", Perry County, Hydrologic Unit 02050305, on left bank on downstream side of bridge on State Highway 34 at Shermans Dale and 1.2 mi upstream from Fishing Run.

DRAINAGE AREA.--200 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1929 to current year. Monthly discharge only for some months, published in WSP 1302. Prior to October 1962, published as "at Shermandale".

REVISED RECORDS.--WSP 1302: 1930(M). WSP 1502: 1933, 1934(M), 1935-36.

GAGE.--Water-stage recorder. Datum of gage is 422.63 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 29, 1930, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. National Weather Service satellite telemeter at station.

AVERAGE DISCHARGE.--59 years, 286 ft^3/s, 19.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 27,500 ft^3/s, June 23, 1972, gage height, 18.09 ft, from rating curve extended above 18,000 ft^3/s; minimum, 3.9 ft^3/s, Dec. 1, 1930; minimum gage height, 0.62 ft, Sept. 11, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 22, 1927, reached a stage of 20.34 ft, from floodmark, discharge, about 44,000 ft^3/s.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	0045	*4,080	*7.14	May 19	1545	3,500	6.62

Minimum discharge, 26 ft^3/s, Aug. 18, 19, gage height, 0.86 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	155	79	932	e215	476	186	135	143	212	45	89	42
2	101	75	636	e200	750	173	135	130	201	45	47	35
3	87	72	481	e170	838	195	131	125	187	44	38	32
4	78	72	443	e180	1070	541	141	127	180	42	34	313
5	70	70	376	e170	813	923	145	153	165	39	33	550
6	66	63	312	e180	515	505	131	841	146	38	31	161
7	101	61	273	e210	392	445	310	827	135	e37	74	96
8	137	59	253	e250	403	378	703	544	131	e35	119	73
9	84	60	243	e260	307	339	483	425	203	35	51	61
10	71	78	238	e240	e302	328	388	487	210	36	39	e50
11	71	112	223	e210	e280	284	330	658	134	36	35	e45
12	74	122	213	e190	e260	259	293	465	116	36	35	e40
13	70	151	195	e180	e240	256	271	378	103	34	36	e37
14	64	253	175	e160	e220	242	248	336	92	39	37	e44
15	61	410	203	e140	e230	224	234	297	85	37	32	e50
16	59	334	267	e130	e220	207	223	285	97	35	29	59
17	58	320	210	e160	e220	194	207	323	106	35	27	60
18	57	1100	181	e210	e230	187	208	1660	86	34	27	94
19	56	607	172	e290	e240	191	225	2960	77	32	28	84
20	56	434	276	1300	601	186	195	2030	72	32	30	68
21	58	340	348	750	562	171	179	2030	66	95	44	63
22	57	268	270	483	340	154	166	1230	62	162	39	58
23	55	241	258	369	323	151	160	905	57	62	32	55
24	55	224	236	e300	291	148	176	774	54	45	42	54
25	55	203	236	e260	254	144	166	613	51	42	44	57
26	54	188	288	e220	229	176	147	485	51	39	39	59
27	65	172	261	e190	222	184	145	400	e45	37	32	55
28	244	166	236	e170	212	154	154	340	49	90	29	51
29	176	1200	e220	e180	197	141	147	298	47	75	43	45
30	110	2350	e200	e190	---	136	150	264	46	43	131	44
31	90	---	e170	e210	---	134	---	236	---	58	72	---
TOTAL	2595	9884	9025	8367	11237	7936	6726	20769	3266	1494	1418	2535
MEAN	83.7	329	291	270	387	256	224	670	109	48.2	45.7	84.5
MAX	244	2350	932	1300	1070	923	703	2960	212	162	131	550
MIN	54	59	170	130	197	134	131	125	45	32	27	32
CFSM	.42	1.65	1.46	1.35	1.94	1.28	1.12	3.35	.55	.24	.23	.42
IN.	.48	1.84	1.68	1.56	2.09	1.48	1.25	3.86	.61	.28	.26	.47

CAL YR 1987	TOTAL 85675	MEAN 235	MAX 2910	MIN 17	CFSM 1.17	IN. 15.94	
WTR YR 1988	TOTAL 85252	MEAN 233	MAX 2960	MIN 27	CFSM 1.16	IN. 15.86	

e Estimated

01568000 SHERMAN CREEK AT SHERMANS DALE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1962, 1964, 1969, 1985 to current year.

COOPERATION.--Water-quality samples collected by Susquehanna River Basin Commission and analyzed by the Pa. Department of Environmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE FIELD (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NO2+NO3 TOTAL (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, ORGANIC DIS-SOLVED (MG/L AS N)
OCT										
14...	1245	65	205	7.60	10.0	1.08	0.020	0.020	0.16	0.10
NOV										
17...	1415	294	126	7.65	13.0	1.18	0.020	0.020	0.31	0.30
DEC										
15...	1000	183	130	--	4.0	1.46	0.040	0.040	0.20	0.10
15...	1245	193	170	--	4.0	1.46	[a] 0.040	[a] 0.060	0.56	0.20
15...	1610	220	140	8.60	5.0	1.44	0.040	0.030	0.22	0.17
16...	0630	277	139	7.50	2.5	1.48	[a] 0.060	[a] 0.080	0.50	0.18
16...	1300	277	150	8.20	4.0	1.48	0.040	0.040	0.30	0.28
17...	1415	210	150	7.50	5.0	1.42	0.020	0.020	0.30	0.18
21...	1215	332	140	8.00	4.5	1.58	[a] 0.050	[a] 0.080	0.41	0.24
JAN										
27...	1130	190	135	7.40	1.5	1.52	0.050	0.030	[a] 0.39	[a] 0.41
FEB										
04...	1000	1120	102	8.20	6.5	1.76	0.100	0.080	0.44	0.38
04...	1320	1250	122	8.05	5.5	1.82	0.090	0.090	0.23	0.19
05...	0915	820	170	7.70	1.0	1.62	0.090	0.090	0.17	0.15
06...	1350	432	141	7.80	3.0	1.80	0.050	0.050	0.25	0.16
07...	1617	400	127	7.20	1.5	1.68	0.060	0.060	--	--
08...	0930	428	132	7.55	3.0	1.58	0.020	0.020	--	--
17...	1250	220	148	7.50	5.5	1.60	0.020	0.020	0.16	--
MAR										
17...	1430	193	140	8.20	6.5	1.64	0.010	0.010	--	--
APR										
12...	1030	294	105	7.90	10.0	0.880	0.040	0.040	--	--
MAY										
17...	2030	380	110	--	--	0.860	0.030	0.020	0.70	0.63
18...	1015	1640	100	7.30	15.0	0.800	0.020	0.020	1.2	0.52
18...	1245	2200	100	7.80	16.0	0.820	0.060	0.040	1.6	0.68
18...	1520	2530	95	7.40	16.0	1.16	0.070	0.040	1.8	0.60
18...	1915	2640	97	7.60	15.0	1.58	0.060	0.060	1.7	0.78
19...	0905	2770	80	7.30	14.0	1.36	0.040	0.040	1.1	0.53
19...	1155	3060	93	7.50	14.5	1.38	0.040	0.040	0.97	0.68
19...	1410	3350	102	7.00	14.0	1.42	0.020	0.020	1.2	0.62
19...	1800	3480	89	7.10	14.5	1.34	0.020	0.020	1.1	0.70
20...	1035	1890	80	7.70	19.0	1.50	0.040	0.030	0.65	0.39
20...	1230	1860	85	7.70	15.0	1.44	0.040	0.040	1.3	0.36
21...	0730	2390	95	7.70	14.0	1.40	0.040	0.030	0.85	0.46
22...	0725	1290	105	8.30	14.5	1.40	0.030	0.030	0.59	0.34
JUN										
21...	1008	65	205	8.00	25.0	0.960	[a] 0.030	[a] 0.050	0.24	--
JUL										
11...	1420	35	250	8.00	29.0	0.420	0.060	0.060	0.38	0.22
AUG										
17...	1000	27	265	8.45	24.0	0.400	[a] 0.010	[a] 0.030	0.38	--
SEP										
16...	1145	58	230	8.70	17.0	1.14	0.040	0.040	0.65	0.40

(a) Results within limits of analytical precision.

01568000 SHERMAN CREEK AT SHERMANS DALE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT									
14...	0.18	0.12	1.3	0.020	<0.020	0.011	2.7	7	1.2
NOV									
17...	0.33	0.32	1.5	0.030	0.020	0.005	2.3	4	3.2
DEC									
15...	0.24	0.14	1.7	0.040	0.030	0.003	1.3	7	3.5
15...	0.60	0.26	2.1	0.050	0.030	<0.001	1.6	9	4.7
15...	0.26	0.20	1.7	0.040	0.030	<0.001	<1.0	12	7.1
16...	0.56	0.26	2.0	0.130	0.030	<0.001	<1.0	97	73
16...	0.34	0.32	1.8	0.060	0.040	0.002	<1.0	14	10
17...	0.32	0.20	1.7	0.040	0.030	<0.001	1.2	7	4.0
21...	0.46	0.32	2.0	0.070	0.050	<0.001	2.3	13	12
JAN									
27...	0.44	0.44	2.0	0.040	0.030	0.007	1.6	12	6.2
FEB									
04...	0.54	0.46	2.3	0.200	0.050	0.005	3.2	59	178
04...	0.32	0.28	2.1	0.200	0.050	0.003	3.2	58	196
05...	0.26	0.24	1.9	0.060	0.030	0.005	2.7	26	58
06...	0.30	0.21	2.1	0.040	0.030	0.004	1.6	11	13
07...	<0.20	<0.20	--	0.030	0.020	0.005	1.3	8	8.6
08...	<0.20	<0.20	--	0.030	0.020	0.003	1.1	11	13
17...	0.18	<0.20	1.8	0.030	0.020	0.003	1.4	6	3.6
MAR									
17...	<0.20	<0.20	--	0.020	0.020	0.002	1.3	8	4.2
APR									
12...	<0.20	<0.20	--	0.040	0.030	0.002	1.9	7	5.6
MAY									
17...	0.73	0.65	1.6	0.070	0.030	0.015	2.2	58	60
18...	1.3	0.54	2.1	0.280	0.050	0.018	3.5	179	793
18...	1.7	0.72	2.5	0.320	0.060	0.021	5.0	210	1250
18...	1.8	0.64	3.0	0.350	0.060	0.015	7.5	241	1650
18...	1.8	0.84	3.4	0.360	0.070	0.018	7.6	204	1450
19...	1.1	0.57	2.5	0.230	0.060	0.012	5.7	134	1000
19...	1.0	0.72	2.4	0.220	0.060	0.008	5.5	104	859
19...	1.2	0.64	2.6	0.240	0.060	0.010	5.5	146	1320
19...	1.1	0.72	2.4	0.220	0.050	0.007	5.6	123	1160
20...	0.69	0.42	2.2	0.050	0.040	0.004	4.7	45	230
20...	1.4	0.40	2.8	0.050	0.040	0.009	3.2	35	176
21...	0.89	0.49	2.3	0.070	0.050	0.006	4.0	55	355
22...	0.62	0.37	2.0	0.050	0.040	0.004	2.6	42	146
JUN									
21...	0.27	<0.20	1.2	0.040	0.030	0.004	2.6	7	1.2
JUL									
11...	0.44	0.28	0.86	0.060	0.040	0.008	3.5	6	0.57
AUG									
17...	0.39	<0.20	0.79	0.090	0.020	0.003	4.5	4	0.29
SEP									
16...	0.69	0.44	1.8	0.050	0.040	0.007	3.5	7	1.1

(<) Actual value is known to be less than the value shown.

01568400 DeHART RESERVOIR NEAR CARSONVILLE, PA

LOCATION.--Lat 40°27'50", long 76°44'50", Dauphin County, Hydrologic Unit 02050305, at DeHart Dam on Clark Creek, 1.8 mi southeast of Carsonville, and 15.3 mi upstream from mouth.

DRAINAGE AREA.--21.7 mi^2.

PERIOD OF RECORD.--October 1940 to current year.

GAGE.--Staff. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by City of Harrisburg).

REMARKS.--Reservoir formed by earthfill dam with ungated concrete spillway at elevation 644.00 ft. Crest of spillway raised 4 ft in November 1954. Storage began Jan. 21, 1940. Capacity at elevation 644.00 ft is 18,480 acre-ft. Reservoir is used for municipal water supply. Figures given herein represent total contents. Regulation is controlled by valves on pipe through dam.

COOPERATION.--Records provided by city of Harrisburg.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 19,460 acre-ft, Sept. 27, 1975, elevation, 645.75 ft; minimum (after first filling), 4,680 acre-ft, Jan. 2, 1966, elevation, 613.33 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 19,070 acre-ft, May 20, 21, 22, elevation 645.08 ft; minimum, 14,120 acre-ft, Sept. 30, elevation, 636.58 ft.

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s/day)
Sept. 30	640.17	16,240	--
Oct. 31	639.33	15,730	- 8.3
Nov. 30	641.92	17,260	+ 25.7
Dec. 31	644.17	18,570	+ 21.3
CAL YR 1987	--	--	+ 1.3
Jan. 31	644.08	18,520	- 0.81
Feb. 29	644.08	18,520	0
Mar. 31	644.17	18,570	+ 0.81
Apr. 30	644.17	18,570	0
May 31	644.17	18,570	0
June 30	643.00	17,890	- 11.4
July 31	641.08	16,770	- 18.2
Aug. 31	638.75	15,380	- 22.6
Sept. 30	636.58	14,120	21.2
WTR YR 1988	--	--	- 2.9

01568500 CLARK CREEK NEAR CARSONVILLE, PA

LOCATION.--Lat 40°27'37", long 76°45'06", Dauphin County, Hydrologic Unit 02050305, on right bank 0.3 mi downstream from DeHart Dam, 1.8 mi southeast of Carsonville, and 15.0 mi upstream from mouth.

DRAINAGE AREA.--22.5 mi^2.

PERIOD OF RECORD.--September 1937 to current year.

REVISED RECORDS.--WSP 1302: 1940(M). WSP 1702: 1942 (monthly mean).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 552.32 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 6, 1939, water-stage recorder at site 1,700 ft upstream at datum 9.49 ft higher. Jan. 6, 1939, to July 27, 1940, nonrecording gage at site 100 ft downstream at different datum.

REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1941 by DeHart Dam (station 01568400). Diversion from reservoir to city of Harrisburg. Several measurements of water temperature were made during the year.

COOPERATION.--Records of diversion and change in reservoir contents provided by city of Harrisburg.

AVERAGE DISCHARGE.--50 years, 40.0 ft^3/s, 24.14 in/yr, adjusted for storage and diversion since 1941.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,800 ft^3/s, June 22, 1972, gage height, 10.98 ft, from rating curve extended above 2,400 ft^3/s on basis of computation of peak flow-over-dam; minimum daily, 0.2 ft^3/s, Jan. 29 to Feb. 3, 1940.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 623 ft^3/s, May 19, gage height, 4.04 ft; minimum daily, 3.5 ft^3/s, Oct. 14-18, 24, 26.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	3.7	6.9	9.3	7.1	17	22	16	21	6.3	4.9	4.1
2	3.7	3.7	6.2	8.5	20	15	22	14	22	6.3	4.3	4.0
3	3.8	3.7	5.8	7.8	45	16	21	11	17	6.2	4.1	4.0
4	3.7	4.4	5.7	7.5	68	29	20	11	13	6.1	4.1	5.2
5	3.7	4.7	5.4	6.6	74	55	19	20	10	6.1	4.2	4.3
6	3.7	4.7	5.2	5.8	60	41	23	36	8.7	5.3	4.2	4.1
7	4.0	4.5	5.2	5.5	47	33	26	35	7.6	4.9	4.2	4.0
8	3.7	4.5	7.8	5.7	39	30	32	31	6.7	4.9	4.2	4.0
9	3.7	4.2	15	5.6	32	29	32	28	11	4.9	4.1	4.0
10	3.7	4.0	20	5.5	24	29	29	28	9.7	4.8	4.1	4.0
11	3.8	4.0	21	5.5	21	27	26	27	7.5	4.8	4.0	4.0
12	3.6	4.0	21	5.5	32	26	23	25	6.7	4.9	4.0	4.0
13	3.6	4.1	19	5.4	28	25	22	23	6.4	4.8	4.0	4.3
14	3.5	4.2	23	5.3	23	24	21	24	6.3	4.8	4.0	4.0
15	3.5	4.3	22	5.3	20	22	20	22	6.3	4.8	4.0	4.0
16	3.5	4.2	24	5.3	19	19	18	22	6.3	4.9	4.0	4.0
17	3.5	4.7	22	5.3	17	17	18	22	6.2	4.9	4.0	4.1
18	3.5	5.9	18	5.6	15	16	20	63	6.3	4.9	4.0	4.1
19	3.6	4.9	16	5.5	18	16	21	455	6.3	4.9	4.2	4.2
20	3.6	4.9	22	6.7	40	15	17	432	6.3	5.2	4.1	4.2
21	3.6	4.7	22	6.3	42	14	16	269	6.3	5.2	4.0	4.2
22	3.6	4.5	20	6.9	34	11	13	175	6.3	4.9	4.0	4.1
23	3.6	4.5	17	7.5	31	10	14	123	6.3	5.3	4.1	4.1
24	3.5	4.4	16	7.6	29	9.1	11	101	6.3	5.2	4.5	4.1
25	3.6	4.4	16	9.3	26	9.6	9.1	95	6.3	5.0	4.2	4.1
26	3.5	4.4	19	14	23	34	9.1	62	6.3	5.2	4.1	4.0
27	4.4	4.4	17	11	22	46	9.6	50	6.3	5.1	4.1	4.0
28	4.9	4.3	17	8.6	22	32	11	40	6.3	5.1	4.1	4.0
29	3.9	12	18	8.8	19	27	11	32	6.3	5.0	4.6	4.0
30	3.8	9.9	13	6.8	---	26	17	27	6.3	5.0	4.1	4.0
31	3.7	---	11	6.5	---	22	---	23	---	4.9	4.0	---
TOTAL	115.2	144.8	477.2	216.5	897.1	741.7	572.8	2342	254.3	160.6	128.5	123.2
MEAN	3.72	4.83	15.4	6.98	30.9	23.9	19.1	75.5	8.48	5.18	4.15	4.11
MAX	4.9	12	24	14	74	55	32	455	22	6.3	4.9	5.2
MIN	3.5	3.7	5.2	5.3	7.1	9.1	9.1	11	6.2	4.8	4.0	4.0
(†)	19.2	18.9	20.1	20.7	22.8	20.7	22.2	21.2	23.6	24.5	25.0	17.5
MEAN‡	14.6	49.4	56.8	26.9	53.7	45.4	41.3	96.7	20.7	11.5	6.55	.41
CFSM‡	.65	2.20	2.52	1.20	2.39	2.02	1.84	4.30	.92	.51	.29	.02
IN.‡	.75	2.46	2.90	1.38	2.58	2.33	2.05	4.96	1.03	.59	.33	.02

CAL YR 1987 TOTAL 6021.8 MEAN 16.5 MAX 171 MIN 3.3 MEAN‡ 37.1 CFSM‡ 1.65 IN.‡ 22.39
WTR YR 1988 TOTAL 6173.9 MEAN 16.9 MAX 455 MIN 3.5 MEAN‡ 35.3 CFSM‡ 1.57 IN.‡ 21.37

† Diversion for municipal supply of city of Harrisburg, equivalent in cubic feet per second.
‡ Adjusted for diversion and change in reservoir contents.

01569800 LETORT SPRING RUN NEAR CARLISLE, PA

LOCATION.--Lat 40°14'05", long 77°08'23", Cumberland County, Hydrologic Unit 02050305, on right bank 320 ft downstream from bridge on U.S. Highway 11, 0.2 mi upstream from mouth, 3.1 mi west of New Kingstown, and 3.7 mi east of Carlisle.

DRAINAGE AREA.--21.6 mi^2.

PERIOD OF RECORD.--June 1976 to current year.

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 410 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years, 43.4 ft^3/s, 27.29 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,400 ft^3/s, Jan. 24, 1979, gage height, 6.53 ft, from rating curve extended above 680 ft^3/s on basis of slope-area measurement at gage height 6.43 ft; no flow part of Aug. 15, 1976.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1936 reached a stage of 8.8 ft, discharge not determined, and flood in June 1972 reached a stage of 8.4 ft, from information by local resident, discharge not determined.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 130 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 29	1745	*166	*4.66	Aug. 6	2045	132	4.48

Minimum discharge, 20 ft^3/s, Sept. 29, gage height, 3.50 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	35	72	35	42	43	35	29	33	26	24	23
2	45	34	66	34	58	43	35	28	33	26	24	22
3	45	34	62	34	57	44	35	27	33	25	24	23
4	44	33	59	34	75	53	34	28	33	25	23	47
5	43	33	56	33	61	54	33	36	32	24	23	29
6	43	33	54	33	56	51	34	39	31	24	52	27
7	48	32	52	32	54	49	44	33	30	24	40	25
8	40	32	51	33	52	48	37	31	31	24	30	24
9	40	32	49	32	50	48	36	30	41	31	28	24
10	39	35	48	32	48	47	35	31	33	27	27	24
11	40	35	47	32	47	46	34	31	32	25	26	23
12	39	38	48	31	48	45	34	30	31	26	25	23
13	39	39	46	31	45	45	33	30	31	25	25	31
14	38	39	45	31	44	44	33	29	29	24	25	25
15	37	39	50	31	45	43	32	29	29	25	23	24
16	37	38	46	30	45	43	32	28	29	24	23	23
17	37	40	45	30	44	41	32	35	29	29	23	27
18	36	42	44	32	44	42	33	40	28	25	23	24
19	35	39	43	33	56	41	32	39	29	25	24	23
20	35	39	46	76	54	40	32	44	27	27	24	23
21	35	38	37	50	52	40	31	52	26	26	23	22
22	34	37	36	46	50	39	31	44	27	26	23	22
23	34	36	36	43	49	39	31	41	26	30	26	22
24	34	36	35	42	48	38	32	45	26	28	28	22
25	33	36	37	42	47	38	30	43	26	26	24	23
26	33	36	38	40	46	41	29	39	26	27	24	22
27	45	35	36	39	46	38	30	38	26	28	24	22
28	47	36	36	38	45	37	30	37	26	27	24	22
29	39	87	36	37	44	37	30	36	26	25	27	22
30	37	83	35	37	---	36	29	35	26	25	23	22
31	36	---	35	37	---	36	---	34	---	28	23	---
TOTAL	1214	1181	1426	1140	1452	1329	988	1091	885	807	805	735
MEAN	39.2	39.4	46.0	36.8	50.1	42.9	32.9	35.2	29.5	26.0	26.0	24.5
MAX	48	87	72	76	75	54	44	52	41	31	52	47
MIN	33	32	35	30	42	36	29	27	26	24	23	22
CFSM	1.81	1.82	2.13	1.70	2.32	1.98	1.52	1.63	1.37	1.21	1.20	1.13
IN.	2.09	2.03	2.46	1.96	2.50	2.29	1.70	1.88	1.52	1.39	1.39	1.27

CAL YR 1987 TOTAL 13880 MEAN 38.0 MAX 270 MIN 19 CFSM 1.76 IN. 23.90
WTR YR 1988 TOTAL 13053 MEAN 35.7 MAX 87 MIN 22 CFSM 1.65 IN. 22.48

01570000 CONODOGUINET CREEK NEAR HOGESTOWN, PA

LOCATION.--Lat 40°15'08", long 77°01'17", Cumberland County, Hydrologic Unit 02050305, on left bank 1,000 ft upstream from highway bridge on Township Route 596, 0.4 mi downstream from Hogestown Run, and 1.0 mi northeast of Hogestown.

DRAINAGE AREA.--470 mi^2.

PERIOD OF RECORD.--October 1911 to September 1917, October 1929 to September 1958, June 1967 to current year. Monthly discharges only for some periods, published in WSP 1302. October 1917 to December 1919 (gage heights and discharge measurements only), in reports of Water Supply Commission of Pennsylvania. Published as "at Brysons Bridge" 1912-17.

REVISED RECORDS.--WSP 1722: 1913, 1917.

GAGE.--Water-stage recorder. Datum of gage is 351.00 ft above National Geodetic Vertical Datum of 1929. Prior to December 1919, nonrecording gage at site 2 mi downstream at different datum. Oct. 1, 1929, to Aug. 3, 1931, nonrecording gage at site 1,000 ft downstream at present datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Since June 1969 the Pa. American Water Co. has diverted water upstream from station for municipal supply. Diversion for the year was equivalent to a mean daily discharge of about 5.7 ft^3/s. Several measurements of water temperature were made during the year. National Weather Service satellite and landline telemeters at station.

AVERAGE DISCHARGE.--56 years (1911-17, 1929-58, 1967-88), 585 ft^3/s, 16.90 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 33,700 ft^3/s, June 23, 1972, gage height, 17.01 ft, from floodmark in gage shelter; minimum, 24 ft^3/s, Dec. 16, 1930; minimum daily, 26 ft^3/s, Dec. 23, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 21	2115	*4,440	*6.85	No other peak greater than base discharge.			

Minimum discharge, 86 ft^3/s, Aug. 17, gage height, 1.03 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	385	265	2030	e400	518	423	290	261	472	149	134	130
2	337	242	1300	e410	1120	397	290	247	433	147	127	111
3	284	225	962	e360	1620	404	303	233	414	143	114	100
4	268	216	825	e330	2010	649	285	231	392	137	108	176
5	249	209	738	e320	2260	1390	284	250	372	136	103	513
6	233	197	630	e300	1410	1240	279	566	344	130	106	526
7	260	186	551	e290	946	971	320	1160	315	122	216	305
8	282	176	498	e300	911	817	627	850	301	124	136	224
9	279	176	467	e300	773	715	666	664	346	117	129	180
10	246	176	454	e280	687	676	538	592	394	134	113	158
11	239	e180	436	e270	633	618	479	603	347	119	110	142
12	237	e180	408	e250	621	552	437	540	293	120	105	131
13	231	e190	385	e240	579	528	411	464	269	124	105	153
14	220	e200	358	e240	450	506	385	421	246	125	107	216
15	208	e250	366	e230	510	471	367	385	234	115	104	211
16	204	e472	471	e240	508	438	352	363	222	112	95	162
17	198	506	465	e240	519	420	335	382	223	120	91	146
18	194	694	405	e250	485	387	328	638	230	123	90	167
19	193	946	372	e280	479	392	341	2220	242	112	92	180
20	187	693	445	e500	874	388	336	3260	231	130	100	159
21	189	576	661	e1900	1050	368	306	3740	203	139	104	144
22	185	477	639	e1500	782	346	286	2850	195	141	100	135
23	179	404	583	877	709	330	276	1810	186	138	98	125
24	177	370	523	712	647	327	287	1530	181	156	126	116
25	171	343	488	650	570	318	300	1660	174	135	111	117
26	168	323	544	641	513	337	279	1130	167	141	111	118
27	162	305	577	502	481	350	264	893	165	129	109	121
28	255	297	536	452	469	342	263	756	159	158	100	120
29	406	972	548	440	445	317	268	659	154	158	105	110
30	392	3180	499	437	---	305	260	587	153	128	138	103
31	307	---	405	426	---	298	---	522	---	130	134	---
TOTAL	7525	13626	18569	14567	23579	16020	10442	30467	8057	4092	3521	5299
MEAN	243	454	599	470	813	517	348	983	269	132	114	177
MAX	406	3180	2030	1900	2260	1390	666	3740	472	158	216	526
MIN	162	176	358	230	445	298	260	231	153	112	90	100
CFSM	.52	.97	1.27	1.00	1.73	1.10	.74	2.09	.57	.28	.24	.38
IN.	.60	1.08	1.47	1.15	1.87	1.27	.83	2.41	.64	.32	.28	.42

CAL YR 1987 TOTAL 167690 MEAN 459 MAX 5900 MIN 77 CFSM .98 IN. 13.27
WTR YR 1988 TOTAL 155764 MEAN 426 MAX 3740 MIN 90 CFSM .91 IN. 12.33

e Estimated

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA

(National stream-quality accounting network, radiochemical and tritium program)

LOCATION.--Lat 40°15'17", long 76°53'11", Dauphin County, Hydrologic Unit 02050305, on east bank of City Island, 60 ft downstream from Market Street Bridge in Harrisburg, 3,670 ft upstream from sanitary dam, and 1.7 mi upstream from Paxton Creek.

DRAINAGE AREA.--24,100 mi^2, approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1890 to current year.

REVISED RECORDS.--WSP 711: 1929. WSP 1502: 1891-1923, 1926(M), 1928. WSP 1702: 1953 (total runoff in inches), 1958 (1957 calendar year mean discharge).

GAGE.--Water-stage recorder. Concrete control since Aug. 29, 1916. Datum of gage is 290.01 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1928, nonrecording gage at Walnut Street Bridge 600 ft upstream, and Oct. 1, 1928, to Aug. 31, 1975, water-stage recorder at site 3,170 ft downstream, all gages at same datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 15 flood-control reservoirs, which have a combined capacity of 1,571,000 acre-ft. National Weather Service satellite and landline telemeters at station.

COOPERATION.--Daily discharges through Safe Harbor Dam provided by Safe Harbor Water Power Corporation.

AVERAGE DISCHARGE.--98 years, 34,220 ft^3/s, 19.28 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,020,000 ft^3/s, June 24, 1972, gage height, 32.57 ft, from floodmark; minimum, 1,600 ft^3/s, Nov. 29, 1930, gage height, 2.48 ft, result of freezeup. Minimum daily discharge since construction of sanitary dam and not affected by freezeup, 1,700 ft^3/s, Sept. 18, 1964; minimum gage height, 1.83 ft, Sept. 13, 1964 (result of repairs to sanitary dam).

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known during period 1786 to 1890, 26.8 ft at Walnut Street Bridge, June 2, 1889, discharge, 654,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 180,000 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 22	0215	*189,000	*12.19	No other peak greater than base discharge.			

Minimum discharge, 3,890 ft^3/s, Aug. 23, gage height, 3.03 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16900	25700	56000	25800	e20000	22400	53200	27200	27700	5500	10300	19900
2	19300	25000	69500	24200	e30000	21300	46700	36200	25700	5290	10600	18400
3	18600	21300	66800	21900	101000	20800	43300	36700	23900	5360	9010	16500
4	15800	19200	58300	e20000	156000	22400	42300	32100	22200	5300	7620	15800
5	15700	17700	50000	e18000	137000	33900	41400	28900	19500	5110	6840	15900
6	16800	16500	42800	e16000	102000	41200	41900	28000	19700	4960	6530	20300
7	16900	15700	37500	e14000	73200	41700	42300	30200	18600	4770	6280	17800
8	18800	15100	34000	e13000	59200	38300	43100	34900	17300	4660	6070	15500
9	19500	14700	30600	e12000	50200	36200	47200	34200	16400	4640	6220	13300
10	18400	15000	28200	e11000	44100	42000	45600	32000	16400	4560	6020	11300
11	17800	15300	26500	e10000	e40000	43900	40500	30000	15800	4440	5410	9890
12	17400	15200	25900	e9300	e35000	56500	37600	29500	14400	4340	5200	8780
13	17100	15000	26300	e8900	e32000	58600	34400	28300	13000	4290	5030	8490
14	16400	15400	27100	e8500	e30000	55600	31800	26100	12200	4290	4900	8550
15	16000	16800	27100	e8100	e28000	56500	29100	25200	11300	4400	4650	8660
16	16000	18100	27500	e8000	e27000	57200	26700	24600	10600	4300	4380	8650
17	16300	18900	28200	e7900	e26000	52500	25200	23900	10200	4170	4250	7710
18	15800	22500	28800	e7500	e25000	46300	24100	27200	9620	4170	4350	7520
19	14800	31500	29400	e7500	e26000	41300	22900	51800	9290	4690	7440	7500
20	13700	33900	29200	e15000	e29000	38000	21400	140000	9090	6950	4850	8820
21	13000	31800	29400	e25000	35900	35100	20100	178000	8710	6880	4300	8320
22	12700	29700	30300	e40000	36000	32100	19100	178000	8370	7230	4020	7930
23	12400	27800	34400	e45000	35600	29000	18100	128000	7660	9700	3980	8610
24	12000	25400	41300	e43000	33700	26600	17300	93600	7200	11100	4040	8360
25	11300	23000	38300	e43000	31700	24800	16600	77700	6840	10200	4070	8000
26	11000	21200	35000	e45000	28900	25200	16700	70700	6440	12000	4430	7570
27	10900	20100	33000	e34000	26900	34000	18600	57400	6210	11300	5190	7180
28	12000	19300	31900	e29000	23600	67300	19800	49400	6110	12400	5710	6880
29	13900	21200	31900	e26000	24600	84800	20400	43300	5900	12600	5330	6580
30	18100	30500	32600	e23000	---	75300	22100	37500	5690	10500	9430	6280
31	20600	---	29100	e21000	---	63200	---	33200	---	10800	33200	---
TOTAL	485900	638500	1116900	640600	1347600	1324000	929500	1673800	392030	210900	209650	324980
MEAN	15670	21280	36030	20660	46470	42710	30980	53990	13070	6803	6763	10830
MAX	20600	33900	69500	45000	156000	84800	53200	178000	27700	12600	33200	20300
MIN	10900	14700	25900	7500	20000	20800	16600	23900	5690	4170	3980	6280
CFSM	.65	.88	1.49	.86	1.93	1.77	1.29	2.24	.54	.28	.28	.45
IN.	.75	.99	1.72	.99	2.08	2.04	1.43	2.58	.61	.33	.32	.50

CAL YR 1987 TOTAL 10092120 MEAN 27650 MAX 214000 MIN 4620 CFSM 1.15 IN. 15.58
WTR YR 1988 TOTAL 9294360 MEAN 25390 MAX 178000 MIN 3980 CFSM 1.05 IN. 14.35

e Estimated

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1945-53, 1956 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: May 1974 to August 1979.
pH: May 1974 to June 1979.
WATER TEMPERATURE: May 1974 to August 1979.
DISSOLVED OXYGEN: May 1974 to August 1979.
SUSPENDED SEDIMENT DISCHARGE: October 1963 to September 1968, April 1970 to September 1979, April 1980 to March 1981.

INSTRUMENTATION.--Water-quality monitor May 1974 to August 1979.

REMARKS.--Agency collection codes: 42011 - Susquehanna River Basin Commission, 1028 - U.S. Geological Survey. Agency analyzing codes: 9813 - Pa. Department of Environmental Resources, 80020 - U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	AGENCY COLLECTING SAMPLE (CODE NUMBER)	AGENCY ANALYZING SAMPLE (CODE NUMBER)	STREAMFLOW, INSTANTANEOUS (CFS)	SPECIFIC CONDUCTANCE (µS/CM)	PH (STANDARD UNITS)	TURBIDITY (FTU)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV 04...	1330	1028	80020	19100	262	8.00	2.4	762	11.2	114	25
FEB 17...	1100	1028	80020	26000	240	7.30	5.6	758	13.8	106	K4
APR 12...	1145	1028	80020	37900	200	7.80	5.6	766	11.0	99	K10
MAY 20...	1145	1028	80020	146000	153	7.20	70	--	9.0	--	1900
JUL 29...	0945	1028	80020	12800	350	8.40	4.2	775	8.0	97	3300
AUG 29...	1045	1028	80020	5200	360	8.20	4.5	765	6.8	74	K60

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT FLD (MG/L AS CACO3)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	BICARBONATE WATER DIS IT FIELD (MG/L AS HCO3)	ALKALINITY WAT WH TOT FET FIELD (MG/L AS CACO3)
NOV 04...	K18	96	38	27	6.9	8.1	15	0.4	2.1	71	58
FEB 17...	K26	95	45	27	6.7	8.4	16	0.4	1.8	60	50
APR 12...	100	79	35	22	5.7	6.6	15	0.3	1.4	54	44
MAY 20...	--	59	31	16	4.5	4.9	15	0.3	1.8	34	28
JUL 29...	360	130	71	33	12	15	20	0.6	2.1	72	61
AUG 29...	K1200	140	80	32	14	17	21	0.7	2.3	71	58

DATE	ALKALINITY WAT DIS TOT IT FIELD (MG/L AS CACO3)	ALKALINITY LAB (MG/L AS CACO3)	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)
NOV 04...	58	57	38	12	0.10	1.9	138	136	0.19	7120
FEB 17...	49	49	37	13	0.20	5.6	137	137	0.19	9620
APR 12...	44	42	33	11	0.10	4.2	114	116	0.16	11700
MAY 20...	28	29	32	7.2	0.20	4.8	97	95	0.13	38200
JUL 29...	59	57	72	21	0.20	2.8	200	196	0.27	6910
AUG 29...	58	55	81	22	0.10	0.80	227	205	0.31	3190

DATE	ALUMINUM, DISSOLVED (µG/L AS AL)	ARSENIC DISSOLVED (µG/L AS AS)	BARIUM, DISSOLVED (µG/L AS BA)	BERYLLIUM, DISSOLVED (µG/L AS BE)	CADMIUM DISSOLVED (µG/L AS CD)	CHROMIUM, DISSOLVED (µG/L AS CR)	COBALT, DISSOLVED (µG/L AS CO)	COPPER, DISSOLVED (µG/L AS CU)	IRON, DISSOLVED (µG/L AS FE)	LEAD, DISSOLVED (µG/L AS PB)
NOV 04...	20	<1	28	<0.5	<1	<1	<3	4	61	<5
APR 12...	20	<1	26	<0.5	<1	<1	<3	6	67	<5
MAY 20...	20	<1	28	<0.5	<1	<1	<3	12	26	<5
AUG 29...	60	<1	32	<0.5	<1	<1	<3	5	3	<5

(K) Results within limits of analytical precision.
(<) Actual value is known to be less than the value shown.

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	LITHIUM DIS-SOLVED (µG/L AS LI)	MANGA-NESE, DIS-SOLVED (µG/L AS MN)	MERCURY DIS-SOLVED (µG/L AS HG)	MOLYB-DENUM, DIS-SOLVED (µG/L AS MO)	NICKEL, DIS-SOLVED (µG/L AS NI)	SELE-NIUM, DIS-SOLVED (µG/L AS SE)	SILVER, DIS-SOLVED (µG/L AS AG)	STRON-TIUM, DIS-SOLVED (µG/L AS SR)	VANA-DIUM, DIS-SOLVED (µG/L AS V)	ZINC, DIS-SOLVED (µG/L AS ZN)
NOV 04...	7	25	0.2	<10	2	<1	<1.0	150	<6	5
APR 12...	5	78	--	<10	2	<1	<1.0	120	<6	<3
MAY 20...	<4	38	--	<10	3	<1	<1.0	91	<6	9
AUG 29...	11	6	0.3	<10	6	<1	<1.0	290	<6	8

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE FIELD (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)
OCT 14...	1350	42011	9813	16400	300	8.10	14.0	--	--
NOV 04...	1330	1028	80020	19100	262	8.00	16.0	--	<0.010
17...	0900	42011	9813	18600	258	8.30	11.5	--	--
DEC 15...	1000	42011	9813	26800	190	8.00	4.5	--	--
FEB 04...	1040	42011	9813	157000	170	7.60	2.0	--	--
04...	1800	42011	9813	154000	180	8.00	0.0	--	--
05...	0930	42011	9813	139000	160	7.70	1.0	--	--
06...	1215	42011	9813	99200	170	7.80	1.0	--	--
07...	0830	42011	9813	74700	180	7.80	0.0	--	--
08...	0945	42011	9813	60000	200	7.80	1.0	--	--
09...	1000	42011	9813	50100	190	7.85	1.0	--	--
12...	0930	42011	9813	40000	205	7.90	5.0	--	--
17...	1000	42011	9813	26000	268	7.50	4.0	--	--
17...	1100	1028	80020	26000	240	7.30	4.0	--	<0.010
17...	1105	42011	9813	26000	240	7.30	4.0	--	--
MAR 17...	1300	42011	9813	52200	170	7.70	6.0	--	--
APR 12...	0920	42011	9813	37900	195	7.80	11.0	--	--
12...	1145	1028	80020	37900	200	7.80	11.0	1.18	0.020
MAY 18...	1200	42011	9813	26600	225	7.80	18.0	--	--
18...	1430	42011	9813	27200	225	7.90	18.0	--	--
19...	1045	42011	9813	44900	200	8.10	17.0	--	--
20...	0915	42011	9813	135000	145	7.20	15.0	--	--
20...	1145	1028	80020	146000	153	7.20	15.0	1.48	0.020
20...	1445	42011	9813	155000	145	7.80	17.0	--	--
21...	0530	42011	9813	170000	120	7.50	15.0	--	--
21...	0915	42011	9813	175000	125	7.60	16.0	--	--
22...	0900	42011	9813	186000	130	7.40	17.0	--	--
23...	1200	42011	9813	127000	150	7.20	22.0	--	--
24...	1230	42011	9813	93400	160	7.10	21.0	--	--
26...	0900	42011	9813	76400	--	7.80	19.0	--	--
JUN 02...	1250	42011	9813	25500	210	8.20	23.0	--	--
21...	0900	42011	9813	8790	--	--	26.5	--	--
JUL 11...	0915	42011	9813	4470	360	8.30	27.0	--	--
29...	0945	1028	80020	12800	350	8.40	26.0	0.390	0.010
AUG 18...	1410	42011	9813	4120	350	9.00	29.0	--	--
29...	1045	1028	80020	5200	360	8.20	19.5	0.070	0.030
30...	0900	42011	9813	6000	--	--	--	--	--
30...	1530	42011	9813	6000	--	--	--	--	--
31...	1105	42011	9813	33300	--	--	--	--	--
SEP 16...	1315	42011	9813	8660	330	9.00	20.0	--	--

(<) Actual value is known to be less than the value shown.

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)
OCT									
14...	1.66	--	0.030	0.030	0.43	0.11	0.46	0.14	2.1
NOV									
04...	--	0.980	0.030	0.030	0.27	--	0.30	--	--
17...	1.52	--	0.020	0.020	0.48	0.33	0.50	0.35	2.0
DEC									
15...	1.44	--	0.020	0.020	0.24	0.24	0.26	0.26	1.7
FEB									
04...	1.22	--	0.120	0.120	0.76	0.40	0.88	0.52	2.1
04...	1.34	--	0.120	0.180	0.66	0.54	0.78	0.72	2.1
05...	1.40	--	0.140	0.140	0.60	0.16	0.74	0.30	2.1
06...	1.50	--	0.100	0.090	0.38	0.06	0.48	0.15	2.0
07...	1.64	--	0.120[a]	0.150[a]	0.28	0.23	0.40	0.38	2.0
08...	1.72	--	0.090	0.090	0.21	0.17	0.30	0.26	2.0
09...	1.62	--	0.060[a]	0.080[a]	0.30	0.28	0.36	0.36	2.0
12...	1.66	--	0.070	0.070	0.25	0.19	0.32	0.26	2.0
17...	1.82	--	0.080	0.080	0.18	0.08	0.26	0.16	2.1
17...	--	1.60	0.100	0.080	0.50	--	0.60	--	--
17...	1.70	--	0.090	0.090	0.11	0.09	0.20	0.18	1.9
MAR									
17...	1.30	--	0.040	0.040	--	--	<0.20	<0.20	--
APR									
12...	1.16	--	0.030	0.030	0.21	--	0.24	<0.20	1.4
12...	--	1.20	0.020[a]	0.030[a]	0.38	--	0.40	--	--
MAY									
18...	0.860	--	0.040	0.040	0.55	0.53	0.59	0.57	1.5
18...	0.860	--	0.040	0.030	0.36	0.37	0.40	0.40	1.3
19...	1.08	--	0.060	0.040	0.83	0.55	0.89	0.59	2.0
20...	1.52	--	0.150[a]	0.170[a]	2.5	1.2	2.7	1.4	4.2
20...	--	1.50	0.080	0.080	0.42	--	0.50	--	--
20...	1.40	--	0.020	0.020	1.6	0.50	1.7	0.52	3.1
21...	1.18	--	<0.010	<0.010	--	--	1.3	0.37	2.5
21...	1.18	--	0.020	0.020	1.1	0.52	1.1	0.54	2.3
22...	1.04	--	<0.010	<0.010	--	--	0.96	0.59	2.0
23...	1.06	--	0.100	0.060	--	--	<0.20	<0.20	--
24...	1.14	--	0.060	0.060	--	--	<0.20	<0.20	--
26...	1.16	--	0.040	0.040	--	--	<0.20	<0.20	--
JUN									
02...	0.960	--	0.020	0.020	--	--	<0.20	<0.20	--
21...	0.680	--	0.030	0.030	0.43	--	0.46	<0.20	1.1
JUL									
11...	0.520	--	0.050	0.050	0.29[a]	0.34[a]	0.34[a]	0.39[a]	0.86
29...	--	0.400	0.010	0.010	1.1	--	1.1	--	--
AUG									
18...	0.280	--	0.020[a]	0.040[a]	0.56	0.24	0.58	0.28	0.86
29...	--	0.100	0.010[a]	0.030[a]	0.79	--	0.80	--	--
30...	0.480	--	<0.020	<0.020	--	--	0.52	0.23	1.0
30...	0.400	--	0.020	0.020	0.39	0.19	0.41	0.21	0.81
31...	0.340	--	0.030	0.030	0.91	0.65	0.94	0.68	1.3
SEP									
16...	1.04	--	0.040	0.040	0.47	0.22	0.51	0.26	1.5

(<) Actual value is known to be less than the value shown.
(a) Results within limits of analytical precision.

01570500 SUSQUEHANNA RIVER AT HARRISBURG, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORTHO, DIS-SOLVED (MG/L AS P)	PHOS-PHOROUS ORGANIC TOTAL (MG/L AS P)	PHOS-PHOROUS ORGANIC DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT									
14...	0.040	0.020	0.011	0.04	0.01	2.5	12	531	--
NOV									
04...	0.030	0.010	<0.010	0.03	0.01	--	13	670	72
17...	0.040	0.020	0.005	0.04	0.01	1.8	16	804	--
DEC									
15...	0.060	0.060	0.023	0.06	0.04	2.3	7	507	--
FEB									
04...	0.360	0.030	<0.002	0.36	0.03	3.8	211	89400	--
04...	0.350	0.040	<0.002	0.35	0.04	3.6	238	99000	--
05...	0.210	0.030	0.015	0.21	0.01	3.2	158	59300	--
06...	0.120	0.040	0.005	0.12	0.03	2.3	68	18200	--
07...	0.090	0.030	0.006	0.09	0.02	2.2	32	6450	--
08...	0.080	0.030	0.007	0.08	0.02	2.0	24	3890	--
09...	0.040	0.020	0.006	0.04	0.01	1.7	23	3110	--
12...	0.070	0.030	0.004	0.07	0.03	1.9	24	2590	--
17...	0.060	0.030	0.008	0.06	0.02	1.8	21	1470	--
17...	0.070	0.030	0.020	0.07	0.01	--	20	1400	94
17...	0.090	0.040	0.008	0.09	0.03	1.6	20	1400	--
MAR									
17...	0.060	0.020	0.003	0.06	0.02	1.9	17	2400	--
APR									
12...	0.070	0.040	<0.002	0.07	0.04	2.2	17	1740	--
12...	0.050	0.020	0.010	0.05	0.01	--	20	2050	86
MAY									
18...	0.120	0.030	0.004	0.12	0.03	2.3	21	1510	--
18...	0.120	0.050	0.005	0.12	0.04	2.3	21	1540	--
19...	0.260	0.060	0.004	0.26	0.06	3.6	107	13000	--
20...	0.140	0.050	0.008	0.14	0.04	4.9	308	112000	--
20...	0.160	0.020	<0.010	0.16	0.02	--	270	106000	86
20...	0.110	0.050	0.006	0.11	0.04	4.7	235	98300	--
21...	0.110	0.040	0.006	0.11	0.03	4.1	397	182000	--
21...	0.190	0.020	0.005	0.19	0.01	3.8	150	70900	--
22...	0.190	0.140	0.004	0.19	0.14	3.7	138	69300	--
23...	0.050	0.030	0.004	0.05	0.03	3.4	129	44200	--
24...	0.150	0.020	0.007	0.15	0.01	2.8	75	18900	--
26...	0.140	0.030	0.003	0.14	0.03	2.8	60	12400	--
JUN									
02...	0.100	0.020	0.002	0.10	0.02	2.9	22	1510	--
21...	0.060	0.020	0.005	0.06	0.01	3.1	9	214	--
JUL									
11...	0.060	0.060	0.008	0.06	0.05	3.5	15	181	--
29...	0.090	0.020	<0.010	0.09	0.02	--	13	449	92
AUG									
18...	0.080	0.020	0.003	0.08	0.02	5.7	15	167	--
29...	0.060	0.020	<0.010	0.06	0.02	--	14	197	91
30...	0.070	0.030	0.002	0.07	0.03	4.2	12	194	--
30...	0.070	0.020	0.002	0.07	0.02	4.2	12	194	--
31...	0.060	0.030	0.003	0.06	0.03	4.3	30	2700	--
SEP									
16...	0.070	0.040	0.003	0.07	0.04	4.1	11	257	--

RADIOCHEMICAL ANALYSIS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	AGENCY COL-LECTING SAMPLE (CODE NUMBER)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER)	STREAM-FLOW, INSTAN-TANEOUS (CFS)	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	GROSS ALPHA, DIS-SOLVED (µG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (µG/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)
MAY												
20...	1145	1028	80020	146000	1.8	<0.4	6.5	4.0	3.9	3.5	3.5	0.06

(<) Actual value is known to be less than the value shown.

01571000 PAXTON CREEK NEAR PENBROOK, PA

LOCATION.--Lat 40°18'30", long 76°51'00", Dauphin County, Hydrologic Unit 02050305, on right bank 90 ft upstream from bridge on North Progress Avenue (SR 3015), 0.3 mi north of Interstate Highway 81, 1.6 mi south of State Highway 39, and 2.0 mi north of Penbrook.

DRAINAGE AREA.--11.2 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1940 to September 1950. Annual maximum, water years 1974-84. October 1984 to September 1988 (discontinued as a continuous-record station; converted to a crest-stage partial-record station).

GAGE.--Water-stage recorder and crest-stage gage. Elevation of gage is 350 ft above National Geodetic Vertical Datum of 1929, from topographic map. Mar. 1, 1940, to Sept. 30, 1950, water-stage recorder at bridge 100 ft downstream at same datum.

REMARKS.--Records good except those below 1.0 ft^3/s and estimated daily discharges, which are fair.

AVERAGE DISCHARGE.--14 years (water years 1941-50, 1985-88), 14.6 ft^3/s, 17.70 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,600 ft^3/s, Sept. 26, 1975, gage height, 13.25 ft, from rating curve extended above 2,800 ft^3/s on basis of peak flow through culvert; minimum, 0.1 ft^3/s or less during summer months some years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 22, 1972, reached a stage of 13.45 ft, from floodmarks, discharge 3,300 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 400 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Oct. 27	2200	423	5.01	July 23	2300	443	5.06
Nov. 29	1500	1.000	6.04	July 26	1815	608	5.42
Jan. 20	0715	634	5.47	July 30	2330	525	5.25
Feb. 4	0530	408	4.97	Aug. 6	1900	1,450	6.65
May 19	0430	*1,970	*7.26				

Minimum discharge, 0.60 ft^3/s, July 16, gage height, 2.04 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.9	6.0	58	10	41	8.5	5.8	7.0	7.5	1.2	7.9	3.4
2	3.0	5.2	38	8.8	70	8.2	5.5	6.1	9.0	1.3	5.8	3.0
3	4.6	4.7	28	e8.2	39	14	5.5	5.5	6.5	1.2	4.7	2.6
4	3.7	4.6	28	e8.0	130	57	5.8	5.6	5.9	1.1	3.9	90
5	2.7	4.0	20	e7.4	45	34	5.1	22	5.3	1.1	3.5	21
6	2.6	3.2	15	e6.4	28	24	4.7	28	4.5	1.0	e30	11
7	17	3.0	13	e5.0	25	20	36	16	8.0	.96	e150	8.2
8	4.7	2.9	12	e4.5	17	16	20	12	5.6	.95	e30	6.4
9	3.2	3.5	12	e4.0	14	15	14	11	21	2.0	e7.0	5.3
10	2.8	11	11	e3.5	13	14	12	19	6.5	1.7	e6.2	4.7
11	3.7	12	10	e3.2	12	12	11	14	5.1	1.0	e5.8	3.7
12	3.3	16	9.7	e3.4	e11	11	9.7	9.4	4.3	1.1	e5.8	3.4
13	2.6	22	8.6	e3.7	e10	12	8.9	9.3	3.7	1.1	e6.2	16
14	2.4	30	8.0	e3.5	e10	10	8.1	9.2	3.2	.89	e7.4	5.1
15	2.3	24	30	e3.4	e12	9.3	7.6	7.1	2.8	.79	e6.0	3.4
16	2.3	19	18	e3.7	38	8.3	7.0	9.2	2.6	.64	e5.4	2.9
17	2.2	24	13	e4.5	21	7.9	6.7	11	2.6	2.5	e5.2	5.8
18	2.2	38	11	29	17	7.8	10	86	2.4	1.9	e6.0	5.2
19	3.9	19	11	13	54	7.7	8.3	644	2.3	.96	e8.0	3.7
20	3.3	16	30	187	80	7.9	6.7	103	2.9	35	23	3.2
21	4.3	13	17	35	31	6.8	6.1	67	2.0	6.6	7.5	2.9
22	3.0	11	14	22	21	6.0	5.5	40	1.9	2.7	4.3	2.3
23	2.5	10	13	16	19	5.8	5.4	29	1.7	68	6.3	2.2
24	2.3	9.5	12	14	15	5.8	7.0	49	1.5	30	22	2.1
25	2.1	8.6	16	15	13	5.5	5.4	34	1.5	6.6	6.5	3.4
26	2.3	8.0	19	18	11	16	4.8	20	1.5	83	4.6	2.3
27	60	7.2	13	15	11	9.0	9.4	15	1.4	21	3.9	1.9
28	40	7.4	13	12	10	7.3	9.5	13	1.3	9.6	3.3	1.7
29	12	339	14	9.5	9.6	6.8	8.0	11	1.4	7.0	22	1.6
30	9.0	125	11	8.8	---	6.5	9.4	9.9	1.2	23	8.1	1.7
31	7.1	---	10	11	---	6.0	---	8.6	---	35	4.6	---
TOTAL	221.0	806.8	536.3	496.5	827.6	386.1	268.9	1330.9	127.1	350.89	420.9	230.1
MEAN	7.13	26.9	17.3	16.0	28.5	12.5	8.96	42.9	4.24	11.3	13.6	7.67
MAX	60	339	58	187	130	57	36	644	21	83	150	90
MIN	2.1	2.9	8.0	3.2	9.6	5.5	4.7	5.5	1.2	.64	3.3	1.6
CFSM	.64	2.40	1.54	1.43	2.55	1.11	.80	3.83	.38	1.01	1.21	.68
IN.	.73	2.68	1.78	1.65	2.75	1.28	.89	4.42	.42	1.17	1.40	.76

CAL YR 1987 TOTAL 5673.27 MEAN 15.5 MAX 598 MIN .56 CFSM 1.39 IN. 18.84
WTR YR 1988 TOTAL 6003.09 MEAN 16.4 MAX 644 MIN .64 CFSM 1.46 IN. 19.94

e Estimated

01571000 PAXTON CREEK NEAR PENBROOK, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966, 1985 to September 1988 (discontinued).

INSTRUMENTATION.--Automatic pumping sampler since June 1985.

COOPERATION.--Water-quality samples collected by Susquehanna River Basin Commission and analyzed by the Pa. Department of Environmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE FIELD (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NO2+NO3 TOTAL (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, ORGANIC DIS-SOLVED (MG/L AS N)
OCT										
14...	1510	2.1	395	7.90	11.0	0.580	0.040	0.030	0.32	0.29
27...	1610	6.5	330	7.60	--	0.880	0.020	0.020	0.76	0.52
27...	1900	43	281	7.50	--	0.340	0.070	0.030	2.0	0.39
27...	2100	321	171	7.60	--	0.540	0.120	0.030	3.8	0.51
27...	2200	404	146	7.70	--	0.640	0.110	0.070	2.8	0.39
27...	2300	318	144	7.60	--	0.680	0.090	0.070	1.9	0.43
28...	0130	112	170	7.70	--	0.860	0.120	0.040	1.4	0.58
28...	0430	56	205	7.80	--	1.00	0.070	0.070	1.2	0.55
28...	1510	21	286	7.60	--	1.24	0.040	0.020	0.94	0.42
NOV										
17...	1016	16	323	7.50	11.5	1.24	0.020	0.010	0.45	0.36
29...	0815	32	311	7.80	--	0.800	0.020	0.010	0.23	0.18
29...	1040	110	302	7.50	--	0.760	0.030	0.020	0.82	0.19
29...	1150	121	209	7.40	--	0.620	0.060	0.020	1.2	0.19
29...	1320	286	177	7.40	--	0.620	0.100	0.040	3.4	0.34
29...	1450	957	131	7.50	--	0.640	0.140	0.040	3.0	0.38
29...	1600	865	132	7.70	--	0.840	0.200	--	--	--
29...	2150	792	138	7.80	--	0.860	0.100	0.040	1.1	0.32
30...	0805	127	217	7.70	--	1.56	0.040	0.030	0.36	0.33
DEC										
01...	1015	61	236	7.90	--	1.78	0.040	0.020	0.26	0.22
03...	1125	30	252	7.80	--	1.80	0.010	0.010	0.24	0.18
21...	1015	16	260	8.20	5.0	1.22	0.020	0.020	0.25	0.20
JAN										
27...	0930	20	370	7.80	2.0	1.40	0.045	0.035	0.40	0.36
FEB										
01...	1410	91	406	7.85	--	0.940	0.080	0.040	0.60	0.44
01...	1520	104	365	7.40	--	0.860	0.060	0.060	0.98	0.32
01...	1820	76	260	7.50	--	0.720	0.080	0.060	0.47	0.37
01...	2120	44	257	7.60	--	0.820	0.070	0.060	0.39	0.32
02...	0150	32	311	7.50	--	1.04	0.070	0.040	0.45	0.26
02...	0835	30	369	7.40	--	1.28	0.040	0.030	0.22	0.17
02...	1050	94	333	7.50	--	1.28	0.080	0.050	0.34	0.23
02...	1200	152	321	7.50	--	1.12	0.120	0.060	0.43	0.16
02...	1220	146	338	7.60	--	1.08	0.140	0.050	0.46	0.23
02...	1335	120	285	7.20	--	0.880	0.090	0.040	0.91	0.48
02...	1610	113	271	7.10	--	0.940	0.060	0.030	0.58	0.33
02...	2040	79	298	7.30	--	1.06	0.060	0.040	0.50	0.28
03...	1300	39	341	7.40	--	1.56	0.010	<0.010	0.27	--
04...	0420	150	281	7.30	--	1.32	0.090	0.020	0.63	0.16
04...	0550	389	233	7.40	--	0.900	0.180	0.020	1.6	0.24
04...	0720	261	182	7.30	--	0.780	0.130	0.020	0.67	0.28
04...	0850	258	202	7.40	--	0.880	0.070	0.020	0.75	0.26
04...	1110	150	210	7.30	--	0.980	0.050	0.030	0.37	0.29
04...	1350	106	249	7.30	--	1.30	0.020	0.010	0.36	0.27
04...	1950	74	279	7.40	--	1.48	0.020	0.020	0.44	0.30
04...	2240	64	278	7.10	--	1.76	0.020	0.020	0.24	0.16
17...	1205	16	257	7.90	6.5	1.16	0.020	0.020	0.14	0.12
MAR										
09...	1310	14	--	--	--	1.36	<0.010	<0.010	--	--
17...	0945	8.0	265	8.40	4.0	0.960	0.010	0.010	0.59	0.39
APR										
01...	0950	5.8	--	--	--	0.640	0.010	<0.010	0.31	--
12...	1125	9.7	290	8.30	10.5	0.740	0.010	0.010	--	--
MAY										
05...	1600	22	265	8.50	--	0.600	<0.010	<0.010	--	--
05...	1730	37	263	8.20	--	0.600	<0.010	<0.010	--	--
05...	1900	45	282	8.10	--	0.660	0.030	0.030	1.2	--
05...	2030	61	240	8.10	--	0.720	0.020	0.020	1.3	--
05...	2200	74	215	8.00	--	0.680	0.030	0.030	1.3	--
05...	2330	58	198	8.00	--	0.680	0.020	0.020	1.2	0.76
06...	0130	39	205	8.00	--	0.700	0.020	0.020	1.2	0.73
06...	0400	28	210	8.00	--	0.720	0.020	0.020	1.1	--
06...	0630	21	234	8.00	--	0.760	0.020	0.020	0.76	--
06...	1600	44	270	8.20	--	0.840	0.040	0.040	0.70	--
06...	2115	30	261	8.20	--	0.780	0.040	0.040	0.81	--
07...	0230	20	270	8.10	--	0.800	0.040	0.040	--	--
07...	1830	14	305	8.50	--	0.820	0.020	0.020	--	--
JUN										
21...	1105	2.1	400	8.30	23.0	0.760	0.040	0.040	0.18	--
JUL							[a]	[a]		
11...	1230	0.98	410	8.60	26.5	0.580	0.020	0.040	0.37	0.16
23...	1000	2.1	--	--	--	1.20	0.030	0.030	0.35	0.17
23...	1815	79	--	--	--	1.14	0.020	0.020	1.5	--
23...	1945	233	--	--	--	1.32	0.040	0.020	2.3	0.28
23...	2115	238	--	--	--	1.44	0.040	0.040	2.0	0.91
23...	2245	389	--	--	--	1.32	0.030	0.030	2.5	1.0
24...	0015	209	--	--	--	1.38	0.060	0.060	1.8	0.56
24...	0145	92	--	--	--	1.32	0.060	0.060	1.3	0.58
24...	0345	48	--	--	--	1.56	0.060	0.060	1.2	0.94
									[a]	[a]
24...	0615	30	--	--	--	1.80	0.070	0.070	0.98	1.2
24...	0845	20	--	--	--	1.92	0.070	0.060	0.55	0.30
24...	1200	14	--	--	--	2.28	0.060	0.060	0.53	0.38
24...	1820	10	--	--	--	2.28	0.060	0.060	--	1.1
AUG										
17...	1315	2.3	415	8.20	25.0	0.660	[a] 0.020	[a] 0.030	--	--
SEP										
29...	1020	1.7	390	8.30	16.0	0.500	0.040	0.040	--	--

(a) Results within limits of analytical precisison.

(<) Actual value is known to be less than the value shown.

01571000 PAXTON CREEK NEAR PENBROOK, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT									
14...	0.36	0.32	0.94	0.020	<0.020	0.009	8.1	7	0.04
27...	0.78	0.54	1.7	0.080	0.040	0.015	3.3	21	0.37
27...	2.0	0.42	2.4	0.330	0.050	0.014	4.1	275	32
27...	3.9	0.54	4.5	0.530	0.060	0.010	6.4	530	459
27...	3.0	0.46	3.6	0.390	0.070	0.029	6.5	525	573
27...	2.0	0.50	2.7	0.360	0.080	0.022	11	361	310
28...	1.5	0.62	2.4	0.250	0.080	0.038	8.4	150	45
28...	1.3	0.62	2.3	0.170	0.070	0.015	11	90	14
28...	0.98	0.44	2.2	0.100	0.040	0.008	4.5	24	1.4
NOV									
17...	0.47	0.37	1.7	0.030	0.020	0.006	2.3	18	0.78
29...	0.25	0.19	1.0	0.060	0.030	0.007	1.6	23	2.0
29...	0.85	0.21	1.6	0.120	0.020	0.005	4.7	126	37
29...	1.2	0.21	1.9	0.200	0.040	0.012	5.0	274	90
29...	3.5	0.38	4.2	0.660	0.040	0.017	5.8	922	712
29...	3.1	0.42	3.8	0.590	0.050	0.023	9.7	914	2360
29...	--	--	--	0.420	--	--	--	723	1690
29...	1.2	0.36	2.1	0.340	0.060	0.034	7.1	344	736
30...	0.40	0.36	2.0	0.090	0.040	0.017	3.6	38	13
DEC									
01...	0.30	0.24	2.1	0.050	0.040	0.012	1.3	15	2.5
03...	0.25	0.19	2.0	0.060	0.030	0.017	1.1	6	0.49
21...	0.27	0.22	1.5	0.060	0.060	<0.001	13	29	1.3
JAN				[a]	[a]				
27...	0.45	0.40	1.9	0.040	0.070	0.010	2.5	7	0.38
FEB									
01...	0.68	0.48	1.6	0.220	0.040	0.009	5.1	147	36
01...	1.0	0.38	1.9	0.220	0.040	0.002	11	213	60
01...	0.55	0.43	1.3	0.240	0.040	0.008	8.3	167	34
01...	0.46	0.38	1.3	0.200	0.040	0.005	6.5	90	11
02...	0.52	0.30	1.6	0.160	0.040	0.011	5.6	44	3.8
02...	0.26	0.20	1.5	0.110	0.030	0.007	4.0	21	1.7
02...	0.42	0.28	1.7	0.250	0.040	0.010	5.0	229	58
02...	0.55	0.22	1.7	0.370	0.030	0.006	5.9	489	201
02...	0.60	0.28	1.7	0.350	0.040	0.004	8.9	369	145
02...	1.0	0.52	1.9	0.110	0.040	0.012	6.6	373	121
02...	0.64	0.36	1.6	0.080	0.030	0.006	5.9	155	47
02...	0.56	0.32	1.6	0.060	0.030	0.005	5.4	72	15
03...	0.28	0.18	1.8	0.020	0.020	0.008	2.6	17	1.8
04...	0.72	0.18	2.0	0.130	0.030	0.006	3.8	680	275
04...	1.7	0.26	2.6	0.200	0.030	0.004	5.4	1520	1600
04...	0.80	0.30	1.6	0.160	0.040	0.008	5.8	778	548
04...	0.82	0.28	1.7	0.100	0.030	0.020	5.2	325	226
04...	0.42	0.32	1.4	0.080	0.030	0.009	5.4	190	77
04...	0.38	0.28	1.7	0.050	0.030	0.007	4.4	69	20
04...	0.46	0.32	1.9	0.040	0.020	0.006	3.7	45	9.0
04...	0.26	0.18	2.0	0.040	0.030	0.012	3.0	25	4.3
17...	0.16	0.14	1.3	0.040	0.030	0.003	2.8	10	0.43
MAR									
09...	0.20	0.20	1.6	<0.020	<0.020	0.002	2.2	4	0.15
17...	0.60	0.40	1.6	0.020	0.020	0.005	2.0	6	0.13
APR									
01...	0.32	0.32	0.96	0.150	0.050	0.003	2.2	3	0.05
12...	<0.20	<0.20	--	0.030	0.020	0.002	2.1	6	0.16
MAY									
05...	0.91	<0.20	1.5	0.100	0.030	0.006	3.3	88	5.2
05...	1.1	<0.20	1.7	0.100	0.020	0.006	3.1	65	6.5
05...	1.2	<0.20	1.8	0.110	0.030	0.003	3.5	97	12
05...	1.3	<0.20	2.0	0.160	0.020	0.003	4.8	161	27
05...	1.3	<0.20	2.0	0.170	0.020	0.002	5.7	207	41
05...	1.3	0.78	1.9	0.150	0.030	0.005	6.3	138	22
06...	1.2	0.75	2.0	0.140	0.030	0.007	6.7	116	12
06...	1.1	<0.20	1.8	0.110	0.030	0.006	6.7	81	6.1
06...	0.78	<0.20	1.5	0.070	0.030	0.004	6.1	46	2.6
06...	0.74	<0.20	1.6	0.070	0.030	0.005	4.3	39	4.6
06...	0.85	<0.20	1.6	0.070	0.020	0.003	5.1	39	3.2
07...	<0.20	<0.20	--	0.060	0.030	0.003	5.1	30	1.6
07...	<0.20	<0.20	--	0.040	0.030	0.006	3.4	11	0.42
JUN									
21...	0.22	<0.20	0.98	0.040	0.030	0.009	3.4	4	0.02
JUL									
11...	0.39	0.20	0.97	0.040	0.030	0.006	3.3	10	0.03
23...	0.38	0.20	1.6	0.060	0.030	0.016	4.5	38	0.22
23...	1.5	<0.20	2.7	0.240	0.030	0.007	5.9	312	67
23...	2.4	0.30	3.7	0.380	0.040	0.007	8.7	1070	673
23...	2.0	0.95	3.4	0.320	0.060	0.015	9.5	683	439
23...	2.6	1.1	3.9	0.210	0.070	0.014	9.0	679	713
24...	1.8	0.62	3.2	0.260	0.070	0.034	8.7	446	252
24...	1.4	0.64	2.7	0.170	0.060	0.036	8.7	231	57
24...	1.2	1.0	2.8	0.160	0.060	0.030	8.3	144	19
	[a]	[a]							
24...	1.0	1.3	2.8	0.140	0.060	0.025	8.1	106	8.6
24...	0.62	0.36	2.5	0.120	0.050	0.023	7.2	87	4.7
24...	0.59	0.44	2.9	0.120	0.050	0.009	6.7	58	2.2
24...	--	1.2	--	0.100	0.050	0.017	5.6	26	0.70
AUG									
17...	<0.20	<0.20	--	0.040	0.020	0.004	3.1	1	0.01
SEP									
29...	<0.20	<0.20	--	0.030	0.030	0.011	2.8	3	0.01

(a) Results within limits of analytical precision.

(<) Actual value is known to be less than the value shown.

01571500 YELLOW BREECHES CREEK NEAR CAMP HILL, PA

LOCATION.--Lat 40°13'29", long 76°53'54", Cumberland County, Hydrologic Unit 02050305, on left bank 50 ft downstream from single-span highway bridge, 150 ft downstream from Olmsted Mill dam, 1.0 mi southeast of Camp Hill, and 3.1 mi upstream from mouth.

DRAINAGE AREA.--216 mi^2.

PERIOD OF RECORD.--April 1909 to December 1919, June 1954 to current year. Monthly discharge only for some periods published in WSP 1302. Prior to June 1954, published as "at Olmsteds Mill".

REVISED RECORDS.--WSP 1302: 1910, 1912-13, 1914(M), 1916.

GAGE.--Water-stage recorder. Datum of gage is 307.49 ft above National Geodetic Vertical Datum of 1929. March 1909 to December 1919, nonrecording gage at site 50 ft upstream at same datum.

REMARKS.-- Records good except those for estimated daily discharges, which are fair. The Mechanicsburg Water Co. diverts water about 4 mi upstream from station, for municipal supply. Diversion for the year was equivalent to a mean daily discharge of 1.7 ft^3/s. Several measurements of water temperature were made during the year. National Weather Service satellite and landline telemeters at station.

AVERAGE DISCHARGE.--44 years (1909-1919, 1954-88), 290 ft^3/s, 18.23 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,300 ft^3/s, Sept. 26, 1975, gage height, 18.77 ft, from floodmarks; minimum, 23 ft^3/s, Sept. 12, 1966, gage height, 0.17 ft; minimum daily, 67 ft^3/s, Sept. 13, 1966.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 22, 1953, reached a stage of 9.4 ft, from floodmarks, discharge, 3,940 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,250 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	0345	*2,810	*7.62	May 21	1615	1,350	4.47

Minimum discharge, 85 ft^3/s, Aug. 17, gage height, 0.77 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	165	142	743	e190	375	284	210	195	332	136	124	103
2	146	147	556	e190	593	273	208	187	305	133	118	100
3	145	140	463	e170	624	285	206	182	286	135	112	96
4	163	137	436	e160	850	441	207	180	277	133	110	136
5	159	136	382	e150	705	583	205	205	268	126	109	168
6	158	134	330	e150	545	439	198	436	248	124	115	136
7	186	131	302	e160	456	383	257	573	237	124	206	123
8	168	129	301	e180	456	352	359	402	233	121	141	120
9	159	127	276	e190	394	341	279	350	269	121	118	118
10	161	150	267	e170	394	340	248	346	270	133	109	115
11	164	200	259	e160	366	320	232	375	232	124	109	113
12	158	180	247	e160	415	297	229	321	215	134	105	112
13	148	192	235	e170	378	284	224	290	203	134	107	130
14	145	220	221	e160	312	276	219	279	197	125	106	124
15	143	256	235	e150	339	283	215	258	191	114	101	117
16	145	237	288	e150	410	275	214	256	185	110	97	112
17	144	236	294	e160	350	265	212	289	186	113	95	117
18	141	357	244	e170	327	258	216	746	186	111	93	130
19	133	291	218	e190	346	263	228	1150	178	111	101	121
20	133	260	250	624	660	255	212	1220	179	156	107	119
21	140	238	257	530	494	248	205	1230	171	289	111	115
22	133	218	232	399	396	238	201	1000	163	173	105	115
23	129	209	219	336	375	232	200	753	161	170	104	113
24	129	202	210	299	350	229	210	907	151	203	111	107
25	129	197	219	291	326	224	208	749	150	150	114	115
26	124	194	253	297	312	274	196	590	150	134	107	117
27	153	184	241	251	311	270	202	502	142	127	101	116
28	313	189	229	234	305	236	247	450	140	125	99	111
29	208	936	239	229	296	223	218	413	140	123	112	108
30	165	1880	215	222	---	216	206	376	139	128	124	109
31	152	---	207	259	---	212	---	357	---	152	113	---
TOTAL	4839	8249	9068	7151	12460	9099	6671	15567	6184	4292	3484	3536
MEAN	156	275	293	231	430	294	222	502	206	138	112	118
MAX	313	1880	743	624	850	583	359	1230	332	289	206	168
MIN	124	127	207	150	296	212	196	180	139	110	93	96
CFSM	.72	1.27	1.35	1.07	1.99	1.36	1.03	2.32	.95	.64	.52	.55
IN.	.83	1.42	1.56	1.23	2.15	1.57	1.15	2.68	1.07	.74	.60	.61

CAL YR 1987 TOTAL 89155 MEAN 244 MAX 1880 MIN 94 CFSM 1.13 IN. 15.35
WTR YR 1988 TOTAL 90600 MEAN 248 MAX 1880 MIN 93 CFSM 1.15 IN. 15.60

e Estimated

01573000 SWATARA CREEK AT HARPER TAVERN, PA

LOCATION.--Lat 40°24'09", long 76°34'39", Lebanon County, Hydrologic Unit 02050305, on left bank 100 ft downstream from bridge on State Highway 934 at Harper Tavern, 6.0 mi northwest of Annville, and 8.5 mi downstream from Little Swatara Creek.

DRAINAGE AREA.--337 mi^2.

PERIOD OF RECORD.--January 1919 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1927, published as "at Harpers".

REVISED RECORDS.--WSP 1202: 1948. WSP 1302: 1920(M), 1921, 1924-25(M), 1927-28(M), 1930(M). WSP 1903: Drainage area. WDR PA-85-2: 1984(P).

GAGE.--Water-stage recorder. Datum of gage is 356.68 ft above National Geodetic Vertical Datum of 1929. Prior to July 16, 1931, nonrecording gage at same site and datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. The Pa. American Water Co. diverts water upstream from station for municipal supply of city of Lebanon. Diversion for the year was equivalent to a mean daily discharge of 9.9 ft^3/s. Several measurements of water temperature were made during the year. National Weather Service satellite and landline telemeter at station.

AVERAGE DISCHARGE.--69 years, 568 ft^3/s, 22.89 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 66,700 ft^3/s, June 23, 1972, gage height, 23.72 ft, from floodmark mark in gage shelter, from rating curve extended above 25,000 ft^3/s on basis of slope-area measurement of peak flow; minimum, 6.0 ft^3/s, Aug. 21, 1965, gage height, -0.10 ft; minimum observed gage height, -0.32 ft, Sept. 24, 1980.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1889, reached a stage of 25.6 ft, from floodmark, discharge, 88,000 ft^3/s, from rating curve extended as explained above.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 4,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	0630	5,290	7.65	Feb. 2	2015	5,170	7.55
Jan. 20	1730	5,560	7.89	May 20	0415	*11,400	*11.93

Minimum discharge, 51 ft^3/s, July 16, 17, gage height, -0.07 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	278	250	1970	398	555	443	373	269	404	76	341	106
2	239	230	1350	361	3100	413	359	245	443	72	250	91
3	225	216	1010	281	2300	466	342	233	376	70	206	83
4	247	207	892	e320	2780	1070	338	238	338	71	173	723
5	214	200	760	e250	1600	1650	321	299	311	67	153	1330
6	196	184	632	e180	1020	1010	e299	511	277	64	138	474
7	313	168	547	e200	791	844	369	496	254	60	138	304
8	285	164	493	e240	e700	748	507	394	239	57	121	232
9	213	165	464	e260	624	690	406	353	310	55	103	198
10	193	211	456	e270	559	e705	344	344	374	104	92	175
11	194	334	420	e220	503	625	315	403	254	72	86	148
12	210	e309	396	e240	598	562	297	342	217	61	82	126
13	188	407	370	e260	548	552	295	303	198	66	82	202
14	165	485	331	e250	461	520	284	320	180	57	89	278
15	157	595	486	e220	510	471	277	284	167	e52	75	160
16	151	561	987	e200	1220	430	275	273	153	e51	66	127
17	146	532	624	e250	995	403	264	284	149	58	57	121
18	142	1040	523	421	840	381	255	781	117	82	56	154
19	139	870	480	757	913	383	296	5670	141	85	69	148
20	138	706	616	3660	2570	364	254	7950	181	95	79	123
21	146	593	658	3550	1460	339	235	2630	143	189	78	116
22	152	464	522	1410	836	310	219	1750	125	157	68	105
23	142	436	488	785	761	296	207	1340	116	181	60	95
24	134	405	455	559	695	291	217	1170	108	1100	232	95
25	129	375	459	e460	594	285	206	1170	99	389	237	102
26	126	345	529	e450	504	563	187	937	96	1000	120	101
27	172	317	476	e390	481	726	190	732	92	1920	89	85
28	927	293	424	e350	462	511	379	629	88	749	80	78
29	512	904	422	e320	448	448	312	561	83	686	124	73
30	e344	4020	308	e340	---	421	293	495	79	420	303	70
31	286	---	341	e360	---	397	---	444	---	475	157	---
TOTAL	7103	15986	18889	18212	29428	17317	8915	31850	6112	8641	4004	6223
MEAN	229	533	609	587	1015	559	297	1027	204	279	129	207
MAX	927	4020	1970	3660	3100	1650	507	7950	443	1920	341	1330
MIN	126	164	308	180	448	285	187	233	79	51	56	70
CFSM	.68	1.58	1.81	1.74	3.01	1.66	.88	3.05	.60	.83	.38	.62
IN.	.78	1.76	2.09	2.01	3.25	1.91	.98	3.52	.67	.95	.44	.69

CAL YR 1987 TOTAL 174835 MEAN 479 MAX 8850 MIN 37 CFSM 1.42 IN. 19.29
WTR YR 1988 TOTAL 172680 MEAN 472 MAX 7950 MIN 51 CFSM 1.40 IN. 19.06

e Estimated

01573160 QUITTAPAHILLA CREEK NEAR BELLEGROVE, PA

LOCATION.--Lat 40°20'34", long 76°33'46", Lebanon County, Hydrologic Unit 02050305, on right bank 210 ft downstream from bridge on SR 4008, 0.7 mi downstream from Killinger Creek, and 1.8 mi south of Bellegrove.

DRAINAGE AREA.--74.2 mi^2.

PERIOD OF RECORD.--October 1975 to current year.

GAGE.--Water-stage recorder. Datum of gage is 361.88 ft above National Geodetic Vertical Datum of 1929 (levels by Susquehanna River Basin Commission).

REMARKS.--Records fair. Slight regulation from Millard limestone quarry 0.7 mi upstream. Several measurements of water temperature were made during the year.

AVERAGE DISCHARGE.--12 years, 105 ft^3/s, 19.22 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,800 ft^3/s, Jan. 24, 1979, gage height, 13.27 ft, from rating curve extended above 1,900 ft^3/s; minimum, 28 ft^3/s, Oct. 26, 27, 28, 29, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,270 ft^3/s, July 27, gage height, 7.94 ft; minimum daily, 55 ft^3/s, Oct. 25, May 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	68	132	69	75	104	89	63	73	64	128	73
2	78	69	107	67	180	98	87	62	72	62	123	58
3	80	68	103	67	140	105	87	61	66	62	117	69
4	81	64	106	65	283	133	85	61	64	67	118	178
5	74	63	95	64	208	133	84	68	66	63	99	154
6	70	64	87	61	169	115	84	72	66	60	105	99
7	100	64	87	62	147	115	94	65	61	66	108	76
8	76	60	83	63	137	109	87	60	61	58	99	81
9	72	67	80	62	130	108	82	58	83	58	94	73
10	70	83	80	60	121	107	81	61	64	69	88	70
11	74	86	79	60	115	100	79	69	64	58	96	73
12	69	80	76	60	146	105	79	58	62	60	81	72
13	67	80	75	60	129	105	77	57	58	63	76	90
14	68	81	74	60	117	100	77	61	59	65	82	76
15	62	82	86	60	141	96	76	56	59	59	75	86
16	65	79	83	60	215	96	75	55	65	57	71	64
17	61	77	74	60	153	94	74	56	80	70	72	74
18	62	87	74	66	134	93	73	68	73	70	75	75
19	65	80	72	60	137	95	71	260	68	64	89	78
20	62	78	83	181	211	94	70	155	69	111	90	68
21	63	75	78	99	151	91	70	129	68	113	89	70
22	60	74	73	86	133	90	69	107	67	85	72	76
23	59	71	73	76	129	92	69	94	69	134	68	65
24	61	71	73	70	119	91	68	99	65	378	119	68
25	55	70	74	69	116	92	67	98	64	128	81	72
26	63	67	75	71	110	112	66	96	68	333	68	70
27	72	68	71	66	114	101	67	81	73	646	73	66
28	141	64	71	64	110	95	74	73	64	232	65	67
29	80	144	70	62	107	91	64	75	64	189	122	66
30	72	218	71	61	---	93	63	72	68	161	99	61
31	70	---	70	61	---	89	---	69	---	148	77	---
TOTAL	2231	2402	2535	2152	4177	3142	2288	2519	2003	3853	2819	2368
MEAN	72.0	80.1	81.8	69.4	144	101	76.3	81.3	66.8	124	90.9	78.9
MAX	141	218	132	181	283	133	94	260	83	646	128	178
MIN	55	60	70	60	75	89	63	55	58	57	65	58
CFSM	.97	1.08	1.10	.94	1.94	1.37	1.03	1.10	.90	1.68	1.23	1.06
IN.	1.12	1.20	1.27	1.08	2.09	1.58	1.15	1.26	1.00	1.93	1.41	1.19

CAL YR 1987 TOTAL 38150 MEAN 105 MAX 376 MIN 55 CFSM 1.41 IN. 19.13
WTR YR 1988 TOTAL 32489 MEAN 88.8 MAX 646 MIN 55 CFSM 1.20 IN. 16.29

01573560 SWATARA CREEK NEAR HERSHEY, PA

LOCATION.--Lat 40°17'54", long 76°40'05", Dauphin County, Hydrologic Unit 02050305, on left bank, 0.4 mi downstream from Manada Creek, 0.5 mi upstream from State Highway 39, and 1.5 mi northwest of Hershey.

DRAINAGE AREA.--483 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1975 to current year.

GAGE.--Water-stage recorder and gated concrete control. Datum of gage is 325.94 ft above National Geodetic Vertical Datum of 1929 (levels by Susquehanna River Basin Commission).

REMARKS.--Records good except those for estimated daily discharges, which are fair. Daily discharge adjusted during periods of diversion which occurred intermittently throughout the year. National Weather Service satellite and landline telemeters at station.

COOPERATION.--Records of daily diversion furnished by Hershey Chocolate Company.

AVERAGE DISCHARGE.--13 years, 777 ft^3/s, 21.85 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 29,400 ft^3/s, Sept. 27, 1975, gage height, 15.36 ft; minimum daily, 59 ft^3/s, Sept. 21, 24, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 6,900 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 20	1200	*10,600	*8.02	No other peak greater than base discharge.			

Minimum daily discharge, 84 ft^3/s, July 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	359	363	e2770	605	653	e641	513	384	555	133	503	205
2	329	335	e1890	456	2770	604	485	340	601	128	356	175
3	301	309	e1470	379	e3410	640	466	319	537	122	300	170
4	324	290	e1320	451	e3540	1300	455	326	471	127	277	740
5	300	277	e1150	339	e2470	2120	439	425	427	126	248	1850
6	273	262	926	249	1580	1420	407	821	393	118	296	778
7	424	248	786	317	1290	1190	556	807	359	110	297	472
8	510	234	699	347	1180	1060	791	630	344	102	248	367
9	343	240	633	356	1010	971	636	534	415	97	219	309
10	308	305	613	356	903	928	522	508	529	119	199	270
11	301	474	566	320	801	880	464	603	376	128	191	245
12	318	444	515	339	954	789	435	523	316	109	179	215
13	303	503	473	360	e900	785	416	441	287	107	171	273
14	272	714	421	313	e800	743	408	461	264	107	173	386
15	254	844	585	279	e760	651	391	422	248	96	160	270
16	249	816	1260	253	e1610	577	381	388	235	89	148	209
17	239	756	853	267	e1570	524	372	411	231	84	139	194
18	233	1250	676	421	e1280	495	358	856	226	120	133	232
19	224	1240	641	720	e1300	484	413	5400	217	122	153	242
20	223	1020	815	e2840	e3230	472	364	9360	245	122	190	210
21	224	838	964	e2190	e2060	437	338	3800	226	206	205	198
22	233	649	793	e1300	e1320	394	313	2520	192	166	164	188
23	221	588	719	e862	e1180	385	299	1960	183	193	150	173
24	218	551	679	e700	e1070	386	309	1750	165	1200	282	172
25	199	512	680	e600	e918	397	305	1680	148	525	415	182
26	196	470	787	e650	e773	e520	270	1490	144	1150	228	182
27	246	431	734	471	e722	e840	266	1170	156	3220	184	166
28	1240	396	633	426	e700	e670	479	1000	144	1340	164	153
29	812	e1570	621	421	e655	e590	467	893	137	1020	210	149
30	511	e5170	486	444	---	e570	417	796	138	648	433	143
31	413	---	409	442	---	e550	---	663	---	720	296	---
TOTAL	10600	22099	26567	18473	41409	23013	12735	41681	8909	12654	7311	9518
MEAN	342	737	857	596	1428	742	424	1345	297	408	236	317
MAX	1240	5170	2770	2840	3540	2120	791	9360	601	3220	503	1850
MIN	196	234	409	249	653	385	266	319	137	84	133	143
CFSM	.71	1.53	1.77	1.23	2.96	1.54	.88	2.78	.61	.85	.49	.66
IN.	.82	1.70	2.05	1.42	3.19	1.77	.98	3.21	.69	.97	.56	.73

CAL YR 1987 TOTAL 243756 MEAN 668 MAX 8050 MIN 70 CFSM 1.38 IN. 18.78
WTR YR 1988 TOTAL 234969 MEAN 642 MAX 9360 MIN 84 CFSM 1.33 IN. 18.10

e Estimated

01573560 SWATARA CREEK NEAR HERSHEY, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1985 to current year.

REMARKS.--Samples collected from bridge on State Highway 39.

COOPERATION.--Water-quality samples collected by Susquehanna River Basin Commission and analyzed by the Pa. Department of Environmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE FIELD (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NO2+NO3 TOTAL (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, ORGANIC DIS-SOLVED (MG/L AS N)
OCT										
14...	1115	273	334	7.30	10.0	4.18	0.040	0.030	0.36	0.33
28...	0100	888	300	7.00	9.0	3.30	0.030	0.020	[a] 0.49	[a] 0.50
28...	0515	1080	285	6.80	9.0	2.64	0.060	0.050	0.70	0.61
28...	0900	1030	270	6.70	10.0	2.86	0.080	0.060	0.96	0.57
28...	1430	1470	220	6.80	12.0	2.04	0.105	0.100	1.2	0.64
28...	1940	1410	230	6.70	11.0	2.40	0.210	0.210	1.7	0.89
29...	0930	811	210	6.50	9.0	2.16	0.060	0.060	1.1	0.72
30...	0930	490	225	6.50	7.0	2.64	0.020	0.020	0.80	0.53
NOV										
17...	1110	725	219	7.60	12.0	3.24	0.020	0.020	0.45	0.39
DEC										
15...	1130	458	220	6.50	5.0	3.36	[a] 0.080	[a] 0.100	0.46	0.12
15...	1730	699	235	8.40	5.0	3.24	0.100	0.100	0.40	0.34
16...	0800	1420	205	8.40	3.5	2.64	0.160	0.160	0.60	0.50
16...	1400	1330	200	8.40	4.0	2.76	0.200	0.200	0.80	0.52
17...	1230	837	260	8.20	5.0	2.76	[a] 0.150	[a] 0.180	0.55	0.48
21...	1100	953	200	7.80	4.5	3.36	[a] 0.090	[a] 0.100	0.71	0.50
JAN										
27...	1015	380	220	7.50	2.0	3.36	0.120	0.115	0.80	0.36
FEB										
04...	1115	3730	376	6.10	6.0	2.16	0.270	0.250	0.84	0.27
04...	1430	4460	175	7.70	5.0	2.28	0.250	0.240	0.47	0.42
05...	1025	2400	215	7.65	3.0	2.64	[a] 0.240	[a] 0.270	0.48	0.35
06...	1500	1580	223	7.20	4.0	3.24	0.160	0.160	0.26	0.24
07...	1425	1260	224	7.25	5.5	3.60	0.170	0.170	0.37	0.31
08...	1030	1120	224	7.60	5.5	3.60	0.330	0.300	0.21	0.06
17...	1100	1370	223	7.15	3.0	2.40	1.14	1.11	0.18	0.05
24...	0930	1080	222	8.00	3.5	3.30	0.130	0.130	0.37	0.15
MAR										
17...	1030	522	200	7.80	5.0	2.88	0.080	0.080	--	--
APR										
12...	1340	429	210	8.10	12.5	2.16	--	0.050	--	--
MAY										
05...	1200	338	255	7.70	14.0	2.28	<0.010	<0.010	--	--
18...	1115	863	230	7.40	17.0	1.96	0.040	0.040	0.58	0.43
18...	1350	1080	245	7.80	17.0	1.80	0.040	0.040	0.48	0.38
19...	1003	4920	133	7.40	15.5	1.52	0.130	0.100	3.3	0.46
19...	1315	6070	134	6.70	16.0	1.50	0.140	0.090	2.6	0.86
19...	2130	7950	107	6.80	15.0	2.28	0.210	0.170	2.9	0.98
20...	1130	10500	100	7.20	16.0	2.40	0.100	0.060	1.5	0.60
20...	1345	10600	120	7.40	16.0	2.40	0.080	0.070	1.2	0.81
21...	0640	4000	140	7.50	14.0	2.64	0.020	0.020	0.72	--
21...	0830	3810	140	7.70	15.0	2.64	0.040	0.020	[a] 0.72	[a] 0.74
22...	0830	2610	158	7.80	17.0	2.76	0.020	0.020	0.72	0.55
JUN										
21...	1330	210	340	8.20	24.0	3.12	0.040	0.030	0.34	0.19
JUL										
11...	1130	126	410	8.60	28.0	4.20	[a] 0.040	[a] 0.050	0.40	0.21
AUG										
17...	1330	141	460	8.80	27.0	5.72	0.210	0.200	1.4	1.1
SEP										
16...	1030	202	340	8.00	16.5	4.08	0.050	0.050	0.42	0.20

(a) Results within limits of analytical precision.
(<) Actual value is known to be less than the value shown.

01573560 SWATARA CREEK NEAR HERSHEY, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT									
14...	0.40	0.36	4.6	0.070	0.050	0.035	5.2	13	9.6
28...	0.52	0.52	3.8	0.070	0.040	0.010	2.9	25	60
28...	0.76	0.66	3.4	0.120	0.060	0.020	5.0	56	163
28...	1.0	0.63	3.9	0.170	0.080	0.037	5.2	57	159
28...	1.3	0.74	3.4	0.160	0.060	0.017	4.0	81	321
28...	1.9	1.1	4.3	0.180	0.060	0.016	6.8	73	278
29...	1.1	0.78	3.3	0.120	0.040	0.008	6.4	29	64
30...	0.82	0.55	3.5	0.060	0.040	0.012	4.7	8	11
NOV									
17...	0.47	0.41	3.7	0.050	0.030	0.008	2.9	8	16
DEC									
15...	0.54	0.22	3.9	0.060	0.030	0.001	<1.0	9	11
15...	0.50	0.44	3.7	0.060	0.020	0.006	<1.0	17	32
16...	0.76	0.66	3.4	0.170	0.060	0.002	2.3	53	203
16...	1.0	0.72	3.8	0.220	0.060	0.006	2.2	62	223
17...	0.70	0.66	3.5	0.260	0.230	0.122	2.8	22	50
21...	0.80	0.60	4.2	0.100	0.090	0.002	1.9	21	54
JAN									
27...	0.92	0.48	4.3	0.050	0.040	0.006	2.0	10	10
FEB									
04...	1.1	0.52	3.3	0.480	0.100	0.018	6.6	420	4230
04...	0.72	0.66	3.0	0.480	0.100	0.016	5.9	338	4070
05...	0.72	0.62	3.4	0.130	0.070	0.011	3.7	82	531
06...	0.42	0.40	3.7	0.060	0.030	0.006	1.7	34	145
07...	0.54	0.48	4.1	0.050	0.030	0.006	1.5	20	68
08...	0.54	0.36	4.1	0.050	0.030	0.004	1.4	26	79
17...	1.3	1.2	3.7	0.470	0.220	0.150	9.8	201	743
24...	0.50	0.28	3.8	0.080	0.050	0.026	1.8	15	44
MAR									
17...	<0.20	<0.20	--	0.040	0.030	0.005	1.8	4	5.6
APR									
12...	<0.20	<0.20	--	0.060	0.050	0.003	2.0	12	14
MAY									
05...	0.80	0.51	3.1	0.050	0.040	0.004	2.1	22	20
18...	0.62	0.47	2.6	0.120	0.040	0.005	2.3	19	44
18...	0.52	0.42	2.3	0.130	0.050	0.004	2.8	30	87
19...	3.5	0.56	5.0	0.750	0.070	0.008	7.4	720	9560
19...	2.7	0.95	4.2	0.570	0.070	0.006	7.2	587	9620
19...	3.1	1.2	5.4	0.690	0.050	0.005	7.5	618	13300
20...	1.6	0.66	4.0	0.130	0.050	0.004	5.3	256	7260
20...	1.3	0.88	3.7	0.170	0.070	0.004	5.0	245	7010
21...	0.74	<0.20	3.4	0.120	0.040	0.004	3.2	506	5460
21...	0.76	0.76	3.4	0.070	0.040	0.003	3.2	139	1430
22...	0.74	0.57	3.5	0.090	0.040	0.003	2.6	353	2490
JUN									
21...	0.38	0.22	3.5	0.060	0.030	0.004	2.7	13	7.4
JUL									
11...	0.44	0.26	4.6	0.090	0.050	0.018	3.0	19	6.5
AUG									
17...	1.6	1.3	7.3	0.070	0.050	0.003	6.6	8	3.0
SEP									
16...	0.47	0.25	4.5	0.100	0.070	0.032	3.1	10	5.5

(<) Actual value is known to be less than the value shown.

01573808 BRUSH RUN, SITE 1, NEAR McSHERRYSTOWN, PA

LOCATION.--Lat 39°49'06", long 77°06'26", Adams County, Hydrologic Unit 02050306, 5 ft upstream of private culvert, 15 ft upstream from Brush Run, Site 2, near McSherrystown (station 01573810), 1.0 mi upstream from small left-bank tributary, and 4.7 mi west of McSherrystown.

DRAINAGE AREA.--0.35 mi^2.

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (μS/CM)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 14...	1130	0.01	569	2.60	2.60	0.080	0.080	1.6
NOV 25...	1000	0.03	--	3.40	3.40	0.150	0.150	1.3
DEC 21...	1220	0.34	257	2.30	2.10	0.190	0.190	1.1
JAN 25...	0730	0.25	244	2.60	2.60	0.330	0.330	1.8
FEB 17...	1150	0.44	183	1.60	1.60	0.130	0.110	0.90
MAR 08...	1305	0.30	227	1.80	1.80	0.130	0.120	0.90
APR 05...	1420	0.13	276	0.110	0.110	0.040	0.040	1.4
MAY 03...	1400	0.18	190	0.100	<0.100	0.100	0.090	1.3
JUN 07...	1135	0.04	458	0.500	0.370	0.270	0.270	2.6
JUL 11...	0800	<0.01	--	<0.100	<0.100	0.070	0.070	0.03
AUG 15...	1315	0.04	--	0.330	0.330	3.00	3.00	2.7
SEP 07...	0930	0.05	--	0.140	0.140	0.100	0.100	1.3

DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 14...	1.6	4.2	0.250	0.200	0.160	11	0.00
NOV 25...	1.2	4.7	0.340	0.290	0.240	14	0.00
DEC 21...	0.90	3.4	0.360	0.200	0.160	6	0.01
JAN 25...	1.8	4.4	0.210	0.170	0.130	6	0.00
FEB 17...	0.80	2.5	0.150	0.130	0.100	7	0.01
MAR 08...	0.70	2.7	0.170	0.140	0.130	9	0.01
APR 05...	1.1	1.5	0.150	0.080	0.040	18	0.01
MAY 03...	1.1	1.4	0.120	0.080	0.050	16	0.01
JUN 07...	1.8	3.1	0.100	0.090	0.090	8	0.00
JUL 11...	0.30	--	0.020	0.020	0.020	--	--
AUG 15...	2.7	3.0	1.00	0.920	0.640	--	--
SEP 07...	1.3	1.4	0.340	0.310	0.270	9	0.00

(<) Actual value is known to be less than the value shown.

394906077062601 TILE DRAIN TO BRUSH RUN NEAR McSHERRYSTOWN, PA

LOCATION.--Lat 39°49'06", long 77°06'26", Adams County, Hydrologic Unit 02050306, on right bank, 1 ft upstream from private culvert, 11 ft above Brush Run, Site 2, near McSherrystown (station 01573810), 1.0 mi upstream from small left-bank tributary, and 4.7 mi west of McSherrystown.

DRAINAGE AREA.--Under pasture lands and croplands, unable to determine.

PERIOD OF RECORD.--Water years 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 14...	1115	<0.01	990	29.0	26.0	0.060	0.060	2.2
NOV 25...	0945	0.01	--	42.0	34.0	0.080	0.080	1.7
DEC 21...	1225	<0.01	1580	26.0	25.0	28.0	28.0	44
JAN 25...	0735	<0.01	1690	27.0	27.0	25.0	25.0	37
FEB 17...	1205	<0.01	1140	31.0	31.0	8.80	8.80	13
MAR 08...	1255	<0.01	1220	43.0	42.0	4.80	4.60	11
26...	0848	0.01	583	25.0	--	3.80	--	7.5
APR 05...	1432	<0.01	1260	35.0	35.0	1.40	1.40	4.0
MAY 03...	1350	0.01	12900	38.0	37.0	0.330	0.330	2.2
JUN 07...	1130	<0.01	1950	38.0	38.0	54.0	49.0	72
JUL 24...	0200	<0.01	--	1.50	--	0.930	--	13
AUG 24...	1300	<0.01	--	10.0	--	39.0	--	100
SEP 07...	0940	<0.01	--	0.620	0.620	150	130	230

DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, 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)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 14...	2.2	31	1.00	0.900	0.870	19	0.0
NOV 25...	1.7	44	0.410	0.370	0.320	3	0.0
DEC 21...	41	70	6.30	5.90	4.60	30	0.0
JAN 25...	32	64	6.00	6.00	3.80	14	0.0
FEB 17...	13	44	3.30	3.10	2.60	5	0.0
MAR 08...	7.3	54	1.90	1.90	1.20	8	0.0
26...	--	32	3.20	--	--	--	--
APR 05...	4.0	39	1.80	1.70	1.30	7	0.0
MAY 03...	2.2	40	0.980	0.940	0.830	9	0.0
JUN 07...	59	110	3.60	3.50	2.70	33	0.0
JUL 24...	--	14	1.60	--	--	--	--
AUG 24...	--	110	4.00	--	--	--	--
SEP 07...	150	230	8.50	8.20	6.30	170	0.0

(<) Actual value is known to be less than the value shown.

01573810 BRUSH RUN, SITE 2, NEAR McSHERRYSTOWN, PA

LOCATION.--Lat 39°49'06", long 77°06'26", Adams County, Hydrologic Unit 02050306, on right bank 10 ft downstream of private culvert, 700 ft downstream from Spook Lane (Township Route 485), 1.0 mi upstream from small left-bank tributary, and 4.7 mi west of McSherrystown.

DRAINAGE AREA.--0.38 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Water-stage recorder and wooden control. Elevation of gage is 600 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 170 ft^3/s, Aug. 16, 1986, gage height, 3.52 ft, from rating curve extended above 40 ft^3/s on basis of computation of peak flow through culvert and over road; no flow at times each year.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 60 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 29	1315	*128	*3.27	No other peak greater than base discharge.			

No flow many days during the year.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.03	.53	e.03	6.9	.18	.16	.26	.10	.00	.11	.08
2	.01	.03	.25	e.01	3.9	.17	.13	.23	.10	.00	.10	.07
3	.05	.02	.14	e.01	1.2	.56	.13	.18	.07	.00	.03	.06
4	.03	.02	.32	e.00	3.9	5.1	.15	.18	.07	.00	.00	.53
5	.01	.02	.17	e.00	.55	.98	.12	.48	.05	.00	.00	.17
6	.01	.01	.08	e.00	.21	.57	.11	6.2	.03	.00	1.0	.08
7	.09	.01	.04	e.00	.09	.44	.45	1.1	.00	.00	.14	.06
8	.02	.00	.04	e.00	.07	.31	.59	.45	.00	.00	.09	.05
9	.01	.01	.04	e.00	.06	.28	.44	.29	.00	.00	.07	.00
10	.01	1.4	.05	e.00	.09	.28	.32	.31	.04	.00	.06	.00
11	.03	.55	.05	e.00	.08	.18	.25	.66	.03	.00	.06	.00
12	.01	2.1	.03	e.00	.77	.16	.23	.37	.00	.01	.06	.00
13	.00	1.3	.02	e.00	.41	.16	.18	.24	.00	.00	.08	.02
14	.00	.49	.01	e.00	.12	.12	.18	.18	.00	.00	.05	.02
15	.00	.19	1.5	e.00	.71	.09	.18	.19	.00	.00	.05	.00
16	.00	.10	.49	e.00	1.0	.08	.18	.46	.00	.05	.01	.00
17	.00	.29	.10	e.00	.50	.07	.19	9.7	.00	.00	.00	.00
18	.00	1.4	.05	.77	.54	.07	.17	16	.00	.00	.08	.02
19	.00	.19	.04	.22	4.7	.07	.19	9.4	.00	.13	.13	.00
20	.00	.10	.97	12	2.8	.06	.15	1.1	.00	.00	.20	.00
21	.03	.05	.37	.90	.63	.04	.13	1.6	.00	.11	.11	.01
22	.01	.03	.12	.48	.36	.07	.10	.57	.00	.14	.05	.00
23	.00	.03	.08	.26	.44	.11	.12	.39	.00	.06	.11	.00
24	.00	.03	.05	e.13	.38	.12	.26	2.4	.00	.14	.36	.03
25	.00	.03	.62	e.10	.24	.11	.20	1.5	.00	.04	.20	.13
26	.00	.02	1.9	e.06	.17	.52	.20	.54	.00	.02	.15	.07
27	2.3	.03	.39	e.03	.19	.46	.94	.39	.00	.03	.15	.10
28	1.3	.44	.31	e.04	.20	.29	1.0	.30	.00	.39	.09	.07
29	.11	43	.47	e.06	.19	.22	.51	.30	.00	.44	.21	.03
30	.05	3.3	.12	e.10	---	.19	.38	.22	.00	.11	.13	.03
31	.03	---	.05	.68	---	.17	---	.10	---	.10	.12	---
TOTAL	4.13	55.22	9.40	15.88	31.40	12.23	8.34	56.29	0.49	1.77	4.00	1.63
MEAN	.13	1.84	.30	.51	1.08	.39	.28	1.82	.016	.057	.13	.054
MAX	2.3	43	1.9	12	6.9	5.1	1.0	16	.10	.44	1.0	.53
MIN	.00	.00	.01	.00	.06	.04	.10	.10	.00	.00	.00	.00
CFSM	.35	4.84	.80	1.35	2.85	1.04	.73	4.78	.04	.15	.34	.14
IN.	.40	5.41	.92	1.55	3.07	1.20	.82	5.51	.05	.17	.39	.16

CAL YR 1987 TOTAL 223.64 MEAN .61 MAX 43 MIN .00 CFSM 1.61 IN. 21.89
WTR YR 1988 TOTAL 200.78 MEAN .55 MAX 43 MIN .00 CFSM 1.44 IN. 19.66

e Estimated

01573810 BRUSH RUN, SITE 2, NEAR McSHERRYSTOWN, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986 to current year.

INSTRUMENTATION.--Automatic sediment pumping sampler since November 1985.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
OCT								
14...	1045	0.01	607	11.0	11.0	0.610	0.610	2.3
27...	1640	0.07	--	6.40	--	11.0	--	20
27...	1740	0.29	--	5.20	--	4.90	--	--
27...	1840	0.62	--	5.70	--	3.70	--	7.2
27...	1910	0.87	--	27.0	--	3.40	--	8.4
27...	1940	3.7	--	4.80	--	2.40	--	7.0
27...	2010	8.0	--	4.50	--	1.80	--	6.0
27...	2040	13	--	4.60	--	1.40	--	5.3
27...	2110	17	--	4.70	--	1.30	--	6.0
28...	0210	4.5	--	4.60	--	0.900	--	3.0
28...	1040	0.64	--	7.60	--	0.840	--	3.0
NOV								
25...	0930	0.03	--	5.50	5.50	2.80	2.80	4.3
29...	0225	1.4	--	4.10	--	2.20	--	5.4
29...	0425	4.0	--	4.10	--	1.70	--	4.4
29...	0655	15	--	3.10	--	1.70	--	5.0
29...	0925	23	--	2.40	--	0.800	--	2.9
29...	1125	42	--	3.30	--	0.650	--	3.9
29...	1155	60	--	3.00	--	0.640	--	4.7
29...	1225	91	--	2.70	--	0.540	--	5.4
29...	1255	123	--	2.20	--	0.500	--	1.9
29...	1325	128	--	1.70	--	0.430	--	2.7
29...	1425	99	--	1.50	--	0.290	--	2.5
29...	1735	68	--	2.00	--	0.350	--	2.1
29...	1736	69	--	1.90	--	0.350	--	2.2
29...	1910	101	--	1.30	--	0.230	--	1.0
29...	2040	53	--	1.00	--	0.170	--	1.2
29...	2400	23	--	1.30	--	0.220	--	1.3
30...	0330	6.2	--	2.20	--	0.530	--	2.1
30...	1630	1.0	--	3.10	--	0.730	--	2.3
DEC								
15...	1105	1.0	--	30.0	--	29.0	--	47
15...	1305	1.6	--	3.20	--	1.20	--	3.2
15...	1535	4.5	--	3.30	--	0.760	--	3.4
15...	1805	4.0	--	2.10	--	0.390	--	2.6
15...	2235	1.4	--	2.10	--	0.330	--	1.8
16...	0235	0.87	--	2.20	--	0.330	--	1.9
21...	1210	0.34	274	2.70	2.50	0.500	0.490	1.7
JAN								
18...	0940	0.92	--	<0.100	<0.100	5.20	4.50	13
18...	1340	1.9	--	1.20	1.20	1.20	1.20	6.3
18...	2040	0.80	--	1.40	1.30	0.910	0.870	3.6
19...	2340	0.45	--	5.00	4.60	7.90	7.30	21
20...	0240	20	--	1.10	1.10	3.40	3.20	10
20...	0510	44	--	0.900	0.860	2.90	2.70	5.8
20...	0840	15	--	0.900	0.790	1.40	1.40	4.7
20...	1040	8.3	--	1.10	1.00	1.80	1.80	5.3
25...	0740	0.25	295	4.40	4.20	1.40	1.40	2.7
31...	1530	0.83	--	2.50	--	4.90	--	7.5
31...	2330	1.6	--	1.30	--	2.00	--	5.0
FEB								
01...	0400	8.8	--	1.30	--	3.10	--	7.4
01...	1400	9.1	--	1.60	--	1.80	--	3.1
01...	1800	4.1	--	2.40	--	2.00	--	4.6
02...	0940	1.7	--	4.10	--	2.10	--	6.2
17...	1410	0.44	247	3.00	3.00	2.20	2.20	3.8
MAR								
08...	1245	0.30	273	3.90	3.60	0.330	0.310	1.1
26...	0850	0.72	318	3.30	--	1.40	--	3.9
APR								
05...	1407	0.13	354	2.80	2.80	0.210	0.190	1.5
MAY								
03...	1340	0.18	280	2.10	1.80	0.900	0.900	2.5
05...	0950	0.38	--	3.10	2.80	14.0	8.00	27
06...	0250	0.87	--	1.20	1.20	1.40	1.40	3.3
06...	0750	5.6	--	1.60	1.60	0.590	0.590	3.2
06...	1120	14	--	1.80	1.70	0.380	0.330	2.5
06...	1500	11	--	1.90	1.90	0.400	0.390	1.4
07...	0800	1.2	--	1.80	1.80	0.380	0.340	1.8
08...	0200	0.57	--	1.40	1.40	0.580	0.580	1.9
17...	1535	3.0	--	3.00	--	1.50	--	2.8
17...	1705	10	--	3.60	--	2.90	--	5.8
17...	1835	20	--	3.10	--	3.20	--	5.4
17...	2005	48	--	3.10	--	0.450	--	2.7
17...	2305	22	--	2.20	--	0.300	--	2.5
18...	0205	8.1	--	2.80	--	0.500	--	2.7
18...	0435	20	--	3.80	--	0.490	--	3.0
18...	0705	52	--	2.40	--	0.300	--	2.0
18...	1005	30	--	1.60	--	0.350	--	1.9
18...	1335	9.5	--	1.90	--	0.440	--	2.3
19...	0700	5.3	--	2.20	--	0.880	--	3.1
19...	0800	28	--	2.20	--	0.450	--	2.4
19...	0900	47	--	1.70	--	0.350	--	2.3
19...	1100	26	--	1.20	--	0.210	--	2.2
19...	1400	9.3	--	1.50	--	0.180	--	2.0
JUN								
07...	1140	0.04	744	--	12.0	10.0	8.70	12

(<) Actual value is known to be less than the value shown.

01573810 BRUSH RUN, SITE 2, NEAR McSHERRYSTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA + ORGANIC DIS, (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT							
14...	1.9	13	0.380	0.310	0.270	20	0.00
27...	--	26	2.10	--	--	138	0.03
27...	--	--	2.20	--	--	145	0.11
27...	--	13	2.50	--	--	223	0.37
27...	--	35	2.90	--	--	418	0.98
27...	--	12	1.10	--	--	390	3.9
27...	--	10	0.970	--	--	374	8.1
27...	--	9.9	0.790	--	--	309	11
27...	--	11	0.770	--	--	232	11
28...	--	7.6	0.570	--	--	109	1.3
28...	--	11	0.490	--	--	47	0.08
NOV							
25...	3.7	9.8	0.580	0.500	0.410	24	0.00
29...	--	9.5	0.810	--	--	157	0.59
29...	--	8.5	0.710	--	--	85	0.92
29...	--	8.1	0.720	--	--	206	8.3
29...	--	5.3	0.820	--	--	175	11
29...	--	7.2	2.00	--	--	1830	208
29...	--	7.7	2.30	--	--	997	162
29...	--	8.1	2.40	--	--	873	214
29...	--	4.1	1.10	--	--	738	245
29...	--	4.4	1.10	--	--	471	163
29...	--	4.0	0.780	--	--	237	63
29...	--	4.1	0.900	--	--	219	40
29...	--	4.1	0.840	--	--	234	44
29...	--	2.3	0.710	--	--	296	81
29...	--	2.2	0.470	--	--	--	--
29...	--	2.6	0.480	--	--	--	--
30...	--	4.3	0.650	--	--	146	2.4
30...	--	5.4	0.680	--	--	31	0.08
DEC							
15...	--	77	7.90	--	--	287	0.77
15...	--	6.4	0.940	--	--	--	--
15...	--	6.7	0.770	--	--	--	--
15...	--	4.7	0.580	--	--	86	0.93
15...	--	3.9	0.460	--	--	49	0.19
16...	--	4.1	0.380	--	--	48	0.11
21...	1.7	4.4	0.360	0.260	0.190	14	0.01
JAN							
18...	8.0	--	1.60	0.710	0.570	--	--
18...	3.0	7.5	0.900	0.770	0.650	--	--
18...	2.3	5.0	0.740	0.470	0.400	--	--
19...	11	26	3.50	2.00	1.70	--	--
20...	7.5	11	2.50	1.90	1.60	--	--
20...	5.5	6.7	3.50	2.00	1.70	--	--
20...	3.5	5.6	1.60	1.30	1.10	--	--
20...	3.4	6.4	1.60	1.30	1.00	--	--
25...	2.2	7.1	0.460	0.320	0.320	11	0.01
31...	--	10	2.00	--	--	--	--
31...	--	6.3	1.20	--	--	--	--
FEB							
01...	--	8.7	2.20	--	--	--	--
01...	--	4.7	1.30	--	--	--	--
01...	--	7.0	1.30	--	--	--	--
02...	--	10	1.30	--	--	--	--
17...	2.9	6.8	0.580	0.510	0.440	10	0.01
MAR							
08...	1.0	5.0	0.340	0.340	0.260	15	0.01
26...	--	7.2	0.800	--	--	--	--
APR							
05...	1.2	4.3	0.190	0.150	0.090	11	0.00
MAY							
03...	2.3	4.6	0.230	0.160	0.120	9	0.00
05...	18	30	11.0	5.00	4.30	--	--
06...	3.1	4.5	0.900	0.830	0.700	--	--
06...	2.1	4.8	1.40	1.30	1.10	--	--
06...	2.5	4.3	1.20	0.950	0.790	--	--
06...	1.4	3.3	0.950	0.850	0.830	--	--
07...	1.6	3.6	0.600	0.540	0.440	--	--
08...	1.9	3.3	0.320	0.260	0.200	--	--
17...	--	5.8	0.560	--	--	3290	27
17...	--	9.4	2.00	--	--	1000	27
17...	--	8.5	1.60	--	--	--	--
17...	--	5.8	1.70	--	--	--	--
17...	--	4.7	0.900	--	--	--	--
18...	--	5.5	0.940	--	--	--	--
18...	--	6.8	1.40	--	--	--	--
18...	--	4.4	1.10	--	--	228	32
18...	--	3.5	0.650	--	--	--	--
18...	--	4.2	0.640	--	--	--	--
19...	--	5.3	1.80	--	--	1440	21
19...	--	4.6	1.80	--	--	--	--
19...	--	4.0	1.40	--	--	--	--
19...	--	3.4	0.880	--	--	--	--
19...	--	3.5	0.750	--	--	--	--
JUN							
07...	11	--	0.710	0.680	0.590	11	0.00

01573810 BRUSH RUN, SITE 2, NEAR McSHERRYSTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
JUL								
11...	0830	0.0	1080	5.00	--	11.0	--	36
18...	1120	0.0	--	43.0	--	<0.010	--	9.5
19...	0250	0.40	--	59.0	--	<0.010	--	9.5
19...	0600	0.25	--	16.0	--	8.70	--	11
19...	0930	0.13	--	18.0	--	16.0	--	15
20...	2300	0.0	--	20.0	--	32.0	--	34
21...	0030	0.03	--	23.0	--	33.0	--	35
21...	0830	0.22	--	36.0	--	22.0	--	30
21...	0900	0.22	--	37.0	--	20.0	--	22
21...	1330	0.10	--	41.0	--	21.0	--	23
21...	1900	0.13	--	34.0	--	12.0	--	15
21...	2300	0.15	--	26.0	--	18.0	--	23
22...	0030	0.03	--	27.0	--	18.0	--	21
23...	1730	0.01	--	18.0	--	13.0	--	21
23...	1830	0.02	--	24.0	--	16.0	--	21
23...	1900	0.03	--	42.0	--	22.0	--	23
AUG								
15...	1310	0.04	--	0.100	--	--	--	350
20...	1456	0.18	--	0.200	--	290	--	360
24...	0015	0.61	--	0.100	--	95.0	--	100
24...	0045	0.79	--	<0.100	--	42.0	--	58
24...	0115	0.83	--	7.70	--	22.0	--	4.3
24...	0345	0.34	--	8.40	--	8.40	--	15
24...	0745	0.22	--	11.0	--	5.30	--	7.1
24...	1248	0.39	--	23.0	--	5.30	--	8.6
SEP								
04...	0655	0.59	--	<0.100	--	18.0	--	20
04...	1225	0.75	--	7.10	--	5.50	--	8.6
04...	1315	2.1	--	4.50	--	2.50	--	4.0
04...	1525	0.79	--	5.90	--	1.50	--	3.6
05...	0155	0.27	--	6.20	--	4.80	--	6.6
07...	0955	0.05	--	5.20	4.80	23.0	23.0	27

DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, 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)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
JUL							
11...	20	41	3.70	1.90	--	96	0.0
18...	--	52	8.10	--	--	106	0.0
19...	--	68	10.0	--	--	--	--
19...	--	27	3.00	--	--	310	0.21
19...	--	33	2.60	--	--	273	0.10
20...	--	54	3.20	--	--	58	0.0
21...	--	58	3.50	--	--	48	0.0
21...	--	66	6.80	--	--	30	0.02
21...	--	59	6.70	--	--	--	--
21...	--	64	5.60	--	--	--	--
21...	--	49	6.60	--	--	--	--
21...	--	49	4.70	--	--	--	--
22...	--	48	9.40	--	--	--	--
23...	--	39	8.60	--	--	--	--
23...	--	45	11.0	--	--	--	--
23...	--	65	5.60	--	--	--	--
AUG							
15...	250	350	4.80	4.80	--	--	--
20...	--	360	4.00	--	--	--	--
24...	--	100	4.00	--	--	449	0.74
24...	--	--	4.00	--	--	--	--
24...	--	12	5.00	--	--	--	--
24...	--	23	4.00	--	--	--	--
24...	--	18	1.80	--	--	--	--
24...	--	32	1.50	--	--	--	--
SEP							
04...	--	--	3.60	--	--	--	--
04...	--	16	3.80	--	--	--	--
04...	--	8.5	2.50	--	--	--	--
04...	--	9.5	1.70	--	--	--	--
05...	--	13	1.30	--	--	--	--
07...	25	32	2.20	1.70	1.50	17	0.0

(<) Actual value is known to be less than the value shown.

01573810 BRUSH RUN, SITE 2, NEAR McSHERRYSTOWN, PA--Continued

INSTANTANEOUS SUSPENDED-SEDIMENT DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT					
14...	1045	0.01	607	20	0.00
27...	1640	0.07	--	138	0.03
27...	1740	0.29	--	145	0.11
27...	1840	0.62	--	223	0.37
27...	1910	0.87	--	418	0.98
27...	1940	3.7	--	390	3.9
27...	2010	8.0	--	374	8.1
27...	2040	13	--	309	11
27...	2110	17	--	232	11
28...	0210	4.5	--	109	1.3
28...	1040	0.64	--	47	0.08
28...	1123	0.57	--	51	0.08
NOV					
10...	1310	0.96	--	197	0.51
10...	1410	3.0	--	187	1.5
10...	1540	6.1	--	131	2.2
10...	2340	1.4	--	52	0.20
11...	0610	0.66	--	44	0.08
12...	1240	0.73	--	43	0.08
12...	1540	4.1	--	57	0.63
12...	1810	5.6	--	43	0.65
12...	1835	6.0	--	35	0.57
13...	1635	2.6	--	24	0.17
14...	0505	0.70	--	17	0.03
17...	2240	1.1	--	83	0.25
17...	2310	2.3	--	110	0.68
18...	1205	0.82	--	19	0.04
25...	0930	0.03	--	24	0.00
29...	0225	1.4	--	157	0.59
29...	0425	4.0	--	85	0.92
29...	0655	15	--	206	8.3
29...	0925	23	--	175	11
29...	1125	42	--	1830	208
29...	1155	60	--	997	162
29...	1225	91	--	873	214
29...	1255	123	--	738	245
29...	1325	128	--	471	163
29...	1425	99	--	237	63
29...	1735	68	--	219	40
29...	1736	69	--	234	44
29...	1910	101	--	296	81
29...	2010	70	--	156	29
30...	0030	17	--	145	6.7
30...	0330	6.2	--	146	2.4
30...	1630	1.0	--	31	0.08
DEC					
15...	1105	1.0	--	287	0.77
15...	1335	1.9	--	146	0.75
15...	1605	4.7	--	124	1.6
15...	1805	4.0	--	86	0.93
15...	2235	1.4	--	49	0.19
16...	0235	0.87	--	48	0.11
20...	0835	2.0	--	131	0.71
21...	1210	0.34	274	14	0.01
JAN					
18...	1010	1.0	--	63	0.17
18...	1410	1.9	--	131	0.67
18...	2110	0.70	--	28	0.05
20...	0010	2.4	--	880	5.7
20...	0310	23	--	400	25
20...	0540	46	--	414	51
20...	0910	13	--	150	5.3
20...	1110	10	--	110	3.0
25...	0740	0.25	295	11	0.01
31...	1600	0.92	--	36	0.09
31...	2300	1.5	--	44	0.18
FEB					
01...	0330	8.8	--	255	6.1
01...	1300	9.6	--	309	8.0
01...	1730	4.7	--	159	2.0
02...	1000	1.7	--	36	0.17
02...	1730	11	--	398	12
03...	2100	0.92	--	14	0.03
17...	1410	0.44	247	10	0.01
MAR					
08...	1245	0.30	273	15	0.01
APR					
05...	1407	0.13	354	11	0.00

01573810 BRUSH RUN, SITE 2, NEAR McSHERRYSTOWN, PA--Continued

INSTANTANEOUS SUSPENDED-SEDIMENT DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
MAY					
03...	1340	0.18	280	9	0.00
05...	1020	0.44	--	110	0.13
06...	0320	0.91	--	61	0.15
06...	0820	6.3	--	329	5.6
06...	1050	11	--	307	9.1
06...	1430	12	--	128	4.1
07...	0730	1.2	--	40	0.13
08...	0130	0.57	--	18	0.03
17...	1535	3.0	--	3290	27
17...	1705	10	--	1000	27
17...	1805	15	--	586	24
17...	1935	37	--	993	99
17...	2235	27	--	142	10
18...	0235	8.2	--	97	2.1
18...	0505	35	--	595	56
18...	0705	52	--	228	32
18...	1105	21	--	79	4.5
18...	1305	12	--	65	2.1
19...	0700	5.3	--	1440	21
19...	0730	20	--	1580	85
19...	0830	33	--	1140	102
19...	0930	48	--	358	46
19...	1030	30	--	156	13
19...	1200	18	--	85	4.1
19...	1330	11	--	63	1.9
24...	0410	14	--	2200	83
24...	0440	15	--	1300	53
24...	0510	13	--	749	26
24...	0610	12	--	291	9.4
24...	0900	5.6	--	130	2.0
JUN					
07...	1140	0.04	744	11	0.00
JUL					
11...	0830	0.0	1080	96	0.00
18...	1120	0.0	--	106	0.00
19...	0600	0.25	--	310	0.21
19...	0930	0.13	--	273	0.10
20...	2300	0.0	--	58	0.00
21...	0030	0.03	--	48	0.00
21...	0830	0.22	--	30	0.02
21...	0930	0.18	--	30	0.01
21...	1830	0.10	--	23	0.01
21...	2330	0.04	--	92	0.01
23...	1800	0.01	--	73	0.00
AUG					
24...	0015	0.61	--	449	0.74
24...	0145	0.70	--	167	0.32
24...	0245	0.50	--	63	0.08
24...	0445	0.30	--	24	0.02
24...	0715	0.22	--	20	0.01
SEP					
04...	0855	0.59	--	69	0.11
04...	1255	1.5	--	49	0.20
04...	1335	1.1	--	64	0.19
04...	2155	0.44	--	16	0.02
07...	0955	0.05	--	17	0.00

01573811 BRUSH RUN, SITE 3, NEAR McSHERRYSTOWN, PA

LOCATION.--Lat 39°49'11", long 77°06'25", Adams County, Hydrologic Unit 02050306, 400 ft downstream from Brush Run, Site 2, near McSherrystown (station 01573810), 410 ft downstream of private culvert, 1.0 mi upstream from small left-bank tributary, and 4.7 mi west of McSherrystown.

DRAINAGE AREA.--0.44 mi^2.

PERIOD OF RECORD.--Water years 1986 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (μS/CM)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 14...	1030	0.01	751	8.50	8.30	0.650	0.650	2.1
NOV 25...	0915	0.03	--	5.30	5.20	2.80	2.60	4.4
DEC 21...	1215	0.34	283	3.20	2.90	0.550	0.520	1.6
JAN 25...	0745	0.25	335	4.50	4.40	3.00	3.00	5.1
FEB 17...	1400	0.44	250	3.00	3.00	2.40	2.40	4.3
MAR 08...	1235	0.30	262	3.90	3.70	0.380	0.340	1.2
APR 05...	1353	0.13	375	1.80	1.80	0.580	0.580	2.3
MAY 03...	1320	0.18	381	1.90	1.80	4.60	4.60	6.5
JUN 07...	1200	0.04	1370	0.600	0.580	13.0	12.0	14
JUL 11...	0815	<0.01	6730	0.100	0.100	15.0	15.0	21
AUG 15...	1400	0.04	--	<0.100	<0.100	--	--	430
SEP 07...	1100	0.05	--	10.0	10.0	24.0	19.0	25

DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS, (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 14...	2.1	11	0.850	0.820	0.690	5	0.00
NOV 25...	4.0	9.7	0.560	0.530	0.440	11	0.00
DEC 21...	1.5	4.8	0.380	0.320	0.240	16	0.01
JAN 25...	3.9	9.6	0.480	0.410	0.290	7	0.00
FEB 17...	3.3	7.3	0.520	0.450	0.370	11	0.01
MAR 08...	1.1	5.1	0.380	0.310	0.240	16	0.01
APR 05...	1.6	4.1	0.450	0.370	0.290	17	0.01
MAY 03...	6.1	8.4	0.620	0.530	0.440	26	0.01
JUN 07...	14	15	1.50	1.10	1.10	23	0.00
JUL 11...	20	--	5.00	4.00	3.40	25	0.00
AUG 15...	400	--	4.80	4.80	--	--	--
SEP 07...	20	35	3.00	2.80	2.40	14	0.00

(<) Actual value is known to be less than the value shown.

01573815 BRUSH RUN, SITE 4, NEAR McSHERRYSTOWN, PA

LOCATION.--Lat 39°49'35", long 77°06'08", Adams County, Hydrologic Unit 02050306, 0.5 mi downstream of private culvert, 0.5 mi upstream from small left-bank tributary, and 4.9 mi west of McSherrystown.

DRAINAGE AREA.--0.66 mi^2.

PERIOD OF RECORD.--Water years 1987 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (μS/CM)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
OCT 14...	1000	0.01	--	29.0	24.0	0.040	0.040	1.5
NOV 25...	0850	0.03	--	15.0	15.0	0.720	0.720	2.4
DEC 21...	1145	0.34	--	5.40	5.30	0.310	0.300	1.6
JAN 25...	0815	0.25	346	8.80	8.80	1.60	1.60	2.7
FEB 17...	1335	0.44	264	5.00	5.00	1.00	1.00	2.2
MAR 08...	1215	0.30	330	7.10	6.60	0.200	0.190	1.1
APR 05...	1330	0.13	460	13.0	13.0	0.070	0.070	1.3
MAY 03...	1300	0.18	396	3.80	3.80	3.10	3.10	4.7
JUN 07...	1220	0.04	605	29.0	29.0	0.250	0.250	1.9
JUL 11...	0900	<0.01	--	0.300	0.140	0.340	0.320	0.70
AUG 15...	1430	0.04	--	<0.100	--	--	--	350
SEP 07...	1045	0.05	--	22.0	22.0	0.850	0.850	3.3

DATE	NITRO-GEN AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, 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)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 14...	1.3	30	0.280	0.250	0.220	5	0.00
NOV 25...	2.4	17	0.220	0.220	0.180	7	0.00
DEC 21...	1.6	7.0	0.400	0.400	0.290	7	0.01
JAN 25...	2.5	11	0.350	0.290	0.180	7	0.00
FEB 17...	1.5	7.2	0.370	0.330	0.260	11	0.01
MAR 08...	1.1	8.2	0.280	0.230	0.180	6	0.00
APR 05...	1.1	14	0.250	0.180	0.140	14	0.00
MAY 03...	4.5	8.5	0.460	0.380	0.300	15	0.01
JUN 07...	1.9	31	0.200	0.160	0.140	8	0.00
JUL 11...	0.20	1.0	0.050	0.050	0.040	--	--
AUG 15...	330	--	4.80	1.50	--	--	--
SEP 07...	3.3	25	0.920	0.920	0.890	21	0.00

(<) Actual value is known to be less than the value shown.

01574000 WEST CONEWAGO CREEK NEAR MANCHESTER, PA

LOCATION.--Lat 40°04'56", long 76°43'13", York County, Hydrologic Unit 02050306, on left bank 500 ft upstream from bridge on State Highway 181, 0.6 mi downstream from Little Conewago Creek, and 1.5 mi north of Manchester.

DRAINAGE AREA.--510 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1928 to current year. Monthly discharge only for October 1928, published in WSP 1302. Prior to October 1931, published as Conewago Creek near Manchester.

REVISED RECORDS.--WSP 741: Drainage area. WSP 1502: 1930, 1936.

GAGE.--Water-stage recorder. Datum of gage is 263.68 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Occasional slight regulation since October 1959 by Conewago Lake about 13 miles upstream, capacity, 3,570 acre-ft. Pa. Department of Environmental Resources satellite telemeter at station.

AVERAGE DISCHARGE.--59 years, 586 ft^3/s, 15.60 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 96,200 ft^3/s, Sept. 26, 1975, gage height, 32.11 ft, from floodmarks, from rating curve extended above 45,000 ft^3/s on basis of slope-area measurement at gage height 30.26 ft; minimum, 1.9 ft^3/s, Oct. 13, 1941; minimum gage height, 1.03 ft, Aug. 9, 1966.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	0830	*22,900	*16.29	No other peak greater than base discharge.			

Minimum daily discharge, 31 ft^3/s, Aug. 18.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	156	237	2710	e450	e600	485	274	275	411	61	82	50
2	169	208	1550	e410	3640	449	265	238	366	58	68	63
3	153	189	1120	e380	3090	448	260	214	346	58	59	53
4	162	179	1010	e340	3430	952	259	199	327	58	52	103
5	168	175	1050	e320	2960	2810	260	216	311	54	46	133
6	161	162	875	e290	1310	1280	251	1150	286	49	51	220
7	204	147	772	e280	e950	950	300	3030	261	47	224	142
8	193	134	764	e270	e800	810	576	1130	247	56	255	86
9	214	130	735	e250	e700	711	563	730	239	56	140	67
10	163	199	718	e240	e620	686	416	555	247	56	83	57
11	142	669	670	e230	574	631	349	547	255	55	60	56
12	132	728	452	e220	812	549	318	665	224	59	50	52
13	126	852	400	e230	1060	521	293	440	204	59	44	59
14	120	1100	356	e220	e900	526	276	381	187	52	42	58
15	113	968	387	e210	717	448	263	336	169	42	42	50
16	106	734	1010	e200	1490	396	256	308	152	50	37	46
17	101	646	692	e190	1020	364	244	306	148	53	34	46
18	101	916	557	e210	749	350	238	3730	134	62	31	55
19	96	995	433	e300	756	343	246	3970	129	54	33	52
20	98	664	479	3760	3100	345	243	2920	120	110	36	49
21	96	569	809	3420	1790	326	229	1830	113	154	40	49
22	95	494	612	1470	1030	302	207	1370	108	179	37	46
23	95	432	502	917	868	279	195	984	102	554	34	43
24	104	409	461	730	794	270	200	1900	91	716	56	44
25	102	399	432	e620	684	271	210	1760	84	305	57	49
26	94	370	684	e540	595	324	211	1330	80	193	76	56
27	106	332	910	e460	549	555	191	819	74	155	88	50
28	713	338	609	e420	544	453	381	679	71	117	66	46
29	793	2360	e580	e390	516	343	491	594	72	115	68	51
30	399	17400	e510	e360	---	302	333	522	68	97	71	56
31	288	---	e440	e340	---	284	---	459	---	89	54	---
TOTAL	5763	33135	23289	18667	36648	17763	8798	33587	5626	3823	2116	1987
MEAN	186	1104	751	602	1264	573	293	1083	188	123	68.3	66.2
MAX	793	17400	2710	3760	3640	2810	576	3970	411	716	255	220
MIN	94	130	356	190	516	270	191	199	68	42	31	43
CFSM	.36	2.17	1.47	1.18	2.48	1.12	.58	2.12	.37	.24	.13	.13
IN.	.42	2.42	1.70	1.36	2.67	1.30	.64	2.45	.41	.28	.15	.14

CAL YR 1987 TOTAL 192653 MEAN 528 MAX 17400 MIN 25 CFSM 1.03 IN. 14.05
WTR YR 1988 TOTAL 191202 MEAN 522 MAX 17400 MIN 31 CFSM 1.02 IN. 13.95

e Estimated

01574000 WEST CONEWAGO CREEK NEAR MANCHESTER, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1956, 1962-73, 1975-77, 1985 to current year.

REMARKS.--Samples collected from bridge on State Highway 181.

COOPERATION.--Water-quality samples collected by Susquehanna River Basin Commission and analyzed by the Pa. Department of Environmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE FIELD (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN NO2+NO3 TOTAL (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, ORGANIC DIS-SOLVED (MG/L AS N)
OCT										
14...	0945	117	315	7.60	11.0	1.72	0.020	0.020	0.82	0.76
27...	2330	201	310	7.40	10.0	1.42	0.050	0.050	0.83	0.63
28...	0400	497	317	7.00	9.0	3.08	0.100	0.080	1.3	0.76
28...	0730	453	300	6.80	9.0	3.08	0.070	0.040	1.2	0.78
28...	1317	340	298	--	11.5	1.92	0.050	0.050	0.89	0.67
28...	1650	1090	265	6.90	11.0	1.00	0.020	0.020	1.3	0.60
29...	1400	653	295	6.80	9.0	1.98	0.010	0.010	1.2	0.75
30...	1400	365	305	7.20	9.0	1.86	0.020	0.020	1.1	0.78
NOV										
17...	0851	647	270	8.10	8.5	3.12	0.040	0.020	0.72	0.61
DEC										
21...	1000	906	240	6.90	8.0	3.48	0.050	0.030	0.47	0.25
JAN										
18...	1125	229	280	7.70	0.0	3.96	0.015	0.015	0.24	--
27...	1430	460	255	8.00	0.0	3.48	0.045	0.035	0.51	0.46
FEB										
04...	1655	4680	200	8.00	3.0	2.76	0.240	0.240	0.92	0.87
04...	2225	5600	175	7.90	3.0	2.40	0.250	0.250	0.99	--
05...	1350	2360	190	7.75	3.0	2.64	0.580	0.560	0.60	0.42
06...	1130	1300	205	7.70	3.0	3.00	0.370	0.360	0.27	0.18
07...	0945	935	200	7.70	0.0	3.24	0.280	0.270	0.28	0.27
08...	1330	863	220	7.75	2.0	3.72	0.270	0.200	0.23	0.18
							a	a		
09...	1345	666	230	8.00	4.0	2.16	0.040	0.050	0.42	0.37
17...	1350	935	235	7.50	4.5	3.00	0.170	0.170	0.33	0.23
24...	1440	772	215	7.70	6.0	3.74	0.040	0.040	0.51	0.46
MAR										
17...	1440	355	245	7.90	8.0	3.10	0.040	0.040	0.24	0.16
APR										
12...	1530	307	235	7.70	13.0	1.68	0.020	0.020	0.41	0.38
MAY										
06...	1245	732	225	7.70	--	1.62	0.040	0.040	0.90	0.78
06...	2150	2860	200	7.40	14.0	1.12	0.050	0.050	1.8	0.96
							a	a		
07...	1045	3250	215	7.20	16.0	1.78	0.120	0.160	1.8	1.2
07...	1835	2010	190	7.70	17.0	1.86	0.160	0.160	1.7	1.1
08...	1045	1120	190	7.80	16.0	2.02	0.140	0.130	1.6	1.3
17...	1635	298	210	7.60	20.5	1.86	0.020	0.020	0.96	0.79
18...	0730	543	232	7.40	18.0	1.88	0.030	0.020	0.72	0.53
18...	1200	4040	240	7.50	20.0	1.76	0.040	0.020	1.7	0.53
18...	1520	5030	205	7.50	20.0	2.04	0.480	0.300	2.4	--
18...	1715	6490	170	7.40	18.0	2.16	0.750	0.360	3.6	1.2
19...	0925	3460	180	--	18.0	2.64	0.190	0.190	2.0	1.3
19...	1345	3280	195	7.50	19.0	2.40	0.170	0.150	2.0	1.3
20...	1315	2400	185	7.25	17.0	2.52	0.100	0.080	1.4	0.98
21...	1330	1670	200	7.60	19.5	2.40	0.040	0.020	1.2	0.99
22...	1245	1280	205	7.50	22.0	2.52	0.030	0.020	0.96	0.65
JUN										
							a	a		
21...	1400	111	275	8.05	31.5	0.700	0.030	0.040	0.35	0.21
JUL										
11...	1020	56	300	8.25	27.0	0.040	0.050	0.050	0.45	0.45
AUG										
17...	1230	38	310	8.80	27.0	0.340	0.030	0.010	0.71	0.30
SEP										
							a	a		
16...	0925	47	320	8.10	17.5	0.660	0.070	0.080	1.0	0.56

(a) Results within limits of analytical precision.

01574000 WEST CONEWAGO CREEK NEAR MANCHESTER, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT									
14...	0.84	0.78	2.6	0.120	0.090	0.056	4.8	8	2.5
27...	0.88	0.68	2.3	0.130	0.100	0.046	3.6	25	14
28...	1.4	0.84	4.4	0.460	0.360	0.310	8.6	101	136
28...	1.3	0.82	4.4	0.410	0.320	0.280	7.3	80	98
28...	0.94	0.72	2.9	0.290	0.200	0.034	7.7	39	36
28...	1.4	0.62	2.4	0.170	0.080	0.032	4.6	109	321
29...	1.2	0.76	3.2	0.260	0.180	0.150	6.8	27	48
30...	1.1	0.80	2.9	0.220	0.180	0.150	8.0	14	14
NOV									
17...	0.76	0.63	3.9	0.130	0.100	0.071	5.7	--	--
DEC									
21...	0.52	0.28	4.0	0.190	0.170	0.066	3.4	4	9.8
JAN									
18...	0.26	<0.20	4.2	0.090	0.070	0.047	2.0	1	0.62
27...	0.56	0.50	4.0	0.080	0.060	0.040	3.1	10	12
FEB									
04...	1.2	1.1	3.9	0.380	0.130	0.040	6.6	222	2800
04...	1.2	--	3.6	0.490	0.150	0.078	11	406	6130
05...	1.2	0.98	3.8	0.370	0.170	0.026	6.6	132	841
06...	0.64	0.54	3.6	0.180	0.120	0.066	5.0	28	98
07...	0.56	0.54	3.8	0.130	0.100	0.064	4.2	13	33
08...	0.50	0.38	4.2	0.110	0.080	0.055	3.4	12	28
09...	0.46	0.42	2.6	0.080	0.070	0.022	2.5	11	20
17...	0.50	0.40	3.5	0.220	0.140	0.086	5.3	25	63
24...	0.55	0.50	4.3	0.100	0.080	0.057	3.1	9	19
MAR									
17...	0.28	0.20	3.4	0.060	0.040	0.007	2.9	6	5.7
APR									
12...	0.43	0.40	2.1	0.100	0.070	0.036	4.3	11	9.1
MAY									
06...	0.94	0.82	2.6	0.120	0.070	0.021	5.1	33	65
06...	1.8	1.0	3.0	0.350	0.080	0.014	6.3	263	2030
07...	1.9	1.4	3.7	0.300	0.110	0.071	9.8	167	1460
07...	1.8	1.3	3.7	0.280	0.140	0.092	11	92	500
08...	1.7	1.4	3.7	0.210	0.140	0.095	9.2	39	118
17...	0.98	0.81	2.8	0.150	0.090	0.049	4.3	15	12
18...	0.75	0.55	2.6	0.180	0.100	0.072	3.8	23	34
18...	1.7	0.55	3.4	0.350	0.110	0.056	3.8	279	3040
18...	2.8	--	4.9	0.400	0.130	0.059	5.6	588	7990
18...	4.3	1.6	6.5	0.430	0.160	0.094	12	866	15200
19...	2.2	1.5	4.9	0.480	0.220	0.160	12	200	1870
19...	2.2	1.5	4.6	0.450	0.200	0.130	11	300	2660
20...	1.5	1.1	4.0	0.250	0.220	0.150	9.9	153	993
21...	1.3	1.0	3.7	0.160	0.150	0.034	6.8	63	284
22...	0.99	0.67	3.5	0.150	0.140	0.021	5.9	57	197
JUN									
21...	0.38	0.25	1.1	0.130	0.070	0.030	4.1	11	3.3
JUL									
11...	0.50	0.50	0.54	0.210	0.130	0.048	5.4	21	3.2
AUG									
17...	0.74	0.31	1.1	0.270	0.160	0.095	6.4	33	3.4
SEP									
16...	1.1	0.64	1.7	0.230	0.160	0.017	6.5	16	2.0

(<) Actual value is known to be less than the value shown.

01574500 CODORUS CREEK AT SPRING GROVE, PA

LOCATION.--Lat 39°52'43", long 76°51'13", York County, Hydrologic Unit 02050306, on right bank 15 ft downstream from county highway bridge No. 132 on Township Route 452, 0.1 mi downstream from small left-bank tributary, 0.3 mi downstream from east boundary of Spring Grove, and 7.0 mi southwest of York.

DRAINAGE AREA.--75.5 mi^2.

PERIOD OF RECORD.--May 1929 to September 1964, November 1965 to current year. Monthly discharge only for some periods, published in WSP 1302. October 1962 to September 1968, published as West Branch Codorus Creek at Spring Grove.

REVISED RECORDS.--WSP 1302: 1929-30. WSP 1502: 1932(M), 1933, 1935(M), 1940, 1942(M), 1943, 1944-46(M), 1951(M), 1955(m).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 430.86 ft above National Geodetic Vertical Datum of 1929. Prior to Jan. 18, 1930, nonrecording gage, Jan. 18, 1930, to Sept. 9, 1941, water-stage recorder at site 0.9 mi upstream, and Sept. 10, 1941, to Sept. 30, 1964, water-stage recorder at site 0.8 mi upstream, all at datum 5.64 ft higher. Nov. 1 to Dec. 20, 1965, nonrecording gage about 40 ft downstream at unknown datum, Dec. 21, 1965, to Mar. 31, 1966, nonrecording gage at present site and datum.

REMARKS.--No estimated daily discharges. Records good. Daily discharges include water diverted around station by waste treatment plant of P.H. Glatfelter Company. Flow regulated by dam on Lake Marburg (station 01574390) about 20 miles upstream. Several measurements of water temperature were made during the year. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records of change in lake contents and daily diversion furnished by P.H. Glatfelter Company.

AVERAGE DISCHARGE.--57 years (1929-64, 1966-88), 78.3 ft^3/s, 14.08 in/yr, adjusted for diversion since March 1961, and for storage since 1966.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,400 ft^3/s, June 22, 1972, gage height, 15.57 ft, from floodmark in gage shelter, from rating curve extended above 1,400 ft^3/s on basis of computations of flow-over-dam at gage height 6.80 ft and at peak flow; no flow for part of Oct. 26, 1947; minimum daily, 0.6 ft^3/s, Sept. 4, 1966.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,410 ft^3/s, Nov. 29, gage height, 6.32 ft; minimum daily, 24 ft^3/s, July 14.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	50	42	132	43	202	53	56	46	58	57	53	49
2	49	43	89	51	177	51	52	51	56	56	54	52
3	60	44	70	43	147	58	63	50	54	55	54	51
4	59	45	70	48	179	133	72	52	55	54	54	76
5	47	46	59	47	118	134	56	69	57	53	53	65
6	49	44	51	53	85	82	53	211	58	55	55	56
7	65	45	51	52	71	78	69	140	54	55	60	58
8	51	45	48	53	76	66	56	81	57	56	52	49
9	46	47	46	50	89	64	46	63	63	56	52	48
10	48	81	45	41	82	61	53	66	57	56	51	49
11	48	74	44	45	65	57	55	214	54	48	52	48
12	45	57	45	46	148	59	57	86	54	38	51	49
13	50	76	43	44	87	59	56	50	55	25	52	54
14	46	69	44	53	69	56	56	42	55	24	51	50
15	48	58	73	51	76	55	57	49	54	28	52	51
16	59	51	58	46	115	53	56	53	56	33	55	51
17	46	47	40	46	71	55	57	55	58	48	53	53
18	44	59	48	79	68	59	61	77	56	88	54	53
19	45	48	47	57	89	56	57	109	54	63	57	50
20	47	45	63	446	181	55	47	160	56	59	59	50
21	53	42	49	127	100	53	53	170	57	71	56	51
22	47	40	48	100	80	56	49	126	57	73	51	50
23	47	44	45	84	80	57	52	109	56	57	53	50
24	45	49	44	76	74	57	60	121	55	63	70	48
25	43	47	50	66	66	56	48	116	56	50	61	54
26	46	47	77	53	62	99	48	87	61	52	54	49
27	58	45	51	43	61	61	65	75	60	66	54	49
28	101	54	49	55	59	52	84	67	60	56	51	51
29	50	474	58	52	56	54	42	61	60	52	56	50
30	44	427	45	47	---	57	44	56	56	50	53	50
31	42	---	44	54	---	56	---	55	---	51	52	---
TOTAL	1578	2335	1726	2151	2833	2002	1680	2767	1699	1648	1685	1564
MEAN	50.9	77.8	55.7	69.4	97.7	64.6	56.0	89.3	56.6	53.2	54.4	52.1
MAX	101	474	132	446	202	134	84	214	63	88	70	76
MIN	42	40	40	41	56	51	42	42	54	24	51	48
MEAN‡	26.5	86.9	67.7	85.2	138	82.3	49.4	148	29.7	16.9	9.4	9.1
CFSM‡	.35	1.15	.90	1.13	1.83	1.09	.65	1.96	.39	.22	.12	.12
IN.‡	.40	1.28	1.04	1.30	1.97	1.26	.72	2.26	.44	.25	.14	.13

CAL YR 1987 TOTAL 22991 MEAN 63.0 MAX 474 MIN 24 MEAN‡ 65.0 CFSM‡ .86 IN.‡ 11.70
WTR YR 1988 TOTAL 23668 MEAN 64.7 MAX 474 MIN 24 MEAN‡ 62.2 CFSM‡ .82 IN.‡ 11.21

‡ Adjusted for change in contents in Lake Marburg.

01575000 SOUTH BRANCH CODORUS CREEK NEAR YORK, PA

LOCATION.--Lat 39°55'14", long 76°44'57", York County, Hydrologic Unit 02050306, on right bank 100 ft downstream from dam at pumping station of York Water Co., 200 ft upstream from Conrail bridge, 0.5 mi upstream from mouth, and 3.0 mi southwest of York.

DRAINAGE AREA.--117 mi^2.

PERIOD OF RECORD.--October 1927 to current year. Monthly discharge only prior to October 1931, published in WSP 1302. May 1925 to September 1927 (gage heights and discharge measurements only), in reports of Pennsylvania Department of Forests and Waters.

REVISED RECORDS.--WSP 1302: 1931. WSP 1502: 1932-33, 1941, 1948.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 373.03 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 21, 1928, nonrecording gage at site 180 ft upstream at datum 5.00 ft higher. June 22, 1972, to Jan. 12, 1973, nonrecording gage at present site.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Regulation at low flow by pumping station upstream. Some regulation during entire period of record from reservoirs of York Water Co., combined capacity, 8,092 acre-ft. Diversion above station for municipal supply of city of York. Several measurements of water temperature were made during the year.

COOPERATION.--Records of diversion provided by York Water Co.

AVERAGE DISCHARGE.--61 years, 135 ft^3/s, 15.67 in/yr, adjusted for diversion and, since October 1966, for storage.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,700 ft^3/s, June 22, 1972, gage height, 22.62 ft, from floodmarks, from rating curve extended above 6,300 ft^3/s on basis of contracted-opening measurement at gage height 17.97 ft and contracted-opening and flow-over-road measurement at peak flow; no flow at times.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,450 ft^3/s, May 18, gage height, 7.67 ft; minimum daily, 0.86 ft^3/s, Aug. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	21	232	e45	315	112	82	72	146	21	21	6.6
2	11	27	159	77	326	107	89	61	139	25	14	8.8
3	12	23	139	58	282	110	83	57	129	23	14	4.7
4	28	23	133	65	301	187	75	67	131	25	8.7	77
5	16	19	120	40	246	243	71	126	125	20	6.4	100
6	12	15	104	e38	e180	157	73	545	95	16	14	19
7	44	18	88	e37	e160	142	143	384	103	6.5	25	8.8
8	25	18	82	e36	e140	130	146	243	119	15	13	8.6
9	15	20	80	e36	e130	127	107	192	113	16	5.5	8.7
10	16	68	79	e40	e120	126	97	164	107	25	4.4	11
11	19	152	64	62	e120	115	88	283	93	26	4.0	9.5
12	20	74	59	51	324	117	82	170	89	32	3.6	6.8
13	13	82	65	44	207	120	79	146	79	26	.86	12
14	13	104	58	50	147	109	74	130	e71	13	1.1	9.2
15	12	83	90	74	170	100	73	128	e65	14	4.0	4.2
16	11	66	100	56	311	94	79	132	e56	7.0	1.1	3.0
17	15	59	64	43	176	89	73	421	e65	6.1	2.2	2.8
18	14	80	57	88	160	89	75	2010	e58	14	1.2	20
19	12	56	57	116	168	92	90	1100	e52	3.7	1.9	12
20	12	49	86	920	325	90	68	629	e47	13	8.2	8.5
21	32	43	76	e220	212	81	61	566	e43	127	8.8	4.9
22	20	41	68	e150	178	62	58	416	e39	147	1.4	4.3
23	15	38	55	e120	173	69	60	354	e36	40	2.0	2.3
24	17	37	53	e110	161	71	87	357	e34	132	70	2.7
25	15	39	65	e110	143	74	63	310	e32	39	53	18
26	12	36	97	e120	137	195	56	257	e38	28	17	15
27	27	36	79	e92	137	153	61	220	e32	72	20	6.9
28	277	54	73	e88	134	105	126	191	e29	64	20	2.8
29	58	515	83	e86	111	89	79	187	e27	35	30	2.2
30	34	807	60	84	---	83	87	174	e24	19	43	3.9
31	20	---	e50	92	---	81	---	156	---	28	14	---
TOTAL	862	2703	2675	3248	5694	3519	2485	10248	2216	1078.3	433.36	404.2
MEAN	27.8	90.1	86.3	105	196	114	82.8	331	73.9	34.8	14.0	13.5
MAX	277	807	232	920	326	243	146	2010	146	147	70	100
MIN	11	15	50	36	111	62	56	57	24	3.7	.86	2.2
(†)	27.7	27.5	27.6	29.4	28.9	29.0	28.2	28.9	31.9	30.8	30.0	28.3
MEAN‡	51.9	121	114	134	225	143	111	360	103	67.6	39.4	42.7
CFSM‡	.44	1.04	.97	1.15	1.92	1.22	.95	3.08	.88	.58	.34	.40
IN.‡	.51	1.16	1.12	1.33	2.07	1.41	1.06	3.55	.98	.67	.39	.45

CAL YR 1987 TOTAL 31397.1 MEAN 86.0 MAX 842 MIN 1.0 MEAN‡ 114 CFSM‡ .97 IN.‡ 13.20
WTR YR 1988 TOTAL 35565.86 MEAN 97.2 MAX 2010 MIN .86 MEAN‡ 116 CFSM‡ .99 IN.‡ 13.49

e Estimated
† Diversion for municipal supply of city of York, equivalent in cubic feet per second.
‡ Adjusted for diversion and change in reservoir contents.

01575500 CODORUS CREEK NEAR YORK, PA

LOCATION.--Lat 39°56'46", long 76°45'20", York County, Hydrologic Unit 02050306, on left bank 0.5 mi upstream from bridge on Richland Avenue (SR 3054), 2.0 mi downstream from South Branch Codorus Creek, and 2.0 mi southwest of York.

DRAINAGE AREA.--222 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1940 to current year. October 1915 to August 1923, August 1926 to September 1932 (gage heights and discharge measurements only), in reports of Pennsylvania Department of Forests and Waters. Published as "at York" 1915-32.

REVISED RECORDS.--WDR PA-83-2: 1982(M).

GAGE.--Water-stage recorder. Datum of gage is 356.39 ft above National Geodetic Vertical Datum of 1929 (Corps of Engineers benchmark). Prior to Sept. 30, 1932, nonrecording gage at site 1.6 mi downstream at different datum.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Regulation at low flows by mills and pumping station upstream. Diversion above station for municipal supply of city of York. Flood flows regulated by Indian Rock Dam (station 01574700) and by 3 reservoirs, combined capacity, 65,650 acre-ft. U.S. Army Corps of Engineers satellite and landline telemeters at station.

COOPERATION.--Records of diversion provided by York Water Co.

AVERAGE DISCHARGE.--48 years, 245 ft^3/s, 14.99 in/yr, adjusted for storage and diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,000 ft^3/s, June 22, 1972, gage height, 26.36 ft, from floodmark in gage shelter, from rating curve extended above 6,600 ft^3/s on basis of slope-area measurement at gage height 20.11 ft; minimum, 3.0 ft^3/s, Oct. 25, 1966, gage height, 1.40 ft, result of upstream shutoff.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, ^{e}3,700 ft^3/s, May 18, gage height, ^{e}9.00 ft; minimum daily, 46 ft^3/s, July 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68	77	444	141	528	191	161	131	211	88	87	62
2	64	84	298	149	637	183	169	127	203	92	79	65
3	71	82	243	122	553	188	162	124	189	90	78	60
4	107	81	229	130	559	318	167	134	193	91	71	139
5	73	77	206	110	463	496	153	198	186	85	67	189
6	68	71	177	96	337	291	148	796	166	81	76	81
7	123	71	158	117	280	264	237	621	159	69	99	74
8	92	74	152	125	269	236	241	367	180	77	77	66
9	74	75	146	128	269	226	174	286	177	84	64	61
10	75	137	143	105	256	223	169	254	174	94	61	65
11	82	276	129	103	225	200	163	532	152	87	62	63
12	84	149	123	110	518	201	158	290	148	94	61	60
13	70	171	126	110	365	205	156	e260	140	71	58	73
14	69	197	120	106	252	191	150	e240	134	47	58	71
15	69	164	162	106	277	178	150	e220	125	50	60	62
16	71	137	190	97	496	170	153	e210	124	49	59	63
17	80	126	129	107	298	166	148	e280	133	46	60	63
18	69	154	120	162	268	171	151	e2400	128	66	58	84
19	66	123	123	218	279	170	168	1490	125	63	61	69
20	66	116	158	1320	596	165	136	952	120	79	73	65
21	95	107	148	503	383	156	131	823	113	204	76	63
22	83	98	134	318	308	140	125	603	107	227	60	60
23	71	99	123	249	300	148	127	506	107	127	61	59
24	72	100	119	225	279	149	158	517	101	219	146	59
25	67	102	124	218	247	150	128	459	98	107	122	79
26	66	100	185	219	232	320	119	378	106	92	76	78
27	84	98	155	160	232	258	126	318	105	138	85	62
28	410	123	141	150	226	180	239	278	99	150	78	58
29	128	682	160	157	197	165	143	264	97	102	91	57
30	99	1460	130	153	---	160	144	243	90	84	109	58
31	80	---	122	160	---	160	---	219	---	92	71	---
TOTAL	2796	5411	5117	6174	10129	6419	4754	14520	4190	3045	2344	2168
MEAN	90.2	180	165	199	349	207	158	468	140	98.2	75.6	72.?
MAX	410	1460	444	1320	637	496	241	2400	211	227	146	189
MIN	64	71	119	96	197	140	119	124	90	46	58	57
(†)	27.7	27.5	27.6	29.4	28.9	29.0	28.2	28.9	31.9	30.8	30.0	28.3
MEAN‡	89.9	221	204	244	418	254	180	555	142	94.4	56.0	62.7
CFSM‡	.40	1.00	.92	1.10	1.88	1.14	.81	2.50	.64	.43	.25	.28
IN.‡	.46	1.12	1.06	1.27	2.03	1.31	.90	2.88	.71	.50	.29	.31

CAL YR 1987 TOTAL 61453 MEAN 168 MAX 1460 MIN 50 MEAN‡ 198 CFSM‡ .89 IN.‡ 12.12
WTR YR 1988 TOTAL 67067 MEAN 183 MAX 2400 MIN 46 MEAN‡ 210 CFSM‡ .94 IN.‡ 12.86

e Estimated
† Diversion for municipal supply of city of York, equivalent in cubic feet per second.
‡ Adjusted for diversion and change in Reservoir contents.

01575500 CODORUS CREEK NEAR YORK, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964, 1966-67, 1985 to current year.

REMARKS.--Samples collected from Richland Avenue bridge.

COOPERATION.--Water-quality samples collected by Susquehanna River Basin Commission and analyzed by the Pa. Department of Environmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE FIELD (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN NO2+NO3 TOTAL (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, ORGANIC DIS-SOLVED (MG/L AS N)
OCT										
14...	1040	66	640	--	13.0	3.08	0.220	0.220	0.82	0.18
27...	2240	169	740	7.10	11.0	1.68	0.100	0.090	1.6	1.0
28...	0300	513	390	6.90	11.0	1.96	0.080	0.070	3.7	0.81
28...	0630	765	370	6.80	11.0	2.52	0.100	0.080	2.0	0.74
28...	1200	437	362	6.60	--	1.78	0.110	0.110	1.4	0.67
29...	1300	115	560	6.80	11.0	2.64	0.100	0.080	1.0	0.84
30...	1300	102	750	7.00	11.0	2.42	0.040	0.040	1.1	1.1
NOV										
17...	1100	127	750	7.70	14.0	2.64	0.060	0.040	0.70	0.52
DEC										
21...	1130	145	450	7.75	8.5	3.48	0.130	0.130	0.73	0.53
JAN										
18...	0810	108	770	7.80	--	2.88	0.075	0.075	1.0	0.66
27...	1300	139	670	7.90	2.0	4.18	0.190	0.180	1.4	0.74
FEB										
04...	1210	582	352	8.40	8.0	4.62	0.180	0.180	0.90	0.48
04...	1540	683	347	7.60	7.0	4.84	0.180	0.180	0.46	0.34
05...	1150	444	365	7.60	5.0	4.32	0.150	0.120	0.91	0.72
06...	1630	305	386	7.35	4.5	4.68	0.090	0.090	0.73	0.35
07...	1245	243	415	7.80	5.0	4.80	0.120	0.120	0.74	0.40
08...	1200	258	424	7.80	5.5	4.80	0.120	0.120	0.52	0.44
17...	1200	297	445	8.20	7.0	4.20	0.060	0.060	0.40	0.40
24...	1300	277	420	7.80	7.0	4.84	0.090	0.090	0.57	0.37
MAR										
17...	1250	162	625	7.80	9.0	4.56	0.080	0.080	0.52	0.52
APR										
12...	1400	162	600	7.60	14.0	3.12	0.020	0.020	0.81	0.75
MAY										
17...	2230	1680	300	--	17.0	2.76	1.17	0.690	12	0.34
17...	2345	2460	340	--	18.0	2.88	1.83	0.780	10	0.77
18...	0100	3000	230	--	17.0	3.12	1.17	0.600	3.5	0.85
18...	0200	3400	195	--	17.0	3.12	0.750	0.540	2.4	1.4
18...	0245	3540	--	--	--	3.00	0.840	0.480	7.7	0.84
18...	0455	3540	--	--	--	3.24	1.17	0.480	3.5	0.87
18...	1100	2680	195	7.60	17.0	2.88	0.510	0.420	2.6	1.2
18...	1610	2150	220	7.40	18.0	3.00	0.330	0.270	1.7	0.88
19...	1030	2050	200	7.40	18.0	2.64	0.390	0.270	2.5	0.95
19...	1445	2070	205	7.30	19.0	3.12	0.270	0.210	1.4	0.88
20...	1150	942	260	7.30	18.0	3.84	0.010	0.010	0.83	0.53
21...	1210	910	280	7.60	19.0	3.60	0.010	0.010	0.85	0.60
22...	1015	644	300	7.60	20.5	3.84	0.040	0.040	0.82	0.67
JUN										
21...	1245	122	888	7.65	30.5	2.64	0.030	--	1.2	--
JUL										
11...	1415	96	850	--	31.0	1.90	0.080	0.070	1.3	0.70
AUG										
22...	1230	58	950	7.60	23.0	1.64	0.040	0.040	0.92	0.78
SEP										
16...	1215	66	1200	7.90	19.0	2.04	--	--	--	--

01575500 CODORUS CREEK NEAR YORK, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT									
14...	1.0	0.40	4.1	0.080	0.050	0.039	9.0	10	1.8
27...	1.7	1.1	3.3	0.140	0.080	0.050	19	51	23
28...	3.8	0.88	5.8	0.330	0.100	0.070	12	365	506
28...	2.1	0.82	4.6	0.240	0.100	0.062	11	226	467
28...	1.5	0.78	3.3	0.220	0.080	0.012	11	84	99
29...	1.1	0.92	3.8	0.160	0.120	0.093	13	16	5.0
30...	1.1	1.1	3.6	0.180	0.140	0.086	16	13	3.6
NOV									
17...	0.76	0.56	3.4	0.070	0.050	0.020	17	5	1.7
DEC									
21...	0.86	0.66	4.3	0.080	0.040	0.016	7.4	13	5.1
JAN									
18...	1.1	0.74	4.0	0.180	0.100	0.054	17	12	3.5
27...	1.6	0.92	5.8	0.110	0.060	0.012	16	28	11
FEB									
04...	1.1	0.66	5.7	0.210	0.070	0.016	6.5	76	120
04...	0.64	0.52	5.5	0.240	0.060	0.009	6.6	78	144
05...	1.1	0.84	5.4	0.090	0.050	0.009	6.1	33	40
06...	0.82	0.44	5.5	0.060	0.050	0.011	6.3	20	16
07...	0.86	0.52	5.7	0.060	0.040	0.010	5.9	17	11
08...	0.64	0.56	5.4	0.070	0.040	0.016	6.7	19	13
17...	0.46	0.46	4.7	0.090	0.050	0.013	8.2	23	18
24...	0.66	0.46	5.5	0.070	0.040	0.023	7.8	11	8.2
MAR									
17...	0.60	0.60	5.2	0.060	0.040	0.012	12	4	1.8
APR									
12...	0.83	0.77	3.9	0.080	0.050	0.014	12	11	4.8
MAY									
17...	13	1.0	16	0.690	0.110	0.054	16	3100	14100
17...	12	1.5	15	2.20	0.080	0.017	21	3690	24500
18...	4.7	1.5	7.8	0.560	0.080	0.010	9.9	2270	18400
18...	3.1	2.0	6.3	0.990	0.090	0.013	9.3	2130	19500
18...	8.5	1.3	12	0.930	0.070	0.021	8.7	2040	19500
18...	4.7	1.3	7.9	1.54	0.060	0.022	8.5	1330	12700
18...	3.1	1.6	6.0	0.710	0.110	0.027	7.5	494	3580
18...	2.1	1.2	5.1	0.290	0.090	0.032	6.8	257	1490
19...	2.9	1.2	5.5	0.430	0.080	0.024	7.1	279	1540
19...	1.7	1.1	4.8	0.330	0.070	0.018	5.2	955	5350
20...	0.84	0.54	4.7	0.180	0.060	0.013	4.6	71	181
21...	0.86	0.61	4.5	0.290	0.060	0.011	5.1	97	238
22...	0.86	0.71	4.7	0.140	0.060	0.013	5.2	53	92
JUN									
21...	1.3	1.2	3.9	0.090	0.050	0.026	17	16	5.3
JUL									
11...	1.4	0.77	3.3	0.110	0.080	0.051	18	16	4.1
AUG									
22...	0.96	0.82	2.6	0.130	0.070	0.053	24	19	3.0
SEP									
16...	3.3	1.1	5.3	0.150	0.120	0.096	35	19	3.4

01575585 CODORUS CREEK AT PLEASUREVILLE, PA

LOCATION.--Lat 40°01'07", long 76°41'36", York County, Hydrologic Unit 02050306, on right bank at downstream side of Sherman Street bridge on State Highway 24, 1.0 mi northeast of Pleasureville, 2.0 mi upstream from Dee Run and 5.0 mi upstream from mouth.

DRAINAGE AREA.--267 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR PA-86-2: 1985 (adjusted mean, $(ft^3/s)/mi^2$, and inches).

GAGE.--Water-stage recorder. Elevation of gage is 330 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Regulation at low flow by mills and pumping station of York Water Co. upstream from gage. Flood flows regulated by Indian Rock Dam (station 01574700) and by 3 reservoirs, combined capacity, 65,650 acre-ft.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 12,800 ft^3/s, Feb. 12, 1985, gage height, 11.55 ft, from rating curve extended above 3,300 ft^3/s on basis of slope-area measurement of peak flow; minimum, 38 ft^3/s, July 18, 1988; minimum daily, 49 ft^3/s, July 15, 17, 1988.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 4,130 ft^3/s, May 18, gage height, 7.66 ft; minimum, 38 ft^3/s, July 18; minimum daily, 49 ft^3/s, July 15, 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	147	138	584	194	584	277	230	215	314	103	140	97
2	138	143	405	202	901	272	236	207	299	104	129	96
3	163	144	329	174	733	278	234	205	278	99	124	92
4	178	143	314	180	766	464	241	208	275	100	114	288
5	132	140	283	176	633	650	227	349	271	91	109	319
6	118	134	241	127	456	399	221	1150	250	88	142	143
7	234	130	218	159	385	362	362	848	217	78	164	115
8	157	132	209	168	377	328	367	499	255	80	123	108
9	125	132	202	171	366	315	273	416	256	90	104	98
10	124	289	200	151	349	311	246	417	257	100	97	101
11	132	369	188	139	317	288	243	695	217	99	96	98
12	137	220	172	151	708	282	233	434	194	146	96	91
13	121	230	179	155	509	282	235	373	184	88	95	137
14	122	250	170	148	356	274	228	338	172	52	86	108
15	122	213	229	141	405	260	226	313	158	49	80	89
16	124	186	264	139	646	250	229	313	154	54	90	88
17	139	181	188	141	420	244	222	439	169	49	92	113
18	123	234	170	220	374	245	229	2820	170	59	88	119
19	121	202	173	300	399	246	261	1860	155	89	105	98
20	123	190	224	1720	745	240	223	1180	147	259	167	97
21	170	175	213	718	508	231	208	1020	145	375	126	91
22	151	160	185	431	419	214	199	779	141	455	87	88
23	129	159	175	352	406	213	201	670	140	518	100	86
24	127	161	170	315	383	225	252	685	129	432	285	83
25	124	160	185	305	346	224	215	635	124	199	191	128
26	125	137	253	318	324	444	198	528	128	217	126	119
27	220	134	217	240	321	384	220	465	132	253	138	92
28	512	172	199	223	316	266	363	425	121	264	117	85
29	212	875	224	230	293	249	251	397	118	178	194	84
30	174	1990	188	232	---	225	240	368	108	151	180	83
31	145	---	170	244	---	237	---	329	---	169	116	---
TOTAL	4869	7923	7121	8564	13745	9179	7313	19580	5678	5088	3901	3434
MEAN	157	264	230	276	474	296	244	632	189	164	126	114
MAX	512	1990	584	1720	901	650	367	2820	314	518	285	319
MIN	118	130	170	127	293	213	198	205	108	49	80	83
MEAN‡	129	278	242	292	514	314	237	690	159	129	76	76
CFSM‡	.48	1.04	.91	1.09	1.93	1.18	.89	2.58	.60	.48	.28	.28
IN.‡	.55	1.16	1.05	1.26	2.01	1.36	.99	2.97	.67	.55	.32	.31

CAL YR 1987 TOTAL 91722 MEAN 251 MAX 1990 MIN 72 MEAN‡ 253 CFSM‡ .95 IN.‡ 12.88
WTR YR 1988 TOTAL 96395 MEAN 263 MAX 2820 MIN 49 MEAN‡ 261 CFSM‡ .98 IN.‡ 13.30

‡ Adjusted for change in reservoir contents.

01575585 CODORUS CREEK AT PLEASUREVILLE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1985 to current year.

INSTRUMENTATION.--Automatic pumping sampler since November 1986.

COOPERATION.--Water-quality samples collected by Susquehanna River Basin Commission and analyzed by Pa. Department of Environmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE FIELD (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NO2+NO3 TOTAL (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 ORGANIC DIS-SOLVED (MG/L AS N)
OCT										
14...	0950	119	840	8.80	13.0	3.30	1.65	1.65	0.31	0.10
28...	0615	692	618	7.40	--	2.16	0.190	0.180	2.8	0.96
28...	0830	785	405	7.50	--	1.96	0.130	0.120	2.0	0.82
28...	1045	674	345	7.60	--	2.04	0.140	0.130	2.3	0.71
28...	1355	543	426	7.80	--	2.28	0.260	0.250	1.9	0.95
28...	2125	319	414	7.50	--	1.82	0.630	0.630	2.0	1.0
NOV										
17...	1300	180	680	7.80	13.0	3.12	0.990	0.990	1.8	1.0
29...	1105	265	663	7.40	--	2.88	0.780	0.750	1.2	0.89
29...	1520	1090	494	7.40	--	2.28	0.690	0.660	4.5	0.74
29...	1740	1510	285	7.50	--	1.40	0.370	0.360	4.8	0.72
29...	1950	1620	282	7.50	--	1.48	0.440	0.430	4.7	0.75
29...	2120	2310	377	7.50	--	1.92	0.300	0.290	6.0	0.79
29...	2250	2770	320	7.50	--	1.96	0.220	0.210	5.5	0.87
29...	2310	2890	317	7.60	--	1.98	0.290	0.240	6.0	0.94
30...	0100	3120	243	7.50	--	2.52	0.270	0.220	4.7	0.76
30...	0730	2700	208	7.60	--	2.64	0.240	0.200	1.6	0.66
30...	1008	2450	216	7.60	--	2.64	0.270	0.220	1.4	0.64
30...	1020	2430	220	7.60	--	2.64	0.280	0.240	1.5	0.72
30...	2215	817	333	7.60	--	3.72	0.310	0.300	0.85	0.56
DEC										
01...	1120	581	393	7.60	--	3.96	0.490	0.480	0.87	0.58
03...	1445	336	505	7.60	--	3.96	0.600	0.600	0.96	0.66
21...	1300	219	597	7.60	9.0	3.48	0.500	0.500	1.3	0.78
JAN									[a]	[a]
18...	1045	201	850	7.60	4.5	3.72	1.92	1.50	1.4	1.6
20...	0945	1910	295	7.70	--	2.20	0.530	0.410	1.5	1.3
20...	1215	2600	278	7.60	--	2.36	0.390	0.340	1.2	0.82
20...	1355	2820	255	7.50	--	2.64	0.440	0.385	1.3	0.88
20...	1410	2830	255	7.50	--	2.44	0.420	0.390	1.6	0.81
20...	1515	2850	240	7.50	--	2.28	0.410	0.360	1.4	0.66
20...	1745	2420	218	7.40	--	2.24	0.420	0.360	1.2	0.76
20...	2045	1730	231	7.40	--	2.40	0.570	0.450	1.0	0.77
21...	0045	1330	238	7.40	--	2.52	0.750	0.600	1.2	0.92
21...	0828	686	315	7.30	--	3.12	0.540	0.510	0.94	0.81
21...	1455	532	363	7.30	--	3.48	0.990	0.990	0.99	0.71
22...	0830	434	436	7.40	--	3.96	0.690	0.690	1.1	0.83
23...	1630	349	501	7.70	--	4.92	0.540	0.540	0.94	0.70
27...	1045	230	850	7.60	4.5	4.20	0.550	0.530	1.0	0.92
FEB										
01...	1300	454	592	8.00	--	3.96	0.660	0.660	1.2	1.1
01...	1835	944	504	7.90	--	3.72	0.630	0.540	1.1	1.1
01...	2135	1180	406	7.90	--	3.30	0.550	0.510	1.2	0.97
01...	2350	1220	337	7.70	--	3.36	0.510	0.420	1.3	0.38
02...	0015	1220	334	7.90	--	2.86	0.490	0.420	1.8	0.72
02...	0215	1130	315	7.60	--	3.12	0.450	0.390	1.5	0.47
02...	0515	979	312	7.60	--	3.24	0.480	0.420	0.80	0.64
02...	1115	753	324	7.50	--	3.36	0.510	0.480	1.1	0.78
02...	1845	890	360	7.50	--	3.48	0.600	0.600	1.4	0.66
04...	0030	598	387	7.70	--	4.20	0.480	0.480	0.50	0.38
17...	1310	405	465	7.40	9.0	4.08	0.490	0.490	0.47	--
24...	1405	381	500	7.80	7.0	4.84	0.540	0.540	0.68	0.38
MAR										
09...	1100	310	--	--	--	4.84	0.340	0.340	0.76	0.55
17...	1400	238	640	7.40	9.0	4.92	0.720	0.660	--	0.10
APR										
03...	1000	223	--	--	--	3.48	0.870	0.870	--	1.0
12...	1450	219	530	7.40	14.0	3.36	0.720	0.720	--	0.17
MAY										
05...	2230	615	395	7.70	--	2.40	0.360	0.360	2.3	0.87
06...	0230	505	355	7.70	--	2.28	0.360	0.360	1.7	1.0
06...	0615	680	395	7.70	--	2.88	0.280	0.280	1.5	1.2
06...	0830	951	378	7.80	--	3.72	0.200	0.200	2.8	0.84
06...	1030	1070	300	7.80	--	2.64	0.200	0.200	2.4	1.0
06...	1115	1270	280	7.90	--	2.52	0.200	0.180	2.7	1.2
06...	1245	1350	265	7.90	--	2.16	0.200	0.170	2.8	1.4
06...	1345	1510	240	7.90	--	1.92	0.190	0.180	2.0	1.4
06...	1745	1690	250	7.80	--	2.40	0.260	0.220	2.8	1.5
06...	1748	1690	248	7.80	--	2.40	0.200	0.200	2.8	1.0
06...	1830	1640	260	7.80	--	2.52	0.180	0.180	3.1	0.77
06...	2100	1460	275	7.70	--	2.64	0.140	0.110	2.8	0.86
07...	0100	1240	260	7.80	--	2.88	0.130	0.130	2.1	0.89
07...	0630	958	255	7.80	--	2.88	0.120	0.120	1.7	0.78
07...	1200	766	288	7.90	--	3.60	0.120	0.120	1.5	0.77
07...	2020	627	300	7.80	--	2.76	0.200	0.180	1.4	0.84
08...	2050	439	345	7.80	--	3.48	0.340	0.320	1.2	1.1
17...	2150	1170	--	--	--	3.48	1.44	1.44	2.5	--
17...	2300	1190	--	--	--	2.40	0.810	0.690	2.9	0.48
17...	2359	1530	--	--	--	2.28	0.750	0.450	6.1	0.60

(a) Results within limits of analytical precision.

01575585 CODORUS CREEK AT PLEASUREVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT									
14...	2.0	1.7	5.3	0.160	0.100	0.037	14	47	15
28...	3.0	1.1	5.1	0.440	0.090	0.052	15	322	602
28...	2.1	0.94	4.1	0.540	0.080	0.024	10	314	666
28...	2.4	0.84	4.5	0.300	0.070	0.037	7.7	210	382
28...	2.1	1.2	4.4	0.320	0.090	0.025	11	124	182
28...	2.6	1.6	4.5	0.200	0.100	0.037	9.2	37	32
NOV									
17...	2.8	2.0	5.9	0.130	0.070	0.024	13	130	63
29...	1.9	1.6	4.8	0.200	0.110	0.077	15	36	26
29...	5.2	1.4	7.5	0.900	0.100	0.059	12	715	2100
29...	5.1	1.1	6.5	0.750	0.080	0.072	9.0	707	2880
29...	5.1	1.2	6.6	0.660	0.100	0.067	7.7	493	2160
29...	6.3	1.1	8.2	0.790	0.090	0.075	12	877	5470
29...	5.7	1.1	7.7	0.510	0.080	0.059	12	946	7080
29...	6.3	1.2	8.3	1.08	0.080	0.060	9.1	951	7420
30...	4.9	0.98	7.5	1.38	0.060	0.049	7.1	868	7310
30...	1.9	0.86	4.5	0.740	0.090	0.072	7.6	424	3090
30...	1.7	0.86	4.3	0.470	0.100	0.071	7.6	323	2140
30...	1.8	0.96	4.4	0.340	0.100	0.078	6.5	260	1710
30...	1.2	0.86	4.9	0.310	0.080	0.051	5.7	131	289
DEC									
01...	1.4	1.1	5.3	0.160	0.080	0.059	5.8	8	13
03...	1.6	1.3	5.5	0.190	0.080	0.051	6.5	14	13
21...	1.8	1.3	5.3	0.190	0.060	0.023	--	19	11
JAN									
18...	3.3	3.1	7.1	0.270	0.200	0.120	15	16	8.7
20...	2.1	1.7	4.3	0.590	0.140	0.093	7.7	764	3940
20...	1.6	1.2	3.9	1.20	0.120	0.042	8.5	1200	8420
20...	1.8	1.3	4.4	0.760	0.130	0.025	8.4	1200	9140
20...	2.0	1.2	4.4	0.380	0.110	0.027	8.6	1100	8410
20...	1.8	1.0	4.1	0.460	0.100	0.014	8.6	1010	7810
20...	1.6	1.1	3.9	0.350	0.110	0.028	7.6	730	4770
20...	1.6	1.2	4.0	0.360	0.120	0.016	7.9	530	2480
21...	2.0	1.5	4.5	0.350	0.150	0.079	8.8	360	1290
21...	1.5	1.3	4.6	0.260	0.140	0.057	7.9	155	287
21...	2.0	1.7	5.5	0.260	0.100	0.064	6.8	76	109
22...	1.8	1.5	5.7	0.160	0.080	0.046	7.6	37	43
23...	1.5	1.2	6.4	0.120	0.070	0.035	7.9	18	17
27...	1.5	1.5	5.7	0.100	0.050	0.025	11	18	11
FEB									
01...	1.9	1.7	5.8	0.230	0.070	0.038	11	41	50
01...	1.7	1.7	5.4	0.420	0.080	0.055	14	234	596
01...	1.8	1.5	5.1	0.640	0.080	0.052	12	431	1370
01...	1.8	0.80	5.2	0.250	0.130	0.085	8.0	416	1370
02...	2.3	1.1	5.1	0.500	0.120	0.051	13	366	1210
02...	1.9	0.86	5.0	0.190	0.110	0.050	7.6	346	1060
02...	1.3	1.1	4.5	0.170	0.100	0.021	7.8	238	629
02...	1.6	1.3	5.0	0.150	0.100	0.009	8.4	186	378
02...	2.0	1.3	5.5	0.330	0.250	0.200	7.8	193	464
04...	0.98	0.86	5.2	0.120	0.060	0.028	6.2	46	74
17...	0.96	0.54	5.0	0.110	0.060	0.022	7.7	26	28
24...	1.2	0.92	6.1	0.090	0.040	0.018	7.9	15	15
MAR									
09...	1.1	0.89	5.9	0.070	0.030	0.009	7.5	14	12
17...	0.76	0.76	5.7	0.080	0.040	0.007	10	10	6.4
APR									
03...	--	1.9	--	0.190	0.080	0.021	14	27	16
12...	0.80	0.89	4.2	0.120	0.050	0.018	10	25	15
MAY									
05...	2.7	1.2	5.1	0.550	0.140	0.110	8.6	278	462
06...	2.0	1.4	4.3	0.330	0.110	0.082	7.5	136	185
06...	1.8	1.5	4.7	0.310	0.070	0.046	8.4	147	270
06...	3.0	1.0	6.7	0.500	0.120	0.090	8.2	307	788
06...	2.6	1.2	5.3	0.560	0.120	0.103	6.4	270	780
06...	2.9	1.3	5.4	0.580	0.090	0.063	6.2	455	1560
06...	3.0	1.5	5.1	0.430	0.110	0.091	6.2	470	1710
06...	2.2	1.5	4.1	0.550	0.110	0.081	5.8	443	1810
06...	3.1	1.7	5.5	0.450	0.100	0.066	6.4	549	2510
06...	3.0	1.2	5.4	0.580	0.090	0.028	6.2	428	1950
06...	3.3	0.95	5.8	0.490	0.080	0.053	6.2	401	1780
06...	2.9	0.97	5.6	0.560	0.070	0.024	6.7	353	1390
07...	2.2	1.0	5.1	0.450	0.070	0.012	6.4	320	1070
07...	1.8	0.90	4.7	0.320	0.070	0.017	6.0	190	491
07...	1.6	0.89	5.2	0.280	0.070	0.025	5.8	134	277
07...	1.6	1.0	4.3	0.180	0.060	0.008	5.6	74	125
08...	1.5	1.4	5.0	0.130	0.060	0.015	6.5	53	63
17...	3.9	1.4	7.4	1.43	0.260	0.990	8.5	435	1370
17...	3.7	1.2	6.1	0.890	0.150	0.076	7.0	639	2050
17...	6.8	1.0	9.1	1.21	0.100	0.039	7.6	1340	5540

01575585 CODORUS CREEK AT PLEASUREVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE FIELD (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NO2+NO3 TOTAL (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, ORGANIC DIS-SOLVED (MG/L AS N)
MAY										
18...	0100	2030	--	--	--	2.76	0.320	0.300	9.1	0.46
18...	0145	2410	--	--	--	2.88	0.990	0.540	6.5	0.31
18...	0155	2440	--	--	--	2.76	1.14	0.630	9.1	0.30
18...	0230	2740	--	--	--	2.88	1.05	0.630	3.7	0.54
18...	0330	3150	--	--	--	3.00	1.26	0.750	5.6	0.28
18...	0425	3490	--	--	--	3.00	1.26	0.630	5.5	0.17
18...	0630	4030	183	--	--	3.12	0.460	0.360	6.0	0.84
18...	0730	4120	177	--	--	3.12	0.430	0.360	4.1	0.89
18...	0850	3940	177	--	--	3.12	0.410	0.380	6.6	0.79
18...	1015	3610	184	--	--	3.00	0.340	0.260	1.7	0.82
18...	1315	2910	199	--	--	2.88	0.290	0.240	2.7	0.84
18...	1600	2650	219	--	--	3.12	0.190	0.190	1.9	0.66
18...	2245	1640	242	--	--	3.12	0.180	0.160	1.0	0.54
19...	0145	1430	253	--	--	3.12	0.100	0.080	1.8	0.50
19...	0730	1920	249	--	--	3.24	0.100	0.080	1.7	0.40
19...	1630	2270	212	--	--	3.12	0.230	0.180	2.0	0.57
20...	0530	1250	273	--	--	3.72	0.100	0.080	0.43	0.35
21...	0550	1020	294	--	--	3.84	0.130	0.130	0.60	0.20
JUN										
21...	1320	140	763	7.35	29.5	3.48	0.810	0.810	1.1	1.1
JUL										
11...	1515	88	800	--	31.0	2.76	1.32	1.32	--	--
23...	0735	136	479	--	--	2.64	0.990	0.780	1.2	1.0
23...	1700	903	393	--	0.0	2.64	0.960	--	2.1	--
23...	1815	1410	319	--	--	2.16	1.02	1.02	4.7	0.86
23...	1915	1620	203	--	--	1.80	0.510	0.290	1.7	0.92
23...	2015	1490	225	--	--	1.92	0.540	0.510	3.7	0.41
23...	2115	1450	185	--	--	1.68	0.420	0.360	2.5	1.3
23...	2215	1450	199	--	--	1.68	0.570	0.570	2.7	0.46
23...	2315	1220	182	--	--	1.32	0.360	0.360	2.4	0.32
24...	0215	618	224	--	--	1.68	0.450	0.450	2.6	0.52
							[a]	[a]		
24...	0545	428	313	--	--	2.04	0.510	0.600	1.7	0.75
24...	1015	454	371	--	--	2.16	0.420	0.420	1.6	0.55
24...	2135	291	380	--	--	2.64	0.570	0.390	0.75	0.39
AUG										
17...	1200	97	1100	8.50	27.0	1.74	2.69	2.53	1.1	0.90
SEP										
16...	1300	88	1000	7.70	20.0	2.28	2.40	0.020	1.3	1.2

DATE	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, 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)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
MAY									
18...	9.4	0.76	12	1.76	0.160	0.043	7.5	1080	5920
18...	7.5	0.85	10	2.53	0.100	0.041	10	2170	14100
18...	10	0.93	13	2.09	0.080	0.038	10	2000	13200
18...	4.8	1.2	7.7	0.780	0.090	0.031	20	2980	22000
18...	6.9	1.0	9.9	2.42	0.060	0.012	11	2410	20500
18...	6.8	0.80	9.8	2.42	0.070	0.027	9.2	1930	18200
18...	6.5	1.2	9.6	1.74	0.050	0.018	6.9	1630	17700
18...	4.6	1.2	7.7	0.590	0.050	0.021	6.9	1280	14200
18...	7.0	1.2	10	0.490	0.070	0.016	7.0	1100	11700
18...	2.1	1.1	5.1	0.380	0.070	0.034	7.2	733	7140
18...	3.0	1.1	5.8	0.400	0.070	0.018	7.1	462	3630
18...	2.1	0.85	5.2	0.330	0.050	0.024	6.5	326	2330
					[a]	[a]			
18...	1.2	0.70	4.3	0.210	0.060	0.068	6.7	216	956
19...	1.9	0.58	5.0	0.350	0.060	0.031	5.7	192	741
19...	1.8	0.48	5.0	0.310	0.050	0.031	5.2	242	1250
19...	2.3	0.75	5.4	0.360	0.080	0.027	6.8	318	1950
20...	0.53	0.43	4.2	0.150	0.040	0.022	4.7	78	263
21...	0.73	0.33	4.6	0.210	0.040	0.011	4.7	151	416
JUN									
21...	1.9	1.9	5.3	0.110	0.060	0.016	15	11	4.2
JUL									
11...	--	--	--	0.160	0.120	0.068	20	23	5.5
23...	2.2	1.8	4.9	0.280	0.110	0.107	7.9	54	20
23...	3.1	--	5.7	0.470	--	--	7.2	384	936
23...	5.8	1.9	7.9	0.630	0.120	0.085	6.9	753	2870
23...	2.2	1.2	4.0	0.480	0.090	0.080	6.3	877	3840
23...	4.3	0.92	6.2	0.450	0.110	0.018	6.4	700	2820
23...	2.9	1.7	4.6	0.290	0.090	0.080	5.9	519	2030
23...	3.3	1.0	4.9	0.360	0.110	0.074	6.5	857	3360
23...	2.7	0.68	4.1	0.320	0.130	0.120	5.6	501	1650
24...	3.1	0.97	4.7	0.340	0.130	0.105	6.9	408	681
24...	2.2	1.3	4.3	0.370	0.170	0.130	8.4	204	236
24...	2.0	0.97	4.1	0.270	0.150	0.110	9.4	134	164
					[a]	[a]			
24...	1.3	0.78	4.0	0.170	0.070	0.076	7.1	69	54
AUG									
17...	3.8	3.4	5.5	0.270	0.180	0.130	24	23	6.0
SEP									
16...	3.7	1.2	6.0	0.270	0.090	0.054	25	19	4.5

(a) Results within limits of analytical precision.

RESERVOIRS IN CODORUS CREEK BASIN

01574390 LAKE MARBURG.--Lat 39°48'26", long 76°52'58", York County, Hydrologic Unit 02050306, at dam on West Branch Codorus Creek, 0.7 mi upstream from Codorus Creek, and 4.5 mi south of Spring Grove. DRAINAGE AREA, 23.2 mi^2. PERIOD OF RECORD, October 1972 to current year in reports of Geological Survey; July 1972 to September 1974 in files of P. H. Glatfelter Co., Spring Grove. Records for period December 1966 to June 1972 were lost in the flood of June 1972. GAGE, Nonrecording. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Lake is formed by earthfill dam with two bascule spillway gates. Each is 7 ft high and 106.50 ft long. Elevation of top of gates is 623.00 ft. Top of dam is at elevation 627.00 ft. Storage began in December 1966. The capacity at elevation 627.00 ft is 53,210 acre-ft, and at normal pool elevation of 623.00 ft the capacity is 47,680 acre-ft. At the spillway crest the elevation is 616.00 ft and the capacity is 39,430 acre-ft. The lake is used for water supply and recreation. An average of about 3,380 acre-ft is diverted from Codorus Creek into the lake each year.

COOPERATION.--Records provided by P.H. Glatfelter Company.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 47,680 acre-ft many times each year, elevation, 623.00 ft; minimum, 35,520 acre-ft, Dec. 3, 1978, elevation, 612.20 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 47,570 acre-ft, June 2, 3, elevation, 622.92 ft; minimum, 38,240 acre-ft, Nov. 9, elevation, 614.88 ft.

01574700 INDIAN ROCK DAM.--Lat 39°55'22", long 76°45'14", York County, Hydrologic Unit 02050306, at dam on Codorus Creek, 0.1 mi upstream from mouth of South Branch Codorus Creek, 0.3 mi west of York Water Co. pumping station, and 3.0 mi southwest of York. DRAINAGE AREA, 93.7 mi^2. PERIOD OF RECORD, September 1962 to current year in reports of Geological Survey, September 1942 to August 1962 in files of Baltimore District, U.S. Army Corps of Engineers. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Reservoir formed by an earth and rockfill dam with ungated concrete spillway at elevation 435.00 ft. Reservoir completed in June 1942; storage began in June 1946. Capacity at elevation 435.00 ft is 28,000 acre-ft. No dead storage. Reservoir is used for flood control. Figures given herein represent total contents. Flood storage is regulated by three vertical-lift tractor gates. Water is stored only during high flows and released when downstream conditions warrant. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.--Records provided by U.S. Army Corps of Engineers.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 30,200 acre-ft, June 23, 1972, elevation, 436.44 ft; minimum, no storage many times each year.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 696 acre-ft, Jan. 20, elevation, 388.20 ft; minimum, 9.2 acre-ft, July 14, elevation, 372.05 ft.

MONTHEND ELEVATION, IN FEET NGVD, AND CONTENTS AT 2400, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

Date	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s/day)	Elevation (feet)	Contents (acre-feet)	Change in contents (equivalent in ft^3/s/day)
	01574390 LAKE MARBURG			01574700 INDIAN ROCK DAM		
Sept. 30	616.70	40,180	--	372.57	a10.7	--
Oct. 31	615.30	38,680	-24.4	373.17	12.5	+ 0.03
Nov. 30	615.80	39,220	+ 9.1	378.43	60.7	+ 0.81
Dec. 31	616.50	39,960	+12.0	375.63	29.7	- 0.50
CAL YR 1987	--	--	+ 2.1	--	--	+ 0.02
Jan. 31	617.40	40,930	+15.8	375.25	26.2	- 0.06
Feb. 29	616.60	43,270	+40.7	372.90	11.7	- 0.25
Mar. 31	620.50	44,360	+17.7	372.59	10.8	- 0.01
Apr. 30	620.20	43,970	- 6.6	372.50	10.5	- 0.01
May 31	622.90	47,550	+58.2	373.49	13.5	+ 0.05
June 30	621.70	45,950	-26.9	373.37	13.1	- 0.01
July 31	620.00	43,700	-36.6	374.08	15.7	+ 0.04
Aug. 31	617.40	40,930	-45.0	374.17	16.5	+ 0.01
Sept. 30	615.00	38,360	-43.2	371.97	8.9	- 0.13
WTR YR 1988	--	--	- 2.5	--	--	- 0.002

(a) Revised.

01576000 SUSQUEHANNA RIVER AT MARIETTA, PA

LOCATION.--Lat 40°03'16", long 76°31'52", Lancaster County, Hydrologic Unit 02050306, on left bank 420 ft upstream from Chickies Creek and 1.0 mi downstream from Marietta. Records include flow of Chickies Creek.

DRAINAGE AREA.--25,990 mi^2, approximately, includes that of Chickies Creek.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1931 to current year.

REVISED RECORDS.--WSP 781: 1933(M). WSP 1502: 1937.

GAGE.--Water-stage recorder. Datum of gage is 200.56 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow slightly regulated by 16 flood-control reservoirs, which have a combined capacity of 1,599,000 acre-ft. Some diurnal fluctuation at discharges below 8,000 ft^3/s caused by hydroelectric plant 9.7 mi upstream. National Weather Service satellite telemeter at station.

COOPERATION.--Daily discharges through Safe Harbor Dam provided by Safe Harbor Water Power Corporation.

AVERAGE DISCHARGE.--57 years, 36,720 ft^3/s, 19.19 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,080,000 ft^3/s, June 23, 1972, gage height, 64.54 ft, from floodmarks; minimum, 618 ft^3/s, Sept. 26, 1932, gage height, 30.89 ft, when York Haven powerplant was shut down to obtain current-meter measurements of low flow; minimum daily, 1,380 ft^3/s, Sept. 26, 1932.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 2, 1889, reached a stage of 58.2 ft, from floodmark, discharge, about 630,000 ft^3/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 200,000 ft^3/s, May 22, gage height, 45.72 ft; minimum, 3,710 ft^3/s, July 16, gage height, 32.17 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17900	24100	65100	29600	21200	26000	61900	26200	33500	5910	11600	24900
2	18900	27400	78800	25900	30300	24000	53500	34700	28500	5760	11200	19600
3	20100	23900	77000	22900	69000	23400	48300	40200	27000	5470	10700	18300
4	18400	21100	69100	20400	161000	24400	46200	36600	25300	5690	9510	17700
5	16300	19400	59100	16800	153000	36300	44800	32700	23300	5490	7400	19200
6	16900	17600	50300	15300	118000	46000	43300	32400	20800	5440	7120	19700
7	18100	16600	42600	e14000	86500	47600	45100	36300	20800	5170	8170	21200
8	18600	15900	38100	e13000	70600	44800	47700	37900	19600	5060	7120	17500
9	20700	15400	34600	e12000	61700	40900	51000	38400	17800	5040	6850	15500
10	19800	15400	31700	e12000	58700	39800	52100	36400	18600	4890	6740	13200
11	18900	17100	29600	e11000	46400	44700	46500	35900	17600	4880	6430	11000
12	18400	17000	28200	e11000	44000	59400	41900	33400	16700	4820	5900	9660
13	18000	16600	27800	e12000	39800	66500	38500	31700	14800	4730	5620	9260
14	17400	17300	28500	e13000	e35000	62900	35600	29800	13500	4670	5450	9060
15	16800	18400	28800	15100	e31000	62500	33000	27800	12400	4480	5300	9010
16	16500	19700	29300	13400	e30000	64000	30300	26800	11700	4280	5000	9020
17	16800	20600	30000	11900	e29000	60300	28000	26200	10600	4400	4760	8660
18	16600	23000	30600	13100	e28000	53500	27000	31800	10200	4490	4570	8130
19	15800	31000	31300	14700	e26000	46700	26000	56500	9670	4470	5850	7850
20	14800	37000	31100	22200	37600	42100	24400	143000	10400	5040	6700	8150
21	13800	35200	31300	33700	41500	38600	22800	188000	8810	9170	5620	9230
22	12900	32500	32200	40200	41700	35500	21500	192000	8870	8010	4670	8240
23	12400	30600	36600	40100	40500	32400	20400	147000	8610	8930	4380	8350
24	11800	28300	44300	38800	38600	29500	19600	110000	7510	17100	4940	8970
25	11500	26000	42800	42900	36200	27400	18500	90800	7500	12800	4950	8520
26	10900	23900	39100	37000	33600	27100	17900	84600	6950	12000	5030	8190
27	11000	22400	36700	31900	30600	31500	18400	68800	6620	16900	5130	7640
28	13700	21400	34800	27700	27500	61600	21500	58300	6450	14400	6010	7300
29	15100	23200	34200	24300	27600	92400	22100	51700	6390	15200	6390	7040
30	18800	63700	34000	21500	---	86000	23100	43600	6040	13000	6630	6790
31	21200	---	32300	20500	---	73400	---	38700	---	11900	25700	---
TOTAL	508800	721700	1239900	677900	1494600	1451200	1030900	1868200	436520	239590	221440	356870
MEAN	16410	24060	40000	21870	51540	46810	34360	60260	14550	7729	7143	11900
MAX	21200	63700	78800	42900	161000	92400	61900	192000	33500	17100	25700	24900
MIN	10900	15400	27800	11000	21200	23400	17900	26200	6040	4280	4380	6790
CFSM	.63	.93	1.54	.84	1.98	1.80	1.32	2.32	.56	.30	.27	.46
IN.	.73	1.03	1.77	.97	2.14	2.08	1.48	2.67	.62	.34	.32	.51

CAL YR 1987 TOTAL 11181550 MEAN 30630 MAX 233000 MIN 4780 CFSM 1.18 IN. 16.00
WTR YR 1988 TOTAL 10247620 MEAN 28000 MAX 192000 MIN 4280 CFSM 1.08 IN. 14.67

e Estimated

01576000 SUSQUEHANNA RIVER AT MARIETTA, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1961-74, 1976, 1987 to current year.

REMARKS.--Samples collected from bridge on State Highway 30, 1.5 miles downstream from gage.

COOPERATION.--Water-quality samples collected by Susquehanna River Basin Commission and analyzed by the Pa. Department of Evironmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE FIELD (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NO2+NO3 TOTAL (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, ORGANIC DIS-SOLVED (MG/L AS N)
OCT										
15...	1300	16800	285	8.10	17.0	0.760	0.020	0.020	0.52	0.20
NOV										
17...	1400	20600	288	8.00	12.5	1.32	0.030	0.030	0.48	0.33
DEC										
17...	0930	29800	240	7.60	5.5	1.28	0.060[a]	0.090[a]	0.30	0.17
FEB										
04...	1400	171000	180	7.25	3.0	1.42	0.200	0.200	0.94	0.24
04...	2030	167000	200	7.35	2.0	1.58	0.240	0.240	0.24	0.14
05...	1140	153000	185	7.45	2.0	1.36	0.180	0.180	0.84	0.26
06...	0900	123000	195	7.60	1.0	1.20	0.140	0.140	0.52	0.14
07...	1145	86300	180	7.75	3.0	1.32	0.160	0.150	0.24	0.11
08...	1100	71400	160	7.75	4.0	1.22	0.150	0.140	0.13	0.10
09...	1130	61300	190	7.75	4.0	1.72	0.100	0.100	0.34	0.30
25...	1130	36200	225	7.50	5.0	1.46	0.130[a]	0.150[a]	0.13	0.05
MAR										
17...	1100	61100	185	7.40	6.0	1.08	0.080	0.080	0.16	0.16
APR										
12...	1230	41800	198	7.50	14.0	1.06	0.030	0.030	0.37	--
MAY										
19...	1145	53200	220	7.40	19.0	1.12	0.080	0.060	1.4	0.57
19...	1550	62900	205	7.20	19.0	1.10	0.080	0.070	1.0	0.71
20...	1020	139000	170	7.50	18.0	1.62	0.080	0.040	2.2	0.55
20...	1500	161000	170	7.30	18.0	1.58	0.080	0.070	2.7	0.77
21...	1015	184000	140	7.20	17.5	1.30	0.020	0.020	1.7	0.52
21...	1420	189000	135	7.40	18.0	1.06	0.020	0.020	1.6	0.57
22...	1115	197000	145	7.40	20.0	1.00	0.020	0.020	1.1	0.47
23...	1020	149000	145	7.80	21.0	0.960	0.060	0.060	0.54	--
24...	0945	111000	140	7.50	21.0	1.00	0.070	0.070	--	--
26...	1150	85100	--	7.40	21.0	1.10	0.060[a]	0.100[a]	--	--
JUN										
02...	1000	28700	185	8.20	23.0	0.820	0.010	0.010	--	--
21...	1130	7890	315	8.65	31.5	0.660	0.020	0.020	0.36	--
JUL										
11...	1200	4820	405	--	34.0	0.600	0.060	0.060	0.71	0.54
AUG										
22...	1030	4580	380	8.30	25.5	0.580	0.010[a]	0.020[a]	0.40	--
SEP										
16...	1445	9300	--	--	20.0	0.560	0.040	0.040	0.68	0.35

(a) Results within limits of analytical precision.

01576000 SUSQUEHANNA RIVER AT MARIETTA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT									
15...	0.54	0.22	1.3	0.050	0.030	0.013	6.7	19	862
NOV									
17...	0.51	0.36	1.8	0.060	0.030	0.006	2.3	8	445
DEC									
17...	0.36	0.26	1.6	0.080	0.040	<0.001	1.3	23	1850
FEB									
04...	1.1	0.44	2.6	0.420	0.030	0.004	6.9	316	146000
04...	0.48	0.38	2.1	0.520	0.040	<0.002	6.3	350	158000
05...	1.0	0.44	2.4	0.080	0.030	0.005	3.5	188	77700
06...	0.66	0.28	1.9	0.060	0.020	0.006	2.6	103	34200
07...	0.40	0.26	1.7	0.110	0.030	0.003	2.6	49	11400
08...	0.28	0.24	1.5	0.090	0.030	0.003	2.2	36	6940
09...	0.44	0.40	2.2	0.070	0.020	0.008	2.2	37	6120
25...	0.26	0.20	1.7	0.080	0.030	0.003	2.0	18	1760
MAR									
17...	0.24	0.24	1.3	0.090	0.030	0.004	2.4	30	4950
APR									
12...	0.40	<0.20	1.5	0.080	0.030	0.006	2.2	24	2710
MAY									
19...	1.5	0.63	2.6	0.300	0.060	0.011	4.2	148	21300
19...	1.1	0.78	2.2	0.310	0.060	0.011	3.9	163	27700
20...	2.3	0.59	3.9	0.090	0.050	0.010	4.5	320	120000
20...	2.8	0.84	4.4	0.120	0.050	0.008	4.7	362	157000
21...	1.7	0.54	3.0	0.130	0.040	0.011	4.0	241	120000
21...	1.6	0.59	2.7	0.200	0.040	0.007	3.7	230	117000
22...	1.2	0.49	2.2	0.200	0.030	0.005	3.1	192	102000
23...	0.60	<0.20	1.6	0.150	0.030	0.002	3.8	158	63600
24...	<0.20	<0.20	--	0.190	0.030	0.006	3.1	107	32100
26...	<0.20	<0.20	--	0.170	0.040	0.003	2.8	68	15600
JUN									
02...	<0.20	<0.20	--	0.130	0.020	<0.002	3.0	28	2170
21...	0.38	<0.20	1.0	0.060	0.020	0.006	3.3	7	149
JUL									
11...	0.77	0.60	1.4	0.060	0.030	<0.002	4.9	12	156
AUG									
22...	0.41	<0.20	0.99	0.100	0.030	0.004	4.6	18	223
SEP									
16...	0.72	0.39	1.3	0.070	0.040	0.005	4.1	15	377

(<) Actual value is known to be less than the value shown.

01576083 AGRICULTURAL FIELD RUNOFF SITE NO. 1 NEAR CHURCHTOWN, PA

LOCATION.--Lat 40°07'42", long 75°58'40", Lancaster County, Hydrologic Unit 02050306, on left bank of drainage ditch below cornfield, 500 ft west of small left-bank tributary to Conestoga River, 0.3 mi south of State Highway 23, 1.1 mi southwest of Churchtown, and 1.9 mi north of State Highway 322.

DRAINAGE AREA.--0.03 mi^2.

PERIOD OF RECORD.--Water years 1983 to current year.

INSTRUMENTATION.--Automatic sediment pumping sampler since January 1983.

COOPERATION.--Water-quality samples collected by Pa. Department of Environmental Resources, and U.S. Geological Survey. Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW INSTAN-TANEOUS (CFS)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT							
27...	2056	0.28	--	--	7.30	--	--
27...	2106	0.73	0.160	0.100	3.70	3.30	0.600
27...	2121	0.94	0.100	0.070	3.30	2.90	0.420
27...	2141	0.94	--	--	3.10	--	--
27...	2211	1.1	--	--	2.20	--	--
27...	2241	0.97	0.090	0.080	1.90	1.70	0.260
28...	0011	0.28	0.090	0.050	1.60	1.50	0.140
NOV							
29...	1610	0.10	--	--	4.40	--	--
29...	1635	1.0	--	--	1.80	--	--
29...	1650	0.87	--	--	1.90	--	--
29...	1725	0.15	--	--	3.20	--	--
29...	1755	0.49	--	--	3.60	--	--
29...	1855	1.1	--	--	1.60	--	--
29...	1955	0.07	--	--	3.40	--	--
29...	2245	0.35	--	--	3.80	--	--
29...	2305	0.49	--	--	1.90	--	--
30...	0925	<0.01	--	--	3.60	--	--
JAN							
18...	1026	0.17	0.040	--	1.60	--	1.30
18...	1136	0.35	0.040	--	1.50	--	1.20
18...	1336	0.78	0.050	0.050	1.30	1.30	0.810
18...	1506	0.90	0.060	--	1.40	--	0.600
18...	1636	0.39	0.060	--	1.60	--	0.570
18...	1906	0.10	0.060	--	1.80	--	0.570
19...	1358	0.12	0.160	--	2.50	--	0.660
19...	1418	0.15	0.130	--	2.40	--	0.600
19...	1443	0.14	0.130	--	2.50	--	0.600
19...	1613	0.07	0.100	--	2.90	--	0.510
20...	0013	0.37	0.170	0.040	3.40	3.00	0.840
20...	0028	0.73	0.250	--	3.00	--	0.870
20...	0048	1.0	0.200	0.030	2.60	2.30	0.720
20...	0218	1.1	0.230	--	2.40	--	0.810
20...	0448	1.2	0.200	--	1.60	--	0.720
20...	0648	1.1	0.240	--	1.20	--	0.720
20...	0948	0.94	0.140	0.040	1.50	1.40	0.540
20...	1118	0.44	0.170	--	1.70	--	0.450
20...	1348	0.09	0.130	--	2.50	--	0.360
31...	2352	0.15	--	--	1.00	--	--
FEB							
01...	0022	0.32	--	--	0.960	--	--
01...	0057	0.44	--	--	0.980	--	--
01...	0127	0.81	--	--	0.960	--	--
01...	0327	1.1	--	--	1.30	--	--
01...	0527	0.87	--	--	0.920	--	--
01...	0557	0.56	--	--	1.00	--	--
01...	0727	0.35	--	--	1.20	--	--
01...	0857	0.17	--	--	1.60	--	--
01...	1027	0.28	--	--	1.80	--	--
01...	1127	0.22	--	--	2.40	--	--
01...	1227	0.26	--	--	2.50	--	--
01...	1357	0.10	--	--	3.20	--	--
02...	0955	<0.01	--	--	8.20	--	--
03...	1038	<0.01	--	--	6.20	--	--
15...	1302	0.14	--	--	2.00	--	--
15...	1347	0.32	--	--	1.30	--	--
15...	1447	0.73	--	--	1.30	--	--
15...	1617	0.94	--	--	1.10	--	--
15...	1817	1.1	--	--	1.20	--	--
15...	2017	0.37	--	--	1.40	--	--
15...	2247	0.20	--	--	1.60	--	--
16...	0047	0.73	--	--	1.64	--	--
16...	0247	0.09	--	--	1.70	--	--
16...	0920	0.01	--	--	2.60	--	--
19...	2114	0.14	--	--	4.20	--	--
19...	2139	0.49	--	--	2.90	--	--
19...	2259	0.15	--	--	4.40	--	--

(<) Actual value is known to be less than the value shown.

01576083 AGRICULTURAL FIELD RUNOFF SITE NO. 1 NEAR CHURCHTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)
OCT						
27...	--	8.4	--	16	5.50	--
27...	0.550	18	1.8	22	8.00	2.30
27...	0.340	13	1.7	16	8.80	1.60
27...	--	5.4	--	8.5	3.70	--
27...	--	5.4	--	7.6	2.60	--
27...	0.200	2.0	1.4	3.9	4.00	1.10
28...	0.120	1.2	0.76	2.8	4.20	0.740
NOV						
29...	--	2.9	--	7.3	2.10	--
29...	--	6.3	--	8.1	3.10	--
29...	--	3.5	--	5.4	2.80	--
29...	--	2.4	--	5.6	1.90	--
29...	--	3.2	--	6.8	2.20	--
29...	--	2.8	--	4.4	1.60	--
29...	--	7.8	--	11	2.10	--
29...	--	6.7	--	10	3.60	--
29...	--	5.3	--	7.2	3.10	--
30...	--	0.93	--	4.5	0.220	--
JAN						
18...	--	4.5	--	6.1	1.30	--
18...	--	3.8	--	5.3	1.40	--
18...	0.780	3.2	2.8	4.5	1.40	0.690
18...	--	1.6	--	3.0	1.50	--
18...	--	1.5	--	3.1	1.60	--
18...	--	1.8	--	3.6	1.50	--
19...	--	1.8	--	4.3	1.40	--
19...	--	1.6	--	4.0	1.40	--
19...	--	1.4	--	3.9	1.30	--
19...	--	0.86	--	3.8	1.20	--
20...	0.400	6.7	2.3	10	2.70	0.460
20...	--	1.9	--	4.9	2.00	--
20...	0.450	4.1	3.1	6.7	2.80	0.510
20...	--	1.4	--	3.8	2.20	--
20...	--	1.0	--	2.6	1.40	--
20...	--	1.2	--	2.4	1.40	--
20...	0.260	3.1	2.3	4.6	2.30	0.660
20...	--	1.3	--	3.0	1.90	--
20...	--	1.9	--	4.4	1.30	--
31...	--	1.8	--	2.8	1.20	--
FEB						
01...	--	3.1	--	4.1	0.640	--
01...	--	1.3	--	2.3	0.570	--
01...	--	0.78	--	1.7	0.380	--
01...	--	1.4	--	2.7	0.670	--
01...	--	1.8	--	2.7	0.440	--
01...	--	1.4	--	2.4	0.430	--
01...	--	0.40	--	1.6	0.470	--
01...	--	0.41	--	2.0	0.600	--
01...	--	1.4	--	3.2	0.690	--
01...	--	1.5	--	3.9	0.850	--
01...	--	1.4	--	3.9	0.990	--
01...	--	2.6	--	5.8	0.800	--
02...	--	0.35	--	8.6	0.230	--
03...	--	0.58	--	6.8	0.150	--
15...	--	1.3	--	3.3	0.580	--
15...	--	1.9	--	3.2	0.720	--
15...	--	1.4	--	2.7	0.590	--
15...	--	1.6	--	2.7	0.710	--
15...	--	2.0	--	3.2	1.20	--
15...	--	1.8	--	3.2	1.00	--
15...	--	1.6	--	3.2	0.990	--
16...	--	4.1	--	5.8	1.87	--
16...	--	3.7	--	5.4	1.20	--
16...	--	1.3	--	3.9	1.00	--
19...	--	7.3	--	11	4.90	--
19...	--	8.5	--	11	6.10	--
19...	--	7.5	--	12	3.40	--

01576083 AGRICULTURAL FIELD RUNOFF SITE NO. 1 NEAR CHURCHTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
MAY							
10...	2105	0.26	--	--	4.80	--	--
10...	2110	0.30	--	--	2.60	--	--
10...	2115	0.20	--	--	2.30	--	--
10...	2120	0.14	--	--	1.90	--	--
10...	2125	0.09	--	--	1.90	--	--
19...	0047	0.15	0.730	--	36.0	--	1.90
19...	0057	0.20	0.600	--	31.0	--	1.80
19...	0122	0.19	0.550	--	29.0	--	2.20
19...	0257	0.37	0.380	--	25.0	--	2.10
19...	0357	0.35	0.360	--	26.0	--	2.20
19...	0427	1.4	0.080	--	6.10	--	0.780
19...	0457	1.0	0.030	0.030	7.10	5.90	0.840
19...	0627	0.73	0.110	0.090	14.0	13.0	1.40
19...	0727	0.46	0.120	--	14.0	--	1.10
19...	0757	1.0	0.070	--	5.40	--	0.720
19...	0827	0.81	0.130	0.100	9.40	7.70	1.10
19...	0927	0.24	0.150	--	10.0	--	0.960
19...	1040	0.20	0.140	--	9.40	--	0.720
19...	1227	0.18	0.280	--	10.0	--	0.780
20...	2216	0.46	--	--	4.40	--	--
20...	2226	0.39	--	--	2.60	--	--
20...	2236	0.24	--	--	2.60	--	--
JUL							
17...	1737	0.62	0.640	--	9.10	--	4.80
17...	1742	2.1	0.370	--	4.70	--	1.30
17...	1747	7.9	0.280	--	3.70	--	1.20
17...	1752	9.4	0.140	0.080	3.40	3.20	1.00
17...	1757	11	0.170	--	3.00	--	0.780
17...	1802	13	0.160	--	2.40	--	0.630
17...	1807	10	0.140	0.060	3.40	3.40	0.750
17...	1812	8.7	0.310	--	7.20	--	0.930
17...	1817	12	0.570	0.070	9.90	9.40	2.10
17...	1822	15	0.540	--	11.0	--	1.80
17...	1827	15	0.350	--	11.0	--	1.30
17...	1832	13	0.200	0.060	11.0	11.0	2.60
17...	1837	11	0.440	--	11.0	--	2.00
17...	1852	7.8	0.600	--	8.50	--	2.00
17...	1907	4.9	0.530	--	7.90	--	1.90
17...	1917	3.6	0.550	--	6.50	--	1.90
17...	1952	1.8	0.480	0.250	7.30	7.10	1.20
17...	2052	1.1	0.400	0.060	4.90	3.60	1.40
17...	2152	1.1	0.290	--	4.00	--	1.20
17...	2322	1.1	0.310	--	4.40	--	1.00
18...	0152	1.1	0.370	0.080	4.00	3.20	1.40
18...	0352	1.1	0.430	--	4.10	--	1.10
18...	0422	1.0	0.400	--	4.60	--	1.60
18...	0552	1.0	0.460	0.180	4.90	4.60	1.50
18...	0622	0.90	0.380	0.050	5.20	4.20	1.20
18...	0822	0.90	0.340	--	5.80	--	1.40
18...	0922	0.87	0.320	--	5.80	--	1.30
18...	1022	0.84	0.340	0.060	6.20	5.80	1.60
18...	1122	0.56	0.280	--	5.30	--	0.960
18...	1352	0.51	0.250	--	4.80	--	0.780
18...	1452	0.30	0.200	--	3.60	--	0.810
18...	1622	0.24	0.200	--	3.20	--	0.910
19...	2243	0.35	0.250	--	1.20	--	1.00
19...	2248	0.87	0.840	--	4.20	--	2.40
19...	2253	1.7	0.220	--	3.50	--	0.810
19...	2258	3.3	0.300	--	3.70	--	0.630
19...	2303	3.5	0.130	--	4.10	--	0.930
19...	2308	3.2	0.240	--	3.60	--	1.00
19...	2318	2.3	0.310	--	3.70	--	1.10
19...	2353	1.1	0.490	--	2.80	--	1.20
20...	0053	1.0	0.140	--	2.90	--	0.630
20...	0253	1.0	0.160	--	3.00	--	0.690
20...	0423	1.0	0.180	--	3.00	--	0.750
20...	0553	1.0	0.480	--	2.80	--	1.10
20...	0623	0.90	0.590	--	3.50	--	1.20
20...	0823	0.87	0.440	--	2.60	--	0.990
20...	0853	0.76	0.400	--	2.50	--	0.960
20...	1023	0.70	0.310	--	2.40	--	0.720
20...	1053	0.35	0.180	--	1.80	--	0.600
20...	1153	0.24	0.460	--	1.90	--	1.00
20...	1815	0.30	--	--	2.00	--	--
20...	1825	0.76	--	--	4.30	--	--
20...	1830	0.78	--	--	4.40	--	--
20...	1845	0.73	--	--	2.90	--	--
20...	1925	0.30	--	--	1.80	--	--
21...	0200	0.63	--	--	2.40	--	--
21...	0210	0.49	--	--	2.60	--	--
21...	0225	0.26	--	--	2.20	--	--
21...	0330	0.87	--	--	1.90	--	--
21...	0430	0.17	--	--	1.80	--	--
21...	1642	0.56	--	--	2.00	--	--
21...	1652	2.4	--	--	1.70	--	--
21...	1702	1.5	--	--	1.90	--	--
21...	1717	1.0	--	--	1.70	--	--
21...	1752	0.87	--	--	1.60	--	--
21...	1822	1.5	--	--	0.860	--	--
21...	1827	4.2	--	--	0.800	--	--
21...	1832	3.4	--	--	0.720	--	--
21...	1847	1.2	--	--	0.760	--	--
21...	1947	0.94	--	--	0.800	--	--

01576083 AGRICULTURAL FIELD RUNOFF SITE NO. 1 NEAR CHURCHTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)
MAY						
10...	--	24	--	29	9.10	--
10...	--	38	--	41	8.40	--
10...	--	18	--	20	9.50	--
10...	--	30	--	32	10.0	--
10...	--	30	--	32	15.0	--
19...	--	9.8	--	46	1.50	--
19...	--	11	--	42	1.30	--
19...	--	6.6	--	36	4.00	--
19...	--	7.6	--	33	2.10	--
19...	--	8.8	--	35	2.00	--
19...	--	7.1	--	13	3.10	--
19...	0.690	2.4	2.3	9.5	4.00	3.40
19...	1.20	6.8	2.5	21	5.80	0.290
19...	--	4.6	--	19	2.80	--
19...	--	3.4	--	8.8	3.60	--
19...	0.930	9.6	2.7	19	5.40	0.310
19...	--	7.0	--	17	5.40	--
19...	--	6.3	--	16	4.70	--
19...	--	6.9	--	17	10.0	--
20...	--	7.2	--	12	7.40	--
20...	--	8.2	--	11	6.30	--
20...	--	14	--	16	7.40	--
JUL						
17...	--	38	--	47	4.00	--
17...	--	12	--	17	2.50	--
17...	--	14	--	18	2.80	--
17...	1.00	11	4.3	14	2.30	0.780
17...	--	9.4	--	12	2.20	--
17...	--	8.1	--	10	3.50	--
17...	0.750	2.8	4.0	6.2	2.30	0.530
17...	--	11	--	18	3.00	--
17...	0.930	7.6	3.3	17	3.50	0.320
17...	--	5.7	--	17	4.50	--
17...	--	10	--	21	7.70	--
17...	1.30	12	3.7	23	5.90	0.300
17...	--	14	--	25	4.40	--
17...	--	9.1	--	18	4.10	--
17...	--	8.3	--	16	4.00	--
17...	--	10	--	16	4.80	--
17...	0.840	6.6	4.3	14	3.00	0.440
17...	0.780	6.1	2.2	11	2.40	0.490
17...	--	4.6	--	8.6	3.20	--
17...	--	6.1	--	10	2.60	--
18...	0.720	4.5	2.2	8.5	2.60	0.470
18...	--	4.9	--	9.0	2.30	--
18...	--	17	--	22	2.50	--
18...	0.930	4.9	4.0	9.8	2.50	0.580
18...	0.780	4.1	2.0	9.3	2.50	0.320
18...	--	4.2	--	10	2.20	--
18...	--	4.0	--	9.8	2.90	--
18...	1.00	3.7	2.3	9.9	2.40	0.480
18...	--	5.0	--	10	2.10	--
18...	--	2.8	--	7.6	1.30	--
18...	--	3.3	--	6.9	1.10	--
18...	--	3.4	--	6.6	1.10	--
19...	--	33	--	34	20.0	--
19...	--	7.1	--	11	25.0	--
19...	--	6.5	--	10	8.20	--
19...	--	5.0	--	8.7	5.20	--
19...	--	4.4	--	8.5	4.10	--
19...	--	4.7	--	8.3	4.60	--
19...	--	5.4	--	9.1	3.00	--
19...	--	4.2	--	7.0	6.30	--
20...	--	4.0	--	6.9	5.20	--
20...	--	7.7	--	11	6.70	--
20...	--	6.1	--	9.1	6.00	--
20...	--	3.7	--	6.5	4.20	--
20...	--	2.8	--	6.3	4.60	--
20...	--	3.7	--	6.3	4.20	--
20...	--	2.6	--	5.1	3.60	--
20...	--	3.6	--	6.0	4.30	--
20...	--	4.3	--	6.1	4.20	--
20...	--	4.7	--	6.6	2.90	--
20...	--	16	--	18	23.0	--
20...	--	7.8	--	12	13.0	--
20...	--	5.1	--	9.5	9.50	--
20...	--	14	--	17	6.30	--
20...	--	11	--	13	8.60	--
21...	--	3.9	--	6.3	8.60	--
21...	--	3.6	--	6.2	8.10	--
21...	--	3.0	--	5.2	7.70	--
21...	--	6.7	--	8.6	7.70	--
21...	--	5.1	--	6.9	4.50	--
21...	--	8.3	--	10	8.00	--
21...	--	6.5	--	8.2	2.20	--
21...	--	3.0	--	4.9	2.60	--
21...	--	8.6	--	10	2.60	--
21...	--	3.7	--	5.3	2.30	--
21...	--	4.2	--	5.1	1.90	--
21...	--	3.5	--	4.3	0.930	--
21...	--	3.9	--	4.6	1.80	--
21...	--	1.9	--	2.7	2.30	--
21...	--	2.7	--	3.5	2.20	--

01576083 AGRICULTURAL FIELD RUNOFF SITE NO. 1 NEAR CHURCHTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)
JUL						
21...	2147	0.87	0.900	2.1	3.0	1.80
21...	2347	0.87	0.880	2.5	3.4	2.30
22...	0117	1.0	0.760	2.8	3.6	1.60
22...	0217	0.87	1.00	2.6	3.6	1.90
22...	0447	0.84	1.10	2.9	4.0	1.80
22...	0617	0.84	1.20	3.0	4.2	1.90
22...	0847	0.81	1.20	1.8	3.0	1.80
22...	0947	0.51	1.12	1.5	2.6	1.76
22...	1245	0.44	1.00	2.0	3.0	1.60
22...	1345	0.24	0.980	4.1	5.1	1.80
22...	1545	0.17	1.00	1.8	2.8	1.40
23...	1629	0.51	4.00	18	22	8.70
23...	1639	0.81	4.80	13	18	3.50
23...	1654	0.62	5.50	14	19	4.30
23...	1704	0.26	5.20	7.3	12	3.60
23...	1822	0.32	3.50	12	15	10.0
23...	1837	0.54	2.30	4.9	7.2	3.40
23...	1857	0.56	1.90	9.9	12	3.60
23...	2003	1.0	0.960	5.8	6.8	2.20
23...	2103	0.97	0.960	6.0	7.0	3.50
23...	2203	1.2	0.840	4.0	4.8	2.00
23...	2303	1.1	0.620	5.1	5.7	2.30
24...	0133	0.87	0.780	3.7	4.5	2.30
24...	0233	0.70	0.860	2.2	3.1	2.20
24...	0403	0.39	0.840	2.1	2.9	1.80
24...	0503	0.19	0.720	2.1	2.8	1.90
26...	2113	0.94	2.20	6.6	8.8	6.60
26...	2118	1.2	1.90	9.3	11	3.00
26...	2123	1.2	1.80	4.8	6.6	3.10
26...	2128	1.1	1.80	9.2	11	4.20
26...	2218	0.90	1.70	3.4	5.1	2.10
27...	0018	0.76	2.30	5.1	7.4	3.00
27...	0048	0.49	1.60	3.5	5.1	2.80
27...	0148	0.44	1.40	2.6	4.0	2.80
27...	0218	0.19	1.70	2.7	4.4	2.80
28...	0039	0.59	4.00	9.4	13	3.20
28...	0054	0.76	2.60	4.8	7.4	2.20
28...	0104	0.62	3.00	3.4	6.4	2.60
28...	0144	1.0	1.30	6.3	7.6	2.40
28...	0314	0.41	1.10	3.0	4.1	1.60
SEP						
04...	1010	0.24	1.90	4.9	6.8	1.50
04...	1150	0.41	1.70	3.3	5.0	1.30
04...	1200	0.22	1.80	2.2	4.0	0.740
04...	1343	0.59	1.30	3.8	5.1	1.50
04...	1413	0.87	0.840	2.0	2.8	0.860
04...	1513	0.67	0.740	2.4	3.1	1.20

INSTANTANEOUS SUSPENDED-SEDIMENT DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
27...	2101	0.56	994	1.5	--
27...	2111	0.87	1430	3.4	99
27...	2126	0.94	1130	2.9	--
27...	2141	0.94	952	2.4	--
27...	2211	1.1	889	2.5	--
27...	2311	1.1	763	2.2	--
27...	2341	0.73	486	0.96	--
NOV					
10...	2133	0.15	385	0.16	--
10...	2138	0.32	520	0.45	--
10...	2143	0.49	728	0.96	--
10...	2148	0.64	699	1.2	98
10...	2153	0.70	639	1.2	--
10...	2208	0.78	522	1.1	--
10...	2218	0.70	452	0.85	--
10...	2228	0.09	205	0.05	--
29...	1615	0.35	777	0.73	--
29...	1630	0.88	1140	2.7	97
29...	1635	1.0	1000	2.7	--
29...	1640	1.0	861	2.4	--
29...	1650	0.87	627	1.5	--
29...	1725	0.15	311	0.13	--
29...	1755	0.49	449	0.59	--
29...	1825	1.0	489	1.4	--
29...	1855	1.1	299	0.89	--
29...	2245	0.35	1080	1.0	--
29...	2255	0.46	1040	1.3	--
29...	2305	0.49	634	0.84	--
30...	0040	0.10	209	0.06	--

01576083 AGRICULTURAL FIELD RUNOFF SITE NO. 1 NEAR CHURCHTOWN, PA--Continued

INSTANTANEOUS SUSPENDED-SEDIMENT DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JAN					
18...	1021	0.15	119	0.05	--
18...	1206	0.51	76	0.10	--
18...	1406	0.84	90	0.20	--
18...	1506	0.90	144	0.35	--
18...	1706	0.28	58	0.04	--
18...	1936	0.08	70	0.01	--
19...	1413	0.14	192	0.07	--
20...	0008	0.26	959	0.67	--
20...	0033	0.84	833	1.9	--
20...	0043	1.0	735	2.0	--
20...	0148	1.1	372	1.1	--
20...	0448	1.2	371	1.2	--
20...	0618	1.1	373	1.1	--
20...	0918	0.94	301	0.76	--
20...	1148	0.37	147	0.15	--
20...	1418	0.08	108	0.02	--
31...	2357	0.19	618	0.32	--
FEB					
01...	0027	0.32	41	0.03	--
01...	0057	0.44	240	0.29	--
01...	0157	0.94	59	0.15	79
01...	0357	1.0	41	0.11	--
01...	0627	0.49	40	0.05	--
01...	0827	0.19	65	0.03	--
01...	0957	0.22	196	0.12	--
01...	1027	0.28	200	0.15	--
01...	1127	0.22	248	0.15	--
01...	1227	0.26	390	0.27	--
01...	1327	0.17	261	0.12	--
02...	0955	0.01	7	0.00	--
03...	1038	0.01	4	0.00	--
15...	1307	0.17	225	0.10	--
15...	1342	0.30	286	0.23	--
15...	1517	0.73	99	0.20	--
15...	1647	0.87	88	0.21	--
15...	1847	1.0	215	0.58	--
15...	2047	0.41	152	0.17	--
15...	2317	0.19	77	0.04	--
16...	0047	0.73	452	0.89	--
16...	0147	0.28	151	0.11	--
16...	0920	0.01	42	0.00	--
19...	2119	0.22	3450	2.0	--
19...	2129	0.35	3770	3.6	--
19...	2134	0.46	4010	5.0	--
19...	2229	0.19	1110	0.57	--
19...	2259	0.15	1760	0.71	--
MAY					
10...	2105	0.26	17900	13	97
10...	2110	0.30	8960	7.3	100
10...	2115	0.20	10400	5.6	99
10...	2120	0.14	9730	3.7	99
19...	0052	0.19	3590	1.8	99
19...	0107	0.20	2210	1.2	--
19...	0157	0.19	791	0.41	--
19...	0257	0.37	1480	1.5	99
19...	0327	0.17	340	0.16	--
19...	0357	0.35	2250	2.1	98
19...	0427	1.4	2790	11	98
19...	0557	0.90	1040	2.5	--
19...	0727	0.46	3000	3.7	--
19...	0857	0.37	1830	1.8	--
19...	0927	0.24	3550	2.3	--
19...	1040	0.20	1080	0.59	--
19...	1157	0.19	1080	0.56	--
20...	2211	0.28	25100	19	--
20...	2221	0.46	8570	11	--
20...	2231	0.28	6020	4.6	--
20...	2241	0.20	1870	1.0	--
JUL					
17...	1737	0.62	12600	21	--
17...	1742	2.1	10100	57	87
17...	1747	7.9	3260	70	--
17...	1757	11	2810	83	--
17...	1802	13	2200	78	--
17...	1812	8.7	4030	95	--
17...	1822	15	6750	270	92
17...	1827	15	7480	293	--
17...	1842	10	5210	146	--
17...	1847	9.3	4750	119	--
17...	1912	4.2	4560	52	--
17...	1922	3.1	4470	38	--
17...	1947	1.9	2110	11	84
17...	2022	1.2	1340	4.5	--

01576083 AGRICULTURAL FIELD RUNOFF SITE NO. 1 NEAR CHURCHTOWN, PA--Continued

INSTANTANEOUS SUSPENDED-SEDIMENT DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JUL					
18...	0052	1.1	631	1.8	--
18...	0122	1.1	589	1.7	--
18...	0452	1.0	450	1.2	--
18...	0522	1.0	442	1.2	--
18...	0652	0.87	459	1.1	--
18...	0952	0.87	376	0.88	--
18...	1016	0.87	354	0.83	--
18...	1152	0.54	312	0.45	--
18...	1422	0.32	1190	1.0	--
18...	1552	0.26	203	0.14	--
19...	2243	0.35	24000	23	--
19...	2248	0.87	28500	67	96
19...	2253	1.7	11100	51	--
19...	2303	3.5	2880	27	--
19...	2313	2.8	2480	19	--
19...	2323	1.9	3160	16	--
20...	0023	1.1	4100	12	100
20...	0223	1.0	1460	4.0	--
20...	0353	1.0	749	2.1	--
20...	0523	1.0	448	1.2	--
20...	0653	0.90	875	2.1	--
20...	0753	0.87	634	1.5	--
20...	0923	0.73	591	1.2	--
20...	1023	0.70	503	0.95	--
20...	1123	0.30	742	0.60	--
20...	1820	0.64	37600	65	99
20...	1825	0.76	18300	37	--
20...	1830	0.78	1720	3.6	96
20...	1840	0.76	6270	13	100
20...	1855	0.67	3690	6.7	--
20...	1925	0.30	4120	3.3	--
21...	0150	0.24	27700	18	--
21...	0200	0.63	8750	15	99
21...	0210	0.49	5780	7.6	--
21...	0300	0.23	6110	3.8	99
21...	0400	0.30	3480	2.8	--
21...	1642	0.56	44100	67	--
21...	1652	2.4	3600	23	--
21...	1657	2.2	2520	15	--
21...	1707	1.2	3090	9.7	--
21...	1722	0.94	2370	6.0	--
21...	1752	0.87	1560	3.7	--
21...	1822	1.5	1200	4.9	--
21...	1827	4.2	952	11	--
21...	1837	2.3	1160	7.4	--
21...	1917	0.90	1580	3.8	--
21...	2117	0.87	784	1.8	--
21...	2317	0.87	770	1.8	--
22...	0117	1.0	281	0.76	88
22...	0247	0.84	501	1.1	--
22...	0517	0.84	473	1.1	--
22...	0917	0.73	313	0.62	--
22...	1017	0.51	343	0.47	--
22...	1315	0.41	231	0.26	--
22...	1415	0.20	266	0.14	--
23...	1629	0.51	33200	46	--
23...	1644	0.81	6200	14	--
23...	1659	0.51	3300	4.5	--
23...	1709	0.22	3470	2.1	--
23...	1822	0.32	19200	17	--
23...	1842	0.56	4060	6.1	--
23...	1903	0.54	3440	5.0	--
23...	2033	0.97	1270	3.3	--
23...	2103	0.97	1080	2.8	--
23...	2233	1.2	1110	3.5	--
23...	2333	0.94	1150	2.9	--
24...	0033	0.87	770	1.8	--
24...	0203	0.76	518	1.1	--
24...	0433	0.37	584	0.58	--
26...	2113	0.94	11500	29	--
26...	2118	1.2	4880	16	--
26...	2123	1.2	4090	13	--
26...	2128	1.1	4240	13	--
26...	2218	0.90	1380	3.4	--
27...	0018	0.76	959	2.0	--
27...	0048	0.49	777	1.0	--
27...	0148	0.44	584	0.69	--
28...	0034	0.41	17300	19	--
28...	0039	0.59	7590	12	--
28...	0054	0.76	2900	5.9	--
28...	0104	0.62	2250	3.8	--
28...	0144	1.0	2020	5.5	--
28...	0314	0.41	632	0.70	--
AUG					
24...	0139	0.37	8290	8.3	--
24...	0144	0.28	3320	2.5	--
29...	1440	0.26	1570	1.1	--
29...	1505	0.70	868	1.6	--
29...	1515	0.59	516	0.82	--
SEP					
04...	1005	0.28	1880	1.4	--
04...	1150	0.41	478	0.53	--
04...	1343	0.59	910	1.4	--
04...	1443	0.87	547	1.3	--
04...	1543	0.12	243	0.08	--

015760831 LITTLE CONESTOGA CREEK, SITE 1, NEAR MORGANTOWN, PA

LOCATION.--Lat 40°09'42", long 75°55'14", Lancaster County, Hydrologic Unit 02050306, on upstream side of Valley View Road bridge, 0.2 mi west of intersection of Valley View Road and Maxwell School Road, and 1.6 mi west of Morgantown.

DRAINAGE AREA.--0.34 mi^2.

PERIOD OF RECORD.--Water years 1984 to current year.

COOPERATION.--Water-quality samples collected by Pa. Department of Environmental Resources and U.S. Geological Survey. Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories except for the September pesticide sample which was analyzed by the U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT 20...	0850	0.19	84	11.0	<0.010	<0.010	2.60	2.60	<0.010
NOV 20...	1055	0.24	79	0.0	<0.010	<0.010	2.80	2.60	0.040
DEC 21...	1230	0.42	70	7.5	<0.010	<0.010	2.80	2.80	0.020
JAN 29...	1215	0.45	87	5.0	<0.010	<0.010	2.90	2.80	0.020
FEB 29...	1005	0.75	48	--	<0.010	<0.010	3.70	3.70	<0.010
MAR 31...	1100	0.54	60	11.5	<0.010	<0.010	2.40	2.40	<0.010
APR 26...	1150	0.40	67	12.0	<0.010	<0.010	2.40	2.40	<0.010
JUN 01...	1145	0.99	62	14.5	<0.010	<0.010	2.30	2.30	0.020
28...	1210	0.45	65	15.0	<0.010	<0.010	2.30	2.20	0.040
AUG 01...	1330	0.28	75	18.0	<0.010	<0.010	2.40	2.20	0.010
SEP 01...	1000	0.28	83	17.0	<0.010	<0.010	2.40	2.30	0.020
29...	1410	0.18	60	12.0	<0.010	<0.010	2.50	2.50	<0.020

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 20...	<0.010	0.36	0.26	3.0	0.040	0.040	6	0.00
NOV 20...	0.020	0.49	0.44	3.3	0.040	0.040	5	0.00
DEC 21...	<0.010	0.16	0.12	3.0	0.030	0.030	7	0.01
JAN 29...	0.020	<0.20	<0.20	--	0.040	0.030	7	0.01
FEB 29...	<0.010	0.18	0.16	3.9	0.060	0.030	10	0.02
MAR 31...	<0.010	0.30	0.27	2.7	0.040	0.040	9	0.01
APR 26...	<0.010	0.26	0.22	2.7	0.040	0.030	7	0.01
JUN 01...	0.020	0.30	0.24	2.6	0.040	0.030	11	0.03
28...	0.020	0.62	0.39	2.9	0.030	0.030	59	0.07
AUG 01...	<0.010	0.48	0.45	2.9	0.070	0.070	58	0.04
SEP 01...	0.020	0.41	0.33	2.8	0.040	0.040	12	0.01
29...	<0.020	0.71	0.30	3.2	0.050	0.040	12	0.01

PESTICIDE ANALYSIS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	ALA-CHLOR TOTAL RECOVER (µG/L)	ATRA-ZINE, TOTAL (µG/L)	CYAN-AZINE TOTAL (µG/L)	METOLA-CHLOR IN WHOLE WATER (µG/L)	PRO-PAZINE TOTAL (µG/L)	SIMA-ZINE TOTAL (µG/L)	TOX-APHENE, TOTAL (µG/L)
APR 26...	1150	0.40	<0.05	<0.30	<0.30	<0.10	<0.30	<0.30	<1
JUN 01...	1145	0.99	<0.05	<0.30	<0.30	<0.10	<0.30	<0.30	<1
28...	1210	0.45	<0.05	0.43	<0.30	<0.10	<0.30	<0.30	<1
AUG 01...	1330	0.28	<0.05	<0.30	<0.30	<0.10	<0.30	<0.30	<1
SEP 01...	1000	0.28	<0.10	<0.10	<0.10	0.10	<0.10	<0.10	--

(<) Actual value is known to be less than the value shown.

0157608325 LITTLE CONESTOGA CREEK, SITE 2A, NEAR MORGANTOWN, PA

LOCATION.--Lat 40°08'58", long 75°55'06", Lancaster County, Hydrologic Unit 02050306, on upstream side of farm lane bridge, 0.2 mi north of farm lane intersection with State Highway 23, and 1.5 mi west of Morgantown.

DRAINAGE AREA.--0.99 mi^2.

PERIOD OF RECORD.--Water years 1984 to current year.

COOPERATION.--Water-quality samples collected by Pa. Department of Environmental Resources and U.S. Geological Survey. Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT 20...	0935	0.22	150	11.5	0.110	0.110	3.50	3.50	0.180
NOV 20...	1010	0.35	197	0.0	0.070	0.070	7.30	6.80	0.360
DEC 21...	1205	0.39	164	5.5	0.020	0.020	4.00	4.00	0.260
JAN 29...	1300	0.38	158	2.0	0.010	0.010	3.80	3.70	0.080
FEB 29...	0930	0.86	92	--	0.010	0.010	3.70	3.60	0.050
MAR 31...	1120	0.52	111	15.5	0.020	0.020	3.10	3.10	0.040
AUG 01...	1420	0.59	175	28.0	0.090	0.090	2.90	2.90	<0.010
SEP 01...	1030	0.27	175	19.0	0.190	0.170	3.20	3.10	0.170
29...	1325	0.18	180	15.0	0.160	0.160	3.60	3.50	0.060

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT 20...	0.180	0.80	0.74	4.3	0.130	0.110	11	0.01
NOV 20...	0.360	1.7	1.5	9.0	0.250	0.220	11	0.01
DEC 21...	0.250	0.84	0.66	4.8	0.160	0.140	7	0.01
JAN 29...	0.080	0.44	0.42	4.2	0.080	0.070	19	0.02
FEB 29...	0.040	0.56	0.44	4.3	0.100	0.080	16	0.04
MAR 31...	0.040	0.54	0.40	3.6	0.110	0.100	20	0.03
AUG 01...	<0.010	0.98	0.98	3.9	0.260	0.240	41	0.06
SEP 01...	0.170	0.97	0.97	4.2	0.170	0.130	24	0.02
29...	0.060	1.3	1.2	4.9	0.290	0.220	24	0.01

(<) Actual value is known to be less than the value shown.

0157608335 LITTLE CONESTOGA CREEK, SITE 3A, NEAR MORGANTOWN, PA

LOCATION.--Lat 40°08'47", long 75°55'37", Lancaster County, Hydrologic Unit 02050306, on right bank 10 ft upstream from culvert under farm lane, 0.2 mi north of State Highway 23, 1.0 mi upstream from small right-bank tributary, and 2.1 mi west of Morgantown.

DRAINAGE AREA.--1.42 mi^2.

WATER-DISCHARGE RECORDS

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

GAGE.--Water-stage recorder and wooden control. Elevation of gage is 640 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 620 ft^3/s, Sept. 8, 1987, gage height, 6.59 ft, from rating curve extended above 66 ft^3/s on basis of slope-area measurements at gage heights 4.51 ft and 5.42 ft; minimum, 0.02 ft^3/s, Sept. 18, 1985, gage height, 0.82 ft, but may have been less during period of ice effect Jan. 19-23, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 70 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 19	0545	127	4.54	July 21	1930	*263	*5.33
July 17	1900	158	4.76	July 23	2345	70	3.83

Minimum daily discharge, 0.18 ft^3/s, Sept. 28, 29.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.95	.58	1.6	e.70	13	1.5	e.84	.64	1.7	.67	1.3	.50
2	.92	.58	1.4	e.66	3.5	1.5	e.80	.65	1.6	.69	1.2	.36
3	1.0	.55	1.3	e.70	1.7	1.5	e.78	.66	1.6	.69	1.2	.38
4	.87	.53	1.2	e.62	3.3	3.8	e.84	.64	1.5	.69	1.1	3.2
5	.81	.51	1.2	e.58	1.6	1.9	.68	.91	1.5	.67	1.1	.70
6	.81	.50	1.1	e.60	e1.5	1.7	.71	1.3	1.4	.72	1.1	.51
7	.96	.48	1.0	e.60	e1.4	1.6	1.1	.87	1.4	.71	1.1	.40
8	.84	.48	1.0	e.62	e1.4	1.5	.77	.77	1.3	.75	1.1	.30
9	.80	.49	1.0	e.56	e1.3	1.5	.70	.73	1.3	.81	1.0	.30
10	.77	1.4	1.0	e.52	e1.2	1.5	.69	5.4	1.2	.78	1.0	.29
11	.78	1.2	.97	e.50	e1.1	1.4	.70	3.0	1.3	.72	1.1	.29
12	.69	.88	.94	e.56	5.2	1.4	.74	1.1	1.3	.80	1.0	.36
13	.67	.73	.92	e.64	3.1	1.4	.76	1.1	1.2	.69	.99	.58
14	.65	.64	.91	e.70	3.1	1.3	.76	1.1	1.1	.64	.93	.42
15	.70	.61	1.2	.78	11	e1.2	.81	1.0	1.1	.60	.78	.40
16	.66	.58	1.0	.83	8.0	e1.1	.78	1.0	1.1	.55	.82	.35
17	.65	.58	.92	.84	2.5	e1.1	.77	1.0	1.0	7.5	.84	.39
18	.66	.66	.87	4.5	2.1	e1.1	.90	1.9	.92	.85	.86	.38
19	.64	.58	.84	1.3	6.2	e1.1	.79	30	.86	1.0	.86	.39
20	.64	.58	1.0	16	4.9	e1.0	.70	6.9	.82	4.7	.70	.38
21	.65	.58	.91	1.7	2.2	e.96	.64	6.5	.78	29	.56	.33
22	.58	.58	.85	1.2	2.1	e.92	.64	3.4	.76	5.6	.50	.28
23	.57	.58	.85	1.1	2.1	e.94	.66	2.9	.71	6.9	.53	e.34
24	.57	.53	.84	.94	1.9	e.96	.66	2.8	.68	5.9	1.1	e.64
25	.54	.53	.86	e.90	1.8	e.94	.64	3.1	.73	1.8	.58	e1.1
26	.53	.53	.89	e.88	1.7	1.6	.62	2.5	.75	2.2	.59	e.45
27	2.0	.54	.84	e.86	1.7	1.3	.74	2.2	.77	1.8	.60	e.20
28	1.2	.57	e.80	e.84	1.7	.97	.91	1.9	.72	1.7	.65	.18
29	.62	8.0	e.72	e.82	1.6	.92	.69	1.9	.68	1.4	1.2	.18
30	.58	7.4	e.72	e.86	---	e.88	.72	1.8	.63	1.6	.74	.20
31	.58	---	e.74	e.94	---	e.86	---	1.7	---	1.9	.67	---
TOTAL	23.89	32.98	30.39	43.85	93.9	41.35	22.54	91.37	32.41	85.03	27.80	14.78
MEAN	.77	1.10	.98	1.41	3.24	1.33	.75	2.95	1.08	2.74	.90	.49
MAX	2.0	8.0	1.6	16	13	3.8	1.1	30	1.7	29	1.3	3.2
MIN	.53	.48	.72	.50	1.1	.86	.62	.64	.63	.55	.50	.18
CFSM	.54	.77	.69	1.00	2.28	.94	.53	2.08	.76	1.93	.63	.35
IN.	.63	.86	.80	1.15	2.46	1.08	.59	2.39	.85	2.23	.73	.39

CAL YR 1987 TOTAL 423.08 MEAN 1.16 MAX 70 MIN .14 CFSM .82 IN. 11.08
WTR YR 1988 TOTAL 540.29 MEAN 1.48 MAX 30 MIN .18 CFSM 1.04 IN. 14.15

e Estimated

0157608335 LITTLE CONESTOGA CREEK, SITE 3A, NEAR MORGANTOWN, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1984 to current year.

INSTRUMENTATION.--Automatic sediment pumping sampler since April 1984.

COOPERATION.--Water-quality samples collected by Pa. Department of Environmental Resources and U.S. Geological Survey. Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories except for the September pesticide sample which was analyzed by the U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT									
20...	1235	0.60	400	14.0	0.090	0.090	8.40	8.00	0.040
27...	1015	0.53	--	--	0.090	--	8.40	--	0.120
27...	2115	2.4	--	--	0.680	--	4.20	--	1.40
27...	2145	8.4	--	--	0.790	--	3.70	--	2.70
27...	2215	15	--	--	0.730	--	3.70	--	2.60
27...	2315	14	--	--	0.350	--	5.10	--	1.90
28...	0045	5.7	--	--	0.330	--	4.80	--	1.60
NOV									
10...	0945	0.53	--	--	0.136	--	7.70	--	0.130
10...	2215	3.4	--	--	0.240	--	5.20	--	1.20
10...	2245	5.4	--	--	0.340	--	4.60	--	1.30
10...	2345	6.3	--	--	0.200	--	4.40	--	1.20
11...	1000	0.70	--	--	0.090	--	7.00	--	0.430
20...	1130	0.58	428	9.0	0.090	0.060	8.60	8.60	0.120
28...	0925	0.58	--	--	0.090	0.090	8.80	8.80	0.180
29...	1445	5.4	--	--	0.340	0.260	5.80	5.20	1.10
29...	1745	28	--	--	0.090	0.080	2.40	2.40	0.340
29...	1915	33	--	--	0.160	0.060	1.70	1.70	0.380
29...	2215	8.8	--	--	0.110	--	4.10	--	0.320
30...	0015	42	--	--	0.070	0.050	1.50	1.50	0.400
30...	0330	15	--	--	0.110	--	1.70	--	0.230
30...	0830	3.6	--	--	0.080	--	5.10	--	0.360
DEC									
21...	1040	0.92	372	5.5	0.030	0.020	8.40	8.40	0.100
JAN									
18...	1300	8.4	--	--	0.280	--	1.50	--	2.50
18...	1500	20	--	--	0.150	--	1.30	--	1.70
18...	1800	6.7	--	--	0.090	--	2.30	--	1.70
20...	0130	12	--	--	0.130	0.050	3.60	3.20	1.30
20...	0315	32	--	--	0.190	0.050	1.80	1.80	1.40
20...	0345	33	--	--	0.190	0.060	1.80	1.80	1.40
20...	0600	58	--	--	0.200	0.060	1.10	1.10	1.80
20...	0745	38	--	--	0.160	0.030	1.10	0.940	1.90
20...	0800	34	--	--	0.140	0.040	1.20	1.00	1.80
20...	0845	23	--	--	0.120	0.050	1.40	1.40	1.50
20...	1000	14	--	--	0.140	0.050	1.90	1.70	1.40
20...	1500	5.1	--	--	0.080	0.040	2.80	2.50	1.20
29...	1100	1.3	392	1.0	0.010	0.010	7.70	7.60	0.100
FEB									
01...	0645	8.8	--	--	0.050	--	1.90	--	0.840
01...	1030	20	--	--	0.050	--	1.20	--	0.900
01...	1230	35	--	--	0.060	--	1.00	--	0.780
01...	1345	42	--	--	0.070	--	1.00	--	0.840
01...	1515	31	--	--	0.060	--	1.20	--	0.810
01...	1715	11	--	--	0.070	--	1.70	--	0.690
15...	0130	1.7	--	--	--	--	1.60	--	--
15...	1145	1.7	--	--	--	--	6.60	--	--
15...	1215	1.8	--	--	--	--	6.60	--	--
15...	1415	7.3	--	--	0.080	--	4.20	--	0.710
15...	1515	23	--	--	0.090	--	1.70	--	1.60
15...	1615	28	--	--	0.080	--	1.30	--	1.60
15...	1745	31	--	--	0.080	--	1.20	--	2.00
15...	1845	38	--	--	0.090	--	1.20	--	1.70
15...	2030	25	--	--	0.090	--	1.40	--	1.80
15...	2130	22	--	--	0.080	--	1.48	--	1.70
15...	2300	16	--	--	0.070	--	1.60	--	1.60
15...	2345	15	--	--	--	--	1.74	--	--
16...	0045	19	--	--	0.080	--	1.80	--	1.80
16...	0130	24	--	--	--	--	1.56	--	--
16...	0200	23	--	--	0.100	--	1.70	--	1.60
16...	2130	3.0	--	--	0.080	--	1.50	--	1.70
16...	2345	2.6	--	--	--	--	1.70	--	--
19...	2030	15	--	--	0.090	--	3.10	--	0.880
19...	2215	34	--	--	0.100	--	1.90	--	0.880
19...	2315	38	--	--	0.060	--	1.70	--	0.820
20...	0100	18	--	--	0.050	--	2.60	--	0.710
20...	0415	5.7	--	--	0.030	--	3.70	--	0.430
29...	1035	1.6	210	0.0	0.010	0.010	6.50	6.50	0.040
MAR									
31...	1040	0.92	307	13.0	0.030	0.030	6.60	6.60	0.040
APR									
26...	1045	0.64	288	12.0	0.020	0.020	6.60	6.50	<0.010

(<) Actual value is known to be less than the value shown.

0157608335 LITTLE CONESTOGA CREEK, SITE 3A, NEAR MORGANTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN AMMONIA DISSOLVED (MG/L AS N)	NITROGEN AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT								
20...	0.040	0.74	0.56	9.1	0.200	0.180	8	0.01
27...	--	0.66	--	9.1	0.150	--	14	0.02
27...	--	20	--	24	6.20	--	--	--
27...	--	21	--	25	7.30	--	--	--
27...	--	20	--	24	6.00	--	--	--
27...	--	13	--	18	3.60	--	--	--
28...	--	10	--	15	2.60	--	--	--
NOV								
10...	--	1.2	--	8.9	0.160	--	16	0.02
10...	--	5.9	--	11	2.50	--	389	3.6
10...	--	8.6	--	13	3.50	--	801	12
10...	--	6.4	--	11	2.80	--	470	8.0
11...	--	2.0	--	9.0	0.510	--	35	0.07
20...	0.110	1.2	0.90	9.8	0.230	0.180	19	0.03
28...	0.180	1.2	0.99	10	0.120	0.120	--	--
29...	1.10	7.7	5.9	13	4.40	1.60	--	--
29...	0.340	10	2.2	12	4.70	1.30	--	--
29...	0.320	5.1	1.6	6.8	3.10	1.30	--	--
29...	--	3.4	--	7.5	1.30	--	296	7.0
30...	0.260	4.6	3.0	6.1	3.20	1.20	--	--
30...	--	2.9	--	4.6	1.40	--	--	--
30...	--	2.4	--	7.5	0.680	--	78	0.76
DEC								
21...	0.090	0.68	0.46	9.1	0.150	0.120	6	0.01
JAN								
18...	--	12	--	13	2.90	--	--	--
18...	--	10	--	11	3.30	--	--	--
18...	--	5.9	--	8.2	2.50	--	--	--
20...	1.10	8.7	5.6	12	2.50	1.10	--	--
20...	1.20	6.0	2.7	7.8	3.00	1.30	--	--
20...	1.30	9.7	5.4	11	2.90	1.40	--	--
20...	1.50	5.2	4.8	6.3	3.60	1.50	--	--
20...	1.40	6.2	3.3	7.3	2.80	1.30	--	--
20...	1.40	5.0	3.5	6.2	2.60	1.30	--	--
20...	1.40	4.8	4.1	6.2	2.40	1.50	--	--
20...	1.20	4.3	3.7	6.2	2.20	1.30	--	--
20...	1.00	3.2	1.5	6.0	1.30	1.10	--	--
29...	0.100	0.92	0.88	8.6	0.090	0.080	20	0.07
FEB								
01...	--	2.8	--	4.7	1.40	--	--	--
01...	--	3.5	--	4.7	2.20	--	--	--
01...	--	4.2	--	5.2	1.50	--	--	--
01...	--	4.1	--	5.1	1.60	--	--	--
01...	--	3.2	--	4.4	2.60	--	--	--
01...	--	2.1	--	3.8	1.20	--	--	--
15...	--	4.4	--	6.0	1.90	--	--	--
15...	--	1.1	--	7.7	0.460	--	93	0.43
15...	--	0.92	--	7.5	0.320	--	66	0.32
15...	--	3.2	--	7.4	1.50	--	690	14
15...	--	5.5	--	7.2	2.00	--	1360	84
15...	--	4.8	--	6.1	1.80	--	1250	94
15...	--	4.8	--	6.0	2.00	--	750	63
15...	--	5.7	--	6.9	2.50	--	1050	108
15...	--	4.2	--	5.6	2.90	--	702	47
15...	--	4.2	--	5.7	1.98	--	431	26
15...	--	3.6	--	5.2	1.50	--	393	17
15...	--	3.8	--	5.6	1.56	--	337	14
16...	--	4.0	--	5.8	1.60	--	421	22
16...	--	4.4	--	6.0	1.86	--	650	42
16...	--	4.0	--	5.7	1.40	--	572	36
16...	--	4.2	--	5.7	2.00	--	431	3.5
16...	--	3.8	--	5.5	1.60	--	337	2.4
19...	--	6.9	--	10	4.20	--	1980	80
19...	--	7.1	--	9.0	5.10	--	2440	224
19...	--	6.3	--	8.0	3.90	--	1850	190
20...	--	3.6	--	6.2	2.10	--	666	32
20...	--	1.3	--	5.0	0.930	--	144	2.2
29...	0.030	0.56	0.42	7.1	0.120	0.060	16	0.07
MAR								
31...	0.030	0.57	0.30	7.2	0.110	0.100	19	0.05
APR								
26...	<0.010	0.25	0.22	6.8	0.090	0.080	3	0.01

(<) Actual value is known to be less than the value shown.

0157608335 LITTLE CONESTOGA CREEK, SITE 3A, NEAR MORGANTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN NITRITE TOTAL (MG/L AS N)	NITRO-GEN NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
MAY									
10...	1945	16	--	--	0.990	--	4.00	--	4.00
10...	2045	30	--	--	0.550	--	4.00	--	2.10
10...	2145	31	--	--	0.480	--	4.00	--	1.90
10...	2315	23	--	--	0.770	--	4.00	--	3.00
11...	0245	6.0	--	--	0.260	--	3.50	--	1.60
11...	1445	1.5	--	--	0.060	--	4.80	--	0.100
18...	1315	4.9	--	--	0.090	--	3.00	--	0.840
19...	0130	13	--	--	0.050	--	4.00	--	0.150
19...	0230	39	--	--	0.100	--	1.70	--	0.080
19...	0315	51	--	--	0.090	--	2.00	--	0.490
19...	0415	49	--	--	0.090	--	2.50	--	0.960
19...	0545	127	--	--	0.100	--	2.90	--	0.500
19...	0730	41	--	--	0.090	--	4.00	--	0.510
19...	0745	40	--	--	0.080	--	4.10	--	0.500
19...	0830	57	--	--	0.080	--	3.50	--	0.420
19...	0900	67	--	--	0.100	--	3.10	--	0.400
19...	0950	50	--	--	0.050	--	3.50	--	0.250
19...	1045	47	--	--	0.060	--	4.00	--	0.240
19...	1300	19	--	--	0.080	--	5.20	--	0.260
19...	1315	18	--	--	0.090	--	3.00	--	0.840
19...	2330	5.1	--	--	0.030	--	4.80	--	0.020
20...	2215	16	--	--	0.050	--	3.10	--	0.160
20...	2245	41	--	--	0.060	--	1.50	--	0.270
20...	2315	53	--	--	0.050	--	1.40	--	0.370
20...	2330	50	--	--	0.050	--	1.50	--	0.320
20...	2400	36	--	--	0.050	--	1.70	--	0.250
21...	0715	3.6	--	--	0.040	--	4.20	--	0.050
JUN									
01...	1105	1.7	--	--	0.060	0.050	5.90	5.90	0.060
28...	1140	1.5	--	--	0.120	0.120	5.90	5.90	0.050
JUL									
17...	1815	26	--	--	0.610	--	0.660	--	1.00
17...	1845	103	--	--	0.410	--	1.30	--	1.30
17...	1900	150	--	--	0.400	--	1.90	--	1.20
17...	1915	109	--	--	0.440	--	2.20	--	1.20
17...	1945	44	--	--	0.580	--	3.10	--	1.40
17...	2115	7.3	--	--	0.580	--	4.60	--	1.30
19...	2345	11	--	--	0.520	--	2.80	--	0.780
19...	2400	29	--	--	0.500	--	1.00	--	1.00
20...	0015	34	--	--	0.300	--	2.00	--	1.50
20...	0030	31	--	--	0.250	--	2.20	--	1.10
20...	0130	11	--	--	0.280	--	4.00	--	0.930
20...	1915	23	--	--	0.550	--	1.40	--	0.840
20...	1945	24	--	--	0.220	--	2.20	--	1.10
20...	2130	6.3	--	--	0.230	--	4.10	--	0.990
21...	0345	8.4	--	--	0.360	--	4.00	--	1.10
21...	0415	21	--	--	0.180	--	2.90	--	1.00
21...	0615	6.3	--	--	0.140	--	4.30	--	0.490
21...	1700	4.9	--	--	0.160	--	0.260	--	0.280
21...	1800	103	--	--	0.100	--	1.40	--	0.320
21...	1830	71	--	--	0.140	--	1.70	--	0.180
21...	1900	235	--	--	0.090	--	1.50	--	0.240
21...	1930	263	--	--	0.100	--	1.70	--	0.230
21...	2030	159	--	--	0.080	--	2.30	--	0.220
21...	2100	57	--	--	0.100	--	2.80	--	0.220
22...	0015	11	--	--	0.130	--	4.10	--	0.220
22...	0600	5.4	--	--	0.100	--	4.20	--	0.140
22...	2015	1.8	--	--	0.310	--	3.70	--	0.810
22...	2145	1.8	--	--	0.100	--	2.60	--	0.350
22...	2315	1.8	--	--	0.090	--	2.60	--	0.220
22...	2400	1.7	--	--	0.070	--	2.60	--	0.200
23...	0030	1.7	--	--	0.070	--	2.60	--	0.140
23...	0200	1.7	--	--	0.070	--	3.40	--	0.160
23...	0500	1.7	--	--	0.080	--	4.10	--	0.160
26...	2215	14	--	--	0.500	--	3.00	--	<0.010
26...	2315	6.3	--	--	0.180	--	3.10	--	0.390
AUG									
01...	1230	1.3	370	25.0	0.170	0.160	7.30	7.30	0.100
SEP									
01...	0930	0.43	398	18.0	0.200	0.190	8.40	8.30	0.020
04...	1430	7.3	--	--	0.030	--	7.40	--	0.050
04...	1500	13	--	--	0.230	--	2.00	--	0.960
04...	1530	17	--	--	0.240	--	1.50	--	0.900
04...	1615	12	--	--	0.180	--	2.20	--	0.470
29...	1205	0.17	420	13.0	0.170	0.170	8.30	7.90	<0.020

(<) Actual value is known to be less than the value shown.

0157608335 LITTLE CONESTOGA CREEK, SITE 3A, NEAR MORGANTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAY									
10...	--	29	--	33	24.0	--	18400	795	--
10...	--	19	--	23	16.0	--	--	--	--
10...	--	17	--	21	7.30	--	2520	211	--
10...	--	8.9	--	13	9.50	--	--	--	--
11...	--	6.8	--	10	3.50	--	--	--	--
11...	--	1.2	--	6.0	0.340	--	68	0.28	--
18...	--	5.0	--	8.0	1.40	--	308	4.1	--
19...	--	5.9	--	9.9	2.10	--	1440	51	--
19...	--	8.9	--	11	2.40	--	--	--	--
19...	--	9.8	--	12	2.00	--	1420	196	--
19...	--	5.2	--	7.7	2.00	--	835	110	--
19...	--	5.1	--	8.0	2.00	--	1520	521	--
19...	--	4.7	--	8.7	2.10	--	--	--	--
19...	--	4.7	--	8.8	0.980	--	532	57	--
19...	--	4.6	--	8.1	2.40	--	--	--	--
19...	--	4.3	--	7.4	1.30	--	915	166	--
19...	--	3.9	--	7.4	1.20	--	--	--	--
19...	--	3.0	--	7.0	1.20	--	--	--	--
19...	--	3.1	--	8.3	0.770	--	--	--	--
19...	--	5.0	--	8.0	1.40	--	185	9.0	--
19...	--	1.0	--	5.8	0.230	--	--	--	--
20...	--	11	--	14	2.60	--	1850	80	--
20...	--	10	--	11	1.80	--	--	--	--
20...	--	9.4	--	11	4.60	--	2090	299	--
20...	--	7.0	--	8.5	2.90	--	1480	200	--
20...	--	6.7	--	8.4	1.60	--	--	--	--
21...	--	1.5	--	5.7	0.340	--	45	0.44	--
JUN									
01...	0.060	1.4	1.7	7.3	0.210	0.090	43	0.20	--
28...	0.040	0.70	<0.20	6.6	0.160	0.110	15	0.06	--
JUL									
17...	--	23	--	24	4.60	--	3360	236	--
17...	--	22	--	23	6.40	--	4580	1270	--
17...	--	14	--	16	2.80	--	3710	1500	--
17...	--	13	--	15	5.50	--	--	--	--
17...	--	7.2	--	10	2.80	--	3720	442	--
17...	--	9.1	--	14	2.00	--	1810	36	--
19...	--	19	--	22	3.70	--	2220	66	--
19...	--	18	--	19	7.30	--	--	--	--
20...	--	13	--	15	4.00	--	3190	293	--
20...	--	5.9	--	8.1	5.00	--	2630	220	--
20...	--	7.4	--	11	2.60	--	2010	60	--
20...	--	23	--	24	5.80	--	2960	184	--
20...	--	8.2	--	10	4.70	--	--	--	--
20...	--	5.3	--	9.4	2.30	--	936	16	--
21...	--	10	--	14	3.10	--	463	11	--
21...	--	9.7	--	13	3.60	--	1230	70	--
21...	--	5.0	--	9.3	1.70	--	--	--	--
21...	--	37	--	37	1.10	--	1980	26	96
21...	--	4.6	--	6.0	1.20	--	2230	620	98
21...	--	7.4	--	9.1	2.20	--	--	--	--
21...	--	9.2	--	11	3.60	--	--	--	--
21...	--	10	--	12	3.00	--	2530	1800	95
21...	--	4.4	--	6.7	1.40	--	895	384	95
21...	--	4.3	--	7.1	0.970	--	845	130	84
22...	--	3.0	--	7.1	1.10	--	281	8.3	88
22...	--	2.3	--	6.5	0.850	--	108	1.6	--
22...	--	8.7	--	12	2.60	--	400	1.9	91
22...	--	5.6	--	8.2	2.60	--	375	1.8	93
22...	--	6.2	--	8.8	1.80	--	695	3.4	86
22...	--	4.4	--	7.0	1.50	--	740	3.4	88
23...	--	5.0	--	7.6	1.40	--	--	--	--
23...	--	3.0	--	6.4	1.10	--	190	0.87	69
23...	--	1.9	--	6.0	0.710	--	48	0.22	95
26...	--	16	--	19	4.70	--	1320	50	--
26...	--	4.6	--	7.7	2.20	--	586	10	--
AUG									
01...	0.120	2.3	2.1	9.6	0.330	0.270	52	0.18	--
SEP									
01...	0.020	1.2	0.83	9.6	0.270	0.120	61	0.07	--
04...	--	2.5	--	9.9	0.750	--	--	--	--
04...	--	2.2	--	4.2	2.30	--	--	--	--
04...	--	9.8	--	11	3.70	--	--	--	--
04...	--	5.2	--	7.4	2.10	--	--	--	--
29...	<0.020	0.56	0.56	8.9	0.190	0.150	13	0.01	--

(<) Actual value is known to be less than the value shown.

0157608335 LITTLE CONESTOGA CREEK, SITE 3A, NEAR MORGANTOWN, PA--Continued

INSTANTANEOUS SUSPENDED-SEDIMENT DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT				
20...	1235	0.60	8	0.01
27...	1015	0.53	14	0.02
27...	2130	3.4	2010	18
27...	2200	13	2180	77
27...	2245	20	1050	57
27...	2345	11	519	15
28...	0015	8.0	408	8.8
NOV				
10...	0945	0.53	16	0.02
10...	2215	3.4	389	3.6
10...	2245	5.4	801	12
10...	2345	6.3	470	8.0
11...	0115	5.7	654	10
11...	1000	0.70	35	0.07
20...	1130	0.58	19	0.03
29...	1815	25	1140	77
29...	1945	30	851	69
29...	2215	8.8	296	7.0
30...	0045	41	964	107
30...	0345	13	308	11
30...	0830	3.6	78	0.76
30...	1115	2.8	45	0.34
30...	1545	2.3	651	4.0
DEC				
21...	1040	0.92	6	0.01
JAN				
18...	1400	13	1140	40
18...	1430	15	1150	47
18...	1530	19	1000	51
18...	1645	13	472	17
20...	0145	17	1180	54
20...	0330	33	1080	96
20...	0445	39	1100	116
20...	0545	54	1960	286
20...	0900	20	553	30
20...	1100	11	300	8.9
20...	1430	5.7	117	1.8
29...	1100	1.3	20	0.07
FEB				
01...	0715	10	578	16
01...	1045	21	687	39
01...	1215	33	810	72
01...	1600	24	508	33
01...	2215	3.4	56	0.51
12...	1245	7.7	275	5.7
12...	1645	8.4	288	6.5
15...	1145	1.7	93	0.43
15...	1215	1.8	66	0.32
15...	1415	7.3	690	14
15...	1515	23	1360	84
15...	1615	28	1250	94
15...	1745	31	750	63
15...	1845	38	1050	108
15...	2030	25	702	47
15...	2130	22	431	26
15...	2300	16	393	17
15...	2345	15	337	14
16...	0045	19	421	22
16...	0130	24	650	42
16...	0200	23	572	36
16...	2130	3.0	431	3.5
16...	2300	2.8	393	3.0
16...	2345	2.6	337	2.4
17...	0045	2.4	421	2.7
17...	0130	2.4	650	4.2
17...	0200	2.4	572	3.7
19...	2030	15	1980	80
19...	2215	34	2440	224
19...	2315	38	1850	190
20...	0100	18	666	32
20...	0415	5.7	144	2.2
29...	1035	1.6	16	0.07
MAR				
31...	1040	0.92	19	0.05
APR				
26...	1045	0.64	3	0.01
MAY				
10...	1945	16	18400	795
10...	2015	27	13600	992
10...	2145	31	2520	211
10...	2245	27	3520	257
11...	0300	5.4	2600	38
11...	1445	1.5	68	0.28
18...	1315	4.9	308	4.1
19...	0145	13	1440	51
19...	0330	51	1420	196
19...	0430	49	835	110
19...	0530	104	2030	570
19...	0600	127	1520	521
19...	0715	51	915	126
19...	0800	40	532	57
19...	0915	67	915	166
19...	1000	57	725	112
19...	1100	43	443	51
19...	1315	18	185	9.0
19...	1700	8.8	99	2.4
19...	2300	5.4	41	0.60

0157608335 LITTLE CONESTOGA CREEK, SITE 3A, NEAR MORGANTOWN, PA--Continued

INSTANTANEOUS SUSPENDED-SEDIMENT DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAY					
20...	2215	16	1850	80	--
20...	2315	53	2090	299	--
20...	2330	50	1480	200	--
21...	0015	3.6	1110	11	--
21...	0100	3.6	676	6.6	--
21...	0715	3.6	45	0.44	--
JUN					
01...	1105	1.7	43	0.20	--
28...	1140	1.5	15	0.06	--
JUL					
17...	1815	26	3360	236	--
17...	1845	103	4580	1270	--
17...	1900	150	3710	1500	--
17...	1945	44	3720	442	--
17...	2115	7.3	1810	36	--
19...	2345	11	2220	66	--
20...	0015	34	3190	293	--
20...	0030	31	2630	220	--
20...	0130	11	2010	60	--
20...	1900	5.1	2540	35	--
20...	1915	23	2960	184	--
20...	2130	6.3	936	16	--
21...	0345	8.4	463	11	--
21...	0400	17	4970	228	--
21...	0415	21	1230	70	--
21...	1700	4.9	1980	26	96
21...	1800	103	2230	620	98
21...	1930	263	2530	1800	95
21...	2030	159	895	384	95
21...	2100	57	845	130	84
22...	0015	11	281	8.3	88
22...	0600	5.4	108	1.6	--
22...	2015	1.8	400	1.9	91
22...	2145	1.8	375	1.8	93
22...	2315	1.8	695	3.4	86
22...	2400	1.7	740	3.4	88
23...	0200	1.7	190	0.87	69
23...	0500	1.7	48	0.22	95
26...	2215	14	1320	50	--
26...	2315	6.3	586	10	--
AUG					
01...	1230	1.3	52	0.18	--
SEP					
01...	0930	0.43	61	0.07	--

PESTICIDE ANALYSIS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	ALA-CHLOR TOTAL RECOVER (µG/L)	ATRA-ZINE, TOTAL (µG/L)	CYAN-AZINE TOTAL (µG/L)	METOLA-CHLOR IN WHOLE WATER (µG/L)	PRO-PAZINE TOTAL (µG/L)	SIMA-ZINE TOTAL (µG/L)	TOX-APHENE, TOTAL (µG/L)
APR									
26...	1045	0.64	<0.05	0.19	<0.30	<0.10	<0.30	<0.30	<1
JUN									
01...	1105	1.7	<0.05	0.25	<0.30	<0.10	<0.30	<0.30	<1
28...	1140	1.5	<0.05	0.79	<0.30	0.24	<0.30	<0.30	<1
AUG									
01...	1230	1.3	<0.05	0.31	0.41	<0.10	<0.30	<0.30	<1
SEP									
01...	0930	0.43	<0.10	0.30	0.40	0.10	<0.10	<0.10	--

(<) Actual value is known to be less than the value shown.

015760839 UNNAMED TRIBUTARY TO LITTLE CONESTOGA CREEK, SITE 9, AT CHURCHTOWN, PA

LOCATION.--Lat 40°08'20", long 75°58'14", Lancaster County, Hydrologic Unit 02050306, on upstream side of farm lane bridge, 0.1 mi upstream from mouth, and 0.5 mi northwest of Churchtown.

DRAINAGE AREA.--1.43 mi^2

PERIOD OF RECORD.--Water years 1983 to current year.

COOPERATION.--Water-quality samples collected by Pa. Department of Environmental Resources and U.S. Geological Survey. Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT									
20...	1020	0.84	320	--	0.060	0.060	4.60	4.60	0.060
NOV									
20...	0930	1.6	365	1.5	0.030	0.030	11.0	11.0	0.070
DEC									
21...	0950	2.0	300	4.0	0.010	0.010	5.50	5.50	0.040
JAN									
29...	1000	1.1	310	0.5	0.020	0.020	5.20	5.00	0.100
FEB									
29...	1145	1.9	204	--	0.010	0.010	5.20	5.20	0.020
MAR									
31...	1000	1.5	250	12.0	0.020	0.020	4.40	4.20	0.040
APR									
26...	1020	1.2	214	11.5	0.020	0.020	3.70	3.20	0.060
JUN									
01...	1035	3.1	262	22.0	0.050	0.040	4.80	4.80	0.040
28...	1015	0.86	250	20.0	0.120	0.120	3.10	3.10	0.040
AUG									
01...	1100	2.1	352	25.0	0.050	0.050	7.00	7.00	<0.010
SEP									
01...	0830	0.66	290	17.5	0.080	0.080	3.80	2.90	0.040
29...	1045	0.53	270	14.0	0.070	0.070	3.20	3.10	0.040

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT								
20...	0.040	0.66	0.60	5.3	0.140	0.110	14	0.03
NOV								
20...	0.040	0.70	0.64	12	0.180	0.130	9	0.04
DEC								
21...	0.040	0.40	0.36	5.9	0.100	0.080	2	0.01
JAN								
29...	0.100	0.94	0.90	6.1	0.110	0.110	6	0.02
FEB								
29...	0.010	0.50	0.40	5.7	0.160	0.150	25	0.13
MAR								
31...	0.040	0.70	0.59	5.1	0.260	0.260	25	0.10
APR								
26...	0.060	0.66	0.66	4.4	0.120	0.100	13	0.04
JUN								
01...	0.040	1.1	0.73	5.9	0.290	0.190	32	0.27
28...	0.030	1.8	1.1	4.9	0.310	0.180	30	0.07
AUG								
01...	<0.010	0.99	0.83	8.0	0.330	0.270	18	0.10
SEP								
01...	0.070	1.7	0.59	5.5	0.280	0.170	34	0.06
29...	0.040	1.3	0.91	4.5	0.300	0.250	18	0.03

(<) Actual value is known to be less than the value shown.

01576085 LITTLE CONESTOGA CREEK NEAR CHURCHTOWN, PA

LOCATION.--Lat 40°08'41", long 75°59'20", Lancaster County, Hydrologic Unit 02050306, on left bank 40 ft upstream from bridge on Smoketown Road (Township Route 773), 0.2 mi upstream from small right-bank tributary, and 1.6 mi northwest of Churchtown.

DRAINAGE AREA.--5.82 mi^2, excluding unnamed spring tributary 25 ft downstream.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1982 to current year.

REVISED RECORDS.--WDR PA-83-2: 1982(P).

GAGE.--Water-stage recorder and wooden control. Elevation of gage is 410 ft above National Geodetic Vertical Datum of 1929, from topographic map.

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

AVERAGE DISCHARGE.--6 years, 7.28 ft^3/s, 16.99 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,520 ft^3/s, Sept. 8, 1987, gage height, 8.83 ft, from rating curve extended above 230 ft^3/s on basis of slope-conveyance study and contracted-opening measurement at gage height 8.25 ft; minimum, 0.19 ft^3/s, Mar. 7, 1986, gage height, 0.68 ft, result of freezeup; minimum gage height, 0.60 ft, Sept. 3, 1983.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 16, 1982, reached a stage of 8.25 ft, from floodmarks, discharge, 1,210 ft^3/s, from rating curve extended as explained above. Flood of June 1972 reached a stage of about 9.8 ft, discharge not determined, from information by local residents.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 20	0615	268	4.98	July 20	0015	407	5.87
May 10	2045	386	5.73	July 21	1930	820	7.37
May 19	0545	731	7.12	July 23	2315	558	6.53
July 17	1915	*1,100	*8.03				

Minimum daily discharge, 1.3 ft^3/s, July 15, 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	3.2	16	e3.6	55	6.2	4.2	3.2	6.3	1.8	7.3	2.3
2	4.2	3.2	11	e3.3	27	5.9	4.0	3.0	6.2	1.7	6.2	2.3
3	4.7	3.1	9.0	e3.5	16	6.4	3.8	2.9	5.7	1.7	5.6	2.1
4	4.3	3.1	8.7	e3.0	27	19	4.1	3.1	5.5	1.6	5.1	21
5	4.0	2.9	7.1	e2.9	13	13	3.8	5.4	5.1	1.5	4.8	5.2
6	3.8	2.7	6.7	e3.0	9.5	9.3	3.6	8.6	4.7	1.6	4.7	3.4
7	4.5	2.6	6.2	e3.1	8.7	8.2	7.0	5.6	4.6	1.7	4.4	3.0
8	3.8	2.8	5.9	e3.2	7.3	7.4	4.7	4.3	4.4	1.7	4.1	2.8
9	3.6	2.7	5.3	3.4	6.7	7.1	4.0	3.9	4.5	1.7	3.9	2.6
10	3.4	12	5.1	3.2	6.4	6.9	3.8	30	4.1	1.7	3.8	2.5
11	3.5	13	4.9	3.1	6.0	6.1	3.6	20	3.8	1.6	3.6	2.3
12	3.4	8.7	4.7	e2.9	30	5.8	3.5	7.9	3.6	2.0	3.5	2.2
13	3.2	7.9	4.4	e2.8	12	5.8	3.4	6.4	3.5	1.7	3.1	3.6
14	3.0	6.6	4.2	2.7	10	5.4	3.3	6.4	3.3	1.5	3.0	2.3
15	2.9	5.6	7.4	2.7	43	5.1	3.3	5.3	3.2	1.3	2.8	2.0
16	2.9	5.0	6.1	2.6	44	4.9	3.5	5.0	3.1	1.3	2.7	1.8
17	2.9	4.8	4.7	2.7	16	4.6	3.2	5.0	3.1	80	2.6	2.0
18	2.8	6.4	4.3	25	13	4.6	3.9	14	2.9	6.4	2.5	2.3
19	2.7	4.8	4.3	6.5	22	4.6	3.7	167	2.8	6.7	3.2	2.0
20	2.7	4.6	6.2	74	30	4.4	3.1	30	2.6	39	3.4	1.8
21	3.4	3.4	5.0	10	14	4.0	2.9	35	2.5	138	2.9	1.8
22	2.8	4.6	4.6	7.1	11	3.8	2.8	20	2.4	61	2.4	1.7
23	2.7	4.0	4.6	6.0	10	3.8	2.8	17	2.3	66	2.6	1.7
24	2.6	4.1	4.3	5.4	9.2	3.9	3.1	15	2.2	53	7.1	3.9
25	2.5	3.8	4.6	5.9	8.0	3.8	2.7	16	2.1	16	2.9	8.3
26	2.5	3.8	4.9	4.7	7.3	9.4	2.6	12	2.2	19	2.6	4.2
27	10	3.7	4.4	e4.5	7.3	9.3	3.2	10	2.0	18	2.6	1.7
28	13	4.0	e4.0	e4.4	7.0	5.1	6.5	9.0	1.9	20	2.4	1.5
29	4.2	38	e3.7	e4.3	6.6	4.6	3.4	8.1	1.8	11	7.4	1.5
30	3.7	43	e3.7	e4.3	---	4.4	3.7	7.3	1.8	8.4	3.4	1.5
31	3.4	---	e3.8	5.0	---	4.2	---	6.7	---	15	2.6	---
TOTAL	121.7	218.1	179.8	218.8	483.0	197.0	111.2	493.1	104.2	583.6	119.2	97.3
MEAN	3.93	7.27	5.80	7.06	16.7	6.35	3.71	15.9	3.47	18.8	3.85	3.24
MAX	13	43	16	74	55	19	7.0	167	6.3	138	7.4	21
MIN	2.5	2.6	3.7	2.6	6.0	3.8	2.6	2.9	1.8	1.3	2.4	1.5
CFSM	.67	1.25	1.00	1.21	2.86	1.09	.64	2.73	.60	3.23	.66	.56
IN.	.78	1.39	1.15	1.40	3.09	1.26	.71	3.15	.67	3.73	.76	.62

CAL YR 1987 TOTAL 2599.31 MEAN 7.12 MAX 259 MIN .95 CFSM 1.22 IN. 16.61
WTR YR 1988 TOTAL 2927.0 MEAN 8.00 MAX 167 MIN 1.3 CFSM 1.37 IN. 18.71

e Estimated

01576085 LITTLE CONESTOGA CREEK NEAR CHURCHTOWN, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1982 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: August 1982 to September 1983 (discontinued).

INSTRUMENTATION.--Automatic sediment pumping sampler since August 1982.

COOPERATION.--Water-quality samples collected by Pa. Department of Evironmental Resources and U.S. Geological Survey. Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories except for the September pesticide sample which was analyzed by the U.S. Geological Survey.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT									
20...	1115	2.7	513	13.5	0.130	0.130	7.60	7.60	0.140
27...	2150	4.0	--	--	0.110	--	6.80	--	6.40
27...	2250	103	--	--	0.150	--	5.90	--	1.20
27...	2400	102	--	--	0.170	--	5.70	--	1.00
28...	0110	53	--	--	0.220	--	5.10	--	1.10
NOV									
10...	1515	21	--	--	0.130	--	7.00	--	0.300
10...	1545	24	--	--	0.160	--	4.80	--	1.40
10...	1745	21	--	--	0.130	--	5.10	--	1.20
10...	2115	19	--	--	0.130	--	4.80	--	0.940
10...	2245	34	--	--	0.140	--	4.80	--	0.880
10...	2315	46	--	--	0.150	--	5.10	--	1.00
10...	2345	51	--	--	0.170	--	4.80	--	1.20
11...	0015	46	--	--	0.170	--	4.80	--	1.10
11...	0145	32	--	--	0.170	--	4.80	--	0.990
11...	0315	23	--	--	0.180	--	5.10	--	0.940
11...	0645	13	--	--	0.110	--	6.20	--	0.490
20...	0800	4.7	544	--	0.050	0.050	9.00	9.00	0.040
29...	1548	30	--	--	0.060	0.060	7.60	6.50	0.360
29...	1718	70	--	--	0.090	--	4.90	--	0.360
29...	1928	154	--	--	0.100	0.070	3.40	3.00	0.960
29...	1958	168	--	--	0.080	0.060	3.20	2.60	1.10
29...	2128	115	--	--	0.080	--	4.00	--	0.480
29...	2258	69	--	--	0.072	0.060	4.08	4.08	0.540
29...	2328	68	--	--	0.070	--	4.40	--	0.360
30...	0028	99	--	--	0.070	0.060	4.40	4.40	0.360
30...	0128	134	--	--	0.080	0.060	5.30	3.60	0.410
30...	0338	87	--	--	0.080	--	4.20	--	0.350
30...	0538	54	--	--	0.070	0.050	4.80	4.20	0.300
DEC									
21...	0915	5.0	475	5.0	0.040	0.030	8.60	8.60	0.060
JAN									
18...	1217	20	--	--	0.070	--	4.70	--	1.00
18...	1607	83	--	--	0.110	--	2.30	--	2.30
18...	1717	72	--	--	0.110	--	1.90	--	2.50
18...	1947	33	--	--	0.110	--	2.30	--	2.40
18...	2247	16	--	--	0.080	--	3.10	--	2.20
20...	0205	36	--	--	0.080	0.050	5.50	5.00	1.10
20...	0305	114	--	--	0.190	0.070	4.00	3.50	1.70
20...	0345	164	--	--	0.260	0.120	3.10	2.50	1.60
20...	0415	151	--	--	0.240	0.050	2.90	2.20	1.80
20...	0445	157	--	--	0.260	0.130	2.40	2.20	2.00
20...	0545	234	--	--	0.230	0.060	2.20	1.80	1.90
20...	0645	257	--	--	0.300	0.040	1.70	1.40	1.90
20...	0805	182	--	--	0.150	0.040	1.50	1.10	1.90
20...	0845	137	--	--	0.250	0.120	1.60	1.20	1.70
20...	1035	68	--	--	0.170	0.030	1.80	1.40	1.60
20...	1515	34	--	--	0.100	0.040	2.90	2.80	1.30
20...	2045	18	--	--	0.070	0.030	4.10	3.50	0.990
29...	0910	5.3	465	1.0	0.020	0.020	11.0	11.0	0.080
FEB									
01...	0325	19	--	--	0.060	--	5.20	--	1.20
01...	0425	31	--	--	0.050	--	2.80	--	0.930
01...	1030	58	--	--	0.060	--	2.30	--	1.00
01...	1345	131	--	--	0.090	--	1.60	--	1.10
01...	1810	63	--	--	0.070	--	2.80	--	0.990
01...	2115	30	--	--	0.060	--	4.10	--	0.810
02...	0215	23	--	--	0.050	--	5.90	--	1.30
15...	1500	24	--	--	0.030	--	7.50	--	0.280
15...	1630	16	--	--	0.070	--	4.20	--	1.30
15...	1800	114	--	--	0.100	--	1.80	--	2.10
19...	2045	29	--	--	0.050	--	7.00	--	0.550
19...	2230	111	--	--	0.090	--	4.00	--	0.990
19...	2320	134	--	--	0.090	--	3.30	--	1.10
20...	0010	120	--	--	0.080	--	3.10	--	1.00
20...	0130	76	--	--	0.060	--	2.90	--	0.930
20...	0710	26	--	--	0.040	--	5.30	--	0.490
29...	1120	6.4	303	0.0	0.020	0.020	7.80	7.80	0.020
MAR									
26...	0930	18	--	--	0.150	--	5.50	--	0.420
26...	1300	12	--	--	0.100	--	4.80	--	0.340
26...	2200	10	--	--	0.080	--	5.30	--	0.200
26...	2300	19	--	--	0.090	--	4.80	--	0.600
27...	0500	12	--	--	0.070	--	5.30	--	0.300
31...	0930	4.3	400	11.5	0.040	0.040	6.80	6.60	0.050
APR									
26...	0920	2.7	367	9.5	0.050	0.050	6.10	6.10	0.020
MAY									
10...	1940	12	--	--	0.150	--	4.30	--	1.20
10...	2030	266	--	--	0.140	--	5.60	--	0.990
10...	2110	258	--	--	0.220	--	10.0	--	2.80
10...	2210	155	--	--	0.180	--	6.40	--	1.50
11...	0345	31	--	--	0.160	--	6.10	--	0.930
11...	1145	14	--	--	0.100	--	7.10	--	1.20
11...	1220	14	--	--	0.090	--	6.70	--	0.630
11...	1230	14	--	--	0.080	--	6.70	--	0.630

01576085 LITTLE CONESTOGA CREEK NEAR CHURCHTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM., % FINER THAN .062 mm
OCT									
20...	0.080	1.3	0.92	8.9	0.210	0.140	82	0.60	--
27...	--	13	--	20	2.90	--	915	9.9	--
27...	--	13	--	19	3.30	--	--	--	--
27...	--	14	--	20	3.50	--	--	--	--
28...	--	17	--	22	4.70	--	--	--	--
NOV									
10...	--	2.6	--	9.6	0.820	--	326	18	--
10...	--	7.5	--	12	1.40	--	306	20	--
10...	--	4.5	--	9.6	1.30	--	190	11	--
10...	--	3.6	--	8.4	1.20	--	117	6.0	--
10...	--	4.6	--	9.4	1.40	--	430	39	--
10...	--	5.8	--	11	1.60	--	--	--	--
10...	--	7.5	--	12	2.30	--	624	86	--
11...	--	6.6	--	11	2.00	--	654	81	--
11...	--	5.2	--	10	1.90	--	376	32	--
11...	--	4.7	--	9.8	1.80	--	259	16	--
11...	--	3.1	--	9.3	1.30	--	125	4.4	--
20...	0.040	0.68	0.67	9.7	0.170	<0.020	10	0.13	--
29...	0.360	2.4	2.2	10	0.680	0.510	--	--	--
29...	--	6.8	--	12	2.00	--	1130	214	--
29...	0.840	10	3.3	13	4.10	1.40	--	--	--
29...	0.990	10	3.8	13	3.50	1.20	--	--	--
29...	--	7.6	--	12	2.40	--	1060	329	--
29...	0.540	5.5	4.3	9.6	1.92	1.02	--	--	--
29...	--	4.7	--	9.1	1.50	--	517	95	--
30...	0.360	6.3	3.0	11	1.80	1.10	--	--	--
30...	0.380	5.6	3.2	11	2.00	0.880	--	--	--
30...	--	5.4	--	9.6	2.00	--	675	159	--
30...	0.250	3.2	2.7	8.0	1.40	0.720	--	--	--
DEC									
21...	0.040	0.66	0.44	9.3	0.160	0.130	6	0.08	--
JAN									
18...	--	4.1	--	8.8	1.40	--	311	17	--
18...	--	8.9	--	11	3.10	--	965	216	--
18...	--	7.3	--	9.2	3.20	--	940	183	--
18...	--	9.5	--	12	3.00	--	463	41	--
18...	--	4.1	--	7.2	2.50	--	163	7.0	--
20...	0.960	4.5	2.7	10	1.50	1.10	--	--	--
20...	1.20	6.6	3.9	11	3.30	1.20	--	--	--
20...	0.960	9.7	4.4	13	2.60	1.00	--	--	--
20...	1.20	9.1	3.6	12	3.60	1.30	--	--	--
20...	1.50	8.8	3.2	11	2.90	1.60	--	--	--
20...	1.40	7.8	3.8	10	3.70	1.60	--	--	--
20...	1.20	6.2	3.6	7.9	2.80	1.30	--	--	--
20...	1.10	9.8	3.1	11	3.10	1.30	--	--	--
20...	1.20	9.0	4.1	11	3.00	1.40	--	--	--
20...	1.20	5.3	3.1	7.1	2.80	1.30	--	--	--
20...	1.10	5.4	3.2	8.3	2.00	1.30	--	--	--
20...	0.810	3.7	3.4	7.8	1.30	0.840	--	--	--
29...	0.080	0.51	0.44	12	0.120	0.120	9	0.13	--
FEB									
01...	--	3.6	--	8.8	0.860	--	550	28	--
01...	--	4.1	--	6.9	1.00	--	861	72	--
01...	--	4.0	--	6.3	1.20	--	741	116	--
01...	--	3.8	--	5.4	1.90	--	2370	838	--
01...	--	4.0	--	6.8	1.50	--	736	125	--
01...	--	4.0	--	8.1	1.10	--	227	18	--
02...	--	2.2	--	8.1	0.790	--	--	--	--
15...	--	1.1	--	8.6	0.320	--	70	4.5	--
15...	--	7.0	--	11	0.840	--	1900	82	--
15...	--	6.2	--	8.0	2.60	--	2400	739	--
19...	--	3.2	--	10	0.850	--	454	36	--
19...	--	7.9	--	12	4.40	--	3170	950	--
19...	--	8.3	--	12	5.10	--	3220	1160	--
20...	--	7.3	--	10	4.40	--	2320	752	--
20...	--	5.0	--	7.9	3.40	--	1380	283	--
20...	--	2.0	--	7.3	0.910	--	221	16	--
29...	0.020	0.50	0.48	8.3	0.090	0.080	10	0.17	--
MAR									
26...	--	3.2	--	8.7	0.820	--	--	--	--
26...	--	1.6	--	6.4	0.570	--	--	--	--
26...	--	2.0	--	7.3	0.550	--	--	--	--
26...	--	4.5	--	9.3	1.40	--	--	--	--
27...	--	2.0	--	7.3	0.590	--	--	--	--
31...	0.050	0.61	<0.20	7.4	0.120	0.120	12	0.14	--
APR									
26...	0.020	0.52	0.52	6.6	0.100	0.090	6	0.04	--
MAY									
10...	--	10	--	14	11.0	--	2600	84	99
10...	--	15	--	21	9.20	--	15300	11000	98
10...	--	27	--	37	11.0	--	28000	19500	95
10...	--	18	--	24	8.10	--	10100	4230	93
11...	--	6.3	--	12	4.00	--	1460	122	91
11...	--	3.8	--	11	1.10	--	229	8.7	--
11...	--	2.5	--	9.2	0.660	--	201	7.6	--
11...	--	2.3	--	9.0	0.620	--	196	7.4	--

(<) Actual value is known to be less than the value shown.

01576085 LITTLE CONESTOGA CREEK NEAR CHURCHTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
MAY									
18...	0914	17	--	--	0.080	--	4.60	--	0.020
18...	1044	16	--	--	0.100	--	4.20	--	0.300
18...	1214	21	--	--	0.090	--	4.40	--	0.200
18...	1314	32	--	--	0.100	--	4.20	--	0.300
18...	1444	27	--	--	0.100	--	5.30	--	0.240
18...	1614	20	--	--	0.100	--	5.30	--	0.380
18...	1814	15	--	--	0.110	--	6.10	--	0.780
19...	0104	13	--	--	0.080	--	5.80	--	0.200
19...	0114	14	--	--	0.080	--	5.80	--	0.180
19...	0244	108	--	--	0.080	--	4.00	--	0.270
19...	0334	179	--	--	0.080	--	5.20	--	0.300
19...	0414	213	--	--	0.070	--	6.10	--	0.380
19...	0444	245	--	--	0.070	--	5.80	--	0.340
19...	0504	420	--	--	0.080	--	5.20	--	0.430
19...	0534	689	--	--	0.080	--	4.90	--	0.250
19...	0554	723	--	--	0.070	--	4.80	--	0.270
19...	0644	535	--	--	0.070	--	5.60	--	0.330
19...	0754	247	--	--	0.060	--	5.60	--	0.300
19...	0834	285	--	--	0.070	--	7.10	--	0.260
19...	0904	396	--	--	0.070	--	6.60	--	0.240
19...	0944	323	--	--	0.070	--	6.20	--	0.270
19...	1014	275	--	--	0.060	--	6.10	--	0.310
19...	1143	205	--	--	0.050	--	6.20	--	0.190
19...	1253	135	--	--	0.060	--	6.60	--	0.160
19...	1513	76	--	--	0.050	--	7.90	--	0.120
19...	2343	39	--	--	0.050	--	9.50	--	0.050
20...	1013	29	--	--	0.040	--	9.70	--	0.030
20...	1045	29	--	--	0.040	--	9.20	--	0.040
20...	1815	29	--	--	0.050	--	8.90	--	0.100
20...	2225	26	--	--	0.050	--	9.10	--	0.070
20...	2355	43	--	--	0.040	--	8.60	--	0.020
21...	0035	112	--	--	0.050	--	7.90	--	0.120
21...	0055	116	--	--	0.050	--	6.80	--	0.240
21...	0105	107	--	--	0.050	--	5.90	--	0.300
21...	0125	94	--	--	0.050	--	4.70	--	0.380
21...	0225	63	--	--	0.050	--	4.00	--	0.290
21...	0425	40	--	--	0.050	--	5.40	--	0.150
21...	0915	29	--	--	0.050	--	8.00	--	0.060
JUN									
01...	0925	6.4	412	19.5	0.100	0.100	8.00	7.80	0.030
28...	0925	2.1	410	20.0	0.130	0.130	4.90	4.90	0.020
JUL									
17...	1815	29	--	--	0.440	--	1.90	--	0.690
17...	1900	1060	--	--	0.540	--	3.20	--	1.50
17...	1930	1020	--	--	0.370	--	3.00	--	1.10
17...	2000	606	--	--	0.410	--	3.20	--	1.00
17...	2045	189	--	--	0.380	--	3.20	--	1.10
17...	2245	36	--	--	0.370	--	3.70	--	1.00
18...	0315	12	--	--	0.340	--	4.70	--	0.810
19...	2315	20	--	--	0.220	--	4.00	--	0.380
19...	2345	171	--	--	0.240	--	3.70	--	0.800
19...	2400	380	--	--	0.260	--	2.76	--	0.450
20...	0015	407	--	--	0.260	--	2.50	--	0.610
20...	0030	331	--	--	0.280	--	2.80	--	0.690
20...	0115	160	--	--	0.280	--	2.60	--	0.490
20...	0245	56	--	--	0.280	--	3.40	--	0.690
20...	0415	27	--	--	0.190	--	4.30	--	0.480
20...	0745	12	--	--	0.200	--	4.20	--	0.420
20...	1930	29	--	--	0.200	--	6.60	--	0.210
20...	2015	82	--	--	0.250	--	3.10	--	0.600
20...	2045	73	--	--	0.240	--	4.10	--	0.600
21...	0300	14	--	--	0.190	--	4.40	--	0.430
21...	0430	65	--	--	0.190	--	4.30	--	0.480
21...	0500	78	--	--	0.170	--	3.60	--	0.540
21...	1044	16	--	--	0.170	--	4.70	--	0.410
21...	1045	16	--	--	0.170	--	4.90	--	0.410
21...	1830	571	--	--	0.080	--	1.70	--	0.140
21...	1930	820	--	--	0.070	--	1.70	--	0.160
21...	1945	795	--	--	0.070	--	1.90	--	0.130
21...	2100	463	--	--	0.070	--	2.60	--	0.180
21...	2130	270	--	--	0.070	--	2.90	--	0.140
21...	2245	128	--	--	0.080	--	3.60	--	0.160
21...	2345	88	--	--	0.080	--	4.20	--	0.080
22...	0045	182	--	--	0.080	--	4.30	--	0.160
22...	0145	291	--	--	0.080	--	4.00	--	0.120
22...	0315	169	--	--	0.070	--	4.20	--	0.090
22...	0515	74	--	--	0.080	--	5.80	--	0.080
22...	1100	29	--	--	0.080	--	8.80	--	0.050
23...	0115	16	--	--	0.100	--	11.0	--	0.060
23...	1730	28	--	--	0.100	--	19.0	--	0.060
23...	1915	38	--	--	0.110	--	1.20	--	0.160
23...	2045	181	--	--	0.080	--	4.10	--	0.180
23...	2230	313	--	--	0.070	--	3.20	--	0.140
23...	2315	558	--	--	0.060	--	3.00	--	0.120
23...	2345	450	--	--	0.060	--	3.00	--	0.100
24...	0130	177	--	--	0.070	--	4.00	--	0.100
24...	0730	41	--	--	0.060	--	13.0	--	0.040
24...	1315	29	--	--	0.050	--	11.0	--	0.020
25...	0045	20	--	--	0.050	--	12.0	--	0.020
26...	2145	25	--	--	0.100	--	9.60	--	<0.010
26...	2215	101	--	--	0.090	--	7.20	--	0.080
27...	0015	52	--	--	0.090	--	4.30	--	0.080
27...	0515	19	--	--	0.100	--	6.80	--	0.040
28...	0230	45	--	--	0.120	--	7.80	--	0.330
28...	1100	18	--	--	0.080	--	7.90	--	0.010

(<) Actual value is known to be less than the value shown.

01576085 LITTLE CONESTOGA CREEK NEAR CHURCHTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
MAY									
18...	--	2.5	--	7.1	0.870	--	--	--	--
18...	--	3.2	--	7.4	0.680	--	--	--	--
18...	--	3.6	--	8.0	0.940	--	449	25	--
18...	--	6.7	--	11	2.40	--	953	82	--
18...	--	5.5	--	11	0.790	--	--	--	--
18...	--	3.8	--	9.1	1.30	--	481	26	--
18...	--	3.9	--	10	0.880	--	--	--	--
19...	--	2.5	--	8.3	0.730	--	340	12	--
19...	--	4.8	--	11	1.40	--	917	35	--
19...	--	9.9	--	14	1.70	--	--	--	--
19...	--	9.8	--	15	1.60	--	--	--	--
19...	--	8.9	--	15	1.40	--	--	--	--
19...	--	9.7	--	15	3.50	--	2640	1750	--
19...	--	14	--	19	2.90	--	--	--	--
19...	--	16	--	21	6.60	--	--	--	--
19...	--	13	--	18	6.20	--	5260	10300	--
19...	--	6.3	--	12	1.90	--	--	--	--
19...	--	12	--	18	1.90	--	--	--	--
19...	--	5.0	--	12	2.10	--	--	--	--
19...	--	6.0	--	13	2.20	--	--	--	--
19...	--	9.4	--	16	1.10	--	--	--	--
19...	--	3.8	--	9.9	0.940	--	--	--	--
19...	--	3.2	--	9.4	1.90	--	--	--	--
19...	--	2.8	--	9.4	3.40	--	--	--	--
19...	--	2.3	--	10	0.650	--	--	--	--
19...	--	0.97	--	10	0.360	--	--	--	--
20...	--	0.63	--	10	0.260	--	--	--	--
20...	--	0.91	--	10	0.290	--	--	--	--
20...	--	1.3	--	10	0.320	--	67	5.2	--
20...	--	1.4	--	10	0.320	--	65	4.6	--
20...	--	1.5	--	10	0.420	--	182	21	--
21...	--	0.56	--	8.5	1.60	--	1240	375	--
21...	--	10	--	17	2.20	--	2480	777	--
21...	--	0.68	--	6.6	3.90	--	2590	748	--
21...	--	0.56	--	5.3	3.40	--	--	--	--
21...	--	7.3	--	11	2.80	--	1620	276	--
21...	--	3.6	--	9.0	1.90	--	535	58	--
21...	--	1.4	--	9.4	0.720	--	102	8.0	--
JUN									
01...	0.010	0.89	0.70	8.9	0.280	0.110	121	2.1	--
28...	0.020	1.2	0.88	6.1	0.250	0.200	44	0.25	--
JUL									
17...	--	24	--	26	9.10	--	--	--	--
17...	--	22	--	25	5.60	--	--	--	--
17...	--	16	--	19	8.00	--	--	--	--
17...	--	12	--	15	2.20	--	5720	9360	--
17...	--	11	--	14	3.00	--	3080	1570	--
17...	--	6.4	--	10	2.90	--	1590	155	--
18...	--	4.7	--	9.4	1.40	--	696	23	--
19...	--	8.9	--	13	3.10	--	2530	137	--
19...	--	12	--	16	3.20	--	4590	2120	--
19...	--	9.1	--	12	6.40	--	--	--	--
20...	--	5.5	--	8.0	4.30	--	5990	6580	--
20...	--	4.5	--	7.3	3.70	--	6370	5690	--
20...	--	4.2	--	6.8	5.10	--	3200	1380	--
20...	--	9.6	--	13	3.00	--	1480	224	--
20...	--	12	--	16	3.40	--	838	61	--
20...	--	5.2	--	9.4	1.40	--	415	13	--
20...	--	3.2	--	9.8	0.920	--	615	48	--
20...	--	13	--	16	2.60	--	1740	385	--
20...	--	9.0	--	13	2.90	--	--	--	--
21...	--	4.2	--	8.6	1.80	--	--	--	--
21...	--	12.4	--	16	3.40	--	--	--	--
21...	--	6.9	--	10	2.50	--	1530	322	--
21...	--	3.7	--	8.4	1.60	--	211	9.1	--
21...	--	3.9	--	8.8	1.10	--	227	9.8	--
21...	--	11	--	13	2.90	--	3480	5370	--
21...	--	4.7	--	6.4	2.30	--	3950	8750	--
21...	--	8.2	--	10	2.80	--	--	--	--
21...	--	7.9	--	10	2.10	--	1780	2230	--
21...	--	5.1	--	8.0	1.40	--	1390	1010	--
21...	--	4.3	--	7.9	1.50	--	833	288	--
21...	--	3.0	--	7.2	1.30	--	598	142	--
22...	--	3.7	--	8.0	1.20	--	771	379	--
22...	--	4.8	--	8.8	1.50	--	1030	809	--
22...	--	3.4	--	7.6	1.30	--	594	271	--
22...	--	2.3	--	8.1	0.880	--	298	60	--
22...	--	1.6	--	10	0.550	--	106	8.3	--
23...	--	1.2	--	12	0.360	--	58	2.5	80
23...	--	2.5	--	21	0.650	--	356	27	86
23...	--	5.2	--	6.4	1.60	--	702	72	95
23...	--	9.1	--	13	2.30	--	1740	850	74
23...	--	5.8	--	9.0	2.30	--	1180	997	74
23...	--	7.8	--	11	1.90	--	2080	3130	74
23...	--	4.6	--	7.6	1.90	--	--	--	--
24...	--	4.2	--	8.2	1.40	--	956	457	62
24...	--	2.0	--	15	0.600	--	176	19	78
24...	--	1.4	--	12	0.420	--	87	6.8	--
25...	--	1.2	--	13	0.300	--	78	4.2	--
26...	--	2.4	--	12	0.650	--	299	20	--
26...	--	7.6	--	15	2.60	--	1940	529	--
27...	--	4.9	--	9.2	1.30	--	919	129	--
27...	--	2.5	--	9.3	0.750	--	148	7.6	--
28...	--	4.2	--	12	1.20	--	--	--	--
28...	--	1.6	--	9.5	0.420	--	--	--	--

01576085 LITTLE CONESTOGA CREEK NEAR CHURCHTOWN, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
AUG									
01...	1015	7.8	507	23.0	0.100	0.100	9.60	9.60	<0.010
SEP									
01...	0750	2.5	495	19.0	0.150	0.150	5.40	5.40	0.060
04...	1215	23	--	--	0.380	--	4.90	--	0.380
04...	1445	46	--	--	0.170	--	2.90	--	0.340
04...	1615	87	--	--	0.130	--	2.30	--	0.300
04...	1645	78	--	--	0.110	--	1.90	--	0.250
04...	1800	46	--	--	0.110	--	2.30	--	0.250
29...	0950	1.5	445	15.0	0.200	0.200	6.00	6.00	0.070

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHOROUS TOTAL (MG/L AS P)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
AUG								
01...	<0.010	0.40	0.39	10	0.230	0.170	50	1.1
SEP								
01...	0.080	1.0	1.0	6.4	0.380	0.290	38	0.26
04...	--	7.2	--	12	1.50	--	299	19
04...	--	6.3	--	9.2	1.90	--	556	69
04...	--	8.0	--	10	2.60	--	1150	270
04...	--	4.8	--	6.7	2.00	--	897	189
04...	--	4.8	--	7.1	1.80	--	461	57
29...	0.070	1.1	1.1	7.1	0.320	0.260	18	0.07

INSTANTANEOUS SUSPENDED-SEDIMENT DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT					
20...	1115	2.7	82	0.60	--
27...	2150	4.0	915	9.9	--
27...	2220	41	1670	185	--
28...	0205	35	2090	198	--
NOV					
10...	1515	21	326	18	--
10...	1545	24	306	20	--
10...	1630	22	592	35	82
10...	1745	21	190	11	--
10...	2115	19	117	6.0	--
10...	2245	34	430	39	--
10...	2345	51	624	86	--
11...	0015	46	654	81	--
11...	0145	32	376	32	--
11...	0315	23	259	16	--
11...	0645	13	125	4.4	--
20...	0800	4.7	10	0.13	--
29...	1618	43	690	80	--
29...	1718	70	1130	214	--
29...	1938	158	1870	798	--
29...	1948	163	2110	929	72
29...	2128	115	1060	329	--
29...	2248	71	570	109	--
29...	2328	68	517	95	--
30...	0038	107	679	196	--
30...	0118	131	909	322	--
30...	0338	87	675	159	--
30...	0508	61	372	61	--
DEC					
21...	0915	5.0	6	0.08	--
JAN					
18...	1217	20	311	17	--
18...	1607	83	965	216	--
18...	1717	72	940	183	--
18...	1947	33	463	41	--
18...	2247	16	163	7.0	--
20...	0235	95	814	209	--
20...	0315	136	1850	679	88
20...	0355	156	2980	1260	--
20...	0515	172	2030	943	75
20...	0635	257	2930	2030	76
20...	0855	125	1440	486	--
20...	1105	61	776	128	85
20...	2015	19	118	6.1	--
29...	0910	5.3	9	0.13	--

(<) Actual value is known to be less than the value shown.

01576085 LITTLE CONESTOGA CREEK NEAR CHURCHTOWN, PA--Continued

INSTANTANEOUS SUSPENDED-SEDIMENT DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
FEB					
01...	0325	19	550	28	--
01...	0425	31	861	72	--
01...	1030	58	741	116	--
01...	1345	131	2370	838	--
01...	1810	63	736	125	--
01...	2115	30	227	18	--
02...	0145	24	118	7.6	--
02...	1310	27	236	17	--
02...	1440	42	491	56	--
02...	1640	45	446	54	--
03...	0210	21	64	3.6	--
04...	0715	34	287	26	--
04...	0845	66	969	173	--
04...	1015	52	618	87	--
04...	1145	39	305	32	--
04...	1745	22	60	3.6	--
12...	0500	27	361	26	--
12...	0630	41	566	63	--
12...	1030	34	274	25	--
12...	1630	45	328	40	--
13...	0100	15	220	8.9	--
13...	1230	17	135	6.2	--
15...	1500	24	70	4.5	--
15...	1630	16	1900	82	--
15...	1800	114	2400	739	--
19...	2045	29	454	36	--
19...	2230	111	3170	950	--
19...	2320	134	3220	1160	--
20...	0010	120	2320	752	--
20...	0130	76	1380	283	--
20...	0710	26	221	16	--
29...	1120	6.4	10	0.17	--
MAR					
26...	0900	16	297	13	--
26...	1230	13	116	4.1	--
26...	2330	25	689	47	--
27...	0430	12	135	4.4	--
31...	0930	4.3	12	0.14	--
APR					
26...	0920	2.7	6	0.04	--
MAY					
06...	1040	10	101	2.7	--
10...	1940	12	2600	84	99
10...	2030	266	15300	11000	98
10...	2110	258	28000	19500	95
10...	2210	155	10100	4230	93
11...	0345	31	1460	122	91
11...	1145	14	229	8.7	--
11...	1220	14	201	7.6	--
11...	1230	14	196	7.4	--
18...	0944	18	313	15	--
18...	1114	15	213	8.6	--
18...	1144	16	218	9.4	--
18...	1214	21	449	25	--
18...	1314	32	953	82	--
18...	1514	24	674	44	--
18...	1614	20	481	26	--
18...	1844	14	177	6.7	--
19...	0104	13	340	12	--
19...	0114	14	917	35	--
19...	0234	90	2770	673	--
19...	0324	169	2820	1290	--
19...	0404	209	2250	1270	--
19...	0444	245	2640	1750	--
19...	0454	310	3960	3310	--
19...	0544	731	5670	11200	--
19...	0554	723	5260	10300	--
19...	0604	710	3080	5900	--
19...	0654	474	2150	2750	--
19...	0804	240	1250	810	--
19...	0844	329	2150	1910	--
19...	0854	374	2310	2330	--
19...	0914	401	2460	2660	--
19...	0954	300	1550	1260	--
19...	1024	275	1270	943	--
19...	1153	190	844	433	--
19...	1303	126	694	236	--
19...	1523	73	337	66	--
20...	0013	38	105	11	--
20...	1043	29	81	6.3	--
20...	1815	29	67	5.2	--
20...	2225	26	65	4.6	--
20...	2355	43	182	21	--
21...	0035	112	1240	375	--
21...	0055	116	2480	777	--
21...	0105	107	2590	748	--
21...	0205	71	1790	343	--
21...	0225	63	1620	276	--
21...	0425	40	535	58	--
21...	0915	29	102	8.0	--
JUN					
01...	0925	6.4	121	2.1	--
28...	0925	2.1	44	0.25	--

01576085 LITTLE CONESTOGA CREEK NEAR CHURCHTOWN, PA--Continued

INSTANTANEOUS SUSPENDED-SEDIMENT DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JUL					
17...	1830	476	13700	17600	--
17...	1845	886	11800	28100	--
17...	2000	606	5720	9360	--
17...	2045	189	3080	1570	--
17...	2245	36	1590	155	--
18...	0315	12	696	23	--
19...	2315	20	2530	137	--
19...	2345	171	4590	2120	--
20...	0015	407	5990	6580	--
20...	0030	331	6370	5690	--
20...	0115	160	3200	1380	--
20...	0245	56	1480	224	--
20...	0415	27	838	61	--
20...	0745	12	415	13	--
20...	1930	29	615	48	--
20...	2015	82	1740	385	--
21...	0430	65	1290	226	--
21...	0500	78	1530	322	--
21...	1045	16	227	9.8	--
21...	1830	571	3480	5370	--
21...	1930	820	3950	8750	--
21...	2100	463	1780	2230	--
21...	2130	270	1390	1010	--
21...	2245	128	833	288	--
21...	2345	88	598	142	--
21...	2400	89	148	36	--
22...	0045	182	771	379	--
22...	0145	291	1030	809	--
22...	0315	169	594	271	--
22...	0515	74	298	60	--
22...	1100	29	106	8.3	--
23...	0115	16	58	2.5	80
23...	1730	28	356	27	86
23...	1915	38	702	72	95
23...	2045	181	1740	850	74
23...	2230	313	1180	997	74
23...	2315	558	2080	3130	74
24...	0130	177	956	457	62
24...	0730	41	176	19	78
24...	1315	29	87	6.8	--
25...	0045	20	78	4.2	--
26...	2145	25	299	20	--
26...	2215	101	1940	529	--
27...	0015	52	919	129	--
27...	0515	19	148	7.6	--
28...	0130	21	295	17	--
28...	0300	50	574	77	--
28...	0400	39	371	39	--
28...	0630	25	137	9.2	--
28...	1030	18	65	3.2	--
31...	0030	53	556	80	--
31...	0100	52	922	129	--
31...	0200	35	998	94	--
31...	0330	23	431	27	--
31...	0430	19	299	15	--
AUG					
01...	1015	7.8	50	1.1	--
29...	1615	27	246	18	--
29...	1700	32	490	42	--
29...	1715	31	451	38	--
29...	1845	18	297	14	--
SEP					
01...	0750	2.5	38	0.26	--
04...	1215	23	299	19	--
04...	1445	46	556	69	--
04...	1615	87	1150	270	--
04...	1645	78	897	189	--
04...	1800	46	461	57	--

PESTICIDE ANALYSIS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	ALA-CHLOR TOTAL RECOVER (µG/L)	ATRA-ZINE, TOTAL (µG/L)	CYAN-AZINE TOTAL (µG/L)	METOLA-CHLOR IN WHOLE WATER (µG/L)	PRO-PAZINE TOTAL (µG/L)	SIMA-ZINE TOTAL (µG/L)	TOX-APHENE, TOTAL (µG/L)
APR									
26...	0920	2.7	<0.05	<0.30	<0.30	<0.10	<0.30	<0.30	<1
JUN									
01...	0925	6.4	<0.05	0.61	<0.30	0.24	<0.30	<0.30	<1
28...	0925	2.1	<0.05	<0.30	<0.30	<0.10	<0.30	<0.30	<1
AUG									
01...	1015	7.8	<0.05	1.0	<0.30	0.23	<0.30	<0.30	<1
SEP									
01...	0750	2.5	<0.10	0.50	0.10	0.10	<0.10	0.10	--

(<) Actual value is known to be less than value shown.

01576335 AGRICULTURAL FIELD RUNOFF SITE AT SPRINGVILLE, PA

LOCATION.--Lat 40°11'50", long 76°10'53", Lancaster County, Hydrologic Unit 02050306, on right bank of grassy waterway, 100 ft south of stone spring house, 200 ft west of Indian Run Creek, 0.5 mi south of Springville, and 1.9 mi north of Ephrata.

DRAINAGE AREA.--0.04 mi^2.

PERIOD OF RECORD.--Water years 1985 to current year.

INSTRUMENTATION.--Automatic sediment pumping sampler since October 1984.

COOPERATION.--Water-quality samples collected by Pa. Department of Environmental Resources and U.S. Geological Survey. Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT							
27...	2120	0.07	0.460	--	6.20	--	24.0
27...	2135	0.34	0.530	--	5.90	--	28.0
27...	2150	0.38	0.550	--	4.40	--	19.0
27...	2220	0.23	0.350	--	5.90	--	14.0
27...	2305	0.04	0.260	--	5.90	--	4.70
NOV							
29...	1618	0.05	2.40	--	17.0	--	4.10
29...	1633	0.03	3.20	--	16.0	--	5.00
JAN							
18...	1348	0.05	0.140	--	4.40	--	7.00
18...	1510	0.04	0.570	0.510	9.70	9.20	2.70
18...	1610	0.05	0.700	0.620	8.60	7.70	1.90
18...	1725	0.03	0.750	--	9.20	--	1.80
18...	1855	0.01	0.840	0.700	11.0	9.20	2.00
19...	1357	0.01	0.700	0.590	11.0	9.70	4.90
19...	1510	0.04	1.10	0.900	11.0	9.00	2.20
19...	1755	0.01	1.00	--	11.0	--	2.30
19...	2400	0.03	0.860	0.730	10.0	9.10	5.00
20...	0100	0.33	0.830	--	10.0	--	1.80
20...	0200	0.42	0.730	0.480	7.70	6.60	2.60
20...	0215	0.40	0.720	--	7.90	--	2.70
20...	0330	0.42	0.620	--	6.80	--	2.70
20...	0445	0.57	0.600	--	6.00	--	2.20
20...	0530	0.70	0.620	--	5.50	--	2.10
20...	0615	0.77	0.600	0.280	4.60	3.80	2.20
20...	0715	0.51	0.580	--	4.80	--	2.00
20...	1000	0.26	0.590	--	5.20	--	2.10
20...	1330	0.12	0.460	--	5.80	--	1.90
FEB							
02...	1107	0.09	0.310	--	4.30	--	1.60
02...	1152	0.13	0.250	--	3.50	--	1.20
02...	1215	0.42	0.290	--	4.10	--	1.40
02...	1252	0.34	0.280	--	4.10	--	1.20
02...	1327	0.24	0.260	--	4.10	--	1.30
02...	1404	0.20	0.250	--	4.40	--	1.30
02...	1509	0.45	0.310	--	4.00	--	1.10
02...	1606	0.33	0.340	--	4.30	--	1.40
02...	1713	0.20	0.310	--	4.90	--	1.60
02...	1813	0.14	0.290	--	5.00	--	1.40
02...	1906	0.09	0.320	--	6.00	--	2.00
03...	1317	<0.01	0.290	--	3.50	--	2.80
04...	0455	0.14	--	--	7.70	--	--
16...	1328	0.01	--	--	7.90	--	--
16...	1500	0.01	--	--	7.30	--	--
MAY							
10...	1900	0.26	0.170	--	11.0	--	0.540
10...	1952	0.07	0.100	--	8.20	--	0.900
10...	2015	0.45	0.100	--	6.00	--	0.780
10...	2030	0.47	0.100	0.070	4.20	2.90	0.750
10...	2115	0.25	0.280	--	4.00	--	0.840
10...	2230	0.08	0.290	--	6.50	--	0.840
11...	0030	0.01	0.290	--	4.80	--	0.660
19...	0307	0.04	0.080	--	5.80	--	0.130
19...	0352	0.19	0.120	--	5.80	--	0.100
19...	0415	0.14	0.100	--	5.60	--	0.090
19...	0452	0.28	0.090	--	4.90	--	0.100
19...	0537	0.44	0.050	--	3.70	--	0.040
19...	0622	0.79	0.090	0.010	3.10	2.60	0.140
19...	0652	0.77	0.050	0.020	3.40	3.30	0.060
19...	0737	1.0	0.070	0.020	3.50	3.10	0.100
19...	0807	1.0	0.050	0.020	3.50	3.00	0.040
19...	0852	0.82	0.060	0.020	6.10	5.30	0.080
19...	0952	0.49	0.070	0.020	8.90	7.90	0.080
19...	1022	0.40	0.070	0.020	10.0	7.70	0.060
19...	1037	0.31	0.080	--	11.0	--	0.110
19...	1200	0.21	0.060	--	14.0	--	0.060

(<) Actual value is known to be less than the value shown.

01576335 AGRICULTURAL FIELD RUNOFF SITE AT SPRINGVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)
OCT						
27...	--	37	--	43	12.0	--
27...	--	50	--	56	21.0	--
27...	--	40	--	44	17.0	--
27...	--	24	--	30	13.0	--
27...	--	15	--	21	7.40	--
NOV						
29...	--	10	--	27	8.40	--
29...	--	10	--	26	12.0	--
JAN						
18...	--	23	--	27	13.0	--
18...	2.70	11	5.4	21	11.0	9.00
18...	1.70	4.5	3.7	13	7.30	6.40
18...	--	4.3	--	13	6.40	--
18...	1.60	4.5	4.1	15	4.60	4.00
19...	4.40	18	7.5	29	12.0	12.0
19...	1.80	7.1	4.9	18	7.20	5.50
19...	--	3.3	--	14	6.90	--
19...	4.80	19	12	29	11.0	9.00
20...	--	4.0	--	14	7.70	--
20...	2.00	9.2	7.0	17	8.70	5.30
20...	--	10	--	18	8.00	--
20...	--	9.5	--	16	8.60	--
20...	--	7.6	--	14	8.00	--
20...	--	7.0	--	12	7.60	--
20...	1.40	10	5.8	15	9.10	4.80
20...	--	7.5	--	12	7.90	--
20...	--	8.0	--	13	8.80	--
20...	--	9.2	--	15	9.10	--
FEB						
02...	--	4.1	--	8.4	3.50	--
02...	--	3.1	--	6.6	2.90	--
02...	--	4.6	--	8.7	3.00	--
02...	--	3.2	--	7.3	3.10	--
02...	--	3.5	--	7.6	3.70	--
02...	--	4.8	--	9.2	3.70	--
02...	--	2.8	--	6.8	3.70	--
02...	--	4.8	--	9.1	4.70	--
02...	--	5.6	--	10	5.30	--
02...	--	3.7	--	8.7	5.40	--
02...	--	5.8	--	12	5.70	--
03...	--	10	--	13	6.70	--
04...	--	6.8	--	14	4.80	--
16...	--	6.3	--	14	7.40	--
16...	--	9.1	--	16	7.00	--
MAY						
10...	--	13	--	24	9.00	--
10...	--	15	--	23	19.0	--
10...	--	10	--	16	11.0	--
10...	0.380	7.8	2.5	12	13.0	2.30
10...	--	9.8	--	14	10.0	--
10...	--	6.0	--	12	9.00	--
11...	--	5.1	--	9.9	6.60	--
19...	--	4.1	--	9.9	4.70	--
19...	--	5.8	--	12	6.70	--
19...	--	7.0	--	13	5.20	--
19...	--	2.2	--	7.1	5.80	--
19...	--	2.3	--	6.0	8.10	--
19...	0.040	3.0	0.79	6.1	9.20	2.30
19...	0.040	3.3	0.60	6.7	8.80	2.00
19...	0.040	5.9	0.79	9.4	7.70	1.80
19...	0.020	6.0	0.75	9.5	4.30	1.30
19...	0.020	5.0	0.81	11	5.00	1.60
19...	0.010	5.7	0.73	15	3.80	1.50
19...	0.020	4.3	0.77	14	5.70	1.30
19...	--	2.3	--	13	4.80	--
19...	--	1.3	--	15	4.70	--

01576335 AGRICULTURAL FIELD RUNOFF SITE AT SPRINGVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	NITRO-GEN, NITRITE TOTAL (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
MAY							
19...	1310	0.17	0.050	--	16.0	--	0.040
19...	1419	0.11	0.070	--	23.0	--	0.020
19...	1504	0.11	0.070	--	27.0	--	0.040
19...	1549	0.08	0.060	--	30.0	--	<0.010
19...	1704	0.07	0.080	0.060	39.0	35.0	0.060
20...	1238	0.01	0.060	--	41.0	--	0.020
20...	2305	0.08	0.040	--	17.0	--	0.060
20...	2320	0.22	0.050	--	5.00	--	0.080
20...	2335	0.38	0.050	--	4.10	--	0.090
21...	0005	0.25	0.050	--	3.80	--	0.090
21...	0105	0.09	0.070	--	10.2	--	0.120
21...	0150	0.07	0.050	--	6.48	--	0.080
21...	0220	0.11	0.060	--	7.60	--	0.100
21...	0305	0.04	0.050	--	6.00	--	0.080
21...	0450	0.03	0.060	--	6.70	--	0.100
23...	2035	0.70	0.080	--	7.40	--	0.250
23...	2105	0.68	0.070	--	3.40	--	0.200
23...	2135	0.38	0.070	--	3.40	--	0.170
23...	2220	0.14	0.070	--	3.40	--	0.130
23...	2350	0.05	0.080	--	3.70	--	0.100
JUL							
17...	1708	0.44	0.500	--	4.80	--	0.640
17...	1723	0.34	0.310	0.160	4.80	4.40	1.00
17...	1753	1.1	0.140	0.060	1.90	1.60	0.330
17...	1838	0.86	0.240	0.050	2.30	2.00	0.420
17...	1853	0.79	0.220	--	2.10	--	0.350
17...	1923	0.53	0.180	--	2.10	--	0.300
17...	1953	0.42	0.260	--	2.80	--	0.630
17...	2008	0.33	0.240	--	2.20	--	0.360
17...	2038	0.23	0.240	0.060	2.30	1.90	0.420
17...	2223	0.05	0.240	--	2.30	--	0.300
17...	2253	0.04	0.150	0.110	2.40	2.40	0.260
20...	1800	0.20	0.090	--	2.52	--	0.040
20...	1815	0.20	0.050	--	1.72	--	0.130
20...	1845	0.11	0.070	--	2.16	--	0.030
20...	1945	0.03	0.090	--	2.16	--	0.030
21...	0323	0.26	0.060	--	0.760	--	0.030
21...	0353	0.20	0.110	--	0.920	--	0.120
21...	0453	0.11	0.120	--	0.720	--	0.170
21...	0553	0.04	0.080	--	0.680	--	0.060
21...	1200	0.01	0.060	--	0.500	--	0.040
21...	1600	0.49	0.060	--	1.40	--	0.110
21...	1615	0.91	0.040	--	0.760	--	0.040
21...	1630	0.82	0.030	--	0.820	--	0.010
21...	1800	0.31	0.030	--	0.780	--	0.020
21...	1830	0.68	0.040	--	0.440	--	0.020
21...	1845	0.61	0.040	--	0.700	--	0.020
21...	2045	0.20	0.030	--	0.680	--	0.010
22...	0020	0.55	0.050	--	1.40	--	0.060
22...	0050	0.52	0.040	--	1.20	--	0.130
22...	0320	0.17	0.040	--	0.880	--	0.010
23...	1718	0.45	0.070	--	1.20	--	0.020
23...	1803	0.45	0.060	--	1.30	--	0.010
23...	1948	0.44	0.030	--	1.50	--	0.010
23...	2018	0.66	0.030	--	1.10	--	<0.010
23...	2133	0.66	0.030	--	0.880	--	<0.010
24...	0003	0.23	0.030	--	1.50	--	0.010
26...	1820	0.40	0.130	--	3.60	--	0.100
26...	1835	0.59	0.040	--	0.860	--	0.030
26...	1920	0.36	0.030	--	0.760	--	0.030
26...	2020	0.22	0.030	--	1.00	--	0.030
26...	2035	0.57	0.040	--	1.10	--	0.060
26...	2050	0.72	0.040	--	1.10	--	0.030
26...	2205	0.42	0.040	--	1.20	--	0.020
27...	0005	0.13	0.040	--	1.20	--	0.020
AUG							
27...	0120	0.06	0.150	--	0.700	--	1.30
27...	0135	0.15	0.150	--	0.460	--	2.30
27...	0150	0.08	0.060	--	0.080	--	2.50
27...	0220	0.05	3.65	--	4.08	--	3.30
27...	0320	0.03	0.160	--	0.220	--	2.00
29...	1540	0.02	0.100	--	1.10	--	0.160
29...	1541	0.02	0.100	--	1.10	--	0.220
SEP							
04...	1005	0.05	0.050	--	0.060	--	11.0
04...	1020	0.06	0.040	--	0.040	--	9.90
04...	1105	0.03	0.050	--	0.060	--	14.0
04...	1250	0.05	0.040	--	0.040	--	8.90
04...	1450	0.03	0.040	--	0.040	--	14.0

(<) Actual value is known to be less than the value shown.

01576335 AGRICULTURAL FIELD RUNOFF SITE AT SPRINGVILLE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN AMMONIA DISSOLVED (MG/L AS N)	NITROGEN AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)
MAY						
19...	--	2.2	--	18	4.40	--
19...	--	1.9	--	25	4.50	--
19...	--	1.5	--	28	3.80	--
19...	--	0.82	--	31	3.30	--
19...	<0.010	0.83	0.83	40	2.90	2.10
20...	--	0.55	--	42	1.20	--
20...	--	1.6	--	19	2.80	--
20...	--	7.9	--	13	8.50	--
20...	--	4.6	--	8.7	5.60	--
21...	--	7.4	--	11	4.40	--
21...	--	4.0	--	14	4.02	--
21...	--	3.9	--	10	6.65	--
21...	--	3.5	--	11	5.40	--
21...	--	6.3	--	12	5.20	--
21...	--	5.4	--	12	4.10	--
23...	--	40	--	47	20.0	--
23...	--	7.3	--	11	16.0	--
23...	--	5.0	--	8.4	16.8	--
23...	--	12	--	16	14.0	--
23...	--	7.3	--	11	13.9	--
JUL						
17...	--	13	--	18	4.60	--
17...	0.780	11	2.6	16	6.30	1.90
17...	0.200	9.4	1.5	11	5.30	1.70
17...	0.130	6.4	1.3	8.7	6.60	1.60
17...	--	4.7	--	6.8	3.80	--
17...	--	4.6	--	6.7	4.10	--
17...	--	3.9	--	6.7	3.70	--
17...	--	4.2	--	6.4	4.50	--
17...	0.080	3.3	1.5	5.6	3.60	1.40
17...	--	4.1	--	6.4	3.10	--
17...	0.140	3.1	2.4	5.5	4.10	2.00
20...	--	7.8	--	10	4.40	--
20...	--	7.0	--	8.8	4.73	--
20...	--	5.1	--	7.2	4.40	--
20...	--	2.6	--	4.8	4.84	--
21...	--	3.2	--	4.0	7.00	--
21...	--	3.8	--	4.7	4.60	--
21...	--	2.9	--	3.6	5.30	--
21...	--	2.1	--	2.8	6.00	--
21...	--	2.1	--	2.6	3.20	--
21...	--	8.4	--	9.8	2.40	--
21...	--	6.6	--	7.4	1.50	--
21...	--	6.0	--	6.8	2.90	--
21...	--	3.9	--	4.7	1.50	--
21...	--	3.0	--	3.4	3.40	--
21...	--	4.3	--	5.0	2.10	--
21...	--	8.2	--	8.9	1.60	--
22...	--	3.8	--	5.2	1.80	--
22...	--	16	--	17	2.30	--
22...	--	2.0	--	2.9	1.60	--
23...	--	6.8	--	8.0	6.20	--
23...	--	4.0	--	5.3	2.30	--
23...	--	2.8	--	4.3	1.90	--
23...	--	2.6	--	3.7	2.00	--
23...	--	2.8	--	3.7	2.00	--
24...	--	1.6	--	3.1	1.20	--
26...	--	8.0	--	12	2.80	--
26...	--	3.6	--	4.5	2.60	--
26...	--	2.5	--	3.3	2.40	--
26...	--	3.3	--	4.3	2.30	--
26...	--	4.4	--	5.5	3.50	--
26...	--	3.7	--	4.8	3.00	--
26...	--	2.5	--	3.7	1.90	--
27...	--	1.8	--	3.0	1.65	--
AUG						
27...	--	11	--	12	16.0	--
27...	--	38	--	38	14.0	--
27...	--	38	--	38	13.0	--
27...	--	38	--	42	18.0	--
27...	--	16	--	16	10.0	--
29...	--	5.2	--	6.3	5.50	--
29...	--	5.5	--	6.6	5.60	--
SEP						
04...	--	34	--	34	9.90	--
04...	--	31	--	31	13.0	--
04...	--	32	--	32	15.0	--
04...	--	29	--	29	9.40	--
04...	--	27	--	27	9.70	--

(<) Actual value is known to be less than the value shown.

01576335 AGRICULTURAL FIELD RUNOFF SITE AT SPRINGVILLE, PA--Continued

INSTANTANEOUS SUSPENDED-SEDIMENT DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
JAN					
20...	0100	0.33	511	0.46	--
20...	0215	0.40	413	0.45	--
20...	0330	0.42	339	0.38	--
20...	0445	0.57	562	0.86	--
20...	0530	0.70	602	1.1	--
20...	0545	0.72	516	1.0	--
20...	0715	0.51	482	0.66	--
20...	1000	0.26	368	0.26	--
FEB					
02...	1404	0.20	142	0.08	--
02...	1506	0.45	241	0.29	--
02...	1851	0.10	137	0.04	--
03...	1317	<0.01	125	0.0	--
MAY					
10...	1930	0.13	11300	4.0	--
10...	2015	0.45	12900	16	--
10...	2045	0.40	6620	7.1	--
10...	2145	0.13	3850	1.4	--
10...	2400	0.02	1950	0.11	--
19...	0330	0.05	1230	0.17	--
19...	0437	0.23	2460	1.5	100
19...	0522	0.40	3160	3.4	--
19...	0607	0.77	6930	14	100
19...	0637	0.77	4370	9.1	--
19...	0722	0.96	3810	9.9	100
19...	0752	0.99	2820	7.5	--
19...	0822	0.96	2520	6.5	100
19...	0907	0.96	1780	4.6	--
19...	1007	0.45	1280	1.6	--
19...	1107	0.26	854	0.60	--
19...	1252	0.17	936	0.43	--
19...	1434	0.11	338	0.10	--
19...	1519	0.11	234	0.07	--
19...	1549	0.08	149	0.03	--
19...	1719	0.07	38	0.01	--
JUL					
17...	1708	0.44	9310	11	--
17...	1738	0.72	3540	6.9	--
17...	1808	1.0	2430	6.8	100
17...	1823	0.94	2030	5.2	--
17...	2238	0.05	456	0.06	--
21...	1600	0.49	5530	7.3	--
21...	1615	0.91	1460	3.6	--
21...	1800	0.31	394	0.33	--
21...	1845	0.61	799	1.3	--
21...	2045	0.20	246	0.13	--
21...	2100	0.17	567	0.26	--
22...	0005	0.30	245	0.20	--
22...	0020	0.55	683	1.0	--
22...	0050	0.52	649	0.91	--
22...	0320	0.17	283	0.13	--

(<) Actual value is known to be less than the value shown.

01576500 CONESTOGA RIVER AT LANCASTER, PA

LOCATION.--Lat 40°03'00", long 76°16'39", Lancaster County, Hydrologic Unit 02050306, on left bank at Penn Central Railroad bridge, 50 ft downstream from small right-bank tributary, 500 ft downstream from diversion dam at city water plant, and 0.7 mi east of Lancaster.

DRAINAGE AREA.--324 mi^2.

PERIOD OF RECORD.--September 1928 to March 1932; August, September 1932; April 1933 to current year. Monthly discharge only for some periods, published in WSP 1302. Prior to October 1973, published as Conestoga Creek at Lancaster.

REVISED RECORDS.--WSP 1202: Drainage area. WSP 1502: 1943(P). WDR PA-87-2: 1985-86(P) (Monthly and yearly summaries).

GAGE.--Water-stage recorder and concrete control. Datum of gage is 245.63 ft above National Geodetic Vertical Datum of 1929. Prior to May 1, 1933, at site 600 ft upstream at different datum, excluding small tributary.

REMARKS.--Records good except those for estimated daily discharges, which are fair. Regulation at low flow by water plant and mill above station. Diversion above station for municipal supply of city of Lancaster. Several measurements of water temperature were made during the year. National Weather Service satellite telemeter at station.

COOPERATION.--Records of diversion provided by city of Lancaster.

AVERAGE DISCHARGE.--58 years, (1928-31, 1934-88), 403 ft^3/s, 16.89 in/yr, adjusted for diversion.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 88,300 ft^3/s, June 23, 1972, gage height, 27.80 ft, from floodmark, from rating curve extended above 13,000 ft^3/s on basis of slope-area measurement at gage height 17.50 ft and contracted-opening measurement at peak flow; minimum daily, 7.0 ft^3/s, Aug. 11, 1930.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,800 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	[a]0700	[a]4,200	[a]8.1	July 22	[a]0700	[a]9,500	[a]12.0
Jan. 20	[a]1500	[a]4,800	[a]8.6	July 24	[a]1000	[a]9,200	[a]11.8
Feb. 02	[a]2100	[a]3,600	[a]7.6	July 27	0600	3,320	7.33
May 19	[a]1900	[a]*9,600	[a]*12.1				

(a) Determined from partial reconstruction of hydrographs, based on comparison with records from downstream station and precipitation records.

Minimum discharge, 52 ft^3/s, Nov. 16, gage height, 2.78 ft, result of shutoff at diversion dam upstream; minimum daily, 101 ft^3/s, July 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	316	218	918	241	553	480	350	324	466	138	517	202
2	282	208	672	244	e1790	446	344	288	465	134	445	183
3	273	196	551	218	1410	444	338	264	419	132	397	174
4	312	189	528	237	1580	705	335	259	403	143	368	468
5	271	179	495	196	1110	1330	332	279	393	126	340	917
6	253	172	432	189	776	709	319	469	369	116	328	353
7	295	168	390	201	650	622	393	563	350	108	330	257
8	282	160	367	201	649	570	579	361	339	106	304	222
9	238	162	356	213	585	540	414	298	331	119	284	204
10	216	239	351	206	550	562	352	308	345	241	269	188
11	221	805	338	193	520	510	325	1360	305	162	260	183
12	226	433	326	195	1370	460	305	525	289	149	251	178
13	219	465	309	202	1030	461	295	399	280	145	234	202
14	200	416	287	185	664	451	286	405	263	134	235	244
15	185	345	311	180	683	424	285	362	249	113	221	207
16	184	296	497	176	1830	400	305	338	243	101	205	170
17	177	274	356	178	992	382	292	559	246	265	194	154
18	176	383	298	293	779	363	284	786	233	1030	181	165
19	177	344	271	629	719	366	348	e5100	229	288	194	173
20	173	284	321	e2300	1400	361	307	2830	227	745	238	165
21	183	269	410	1090	932	346	278	1660	219	e2200	259	156
22	187	238	311	689	710	325	270	1210	197	e5400	208	149
23	169	233	287	504	676	313	259	1020	206	886	190	144
24	166	228	273	432	647	311	267	1100	186	e4800	354	152
25	154	224	271	422	583	309	275	932	172	1010	390	171
26	159	222	314	478	535	548	243	836	175	838	245	172
27	180	219	314	354	521	921	237	705	180	1880	231	152
28	1080	225	278	343	531	523	462	641	160	1030	208	141
29	397	440	279	320	510	416	403	592	150	767	219	131
30	272	e2500	238	314	---	384	339	548	145	599	374	128
31	235	---	248	312	---	365	---	506	---	619	238	---
TOTAL	7858	10734	11597	11935	25285	15347	9821	25827	8234	24524	8711	6505
MEAN	253	358	374	385	872	495	327	833	274	791	281	217
MAX	1080	2500	918	2300	1830	1330	579	5100	466	5400	517	917
MIN	154	160	238	176	510	309	237	259	145	101	181	128
(†)	12.4	11.4	11.8	11.6	10.2	11.6	11.6	7.7	14.2	11.1	14.2	10.8
MEAN‡	265	369	386	397	882	507	339	841	288	802	295	228
CFSM‡	.82	1.14	1.19	1.23	2.72	1.56	1.05	2.60	.89	2.48	.91	.70
IN.‡	.94	1.27	1.37	1.42	2.93	1.80	1.17	3.00	.99	2.86	1.05	.78

CAL YR 1987 TOTAL 147847 MEAN 405 MAX 9800 MIN 72 MEAN‡ 417 CFSM‡ .29 IN.‡ 1.47
WTR YR 1988 TOTAL 166378 MEAN 455 MAX 5400 MIN 101 MEAN‡ 467 CFSM‡ .44 IN.‡ 1.59

e Estimated

† Diversion for municipal supply of city of Lancaster, equivalent in cubic feet per second.

‡ Adjusted for diversion.

01576697 SWARR RUN NEAR LANDISVILLE, PA

LOCATION.--Lat 40°04'19", long 76°21'26", Lancaster County, Hydrologic Unit 02050306, on left bank on old Rohrerstown Road, 0.6 mi upstream from mouth, and 3.7 mi east of Landisville.

DRAINAGE AREA.--8.67 mi^2.

PERIOD OF RECORD.--June 1985 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 315 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--No estimated daily discharges. Records good. Several measurements of water temperature were made during the year.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,150 ft^3/s, July 27, 1986, gage height, 12.29 ft, from rating curve extended above 600 ft^3/s on basis of step-backwater analysis; minimum daily, 0.70 ft^3/s, Aug. 20, 1987.

EXTREMES FOR CURRENT PERIOD.--Peak discharges greater than base discharge of 300 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
July 20	1815	363	7.10	July 22	0015	495	7.85
July 21	1700	360	7.08	July 23	2130	*900	*9.08

Minimum daily discharge, 1.7 ft^3/s, July 16.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.1	3.7	15	4.0	12	7.8	5.2	4.1	6.7	2.8	9.5	4.8
2	2.9	3.6	11	3.6	40	7.4	5.1	3.9	6.3	2.7	8.9	4.6
3	3.3	3.4	9.3	3.5	19	7.2	4.9	3.7	6.1	2.4	8.2	4.3
4	3.2	3.3	9.2	3.6	32	24	4.8	3.7	6.0	2.2	7.7	35
5	2.8	3.1	7.7	3.3	16	15	4.5	7.5	5.7	1.8	7.3	9.1
6	2.8	3.0	7.0	3.1	12	11	4.4	15	5.4	2.3	9.0	6.0
7	5.3	3.0	6.7	2.9	10	9.7	10	7.6	6.2	2.3	8.8	5.3
8	2.8	3.0	8.4	3.2	9.7	9.4	7.3	5.7	5.9	2.2	6.9	4.9
9	2.5	3.0	8.1	3.0	9.3	9.3	5.9	5.2	5.8	2.5	6.4	4.6
10	2.5	12	5.8	2.8	8.8	8.9	5.1	8.4	5.2	3.4	6.2	4.4
11	2.7	11	5.3	2.5	8.3	8.2	4.8	12	5.0	2.6	5.8	4.1
12	2.6	7.4	5.1	2.2	38	8.0	4.6	5.8	4.5	4.3	5.7	4.0
13	2.2	7.8	4.6	2.3	14	7.8	4.4	5.3	4.4	3.0	5.2	6.2
14	2.7	6.3	4.5	2.1	11	7.6	4.2	5.0	4.2	2.6	5.3	4.3
15	2.3	5.2	7.1	2.0	22	7.2	4.6	4.8	4.1	1.8	4.8	3.9
16	2.0	4.7	6.2	2.0	21	7.1	4.4	15	5.3	1.7	4.4	3.8
17	2.0	4.5	4.9	2.1	12	6.5	4.2	9.4	4.9	10	4.3	4.2
18	2.0	6.1	4.4	6.6	11	6.7	4.6	56	3.9	5.1	4.4	4.5
19	1.9	4.5	4.3	4.7	16	6.2	4.4	125	3.9	18	4.9	3.9
20	2.0	4.3	6.5	62	25	6.0	4.5	28	3.4	71	7.4	3.7
21	2.4	3.9	5.2	14	13	5.7	4.4	20	3.4	136	5.2	3.5
22	2.1	3.8	4.7	9.3	12	5.6	4.0	16	3.3	90	4.5	3.3
23	2.1	3.8	4.5	7.6	11	5.6	4.1	14	3.4	204	6.7	3.3
24	2.0	3.7	4.3	6.8	10	5.3	4.5	13	3.0	92	13	3.2
25	2.0	3.6	4.6	6.8	9.6	5.3	3.9	12	3.2	25	6.4	3.9
26	2.0	3.5	5.2	6.6	8.9	10	3.8	10	3.1	27	4.8	3.7
27	26	3.4	4.5	5.9	8.2	8.5	5.5	9.2	2.7	25	5.3	3.3
28	27	3.6	4.6	5.4	8.0	6.1	6.9	8.5	2.4	16	4.6	3.1
29	5.9	72	4.5	5.1	8.0	5.8	4.5	8.0	2.6	14	16	3.0
30	4.6	36	4.0	5.0	---	5.7	4.6	7.5	2.3	12	6.6	3.0
31	4.2	---	3.9	5.0	---	5.7	---	7.0	---	11	5.2	---
TOTAL	133.9	240.2	191.1	199.0	435.8	250.3	148.1	456.3	132.3	796.7	209.4	158.9
MEAN	4.32	8.01	6.16	6.42	15.0	8.07	4.94	14.7	4.41	25.7	6.75	5.30
MAX	27	72	15	62	40	24	10	125	6.7	204	16	35
MIN	1.9	3.0	3.9	2.0	8.0	5.3	3.8	3.7	2.3	1.7	4.3	3.0
CFSM	.50	.92	.71	.74	1.73	.93	.57	1.70	.51	2.96	.78	.61
IN.	.57	1.03	.82	.85	1.87	1.07	.64	1.96	.57	3.42	.90	.68

CAL YR 1987 TOTAL 2905.49 MEAN 7.96 MAX 80 MIN .70 CFSM .92 IN. 12.47
WTR YR 1988 TOTAL 3352.0 MEAN 9.16 MAX 204 MIN 1.7 CFSM 1.06 IN. 14.38

01576754 CONESTOGA RIVER AT CONESTOGA, PA

LOCATION.--Lat 39°56'47", long 76°22'05", Lancaster County, Hydrologic Unit 02050306, on left bank along SR 3030, 1,500 ft downstream from Little Conestoga Creek, 1.0 mi west of Conestoga, and 2.6 mi upstream from mouth.

DRAINAGE AREA.--470 mi^2.

WATER-DISCHARGE RECORDS

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

REVISED RECORDS.--WDR PA-86-2: 1985(M).

GAGE.--Water-stage recorder. Datum of gage is 180.45 ft above National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 19,000 ft^3/s, Sept. 9, 1987, gage height, 14.37 ft; minimum, 82 ft^3/s, Aug. 22, 1987, gage height, 1.13 ft.

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

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Nov. 30	1200	4,850	5.97	July 22	0845	11,400	9.96
Jan. 20	1730	6,040	6.75	July 24	1400	10,800	9.61
May 19	2400	*11,600	*10.09				

Minimum discharge, 177 ft^3/s, July 17, gage height, 1.40 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	500	345	1370	403	670	717	513	449	692	232	786	322
2	478	330	940	384	1920	675	493	404	673	225	684	295
3	456	314	778	378	2490	672	485	382	633	215	618	279
4	478	306	736	361	1970	918	490	378	599	215	563	519
5	467	300	712	360	1850	1790	491	440	580	211	523	1320
6	406	287	673	276	1160	1050	472	667	562	204	498	551
7	425	287	592	372	966	901	594	754	560	221	527	386
8	414	277	552	354	950	835	796	542	544	216	469	343
9	346	273	530	385	870	786	603	438	522	215	458	315
10	324	398	523	409	807	799	510	425	529	396	445	294
11	325	1090	509	343	771	767	479	1700	480	294	422	284
12	331	687	491	373	1770	687	457	814	447	271	411	271
13	325	638	471	352	1760	666	439	591	439	260	395	320
14	306	588	449	387	997	665	426	578	420	243	385	353
15	291	515	434	325	986	628	426	544	404	227	378	293
16	289	469	546	326	2300	598	447	539	384	204	356	261
17	284	403	641	378	1500	578	435	703	430	201	334	256
18	275	491	486	391	1110	550	426	1310	361	1540	317	282
19	275	559	434	818	1060	550	484	5540	340	414	332	272
20	278	432	428	3320	1810	540	453	5580	336	1750	406	264
21	315	407	542	3060	1370	533	416	2310	323	2650	420	253
22	309	375	520	1440	1060	498	395	1720	315	7840	344	241
23	282	359	445	741	983	489	378	1420	299	1850	308	233
24	274	358	425	619	944	475	410	1470	292	7250	545	229
25	259	354	418	622	867	480	400	1320	280	1680	571	273
26	256	347	445	676	807	642	379	1200	277	1280	418	271
27	328	342	482	563	773	1250	377	1000	263	2650	356	249
28	1540	357	437	519	777	789	674	920	263	1440	337	234
29	708	886	435	e500	752	605	595	853	246	1150	405	214
30	434	3060	430	e470	---	555	464	795	239	891	521	216
31	373	---	361	e460	---	526	---	737	---	842	398	---
TOTAL	12351	15834	17235	20365	36050	22214	14407	36523	12732	37277	13930	9893
MEAN	398	528	556	657	1243	717	480	1178	424	1202	449	330
MAX	1540	3060	1370	3320	2490	1790	796	5580	692	7840	786	1320
MIN	256	273	361	276	670	475	377	378	239	201	308	214
CFSM	.85	1.12	1.18	1.40	2.64	1.52	1.02	2.51	.90	2.56	.96	.70
IN.	.98	1.25	1.36	1.61	2.85	1.76	1.14	2.89	1.01	2.95	1.10	.78

CAL YR 1987 TOTAL 218570 MEAN 599 MAX 13500 MIN 114 CFSM 1.27 IN. 17.30
WTR YR 1988 TOTAL 248811 MEAN 680 MAX 7840 MIN 201 CFSM 1.45 IN. 19.69

e Estimated

01576754 CONESTOGA RIVER AT CONESTOGA, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1985 to current year.

INSTRUMENTATION.--Automatic pumping sampler since October 1986.

REMARKS.--Some samples collected from bridge on River Road 1.6 miles downstream from gage.

COOPERATION.--Water-quality samples collected by Susquehanna River Basin Commission and analyzed by the Pa. Department of Evironmental Resources.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE FIELD (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NO2+NO3 TOTAL (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, ORGANIC DIS-SOLVED (MG/L AS N)
OCT										
14...	1225	295	620	8.70	14.5	9.24	0.150	0.150	0.43	0.29
28...	1215	2360	544	7.70	--	4.18	0.380	0.380	1.7	1.2
28...	2025	1490	496	7.70	--	4.84	0.110	0.100	1.4	0.70
29...	1130	661	360	6.90	--	4.18	0.260	0.240	2.0	0.96
30...	1130	425	417	7.00	--	4.84	0.150	0.140	1.6	1.1
NOV										
17...	1230	420	570	8.10	13.5	7.26	0.190	0.190	0.74	0.52
29...	1008	420	590	7.70	--	8.16	0.930	0.870	0.81	0.57
29...	1900	1790	520	7.80	--	6.72	0.840	0.810	1.6	0.83
29...	2350	1960	414	7.80	--	5.28	0.720	0.690	2.0	0.75
30...	0230	1890	423	7.80	--	5.64	0.500	0.490	1.6	0.81
30...	1140	4660	402	7.70	--	6.00	0.240	0.220	5.1	0.86
30...	1255	4850	368	7.80	--	5.40	0.200	0.180	5.1	1.0
30...	1315	4840	370	7.70	--	5.28	0.310	0.260	5.1	0.92
30...	1540	4280	317	7.70	--	3.96	0.380	0.240	5.3	1.1
DEC										
01...	1310	1330	344	7.70	--	4.68	0.300	0.260	1.8	1.0
01...	2330	1130	356	7.70	--	5.04	0.070	0.040	1.5	0.70
02...	1230	956	370	7.60	--	4.80	0.200	0.190	1.1	0.77
									a	a
03...	1320	794	498	7.90	--	7.44	0.360	0.340	0.70	0.72
21...	1200	647	550	7.95	5.5	9.36	0.570	0.540	1.1	0.38
JAN										
18...	0940	361	622	7.90	0.0	8.04	0.840	0.810	0.78	0.19
20...	0715	1770	406	7.30	--	5.16	1.02	0.990	2.8	1.3
20...	1015	1840	416	7.40	--	5.04	1.02	0.990	2.8	1.0
20...	1020	1840	388	7.40	--	4.92	1.02	0.900	2.6	1.0
20...	1245	2720	447	7.40	--	4.56	1.32	1.29	1.6	1.4
20...	1530	5690	404	7.30	--	3.96	1.35	1.29	7.9	1.2
20...	1800	5920	375	7.30	--	4.44	1.41	1.29	7.2	1.6
20...	2140	4880	300	7.20	--	3.36	1.47	1.41	6.1	1.6
20...	2215	4740	296	7.30	--	3.36	1.44	1.26	7.5	1.4
21...	0200	3090	268	7.30	--	3.24	1.71	1.29	4.3	1.3
21...	0920	1860	268	7.40	--	2.88	1.11	1.02	2.6	1.4
21...	0925	1860	271	7.40	--	3.12	1.20	0.990	2.2	1.3
21...	1330	1540	286	7.50	--	3.36	1.05	0.900	1.9	1.2
22...	0945	1030	385	7.50	--	5.16	0.840	0.810	1.2	0.99
23...	1550	726	590	7.50	--	6.82	0.720	0.720	0.92	0.52
27...	1045	534	640	8.25	0.5	8.36	0.550	0.550	0.77	0.43
FEB										
01...	1115	460	591	8.00	--	7.92	1.26	1.26	1.0	0.76
01...	1210	460	610	8.00	--	8.58	1.04	0.990	0.84	--
01...	2300	1080	572	7.90	--	8.14	0.770	0.770	1.0	0.41
01...	2315	1080	579	7.70	--	7.92	0.660	0.660	1.1	0.52
02...	0245	1310	544	7.60	--	7.44	0.810	0.780	1.2	0.82
02...	0545	2060	533	7.50	--	7.68	0.690	0.660	1.3	0.68
02...	0845	1980	510	7.50	--	7.56	0.540	0.540	1.4	0.72
02...	1145	1790	483	7.40	--	7.20	0.570	0.570	1.1	0.21
02...	1745	1760	429	7.40	--	5.28	0.870	0.870	1.2	0.85
02...	2045	1980	414	7.30	--	4.44	1.14	1.14	1.3	0.72
02...	2150	2300	409	7.30	--	4.20	1.32	1.27	1.2	0.55
02...	2320	3200	410	7.30	--	4.08	1.20	1.20	2.3	0.56
03...	2330	1420	376	7.40	--	4.68	0.720	0.680	1.3	1.1
17...	1015	682	370	8.50	4.5	4.68	1.02	1.02	0.18	0.08
24...	1135	924	545	8.00	6.5	8.80	0.450	0.450	0.25	0.19
MAR										
09...	0950	779	--	--	--	8.58	0.450	0.450	0.52	0.31
17...	1010	576	555	8.25	7.0	8.40	0.480	0.480	0.32	0.22
APR										
01...	1400	511	--	--	--	6.16	0.450	0.450	0.69	0.47
12...	1030	451	525	7.80	14.0	6.36	0.480	0.480	0.06	0.11

(a) Results within limits of analytical precision.

01576754 CONESTOGA RIVER AT CONESTOGA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
OCT									
14...	0.58	0.44	9.8	0.410	0.390	0.340	8.2	7	5.6
28...	2.1	1.5	6.3	0.630	0.370	0.300	5.6	137	873
28...	1.5	0.80	6.3	0.370	0.220	0.180	3.9	54	217
29...	2.2	1.2	6.4	0.520	0.310	0.260	6.6	90	161
30...	1.8	1.2	6.6	0.420	0.300	0.260	6.5	44	50
NOV									
17...	0.93	0.71	8.2	0.270	0.230	0.190	2.6	12	14
29...	1.7	1.4	9.9	0.320	0.260	0.210	5.8	36	41
29...	2.5	1.6	9.2	0.540	0.320	0.260	10	144	696
29...	2.8	1.4	8.0	0.660	0.260	0.230	4.7	333	1770
30...	2.1	1.3	7.8	0.440	0.260	0.190	3.7	115	586
30...	5.3	1.1	11	1.50	0.220	0.180	7.9	634	7990
30...	5.3	1.2	11	1.62	0.190	0.140	5.4	843	11000
30...	5.4	1.2	11	0.430	0.210	0.160	6.9	685	8950
30...	5.7	1.3	9.6	0.900	0.280	0.220	6.6	808	9350
DEC									
01...	2.1	1.3	6.8	0.440	0.290	0.250	6.3	111	399
01...	1.6	0.74	6.6	0.480	0.230	0.165	6.7	69	211
02...	1.3	0.96	6.1	0.460	0.240	0.176	5.8	66	170
03...	1.1	1.1	8.5	0.260	0.160	0.110	4.0	17	36
21...	1.7	0.92	11	0.300	0.210	0.020	11	43	75
JAN									
18...	1.6	1.0	9.7	0.280	0.210	0.150	2.6	7	6.8
20...	3.8	2.3	9.0	0.840	0.500	0.450	6.6	369	1760
20...	3.8	2.0	8.9	0.560	0.420	0.370	6.0	306	1520
20...	3.7	1.9	8.6	0.780	0.510	0.450	6.6	360	1790
20...	2.9	2.7	7.5	1.74	0.500	0.360	7.6	556	4080
20...	9.2	2.5	13	1.56	0.470	0.400	8.1	1540	23700
20...	8.6	2.9	13	1.26	0.660	0.550	9.8	1200	19200
20...	7.6	3.0	11	1.54	0.840	0.750	12	1040	13700
20...	8.9	2.7	12	1.68	0.880	0.760	12	1000	12800
21...	6.1	2.6	9.3	1.44	0.960	0.800	13	727	6060
21...	3.7	2.4	6.6	1.20	0.780	0.720	11	403	2030
21...	3.4	2.3	6.6	1.26	0.780	0.710	11	407	2050
21...	2.9	2.1	6.3	1.20	0.660	0.630	11	277	1150
22...	2.0	1.8	7.2	0.680	0.450	0.410	7.0	73	203
23...	1.6	1.2	8.5	0.310	0.220	0.160	4.6	24	47
27...	1.3	0.98	9.7	0.200	0.150	0.100	3.0	--	--
FEB									
01...	2.3	2.0	10	0.370	0.240	0.190	5.6	48	60
01...	1.9	--	10	0.290	0.160	0.120	3.8	18	22
01...	1.8	1.2	9.9	0.310	0.140	0.110	3.9	47	137
01...	1.8	1.2	9.7	0.350	0.170	0.140	3.9	41	120
02...	2.0	1.6	9.4	0.290	0.220	0.091	4.7	128	453
02...	2.0	1.3	9.7	0.290	0.220	0.170	3.9	177	984
02...	1.9	1.3	9.5	0.230	0.180	0.045	4.6	144	769
02...	1.6	0.78	8.8	0.250	0.200	0.033	6.0	125	603
02...	2.1	1.7	7.4	0.440	0.340	0.270	5.9	131	623
02...	2.4	1.9	6.9	0.550	0.420	0.350	7.2	150	802
02...	2.5	1.8	6.7	0.570	0.410	0.320	10	208	1290
02...	3.5	1.8	7.6	0.560	0.410	0.330	8.4	380	3280
03...	2.0	1.8	6.7	0.490	0.370	0.310	7.2	140	536
17...	1.2	1.1	5.9	0.710	0.480	0.400	8.4	125	230
24...	0.70	0.64	9.5	0.170	0.130	0.098	2.7	21	52
MAR									
09...	0.97	0.76	9.5	0.210	0.150	0.107	5.3	22	46
17...	0.80	0.70	9.2	0.200	0.170	0.128	3.4	10	16
APR									
01...	1.1	0.92	7.3	0.200	0.130	0.067	4.2	23	32
12...	[a] 0.54	[a] 0.59	6.9	0.180	0.120	0.076	3.9	18	22

(a) Results within limits of analytical precision.

01576754 CONESTOGA RIVER AT CONESTOGA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE FIELD (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NO2+NO3 TOTAL (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, ORGANIC DIS-SOLVED (MG/L AS N)
MAY										
11...	0550	1380	--	--	--	5.50	0.150	0.130	1.6	0.88
11...	0810	3170	--	--	--	5.28	0.218	0.200	2.5	0.78
11...	0940	2950	--	--	--	5.50	0.120	0.100	2.3	0.95
11...	1110	2590	--	--	--	5.72	0.150	0.130	2.1	0.63
11...	1240	2240	--	--	--	5.50	0.200	0.190	1.9	0.59
11...	1410	1990	--	--	--	5.72	0.580	0.460	1.2	0.22
11...	1540	1800	--	--	--	5.06	0.730	0.610	2.2	0.25
11...	1710	1640	--	--	--	4.84	--	--	--	--
11...	1840	1500	--	--	--	4.62	--	--	--	--
11...	1945	1410	--	--	--	4.62	--	--	--	--
11...	2005	1370	--	--	--	4.40	--	--	--	--
11...	2200	1230	--	--	--	4.68	0.660	0.600	5.5	0.74
12...	0120	1040	--	--	--	4.68	0.720	0.690	4.9	0.63
12...	0550	900	--	--	--	4.80	0.660	0.630	3.2	0.44
12...	0940	818	--	--	--	4.68	0.570	0.540	4.0	1.2
12...	1620	733	--	--	--	4.56	0.570	0.540	3.9	1.0
12...	2050	689	--	--	--	6.12	0.570	0.570	3.2	1.0
19...	1030	3040	336	--	--	4.68	0.090	0.080	2.8	0.53
19...	1245	4180	370	--	--	4.92	0.120	0.060	3.4	0.55
19...	1445	6850	354	--	--	4.56	0.120	0.060	10	0.62
19...	1505	7150	338	--	--	3.96	0.130	0.110	6.7	0.84
19...	1645	8370	330	--	--	3.96	0.160	0.110	9.8	0.77
19...	1815	9270	293	--	--	3.72	0.230	0.150	12	0.70
19...	1945	10100	240	--	--	3.12	0.300	0.200	7.6	0.80
19...	2035	10500	231	--	--	3.00	0.360	0.300	11	1.0
19...	2115	10800	223	--	--	3.24	0.220	0.210	11	1.1
19...	2245	11400	214	--	--	3.36	0.300	0.250	5.1	0.97
20...	0015	11600	212	--	--	3.48	0.240	0.160	7.3	1.2
20...	0145	11500	206	--	--	3.48	0.210	0.140	6.7	1.4
20...	0345	10700	205	--	--	3.36	0.160	0.120	5.0	2.3
20...	0605	8820	213	--	--	3.60	0.140	0.080	3.7	0.87
20...	0615	8640	204	--	--	3.48	0.140	0.080	3.4	0.96
20...	0915	5360	225	--	--	3.60	0.060	0.040	2.9	1.1
20...	1530	2980	293	--	--	4.44	0.040	0.030	1.8	0.75
21...	0645	2270	379	--	--	6.00	0.020	0.020	1.5	0.61
JUN										
21...	0950	311	660	8.35	23.5	8.04	[a] 0.040	[a] 0.060	0.79	0.37
JUL										
11...	1100	286	510	--	30.0	5.76	[a] 0.020	[a] 0.040	1.6	0.51
18...	0130	582	597	8.10	--	5.64	0.060	0.060	1.4	0.73
18...	0430	1320	610	8.10	--	5.52	0.060	0.060	1.5	0.57
18...	0730	2790	505	7.30	--	5.52	0.030	0.030	1.8	0.74
18...	1000	2990	486	7.80	--	5.52	0.330	0.300	2.5	0.57
18...	1100	2780	468	7.30	--	5.76	0.110	0.100	2.4	0.96
18...	1200	2450	419	7.30	--	5.28	0.270	0.220	3.0	0.97
18...	1300	2120	358	7.50	--	4.92	0.380	0.300	3.4	1.3
18...	1345	1890	332	7.50	--	4.68	0.380	0.300	2.9	1.3
18...	1430	1680	324	8.10	--	4.80	0.360	0.330	1.2	1.3
18...	1445	1610	333	7.80	--	4.80	0.410	0.360	1.2	0.21
18...	1600	1330	342	7.70	--	4.68	0.270	0.250	2.4	1.1
18...	1800	1050	343	7.60	--	4.40	0.250	0.250	1.8	1.1
18...	2030	810	346	7.80	--	4.56	0.250	0.230	2.1	1.4
18...	2330	647	332	7.90	--	4.08	0.330	0.290	2.3	1.6
19...	0715	435	317	7.40	--	4.08	0.400	0.380	2.4	1.9
20...	0220	1240	346	--	--	4.68	0.080	0.060	4.9	1.1
20...	0420	1950	330	--	--	4.20	0.210	0.200	1.4	1.4
20...	0640	2320	293	--	--	3.60	0.210	0.210	2.4	1.3
20...	0850	2450	269	--	--	3.60	0.120	0.120	2.3	1.1
20...	1110	2400	273	--	--	3.48	0.080	0.080	2.2	1.3
20...	1410	1900	229	--	--	2.64	0.210	0.210	2.8	1.4
20...	1750	1350	221	--	--	2.52	0.210	0.210	2.8	1.3
20...	2140	1650	248	--	--	3.00	0.170	0.170	2.3	1.2
21...	0040	2060	310	--	--	3.84	0.120	0.120	1.3	1.1
21...	0340	1810	300	--	--	3.96	[a] 0.080	[a] 0.100	2.2	1.6
21...	1220	2650	316	--	--	4.44	0.020	0.010	3.0	0.91
21...	1520	2200	286	--	--	3.96	0.110	0.060	3.1	1.0
21...	1820	2140	285	--	--	3.72	0.140	0.140	3.8	1.4
21...	2040	3580	272	--	--	3.36	0.100	0.060	3.1	0.87
21...	2250	4600	248	--	--	2.88	0.050	0.020	4.1	1.3
22...	0110	5880	248	--	--	3.24	0.060	0.040	7.5	1.2
22...	0320	8000	248	--	--	2.88	0.080	0.020	6.8	0.99
22...	0450	9260	240	--	--	2.64	0.060	0.040	6.1	1.1
22...	0620	10400	231	--	--	2.64	0.050	0.040	10	1.1
22...	0750	11200	214	--	--	2.28	0.100	0.070	6.4	0.81
22...	0920	11400	192	--	--	2.04	0.110	0.070	5.8	1.0
22...	1050	11000	180	--	--	1.92	0.130	0.080	6.2	1.0
22...	1220	10300	173	--	--	1.80	0.130	0.100	8.2	1.0
22...	1440	8940	171	--	--	2.04	0.130	0.090	4.3	0.87
22...	1740	7050	168	--	--	2.16	0.120	0.070	4.0	1.1
22...	2040	3990	179	--	--	2.52	0.100	0.050	3.8	1.5

(a) Results within limits of analytical precision.

01576754 CONESTOGA RIVER AT CONESTOGA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, TOTAL (MG/L AS N)	PHOSPHOROUS TOTAL (MG/L AS P)	PHOSPHOROUS DISSOLVED (MG/L AS P)	PHOSPHOROUS ORTHO, DISSOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)
MAY									
11...	1.8	1.0	7.3	0.390	0.150	0.081	5.2	118	440
11...	2.7	0.98	8.0	0.350	0.160	0.073	5.4	196	1650
11...	2.4	1.0	7.9	0.480	0.120	0.130	5.0	201	1600
11...	2.3	0.76	8.0	0.570	0.140	0.150	4.5	279	1950
11...	2.1	0.78	7.6	0.410	0.130	0.082	4.1	282	1700
11...	1.8	0.68	7.5	0.680	0.190	0.068	4.8	1000	5370
11...	3.0	0.86	8.0	1.87	0.250	0.240	9.9	1730	8400
11...	--	--	--	2.20	0.300	0.250	8.8	2250	9960
11...	--	--	--	3.19	0.320	0.320	8.3	2410	9760
11...	--	--	--	2.97	0.330	0.290	8.1	2290	8720
11...	--	--	--	2.42	0.330	0.300	8.1	2100	7770
11...	6.2	1.3	11	3.12	0.320	0.310	16	1890	6280
12...	5.6	1.3	10	2.75	0.330	0.310	14	1630	4580
12...	3.8	1.1	8.6	2.20	0.310	0.300	14	1330	3230
12...	4.5	1.7	9.2	2.09	0.280	0.280	13	1050	2320
12...	4.5	1.5	9.0	2.09	0.280	0.270	9.4	876	1730
12...	3.8	1.6	9.9	1.54	0.310	0.300	12	680	1270
19...	2.9	0.61	7.6	0.980	0.180	0.170	5.5	729	5980
19...	3.6	0.61	8.5	1.32	0.180	0.120	5.2	769	8680
19...	10	0.68	15	1.56	0.150	0.150	6.6	2610	48300
19...	6.8	0.95	11	0.490	0.180	0.170	6.3	2370	45800
19...	9.9	0.88	14	1.44	0.170	0.160	8.9	3100	70100
19...	12	0.85	16	2.16	0.180	0.150	9.0	3570	89400
19...	7.9	1.0	11	0.860	0.160	0.140	9.6	3180	86700
19...	11	1.3	14	1.92	0.170	0.140	8.7	2850	80700
19...	11	1.3	15	1.98	0.160	0.140	9.4	2620	76800
19...	5.4	1.2	8.8	0.880	0.160	0.110	9.1	2330	71700
20...	7.6	1.4	11	1.74	0.170	0.089	9.6	1900	59600
20...	6.9	1.5	10	0.840	0.160	0.150	9.9	1480	46100
20...	5.1	2.5	8.5	1.80	0.780	0.150	11	1020	29600
20...	3.8	0.95	7.4	0.900	0.150	0.140	7.5	605	14400
20...	3.5	1.0	7.0	1.26	0.150	0.014	7.1	491	11500
20...	3.0	1.1	6.6	0.610	0.160	0.130	7.1	335	4850
20...	1.9	0.78	6.3	0.410	0.150	0.140	6.1	214	1720
21...	1.5	0.63	7.5	0.430	0.120	0.110	4.9	135	829
JUN									
21...	0.83	0.43	8.9	0.240	0.160	0.100	3.6	29	24
JUL									
11...	1.6	0.55	7.4	0.310	0.120	0.086	7.6	42	32
18...	1.5	0.79	7.1	0.400	0.170	0.140	5.4	128	201
18...	1.6	0.63	7.1	0.470	0.220	0.180	7.3	102	364
18...	1.8	0.77	7.3	0.570	0.210	0.180	5.5	169	1270
18...	2.8	0.87	8.3	0.820	0.220	0.160	13	305	2460
18...	2.5	1.1	8.3	0.920	0.260	0.220	13	368	2760
18...	3.2	1.2	8.5	1.98	0.300	0.250	14	532	3520
18...	3.8	1.6	8.7	1.76	0.340	0.160	16	695	3970
18...	3.3	1.6	8.0	1.65	0.300	0.280	14	681	3470
18...	1.6	1.6	6.4	--	0.300	0.170	12	642	2910
18...	1.6	0.57	6.4	1.21	0.320	0.210	14	602	2610
18...	2.7	1.3	7.4	1.32	--	0.250	6.6	433	1550
18...	2.0	1.3	6.4	0.870	0.320	0.210	6.4	329	933
18...	2.4	1.7	6.9	0.850	0.340	0.280	9.7	279	610
18...	2.6	1.9	6.7	0.800	0.320	0.270	9.9	282	493
19...	2.8	2.2	6.9	0.850	0.360	0.210	11	258	303
20...	5.0	1.1	9.7	0.890	0.240	0.230	8.3	866	2900
20...	1.6	1.6	5.8	0.800	0.410	0.390	8.8	225	1180
20...	2.6	1.5	6.2	0.680	0.390	0.360	6.7	313	1960
20...	2.4	1.2	6.0	0.500	0.280	0.210	6.9	445	2940
20...	2.2	1.4	5.7	0.690	0.320	0.270	7.0	502	3250
20...	3.0	1.6	5.7	0.840	0.460	0.400	7.9	527	2700
20...	3.0	1.5	5.5	0.980	0.540	0.400	7.8	315	1150
20...	2.5	1.4	5.5	0.750	0.470	0.370	7.1	270	1200
21...	1.4	1.2	5.3	0.660	0.390	0.360	7.2	245	1360
21...	2.3	1.7	6.3	0.650	0.380	0.350	7.4	221	1080
21...	3.0	0.92	7.4	0.790	0.310	0.250	6.9	540	3820
21...	3.2	1.1	7.2	0.720	0.340	0.280	6.6	669	3970
21...	3.9	1.6	7.7	1.34	0.370	0.290	6.5	733	4240
21...	3.2	0.93	6.6	0.760	0.320	0.230	7.1	897	8670
21...	4.2	1.3	7.1	1.65	0.300	0.220	7.9	1090	13800
22...	7.6	1.3	11	0.860	0.340	0.300	8.0	1650	26200
22...	6.9	1.0	9.7	1.87	0.320	0.250	8.0	2100	45300
22...	6.1	1.2	8.8	1.32	0.360	0.260	8.6	2200	55000
22...	10	1.2	13	1.38	0.380	0.270	8.5	2470	69600
22...	6.5	0.88	8.7	1.56	0.380	0.230	8.4	2360	71700
22...	5.9	1.1	7.9	0.810	0.380	0.270	8.6	2030	62500
22...	6.3	1.1	8.2	1.44	0.430	0.360	9.6	1810	53600
22...	8.3	1.1	10	0.690	0.410	0.370	8.5	1790	49800
22...	4.5	0.96	6.5	0.910	0.400	0.370	8.4	1250	30200
22...	4.1	1.2	6.3	1.86	0.390	0.340	8.8	1000	19000
22...	3.9	1.5	6.4	0.760	0.360	0.340	9.2	654	7050

01576754 CONESTOGA RIVER AT CONESTOGA, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE FIELD (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	NITRO-GEN, NO2+NO3 TOTAL (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, ORGANIC DIS-SOLVED (MG/L AS N)
JUL										
23...	0020	2120	202	--	--	2.76	0.100	0.060	2.6	1.2
23...	0320	1640	221	--	--	3.00	0.040	0.040	2.2	0.95
23...	0620	1480	241	--	--	3.12	0.040	0.040	1.9	1.3
23...	0640	1450	257	--	--	3.36	0.040	0.020	2.0	1.0
23...	1850	1630	313	--	--	4.44	0.060	0.030	3.0	1.2
23...	2110	3800	311	--	--	4.44	0.040	0.040	2.2	0.87
23...	2320	3890	323	--	--	4.68	0.040	0.040	2.1	1.1
24...	0140	3950	314	--	--	4.44	0.050	0.050	1.7	1.1
24...	0350	4550	333	--	--	4.80	0.090	0.040	1.7	0.97
24...	0610	6540	350	--	--	5.40	0.060	0.020	3.5	0.73
24...	0820	8240	371	--	--	5.76	0.040	0.040	4.1	0.89
24...	1040	9590	271	--	--	4.20	0.040	0.020	4.8	0.81
24...	1250	10600	193	--	--	2.76	0.080	0.070	4.8	0.90
24...	1420	10800	178	--	--	2.64	0.100	0.080	4.8	1.0
24...	1640	10300	168	--	--	2.40	0.160	0.060	3.2	0.79
24...	1850	8300	175	--	--	2.40	0.090	0.040	2.1	0.98
24...	2020	5810	182	--	--	2.64	0.080	0.030	2.3	0.79
24...	2235	3370	197	--	--	2.88	0.040	0.020	2.0	0.93
25...	0220	2270	236	--	--	3.24	0.070	0.040	1.6	0.91
25...	0735	1790	282	--	--	4.20	0.030	0.030	1.3	0.72
25...	2220	1340	387	--	--	6.00	0.030	0.040	1.3	0.76
AUG										
17...	1040	327	675	8.70	26.5	9.24	0.090	0.080	0.32	0.13
SEP										
16...	1045	245	550	8.50	20.0	7.68	0.060	0.060	0.91	0.25

DATE	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	CARBON, ORGANIC TOTAL (MG/L AS C)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
JUL									
23...	2.7	1.3	5.5	0.670	0.360	0.330	9.3	366	2090
23...	2.2	0.99	5.2	0.800	0.360	0.320	9.2	257	1140
23...	2.0	1.3	5.1	0.550	0.350	0.330	8.9	198	791
23...	2.1	1.1	5.4	0.650	0.360	0.310	8.3	175	685
23...	3.0	1.2	7.4	0.670	0.220	0.270	7.7	616	2710
23...	2.2	0.91	6.6	0.910	0.340	0.270	7.5	387	3970
23...	2.1	1.1	6.8	0.730	0.320	0.290	7.3	258	2710
24...	1.7	1.1	6.2	0.610	0.280	0.230	6.2	239	2550
24...	1.8	1.0	6.6	0.680	0.220	0.200	5.8	264	3240
24...	3.6	0.75	9.0	0.470	0.250	0.200	6.0	599	10600
24...	4.1	0.93	9.9	0.770	0.310	0.230	8.5	806	17900
24...	4.9	0.83	9.1	0.880	0.350	0.300	7.8	1030	26700
24...	4.8	0.97	7.6	0.950	0.350	0.250	8.4	1130	32400
24...	4.9	1.1	7.5	0.790	0.330	0.270	8.4	1180	34300
24...	3.3	0.85	5.7	0.650	0.310	0.130	8.7	830	23200
24...	2.2	1.0	4.6	0.750	0.300	0.230	8.7	505	11300
24...	2.4	0.82	5.0	0.470	0.260	0.240	8.5	479	7510
24...	2.0	0.95	4.9	0.460	0.300	0.240	9.2	297	2700
25...	1.7	0.95	4.9	0.400	0.260	0.220	9.9	184	1130
25...	1.3	0.75	5.5	0.430	0.260	0.250	7.3	116	560
25...	1.3	0.80	7.3	0.340	0.260	0.210	6.4	69	250
AUG									
17...	0.41	0.21	9.6	0.330	0.240	0.210	4.0	22	19
SEP									
16...	0.97	0.31	8.6	0.230	0.200	0.140	3.6	--	--

01577400 BALD EAGLE CREEK NEAR FAWN GROVE, PA

LOCATION.--Lat 39°44'54", long 76°27'50", York County, Hydrologic Unit 02050306, on right bank 6 feet upstream from culvert on Kunkle Road (Township Route 804), 1,100 ft upstream from small right-bank tributary, and 1.6 mi north of Fawn Grove.

DRAINAGE AREA.--0.43 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year.

GAGE.--Water-stage recorder and wooden control. Elevation of gage is 600 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 212 ft^3/s, May 17, 1988, gage height, 6.06 ft from floodmark, from rating curve extended above 2.2 ft^3/s on basis of computation of peak flow through culvert; no flow Jan. 29 to Feb. 1, 1986, result of freezeup.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 12 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
Jan. 20	0430	38	2.03	Mar. 6	0545	38	2.02
Feb. 1	1200	27	1.81	May 17	Unknown	*212	a*6.06
Feb. 15	2045	28	1.83	July 23	1945	33	1.92
Feb. 19	2200	37	2.00	Aug. 29	1400	32	1.91
Mar. 4	1815	23	1.74				

(a) from outside floodmark.

Minimum discharge, 0.08 ft^3/s, Jan. 12, 13, 14, 16, 17, Feb. 9, 10, gage height, 1.27 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.22	e.20	.44	e.12	5.6	.11	.23	.20	.64	.24	.21	.13
2	.22	.20	.31	e.11	1.5	.11	.20	.14	.61	.24	.19	.13
3	.27	.20	.27	e.10	.82	.14	.20	.15	.49	.23	.20	.16
4	.24	e.20	.28	e.10	.52	5.9	.23	.20	.53	.24	.20	.79
5	.23	e.21	.21	e.09	.21	.72	.19	1.3	.64	.24	.18	.30
6	.23	e.21	e.19	e.09	.10	.26	.20	e5.0	.58	.25	.18	.16
7	.31	e.22	e.18	e.09	.09	.28	.85	.73	.56	.24	.20	.12
8	.23	e.22	e.18	e.09	.09	.29	.51	.32	.53	.33	.20	.14
9	.23	e.25	e.17	e.08	.08	.30	.31	.25	.61	.35	.19	.14
10	.23	.42	e.17	e.08	.08	.34	.26	.51	.47	.33	.20	.14
11	.25	.39	e.17	e.08	.09	.28	.23	.71	.47	.30	.21	.13
12	.23	.37	e.16	.08	2.4	.24	.22	.43	.44	.35	.18	.11
13	.23	.33	.16	.08	.34	.23	.20	.38	.48	.26	.17	.19
14	.23	.29	.16	.08	.18	.20	.19	.36	.39	.22	.18	.14
15	.21	.27	.41	e.08	8.8	.19	.22	.29	.27	.20	.16	.11
16	.20	.25	.22	.08	4.5	.19	.21	.44	.28	.22	.14	.10
17	.20	.26	.17	.08	.35	.18	.19	e60	.28	.22	.14	.15
18	.23	.30	.16	e3.0	.35	.19	.28	e30	.28	.21	.14	.14
19	.33	.25	.16	.23	6.5	.19	.22	11	.31	.28	.21	.12
20	.37	.25	.30	13	11	.18	.18	e1.6	.29	.27	.23	.12
21	.47	.24	.20	.55	.28	.16	.17	1.7	.24	.44	.20	.12
22	e.40	.23	.17	.29	.17	.15	.16	1.2	.25	.30	.15	.11
23	e.26	.23	.16	.19	.19	.17	.22	1.1	.23	3.3	.51	.11
24	e.22	.25	.15	.16	.16	.19	.21	1.1	.19	.34	.95	.12
25	e.19	.25	.19	e.25	.13	.19	.15	1.4	.29	.21	.23	.15
26	e.30	.25	.28	e.24	.13	.96	.15	.88	.29	.38	.18	.11
27	.73	.25	.19	e.24	.14	.39	.54	.84	.18	.33	.18	.11
28	.41	.28	.22	e.23	.13	.23	.34	.83	.22	.27	.18	.10
29	.29	6.5	.20	e.28	.13	.22	.27	.69	.23	.24	2.1	.10
30	.25	e.45	.16	e.30	---	.21	.25	.71	.24	.22	.14	.11
31	e.23	---	.13	1.1	---	.19	---	.76	---	.21	.15	---
TOTAL	8.64	14.22	6.52	21.57	45.06	13.58	7.78	125.22	11.51	11.46	8.68	4.66
MEAN	.28	.47	.21	.70	1.55	.44	.26	4.04	.38	.37	.28	.16
MAX	.73	6.5	.44	13	11	5.9	.85	60	.64	3.3	2.1	.79
MIN	.19	.20	.13	.08	.08	.11	.15	.14	.18	.20	.14	.10
CFSM	.65	1.10	.49	1.62	3.61	1.02	.60	9.39	.89	.86	.65	.36
IN.	.75	1.23	.56	1.87	3.90	1.17	.67	10.83	1.00	.99	.75	.40

CAL YR 1987 TOTAL 119.98 MEAN .33 MAX 6.5 MIN .08 CFSM .76 IN. 10.38
WTR YR 1988 TOTAL 278.90 MEAN .76 MAX 60 MIN .08 CFSM 1.77 IN. 24.13

e Estimated

01577400 BALD EAGLE CREEK NEAR FAWN GROVE, PA--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1986 to current year.

INSTRUMENTATION.--Automatic sediment pumping sampler since October 1985.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)
OCT								
14...	0810	0.23	108	4.60	4.60	<0.010	<0.010	0.40
NOV								
25...	1200	0.25	--	4.50	4.50	0.010	0.010	0.80
29...	0455	0.43	--	4.20	--	0.290	--	4.5
29...	0735	0.56	--	3.80	--	2.00	--	7.0
29...	1115	0.62	--	3.60	--	1.80	--	5.5
29...	1155	0.61	--	2.60	--	1.20	--	6.6
29...	1225	0.87	--	2.50	--	2.70	--	4.4
29...	1255	3.6	--	2.00	--	1.40	--	16
29...	1515	26	--	1.80	--	0.550	--	3.5
29...	1516	26	--	1.80	--	0.550	--	0.55
29...	1535	24	--	2.10	--	0.480	--	1.9
29...	1540	21	--	2.10	--	0.480	--	4.2
29...	1620	13	--	2.50	--	0.400	--	3.4
29...	2040	3.6	--	3.40	--	0.320	--	2.1
DEC								
01...	1540	0.34	--	4.40	--	0.040	--	0.40
15...	1610	0.67	--	4.70	--	1.80	--	4.0
15...	1650	0.79	--	4.60	--	2.50	--	5.5
15...	1830	0.57	--	4.50	--	4.10	--	6.5
15...	2030	0.34	--	4.50	--	2.70	--	5.2
21...	0850	0.19	113	4.80	4.80	0.020	0.020	0.50
JAN								
18...	0500	2.1	189	4.60	--	4.70	--	10
18...	1000	59	278	3.70	--	10.0	--	14
18...	1400	88	--	1.00	--	10.0	--	22
18...	2300	0.40	175	3.40	--	3.40	--	6.0
19...	2340	0.87	213	3.50	--	3.90	--	11
20...	0140	29	--	1.20	--	4.00	--	8.4
20...	0400	38	--	1.00	--	2.00	--	6.0
20...	0825	26	96	1.10	--	1.10	--	3.0
20...	0930	10	100	1.30	--	1.10	--	3.0
25...	1050	0.23	107	5.00	5.00	0.090	0.090	0.60
28...	0910	0.86	--	5.20	--	0.120	--	0.30
31...	1425	2.1	--	<0.100	--	9.40	--	24
FEB								
01...	0325	2.0	--	3.80	--	0.980	--	1.8
01...	1205	21	--	1.30	--	0.980	--	2.2
02...	1210	1.1	--	3.80	--	1.40	--	3.6
17...	0820	1.1	109	4.70	4.70	0.090	0.070	0.50
MAR								
08...	0845	0.28	107	5.50	5.00	0.040	0.030	0.40
26...	1043	0.92	14	0.200	--	0.120	--	0.40
APR								
05...	1000	0.19	99	4.70	4.70	0.020	0.020	0.30
MAY								
03...	0945	0.16	98	4.70	4.60	0.030	0.030	0.60
05...	0930	1.6	176	3.30	--	0.080	--	7.2
05...	1210	0.67	238	3.70	--	0.890	--	6.2
05...	1350	3.3	223	2.80	--	0.460	--	7.3
05...	1530	1.1	241	2.90	--	1.40	--	7.8
05...	1850	5.0	245	1.90	--	1.40	--	15
06...	1030	27	164	3.50	--	0.870	--	2.8
06...	1140	9.0	171	3.60	--	0.920	--	2.8
17...	1910	54	--	1.40	--	0.270	--	1.2
18...	0825	55	--	2.80	--	0.290	--	1.7
18...	1138	3.8	--	3.30	--	0.160	--	0.90
19...	0130	15	--	2.90	--	0.300	--	2.0
19...	0210	26	--	2.70	--	0.220	--	1.6
19...	0610	24	--	2.80	--	0.160	--	2.3
19...	0650	27	--	2.20	--	0.300	--	1.7
19...	0730	22	--	1.80	--	0.210	--	2.0
19...	0910	17	--	2.60	--	0.140	--	1.2
19...	1250	14	--	3.60	--	0.080	--	0.80
JUN								
07...	0855	0.63	115	5.00	4.80	0.030	<0.010	0.70
JUL								
11...	1020	0.34	110	4.40	4.40	0.020	0.020	0.70
24...	0130	0.67	--	3.40	--	0.870	--	6.0
24...	0145	0.67	--	3.10	--	1.00	--	5.3
24...	0215	0.57	--	<0.100	--	1.20	--	45
24...	0230	0.57	--	0.900	--	0.850	--	4.7
24...	0245	0.57	--	1.60	--	0.880	--	3.7
24...	0300	0.57	--	2.80	--	0.740	--	6.2
AUG								
15...	0955	0.19	--	4.40	4.40	<0.010	<0.010	0.30
24...	1117	0.34	--	4.10	--	0.040	--	0.80
29...	1320	5.1	--	1.60	--	0.510	--	7.8
29...	1340	21	--	1.50	--	0.600	--	6.8
29...	1410	32	--	2.00	--	0.350	--	3.0
29...	1640	508	--	3.20	--	0.360	--	2.8
SEP								
04...	1205	105	--	3.70	--	0.770	--	5.0
04...	1555	3.2	--	3.00	--	0.490	--	3.3
04...	1635	1.3	--	3.00	--	0.610	--	3.6
07...	1315	0.10	--	5.00	5.00	0.050	0.040	0.60

(<) Actual value is known to be less than the value shown.

01577400 BALD EAGLE CREEK NEAR FAWN GROVE, PA--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)
OCT							
14...	0.40	5.0	0.040	0.040	0.020	2	0.00
NOV							
25...	0.30	5.3	0.030	0.020	0.020	5	0.00
29...	--	8.7	0.300	--	--	125	0.15
29...	--	11	1.10	--	--	298	0.45
29...	--	9.1	1.80	--	--	205	0.34
29...	--	9.2	2.70	--	--	2170	3.6
29...	--	6.9	8.60	--	--	12700	30
29...	--	18	6.00	--	--	7140	69
29...	--	5.3	4.10	--	--	3270	230
29...	--	2.3	3.70	--	--	1610	113
29...	--	4.0	2.60	--	--	999	65
29...	--	6.3	3.00	--	--	--	--
29...	--	5.9	2.00	--	--	--	--
29...	--	5.5	0.360	--	--	128	1.2
DEC							
01...	--	4.8	0.100	--	--	7	0.01
15...	--	8.7	0.360	--	--	--	--
15...	--	10	0.540	--	--	--	--
15...	--	11	0.970	--	--	--	--
15...	--	9.7	0.580	--	--	--	--
21...	0.40	5.3	0.040	0.030	0.030	2	0.00
JAN							
18...	--	15	0.310	--	--	72	0.41
18...	--	18	0.580	--	--	63	10
18...	--	23	2.20	--	--	--	--
18...	--	9.4	0.930	--	--	66	0.07
19...	--	14	1.10	--	--	128	0.30
20...	--	9.6	2.20	--	--	--	--
20...	--	7.0	2.50	--	--	--	--
20...	--	4.1	1.50	--	--	373	26
20...	--	4.3	1.40	--	--	228	6.2
25...	0.60	5.6	0.050	0.040	0.020	4	0.00
28...	--	5.5	0.070	--	--	--	--
31...	--	--	1.80	--	--	--	--
FEB							
01...	--	5.6	0.300	--	--	--	--
01...	--	3.5	0.700	--	--	--	--
02...	--	7.4	0.590	--	--	--	--
17...	0.40	5.2	0.070	0.050	0.050	3	0.01
MAR							
08...	0.30	5.9	0.050	0.050	0.050	2	0.00
26...	--	0.60	0.020	--	--	--	--
APR							
05...	0.30	5.0	0.060	0.030	0.030	--	--
MAY							
03...	0.60	5.3	0.040	0.020	<0.010	1	0.00
05...	--	10	2.80	--	--	1620	7.0
05...	--	9.9	1.00	--	--	467	0.84
05...	--	10	1.90	--	--	1320	12
05...	--	11	1.20	--	--	562	1.7
05...	--	17	3.90	--	--	--	--
06...	--	6.3	0.870	--	--	156	11
06...	--	6.4	0.730	--	--	--	--
17...	--	2.6	0.470	--	--	2210	322
18...	--	4.5	0.430	--	--	245	36
18...	--	4.2	0.200	--	--	92	0.94
19...	--	4.9	0.590	--	--	1480	60
19...	--	4.3	0.360	--	--	342	24
19...	--	5.1	4.00	--	--	2060	133
19...	--	3.9	0.520	--	--	1000	73
19...	--	3.8	0.610	--	--	399	24
19...	--	3.8	0.290	--	--	2200	101
19...	--	4.4	0.140	--	--	24	0.91
JUN							
07...	0.70	5.7	0.030	0.030	<0.010	2	0.00
JUL							
11...	0.70	5.1	0.020	0.020	0.010	1	0.00
24...	--	9.4	1.30	--	--	432	0.78
24...	--	8.4	1.50	--	--	372	0.67
24...	--	--	13.0	--	--	9540	15
24...	--	5.6	2.40	--	--	2490	3.8
24...	--	5.3	1.40	--	--	1070	1.6
24...	--	9.0	2.20	--	--	--	--
AUG							
15...	0.30	4.7	0.050	0.050	0.030	--	--
24...	--	4.9	0.180	--	--	--	--
29...	--	9.4	2.20	--	--	12200	169
29...	--	8.3	3.30	--	--	6110	346
29...	--	5.0	1.20	--	--	1940	168
29...	--	6.0	0.560	--	--	162	222
SEP							
04...	--	8.7	0.830	--	--	--	--
04...	--	6.3	0.680	--	--	--	--
04...	--	6.6	0.910	--	--	--	--
07...	0.60	5.6	0.080	0.080	0.080	3	0.00

(<) Actual value is known to be less than the value shown.

TONOLOWAY CREEK BASIN

01613050 TONOLOWAY CREEK NEAR NEEDMORE, PA

LOCATION.--Lat 39°53'54", long 78°07'57", Fulton County, Hydrologic Unit 02070004, on left bank 10 ft downstream from bridge on SR 3008, 0.2 mi upstream from Foster Creek, and 3.5 mi north of Needmore.

DRAINAGE AREA.--10.7 mi^2.

PERIOD OF RECORD.--Occasional discharge measurements and annual maximums, water years 1963-65. October 1965 to current year.

REVISED RECORDS.--WSP 2103: 1966-68(M).

GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 688.94 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 2, 1965, crest-stage gage at same site at datum 2.0 ft higher.

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

AVERAGE DISCHARGE.--23 years, 12.4 ft^3/s, 15.74 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,300 ft^3/s, June 22, 1972, gage height, 9.17 ft, from rating curve extended above 540 ft^3/s on basis of contracted-opening measurement of peak flow; no flow many days.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 150 ft^3/s and maximum (*):

Date	Time	Discharge (ft^3/s)	Gage height (ft)	Date	Time	Discharge (ft^3/s)	Gage height (ft)
May 18	1100	180	4.59	May 23	1845	*969	*8.19
May 20	1700	193	4.67				

Minimum daily discharge, 0.18 ft^3/s, Aug. 5.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.8	1.4	2.0	e11	e8.0	3.9	e7.2	5.1	24	1.0	.45	.77
2	e2.8	1.3	45	e10	e9.0	3.3	e8.0	4.7	21	.95	.33	.57
3	e3.5	1.2	42	e9.5	21	5.4	8.3	3.9	21	.89	.28	.50
4	e3.1	1.3	29	e8.5	55	28	9.6	3.6	18	.83	.23	2.3
5	e2.7	1.5	20	e7.0	50	47	8.0	6.8	16	.74	.18	2.7
6	e2.4	1.4	17	e6.5	34	35	7.9	9.5	14	.68	.95	e2.3
7	e2.3	1.4	14	e5.8	40	26	64	e9.0	12	.61	2.5	e1.7
8	e2.3	1.3	10	e7.0	25	20	84	e7.8	11	.57	1.1	e1.2
9	e2.2	1.2	8.0	e4.9	14	17	52	e7.0	17	.53	.68	e1.0
10	e2.1	2.6	6.8	e4.5	12	14	37	e6.7	6.8	.55	.53	e.86
11	e2.1	2.4	e6.2	e4.1	9.8	12	29	e6.3	4.6	.54	.44	e.70
12	e2.0	2.9	e5.4	e3.9	e8.0	11	24	e6.0	e3.0	.81	.40	e.62
13	e2.0	4.4	e4.7	e3.7	e7.0	10	20	e6.5	e2.4	.95	.33	1.0
14	e1.9	9.0	e4.2	e3.6	e6.0	8.0	17	e7.0	e1.8	.63	.29	.77
15	e1.8	12	e4.1	e3.5	e5.5	7.0	15	e7.5	e2.2	.54	.28	.56
16	e1.8	10	e3.3	e4.0	e4.8	5.9	13	11	e3.0	.43	.29	.45
17	e1.7	13	7.5	e4.5	e4.7	4.8	12	12	4.6	.35	.23	1.3
18	e1.7	e25	7.3	9.7	e4.2	4.6	12	92	2.8	.34	.28	1.1
19	1.6	e35	6.0	27	e5.9	4.4	11	122	2.6	.42	.48	.80
20	e1.6	e25	5.3	18	15	4.0	9.7	123	2.2	2.3	.81	.87
21	e1.6	e20	6.5	43	13	4.9	8.8	131	1.9	1.3	.63	.88
22	e1.5	19	23	31	e12	5.9	8.0	78	1.7	.78	.35	.68
23	1.5	13	23	22	e10	5.4	7.6	202	1.5	.60	.35	.64
24	e1.5	8.3	21	18	e9.0	5.9	8.5	302	1.3	.92	1.4	.69
25	1.5	4.9	17	15	7.5	6.3	6.9	134	1.3	.51	.46	2.0
26	1.5	3.2	e15	e13	6.6	9.9	6.4	83	1.2	.42	.32	1.4
27	2.4	2.3	e13	e19	6.2	11	6.5	61	1.2	.48	.27	.91
28	7.6	1.8	e12	e14	5.3	e8.8	6.4	49	1.2	.44	.25	.77
29	2.8	1.4	e10	e11	4.7	e8.0	6.4	39	1.1	.33	1.7	.71
30	2.0	1.4	e9.2	e9.5	---	e7.0	5.8	32	1.0	.34	2.3	.75
31	1.7	---	e9.5	e8.5	---	e7.5	---	27	---	1.3	1.3	---
TOTAL	71.0	228.6	407.0	360.7	413.2	351.9	520.0	1595.4	203.4	22.08	20.39	31.50
MEAN	2.29	7.62	13.1	11.6	14.2	11.4	17.3	51.5	6.78	.71	.66	1.05
MAX	7.6	35	45	43	55	47	84	302	24	2.3	2.5	2.7
MIN	1.5	1.2	2.0	3.5	4.2	3.3	5.8	3.6	1.0	.33	.18	.45
CFSM	.21	.71	1.23	1.09	1.33	1.06	1.62	4.81	.63	.07	.06	.10
IN.	.25	.79	1.41	1.25	1.44	1.22	1.81	5.55	.71	.08	.07	.11

CAL YR 1987 TOTAL 3810.28 MEAN 10.4 MAX 176 MIN .06 CFSM .98 IN. 13.25
WTR YR 1988 TOTAL 4225.17 MEAN 11.5 MAX 302 MIN .18 CFSM 1.08 IN. 14.69

e Estimated

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at low-flow partial-record sites and at miscellaneous sites and for special studies are given in separate tables.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1988

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum		
					Date	Gage height (ft)	Discharge (ft^3/s)
		SUSQUEHANNA RIVER BASIN					
		CHEMUNG RIVER BASIN					
01518420	Crooked Creek below Catlin Hollow at Middlebury Center, Pa.	Lat 41°50'33", long 77°16'25", Tioga County, at single-span bridge on Township Route 586 at Middlebury Center.	74.3	1986-88	5-19-88	47.25	5,310
01519200	Cowanesque River at Elkland, Pa.	Lat 41°59'15", long 77°18'09", Tioga County, at single-span steel-truss bridge on State Highway 49 at Elkland.	235	1980-88	5-19-88	23.30	7,550
		TOWANDA CREEK BASIN					
01532200	South Branch Towanda Creek at New Albany, Pa.	Lat 41°35'23", long 76°25'58", Bradford County, at bridge on Township Route 381, 0.1 mi below French Creek, 0.7 mi above Beaver Run, and 0.8 mi south of New Albany.	13.3	1963-88	--	<4.20	--
		TUSCARORA CREEK BASIN					
01533250	Tuscarora Creek near Silvara, Pa.	Lat 41°42'25", long 76°07'10", Bradford County, at single-span bridge on Township Route 510, 1.0 mi northeast of Silvara, 1.1 mi above Mill Creek, and 4.6 mi upstream from mouth.	11.8	1963-88	11-30-87	5.08	245
		WEST BRANCH SUSQUEHANNA RIVER BASIN					
01542720	Wilson Run at Penfield, Pa.	Lat 41°12'58", long 78°35'00", Clearfield County, at wooden bridge 200 ft north of State Highway 153, 0.7 mi upstream from mouth, and 0.8 mi northwest of Penfield.	8.3	1962-88	11-29-87	2.30	179
01543700	First Fork Sinnemahoning Creek at Wharton. Pa.	Lat 41°31'08", long 78°01'40", Potter County, 50 ft upstream from bridge on State Highway 872 and 0.8 mi southwest of Wharton.	182	1968-80* 1982* 1984-88	5-19-88	8.77	3,510
01545800	West Branch Susquehanna River at Lock Haven, Pa.	Lat 41°08'17", long 77°26'32", Clinton County, on right bank 50 ft downstream from Jay Street bridge and 2.3 mi upstream from Bald Eagle Creek.	3,345	1975-88	5-20-88	13.69	37,800

< Actual value is known to be less than the value shown.
* Also a low-flow partial-record station.

Annual maximum discharge at crest-stage partial-record stations--Continued

Station No.	Station name	Location	Drainage area (mi^2)	Period of record	Annual maximum Date	Annual maximum Gage height (ft)	Annual maximum Discharge (ft^3/s)
		SUSQUEHANNA RIVER BASIN--Continued					
		WEST BRANCH SUSQUEHANNA RIVER BASIN					
01549590	Little Pine Creek near Waterville, Pa.	Lat 41°21'06", long 77°21'18", Juniata County, at single-span bridge, 0.2 mi downstream from Little Pine Dam, and 3.4 mi upstream from Waterville.	172	1988	5-20-88	6.73	2,490
01550500	Lycoming Creek near Williamsport, Pa.	Lat 41°16'01", long 77°02'49", Lycoming County, 150 ft downstream from concrete bridge on U.S. Highway 15, 1.2 mi downstream from Beautys Run, and 3.4 mi upstream from mouth.	268	1908-13# 1982-87* 1988	5-19-88	9.49	8,850
01553050	White Deer Hole Creek near Elimsport, Pa.	Lat 41°07'08", long 77°04'02", Lycoming County, at bridge on SR 2002, 2.5 mi west of Elimsport, and 12.5 mi upstream from mouth. Datum of gage is 650.84 ft, NGVD of 1929.	18.2	1961-88	5-19-88	3.15	720
		JUNIATA RIVER BASIN					
01566000	Tuscarora Creek near Port Royal, Pa.	Lat 40°30'55", long 77°25'10", Juniata County, at single-span bridge on SR 3008, 2.0 mi southwest of Port Royal, and 3.5 mi upstream from mouth.	214	1911-58# 1982-85* 1987* 1988	5-19-88	10.64	4,840
		CONODOGUINET CREEK BASIN					
01569340	Newburg Run at Newburg, Pa.	Lat 40°07'40", long 77°32'50", Cumberland County, at concrete bridge on State Highway 696, 0.4 mi upstream from mouth, and 0.8 mi south of Newburg.	5.29	1964-88	5-19-88	[a] 4.73	520
		CONESTOGA RIVER BASIN					
01576320	Stony Run at Reamstown, Pa.	Lat 40°12'44", long 76°07'30", Lancaster County, at single-span bridge on SR 1051, 0.1 mi southeast of U.S. Highway 222, 0.1 mi northwest of Reamstown, and 0.7 mi above mouth.	3.55	1964-88	7-21-88	5.31	614
		CONOWINGO CREEK BASIN					
01578200	Conowingo Creek near Buck, Pa.	Lat 39°50'35", long 76°11'45", Lancaster County, at concrete bridge on SR 3008, 2.0 mi above Jackson Run, and 2.5 mi southeast of Buck.	8.71	1963-88	7-21-88	5.64	332

\# Operated as a continuous-record station.
* Also a low-flow partial-record station.
a Using auxiliary gage.

Special study and miscellaneous sites

Discharge measurements made at special study and miscellaneous sites during water year 1988

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		SUSQUEHANNA RIVER BASIN				
		WEST BRANCH SUSQUEHANNA RIVER BASIN				
01542790 Bennett Branch	Sinnemahoning Creek	Lat 41°20'02", long 78°08'10", Cameron County, at county bridge on Township Route 343 at Driftwood and 1000 ft upstream from mouth.	367	1975-87	8-31-88	131
01548085 Bald Eagle Creek	West Branch Susquehanna River	Lat 41°07'35", long 77°26'00", Clinton County, on steel-truss highway bridge on SR 2012 at Castanea and 1.8 mi upstream from mouth.	768	---	9-29-88	366
		JUNIATA RIVER BASIN				
01564510 Three Springs Creek	Aughwick Creek	Lat 40°12'45", long 77°55'30", Huntingdon County, 0.9 mi upstream from mouth, and 3.5 mi northeast of Three Springs.	31.4	1940-81[a] 1983 1987	2-20-88	115
		STONY CREEK BASIN				
01568750 Stony Creek	Susquehanna River	Lat 40°24'51", long 76°46'50", Dauphin County, at intersection of Township Route 535 and Water Tank Trail, 3.8 mi downstream from Rattling Run, and 9.0 mi northeast of Dauphin.	21.9	1974-76# 1985-86#	6-27-88	12

a Most years during period.
Operated as a continuous-record gaging station.

Water-quality partial-record stations are particular sites where chemical-quality, biological, and/or sediment data are collected systematically over a period of years for use in hydrologic analyses. The data are collected usually less than quarterly.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	STREAM-FLOW, INSTAN-TANEOUS (CFS)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	TUR-BID-ITY (FTU)	OXYGEN, DIS-SOLVED (MG/L)	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)
OCTORARO CREEK BASIN											
01578340		EAST BRANCH OCTORARO CREEK AT CHRISTIANA, PA. (LAT 39 56 57N LONG 075 59 38W)									
NOV 1987 18...	0900	11	265	7.10	13.5	3.7	10.6	100	59	24	10
01578343		VALLEY CREEK NEAR ATGLEN, PA. (LAT 39 56 23N LONG 075 59 06W)									
NOV 1987 18...	1330	15	270	7.40	14.5	1.6	11.2	110	53	30	9.4

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT WH TOT FET FIELD (MG/L AS CACO3)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)
01578340		EAST BRANCH OCTORARO CREEK AT CHRISTIANA, PA. (LAT 39 56 57N LONG 075 59 38W)									
NOV 1987 18...	8.4	15	0.4	4.5	42	29	19	12	188	163	0.26
01578343		VALLEY CREEK NEAR ATGLEN, PA. (LAT 39 56 23N LONG 075 59 06W)									
NOV 1987 18...	9.9	15	0.4	4.5	61	27	24	10	176	177	0.24

DATE	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	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, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (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 (µG/L AS AL)
01578340		EAST BRANCH OCTORARO CREEK AT CHRISTIANA, PA. (LAT 39 56 57N LONG 075 59 38W)									
NOV 1987 18...	6.98	0.020	7.00	<0.010	--	0.60	0.80	0.070	0.040	0.020	<10
01578343		VALLEY CREEK NEAR ATGLEN, PA. (LAT 39 56 23N LONG 075 59 06W)									
NOV 1987 18...	5.69	0.010	5.70	0.070	0.23	0.50	0.30	0.140	0.010	0.060	<10

DATE	ARSENIC DIS-SOLVED (µG/L AS AS)	CADMIUM DIS-SOLVED (µG/L AS CD)	CHRO-MIUM, DIS-SOLVED (µG/L AS CR)	COPPER, DIS-SOLVED (µG/L AS CU)	IRON, DIS-SOLVED (µG/L AS FE)	LEAD, DIS-SOLVED (µG/L AS PB)	MANGA-NESE, DIS-SOLVED (µG/L AS MN)	MERCURY DIS-SOLVED (µG/L AS HG)	NICKEL, DIS-SOLVED (µG/L AS NI)	SILVER, DIS-SOLVED (µG/L AS AG)	ZINC, DIS-SOLVED (µG/L AS ZN)
01578340		EAST BRANCH OCTORARO CREEK AT CHRISTIANA, PA. (LAT 39 56 57N LONG 075 59 38W)									
NOV 1987 18...	<1	<1	1	2	37	<5	32	0.9	1	<1.0	7
01578343		VALLEY CREEK NEAR ATGLEN, PA. (LAT 39 56 23N LONG 075 59 06W)									
NOV 1987 18...	<1	<1	3	2	39	<5	21	<0.1	2	<1.0	<3

(<) Actual value is known to be less than the value shown.

ADAMS COUNTY

395846077040601. Local number, AD 146.

LOCATION.--Lat 39°58'46", long 77°04'06", Hydrologic Unit 02050306, at State Game Land Number 249.
Owner: U.S. Geological Survey.
AQUIFER.--Shale and sandstone of Gettysburg shale of Late Triassic age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 100 ft, cased to 17 ft, open hole.
INSTRUMENTATION.--Digital recorder with 60-minute recording interval. Pa. Department of Environmental Resources satellite telemeter at station.
DATUM.--Elevation of land-surface is 540 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of casing, 2.0 ft above land-surface datum.
REMARKS.--Water-quality records for 1973-75 are available in files of district office.
PERIOD OF RECORD.--January 1968 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.87 ft below land-surface datum, June 21, 1972; lowest, 14.02 ft below land-surface datum, July 16, 17, 18, 1988.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.84	11.70	11.21	11.63	11.69	11.73	11.90	11.85	12.25	13.84	13.74	13.74
2	11.92	11.73	11.41	11.67	11.00	11.72	11.93	11.93	12.36	13.85	13.80	13.75
3	11.95	11.72	11.40	11.72	11.16	11.69	11.93	11.99	12.40	13.88	13.82	13.75
4	11.81	11.73	11.39	11.78	11.14	11.30	11.89	12.04	12.43	13.90	13.84	13.75
5	11.88	11.86	11.50	11.92	11.36	11.24	11.97	11.95	12.44	13.90	13.86	13.47
6	11.90	11.91	11.62	12.08	11.59	11.34	11.97	11.30	12.53	13.90	13.86	13.52
7	11.80	11.94	11.63	12.09	11.72	11.43	11.89	11.26	12.60	13.90	13.32	13.59
8	11.81	11.94	11.64	12.09	11.85	11.49	11.59	11.45	12.61	13.92	13.40	13.60
9	11.81	11.93	11.61	12.09	11.88	11.42	11.70	11.58	12.62	13.90	13.47	13.62
10	11.82	11.89	11.61	12.14	11.93	11.49	11.79	11.70	12.63	13.92	13.51	13.70
11	11.82	11.24	11.62	12.17	11.92	11.60	11.89	11.84	12.67	13.95	13.54	13.74
12	11.80	11.21	11.70	12.18	11.76	11.59	11.93	11.92	12.75	13.92	13.57	13.75
13	11.88	11.07	11.81	12.25	11.67	11.67	11.99	11.99	12.82	13.93	13.62	13.72
14	11.92	11.14	11.83	12.33	11.79	11.73	12.02	12.08	12.87	13.96	13.66	13.75
15	11.93	11.32	11.75	12.33	11.72	11.84	12.04	12.13	12.90	---	13.73	13.82
16	11.98	11.38	11.42	12.40	11.49	11.88	12.09	12.15	12.92	14.02	13.79	13.83
17	12.00	11.37	11.62	12.39	11.50	11.90	12.10	12.17	12.94	14.02	13.80	13.80
18	12.04	11.29	11.67	12.32	11.53	11.89	12.09	11.50	12.99	14.02	13.86	13.66
19	12.07	11.36	11.71	11.94	11.50	11.84	12.07	10.99	13.00	13.96	13.88	13.68
20	12.05	11.46	11.66	11.75	11.10	11.93	12.12	11.16	13.04	13.82	13.76	13.70
21	12.08	11.60	11.55	11.24	11.37	12.00	12.16	11.21	13.09	13.68	13.74	13.72
22	12.13	11.62	11.58	11.39	11.41	12.04	12.21	11.38	13.12	13.68	13.79	13.75
23	12.18	11.62	11.68	11.44	11.49	11.96	12.22	11.50	13.21	13.68	13.80	13.82
24	12.18	11.63	11.69	11.48	11.53	11.93	12.13	11.47	13.23	13.58	13.63	13.84
25	12.20	11.64	11.64	11.49	11.61	11.93	12.19	11.32	13.21	13.62	13.66	13.80
26	12.20	11.66	11.42	11.61	11.62	11.89	12.24	11.54	13.26	13.66	13.72	13.63
27	12.17	11.70	11.43	11.69	11.70	11.69	12.15	11.69	13.30	13.60	13.76	13.64
28	11.35	11.60	11.44	11.76	11.68	11.78	---	11.81	13.76	13.58	13.78	13.66
29	11.48	11.30	11.57	11.81	11.71	11.82	11.64	11.96	13.78	13.63	13.79	13.68
30	11.56	10.89	11.64	11.86	---	11.88	11.78	12.07	13.79	13.70	13.64	13.60
31	11.68	---	11.65	11.83	---	11.91	---	12.18	---	13.69	13.70	---
MEAN	11.91	11.55	11.58	11.90	11.57	11.73	11.99	11.71	12.92	13.82	13.70	13.70
MAX	12.20	11.94	11.83	12.40	11.93	12.04	12.24	12.18	13.79	14.02	13.88	13.84
MIN	11.35	10.89	11.21	11.24	11.00	11.24	11.59	10.99	12.25	13.58	13.32	13.47

WTR YR 1988: HIGHEST 10.89 NOVEMBER 30; LOWEST 14.02 JULY 16, 17, 18.

394916077142901. Local number, AD 177.

LOCATION.--Lat 39°49'16", long 77°14'29", Hydrologic Unit 02070009, at Gettysburg National Military Park.
Owner: National Park Service.
AQUIFER.--Gettysburg Formation of Triassic age.
WELL CHARACTERISTICS.--Drilled well, diameter 8 in., depth 499 ft, cased to 32 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 550 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of casing, 6.0 ft above land-surface datum.
PERIOD OF RECORD.--October 1985 to current year.
REMARKS.--Ground-water levels effected by the intermittent pumping of a nearby public supply well.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.37 ft below land-surface datum, Mar. 14, 1986; lowest, 48.97 ft below land-surface datum, Oct. 1, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44.12	---	40.76	37.15	36.09	34.24	---	35.82	31.76	37.58	41.45	44.80
2	44.00	---	---	37.08	35.91	34.33	---	35.93	31.88	37.78	41.65	44.81
3	44.02	---	---	37.04	35.85	34.27	---	36.01	31.93	38.00	41.80	44.78
4	43.99	---	---	36.78	35.51	34.18	34.81	36.06	32.03	38.21	41.86	44.72
5	---	---	40.07	---	35.27	34.27	34.91	35.99	32.02	38.63	41.99	44.66
6	---	---	40.12	---	35.22	34.18	34.82	35.86	32.05	38.61	42.08	44.80
7	---	---	40.21	36.50	35.23	33.89	34.73	35.65	32.13	38.78	42.14	44.89
8	---	---	40.18	---	35.06	33.94	34.83	35.52	32.26	38.97	42.26	44.94
9	---	---	39.96	---	35.04	33.74	34.89	35.38	32.49	39.11	42.36	44.90
10	---	---	39.72	---	35.11	33.49	34.82	35.13	32.71	39.28	42.53	44.97
11	---	---	39.64	---	35.09	33.67	34.83	35.05	32.86	39.45	42.69	45.11
12	---	---	39.52	---	34.81	33.63	34.85	35.15	32.96	39.65	42.84	45.15
13	---	---	39.87	---	34.75	33.53	34.85	35.07	33.15	39.77	43.03	45.12
14	---	---	39.97	---	34.81	33.56	34.90	35.06	33.37	39.79	43.12	45.25
15	---	---	39.97	---	34.67	33.72	34.85	35.06	33.51	39.94	43.24	45.41
16	---	---	39.53	---	34.75	33.90	34.96	34.93	33.94	40.15	43.35	45.47
17	---	---	39.73	---	34.74	34.05	34.98	34.87	34.19	40.28	43.46	45.47
18	---	---	39.74	---	34.71	34.04	34.81	34.76	---	40.46	44.15	45.44
19	---	---	39.73	---	34.69	33.90	34.95	34.25	---	40.59	44.28	45.52
20	---	42.71	39.66	---	34.18	34.11	35.08	33.74	---	40.68	44.31	45.52
21	---	42.75	39.21	35.96	34.18	34.45	35.10	33.30	---	40.19	44.46	45.63
22	---	42.79	39.29	36.01	34.19	34.58	35.27	33.01	35.26	40.33	44.62	45.74
23	---	42.70	38.91	35.93	34.04	34.57	35.33	32.88	35.66	40.43	44.64	45.78
24	---	---	38.79	35.89	34.12	34.56	35.42	---	35.97	40.47	44.54	45.94
25	---	---	---	35.82	34.15	---	35.53	32.22	36.17	40.59	44.51	46.03
26	---	---	---	35.94	34.14	---	35.57	32.23	36.29	40.71	44.59	46.12
27	---	---	---	35.88	34.08	---	35.40	32.13	36.62	40.85	44.63	46.13
28	---	---	---	36.03	34.14	---	35.43	31.98	37.09	41.02	44.67	46.24
29	---	41.92	---	36.11	---	---	35.50	31.85	37.14	41.16	44.66	46.28
30	---	41.20	---	36.09	---	---	35.69	31.86	37.32	41.27	44.64	46.28
31	---	---	37.43	36.12	---	---	---	31.85	---	41.27	44.74	---
MEAN	44.03	42.35	39.64	36.27	34.80	34.03	35.08	34.29	33.95	39.81	43.40	45.40
MAX	44.12	42.79	40.76	37.15	36.09	34.58	35.69	36.06	37.32	41.27	44.74	46.28
MIN	43.99	41.20	37.43	35.82	34.04	33.49	34.73	31.85	31.76	37.58	41.45	44.66

WTR YR 1988: HIGHEST 31.76 JUNE 1; LOWEST 46.28 SEPTEMBER 29, 30.

394755077160501. Local number, AD 255.

LOCATION.--Lat 39°47'55", long 77°16'05", Hydrologic Unit 02070009, at Eisenhower National Historic Site at Gettysburg.
Owner: National Park Service.
AQUIFER.--Gettysburg Formation of Triassic age.
WELL CHARACTERISTICS.--Drilled well, diameter 10 in., depth 475 ft, cased to 14 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 470 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of casing, 1.2 ft above land-surface datum.
REMARKS.--Ground-water levels effected by the intermittent pumping of a nearby public supply well.
PERIOD OF RECORD.--October 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.21 ft below land-surface datum, Dec. 2, 1985; lowest, 19.95 ft below land-surface datum, September 8, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.55	---	---	---	9.48	8.53	---	14.30	8.82	15.54	18.06	
2	11.91	---	---	---	9.36	8.74	---	14.45	9.25	15.82	18.16	
3	12.34	---	---	---	9.31	8.86	---	14.68	9.85	16.21	18.26	
4	12.51	---	---	---	9.22	8.90	10.78	14.85	10.27	16.56	18.35	
5	12.62	---	---	---	9.23	8.79	11.01	14.97	10.62	16.60	18.45	
6	12.63	---	---	---	9.24	8.45	11.08	14.55	10.99	16.32	18.53	
7	12.70	---	---	---	9.26	8.12	11.11	13.02	11.35	---	18.63	
8	13.10	---	---	---	9.28	7.87	10.94	12.21	11.59	---	18.74	
9	13.24	---	4.53	---	9.30	8.03	10.75	11.70	11.99	---	18.82	
10	13.34	---	4.54	---	9.35	7.77	10.61	11.32	12.47	---	18.91	
11	13.52	---	4.54	---	9.31	7.59	10.44	11.11	12.82	---	19.01	
12	13.72	---	4.57	---	9.25	7.90	10.61	11.11	13.08	---	19.10	
13	14.05	---	4.58	---	9.34	7.91	10.76	11.00	13.41	---	19.20	
14	14.32	---	4.58	---	9.31	7.82	10.89	11.02	13.78	---	19.29	
15	14.49	---	4.58	---	9.28	7.99	11.21	11.33	13.91	---	19.38	
16	14.72	---	4.54	---	9.32	8.14	11.49	11.47	13.86	---	19.48	
17	---	---	4.58	---	9.30	8.41	11.60	11.37	14.13	---	19.57	
18	---	---	4.58	---	9.31	8.71	11.77	10.87	14.44	---	---	
19	---	---	4.57	---	9.25	8.85	11.99	9.28	14.62	---	---	
20	---	6.18	4.58	---	9.15	8.78	12.18	8.71	14.81	---	---	
21	---	6.21	---	9.50	9.18	8.91	12.51	8.23	14.88	17.02	---	
22	15.88	6.21	---	9.50	7.80	9.42	12.83	7.97	14.73	17.11	---	
23	16.00	6.21	---	9.47	7.94	9.75	12.96	7.93	14.94	17.22	---	
24	16.23	6.20	---	9.47	8.12	9.95	13.21	7.84	14.93	17.31	---	
25	16.33	---	---	9.46	8.16	9.95	13.37	7.46	15.16	17.40	---	
26	16.46	---	---	9.42	8.19	10.11	13.49	7.68	14.98	17.50	---	
27	16.46	---	---	9.48	8.38	---	13.46	7.78	15.33	17.58	---	
28	16.06	---	---	9.54	8.53	---	13.73	7.82	15.40	17.68	---	
29	15.11	---	---	9.52	---	---	13.85	7.95	15.84	17.78	---	
30	14.61	---	---	9.55	---	---	14.04	8.26	15.53	17.89	---	
31	---	---	---	9.53	---	---	---	8.60	---	17.97	---	
MEAN	14.16	6.20	4.56	9.49	9.01	8.63	11.95	10.67	13.26	17.03	18.82	
MAX	16.46	6.21	4.58	9.55	9.48	10.11	14.04	14.97	15.84	17.97	19.57	
MIN	11.55	6.18	4.53	9.42	7.80	7.59	10.44	7.46	8.82	15.54	18.06	

WTR YR 1988: HIGHEST 4.53 DECEMBER 9; LOWEST 19.57 AUGUST 17.

394807077150101. Local number, AD 600.

LOCATION.--Lat 39°48'07", long 77°15'01", Hydrologic Unit 02070009, at Gettysburg National Military Park.
Owner: National Park Service.
AQUIFER.--Gettysburg Formation of Triassic age.
WELL CHARACTERISTICS.--Drilled well, depth 48 ft.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 560 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of casing, 0.5 ft above land-surface datum.
PERIOD OF RECORD.--March 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.92 ft below land-surface datum, May 20, 1988; lowest, 34.33 ft below land-surface datum, Nov. 5, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32.22	---	---	---	---		---	32.38	---	32.53	33.28	32.79
2	32.62	---	---	---	25.39		---	32.64	---	32.59	33.34	33.21
3	32.81	---	---	---	25.10		---	32.76	---	32.65	33.38	33.47
4	30.53	---	---	---	25.12		31.76	32.81	---	32.71	33.41	33.47
5	31.77	---	---	---	24.30		31.85	32.81	---	32.75	33.44	27.74
6	32.57	---	---	---	24.88		31.87	29.50	---	32.75	33.47	29.53
7	32.58	---	---	---	25.40		31.82	26.43	---	32.76	32.15	31.90
8	31.36	---	---	---	25.90		27.61	27.24	---	32.79	32.91	32.89
9	32.60	---	---	---	26.27		28.58	27.85	---	32.79	33.31	33.26
10	32.98	---	---	---	---		29.97	28.39	---	32.82	33.44	33.53
11	33.17	---	---	---	---		31.21	28.92	---	32.89	33.51	33.72
12	33.27	---	---	---	---		31.56	29.63	---	32.87	33.53	33.80
13	33.42	---	---	---	---		31.80	30.52	---	32.20	33.55	33.81
14	33.51	---	---	---	---		31.92	31.19	---	32.68	33.57	33.47
15	33.55	---	---	---	---		32.01	31.43	---	32.92	33.60	33.83
16	33.58	---	---	---	---		32.13	31.52	---	33.00	33.61	33.98
17	---	---	---	---	---		32.17	30.02	---	33.04	33.62	33.98
18	---	---	---	---	---		32.07	27.91	---	33.12	33.78	33.98
19	---	---	---	---	---		32.06	23.46	---	33.11	33.81	33.98
20	---	29.84	---	---	---		31.82	21.92	---	32.42	33.81	34.01
21	---	---	28.02	25.38	26.04		32.12	22.16	---	30.98	32.68	34.07
22	33.76	---	---	26.01	---		32.32	22.69	31.77	31.19	33.47	34.11
23	---	---	---	26.62	---		32.42	23.22	31.77	31.93	33.67	34.13
24	---	---	---	27.18	---		32.38	23.41	32.09	32.35	33.65	34.18
25	---	---	---	27.50	---		31.66	23.66	32.14	32.67	27.88	34.16
26	---	---	---	27.56	---		32.14	24.20	32.15	32.86	30.00	31.97
27	---	---	---	---	---		32.35	24.75	32.26	33.00	31.20	33.29
28	---	---	---	---	---		32.34	25.23	32.34	33.07	32.69	33.80
29	---	---	---	---	---		30.89	25.67	32.39	33.13	32.90	34.03
30	---	---	---	---	---		32.01	26.10	32.44	33.19	28.81	34.08
31	---	---	---	---	---		---	26.41	---	33.24	31.39	---
MEAN	32.72	29.84	28.02	26.71	25.38		31.59	27.64	32.15	32.68	32.80	33.27
MAX	33.76	29.84	28.02	27.56	26.27		32.42	32.81	32.44	33.24	33.81	34.18
MIN	30.53	29.84	28.02	25.38	24.30		27.61	21.92	31.77	30.98	27.88	27.74

WTR YR 1988: HIGHEST 21.92 MAY 20; LOWEST 34.18 SEPTEMBER 24.

400217078281901. Local number, BD 150.

LOCATION.--Lat 40°02'17", long 78°28'19", Hydrologic Unit 02050303, at Bedford.
Owner: U.S. Geological Survey.
AQUIFER.--Shaley limestone of Onondaga limestone of Middle Devonian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 150 ft, cased to 47 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 1,160 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.0 ft above land-surface datum.
PERIOD OF RECORD.--July 1965 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.71 ft above land-surface datum, Apr. 7, 1984; lowest, 41.42 ft below land-surface datum, Feb. 12, 13, 1966.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.86	29.26	---	24.20	23.38	22.73	16.62	14.81	5.70	14.20	19.80	24.03
2	26.93	29.32	28.32	24.24	23.27	22.91	16.59	15.07	6.21	14.45	19.96	24.11
3	27.04	29.34	28.22	---	22.99	22.94	16.52	15.20	6.70	14.67	20.12	24.13
4	27.11	29.38	27.77	---	22.60	23.02	16.43	15.33	7.19	14.97	20.24	24.13
5	27.14	29.53	27.75	---	21.37	22.95	16.50	15.37	7.51	15.24	20.37	24.22
6	27.16	29.59	27.84	---	20.62	21.71	16.46	15.41	7.85	15.44	20.48	24.43
7	27.30	29.68	27.87	24.16	20.45	20.18	15.94	14.90	8.17	15.59	20.64	24.58
8	27.47	29.73	27.88	24.14	20.55	19.05	13.57	12.83	8.49	15.78	20.79	24.67
9	27.51	29.83	27.86	24.41	20.80	18.46	11.70	11.91	8.87	15.91	20.95	24.77
10	27.58	29.86	27.89	24.72	---	17.82	10.78	11.40	9.23	16.10	21.11	24.94
11	27.64	29.89	27.89	24.86	---	17.16	10.26	11.15	9.53	16.29	21.27	25.07
12	27.70	29.94	28.04	24.99	---	17.13	10.25	11.03	9.82	16.49	21.41	25.14
13	27.82	29.96	28.34	25.27	---	17.03	10.41	10.80	10.18	16.74	21.53	25.12
14	27.89	30.03	28.43	25.59	---	16.82	10.56	10.87	10.48	16.90	21.64	25.27
15	27.96	30.04	28.42	25.67	---	16.80	10.80	10.93	10.66	17.13	21.77	25.45
16	28.01	29.98	28.27	25.86	---	17.00	11.10	11.02	10.80	17.33	21.93	25.52
17	28.07	29.78	28.31	25.95	---	17.28	11.21	11.26	11.08	17.47	22.01	25.53
18	28.17	29.68	28.28	26.11	---	17.54	11.47	11.29	11.41	17.69	22.16	25.56
19	28.23	29.66	28.08	26.25	---	17.55	11.86	9.59	11.65	17.86	22.26	25.63
20	28.27	29.47	27.97	26.24	---	17.60	12.02	7.38	11.84	18.05	22.36	25.71
21	28.42	29.52	27.35	25.98	---	18.02	12.40	5.87	12.08	18.10	22.57	25.84
22	28.50	29.55	26.74	25.28	---	18.42	12.72	4.93	12.25	18.29	22.74	25.92
23	28.60	29.59	26.19	24.27	---	18.66	12.76	4.65	12.57	18.45	22.84	26.00
24	28.68	29.64	26.09	23.64	22.60	18.73	13.20	4.64	12.88	18.55	22.84	26.12
25	28.74	29.65	25.85	23.24	22.55	18.91	13.46	3.97	13.00	18.71	22.93	26.19
26	28.75	29.75	25.69	23.01	22.56	18.95	13.65	3.60	13.19	18.88	23.18	---
27	28.80	29.78	25.39	23.10	22.50	18.98	13.80	3.54	13.47	19.03	23.33	---
28	28.90	29.78	24.79	23.40	22.58	---	14.02	3.89	13.57	19.21	23.50	---
29	28.99	29.73	24.27	23.41	---	---	14.24	---	13.73	19.38	23.55	---
30	29.10	29.47	24.28	23.39	---	16.76	14.61	---	13.95	19.48	23.67	---
31	29.20	---	24.23	23.39	---	16.75	---	5.34	---	19.59	23.88	---
MEAN	28.02	29.68	27.14	24.62	22.06	18.89	13.20	9.93	10.47	17.16	21.87	25.12
MAX	29.20	30.04	28.43	26.25	23.38	23.02	16.62	15.41	13.95	19.59	23.88	26.19
MIN	26.86	29.26	24.23	23.01	20.45	16.75	10.25	3.54	5.70	14.20	19.80	24.03

WTR YR 1988: HIGHEST 3.54 MAY 27; LOWEST 30.04 NOVEMBER 15.

402452078271301. Local number, BA 74.

LOCATION.--Lat 40°24'52", long 78°27'13", Hydrologic Unit 02050302, at National Park Land.
Owner: U.S. Geological Survey.
AQUIFER.--Shale of Brallier Formation of Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 150 ft, cased to 14 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 1,130 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.8 ft above land-surface datum.
PERIOD OF RECORD.--August 1969 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.76 ft below land-surface datum, Apr. 10, 1983; lowest, 18.65 ft below land-surface datum, Oct. 29, 30, 1969.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.43	12.93	---	11.29	---	11.65	11.14	11.72	11.32	13.25	13.02	13.67
2	12.43	12.86	---	11.31	---	11.74	11.22	11.70	11.49	13.33	13.11	13.65
3	12.44	12.77	---	11.28	---	11.74	11.17	11.67	11.66	13.41	13.16	13.55
4	12.39	12.62	---	11.26	---	11.67	11.13	11.63	11.80	13.50	13.20	13.03
5	12.30	12.77	---	11.51	---	11.61	11.23	11.59	11.87	13.57	13.19	13.08
6	12.23	12.89	---	11.74	---	11.35	11.20	11.28	11.95	13.60	13.18	13.10
7	12.30	12.94	---	11.75	---	11.32	11.06	10.89	12.05	13.58	13.26	13.05
8	12.54	12.92	---	11.67	---	11.20	10.70	10.71	12.19	13.59	13.36	13.09
9	12.56	13.01	---	11.86	---	11.32	10.61	10.67	12.21	13.58	13.41	13.22
10	12.55	13.01	---	12.00	---	11.30	10.57	10.60	12.10	13.60	13.48	13.28
11	12.51	12.88	---	12.01	---	11.21	10.57	10.62	12.08	13.62	13.56	13.23
12	12.44	12.69	---	12.01	---	11.40	10.67	10.70	12.09	13.68	13.63	12.81
13	12.44	12.54	---	12.28	---	11.42	10.75	10.72	12.20	13.78	13.68	12.54
14	12.50	12.35	---	12.42	---	11.34	10.79	10.86	12.31	13.75	13.70	12.54
15	12.47	12.40	---	12.37	---	11.41	10.87	10.93	12.38	13.83	13.72	12.46
16	12.49	12.31	---	12.42	---	11.51	11.02	10.94	12.39	13.87	13.80	12.07
17	12.46	12.12	---	12.40	---	11.65	11.06	11.04	12.47	13.84	13.82	11.71
18	12.51	12.01	---	12.43	---	11.77	11.00	11.06	12.63	13.91	13.88	11.54
19	12.58	12.03	---	---	11.62	11.76	11.19	10.65	12.72	13.90	13.91	---
20	12.58	---	---	---	11.62	11.64	11.41	10.15	12.67	13.91	13.95	11.56
21	12.72	---	11.07	---	11.61	11.21	11.45	10.11	12.69	13.69	14.08	11.63
22	12.83	---	11.06	---	11.57	11.28	11.60	10.09	12.71	13.31	14.21	11.69
23	12.91	---	11.18	---	11.68	11.24	11.63	10.17	12.90	13.16	14.23	11.69
24	12.92	---	11.21	---	11.63	11.14	11.62	10.22	13.05	12.99	14.01	11.85
25	12.96	---	11.10	---	11.62	11.14	11.65	10.43	13.03	12.87	13.92	11.86
26	12.97	---	11.14	---	11.61	11.12	11.66	10.57	12.98	12.81	14.02	11.80
27	12.88	---	11.13	---	11.57	11.10	11.61	10.69	13.11	12.84	14.09	11.73
28	12.82	---	11.07	---	11.67	11.16	11.66	10.79	13.17	12.87	14.12	11.79
29	12.81	---	11.16	---	---	11.14	11.67	10.94	13.15	12.90	14.02	11.86
30	12.83	---	11.27	---	---	11.06	11.73	11.11	13.19	12.90	13.78	11.86
31	12.93	---	11.22	---	---	11.14	---	11.25	---	12.91	13.68	---
MEAN	12.60	12.63	11.15	11.89	11.62	11.38	11.19	10.85	12.42	13.43	13.68	12.45
MAX	12.97	13.01	11.27	12.43	11.68	11.77	11.73	11.72	13.19	13.91	14.23	13.67
MIN	12.23	12.01	11.06	11.26	11.57	11.06	10.57	10.09	11.32	12.81	13.02	11.54

WTR YR 1988: HIGHEST 10.09 MAY 22; LOWEST 14.23 AUGUST 23.

414330076280501. Local number, BR 92.

LOCATION.--Lat 41°43'30", long 76°28'05", Hydrologic Unit 02050106, at Monroeton.
Owner: U.S. Geological Survey.
AQUIFER.--Shale of Gardeau Formation of Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 117 ft, cased to 55 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 750 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.0 ft above land-surface datum.
PERIOD OF RECORD.--May 1966 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.33 ft below land-surface datum, Apr. 6, 1984; lowest, 11.86 ft below land-surface datum, Oct. 23, 24, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.48	10.78	9.35	9.75	10.06	6.81	8.33	9.25	6.93	10.47	11.16	---
2	10.53	10.78	9.16	9.77	9.55	6.94	8.40	9.14	7.16	10.52	11.16	---
3	10.55	10.77	9.10	9.78	8.63	7.05	8.45	9.11	7.37	10.56	11.19	---
4	10.58	10.78	9.08	9.81	7.98	7.13	8.51	9.12	7.55	10.60	11.22	---
5	10.60	10.82	9.09	9.88	7.61	7.21	8.58	9.15	7.73	10.63	11.22	---
6	10.62	10.82	9.16	9.95	7.50	7.28	8.63	9.16	7.91	10.67	11.25	---
7	10.63	10.83	9.21	9.98	7.54	7.33	8.72	8.29	8.12	10.72	11.27	---
8	10.67	10.84	9.24	10.03	7.70	7.33	8.80	6.94	8.29	10.77	11.30	---
9	10.68	10.88	9.32	10.09	7.84	7.27	8.88	6.70	8.48	10.80	11.31	---
10	10.68	10.88	9.34	10.14	8.00	7.02	8.93	6.69	8.62	10.86	11.33	---
11	10.69	10.89	9.36	10.18	8.11	6.80	9.01	6.85	8.76	10.88	11.35	---
12	10.69	10.89	9.44	10.19	8.20	6.53	9.06	7.01	8.92	10.90	11.38	---
13	10.68	10.87	9.51	10.28	8.36	6.51	9.12	7.19	9.06	10.94	11.38	---
14	10.70	10.87	9.56	10.31	8.46	6.44	9.18	7.33	9.17	10.97	11.40	---
15	10.70	10.83	9.57	10.33	8.51	6.46	9.24	7.47	9.28	11.01	11.42	---
16	10.73	10.79	9.54	10.36	8.58	6.55	9.31	7.65	9.41	11.05	11.46	---
17	10.72	10.74	9.55	10.39	8.59	6.70	9.34	7.85	9.51	11.05	11.46	---
18	10.76	10.67	9.54	10.41	8.59	6.83	9.41	7.91	9.62	10.99	11.45	---
19	10.78	10.51	9.56	10.40	8.52	6.93	9.45	7.79	9.71	10.97	11.45	---
20	10.82	10.32	9.54	10.30	8.32	7.37	9.50	5.39	9.73	10.98	---	10.90
21	10.86	10.34	9.54	10.22	7.35	7.55	9.56	4.90	9.81	10.98	---	10.90
22	10.86	10.35	9.50	10.07	6.57	7.70	9.61	4.46	9.88	11.00	---	10.93
23	10.88	10.34	9.50	9.97	6.25	7.83	9.63	4.47	9.99	11.00	---	10.93
24	10.89	10.37	9.51	9.96	6.21	7.99	9.69	4.65	10.04	11.02	---	10.96
25	10.92	10.38	9.53	9.97	6.26	8.07	9.72	4.92	10.11	11.03	---	10.96
26	10.91	10.37	9.57	10.01	6.36	8.08	9.74	5.15	10.19	11.03	---	10.98
27	10.93	10.38	9.58	10.04	6.51	8.03	9.74	5.42	10.23	11.05	---	10.99
28	10.91	10.38	9.59	10.08	6.65	8.07	9.73	5.76	10.29	11.08	---	11.03
29	10.82	10.37	9.64	10.11	---	8.08	9.61	6.06	10.35	11.09	---	11.04
30	10.79	10.10	9.69	10.12	---	8.20	9.57	6.38	10.41	11.12	---	11.04
31	10.78	---	9.69	10.14	---	8.25	---	6.64	---	11.13	---	---
MEAN	10.74	10.63	9.44	10.10	7.81	7.30	9.18	6.93	9.09	10.90	11.32	10.97
MAX	10.93	10.89	9.69	10.41	10.06	8.25	9.74	9.25	10.41	11.13	11.46	11.04
MIN	10.48	10.10	9.08	9.75	6.21	6.44	8.33	4.46	6.93	10.47	11.16	10.90

WTR YR 1988: HIGHEST 4.46 MAY 22; LOWEST 11.46 AUGUST 16, 17.

412732078034201. Local number, CM 13.

LOCATION.--Lat 41°27'32", long 78°03'42", Hydrologic Unit 02050202, at Sinnemahoning State Park.
Owner: U.S. Geological Survey.

AQUIFER.--Sandstone of Catskill Formation of Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 102 ft, cased to 57 ft, open hole.

INSTRUMENTATION.--Digital recorder with 60-minute recording interval. Pa. Department of Environmental Resources satellite telemeter at station.

DATUM.--Elevation of land-surface is 1,010 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.1 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 18.53 ft below land-surface datum, Feb. 16, 1984; lowest, 25.98 ft below land-surface datum, Sept. 10, 1972.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.01	23.35	22.92	22.92	22.89	23.07	22.75	23.03	22.85	23.91	23.87	24.13
2	23.10	23.24	22.98	23.02	22.82	23.06	22.74	23.07	22.81	23.99	23.95	24.13
3	23.15	23.16	22.92	23.02	22.82	22.97	22.70	23.07	22.81	24.09	23.97	24.11
4	23.11	23.02	22.86	22.87	22.64	22.95	22.55	22.99	22.95	24.16	23.99	24.04
5	23.00	23.06	22.98	22.93	22.64	23.09	22.63	22.94	22.93	24.20	23.99	23.71
6	22.89	23.21	23.09	23.03	22.74	23.09	22.60	22.91	22.85	24.23	23.96	23.80
7	22.93	23.26	23.19	23.08	22.76	23.01	22.51	22.99	22.82	24.23	23.90	23.87
8	23.15	23.27	23.09	23.00	22.70	23.06	22.75	23.07	22.90	24.24	23.94	23.92
9	23.18	23.20	22.97	22.91	22.70	22.90	22.88	22.98	23.03	24.27	23.99	23.87
10	23.19	23.22	22.81	22.99	22.76	22.75	22.83	22.88	23.23	24.26	24.07	23.97
11	23.17	23.18	22.81	23.01	22.76	22.84	22.73	22.97	23.34	24.24	---	24.01
12	23.07	23.09	22.86	22.95	22.63	22.81	22.74	23.03	23.36	24.29	24.14	24.00
13	23.07	23.13	23.08	22.96	22.64	22.63	22.77	22.99	---	24.38	---	23.88
14	23.11	23.39	23.11	---	22.73	22.62	22.75	23.01	23.38	24.36	24.19	23.79
15	23.07	23.43	23.06	23.18	22.65	22.73	22.83	22.99	23.37	24.38	24.18	23.95
16	23.08	23.39	22.77	23.06	22.78	22.83	22.96	22.83	23.31	24.39	24.27	24.01
17	23.04	23.31	23.02	23.03	22.85	22.90	22.96	22.86	23.32	24.30	24.38	23.95
18	23.04	---	23.07	22.95	22.90	22.89	22.70	22.87	23.50	24.21	24.38	23.78
19	23.01	23.18	22.99	22.99	22.90	22.73	22.78	22.75	23.49	24.09	24.45	23.70
20	22.97	23.06	22.96	22.90	22.58	22.87	22.85	22.58	23.43	24.07	24.56	23.63
21	23.00	23.24	22.88	22.75	22.82	23.04	22.89	22.52	23.41	24.05	24.65	23.69
22	23.13	---	22.89	22.77	22.84	23.13	23.01	22.53	23.42	24.01	24.74	23.73
23	---	23.18	22.95	22.77	22.78	23.09	23.03	22.50	23.59	23.98	24.77	23.71
24	---	23.23	22.96	22.75	22.88	22.95	22.91	22.49	23.70	23.96	24.47	23.79
25	23.17	23.26	22.83	22.77	22.93	22.95	22.93	22.62	23.70	23.90	24.27	23.82
26	23.17	23.25	22.90	22.85	22.94	22.80	22.93	22.68	23.62	23.88	---	23.76
27	23.04	23.30	22.91	23.03	22.92	22.72	22.89	22.74	23.70	23.88	---	23.77
28	22.98	23.38	22.89	23.12	22.97	22.81	22.86	22.78	23.74	23.90	24.38	23.81
29	---	23.35	22.96	23.11	22.98	22.81	22.84	22.80	23.74	23.94	---	23.85
30	23.13	22.98	23.01	23.03	---	22.76	22.99	22.80	23.76	23.95	---	23.84
31	23.36	---	22.97	22.93	---	22.82	---	22.85	---	23.86	---	---
MEAN	23.08	23.23	22.96	22.96	22.79	22.89	22.81	22.84	23.31	24.12	24.23	23.87
MAX	23.36	23.43	23.19	23.18	22.98	23.13	23.03	23.07	23.76	24.39	24.77	24.13
MIN	22.89	22.98	22.77	22.75	22.58	22.62	22.51	22.49	22.81	23.86	23.87	23.63

WTR YR 1988: HIGHEST 22.49 MAY 24; LOWEST 24.77 AUGUST 23.

404518077575501. Local number, CE 118.

LOCATION.--Lat 40°45'18", long 77°57'55", Hydrologic Unit 02050302, at State Game Land Number 176.
Owner: U.S. Geological Survey.
AQUIFER.--Sandstone and dolomite of Gatesburg Formation of Upper Cambrian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 130 ft, cased to 40 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 1,150 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.5 ft above land-surface datum.
PERIOD OF RECORD.--January 1968 to June 1981, July 1984 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 51.91 ft below land-surface datum, Sept. 8, 12, 16, 1978; lowest, 80.14 ft below land-surface datum, March 26, 1970.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65.75	66.13	66.42	67.18	---	67.98	68.51	68.91	69.19	69.49	69.78	---
2	65.75	66.13	66.43	67.20	---	67.97	68.51	68.92	69.20	69.49	69.78	---
3	65.77	66.13	66.44	67.21	67.46	67.96	68.53	68.94	69.21	69.50	69.79	---
4	65.78	66.13	66.45	67.25	67.47	67.94	68.54	68.95	69.21	69.51	69.80	---
5	65.79	66.14	66.47	67.27	67.47	68.12	68.54	68.97	69.21	69.52	69.81	---
6	65.79	66.15	66.48	67.30	67.48	68.12	68.54	68.98	69.22	69.53	69.82	---
7	65.80	66.16	66.51	67.30	67.50	68.13	68.58	68.99	69.22	69.54	69.83	---
8	65.82	66.17	66.52	67.31	67.50	68.16	68.59	69.01	69.23	69.54	69.84	---
9	65.84	66.18	66.52	67.36	67.50	68.18	68.61	69.02	69.26	69.54	69.85	---
10	65.85	66.21	66.53	67.37	67.53	68.20	68.60	69.03	69.26	69.55	69.87	---
11	65.85	66.21	66.54	67.38	67.54	68.22	68.60	69.04	69.27	69.60	69.88	---
12	65.86	66.22	66.57	67.40	67.54	68.23	68.60	69.05	69.27	69.61	69.89	---
13	65.87	66.23	66.60	67.42	67.57	68.24	68.60	69.07	69.28	69.62	69.89	---
14	65.90	66.28	66.61	67.43	67.59	68.25	68.59	69.08	69.29	69.62	69.89	---
15	65.90	66.29	66.61	67.44	67.59	68.25	68.59	69.09	69.29	69.62	69.89	---
16	65.91	66.31	66.64	67.45	67.61	68.26	68.58	69.10	69.30	69.64	69.89	---
17	65.92	---	66.69	67.47	67.63	68.30	68.58	69.11	69.31	69.65	69.92	---
18	65.92	---	66.69	67.47	67.64	68.30	68.61	69.12	69.36	69.65	69.97	---
19	65.93	---	66.70	67.48	67.64	68.31	68.60	69.13	69.36	69.66	69.97	---
20	65.93	66.38	66.71	67.50	67.65	68.32	68.65	69.14	69.36	69.67	69.99	---
21	65.97	66.40	66.72	67.51	67.70	68.34	68.75	69.15	69.36	69.68	70.00	---
22	65.99	66.45	66.74	67.53	67.71	68.37	68.76	69.16	69.36	69.69	70.01	---
23	66.00	66.51	66.77	---	67.71	68.39	68.76	69.16	69.37	---	70.02	---
24	66.01	66.51	66.77	---	67.72	68.41	68.77	69.17	69.38	---	70.04	---
25	66.03	66.52	66.79	---	68.00	68.43	68.79	69.18	69.38	---	70.04	---
26	66.04	66.52	66.81	---	68.00	68.44	68.80	69.18	69.39	69.73	70.04	---
27	66.05	66.52	66.84	---	67.99	---	68.85	69.19	69.40	69.73	---	70.44
28	66.05	66.52	67.14	---	68.00	68.48	68.86	69.19	69.45	69.73	---	70.44
29	66.12	---	67.15	---	---	68.48	68.88	69.19	69.46	69.74	---	70.44
30	66.12	---	67.16	---	---	68.49	68.90	69.19	69.47	69.74	---	70.45
31	66.12	---	67.16	---	---	68.50	---	69.19	---	69.75	---	---
MEAN	65.92	66.30	66.68	67.37	67.64	68.26	68.66	69.08	69.31	69.62	69.90	70.44
MAX	66.12	66.52	67.16	67.53	68.00	68.50	68.90	69.19	69.47	69.75	70.04	70.45
MIN	65.75	66.13	66.42	67.18	67.46	67.94	68.51	68.91	69.19	69.49	69.78	70.44

WTR YR 1988: HIGHEST 65.75 OCTOBER 1, 2; LOWEST 70.45 SEPTEMBER 30.

411424077462201. Local number, CN 1.

LOCATION.--Lat 41°14'24", long 77°46'22", Hydrologic Unit 02050203, at Sproul State Forest.
Owner: Commonwealth of Pennsylvania.
AQUIFER.--Sandstone of Pocono Formation of Late Mississippian age.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 78 ft, cased to 38 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 2,050 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of platform, 0.2 ft above land-surface datum.
PERIOD OF RECORD.--August 1950 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 44.00 ft below land-surface datum, Jan. 13, 1951; lowest, 57.24 ft below land-surface datum, Dec. 21, 1964.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47.92	48.55	48.73	---	49.35	49.04	---	48.62	47.71	49.73	51.20	51.95
2	47.94	48.57	48.77	---	49.15	49.07	---	48.67	47.74	49.81	51.21	51.93
3	47.97	48.53	48.77	---	49.10	49.07	---	48.70	47.82	49.91	51.23	51.89
4	47.93	48.49	48.73	---	49.08	49.08	---	48.72	47.87	49.99	51.23	51.85
5	47.90	48.57	48.77	---	49.00	49.08	---	48.74	47.88	50.04	51.23	51.81
6	47.83	48.62	48.86	---	48.98	49.09	---	48.77	47.95	50.09	51.24	51.80
7	47.85	48.69	48.87	---	48.93	49.11	---	48.81	48.00	50.15	51.28	51.78
8	47.95	48.71	48.86	---	48.92	49.02	---	48.83	48.08	50.18	51.31	51.77
9	47.95	48.79	48.77	---	48.91	48.86	---	48.81	48.20	50.24	51.34	51.75
10	47.96	48.80	48.72	---	48.89	48.87	---	48.79	48.29	50.28	51.37	51.72
11	47.91	48.79	48.67	---	48.90	---	---	48.85	48.35	50.35	51.40	51.72
12	47.89	48.82	48.65	---	48.89	---	---	48.86	48.44	50.42	51.42	51.72
13	47.93	48.90	48.76	---	48.89	---	---	48.85	48.51	50.45	51.45	51.68
14	47.93	49.01	48.78	---	48.88	---	---	48.86	48.58	50.53	51.46	51.68
15	47.93	49.05	48.72	---	48.86	---	---	48.84	48.63	50.58	51.52	51.71
16	47.93	49.07	48.67	---	48.84	---	---	48.79	48.69	50.65	51.55	51.71
17	47.93	48.99	48.77	---	48.70	---	---	48.82	48.77	50.69	51.59	51.66
18	47.95	49.00	48.81	---	---	---	---	48.82	48.86	50.74	51.62	51.62
19	47.97	48.99	48.80	---	---	---	---	48.63	48.94	50.78	51.65	51.56
20	47.99	48.82	48.74	---	48.72	---	---	48.42	48.99	50.83	51.68	51.47
21	48.11	48.91	48.74	---	48.72	---	---	48.21	49.01	50.87	51.78	51.37
22	48.13	48.93	48.72	---	48.78	---	---	48.15	49.07	50.91	---	51.36
23	---	48.91	48.71	---	48.83	---	---	48.02	49.21	50.92	---	51.26
24	48.24	48.95	48.70	---	48.86	---	48.31	47.87	49.26	50.96	---	51.26
25	48.27	48.95	48.60	49.27	48.90	---	48.35	47.79	49.28	50.98	---	51.23
26	48.28	48.98	48.63	49.39	48.87	---	48.39	47.79	49.38	51.02	51.89	51.20
27	48.30	48.98	48.63	49.47	48.95	---	48.43	47.77	49.46	51.09	51.91	51.19
28	48.35	48.96	48.59	49.53	49.03	---	48.43	47.73	49.52	51.11	51.96	51.18
29	48.42	48.92	48.61	49.54	---	---	48.52	47.71	49.57	51.13	51.95	51.18
30	48.49	48.80	---	49.51	---	---	48.58	47.71	49.64	51.15	51.94	51.16
31	48.56	---	---	49.40	---	---	---	47.71	---	51.18	51.94	---
MEAN	48.06	48.84	48.73	49.44	48.92	49.03	48.43	48.44	48.66	50.57	51.53	51.57
MAX	48.56	49.07	48.87	49.54	49.35	49.11	48.58	48.86	49.64	51.18	51.96	51.95
MIN	47.83	48.49	48.59	49.27	48.70	48.86	48.31	47.71	47.71	49.73	51.20	51.16

WTR YR 1988: HIGHEST 47.71 MAY 29, 30, 31, JUNE 1; LOWEST 51.96 AUGUST 28.

400209077183301. Local number, CU 2.

LOCATION.--Lat 40°02'09", long 77°18'33", Hydrologic Unit 02050305, at Michaux State Forest.
Owner: Commonwealth of Pennsylvania.
AQUIFER.--Metarhyolite of Precambrian age.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 37 ft, casing information not available.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 955 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of casing, 1.5 ft above land-surface datum.
PERIOD OF RECORD.--June 1951 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.51 ft below land-surface datum, Apr. 18, 1961; lowest, 33.50 ft below land-surface datum, Feb. 3, 1955.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.61	28.63	---	25.08	20.46	19.87	18.27	19.60	13.46	19.63	23.56	26.42
2	27.62	28.68	26.41	25.08	20.30	19.83	18.31	19.65	13.66	19.80	23.67	26.48
3	27.65	28.68	26.37	25.08	19.91	19.83	18.32	19.69	13.82	19.98	23.76	26.54
4	27.68	28.69	26.25	24.96	19.44	19.71	18.32	19.73	13.98	20.18	23.86	26.59
5	27.70	28.71	26.21	24.96	18.90	19.65	18.38	19.75	14.04	20.32	23.94	26.65
6	27.72	28.74	26.18	24.96	18.62	19.44	18.39	19.73	14.24	20.45	24.02	26.72
7	27.77	28.75	26.14	24.94	18.51	19.19	18.43	19.46	14.46	20.61	24.12	26.77
8	27.82	28.78	26.12	24.87	18.34	18.95	18.49	19.34	14.68	20.75	24.22	26.82
9	27.85	28.82	25.99	24.84	18.24	18.92	18.53	19.24	14.93	20.88	24.32	26.87
10	27.88	28.82	25.89	24.85	18.16	18.74	18.53	19.08	15.11	21.05	24.43	26.94
11	27.91	28.84	25.82	24.84	18.12	18.51	18.56	19.04	15.28	21.20	24.51	27.00
12	27.94	28.86	25.75	24.80	17.84	18.52	18.57	19.04	15.50	21.34	24.60	27.03
13	27.99	28.87	25.77	24.81	17.85	18.45	18.59	18.95	15.80	21.50	24.69	27.08
14	28.03	28.87	25.77	24.85	17.88	18.22	18.62	18.88	16.04	21.64	24.78	27.15
15	28.06	28.87	25.69	24.85	17.72	18.19	18.62	18.86	16.24	21.79	24.87	27.21
16	28.11	28.87	25.60	24.83	17.75	18.13	18.68	18.74	16.51	21.94	24.97	27.26
17	28.14	28.82	25.63	24.81	17.73	18.16	18.66	18.74	16.79	22.10	25.06	27.31
18	28.19	28.77	25.62	24.80	17.69	18.20	18.68	18.60	17.10	22.23	25.15	27.37
19	28.23	28.69	25.59	24.83	17.62	18.18	18.74	17.58	17.35	22.37	25.25	27.42
20	28.27	28.60	25.53	24.76	17.36	18.06	18.78	16.51	17.55	22.50	25.35	27.47
21	28.33	28.55	25.50	24.43	17.34	18.13	18.85	15.59	17.78	22.59	25.45	27.54
22	28.36	28.52	25.49	24.29	17.26	18.21	18.93	14.86	17.97	22.71	25.55	27.58
23	28.41	28.48	25.44	24.19	17.03	18.28	18.96	14.32	18.26	22.79	25.61	27.65
24	28.46	28.45	25.43	24.13	20.21	18.27	19.02	13.93	18.47	22.88	25.68	27.70
25	28.49	28.40	25.35	24.05	20.19	18.19	19.08	13.60	18.60	22.99	25.84	---
26	28.53	28.36	25.34	23.96	20.14	18.20	19.12	13.51	18.80	23.06	25.93	---
27	28.57	28.35	25.32	23.96	19.98	---	19.32	13.38	19.02	23.11	26.03	---
28	28.59	28.32	25.21	20.71	19.93	---	19.35	---	19.06	23.21	26.12	---
29	28.61	28.28	25.19	20.70	---	---	19.41	---	19.25	23.29	26.19	27.96
30	28.63	27.19	25.19	20.61	---	18.22	19.55	---	19.42	23.36	26.24	28.02
31	28.63	---	25.16	20.55	---	18.27	---	13.40	---	23.46	26.35	---
MEAN	28.12	28.61	25.70	24.17	18.59	18.66	18.74	17.60	16.44	21.80	24.97	27.14
MAX	28.63	28.87	26.41	25.08	20.46	19.87	19.55	19.75	19.42	23.46	26.35	28.02
MIN	27.61	27.19	25.16	20.55	17.03	18.06	18.27	13.38	13.46	19.63	23.56	26.42

WTR YR 1988: HIGHEST 13.38 MAY 27; LOWEST 28.87 NOVEMBER 13, 14, 15, 16.

402118076462201. Local number, DA 350.

LOCATION.--Lat 40°21'18", long 76°46'22", Hydrologic Unit 02050305, at R. D. 1, Linglestown.
Owner: William R. Miller.
AQUIFER.--Shale of Hamburg sequence of Middle Ordovician age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 225 ft, cased to 19 ft, open hole.
INSTRUMENTATION.--Digital recorder with 60-minute recording interval. Pa. Department of Environmental Resources satellite telemeter at station.
DATUM.--Elevation of land-surface is 450 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.3 ft above land-surface datum.
PERIOD OF RECORD.--September 1964 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.15 ft below land-surface datum, June 22, 1972; lowest, 6.95 ft below land-surface datum, Sept. 11, 1966.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.95	4.79	4.15	4.65	4.70	4.71	4.80	4.82	4.74	5.72	4.86	5.18
2	4.99	4.83	4.31	4.65	4.49	4.69	4.85	4.84	4.84	5.76	4.96	5.20
3	5.03	4.83	4.29	4.65	4.33	4.71	4.86	4.87	4.86	5.80	5.04	5.24
4	5.04	4.87	4.33	4.69	4.29	4.47	4.87	4.90	4.90	5.80	5.10	5.24
5	5.07	4.95	4.39	4.71	4.21	4.27	4.91	4.86	4.96	5.80	5.17	4.70
6	5.06	4.99	4.47	4.75	4.43	4.29	4.91	4.40	5.05	5.82	5.18	4.74
7	4.93	5.01	4.47	4.81	4.44	4.37	4.87	4.34	5.04	5.83	4.64	4.84
8	4.99	5.01	4.45	4.81	4.53	4.39	4.40	4.38	5.07	5.86	4.74	4.91
9	4.99	5.01	4.45	4.91	4.57	4.35	4.39	4.44	5.04	5.80	4.86	4.98
10	4.97	5.01	4.47	4.95	4.66	---	4.43	4.48	5.08	5.82	4.96	5.08
11	4.97	4.87	4.49	4.95	4.67	4.47	4.51	4.40	5.12	5.85	5.04	5.14
12	4.97	---	4.57	4.95	4.55	4.45	4.57	4.44	5.18	5.84	5.08	5.14
13	5.03	---	4.69	5.09	4.53	4.53	4.63	4.48	5.22	5.88	5.14	5.14
14	5.05	4.55	4.69	5.15	4.71	4.57	4.69	4.58	5.26	5.90	5.18	5.14
15	5.07	4.45	4.64	5.13	4.71	4.65	4.75	4.64	5.30	---	5.28	5.21
16	5.11	4.43	4.39	5.16	4.71	4.71	4.81	4.64	5.32	6.00	5.32	5.22
17	5.13	4.41	4.49	5.17	4.63	4.73	4.83	4.74	5.34	5.95	5.40	5.20
18	5.17	4.37	4.49	5.13	4.61	4.73	4.83	4.56	5.40	5.92	5.46	5.14
19	5.19	4.37	4.55	5.03	4.53	4.71	4.86	3.44	5.40	5.94	5.46	5.16
20	5.19	4.47	4.51	4.82	4.17	4.79	4.89	3.64	5.40	5.88	5.39	5.20
21	5.21	4.57	4.43	4.49	4.34	4.83	4.91	3.76	5.46	5.80	5.33	5.26
22	5.25	4.55	4.43	4.51	4.36	4.83	4.95	3.90	5.48	5.84	5.38	5.30
23	5.27	4.63	4.53	4.56	4.43	4.79	4.96	4.02	5.54	5.84	5.39	5.34
24	5.27	4.69	4.53	4.60	4.49	4.81	4.99	4.03	5.54	5.60	5.16	5.38
25	5.28	4.69	4.49	4.60	4.53	4.83	5.01	3.96	5.54	5.66	5.18	5.36
26	5.28	4.73	4.43	4.55	4.55	4.81	5.04	4.07	5.60	5.66	5.25	5.40
27	---	4.77	4.43	4.60	4.65	4.67	5.04	4.17	5.62	5.28	5.31	5.41
28	4.63	4.75	4.41	4.65	4.65	4.70	4.96	4.30	5.64	5.27	5.36	5.46
29	4.67	4.69	4.51	4.69	4.71	4.70	4.95	4.44	5.68	5.30	5.36	5.46
30	4.69	3.97	4.54	4.75	---	4.73	4.86	4.54	5.70	5.38	5.08	5.44
31	4.77	---	4.55	4.77	---	4.77	---	4.66	---	4.78	5.14	---
MEAN	5.04	4.69	4.47	4.80	4.52	4.64	4.81	4.38	5.28	5.72	5.17	5.19
MAX	5.28	5.01	4.69	5.17	4.71	4.83	5.04	4.90	5.70	6.00	5.46	5.46
MIN	4.63	3.97	4.15	4.49	4.17	4.27	4.39	3.44	4.74	4.78	4.64	4.70

WTR YR 1988: HIGHEST 3.44 MAY 19; LOWEST 6.00 JULY 16.

394731077411701. Local number, FR 332.

LOCATION.--Lat 39°47'31", long 77°41'17", Hydrologic Unit 02070004, near Greencastle.
Owner: Borough of Greencastle.
AQUIFER.--Stonehenge Formation of Early Ordovician age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 296 ft, cased to 92 ft, open hole.
INSTRUMENTATION.--Digital recorder with 60-minute recording interval. Pa. Department of Environmental Resources satellite telemeter at station.
DATUM.--Elevation of land-surface is 730 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.0 ft above land-surface datum.
PERIOD OF RECORD.--March 1975 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.30 ft below land-surface datum, Sept. 27, 1975; lowest, 36.68 ft below land-surface datum, Sept. 6, 1976.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30.43	31.49	27.76	28.18	26.77	28.16	29.64	29.83	23.05	27.72	29.34	29.98
2	30.58	31.48	27.99	28.28	26.47	28.31	29.68	29.80	23.36	27.72	29.36	30.20
3	30.66	31.54	27.99	28.29	26.44	28.37	29.72	29.86	23.58	27.73	29.28	30.28
4	30.70	31.67	27.93	28.04	26.06	28.38	29.72	29.94	23.80	27.79	29.32	30.31
5	30.76	31.81	27.90	27.96	25.68	27.94	29.78	29.94	23.98	27.84	29.44	29.36
6	30.78	31.90	27.98	27.90	25.42	28.07	29.74	29.34	24.23	27.87	29.51	29.71
7	30.80	31.95	28.30	26.41	25.10	28.13	29.74	28.98	24.50	28.02	29.53	29.88
8	30.80	31.95	28.37	24.67	24.47	28.08	29.42	29.17	24.76	28.09	29.55	29.98
9	30.87	32.00	28.54	25.16	24.68	28.06	29.50	29.23	24.88	28.17	29.40	30.09
10	30.90	32.01	28.67	26.67	25.26	---	29.56	29.24	25.00	28.52	29.29	30.31
11	30.92	31.34	28.71	27.90	25.60	28.32	29.66	29.31	25.18	28.61	29.36	30.49
12	30.98	---	28.88	28.24	25.99	28.34	29.66	29.32	25.37	28.61	29.55	30.75
13	31.04	---	29.08	28.64	26.36	28.38	29.74	29.28	25.50	28.64	29.67	30.81
14	31.08	30.58	29.18	28.80	26.48	28.44	29.75	29.25	25.62	28.72	29.75	30.81
15	31.14	30.65	29.18	28.80	26.51	28.46	29.80	29.28	25.76	---	29.78	30.76
16	31.20	30.59	29.27	28.66	26.76	28.51	29.84	29.28	25.76	---	29.85	30.85
17	31.29	30.56	29.39	27.92	27.14	28.52	29.86	29.29	25.93	28.91	29.96	30.91
18	31.37	30.68	---	27.79	27.48	28.58	29.78	28.92	26.12	28.99	30.01	30.95
19	31.46	30.68	---	28.61	27.60	28.66	29.82	26.01	26.26	29.00	29.96	31.02
20	31.50	30.80	---	26.52	27.53	28.74	29.95	18.88	26.45	28.77	30.01	31.17
21	31.61	30.80	---	26.78	27.50	28.85	29.95	19.08	26.58	28.77	29.75	31.07
22	31.69	30.74	---	26.98	27.50	28.92	30.04	19.72	26.74	28.81	30.05	31.12
23	31.78	30.56	---	26.98	27.65	28.96	30.04	20.46	26.81	28.86	30.20	31.19
24	31.85	30.65	---	26.54	27.64	29.06	29.94	20.98	26.94	28.92	30.06	31.24
25	31.92	30.72	---	26.54	27.63	29.12	29.85	21.06	27.08	29.02	29.51	31.15
26	31.95	30.83	---	26.66	27.72	29.18	29.84	21.28	27.20	29.06	29.77	30.85
27	31.98	30.87	---	26.87	27.98	29.32	29.84	21.57	27.28	29.12	30.07	30.85
28	31.36	30.80	28.79	26.92	28.08	29.44	29.80	21.87	27.39	29.24	30.21	31.05
29	31.08	30.78	---	26.85	28.12	29.53	29.88	22.14	27.46	29.26	30.23	31.07
30	31.19	28.18	28.66	26.81	---	29.62	29.88	22.40	27.56	29.26	29.65	31.34
31	31.34	---	28.57	26.92	---	29.62	---	22.69	---	29.29	29.81	---
MEAN	31.19	31.02	28.56	27.36	26.68	28.67	29.78	26.05	25.67	28.60	29.72	30.65
MAX	31.98	32.01	29.39	28.80	28.12	29.62	30.04	29.94	27.56	29.29	30.23	31.34
MIN	30.43	28.18	27.76	24.67	24.47	27.94	29.42	18.88	23.05	27.72	29.28	29.36

WTR YR 1988: HIGHEST 18.88 MAY 20; LOWEST 32.01 NOVEMBER 10.

400302078090401. Local number, FU 93.

LOCATION.--Lat 40°03'02", long 78°09'04", Hydrologic Unit 02050304, at Buchanan State Forest.
Owner: Commonwealth of Pennsylvania.
AQUIFER.--Sandstone of Pocono Formation of Early Mississippian age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 191 ft, cased to 45 ft, open hole.
DATUM.--Elevation of land-surface is 1,180 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.0 ft above land-surface datum.
PERIOD OF RECORD.--July 1965 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.00 ft above land-surface datum, Feb. 22, 1971; lowest, -4.46 ft below land-surface datum, Sept. 12, 1966.

WATER LEVEL, IN FEET ABOVE OR BELOW (-) LAND SURFACE DATUM , WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-2.26	-2.37	---	-0.53	-0.19	-0.17	.00	-0.45	.59	---	-1.99	-2.65
2	-2.29	-2.36	-0.86	-0.49	.10	-0.22	-0.07	-0.50	.36	---	-2.01	-2.67
3	-2.35	-2.36	-0.86	---	.39	-0.20	-0.06	-0.51	.21	---	-2.05	-2.65
4	-2.35	-2.30	-0.97	---	.73	-0.20	-0.04	-0.53	.02	---	-2.09	-2.59
5	-2.34	-2.39	-1.09	---	.71	-0.08	-0.15	-0.44	-0.05	---	-2.11	-2.44
6	-2.30	-2.41	-1.19	---	.59	.47	-0.09	.06	-0.16	---	-2.14	-2.50
7	-2.25	-2.42	-1.20	-0.70	.46	.83	.02	1.01	-0.29	---	-2.17	-2.55
8	-2.36	-2.42	-1.20	-0.66	.41	.78	.84	1.18	-0.39	---	-2.23	-2.57
9	-2.36	-2.39	-1.15	-0.68	.22	.74	1.12	1.18	-0.42	---	-2.29	-2.56
10	-2.35	-2.42	-1.11	-0.83	.17	.80	1.10	1.20	-0.46	---	-2.34	-2.60
11	-2.31	-2.31	-1.11	-0.88	.16	.66	.99	1.07	-0.50	---	-2.38	-2.65
12	-2.29	-2.23	-1.19	-1.05	.16	.51	.89	.97	-0.56	---	-2.41	-2.65
13	-2.31	-2.18	-1.41	-1.04	-0.07	.53	.77	.95	-0.68	---	-2.43	-2.60
14	-2.35	-2.10	-1.44	-1.05	-0.11	.44	.71	.79	-0.79	---	-2.44	-2.60
15	-2.35	-2.03	-1.39	-1.11	-0.14	.34	.57	.70	-0.84	---	-2.45	-2.66
16	-2.36	-1.95	-1.10	-1.19	-0.31	---	.45	.66	-0.88	---	-2.50	-2.66
17	-2.35	-1.84	-1.21	-1.12	-0.33	---	.39	.54	-0.88	---	-2.51	-2.64
18	-2.39	-1.69	-1.17	-0.54	-0.34	---	.37	.57	-1.00	---	-2.53	-2.58
19	-2.39	-1.69	-1.16	-0.08	-0.09	---	.23	---	-1.03	---	-2.57	-2.57
20	-2.39	-1.56	-1.07	.01	.05	---	.12	---	-1.01	---	-2.55	-2.58
21	-2.47	-1.68	-0.73	.03	.07	---	.06	---	-1.07	---	-2.58	-2.62
22	-2.48	-1.71	-0.58	.02	.22	---	-0.04	---	-1.13	---	-2.66	-2.65
23	-2.51	-1.73	-0.60	-0.01	---	---	-0.04	---	-1.31	---	-2.68	-2.63
24	-2.50	-1.76	-0.61	-0.21	.14	---	-0.15	---	-1.35	---	-2.60	-2.70
25	-2.51	-1.77	-0.51	---	.07	---	-0.18	---	-1.37	---	-2.67	-2.66
26	-2.49	-1.77	-0.47	---	.07	---	-0.19	---	-1.42	---	-2.71	---
27	-2.45	-1.80	-0.46	---	-0.02	---	-0.16	---	-1.52	-2.12	-2.75	---
28	-2.36	-1.79	-0.32	-0.38	-0.07	---	-0.20	---	---	-2.15	-2.76	---
29	-2.30	-1.70	-0.38	-0.35	-0.17	---	-0.24	---	---	-2.17	-2.75	---
30	-2.25	-1.13	-0.41	-0.36	---	.07	-0.40	---	---	-2.17	-2.62	---
31	-2.38	---	-0.40	-0.35	---	.02	---	.70	---	-2.01	-2.63	---
MEAN	-2.37	-2.01	-0.91	-0.56	.10	.31	.22	.48	-0.66	-2.12	-2.44	-2.61
MAX	-2.25	-1.13	-0.32	.03	.73	.83	1.12	1.20	.59	-2.01	-1.99	-2.44
MIN	-2.51	-2.42	-1.44	-1.19	-0.34	-0.22	-0.40	-0.53	-1.52	-2.17	-2.76	-2.70

WTR YR 1988: HIGHEST 1.20 MAY 10; LOWEST -2.76 AUGUST 28.

401843078075401. Local number, HU 301.

LOCATION.--Lat 40°18'43", long 78°07'54", Hydrologic Unit 02050303, at Trough Creek State Park.
Owner: U.S. Geological Survey.
AQUIFER.--Sandstone of Pocono Formation of Early Mississippian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 105 ft, cased to 18 ft, open hole.
INSTRUMENTATION.--Digital recorder with 60-minute recording interval. Pa. Department of Environmental Resources satellite telemeter at station.
DATUM.--Elevation of land-surface is 970 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.3 ft above land-surface datum.
PERIOD OF RECORD.--August 1969 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 48.82 ft below land-surface datum, June 23, 1972; lowest, 55.96 ft below land-surface datum, Aug. 28, 30, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53.05	---	---	52.93	---	53.02	---	53.25	52.24	---	53.92	---
2	53.10	---	---	53.21	---	53.02	52.70	53.30	52.40	53.78	53.96	54.01
3	53.14	---	---	53.22	52.42	52.99	52.66	53.30	52.52	53.80	54.00	53.94
4	53.10	---	---	53.24	51.93	52.91	52.62	53.30	52.66	53.84	54.02	53.83
5	53.06	---	---	53.16	51.96	52.60	52.66	53.22	52.68	53.86	54.00	---
6	53.02	---	---	53.04	52.01	52.30	---	53.08	52.76	53.88	54.01	---
7	53.07	---	52.90	---	52.06	52.20	---	52.84	52.80	53.88	54.02	---
8	53.20	---	---	---	52.10	52.20	---	52.75	52.92	53.88	54.06	---
9	53.18	---	---	---	52.14	52.10	---	52.68	52.96	53.88	54.08	53.88
10	53.18	---	---	---	52.36	---	---	---	53.04	53.92	54.10	53.90
11	53.13	53.40	---	---	---	52.34	---	52.48	53.08	53.92	54.14	53.96
12	53.11	---	---	---	52.36	---	---	52.52	53.12	53.92	54.16	53.97
13	53.14	---	---	---	52.60	52.40	---	---	53.24	53.96	54.16	53.87
14	53.21	---	---	---	52.64	52.48	---	---	53.28	53.94	54.14	53.74
15	53.22	---	---	52.94	52.64	52.62	---	---	53.32	---	54.12	---
16	---	---	---	53.02	52.87	52.73	---	---	53.28	53.96	54.16	---
17	---	---	---	---	52.90	52.78	---	52.60	53.14	53.93	54.18	---
18	---	---	53.18	---	52.92	52.80	---	52.52	53.20	53.96	54.16	53.66
19	---	---	---	---	---	52.72	52.56	52.04	53.22	53.94	54.20	53.62
20	---	---	---	---	52.70	52.86	52.66	51.46	53.22	53.94	54.14	53.60
21	---	52.73	---	---	52.80	53.01	52.74	51.30	53.24	53.84	54.16	53.68
22	---	---	---	52.48	52.76	53.08	---	51.24	53.28	53.82	54.24	53.74
23	---	---	---	52.42	52.74	53.01	52.83	51.26	53.41	53.84	54.22	53.71
24	---	---	---	---	52.80	53.00	---	51.24	53.54	53.78	54.06	---
25	---	---	---	---	52.84	---	---	51.34	53.54	53.82	54.02	---
26	---	---	---	52.62	52.84	52.95	52.98	51.46	53.50	53.82	54.06	53.80
27	---	---	---	52.78	---	52.78	---	51.56	53.62	53.88	54.10	53.78
28	---	---	52.58	52.84	---	52.77	53.02	51.64	53.68	53.92	54.12	53.74
29	---	---	52.66	52.83	52.98	52.73	53.08	51.84	53.68	53.92	54.12	53.82
30	---	---	52.74	52.78	---	---	53.20	52.04	53.68	53.89	54.00	53.80
31	---	---	52.74	52.76	---	52.68	---	52.18	---	53.88	---	---
MEAN	53.13	53.07	52.80	52.89	52.54	52.71	52.81	52.25	53.14	53.88	54.09	53.80
MAX	53.22	53.40	53.18	53.24	52.98	53.08	53.20	53.30	53.68	53.96	54.24	54.01
MIN	53.02	52.73	52.58	52.42	51.93	52.10	52.56	51.24	52.24	53.78	53.92	53.60

WTR YR 1988: HIGHEST 51.24 MAY 22, 24; LOWEST 54.24 AUGUST 22.

402411077374801. Local number, JU 351.

LOCATION.--Lat 40°24'11", long 77°37'48", Hydrologic Unit 02050304, at State Game Land Number 215.
Owner: U.S. Geological Survey.

AQUIFER.--Shale of Mahantango Formation of Middle Devonian age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 110 ft, cased to 18 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land-surface is 635 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of plywood cover, 3.6 ft above land-surface datum.

REMARKS.--This well shows significant response to Earth tide effects.

PERIOD OF RECORD.--June 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.20 ft below land-surface datum, May 15, 1978; lowest, 15.44 ft below land-surface datum, Oct. 8, 10, 1983.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.51	13.34	---	13.20	13.00	13.20	13.33	13.37	13.39	15.10	15.32	14.09
2	13.54	13.34	12.77	13.25	12.65	13.23	13.34	13.41	13.52	15.12	15.34	13.92
3	13.61	13.32	12.84	13.20	12.29	13.20	13.32	13.42	13.60	15.11	15.37	13.81
4	13.64	13.32	12.98	13.25	12.18	13.16	13.27	13.40	13.69	15.12	15.39	13.76
5	13.68	13.42	13.06	13.31	12.34	12.85	13.29	13.33	13.72	15.12	15.39	13.51
6	13.69	13.47	13.17	13.37	12.51	12.30	13.26	13.02	13.83	15.15	15.40	13.56
7	13.60	13.49	13.20	13.33	12.58	12.56	13.13	12.80	13.93	15.17	15.10	13.69
8	13.34	13.48	13.22	13.32	12.73	12.80	12.71	12.82	14.05	15.19	15.03	---
9	13.36	13.49	13.20	13.29	12.80	12.91	12.74	12.82	14.04	15.21	15.01	---
10	13.34	13.51	13.18	13.31	12.94	12.91	12.80	12.74	13.89	15.23	15.03	---
11	13.34	13.38	13.19	13.33	13.00	12.96	12.88	12.69	13.86	15.27	15.07	---
12	13.31	13.26	13.17	13.33	12.98	13.06	12.95	12.75	13.93	15.28	15.10	---
13	13.37	13.18	13.31	13.40	13.13	13.07	13.00	12.79	14.06	15.26	15.12	---
14	13.40	13.02	13.36	13.50	13.18	13.12	13.04	12.89	14.18	15.25	15.14	13.47
15	13.42	12.86	13.31	13.52	13.19	13.16	13.09	12.95	14.29	15.29	15.14	13.56
16	13.48	12.79	13.10	13.56	13.28	13.24	13.15	12.93	14.37	15.29	15.21	13.59
17	13.50	12.74	13.31	13.55	13.23	13.30	13.17	12.91	14.43	15.26	15.22	13.53
18	13.54	12.48	13.33	13.49	13.21	13.32	13.14	12.76	14.52	15.27	15.27	13.19
19	13.60	12.49	13.35	13.33	13.15	13.31	13.19	11.70	14.58	15.27	15.28	13.21
20	13.62	12.66	13.34	13.00	12.90	13.29	13.22	11.89	14.59	15.25	15.24	13.28
21	13.70	12.88	12.92	12.53	12.83	13.36	13.23	12.13	14.63	15.12	15.18	13.36
22	13.76	12.99	12.92	12.60	12.82	13.41	13.25	12.31	14.66	15.13	15.26	13.42
23	13.82	13.06	13.00	12.69	12.91	13.43	13.23	12.45	14.74	15.18	15.28	13.49
24	13.83	13.13	13.03	12.75	13.00	13.39	13.23	12.56	14.86	15.17	15.04	13.60
25	13.88	13.13	13.00	12.79	13.06	13.37	13.27	12.73	14.89	15.22	14.89	13.60
26	13.87	13.18	12.96	12.92	13.07	13.34	13.28	12.87	14.91	15.26	14.93	---
27	13.87	13.19	12.96	13.01	13.13	13.24	13.29	12.98	15.00	15.17	14.96	---
28	13.72	13.18	12.94	13.08	13.16	13.27	13.32	13.08	15.05	15.33	14.98	---
29	13.42	13.10	13.07	13.09	---	13.31	13.33	13.17	15.06	15.35	14.93	13.78
30	13.25	12.60	13.14	13.11	---	13.33	13.35	---	15.08	15.35	14.62	13.81
31	13.34	---	13.12	13.11	---	13.35	---	---	---	15.32	14.37	---
MEAN	13.56	13.12	13.12	13.18	12.90	13.15	13.16	12.82	14.31	15.22	15.12	13.58
MAX	13.88	13.51	13.36	13.56	13.28	13.43	13.35	13.42	15.08	15.35	15.40	14.09
MIN	13.25	12.48	12.77	12.53	12.18	12.30	12.71	11.70	13.39	15.10	14.37	13.19

WTR YR 1988: HIGHEST 11.70 MAY 19; LOWEST 15.40 AUGUST 6.

400506076235201. Local number, LN 514.

LOCATION.--Lat 40°05'06", long 76°23'52", Hydrologic Unit 02050306, near Landisville.
Owner: Benjamin Landis.
AQUIFER.--Shale and limestone of Kinzers Formation of Early Cambrian age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 260 ft, casing information not available.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 415 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.0 ft above land-surface datum.
PERIOD OF RECORD.--January 1964 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.92 ft below land-surface datum, Mar. 28, 1978; lowest, 35.47 ft below land-surface datum, Nov. 15, 1967.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.15	33.09	31.48	33.15	32.94	30.74	32.89	33.08	30.91	33.07	29.45	32.98
2	33.16	33.09	31.49	33.21	32.74	30.98	32.89	33.10	31.19	33.08	29.96	33.02
3	33.17	33.13	31.83	33.17	31.10	31.25	32.91	33.12	31.46	33.08	30.43	33.03
4	33.15	33.14	32.08	33.16	30.57	31.51	32.92	33.11	31.71	33.08	30.83	33.02
5	33.18	33.15	32.35	33.16	29.61	31.75	32.95	33.09	31.89	33.15	31.23	32.72
6	33.17	33.17	32.52	33.22	29.57	31.92	32.95	32.85	32.04	33.13	31.48	32.89
7	33.18	33.18	32.67	33.21	29.82	32.00	32.91	32.90	32.16	33.13	31.77	32.95
8	33.16	33.23	32.85	33.19	30.07	31.54	32.80	32.97	32.31	33.19	32.06	33.01
9	33.19	33.19	32.85	33.18	30.35	31.10	32.87	33.01	32.41	33.13	32.27	33.03
10	33.24	33.19	32.88	33.17	30.66	31.03	32.99	33.03	32.50	33.13	32.46	33.08
11	33.20	33.18	32.90	33.16	30.91	31.13	32.96	32.96	32.59	33.14	32.59	33.10
12	33.20	32.70	32.95	33.17	30.91	31.26	32.95	33.00	32.62	33.13	32.69	33.15
13	33.19	32.79	32.98	33.19	30.90	31.36	32.96	33.03	32.65	33.08	32.76	33.13
14	33.25	32.92	33.01	33.19	29.67	31.55	32.95	33.05	32.67	33.13	32.84	33.02
15	33.20	32.99	33.00	33.21	29.99	31.71	32.97	33.07	32.71	33.14	32.88	33.10
16	33.20	33.04	32.97	33.23	30.09	31.89	32.97	33.07	32.73	33.17	32.90	33.12
17	33.20	33.08	33.08	33.22	29.29	32.06	32.98	33.03	32.73	33.16	32.95	33.12
18	33.20	33.08	33.07	33.21	29.54	32.18	32.98	32.85	32.81	32.99	32.95	33.06
19	33.21	33.10	33.08	33.15	29.82	32.41	32.95	32.06	32.79	33.11	32.94	33.12
20	33.21	33.11	33.01	33.15	29.95	32.46	32.97	29.25	32.79	32.67	32.93	33.19
21	33.19	33.14	33.06	31.79	29.47	32.53	33.01	28.71	32.80	32.00	32.87	33.21
22	33.19	33.16	33.10	31.84	29.25	32.63	33.02	28.54	32.80	30.93	32.92	33.12
23	33.24	33.16	33.10	32.08	29.42	32.69	33.01	28.58	32.82	30.90	---	33.13
24	33.21	33.21	33.08	32.32	29.65	32.81	32.98	28.75	32.88	27.48	---	33.16
25	33.21	33.19	33.08	32.48	33.69	32.82	33.08	29.00	32.88	25.98	32.80	33.16
26	33.20	33.19	33.05	32.64	29.90	32.84	33.03	29.25	32.86	26.46	32.89	33.15
27	33.20	33.19	33.07	32.76	30.20	32.87	33.03	29.51	32.88	26.91	32.90	33.20
28	33.08	33.18	33.12	32.85	30.43	32.81	32.99	29.82	32.91	27.45	32.98	33.19
29	32.97	33.19	33.11	32.89	---	32.83	33.03	---	33.05	27.96	32.98	33.15
30	33.01	33.14	33.12	32.94	---	32.92	33.02	---	33.08	28.46	32.85	33.15
31	33.08	---	33.13	32.94	---	32.90	---	30.63	---	28.97	32.94	---
MEAN	33.17	33.11	32.81	32.94	30.38	32.02	32.96	31.67	32.49	31.46	32.29	33.08
MAX	33.25	33.23	33.13	33.23	33.69	32.92	33.08	33.12	33.08	33.19	32.98	33.21
MIN	32.97	32.70	31.48	31.79	29.25	30.74	32.80	28.54	30.91	25.98	29.45	32.72

WTR YR 1988: HIGHEST 25.98 JULY 25; LOWEST 33.69 FEBRUARY 25.

400741075584301. Local number, LN 1643.

LOCATION.--Lat 40°07'41", long 75°58'43", Hydrologic Unit 02050306, 1.1 mi southeast of Churchtown.
Owner: U.S. Geological Survey.
AQUIFER.--Dolomite of Zooks Corner Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 100 ft, cased to 69 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 465 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood cover, 3.1 ft above land-surface datum.
PERIOD OF RECORD.--October 1982 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 33.66 ft below land-surface datum, Dec. 14, 1983; lowest, 37.75 ft below land-surface datum, Nov. 17, 1982.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37.02	---	---	37.24	37.11	36.86	37.26	37.33	37.12	37.49	36.39	37.20
2	37.05	---	---	37.26	36.51	36.90	37.26	37.34	37.14	37.49	36.48	37.21
3	37.06	---	---	37.26	36.48	36.93	37.28	37.36	37.16	37.51	36.55	37.23
4	37.07	---	---	37.28	36.50	36.94	37.28	37.37	37.17	37.53	36.62	37.22
5	37.10	---	---	37.29	36.54	36.94	37.29	37.37	37.19	37.54	36.67	37.02
6	37.12	---	---	37.31	36.66	36.78	37.30	37.29	37.21	37.55	36.71	37.11
7	37.12	---	---	37.32	36.71	36.85	37.29	37.28	37.22	37.56	36.76	37.16
8	37.14	---	---	37.31	36.79	36.91	37.27	37.32	37.23	37.57	36.80	37.19
9	37.16	---	---	37.31	36.86	36.94	37.29	37.35	37.24	37.57	36.86	37.21
10	37.17	---	---	37.32	36.93	36.95	37.31	37.37	37.24	37.58	36.90	37.23
11	37.18	---	---	37.32	36.96	36.97	37.32	37.27	37.24	37.59	36.95	37.25
12	37.19	---	---	37.33	36.92	37.00	37.33	37.30	37.25	37.59	36.98	37.26
13	37.21	---	---	37.34	36.78	37.02	37.34	37.33	37.27	37.59	37.01	37.24
14	37.22	---	---	37.35	36.84	37.03	37.34	37.35	37.28	37.61	37.03	37.26
15	37.24	---	---	37.35	36.86	37.05	37.34	37.38	37.29	37.63	37.06	37.28
16	37.25	---	---	37.36	36.42	37.07	37.35	37.38	37.31	37.64	37.09	37.29
17	37.26	---	---	37.37	36.42	37.10	37.35	37.39	37.31	37.64	37.11	37.29
18	37.28	---	---	37.35	36.50	37.12	37.36	37.38	37.32	37.14	37.13	37.29
19	37.29	37.23	---	37.17	36.54	37.14	37.35	36.98	37.33	37.28	37.14	37.31
20	37.30	37.25	---	36.82	36.39	37.17	37.36	36.52	37.34	37.03	37.13	37.31
21	37.32	37.29	---	36.86	36.47	37.19	37.37	36.62	37.36	36.93	37.16	37.32
22	37.33	37.31	37.19	36.96	36.52	37.21	37.33	36.73	37.40	36.12	37.18	37.33
23	37.34	37.31	37.21	37.04	36.57	37.24	37.33	36.81	37.42	36.19	37.20	37.34
24	37.35	37.33	37.22	37.09	36.64	37.25	37.33	36.86	37.43	35.79	37.11	37.35
25	37.36	37.33	37.22	37.11	36.69	37.26	37.34	36.87	37.44	36.06	37.14	37.35
26	37.37	37.32	37.21	37.14	36.74	37.26	37.35	36.93	37.45	36.17	37.17	37.34
27	37.36	36.70	37.22	37.17	36.78	37.15	37.35	36.96	37.46	36.10	37.18	37.33
28	37.16	36.79	37.23	37.19	36.81	37.17	37.29	37.00	37.47	36.00	37.20	37.34
29	---	---	37.25	37.21	---	37.21	37.31	37.03	37.48	36.13	37.20	37.40
30	---	---	37.25	37.22	---	37.23	37.31	37.06	37.49	36.24	37.14	37.41
31	---	---	37.25	37.23	---	37.25	---	37.09	---	36.30	37.18	---
MEAN	37.22	37.19	37.23	37.22	36.68	37.07	37.32	37.15	37.31	37.04	36.98	37.27
MAX	37.37	37.33	37.25	37.37	37.11	37.26	37.37	37.39	37.49	37.64	37.20	37.41
MIN	37.02	36.70	37.19	36.82	36.39	36.78	37.26	36.52	37.12	35.79	36.39	37.02

WTR YR 1988: HIGHEST 35.79 JULY 24; LOWEST 37.64 JULY 16, 17.

400741075584301. Local number, LN 1643--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed adjacent to major water-bearing zone.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.
PERIOD OF RECORD.--February 1983 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT					
08...	0925	37.13	750	17.0	0.24
NOV					
19...	1045	37.23	760	15.0	0.20
DEC					
30...	0850	37.25	795	16.0	--
FEB					
09...	0940	36.84	766	17.0	--
29...	1230	36.83	730	18.0	--
MAR					
30...	0945	37.22	745	19.0	--
APR					
26...	0800	37.35	745	17.0	--
MAY					
06...	1000	37.27	689	16.0	--
11...	1140	37.25	748	16.0	--
18...	1545	37.25	756	16.0	--
19...	1055	36.40	717	15.0	--
20...	1115	36.49	750	15.0	--
22...	1120	36.69	925	17.0	--
24...	1030	36.83	760	16.0	--
27...	0840	36.95	774	18.0	--
JUN					
01...	1025	37.96	760	17.0	--
28...	1100	37.45	--	16.0	--
JUL					
28...	1020	35.92	790	19.0	--
AUG					
17...	1120	37.02	706	14.0	--
SEP					
14...	0910	37.27	760	17.0	--

400746075584301. Local number, LN 1645.

LOCATION.--Lat 40°07'46", long 75°58'43", Hydrologic Unit 02050306, 1.1 mi southeast of Churchtown.
Owner: U.S. Geological Survey.
AQUIFER.--Dolomite of Zooks Corner Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 80 ft, cased to 24 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 483 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood cover, 2.8 ft above land-surface datum.
PERIOD OF RECORD.--November 1982 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 49.00 ft below land-surface datum, Dec. 15, 1983; lowest, 54.53 ft below land-surface datum, Nov. 2, 3, 4, 5, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51.87	52.11	51.78	52.12	52.03	51.73	52.04	52.16	51.98	51.22	51.16	52.03
2	51.90	52.11	51.81	52.12	51.63	51.76	52.05	52.16	51.99	51.23	51.24	52.05
3	51.91	52.12	51.85	52.12	51.51	51.78	52.05	52.18	52.00	51.23	51.32	52.06
4	51.93	52.13	51.87	52.14	51.48	51.79	52.06	52.19	52.01	51.24	51.39	52.07
5	51.95	52.14	51.92	52.14	51.47	51.82	52.07	52.20	52.03	51.26	51.44	51.99
6	51.96	52.14	51.94	52.14	51.55	51.75	52.07	52.17	52.03	51.26	51.48	52.03
7	51.97	52.15	51.95	52.15	51.60	51.78	52.06	52.17	52.06	51.28	51.53	52.04
8	51.97	52.15	51.97	52.14	51.67	51.81	52.06	52.20	52.06	51.28	51.58	52.06
9	51.99	52.17	51.98	52.15	51.77	51.81	52.07	52.21	52.07	51.28	51.63	52.07
10	52.00	52.17	51.98	52.15	51.82	51.84	52.07	52.22	52.07	51.29	51.67	52.09
11	52.01	52.08	52.01	52.15	51.87	51.85	52.08	52.17	52.08	51.29	51.72	52.10
12	52.02	52.06	52.03	52.17	51.84	51.87	52.07	52.18	52.08	51.29	51.75	52.11
13	52.03	52.06	52.03	52.18	51.82	51.88	52.10	52.21	52.09	51.30	51.77	52.12
14	52.04	52.05	52.03	52.18	51.86	51.89	52.10	52.21	52.09	51.30	51.81	52.13
15	52.05	52.06	52.03	52.19	51.84	51.90	52.10	52.23	52.10	51.31	51.83	52.14
16	52.07	52.07	52.03	52.20	51.55	51.93	52.10	52.24	52.11	51.33	51.85	52.15
17	52.07	52.07	52.04	52.20	51.45	51.93	52.10	52.24	52.11	51.33	51.87	52.16
18	52.08	52.07	52.04	52.19	51.52	51.95	52.10	52.22	52.12	51.12	51.90	52.16
19	52.08	52.10	52.04	52.13	51.53	51.95	52.10	51.81	52.13	51.16	51.91	52.17
20	52.09	52.10	52.04	52.02	51.45	51.96	52.11	51.65	52.13	51.06	51.93	52.17
21	52.09	52.11	52.05	51.81	51.46	51.98	52.11	51.72	52.13	51.02	51.96	52.18
22	52.09	52.12	52.07	51.86	51.41	51.99	52.14	51.73	51.15	51.15	51.97	52.19
23	52.10	52.12	52.08	51.91	51.45	52.01	52.14	51.77	51.16	51.26	51.99	52.20
24	52.12	52.14	52.08	51.96	51.51	52.02	52.14	51.80	51.17	51.24	51.98	52.20
25	52.12	52.14	52.09	51.97	51.57	52.02	52.15	51.82	51.17	50.90	51.97	52.20
26	52.15	52.15	52.10	51.99	51.60	52.03	52.15	51.87	51.17	51.02	51.99	52.21
27	52.15	52.15	52.10	52.02	51.65	51.99	52.16	51.90	51.20	51.00	52.00	52.21
28	52.10	52.15	52.10	52.04	51.69	52.02	52.14	51.91	51.21	51.01	52.02	52.21
29	52.06	51.95	52.11	52.05	---	52.03	52.14	51.93	51.21	50.98	52.03	52.22
30	52.08	51.75	52.11	52.06	---	52.03	52.15	51.95	51.22	51.04	52.01	52.22
31	52.10	---	52.11	52.07	---	52.04	---	51.97	---	51.08	52.03	---
MEAN	52.04	52.10	52.01	52.09	51.63	51.91	52.10	52.04	51.80	51.19	51.77	52.13
MAX	52.15	52.17	52.11	52.20	52.03	52.04	52.16	52.24	52.13	51.33	52.03	52.22
MIN	51.87	51.75	51.78	51.81	51.41	51.73	52.04	51.65	51.15	50.90	51.16	51.99

WTR YR 1988: HIGHEST 50.90 JULY 25; LOWEST 52.24 MAY 16, 17.

400746075584301. Local number, LN 1645--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed adjacent to major water-bearing zone.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories except for the August and September pesticide sample which was analyzed by the U.S. Geological Survey.
PERIOD OF RECORD.--February 1983 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT					
08...	0945	51.97	600	12.0	0.52
NOV					
19...	1115	52.09	465	12.0	0.31
DEC					
30...	0855	52.11	557	11.0	--
FEB					
09...	1000	51.72	600	12.0	--
29...	1210	51.70	620	12.0	--
MAR					
30...	0930	52.04	580	13.0	--
APR					
26...	0805	52.14	575	11.0	--
MAY					
06...	0945	52.15	552	12.0	--
11...	1105	52.18	582	12.0	--
18...	1500	52.19	583	12.0	--
19...	1045	51.69	571	12.0	--
20...	1100	51.58	600	13.0	--
22...	1110	51.69	565	13.0	--
24...	1040	51.76	595	12.0	--
27...	0855	51.84	597	13.0	--
JUN					
01...	1000	51.99	604	11.0	--
28...	1045	52.20	--	12.0	--
JUL					
20...	1515	52.01	584	11.0	--
28...	1000	50.97	582	13.0	--
AUG					
17...	1100	51.58	620	12.0	--
SEP					
14...	0930	52.11	575	13.0	--

PESTICIDE ANALYSIS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ALA-CHLOR TOTAL RECOVER (µG/L)	ATRA-ZINE, TOTAL (µG/L)	CYAN-AZINE TOTAL (µG/L)	METOLA-CHLOR IN WHOLE WATER (µG/L)	PRO-PAZINE TOTAL (µG/L)	SIMA-ZINE TOTAL (µG/L)	TOX-APHENE TOTAL (µG/L)
OCT									
08...	0945	51.97	0.11	0.48	<0.30	<0.10	<0.30	<0.30	<1
MAY									
06...	0945	52.15	0.07	0.41	<0.30	<0.10	<0.30	<0.30	<1
JUN									
01...	1000	51.99	0.24	0.62	1.6	<0.10	<0.30	<0.30	<1
28...	1045	52.20	0.08	0.39	<0.30	<0.10	<0.30	<0.30	<1
JUL									
20...	1515	52.01	0.06	0.48	<0.30	<0.10	<0.30	<0.30	<1
28...	1000	50.97	0.05	<0.49	<0.30	<0.10	<0.30	<0.30	<1
AUG									
17...	1100	51.58	0.10	0.50	<0.10	<0.10	<0.10	<0.10	--
SEP									
14...	0930	52.11	<0.10	0.30	<0.10	<0.10	<0.10	<0.10	--

(<) Actual value is known to be less than the value shown.

400744075584701. Local number, LN 1646.

LOCATION.--Lat 40°07'44", long 75°58'47", Hydrologic Unit 02050306, 1.1 mi southeast of Churchtown.
Owner: U.S. Geological Survey.
AQUIFER.--Dolomite of Zooks Corner Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 125 ft, cased to 99 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 503 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood cover, 2.6 ft above land-surface datum.
PERIOD OF RECORD.--November 1982 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 69.47 ft below land-surface datum, Dec. 15, 1983; lowest, 74.15 ft below land-surface datum, Nov. 4, 5, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73.12	73.61	73.22	73.55	73.05	73.17	73.50	73.58	73.33	73.63	72.94	73.44
2	73.16	73.61	73.27	73.56	72.94	73.20	73.51	73.59	73.34	73.63	72.98	73.44
3	73.18	73.61	73.30	73.56	72.91	73.23	73.53	73.61	73.36	73.63	73.05	73.44
4	73.19	73.63	73.32	73.57	72.93	73.26	73.53	73.62	73.36	73.64	73.09	73.44
5	73.22	73.64	73.36	73.57	72.98	73.26	73.53	73.62	73.38	73.65	73.13	73.36
6	73.23	73.65	73.40	73.58	73.05	73.21	73.53	73.58	73.38	73.65	73.17	73.39
7	73.23	73.66	73.42	73.60	73.16	73.23	73.52	73.57	73.40	73.66	73.19	73.39
8	73.24	73.66	73.43	73.60	73.24	73.27	73.53	73.57	73.40	73.67	73.22	73.39
9	73.26	73.67	73.44	73.60	73.29	73.28	73.54	73.58	73.40	73.67	73.25	73.40
10	73.27	73.67	73.45	73.60	73.31	73.30	73.55	73.58	73.40	73.67	73.29	73.42
11	73.28	73.58	73.46	73.61	73.26	73.31	73.57	73.59	73.40	73.69	73.31	73.43
12	73.29	73.58	73.48	73.61	73.27	73.32	73.58	73.61	73.40	73.71	73.32	73.43
13	73.31	73.56	73.49	73.61	73.29	73.33	73.57	73.61	73.41	73.72	73.33	73.44
14	73.32	73.56	73.51	73.62	73.30	73.34	73.57	73.62	73.41	73.73	73.36	73.47
15	73.33	73.56	73.51	73.63	72.98	73.35	73.57	73.63	73.42	73.73	73.38	73.52
16	73.34	73.57	73.52	73.64	72.89	73.38	73.58	73.60	73.42	73.73	73.40	73.57
17	73.35	73.58	73.53	73.64	72.93	73.39	73.58	73.59	73.44	73.74	73.42	73.63
18	73.36	73.58	73.53	73.64	72.94	73.40	73.58	72.97	73.45	73.75	73.43	73.65
19	73.36	73.59	73.54	73.57	72.88	73.40	73.58	72.99	73.46	73.32	73.45	73.69
20	73.37	73.59	73.55	73.56	72.87	73.42	73.59	73.05	73.46	73.37	73.47	73.69
21	73.37	73.59	73.55	73.27	---	73.43	73.59	73.07	73.48	73.32	73.48	73.69
22	73.38	73.60	73.50	73.32	72.83	73.44	73.60	73.11	73.57	72.57	73.49	73.70
23	73.39	73.63	73.50	73.37	72.89	73.40	73.60	73.16	73.58	72.64	73.52	73.71
24	73.40	73.63	73.51	73.43	72.95	73.41	73.60	73.19	73.58	72.37	---	73.71
25	73.41	73.63	73.53	73.44	73.00	73.42	73.60	73.23	73.58	72.37	73.38	73.72
26	73.64	73.63	73.53	73.47	73.03	73.42	73.59	73.32	73.58	72.36	73.41	73.73
27	73.65	73.64	73.53	73.48	73.08	73.44	73.59	73.35	73.60	72.44	73.41	74.10
28	73.58	73.63	73.54	73.49	73.14	73.46	73.58	73.37	73.59	72.58	73.43	74.11
29	73.56	73.62	73.54	73.51	---	73.48	73.58	73.38	73.62	72.71	73.43	74.11
30	73.57	73.37	73.55	73.52	---	73.49	73.58	73.38	73.63	72.79	73.42	74.11
31	73.60	---	73.55	73.42	---	73.49	---	73.34	---	72.86	73.43	---
MEAN	73.35	73.60	73.47	73.54	73.05	73.35	73.57	73.42	73.46	73.29	73.32	73.61
MAX	73.65	73.67	73.55	73.64	73.31	73.49	73.60	73.63	73.63	73.75	73.52	74.11
MIN	73.12	73.37	73.22	73.27	72.83	73.17	73.50	72.97	73.33	72.36	72.94	73.36

WTR YR 1988: HIGHEST 72.36 JULY 26; LOWEST 74.11 SEPTEMBER 28, 29, 30.

400744075584701. Local number, LN 1646--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed adjacent to major water-bearing zone.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories except for the August and September pesticide sample which was analyzed by the U.S. Geological Survey.
PERIOD OF RECORD.--February 1983 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT					
08...	0955	73.23	560	8.10	0.28
NOV					
19...	1125	73.58	573	7.90	0.49
DEC					
30...	0905	73.99	542	7.70	0.42
FEB					
09...	1020	73.18	548	7.90	0.32
29...	1140	73.15	545	13.0	--
MAR					
30...	0905	73.50	525	7.10	--
APR					
26...	0815	73.60	490	6.60	<0.20
MAY					
06...	0925	73.60	531	7.30	<0.20
11...	1045	73.62	487	6.70	0.43
18...	1430	73.37	618	7.70	<0.20
19...	1025	73.17	591	13.0	<0.20
20...	1045	72.99	585	8.40	0.58
22...	1050	73.12	620	9.00	0.38
24...	1055	73.21	546	8.60	<0.20
27...	0905	73.29	557	9.20	<0.20
JUN					
28...	1015	73.60	530	5.00	0.41
JUL					
20...	1430	73.50	--	6.00	0.34
28...	0930	72.33	552	7.10	0.30
AUG					
17...	1045	73.31	583	10.0	0.34
SEP					
14...	0915	73.58	560	8.20	0.37

PESTICIDE ANALYSIS, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	ALA-CHLOR TOTAL RECOVER (µG/L)	ATRA-ZINE, TOTAL (µG/L)	CYAN-AZINE TOTAL (µG/L)	METOLA-CHLOR IN WHOLE WATER (µG/L)	PRO-PAZINE TOTAL (µG/L)	SIMA-ZINE TOTAL (µG/L)	TOX-APHENE TOTAL (µG/L)
OCT									
08...	0955	73.23	0.07	0.66	0.30	<0.10	0.30	0.30	<1
APR									
26...	0815	73.60	<0.05	0.42	<0.30	<0.10	<0.30	<0.30	<1
MAY									
06...	0925	73.60	<0.05	0.44	<0.30	<0.10	<0.30	<0.30	<1
JUN									
28...	1015	73.60	0.10	0.42	0.47	<0.10	<0.30	<0.30	<1
JUL									
20...	1430	73.50	0.07	0.44	0.44	<0.10	<0.30	<0.30	<1
28...	0930	72.33	<0.05	0.43	0.43	<0.10	<0.30	<0.30	<1
AUG									
17...	1045	73.31	0.10	0.50	0.40	<0.10	<0.10	<0.10	--
SEP									
14...	0915	73.58	0.10	0.40	0.50	<0.10	<0.10	<0.10	--

(<) Actual value is known to be less than the value shown.

400741075585101. Local number, LN 1650.

LOCATION.--Lat 40°07'41", long 75°58'51", Hydrologic Unit 02050306, 1.1 mi southeast of Churchtown.
Owner: U.S. Geological Survey.
AQUIFER.--Dolomite of Zooks Corner Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 125 ft, cased to 90 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 505 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood cover, 3.3 ft above land-surface datum.
PERIOD OF RECORD.--November 1982 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 70.14 ft below land-surface datum, Apr. 19, 1983; lowest, 74.57 ft below land-surface datum, Nov. 5, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	73.68	73.97	73.67	74.02	73.60	73.44	73.87	74.05	73.82	74.10	73.24	73.88
2	73.73	73.98	73.64	74.02	73.43	73.48	73.89	74.06	73.84	74.11	73.33	73.90
3	73.76	73.99	73.65	74.02	73.35	73.52	73.89	74.07	73.84	74.13	73.42	73.91
4	73.78	74.00	73.68	74.03	73.32	73.55	73.90	74.08	73.85	74.14	73.49	73.91
5	73.81	74.01	73.72	74.04	73.36	73.57	73.90	74.09	73.86	74.14	73.55	73.87
6	73.83	74.02	73.75	74.05	73.42	73.51	73.90	74.05	73.87	74.15	73.60	73.88
7	73.85	74.03	73.77	74.05	73.48	73.54	73.89	74.05	73.89	74.16	73.66	73.89
8	73.87	74.04	73.78	74.05	73.48	73.58	73.91	74.07	73.90	74.17	73.71	73.91
9	73.88	74.05	73.80	74.06	73.53	73.60	73.91	74.09	73.91	74.17	73.78	73.93
10	73.90	74.05	73.80	74.07	73.58	73.62	73.92	74.10	73.90	74.18	73.83	73.94
11	73.91	73.97	73.82	74.07	73.58	73.64	73.94	74.06	73.91	74.19	73.88	73.96
12	73.92	73.95	73.84	74.08	73.53	73.66	73.94	74.07	73.91	74.19	73.93	73.97
13	73.93	73.93	73.85	74.09	73.56	73.67	73.94	74.08	73.92	74.19	73.96	73.97
14	73.95	73.94	73.86	74.09	73.57	73.69	73.95	74.09	73.93	74.20	74.00	74.00
15	73.96	73.95	73.86	74.10	73.42	73.70	73.95	74.10	73.94	74.22	74.04	74.01
16	73.97	73.96	73.85	74.11	73.15	73.72	73.95	74.11	73.95	74.23	74.08	74.03
17	73.98	73.95	73.87	74.12	73.13	73.74	73.96	74.11	73.95	74.24	74.10	74.03
18	74.00	73.95	73.88	74.05	73.16	73.75	73.96	74.10	73.96	73.99	74.10	74.04
19	74.01	73.95	73.89	74.05	73.12	73.76	73.97	73.65	73.96	74.05	74.14	74.04
20	74.02	73.95	73.88	73.91	73.06	73.77	73.97	73.51	73.98	73.98	74.16	74.06
21	74.02	73.97	73.89	73.76	---	73.78	73.98	73.54	73.99	73.90	74.19	74.06
22	74.03	73.98	73.93	73.79	73.11	73.80	74.02	73.57	74.03	73.18	74.21	74.08
23	74.04	73.99	73.95	73.82	73.16	73.82	74.02	73.61	74.05	73.55	74.24	74.08
24	74.05	74.00	73.96	73.85	73.21	73.83	74.02	73.65	74.05	73.40	74.25	74.09
25	74.06	74.00	73.96	73.88	73.27	73.84	74.03	73.67	74.06	73.08	73.78	74.09
26	74.00	74.01	73.97	73.90	73.31	73.83	74.04	73.70	74.07	73.15	73.81	74.10
27	74.00	74.01	73.97	73.93	73.37	73.83	74.05	73.74	74.08	73.13	73.84	74.09
28	73.95	74.01	73.98	73.95	73.41	73.84	74.02	73.76	74.09	73.09	73.85	74.09
29	73.92	74.00	73.99	73.96	---	73.85	74.04	73.78	74.09	73.07	73.86	74.10
30	73.94	73.82	74.01	73.97	---	73.86	74.04	73.80	74.10	73.11	73.86	74.10
31	73.96	---	74.01	73.99	---	73.87	---	73.81	---	73.16	73.87	---
MEAN	73.93	73.98	73.85	74.00	73.36	73.70	73.96	73.91	73.96	73.83	73.86	74.00
MAX	74.06	74.05	74.01	74.12	73.60	73.87	74.05	74.11	74.10	74.24	74.25	74.10
MIN	73.68	73.82	73.64	73.76	73.06	73.44	73.87	73.51	73.82	73.07	73.24	73.87

WTR YR 1988: HIGHEST 73.06 FEBRUARY 20; LOWEST 74.25 AUGUST 24.

400741075585101. Local number, LN 1650--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed adjacent to major water-bearing zone.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.
PERIOD OF RECORD.--February 1983 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT					
08...	1010	73.85	570	11.0	1.5
NOV					
19...	1140	73.94	545	11.0	0.21
DEC					
30...	0915	73.99	542	12.0	--
FEB					
09...	1040	73.49	534	11.0	--
29...	1130	73.40	540	9.60	--
MAR					
30...	0850	73.85	580	10.0	--
APR					
26...	0830	74.03	427	11.0	--
MAY					
06...	0915	74.05	473	10.0	--
11...	1020	74.06	512	10.0	--
18...	1415	74.08	510	9.40	--
19...	1010	73.79	520	11.0	--
20...	1020	73.51	555	11.0	--
22...	1020	73.56	540	11.0	--
24...	1110	73.65	506	9.00	--
27...	0920	73.75	509	9.00	--
JUN					
01...	0900	73.80	532	8.80	--
28...	1130	74.09	--	9.90	--
JUL					
28...	0910	72.54	--	10.0	--
AUG					
17...	1015	73.51	600	10.0	--
SEP					
14...	1140	73.91	580	11.0	--

400739075585101. Local number, LN 1651.

LOCATION.--Lat 40°07'39", long 75°58'51", Hydrologic Unit 02050306, 1.1 mi southeast of Churchtown.
Owner: U.S. Geological Survey.
AQUIFER.--Dolomite of Zooks Corner Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 105 ft, cased to 72 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 505 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood cover, 3.3 ft above land-surface datum.
PERIOD OF RECORD.--November 1982 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 62.65 ft below land-surface datum, Apr. 19, 1983; lowest, 72.28 ft below land-surface datum, Mar. 24, 1985.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	69.10	69.98	69.81	69.99	69.82	68.64	69.74	70.08	69.67	70.04	66.50	69.55
2	69.26	70.00	69.70	70.00	69.65	68.70	69.75	70.09	69.68	70.04	66.60	69.59
3	69.34	70.01	69.67	70.01	69.49	68.78	69.76	70.10	69.69	70.06	66.75	69.61
4	69.40	70.01	69.64	70.02	69.34	68.85	69.77	70.11	69.70	70.07	66.89	69.62
5	69.45	70.03	69.66	70.03	69.23	68.89	69.78	70.12	69.71	70.08	67.03	69.60
6	69.49	70.05	69.67	70.04	69.11	68.87	69.80	70.14	69.72	70.09	67.19	69.61
7	69.53	70.06	69.67	70.05	69.09	68.95	69.81	70.14	69.74	70.10	67.31	69.62
8	69.56	70.07	69.68	70.05	69.19	69.05	69.82	70.14	69.75	70.11	67.44	69.63
9	69.61	70.08	69.68	70.06	69.34	69.11	69.83	70.14	69.76	70.12	67.51	69.64
10	69.64	70.09	69.70	70.08	69.42	69.18	69.84	70.17	69.77	70.14	67.57	69.68
11	69.67	70.08	69.72	70.08	69.47	69.22	69.85	70.16	69.78	70.15	67.62	69.69
12	69.69	70.04	69.74	70.09	69.47	69.28	69.87	70.16	69.79	70.16	67.71	69.71
13	69.73	70.03	69.75	70.11	69.46	69.32	69.88	70.17	69.81	70.17	67.84	69.72
14	69.76	70.02	69.74	70.12	69.44	69.37	69.89	70.17	69.82	70.17	67.99	69.77
15	69.78	70.03	69.76	70.12	69.40	69.40	69.91	70.17	69.83	70.18	68.12	69.77
16	69.80	70.03	69.76	70.13	68.78	69.44	69.92	70.18	69.85	70.20	68.28	69.79
17	69.83	70.03	69.79	70.14	68.43	69.47	69.93	70.19	69.86	70.20	68.39	69.80
18	69.85	70.04	69.80	70.14	68.33	69.50	69.93	70.19	69.88	70.14	68.54	69.81
19	69.88	70.01	69.81	70.12	68.28	69.52	69.95	70.16	69.89	70.07	68.71	69.83
20	69.90	70.01	69.81	70.07	68.14	69.55	69.95	69.85	69.90	70.05	68.84	69.84
21	69.91	70.02	69.82	69.92	68.09	69.58	69.97	69.71	69.91	69.95	68.97	69.84
22	69.93	70.03	69.87	69.67	68.00	69.60	70.00	69.64	69.91	69.60	69.11	69.84
23	69.95	70.03	69.89	69.65	68.01	69.61	70.01	69.60	69.92	68.37	69.22	69.85
24	69.97	70.03	69.90	69.68	68.09	69.62	70.02	69.59	69.93	67.79	69.32	69.89
25	69.99	70.04	69.91	69.70	68.18	69.64	70.03	69.59	69.94	67.20	69.37	69.92
26	69.97	70.05	69.93	69.73	68.29	69.64	70.05	69.59	69.96	66.85	69.43	69.93
27	69.98	70.05	69.93	69.76	68.41	69.65	70.05	69.61	69.97	66.74	69.45	69.93
28	69.98	70.05	69.94	69.78	68.56	69.67	70.05	69.62	70.00	66.65	69.48	69.95
29	69.95	70.05	69.96	69.79	---	69.68	70.06	69.62	70.01	66.52	69.51	69.95
30	69.95	70.00	69.97	69.81	---	69.71	70.08	69.63	70.01	66.43	69.51	69.96
31	69.97	---	69.97	69.82	---	69.73	---	69.63	---	66.42	69.54	---
MEAN	69.74	70.04	69.80	69.96	68.88	69.33	69.91	69.95	69.84	69.19	68.25	69.76
MAX	69.99	70.09	69.97	70.14	69.82	69.73	70.08	70.19	70.01	70.20	69.54	69.96
MIN	69.10	69.98	69.64	69.65	68.00	68.64	69.74	69.59	69.67	66.42	66.50	69.55

WTR YR 1988: HIGHEST 66.42 JULY 31; LOWEST 70.20 JULY 16. 17.

400739075585101. Local number, LN 1651--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed adjacent to major water-bearing zone.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.
PERIOD OF RECORD.--February 1983 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE-CIFIC CON-DUCT-ANCE (μS/CM)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)
OCT					
08...	1035	69.54	670	12.0	1.7
NOV					
19...	1150	70.05	510	12.0	0.24
DEC					
30...	0920	69.96	775	11.0	--
FEB					
09...	1105	69.34	644	11.0	--
29...	1110	68.62	550	11.0	--
MAR					
30...	0830	69.71	690	12.0	--
APR					
26...	0840	70.04	648	12.0	--
MAY					
06...	0900	70.10	623	12.0	--
11...	1000	70.15	592	14.0	--
18...	1400	70.17	670	12.0	--
19...	0950	70.08	646	12.0	--
20...	1000	69.78	665	12.0	--
22...	1005	69.60	650	13.0	--
24...	1120	69.56	657	13.0	--
27...	0935	69.59	655	13.0	--
JUN					
01...	0830	69.99	620	12.0	--
28...	1145	69.98	--	12.0	--
JUL					
28...	0850	66.92	--	14.0	--
AUG					
17...	0945	68.39	618	13.0	--
SEP					
14...	1200	69.76	665	13.0	--

401152076105501. Local number, LN 1667.

LOCATION.--Lat 40°11'52", long 76°10'55", Hydrologic Unit 02050306, 1.5 mi north of Ephrata.
Owner: Aaron Stauffer.
AQUIFER.--Dolomite of Snitz Creek Formation of Cambrian age.
WELL CHARACTERISTICS.--Hand-dug stone-lined domestic well, depth 15 ft.
DATUM.--Elevation of land-surface is 352 ft above National Geodetic Vertical Datum of 1929.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.
PERIOD OF RECORD.--October 1984 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SPECIFIC CONDUCTANCE (µS/CM)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOSPHOROUS DIS-SOLVED (MG/L AS P)
OCT						
14...	0950	743	21.0	0.30	--	--
DEC						
08...	1005	698	20.0	0.23	0.020	0.030
JAN						
25...	1055	748	19.0	0.40	--	--
MAR						
30...	1200	760	21.0	<0.20	--	--
APR						
26...	1020	720	18.0	<0.20	--	--
MAY						
06...	1120	658	17.0	<0.20	--	--
11...	1315	641	15.0	<0.20	--	--
13...	0925	730	19.0	<0.20	--	--
18...	1705	702	18.0	<0.20	--	--
19...	1315	720	14.0	<0.20	--	--
20...	0835	785	20.0	0.43	--	--
22...	0845	805	27.0	<0.20	--	--
24...	0835	785	26.0	<0.20	--	--
26...	0710	760	23.0	<0.20	--	--
JUN						
02...	0830	725	21.0	0.40	0.060	0.020
28...	1115	743	20.0	0.21	--	--
JUL						
28...	0720	748	23.0	0.35	--	--
AUG						
03...	1120	723	21.0	<0.20	--	--
16...	1000	646	20.0	0.65	--	--
SEP						
12...	1030	680	19.0	0.34	--	--

(<) Actual value is known to be less than the value shown.

401149076105501. Local number, LN 1669.

LOCATION.--Lat 40°11'49", long 76°10'55", Hydrologic Unit 02050306, 1.6 mi north of Ephrata.
Owner: U.S. Geological Survey.
AQUIFER.--Dolomite of Snitz Creek Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 100 ft, cased to 11 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 358 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of shelter platform, 1.0 ft above land-surface datum.
PERIOD OF RECORD.--January 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.29 ft below land-surface datum, May 18, 1988; lowest, 19.20 ft below land-surface datum, Sept. 24, 1985.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.90	17.41	15.00	---	---	16.94	17.53	18.12	17.35	18.16	16.50	17.79
2	17.02	17.48	15.20	---	---	---	17.55	18.16	17.82	17.97	16.78	17.85
3	17.11	17.53	15.47	---	---	---	17.57	18.18	17.88	18.02	16.98	17.94
4	17.20	17.56	15.85	---	---	---	17.60	18.21	16.75	18.11	17.23	18.01
5	17.26	17.68	16.13	---	---	---	17.63	18.16	16.63	17.92	17.29	17.41
6	17.32	17.81	16.37	---	---	---	17.65	17.97	16.74	17.81	17.36	17.05
7	17.32	17.83	16.51	---	---	16.20	17.72	17.97	16.82	18.12	17.45	17.36
8	17.39	17.86	---	---	---	16.30	17.62	17.98	16.97	18.23	17.54	17.79
9	17.48	17.88	---	---	---	16.40	17.66	18.05	17.05	18.25	17.65	18.03
10	17.51	17.88	---	---	---	16.56	17.74	17.90	17.13	18.14	17.76	18.09
11	17.55	17.54	---	---	---	16.71	17.77	16.53	17.22	18.17	17.86	18.13
12	17.58	17.14	---	---	---	16.78	17.83	16.44	17.28	18.18	17.94	18.23
13	17.65	16.96	---	---	---	16.91	17.87	16.58	17.29	18.25	17.97	18.31
14	17.68	16.70	---	---	---	17.00	17.91	17.05	17.55	18.31	18.01	18.34
15	17.21	16.72	---	---	---	17.15	17.95	17.01	17.63	18.38	18.03	18.42
16	17.23	16.80	---	---	---	17.26	18.02	16.42	17.66	18.45	18.14	18.48
17	17.26	16.85	---	---	---	17.37	18.06	11.68	17.73	18.47	18.32	18.54
18	17.30	16.86	---	---	---	17.44	18.01	10.29	17.73	18.06	18.34	18.59
19	17.35	16.92	---	---	---	17.42	18.02	---	17.79	17.87	18.32	18.63
20	17.37	17.03	---	---	---	17.54	18.07	11.51	17.82	17.87	18.17	18.69
21	17.40	17.29	---	16.28	---	17.67	18.09	10.95	17.88	17.57	18.18	18.76
22	17.47	17.36	17.32	16.50	15.76	17.73	18.14	11.00	18.04	15.74	18.18	18.80
23	17.52	17.38	17.25	16.94	15.98	17.74	18.16	12.37	18.09	15.74	18.22	18.84
24	17.52	17.40	17.23	17.30	16.21	17.73	18.19	13.50	18.03	14.47	17.97	18.91
25	17.54	17.42	17.24	17.58	16.41	17.71	18.22	14.24	17.80	14.61	17.72	18.97
26	18.09	17.50	17.25	---	16.60	17.71	18.24	15.01	17.93	15.09	17.81	19.06
27	18.09	17.56	17.28	---	16.72	17.45	18.48	15.65	18.01	14.47	17.84	18.59
28	17.91	17.60	17.31	---	16.88	17.40	18.00	16.14	18.10	14.58	17.76	18.60
29	17.12	17.60	17.29	---	---	17.44	18.05	16.52	18.18	15.31	17.82	18.62
30	17.24	16.51	17.26	---	---	17.49	18.09	16.82	18.15	15.81	17.78	18.64
31	17.35	---	17.13	---	---	17.50	---	17.24	---	16.20	17.69	---
MEAN	17.42	17.34	16.65	16.92	16.37	17.21	17.91	15.79	17.57	17.17	17.76	18.32
MAX	18.09	17.88	17.32	17.58	16.88	17.74	18.48	18.21	18.18	18.47	18.34	19.06
MIN	16.90	16.51	15.00	16.28	15.76	16.20	17.53	10.29	16.63	14.47	16.50	17.05

WTR YR 1988: HIGHEST 10.29 MAY 18; LOWEST 19.06 SEPTEMBER 26.

401149076105501. Local number, LN 1669--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed from recovering water after well pumped dry.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.
PERIOD OF RECORD.--November 1984 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)
OCT							
14...	1030	17.66	679	11.0	0.40	--	--
DEC							
08...	1025	16.55	639	12.0	0.23	0.020	0.020
30...	1000	17.66	670	13.0	0.24	--	--
JAN							
25...	1215	17.49	659	11.0	0.80	--	--
FEB							
29...	0830	17.50	650	11.0	0.30	0.020	0.050
MAR							
30...	1215	17.47	675	14.0	<0.20	--	--
APR							
26...	1040	18.30	665	11.0	<0.20	--	--
JUN							
02...	0820	17.60	640	11.0	<0.20	0.060	0.030
28...	1145	18.05	660	11.0	0.21	--	--
AUG							
03...	1135	16.82	680	11.0	<0.20	--	--
16...	1110	18.08	628	12.0	0.24	--	--
SEP							
12...	0930	17.80	720	11.0	0.46	--	--

(<) Actual value is known to be less than the value shown.

401156076105701. Local number, LN 1670.

LOCATION.--Lat 40°11'56", long 76°10'57", Hydrologic Unit 02050306, 1.5 mi north of Ephrata.
Owner: U.S. Geological Survey
AQUIFER.--Dolomite of Snitz Creek Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 75 ft, cased to 9 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 367 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of shelter platform, 3.5 ft above land-surface datum.
PERIOD OF RECORD.--November 1984 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.67 ft below land-surface datum, Mar. 2, 1987; lowest, 19.70 ft below land-surface datum, Dec. 12, 1984.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	13.36	---	12.70	11.97	---	12.46	13.99	10.65	12.85	9.65	12.70
2	---	13.14	---	12.78	12.07	---	12.48	14.07	10.45	12.78	9.88	12.77
3	---	13.00	---	12.78	10.02	---	12.46	14.12	10.52	12.84	10.15	12.86
4	---	12.80	---	12.83	9.65	---	12.51	14.15	10.68	12.95	10.26	12.86
5	---	12.66	---	12.92	9.65	---	12.57	14.25	10.76	13.04	10.32	12.76
6	---	12.58	---	13.00	10.06	---	12.58	14.26	10.84	13.13	10.39	12.57
7	---	12.54	---	13.05	10.22	10.86	12.61	14.34	10.95	13.18	10.48	12.48
8	---	12.55	---	13.04	10.43	10.90	12.68	14.42	11.07	13.09	10.57	12.44
9	---	12.70	---	13.11	10.51	10.94	12.73	14.42	11.15	11.13	10.65	12.39
10	---	---	---	13.19	10.67	11.05	12.76	14.48	11.25	10.74	10.75	12.36
11	---	---	---	---	10.76	11.10	12.84	14.43	11.33	10.69	10.85	12.39
12	---	---	---	---	10.76	11.12	12.87	13.59	11.41	10.41	10.93	12.48
13	---	---	---	---	9.97	11.26	12.94	13.17	11.51	10.73	10.98	12.54
14	---	---	---	---	10.27	11.34	12.98	12.69	11.62	10.83	10.94	---
15	---	---	---	---	10.39	11.49	13.05	12.20	11.71	10.87	11.02	---
16	---	---	---	---	10.37	11.61	13.14	11.77	11.78	10.96	10.97	---
17	---	---	---	---	10.17	11.70	13.16	11.43	11.84	11.02	10.97	---
18	---	---	---	---	10.39	11.72	13.27	11.17	11.94	10.13	11.12	---
19	---	---	---	---	10.45	11.82	13.34	8.85	12.05	10.06	11.28	13.24
20	---	---	---	---	10.44	12.00	13.39	9.66	12.13	10.25	11.42	13.32
21	---	---	---	10.15	10.02	12.12	13.47	9.58	12.19	10.37	11.51	13.41
22	---	---	12.16	10.41	10.20	12.22	13.52	9.55	12.41	9.36	11.76	13.47
23	---	---	12.22	10.61	10.38	12.28	13.52	9.81	12.59	9.82	11.85	13.58
24	---	---	12.27	10.74	10.47	12.37	13.64	10.09	12.66	9.24	11.89	13.73
25	---	---	12.32	10.89	10.55	12.45	13.68	10.09	12.67	9.75	12.05	13.84
26	---	---	12.41	11.09	10.60	12.54	13.75	10.26	12.80	9.90	12.19	13.95
27	---	---	12.44	11.30	10.80	12.55	13.81	10.37	12.87	9.54	12.24	14.03
28	13.68	---	12.46	11.42	10.90	12.59	13.81	10.45	12.96	9.87	12.35	14.20
29	13.68	---	12.58	11.58	---	12.57	13.84	10.52	13.88	9.95	12.44	14.26
30	13.62	---	12.64	11.70	---	12.49	13.95	10.60	13.06	9.60	12.50	14.35
31	13.58	---	12.65	11.85	---	12.48	---	10.62	---	9.61	12.61	---
MEAN	13.64	12.81	12.42	11.96	10.47	11.82	13.13	12.05	11.79	10.93	11.19	13.16
MAX	13.68	13.36	12.65	13.19	12.07	12.59	13.95	14.48	13.88	13.18	12.61	14.35
MIN	13.58	12.54	12.16	10.15	9.65	10.86	12.46	8.85	10.45	9.24	9.65	12.36

WTR YR 1988: HIGHEST 8.85 MAY 19; LOWEST 14.48 MAY 10.

401156076105701. Local number, LN 1670--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed from recovering water after well pumped dry.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.
PERIOD OF RECORD.--November 1984 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)
DEC 08...	1000	11.40	944	40.0	0.40	0.020	0.020
FEB 29...	0910	10.93	795	30.0	0.44	0.020	<0.020
JUN 28...	1050	12.76	1080	34.0	0.36	0.010	0.030
SEP 12...	1100	12.45	1030	40.0	0.70	0.030	0.060

(<) Actual value is known to be less than the value shown.

401148076110301. Local number, LN 1673.

LOCATION.--Lat 40°11'48", long 76°11'03", Hydrologic Unit 02050306, 1.5 mi north of Ephrata.
Owner: U.S. Geological Survey.
AQUIFER: Dolomite of Snitz Creek Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 46 ft, cased to 14 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 382 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of shelter platform, 2.2 ft above land-surface datum.
PERIOD OF RECORD.--November 1984 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.38 ft below land-surface datum, May 20, 1988; lowest, 10.68 ft below land-surface datum, Sept. 5, 6, 7, 8, 1986.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.88	9.91	8.70	10.14	10.07	9.91	10.01	10.26	9.64	10.30	9.90	10.52
2	9.89	9.95	8.86	10.14	9.90	9.94	10.02	10.28	9.69	10.32	9.93	10.56
3	9.92	9.98	9.10	10.15	8.50	9.96	10.02	10.29	9.80	10.34	9.95	10.58
4	9.95	10.00	9.38	10.17	8.61	9.98	10.03	10.31	9.83	10.36	10.00	10.59
5	9.98	10.06	9.55	10.17	8.66	9.97	10.04	10.31	9.86	10.38	10.04	10.59
6	10.01	10.07	9.66	10.18	8.91	9.61	10.05	10.24	9.88	10.39	10.07	10.43
7	10.02	10.09	9.73	10.18	9.25	9.45	10.06	10.25	9.90	10.41	10.10	10.43
8	10.05	10.11	9.79	10.20	9.59	9.57	10.01	10.28	9.93	10.43	10.13	10.43
9	10.07	10.14	9.83	10.21	9.72	9.64	10.04	10.30	9.93	10.45	10.16	10.44
10	10.09	10.14	9.86	10.22	9.80	9.70	10.06	10.30	9.95	10.36	10.19	10.44
11	10.11	9.81	9.89	10.22	9.84	9.75	10.06	9.08	9.96	10.34	10.22	10.44
12	10.13	9.80	9.90	10.24	9.81	9.79	10.08	9.48	9.98	10.37	10.25	10.44
13	10.15	9.65	9.93	10.27	9.21	9.81	10.08	9.66	10.00	10.39	10.30	10.45
14	10.16	9.60	9.95	10.27	9.63	9.84	10.09	9.74	10.03	10.39	10.33	10.45
15	10.17	9.67	9.96	10.29	9.73	9.86	10.11	9.79	10.06	10.41	10.37	10.45
16	10.19	9.73	9.97	10.29	9.30	9.89	10.11	9.83	10.07	10.42	10.44	10.45
17	10.20	9.77	10.00	10.29	9.63	9.90	10.11	9.85	10.09	10.43	10.46	10.45
18	10.22	9.79	10.02	10.03	9.77	9.91	10.12	9.83	10.11	9.98	10.51	10.46
19	10.24	9.82	10.04	9.66	9.81	9.92	10.12	6.00	10.13	10.22	10.54	10.45
20	10.25	9.84	10.04	8.60	8.96	9.95	10.13	4.38	10.15	10.31	10.56	10.46
21	10.28	9.87	10.05	8.80	9.07	9.97	10.15	6.51	10.17	10.21	10.52	10.46
22	10.31	9.89	10.07	9.25	9.44	9.99	10.17	8.21	10.19	8.86	10.57	10.46
23	10.33	9.90	10.09	9.67	9.62	10.01	10.17	8.63	10.21	9.78	10.59	10.46
24	10.35	9.89	10.09	9.80	9.72	10.02	10.19	8.63	10.22	8.78	10.44	10.47
25	10.36	9.91	10.10	9.88	9.77	10.03	10.20	8.63	10.23	9.34	10.57	10.60
26	10.38	9.95	10.10	9.93	9.82	10.05	10.25	8.79	10.23	9.73	10.58	10.56
27	10.39	9.98	10.11	9.96	9.86	9.94	10.25	8.88	10.25	8.70	10.59	10.61
28	10.03	9.99	10.11	10.00	9.88	9.98	10.24	9.09	10.24	9.18	10.60	10.61
29	9.83	9.99	10.13	10.03	---	9.99	10.22	9.30	10.26	9.58	10.60	10.62
30	9.88	8.53	10.12	10.05	---	10.00	10.24	9.46	10.28	9.77	10.17	10.62
31	9.90	---	10.13	10.07	---	10.01	---	9.58	---	9.85	10.40	---
MEAN	10.12	9.86	9.85	9.98	9.50	9.88	10.11	9.23	10.04	10.03	10.33	10.50
MAX	10.39	10.14	10.13	10.29	10.07	10.05	10.25	10.31	10.28	10.45	10.60	10.62
MIN	9.83	8.53	8.70	8.60	8.50	9.45	10.01	4.38	9.64	8.70	9.90	10.43

WTR YR 1988: HIGHEST 4.38 MAY 20; LOWEST 10.62 SEPTEMBER 29, 30.

401148076110301. Local number, LN 1673--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed from recovering water after well pumped dry.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.
PERIOD OF RECORD.--November 1984 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS, (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)
OCT							
14...	0910	10.12	960	39.0	0.44	--	--
DEC							
08...	0840	9.74	943	37.0	0.28	0.020	<0.020
30...	0848	10.12	950	34.0	0.34	--	--
JAN							
25...	1115	10.02	887	30.0	0.58	--	--
FEB							
29...	0730	9.89	865	30.0	0.32	0.010	<0.020
MAR							
30...	1030	10.01	860	31.0	<0.20	--	--
APR							
26...	0900	10.25	846	31.0	<0.20	--	--
JUN							
02...	0935	9.72	789	31.0	<0.20	0.080	0.020
28...	0925	10.29	908	30.0	0.36	--	--
AUG							
03...	0855	9.93	865	29.0	<0.20	--	--
16...	0915	10.38	842	30.0	0.68	--	--
SEP							
12...	0950	10.98	950	31.0	0.34	--	--

(<) Actual value is known to be less than the value shown.

401152076110101. Local number, LN 1676.

LOCATION.--Lat 40°11'52", long 76°11'01", Hydrologic Unit 02050306, 1.5 mi north of Ephrata.
Owner: U.S. Geologcial Survey.
AQUIFER.--Dolomite of Snitz Creek Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 40 ft, cased to 9 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 367 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of shelter platform, 1.0 ft above land-surface datum.
PERIOD OF RECORD.--April 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.28 ft below land-surface datum, May 21, 1988; lowest, 24.82 ft below land-surface datum, Sept. 29, 1985.

DEPTH BELOW LAND SURFACE (WATER LEVEL)(FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.98	23.72	22.19	24.03	---	23.17	23.69	24.14	21.88	23.64	22.29	24.14
2	23.04	23.76	22.29	24.05	---	23.26	23.72	24.16	21.96	23.67	22.84	24.17
3	23.09	23.79	22.50	24.07	---	23.31	23.73	24.18	22.05	23.69	22.97	24.20
4	23.13	23.82	22.67	24.11	---	23.34	23.75	24.20	22.13	23.71	23.08	24.21
5	23.18	23.86	22.82	24.13	---	23.34	23.77	24.20	22.21	23.71	23.17	23.87
6	23.22	23.29	22.96	24.15	---	22.97	23.79	24.19	22.27	23.73	23.24	23.97
7	23.24	23.92	23.06	24.17	---	22.95	23.79	24.18	22.33	23.73	23.30	24.05
8	23.28	23.94	23.12	24.21	---	22.93	23.77	24.18	22.40	23.68	23.36	24.10
9	23.32	23.96	23.17	24.24	---	22.97	23.79	24.19	22.48	23.70	23.42	24.14
10	23.35	23.97	23.23	24.26	---	23.02	23.82	24.21	22.53	23.70	23.47	24.17
11	23.38	23.68	23.29	24.28	---	23.10	23.84	23.89	22.59	23.72	23.51	24.20
12	23.40	23.68	23.35	24.30	---	23.17	23.86	23.36	22.63	23.73	23.54	24.21
13	23.55	23.58	23.41	24.32	---	23.20	23.87	23.46	22.66	23.75	23.58	24.13
14	23.68	23.53	23.44	24.33	---	23.26	23.89	23.54	22.72	23.78	23.63	24.13
15	23.70	23.52	23.44	24.35	---	23.32	23.90	23.64	22.76	23.82	23.68	24.14
16	23.73	23.54	23.44	24.36	---	23.37	23.93	23.71	22.79	23.83	23.71	24.14
17	23.75	23.56	23.51	24.36	---	23.42	23.94	23.74	22.81	23.82	23.74	24.15
18	23.77	23.56	23.55	24.20	---	23.46	23.95	23.71	22.84	23.40	23.77	24.17
19	23.00	23.59	23.57	23.60	---	23.49	23.96	23.51	22.86	23.61	23.78	24.19
20	23.82	23.62	23.57	22.35	---	23.52	23.98	18.15	22.89	23.68	23.81	24.21
21	23.84	23.68	23.57	---	---	23.57	24.01	17.28	22.92	23.50	23.83	24.23
22	23.87	23.70	23.65	---	22.30	23.61	24.07	17.49	23.52	22.04	23.87	24.25
23	23.89	23.70	23.68	---	22.47	23.67	24.09	18.55	23.55	22.27	23.86	24.27
24	23.91	23.73	23.70	---	22.60	23.67	24.10	19.34	23.56	21.80	---	24.28
25	23.93	23.74	23.70	---	22.73	23.70	24.12	19.70	23.56	20.99	24.02	24.29
26	23.98	23.77	23.81	---	22.82	23.70	24.13	20.35	23.57	21.62	24.07	24.30
27	24.00	23.82	23.88	---	22.93	23.62	24.14	20.90	23.62	21.40	24.05	24.30
28	23.80	23.83	23.92	---	23.06	23.63	24.13	21.37	23.64	21.09	24.07	24.31
29	23.58	23.83	23.97	---	---	23.66	24.10	21.60	23.63	21.56	24.08	24.32
30	23.62	23.08	23.99	---	---	23.66	24.13	21.72	23.66	21.90	24.07	24.33
31	23.69	---	24.00	---	---	23.67	---	21.81	---	22.15	24.11	---
MEAN	23.57	23.71	23.37	24.09	22.70	23.38	23.93	22.34	22.83	23.05	23.60	24.19
MAX	24.00	23.97	24.00	24.36	23.06	23.70	24.14	24.21	23.66	23.83	24.11	24.33
MIN	22.98	23.08	22.19	22.35	22.30	22.93	23.69	17.28	21.88	20.99	22.29	23.87

WTR YR 1988: HIGHEST 17.28 MAY 21; LOWEST 24.36 JANUARY 16, 17.

401152076110101. Local number, LN 1676--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed from recovering water after well pumped dry.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.
PERIOD OF RECORD.--March 1985 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)
OCT							
14...	0935	23.68	1120	61.0	0.44	--	--
DEC							
08...	0845	23.08	1190	48.0	0.42	0.040	11.0
30...	0910	23.95	1200	60.0	0.40	--	--
JAN							
25...	1100	23.75	1120	56.0	0.54	--	--
FEB							
29...	0750	23.15	1180	55.0	0.40	0.020	7.30
MAR							
30...	1055	23.68	1390	56.0	<0.20	--	--
APR							
26...	0930	24.11	1230	58.0	0.38	--	--
JUN							
02...	1000	22.00	1060	52.0	<0.20	0.080	2.90
28...	0945	23.66	890	55.0	0.33	--	--
AUG							
03...	0930	22.75	1190	73.0	0.36	--	--
16...	0945	23.63	--	49.0	0.70	--	--
SEP							
12...	1020	24.20	1100	56.0	0.37	--	--

(<) Actual value is known to be less than the value shown.

401156076110501. Local number, LN 1677.

LOCATION.--Lat 40°11'56", long 76°11'05", Hydrologic Unit 02050306, 1.5 mi north of Ephrata.
Owner: U.S. Geological Survey.
AQUIFER.--Dolomite of Snitz Creek Formation of Cambrian age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 50 ft, casing 30 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 377 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of shelter platform, 1.4 ft above land-surface datum.
PERIOD OF RECORD.--April 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 24.00 ft below land-surface datum, May 21, 1988; lowest, 32.37 ft below land-surface datum, Sept. 26, 1985.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.72	30.62	28.80	30.81	30.43	29.55	29.73	31.22	28.48	30.58	30.89	30.96
2	29.80	30.69	28.80	30.82	30.32	29.65	29.76	31.25	28.66	30.63	29.01	31.01
3	29.90	30.74	28.98	30.85	28.60	29.74	29.78	31.28	28.80	30.67	29.25	31.04
4	29.97	30.78	29.19	30.88	27.74	29.82	29.81	31.31	28.91	30.71	29.41	31.04
5	30.05	30.83	29.38	30.93	26.66	29.85	29.85	31.34	29.04	30.74	29.55	30.66
6	30.11	30.87	29.53	30.95	27.09	29.67	29.87	31.35	29.14	30.77	29.67	30.76
7	30.17	30.92	29.66	30.98	27.57	29.45	29.89	31.34	29.25	30.78	29.77	30.84
8	30.25	30.97	29.75	31.03	28.11	29.39	29.86	31.33	29.34	30.73	29.89	30.91
9	30.30	31.01	29.84	31.05	28.49	29.43	29.89	31.35	29.42	30.78	29.98	30.96
10	30.34	31.04	29.92	31.08	28.76	29.47	29.93	31.36	29.50	30.79	30.07	31.02
11	30.41	31.08	30.00	31.11	28.96	29.56	29.96	31.38	29.57	30.84	30.15	31.06
12	30.45	31.10	30.09	31.14	28.95	29.64	29.98	31.07	29.65	30.87	30.22	31.11
13	30.51	30.93	30.17	31.17	28.11	29.70	30.01	30.54	29.72	30.92	30.27	31.13
14	30.55	30.80	30.22	31.21	28.35	29.77	30.04	30.62	29.79	30.96	30.34	31.16
15	30.60	30.70	30.23	31.23	28.51	29.84	30.06	30.69	29.85	31.01	30.41	31.20
16	30.64	30.56	30.26	31.25	28.38	29.92	30.10	30.75	29.92	31.03	30.46	31.24
17	30.68	30.55	30.33	31.26	28.30	29.98	30.11	30.82	29.97	31.05	30.51	31.28
18	30.73	30.57	30.37	31.01	28.53	30.05	30.14	30.84	30.03	30.56	30.58	31.31
19	30.76	30.60	30.42	30.84	28.66	30.10	30.17	30.77	30.07	30.71	30.62	31.34
20	30.80	30.59	30.42	29.06	28.55	30.16	30.20	30.54	30.13	30.79	30.64	31.37
21	30.84	30.60	30.46	28.86	28.36	30.22	30.23	24.00	30.16	29.71	30.68	31.41
22	30.88	30.64	30.50	28.82	28.43	30.28	31.07	24.32	30.23	30.92	30.72	31.44
23	30.92	30.78	30.55	29.14	28.62	29.56	31.08	24.95	30.28	31.07	30.75	31.47
24	30.95	30.81	30.57	29.40	28.83	29.61	31.12	25.34	30.33	29.91	30.76	31.49
25	30.99	30.84	30.59	29.62	29.00	29.64	31.16	26.00	30.35	29.53	30.80	31.50
26	31.02	30.88	30.62	29.84	29.16	29.66	31.19	26.63	30.39	29.90	30.84	31.52
27	---	30.92	30.64	30.02	29.29	29.59	31.21	27.18	30.45	29.39	30.83	31.53
28	31.01	30.93	30.69	30.14	29.42	29.60	31.19	27.52	30.49	29.42	30.85	31.55
29	31.03	30.94	30.73	30.24	---	29.63	31.15	27.89	30.52	29.87	30.86	31.58
30	30.90	30.21	30.75	30.32	---	29.66	31.18	28.10	30.56	30.24	30.86	31.61
31	30.55	---	30.78	30.39	---	29.69	---	28.30	---	30.58	30.89	---
MEAN	30.53	30.78	30.10	30.50	28.58	29.74	30.32	29.40	29.77	30.53	30.34	31.22
MAX	31.03	31.10	30.78	31.26	30.43	30.28	31.21	31.38	30.56	31.07	30.89	31.61
MIN	29.72	30.21	28.80	28.82	26.66	29.39	29.73	24.00	28.48	29.39	29.01	30.66

WTR YR 1988: HIGHEST 24.00 MAY 21; LOWEST 31.61 SEPTEMBER 30.

401156076110501. Local number, LN 1677--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed adjacent to major water-bearing zone.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.
PERIOD OF RECORD.--March 1985 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE-CIFIC CON-DUCT-ANCE (µS/CM)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC DIS. (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOS-PHOROUS DIS-SOLVED (MG/L AS P)
OCT							
14...	0925	30.52	785	24.0	0.30	--	--
DEC							
08...	0940	29.65	802	22.0	<0.20	0.020	0.100
30...	1025	30.73	760	22.0	0.28	--	--
JAN							
25...	1130	30.59	730	21.0	0.40	--	--
FEB							
29...	0925	29.47	756	28.0	0.36	0.010	0.030
MAR							
30...	1045	29.64	795	21.0	<0.20	--	--
APR							
26...	1130	31.18	829	21.0	<0.20	--	--
MAY							
06...	1135	31.34	775	20.0	<0.20	--	--
11...	1255	29.71	738	20.0	<0.20	--	--
13...	1015	30.56	685	20.0	<0.20	--	--
18...	1720	30.67	712	20.0	<0.20	--	--
19...	1330	25.31	733	20.0	<0.20	--	--
20...	0745	23.94	915	32.0	0.45	--	--
22...	0905	23.54	860	31.0	<0.20	--	--
24...	0740	21.83	850	28.0	<0.20	--	--
26...	0635	26.62	812	28.0	<0.20	--	--
JUN							
02...	0900	28.46	733	24.0	<0.20	0.060	0.030
28...	0950	30.49	815	21.0	<0.20	--	--
JUL							
28...	0650	26.98	780	26.0	0.34	--	--
AUG							
03...	1055	29.19	827	30.0	<0.20	--	--
16...	1035	30.42	719	24.0	0.29	--	--
SEP							
12...	1000	31.07	855	24.0	0.34	--	--

(<) Actual value is known to be less than the value shown.

401152076105701. Local number, LN 1679.

LOCATION.--Lat 40°11'52", long 76°10'57", Hydrologic Unit 02050306, 1.5 mi north of Ephrata.
OWNER: U.S. Geological Survey.
AQUIFER.--Dolomite of Snitz Creek Formation of Cambrian Age.

WATER-LEVEL RECORDS

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 60 ft, cased to 13 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 364 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plywood cover, 2.2 ft above land-surface datum.
PERIOD OF RECORD.--March 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 16.03 ft below land-surface datum, May 22, 1988; lowest, 21.22 ft below land-surface datum, Sept. 6, 7, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.88	20.29	19.01	20.54	20.36	19.88	20.39	20.83	19.22	20.35	19.25	20.46
2	19.94	20.33	19.12	20.55	20.18	19.95	20.42	20.86	19.28	20.38	19.45	20.40
3	19.99	20.36	19.24	20.57	18.84	19.98	20.42	20.88	19.36	20.39	19.60	20.43
4	20.03	20.39	19.34	20.59	18.32	20.03	20.44	20.90	19.41	20.42	19.69	20.45
5	20.07	20.42	19.48	20.63	17.70	20.03	20.46	20.91	19.47	20.41	19.78	20.49
6	20.11	20.44	19.59	20.67	17.95	19.70	20.48	20.86	19.54	20.43	19.85	20.51
7	20.13	20.48	19.67	20.71	18.51	19.70	20.48	20.85	19.61	20.42	19.92	20.54
8	20.17	20.52	19.84	20.74	18.90	19.71	20.46	20.87	19.63	20.35	19.97	20.56
9	20.21	20.54	19.90	20.77	19.25	19.75	20.49	20.90	19.69	20.40	20.05	20.59
10	20.25	20.56	19.95	20.80	19.41	19.79	20.51	20.92	19.72	20.35	20.14	20.59
11	20.28	20.59	20.01	20.83	19.56	19.85	20.54	20.59	19.78	20.40	20.16	20.29
12	20.30	20.59	20.05	20.85	19.62	19.91	20.56	20.14	19.82	20.41	20.17	20.34
13	20.33	20.28	20.11	20.88	19.24	19.95	20.58	20.24	19.85	20.44	20.23	20.40
14	20.35	20.29	20.15	20.91	19.11	20.00	20.60	20.32	19.89	20.46	20.29	20.43
15	20.34	20.19	20.15	20.92	19.27	20.04	20.62	20.38	19.93	20.50	20.29	20.59
16	20.36	20.16	20.14	20.94	19.32	20.10	20.64	20.43	19.97	20.52	20.29	20.63
17	20.38	20.17	20.21	20.95	19.08	20.14	20.66	20.46	19.99	20.50	20.35	20.64
18	20.40	20.20	20.24	20.95	19.24	20.18	20.67	20.38	20.00	20.13	20.37	20.67
19	20.42	20.23	20.27	20.73	19.38	20.20	20.68	20.21	20.05	20.31	20.39	20.70
20	20.45	20.20	20.27	20.52	19.41	20.23	20.71	16.50	20.06	20.36	20.39	20.76
21	20.47	20.23	20.26	19.23	19.09	20.27	20.74	16.06	20.09	20.02	20.45	20.79
22	20.50	20.27	20.35	19.38	19.23	20.31	20.74	16.03	20.11	18.94	20.49	20.84
23	20.52	20.26	20.39	19.64	19.35	20.30	20.76	16.58	20.15	19.17	20.47	20.86
24	20.55	20.28	20.41	19.82	19.45	20.31	20.77	17.04	20.16	17.71	20.50	20.88
25	20.57	20.30	20.41	19.96	19.56	20.33	20.79	17.20	20.16	18.24	20.36	20.88
26	20.58	20.32	20.41	20.13	19.64	20.33	20.83	17.57	20.16	18.55	20.39	20.89
27	---	20.35	20.43	20.22	19.72	20.17	20.84	18.00	20.21	17.88	20.42	20.90
28	20.61	20.37	20.45	20.28	19.79	20.27	20.80	18.41	20.28	18.30	20.45	20.90
29	20.61	20.36	20.48	20.31	---	20.30	20.78	18.71	20.33	18.50	20.38	20.90
30	20.17	19.30	20.50	20.35	---	20.34	20.82	18.95	20.36	18.81	20.40	20.92
31	20.23	---	20.52	20.36	---	20.38	---	19.13	---	19.11	20.44	---
MEAN	20.31	20.31	20.04	20.48	19.23	20.08	20.62	19.42	19.88	19.78	20.17	20.64
MAX	20.61	20.59	20.52	20.95	20.36	20.38	20.84	20.92	20.36	20.52	20.50	20.92
MIN	19.88	19.30	19.01	19.23	17.70	19.70	20.39	16.03	19.22	17.71	19.25	20.29

WTR YR 1988: HIGHEST 16.03 MAY 22; LOWEST 20.95 JANUARY 17, 18.

401152076105701. Local number, LN 1679--Continued

WATER-QUALITY RECORDS

REMARKS.--Water-quality samples bailed from recovering water after well pumped.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.
PERIOD OF RECORD.--December 1985 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPECIFIC CONDUCTANCE (µS/CM)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	PHOSPHOROUS DISSOLVED (MG/L AS P)
OCT							
14...	1025	20.30	800	26.0	0.34	--	--
DEC							
08...	1000	19.82	812	22.0	0.25	<0.020	0.020
30...	1040	20.42	770	24.0	0.14	--	--
JAN							
25...	1055	19.92	703	20.0	0.58	--	--
FEB							
29...	1010	19.84	738	20.9	--	--	<0.020
MAR							
30...	1230	20.35	718	22.0	<0.20	--	--
APR							
26...	1120	20.82	716	20.0	<0.20	--	--
MAY							
06...	1130	20.84	683	20.0	<0.20	--	--
11...	1240	20.16	725	18.0	<0.20	--	--
13...	0945	20.21	724	20.0	<0.20	--	--
18...	1715	20.22	710	19.0	<0.20	--	--
19...	1320	17.29	638	17.0	--	--	--
20...	0825	16.22	790	20.0	0.53	--	--
22...	0855	16.26	810	24.0	<0.20	--	--
24...	0750	16.93	745	22.0	<0.20	--	--
26...	1650	18.17	744	20.0	<0.20	--	--
JUN							
02...	0905	19.32	689	18.0	<0.20	0.060	0.020
28...	1100	20.29	877	20.0	0.24	--	--
JUL							
28...	0710	17.90	785	25.0	0.41	--	--
AUG							
03...	1110	19.52	738	18.0	<0.20	--	--
16...	1030	19.25	729	23.0	0.68	--	--
SEP							
12...	1115	20.60	750	23.0	0.42	--	--

(<) Actual value is known to be less than the value shown.

400744075583901. Local number, LN SP 58.

LOCATION.--Lat 40°07'44", long 75°58'39", Hydrologic Unit 02050306, 1.1 mi southeast of Churchtown.
Owner: Harry Krappenbach.
AQUIFER.--Dolomite of Zooks Corner Formation of Cambrian age.
DATUM.--Elevation of land-surface is 427 ft above National Geodetic Vertical Datum of 1929, from topographic map.
REMARKS.--Hillside spring used for domestic purposes.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.
PERIOD OF RECORD.--February 1982 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SPECIFIC CONDUCTANCE (µS/CM)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN AMMONIA + ORGANIC DIS. (MG/L AS N)
OCT				
08...	1050	630	11.0	0.15
DEC				
30...	0930	644	12.0	--
FEB				
09...	1255	604	12.0	--
29...	0840	495	12.0	--
MAR				
30...	0820	620	13.0	--
APR				
26...	0955	565	12.0	--
MAY				
06...	1025	568	12.0	--
11...	0925	610	13.0	--
18...	1620	612	15.0	--
19...	0935	634	11.0	--
20...	0940	720	13.0	--
22...	0935	680	13.0	--
24...	1250	630	12.0	--
26...	1125	623	13.0	--
JUN				
01...	1120	609	13.0	--
28...	0930	--	13.0	--
JUL				
27...	0825	638	13.0	--
AUG				
17...	0900	655	13.0	--
SEP				
14...	0850	625	12.0	--

401152076105301. Local number, LN SP 61.

LOCATION.--Lat 40°11'52", long 76°10'53", Hydrologic Unit 02050306, 1.5 mi north of Ephrata.
Owner: Aaron Stauffer.
AQUIFER.--Dolomite of Snitz Creek Formation of Cambrian age.
DATUM.--Elevation of land-surface is 340 ft above National Geodetic Vertical Datum of 1929, from topographic map.
REMARKS.--Abandoned spring once used for domestic supply.
COOPERATION.--Chemical samples analyzed by Pa. Department of Environmental Resources, Bureau of Laboratories.
PERIOD OF RECORD.--October 1984 to current year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988

DATE	TIME	SPECIFIC CONDUCTANCE (µS/CM)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	PHOSPHOROUS DIS-SOLVED (MG/L AS P)
OCT						
14...	0945	597	21.0	0.30	--	--
DEC						
08...	1015	712	18.0	0.42	0.020	0.020
30...	0949	710	17.0	0.24	--	--
JAN						
25...	1050	730	18.0	0.40	--	--
FEB						
29...	0825	697	18.0	0.42	0.040	0.030
MAR						
30...	1205	718	18.0	<0.20	--	--
APR						
26...	1020	656	16.0	0.32	--	--
MAY						
06...	1110	665	16.0	<0.20	--	--
11...	1325	677	15.0	<0.20	--	--
13...	0920	628	18.0	<0.20	--	--
18...	1700	695	17.0	0.20	--	--
22...	0915	835	30.0	<0.20	--	--
24...	0833	782	26.0	<0.20	--	--
26...	0705	769	25.0	<0.20	--	--
JUN						
02...	0835	705	19.0	<0.20	0.070	0.040
28...	1120	692	17.0	0.26	--	--
JUL						
28...	0730	743	23.0	0.32	--	--
AUG						
03...	1123	710	18.0	0.31	--	--
16...	1005	649	18.0	0.31	--	--
SEP						
12...	1035	630	18.0	0.50	--	--

(<) Actual value is known to be less than the value shown.

411800076162501. Local number, LU 243.

LOCATION.--Lat 41°18'00", long 76°16'25", Hydrologic Unit 02050107, at Ricketts Glen Park, Fairmount Township.
Owner: Commonwealth of Pennsylvania.
AQUIFER.--Sandstone of Catskill Formation of Late Devonian age.
WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 160 ft, cased to 40 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 1,266 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.3 ft above land-surface datum.
REMARKS.--Well levels effected by nearby intermittent pumpage.
PERIOD OF RECORD.--November 1948 to July 1950, July 1955 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 36.08 ft below land-surface datum, Mar. 31, 1950; lowest, 58.70 ft below land-surface datum, Oct. 5, 1957.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51.72	53.06	51.01	51.38	50.72	52.48	51.14	52.52	51.47	54.26	53.38	52.50
2	51.84	53.14	50.48	51.50	50.64	52.53	51.22	52.34	51.55	54.62	53.22	52.99
3	51.94	53.00	50.17	51.50	50.31	52.69	51.25	52.36	51.69	55.00	53.29	51.46
4	52.06	52.95	50.03	51.56	49.53	52.77	51.29	52.26	51.90	55.12	53.37	51.31
5	52.17	52.92	50.31	51.68	48.93	52.67	51.34	52.06	52.12	54.86	53.35	50.80
6	52.25	52.98	50.62	51.76	48.73	52.84	51.47	51.87	52.10	54.84	53.55	50.30
7	52.27	53.02	50.79	51.81	48.77	52.82	51.47	51.97	52.40	55.15	53.59	50.16
8	52.43	53.05	50.90	51.87	48.74	52.99	51.54	52.10	52.29	55.17	53.62	50.21
9	52.48	53.09	51.00	51.96	48.80	52.94	51.64	51.94	52.40	55.28	53.73	50.33
10	52.60	53.14	51.16	52.05	48.94	52.70	51.84	51.84	52.52	55.62	53.98	50.59
11	52.62	53.15	51.35	52.08	49.03	52.34	51.85	51.97	52.76	55.66	54.05	50.80
12	52.65	53.13	51.62	52.09	49.06	51.84	51.88	51.95	52.96	55.33	54.29	50.95
13	52.70	53.19	51.89	52.17	49.09	51.35	51.96	51.85	52.99	55.54	54.28	51.09
14	52.72	53.22	52.17	52.31	49.36	50.87	52.00	51.91	53.06	55.59	53.89	51.28
15	52.75	53.26	52.16	52.37	49.46	50.47	52.10	51.99	53.14	55.66	53.69	51.50
16	52.79	53.38	52.12	52.40	49.58	50.05	52.15	52.01	53.19	55.96	53.67	51.67
17	52.90	53.33	52.39	52.45	49.77	---	52.24	52.72	53.23	55.69	53.56	51.72
18	53.03	53.31	52.47	52.46	50.54	---	52.27	52.18	53.49	55.43	53.55	51.90
19	53.05	53.10	52.50	52.48	50.03	---	52.37	52.12	53.64	55.33	53.62	52.00
20	53.06	52.94	52.35	52.37	49.93	---	52.59	51.76	53.58	55.32	53.86	52.08
21	53.11	52.70	52.31	52.34	50.03	50.13	52.46	51.20	53.61	55.06	54.08	52.15
22	53.18	52.56	52.17	52.36	50.01	50.42	52.61	50.85	53.64	54.45	54.19	52.27
23	53.27	52.51	52.21	52.22	49.98	50.71	52.62	50.69	53.88	54.20	54.08	52.33
24	53.29	52.49	52.21	52.21	50.06	50.94	52.67	51.49	53.81	54.14	53.49	52.49
25	53.37	52.47	52.05	52.18	50.07	51.01	52.96	50.86	53.97	54.48	52.88	52.60
26	53.34	52.43	52.08	52.14	52.08	51.08	52.81	50.89	53.97	53.99	52.49	52.71
27	53.33	52.41	52.13	50.60	52.20	50.96	52.84	50.89	---	53.73	---	52.84
28	53.22	52.46	52.21	50.66	52.31	50.47	52.76	51.04	---	53.41	---	52.83
29	---	52.46	51.19	50.63	---	51.45	52.93	51.34	54.06	53.85	---	52.91
30	53.10	52.45	51.29	50.63	---	51.08	52.65	51.46	54.19	53.37	---	52.96
31	53.18	---	51.33	50.66	---	51.15	---	51.51	---	53.31	51.19	---
MEAN	52.75	52.91	51.57	51.83	49.88	51.62	52.10	51.74	52.99	54.82	53.55	51.72
MAX	53.37	53.38	52.50	52.48	52.31	52.99	52.96	52.72	54.19	55.96	54.29	52.99
MIN	51.72	52.41	50.03	50.60	48.73	50.05	51.14	50.69	51.47	53.31	51.19	50.16

WTR YR 1988: HIGHEST 48.73 FEBRUARY 6; LOWEST 55.96 JULY 16.

412427076594401. Local number, LY 112.

LOCATION.--Lat 41°24'27", long 76°59'44", Hydrologic Unit 02050206, at State Game Land Number 133, near Trout Run.

Owner: U.S. Geological Survey.

AQUIFER.--Shale of Catskill Formation of Late Devonian age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 200 ft, cased to 23 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land-surface is 1,400 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood cover, 3.1 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 76.10 ft below land-surface datum, June 23, 1972; lowest, 95.32 ft below land-surface datum, Oct. 23, 24, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	86.83	88.25	85.75	87.61	88.24	87.82	88.03	89.96	87.75	91.00	90.19	85.53
2	86.71	88.28	85.60	87.81	86.98	87.94	88.10	89.88	87.95	91.13	90.20	85.83
3	86.84	88.32	85.70	87.84	84.72	87.94	88.14	89.88	88.14	91.21	90.30	86.13
4	86.95	88.30	86.00	87.85	84.61	87.60	88.17	89.91	88.31	91.29	90.43	86.15
5	87.12	88.27	86.35	88.07	85.10	86.85	88.33	89.94	88.39	91.38	90.57	85.56
6	87.21	88.44	86.73	88.28	85.59	86.36	88.39	89.94	88.54	91.43	90.67	84.91
7	87.22	88.63	86.97	88.40	85.90	86.38	88.48	89.77	88.65	91.50	90.76	85.35
8	87.08	88.74	87.04	88.42	86.28	86.33	88.68	89.55	88.80	91.56	90.75	85.70
9	86.99	88.81	87.04	88.50	86.61	86.16	88.85	89.36	88.97	91.59	90.72	86.07
10	86.92	88.97	87.16	88.67	86.94	85.80	88.92	89.24	89.15	91.66	90.79	86.51
11	86.94	89.00	87.19	88.73	87.08	85.42	89.01	89.35	89.25	91.73	90.93	86.90
12	87.01	89.01	87.36	88.79	87.09	85.40	89.09	89.35	89.37	91.79	91.10	87.09
13	87.25	89.06	87.68	88.90	87.52	85.56	89.16	89.46	89.50	91.89	91.23	87.21
14	87.39	89.11	87.80	89.11	87.72	85.81	89.23	89.45	89.63	91.93	91.30	87.43
15	87.53	89.17	87.80	89.18	87.85	86.08	89.29	89.45	89.73	92.04	91.46	87.70
16	87.63	89.18	87.52	89.26	88.20	86.51	89.36	89.47	89.76	92.10	91.59	87.83
17	87.72	89.14	87.00	89.30	88.37	86.91	89.42	89.59	89.84	92.11	91.67	87.84
18	87.86	88.96	86.81	89.36	88.49	87.23	89.39	89.62	89.99	92.11	91.80	87.82
19	88.00	88.65	86.66	89.49	88.49	87.34	89.53	89.10	90.09	91.94	91.88	87.76
20	88.07	88.14	86.58	89.48	88.14	87.46	89.65	85.67	90.17	91.82	91.98	87.66
21	88.22	87.45	86.51	88.76	87.81	87.78	89.72	84.90	90.22	91.77	92.14	87.42
22	88.41	87.36	86.49	87.77	87.25	88.12	89.85	85.17	90.26	91.66	92.23	86.42
23	88.56	87.53	86.39	87.16	87.04	88.31	89.90	85.52	90.37	91.19	92.30	86.08
24	88.63	87.65	86.40	87.07	87.14	88.38	89.93	85.91	90.55	90.93	92.26	86.38
25	88.74	87.85	86.44	87.15	87.27	88.47	90.02	86.41	90.58	90.82	92.15	86.64
26	88.77	87.92	86.71	87.45	87.30	88.51	90.07	86.60	90.59	90.82	91.83	86.95
27	88.78	88.11	86.91	87.86	87.43	88.52	90.09	86.87	---	90.79	91.67	87.13
28	88.76	88.26	86.94	88.08	87.62	88.35	90.12	87.08	---	90.42	91.60	87.31
29	---	88.29	87.17	88.16	---	88.15	90.09	87.29	90.88	90.13	90.84	87.55
30	88.36	88.29	87.36	88.19	---	87.91	89.99	87.50	90.91	90.15	---	87.67
31	88.29	---	87.42	88.27	---	87.98	---	87.64	---	90.18	85.17	---
MEAN	87.69	88.44	86.82	88.35	87.10	87.21	89.23	88.35	89.51	91.36	91.08	86.75
MAX	88.78	89.18	87.80	89.49	88.49	88.52	90.12	89.96	90.91	92.11	92.30	87.84
MIN	86.71	87.36	85.60	87.07	84.61	85.40	88.03	84.90	87.75	90.13	85.17	84.91

WTR YR 1988: HIGHEST 84.61 FEBRUARY 4; LOWEST 92.30 AUGUST 23.

404140077354801. Local number, MF 344.

LOCATION.--Lat 40°41'40", long 77°35'48", Hydrologic Unit 02050304, at Roseann.
Owner: Ira Huron
AQUIFER.--Dolomite of Bellefonte Formation of Lower Ordovician age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 200 ft, cased to 42 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 800 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of shelter platform, 1.0 ft above land-surface datum.
PERIOD OF RECORD.--September 1983 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.29 ft below land-surface datum, Feb. 15, 1984; lowest, 77.13 ft below land-surface datum, Oct. 11, 1983.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	63.45	59.61	55.41	54.19	55.01	55.66	57.57	50.03	59.18	65.18	59.94
2	---	63.29	59.38	55.62	50.72	55.30	55.96	57.68	50.72	59.34	65.47	60.32
3	---	63.17	58.85	55.65	46.60	55.41	56.12	57.90	51.32	59.54	65.72	60.62
4	---	63.07	58.16	55.66	45.46	55.60	56.23	58.07	51.90	59.85	65.93	60.63
5	---	63.20	57.99	55.98	42.96	55.54	56.39	58.17	52.33	60.07	66.12	58.50
6	---	63.41	58.10	55.39	43.43	53.88	56.49	57.96	52.78	60.24	66.27	58.88
7	---	63.47	58.13	55.92	44.33	52.74	56.56	57.61	53.02	60.43	65.67	59.48
8	---	63.49	58.08	56.52	45.21	51.29	56.04	57.36	53.77	60.59	65.36	59.86
9	---	63.74	57.95	57.13	46.28	50.54	55.69	57.32	53.75	60.86	65.31	60.30
10	---	63.69	57.87	57.37	46.64	49.49	55.93	57.27	53.42	61.12	65.38	60.82
11	---	63.83	57.91	57.41	46.99	48.71	56.22	56.96	53.72	61.38	65.44	61.41
12	---	63.83	58.00	57.36	47.67	48.90	56.25	56.65	54.21	61.68	65.54	61.77
13	---	63.95	58.32	57.99	48.86	48.71	56.16	56.47	54.77	61.99	65.50	61.80
14	---	64.25	58.39	58.09	49.31	48.35	55.87	56.24	55.33	62.24	65.42	60.63
15	---	64.50	58.38	58.22	50.19	48.65	55.76	56.04	55.62	62.60	65.47	61.10
16	---	64.76	58.07	58.24	50.84	49.16	55.85	55.68	55.91	62.88	65.60	61.38
17	---	64.75	58.32	57.03	51.62	49.62	55.85	55.53	56.15	63.19	65.70	61.51
18	---	63.72	58.38	56.74	52.17	50.52	55.72	55.51	56.45	63.54	65.95	60.93
19	---	63.73	58.26	56.74	51.72	50.70	55.90	53.35	56.71	63.83	66.01	60.64
20	---	---	58.04	47.42	51.94	50.90	55.97	44.75	56.93	64.00	65.85	60.86
21	62.54	---	57.56	47.87	52.17	51.49	56.16	44.94	57.16	63.99	66.00	61.14
22	62.75	---	57.48	48.77	52.59	52.24	56.43	45.26	57.34	64.02	66.11	61.40
23	63.00	---	56.92	49.75	53.15	52.86	56.50	45.82	57.74	64.08	66.15	61.79
24	63.16	---	56.73	---	---	52.94	56.80	46.24	57.94	64.05	---	62.13
25	63.45	---	56.24	51.28	53.36	53.06	56.96	46.84	58.11	64.06	---	62.52
26	63.65	---	55.91	52.88	53.69	53.32	57.11	47.14	58.37	64.10	---	62.84
27	63.80	---	55.92	53.65	53.90	53.56	57.19	47.48	58.59	64.24	---	63.29
28	62.81	---	55.76	54.15	54.66	54.48	57.27	47.97	58.75	64.33	---	63.80
29	63.24	---	55.72	54.46	---	54.79	57.36	48.54	58.97	64.55	64.35	64.23
30	63.32	---	55.78	54.91	---	55.18	57.54	49.28	59.10	64.68	59.31	64.60
31	63.45	---	55.66	55.05	---	55.45	---	49.71	---	64.93	59.35	---
MEAN	63.20	63.75	57.61	54.96	49.65	52.21	56.33	53.01	55.36	62.44	65.16	61.30
MAX	63.80	64.76	59.61	58.24	54.66	55.60	57.54	58.17	59.10	64.93	66.27	64.60
MIN	62.54	63.07	55.66	47.42	42.96	48.35	55.66	44.75	50.03	59.18	59.31	58.50

WTR YR 1988: HIGHEST 42.96 FEBRUARY 5; LOWEST 66.27 AUGUST 6.

402339077074502. Local number, PE 518.

LOCATION.--Lat 40°23'39", long 77°07'45", Hydrologic Unit 02050305, at State Game Land Number 256.
Owner: U.S. Geological Survey.

AQUIFER.--Shale of Mahantango Formation of Middle Devonian age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 138 ft, cased to 17 ft, open hole.

INSTRUMENTATION.--Continuous strip-chart recorder.

DATUM.--Elevation of land-surface is 590 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of plywood cover, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--July 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.75 ft below land-surface datum, Apr. 5, 1984; lowest, 19.51 ft below land-surface datum, Aug. 19, 1975.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.88	10.67	---	9.42	9.19	9.69	9.66	9.98	9.13	10.55		---
2	10.06	10.56	8.79	9.57	8.85	9.58	9.70	10.16	9.25	10.99		---
3	10.22	10.45	8.76	9.60	8.72	9.54	9.72	10.00	9.32	11.07		---
4	10.42	10.41	8.79	9.68	8.19	9.18	9.51	9.95	9.85	11.31		---
5	10.42	10.58	9.26	10.09	8.10	8.90	9.98	9.90	9.70	12.52		---
6	10.33	10.58	9.71	9.98	8.61	8.98	9.76	9.65	9.66	12.82		---
7	10.42	10.54	9.69	9.53	8.76	9.38	9.30	9.70	9.73	11.39		---
8	10.67	10.59	9.76	9.87	8.89	9.04	9.13	9.65	9.69	10.84		---
9	10.83	10.53	9.76	10.12	9.17	9.42	9.19	9.62	9.80	10.60		---
10	10.84	10.57	9.49	10.11	9.11	9.56	9.16	9.53	9.94	10.42		---
11	10.84	10.46	9.38	10.16	9.05	9.54	9.24	9.33	9.82	10.31		---
12	10.84	10.26	9.75	10.15	9.11	9.67	9.25	9.38	10.01	10.37		---
13	10.82	10.15	10.01	10.19	9.50	10.04	9.29	9.72	10.37	10.46		---
14	11.02	10.63	9.95	10.12	10.06	9.90	9.47	9.58	10.66	10.53		---
15	10.85	10.41	9.85	10.19	9.52	9.85	9.21	9.49	10.69	10.61		---
16	10.90	10.10	9.76	10.01	9.49	---	9.27	9.47	10.73	10.53		---
17	10.85	9.84	10.23	9.27	9.65	---	9.30	9.29	10.56	10.31		---
18	10.83	9.40	10.16	9.12	9.47	---	9.28	9.20	10.83	10.35		---
19	10.82	9.11	10.31	9.04	9.47	---	9.48	8.69	10.75	---		---
20	10.78	8.83	10.21	9.22	9.28	---	9.44	8.31	10.47	---		---
21	10.95	9.34	9.57	9.18	8.56	---	9.36	8.00	10.35	---		---
22	11.19	9.51	9.40	9.22	8.70	---	9.36	8.21	10.41	---		---
23	11.14	9.66	9.40	9.60	8.68	---	9.33	8.37	10.65	10.17		---
24	11.07	9.69	9.76	9.66	8.78	---	9.70	8.32	10.82	10.10		---
25	11.09	9.60	9.53	---	9.11	---	9.89	8.32	11.05	---		---
26	11.09	10.02	9.37	---	9.10	---	9.79	8.57	10.63	---		---
27	11.03	10.09	9.34	---	9.21	---	9.70	8.84	10.81	---		---
28	10.56	9.97	9.20	---	9.44	---	9.84	8.95	11.26	---		---
29	10.59	9.81	9.47	9.58	---	10.12	9.83	9.57	10.94	---		10.50
30	10.36	9.20	9.51	9.46	---	9.69	9.98	---	10.84	---		10.39
31	10.71	---	9.49	9.46	---	9.82	---	---	---	---		---
MEAN	10.72	10.05	9.59	9.69	9.06	9.55	9.50	9.23	10.29	10.81		10.45
MAX	11.19	10.67	10.31	10.19	10.06	10.12	9.98	10.16	11.26	12.82		10.50
MIN	9.88	8.83	8.76	9.04	8.10	8.90	9.13	8.00	9.13	10.10		10.39

WTR YR 1988: HIGHEST 8.00 MAY 21; LOWEST 12.82 JULY 6.

414640077493801. Local number, PO 72.

LOCATION.--Lat 41°46'40", long 77°49'38", Hydrologic Unit 02050205, at Denton Hill State Park.
Owner: U.S. Geological Survey.
AQUIFER.--Shale of Catskill Formation of Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 110 ft, cased to 21 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 1,810 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood cover, 1.8 ft above land-surface datum.
PERIOD OF RECORD.--October 1967 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.20 ft below land-surface datum, Mar. 23, 1968; lowest, 39.12 ft below land-surface datum, Dec. 11, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.89	17.96	12.58	16.09	17.62	20.90	13.23	15.89	17.34	26.75	29.73	28.17
2	20.20	17.95	23.25	16.67	12.50	21.19	13.72	15.29	17.97	26.92	30.04	28.98
3	16.87	17.95	32.56	16.90	8.16	21.21	13.91	15.22	18.16	27.07	30.20	29.70
4	15.65	17.97	37.70	17.08	9.46	20.97	13.88	15.43	18.71	27.35	30.39	29.77
5	16.06	17.94	---	17.60	11.32	20.77	12.03	15.61	19.36	27.41	30.52	25.68
6	16.35	18.09	---	18.13	13.03	20.86	11.63	15.88	19.96	27.45	30.59	26.22
7	16.29	18.18	---	18.39	13.87	20.87	12.87	16.27	20.28	27.64	30.71	27.24
8	16.23	17.91	---	18.47	14.63	20.61	13.81	16.50	20.61	27.73	30.85	27.93
9	16.19	17.60	---	18.94	15.20	20.22	14.41	16.70	20.96	27.83	31.02	28.72
10	16.24	17.13	---	19.33	15.85	19.35	14.91	16.70	21.51	28.00	31.15	29.70
11	16.21	16.79	39.12	19.20	16.21	14.19	15.48	16.31	21.89	28.16	31.25	30.16
12	15.11	16.60	---	19.27	16.37	10.95	15.94	16.38	22.29	28.36	31.29	30.40
13	14.69	16.68	---	19.70	16.98	11.32	16.37	16.35	22.87	28.61	30.72	30.47
14	15.20	16.96	---	19.64	17.47	11.03	16.74	15.99	23.50	28.73	30.94	30.72
15	15.83	17.17	---	19.85	17.59	9.10	17.08	15.91	24.08	28.99	31.16	31.08
16	16.27	17.19	---	20.67	18.12	10.92	17.35	15.82	24.46	29.09	31.31	31.32
17	16.69	17.19	---	20.91	18.55	12.74	17.50	15.17	24.75	28.98	31.43	31.33
18	17.18	16.00	---	20.93	18.88	13.84	17.71	13.18	25.17	28.37	31.50	31.12
19	17.56	14.40	---	20.79	18.92	14.35	18.17	11.36	25.51	28.53	31.67	31.23
20	17.75	14.13	---	20.00	18.92	14.92	18.45	7.94	25.55	28.08	31.79	31.27
21	18.20	14.90	---	18.61	19.42	15.72	18.71	8.89	25.66	26.97	31.89	30.19
22	18.67	15.48	12.66	18.43	19.60	16.63	19.11	10.47	25.65	25.78	32.05	30.51
23	18.91	15.84	13.49	18.22	19.63	16.86	19.19	12.24	25.76	26.68	32.05	30.55
24	19.18	16.39	14.11	18.14	20.00	16.44	18.24	12.52	25.93	27.32	29.91	28.21
25	19.23	16.64	14.16	18.25	20.23	12.55	18.24	11.02	26.03	27.71	30.49	29.09
26	19.34	16.98	14.07	18.39	20.33	8.20	18.22	11.35	26.10	27.82	30.56	29.97
27	19.36	17.36	13.84	18.91	20.48	7.45	18.07	12.94	26.17	27.94	30.89	30.45
28	18.44	17.61	13.79	18.99	20.74	8.25	17.76	14.19	26.36	28.31	31.11	30.82
29	18.09	17.60	14.49	19.21	---	9.61	17.42	15.19	26.55	28.82	27.99	31.14
30	17.95	12.85	15.23	19.26	---	11.29	16.81	16.07	26.64	29.15	25.89	31.37
31	17.95	---	15.48	19.15	---	12.64	---	16.84	---	29.34	27.28	---
MEAN	17.35	16.78	19.10	18.84	16.79	15.03	16.23	14.37	23.19	27.93	30.59	29.78
MAX	20.20	18.18	39.12	20.93	20.74	21.21	19.19	16.84	26.64	29.34	32.05	31.37
MIN	14.69	12.85	12.58	16.09	8.16	7.45	11.63	7.94	17.34	25.78	25.89	25.68

WTR YR 1988: HIGHEST 7.45 MARCH 27; LOWEST 39.12 DECEMBER 11.

403939076591001. Local number, SN 130.

LOCATION.--Lat 40°39'39", long 76°59'10", Hydrologic Unit 02050301, at State Game Land Number 194.
Owner: U.S. Geological Survey.
AQUIFER.--Trimmers Rock Formation of Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 100 ft, cased to 40 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 740 ft above National Geodetic Vertical Datum of 1929, from topographic map.
Measuring point: Top of plywood cover, 3.6 ft above land-surface datum.
PERIOD OF RECORD.--June 1968 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.45 ft below land-surface datum, Sept. 26, 1975; lowest, 19.57 ft below land-surface datum, Nov. 23, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.09	19.15	18.01	18.89	---	18.90	19.04	19.18	18.92	19.25	19.24	19.38
2	19.11	19.16	18.30	18.96	---	18.95	19.04	19.17	18.96	19.25	19.26	19.38
3	19.15	19.15	18.45	18.95	---	18.94	19.04	19.18	18.97	19.25	19.27	19.37
4	19.17	19.16	18.59	18.95	---	18.97	19.04	19.17	19.01	19.26	19.27	19.36
5	19.18	19.21	18.75	19.02	---	18.92	19.06	19.17	19.02	19.26	19.30	18.98
6	19.17	19.22	18.85	19.05	---	17.84	19.04	19.16	19.02	19.28	19.31	19.08
7	19.16	19.24	18.92	19.06	---	18.03	19.04	19.12	19.03	19.28	19.31	19.14
8	19.19	19.24	18.94	19.05	---	18.22	18.83	19.02	19.04	19.28	19.31	19.20
9	19.23	19.25	18.95	19.06	---	18.33	18.69	18.99	19.06	19.28	19.33	19.21
10	19.23	19.24	18.97	19.09	---	18.38	18.70	18.97	19.08	19.28	19.34	19.24
11	19.23	19.23	18.98	19.09	---	18.49	18.76	19.03	19.10	19.28	19.36	19.27
12	19.22	19.22	19.03	19.10	---	18.57	18.79	19.07	19.12	19.29	19.36	19.28
13	19.21	19.16	19.08	19.13	---	18.64	18.86	19.06	19.12	19.30	19.36	19.27
14	19.23	18.85	19.11	19.18	---	18.68	18.88	19.10	19.15	19.30	19.37	19.01
15	19.24	18.59	19.08	19.16	---	18.73	18.93	19.11	19.15	19.31	19.34	19.13
16	19.23	18.69	18.97	19.19	---	18.81	18.98	19.12	19.15	19.32	19.34	19.16
17	19.23	18.70	18.89	19.19	---	18.86	18.99	19.13	19.16	19.31	19.34	19.17
18	19.23	18.55	18.91	19.18	---	18.89	18.99	18.73	19.17	19.32	19.40	19.16
19	19.24	18.38	18.92	19.17	---	18.91	19.02	16.32	19.18	19.33	19.39	19.10
20	19.23	18.55	18.86	19.04	---	18.90	19.04	16.93	19.16	19.34	19.39	19.08
21	19.23	18.71	18.72	18.71	---	18.96	19.08	17.60	19.17	19.27	19.41	19.13
22	19.24	18.83	18.65	18.71	---	19.01	19.09	17.93	19.17	19.30	19.43	19.17
23	19.24	18.91	18.75	18.77	---	19.04	19.10	18.18	19.18	19.33	19.44	19.19
24	19.31	18.97	18.79	18.82	---	19.05	19.11	18.37	19.21	19.34	19.41	19.22
25	19.31	19.00	18.83	---	18.65	19.05	19.14	18.55	19.20	19.37	19.42	19.24
26	19.33	19.05	18.86	---	18.72	19.05	19.15	18.68	19.19	19.32	19.44	19.27
27	19.31	19.07	18.85	---	18.80	19.02	19.13	18.69	19.22	19.33	19.45	19.26
28	19.25	19.08	18.70	---	18.84	18.99	19.14	18.77	19.22	19.34	---	19.29
29	19.02	19.07	18.74	---	---	19.00	19.13	18.81	19.22	19.35	19.34	19.29
30	19.06	17.29	18.82	---	---	18.99	19.16	18.86	19.22	19.35	19.36	19.29
31	19.13	---	18.83	---	---	19.00	---	18.90	---	19.25	19.38	---
MEAN	19.21	18.93	18.81	19.02	18.75	18.78	19.00	18.71	19.12	19.30	19.36	19.21
MAX	19.33	19.25	19.11	19.19	18.84	19.05	19.16	19.18	19.22	19.37	19.45	19.38
MIN	19.02	17.29	18.01	18.71	18.65	17.84	18.69	16.32	18.92	19.25	19.24	18.98

WTR YR 1988: HIGHEST 16.32 MAY 19; LOWEST 19.45 AUGUST 27.

413026076352901. Local number, SU 34.

LOCATION.--Lat 41°30'26", long 76°35'29", Hydrologic Unit 02050206, near Forksville.
Owner: U.S. Geological Survey.
AQUIFER.--Shale of Catskill Formation of Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in., depth 50 ft, cased to 34 ft, open hole.
INSTRUMENTATION.--Digital recorder with 60-minute recording interval. Pa. Department of Environmental Resources satellite telemeter at station.
DATUM.--Elevation of land-surface is 1,060 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 2.0 ft above land-surface datum.
PERIOD OF RECORD.--April 1965 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.42 ft below land-surface datum, June 23, 1972; lowest, 31.12 ft below land-surface datum, Sept. 4, 1966.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.66	26.86	23.30	26.66	26.88	26.10	26.20	27.86	26.88	29.42	29.39	23.11
2	26.13	26.86	23.29	26.78	25.84	26.17	26.28	27.75	26.90	29.42	29.49	23.41
3	26.10	26.89	23.36	26.91	20.38	26.18	26.32	27.75	27.00	29.46	29.57	---
4	26.26	26.99	23.36	26.99	21.21	26.20	26.36	27.76	27.06	29.50	29.63	---
5	26.54	27.13	23.36	27.08	22.32	26.25	26.42	27.78	27.14	29.53	29.69	---
6	26.80	27.33	25.28	27.21	23.34	26.25	26.48	---	27.28	29.56	29.75	---
7	26.83	27.48	25.59	27.36	23.36	26.16	26.58	27.74	27.54	29.59	29.76	---
8	26.53	27.59	25.82	27.41	23.36	26.04	26.72	27.35	27.72	29.63	29.77	---
9	26.27	27.78	25.98	27.46	25.07	25.84	26.84	27.02	27.95	29.66	29.80	---
10	26.26	27.86	26.08	27.58	25.39	25.63	26.94	26.99	28.02	29.69	29.84	---
11	26.29	27.84	26.16	27.67	25.61	25.40	27.02	26.92	28.08	29.72	29.88	---
12	26.27	27.71	26.24	27.80	25.77	25.31	27.10	26.83	28.22	29.72	29.90	---
13	26.26	27.71	26.35	27.77	26.00	25.31	27.18	26.92	28.36	29.61	29.90	---
14	26.36	27.65	26.48	27.94	26.10	25.35	27.28	27.01	28.48	29.61	29.89	---
15	26.52	27.49	26.52	28.96	26.16	25.53	---	27.08	28.54	29.64	29.94	---
16	26.71	27.31	26.44	28.16	26.23	25.74	27.48	27.14	28.64	29.70	30.01	---
17	26.90	27.31	26.14	28.18	26.24	25.94	27.52	27.24	28.64	29.70	30.10	---
18	27.05	27.28	26.10	28.18	26.23	26.08	27.56	27.30	28.70	29.21	30.10	---
19	27.18	24.60	26.12	28.06	26.03	26.17	27.64	27.30	28.80	28.88	29.77	---
20	27.31	23.85	26.13	27.82	25.62	26.31	27.74	21.85	28.89	28.35	29.74	---
21	27.43	24.46	26.10	26.33	22.92	26.53	27.88	21.08	28.94	28.39	29.81	27.59
22	27.56	24.98	26.04	26.03	23.35	26.74	27.98	22.30	29.00	28.37	---	27.47
23	27.82	25.33	26.08	26.12	23.36	26.85	28.02	23.32	29.05	28.05	29.96	27.45
24	27.84	25.58	26.09	26.28	23.36	26.94	28.02	23.38	29.12	28.16	29.96	27.58
25	28.04	25.78	26.13	26.44	23.36	26.96	28.04	23.38	29.16	28.32	29.51	27.81
26	28.12	25.99	26.19	26.64	---	26.96	28.12	25.10	29.18	28.53	29.36	28.02
27	28.14	26.12	26.26	26.81	---	26.70	28.18	25.56	29.24	28.73	29.50	28.19
28	28.14	26.21	26.34	26.89	---	26.35	28.18	25.96	29.30	28.91	29.59	28.31
29	27.46	26.25	26.46	26.97	---	26.23	28.15	---	29.36	29.09	29.42	28.43
30	27.00	26.03	26.55	27.04	---	26.12	28.06	26.40	29.38	29.25	17.51	28.49
31	26.90	---	26.60	27.08	---	26.14	---	26.65	---	29.33	21.18	---
MEAN	26.96	26.61	25.71	27.25	24.54	26.14	27.32	26.09	28.35	29.18	29.06	27.16
MAX	28.14	27.86	26.60	28.96	26.88	26.96	28.18	27.86	29.38	29.72	30.10	28.49
MIN	26.10	23.85	23.29	26.03	20.38	25.31	26.20	21.08	26.88	28.05	17.51	23.11

WTR YR 1988: HIGHEST 17.51 AUGUST 30; LOWEST 30.10 AUGUST 17, 18.

415323075451301. Local number, SQ 61.

LOCATION.--Lat 41°53'23", long 75°45'13", Hydrologic Unit 02050101, at State Game Land Number 175.
Owner: U.S. Geological Survey.
AQUIFER.--Sandstone and shale of Susquehanna Group of Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 175 ft, cased to 80 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 1,270 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.0 ft above land-surface datum.
PERIOD OF RECORD.--July 1972 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.49 ft below land-surface datum, Apr. 3, 1978; lowest, 37.24 ft below land-surface datum, Aug. 30, 1982.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.47	27.95	26.33	---	28.96	27.76	25.41	27.07	---	32.11		---
2	29.71	27.73	25.70	---	28.95	27.92	25.49	26.49	---	32.31		---
3	29.84	27.49	25.39	---	28.87	28.08	25.62	26.03	---	32.48		---
4	30.13	27.31	25.08	---	28.79	28.20	25.71	25.73	---	32.61		---
5	30.26	27.28	24.96	---	28.73	28.43	25.85	25.64	---	32.74		---
6	30.40	27.35	25.04	---	---	28.57	25.96	25.77	---	32.86		---
7	30.50	27.47	25.27	---	---	28.73	26.05	25.99	---	33.00		---
8	30.69	27.65	25.39	---	---	28.79	26.19	26.22	---	33.03		---
9	30.83	27.81	25.50	---	---	28.75	26.36	26.37	---	33.17		---
10	31.01	27.82	25.62	---	---	28.65	26.55	26.58	---	33.28		---
11	31.13	27.95	25.82	---	---	28.34	26.69	26.81	---	33.33		---
12	31.16	28.05	25.94	---	---	27.75	26.85	27.02	---	33.39		---
13	31.22	28.10	26.21	---	---	26.87	27.07	27.30	---	33.41		---
14	31.22	28.22	26.36	---	---	26.25	27.23	27.52	---	33.43		33.09
15	31.17	28.38	26.36	---	---	25.71	27.42	27.69	---	33.46		33.24
16	31.13	28.40	26.27	---	---	25.34	27.67	27.86	---	33.52		33.32
17	31.17	28.25	26.19	---	---	25.06	27.84	27.96	---	33.55		33.33
18	31.21	27.98	26.15	---	---	24.97	27.96	28.11	---	33.52		33.42
19	31.23	27.69	26.04	---	---	24.89	28.14	28.12	---	33.48		33.59
20	31.15	27.11	25.96	---	---	25.07	28.39	27.55	---	33.21		33.63
21	31.20	26.65	25.89	29.10	---	25.39	28.51	26.41	30.59	33.22		33.61
22	31.30	26.36	25.72	29.09	---	25.64	28.81	25.71	30.74	33.29		33.66
23	31.37	26.30	25.41	29.06	27.60	25.89	28.94	25.27	30.94	33.40		33.66
24	31.47	26.22	25.29	29.01	27.58	26.13	29.11	---	31.07	33.60		33.76
25	30.75	26.33	25.14	28.97	27.56	26.27	29.22	---	31.29	33.65		33.89
26	30.79	26.41	---	28.93	27.55	26.22	29.27	---	31.58	33.67		34.01
27	30.76	26.54	---	28.93	27.56	26.20	29.25	---	31.71	33.67		34.00
28	30.66	26.71	25.40	28.93	27.64	26.08	29.14	---	31.87	33.72		34.07
29	30.05	26.83	25.52	28.94	---	25.82	28.64	---	31.93	33.78		34.08
30	29.21	26.81	25.72	28.95	---	25.55	27.86	---	32.04	33.76		34.07
31	28.40	---	---	28.97	---	25.41	---	---	---	33.86		---
MEAN	30.66	27.37	25.70	28.99	28.16	26.73	27.44	26.75	31.38	33.27		33.67
MAX	31.47	28.40	26.36	29.10	28.96	28.79	29.27	28.12	32.04	33.86		34.08
MIN	28.40	26.22	24.96	28.93	27.55	24.89	25.41	25.27	30.59	32.11		33.09

WTR YR 1988: HIGHEST 24.89 MARCH 19; LOWEST 34.08 SEPTEMBER 29.

414513077333701. Local number, TI 100.

LOCATION.--Lat 41°45'13", long 77°33'37", Hydrologic Unit 02050205, at State Game Land Number 208.
Owner: U.S. Geological Survey.
AQUIFER.--Sandstone of Lock Haven Formation of Late Devonian age.
WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 77 ft, cased to 67 ft, open hole.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 1,310 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 4.0 ft above land-surface datum.
REMARKS.--Water-quality records for 1973-75 are available in files of district office.
PERIOD OF RECORD.--July 1972 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 31.02 ft below land-surface datum, Mar. 27, 1978; lowest, 34.93 ft below land-surface datum, Feb. 12, 1984.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32.78	33.05	33.12	33.22	33.60	33.30	32.51	32.70	32.11	32.96	33.21	34.27
2	32.79	32.88	33.06	33.33	33.56	33.31	32.57	32.72	32.13	33.09	33.29	34.20
3	32.88	32.78	32.97	33.45	33.49	33.13	32.52	32.68	32.10	33.00	33.40	34.07
4	32.83	33.06	33.10	33.39	33.42	33.06	32.34	32.56	32.16	33.20	33.38	33.98
5	32.72	33.33	33.03	33.75	33.51	33.01	32.51	32.57	32.23	33.26	33.31	34.29
6	32.88	33.12	33.16	33.57	33.49	33.10	32.37	32.74	32.25	33.22	33.26	34.34
7	32.89	33.08	33.07	33.56	33.50	32.96	32.31	32.80	32.24	33.23	33.27	34.30
8	32.85	33.04	33.02	33.44	33.26	32.98	32.61	32.81	32.30	33.25	33.29	34.27
9	32.88	33.13	32.94	33.26	33.42	33.02	32.57	32.64	32.32	33.41	33.39	34.28
10	32.85	33.06	32.85	33.51	33.49	32.79	32.62	32.78	32.67	33.23	33.41	34.23
11	32.90	33.01	33.05	33.56	33.14	32.79	33.10	32.76	32.58	33.16	33.64	34.46
12	32.98	33.24	33.13	33.47	33.38	32.92	32.55	32.58	32.52	33.24	33.65	34.41
13	32.78	33.24	33.25	33.50	33.40	32.79	32.79	32.65	32.65	33.49	33.64	34.20
14	32.86	33.34	33.00	33.66	33.31	32.56	32.59	32.53	32.69	33.26	33.47	34.26
15	32.82	33.28	32.81	33.68	33.58	32.91	32.69	32.24	32.61	33.43	33.64	34.50
16	32.73	33.17	33.16	33.65	33.58	32.63	32.61	32.28	32.56	33.45	33.66	34.49
17	32.74	33.16	33.21	33.71	33.55	32.89	32.63	32.50	32.73	33.47	33.66	34.31
18	32.96	33.17	33.76	33.65	33.50	32.88	32.56	32.15	32.91	33.41	33.66	34.44
19	33.00	33.05	33.36	33.84	33.12	32.79	33.19	32.17	32.68	33.37	33.68	34.49
20	33.06	33.20	33.09	33.65	33.53	32.73	33.10	31.84	32.61	33.31	33.65	34.44
21	32.95	33.33	33.12	34.36	33.48	32.81	32.82	31.87	32.67	33.21	33.84	34.55
22	33.01	33.21	---	34.64	33.24	33.10	32.84	31.77	32.64	33.14	34.17	34.46
23	32.91	33.39	33.49	33.41	33.49	33.49	32.77	31.68	32.94	33.11	34.22	---
24	32.86	33.39	33.49	---	33.27	32.99	32.99	---	33.08	33.04	34.07	34.52
25	32.85	33.37	33.06	---	33.19	32.79	32.65	32.01	32.76	33.08	34.09	34.49
26	32.78	---	33.10	33.74	33.27	32.74	32.76	32.06	32.82	33.08	34.17	34.84
27	32.88	---	33.18	33.88	33.04	32.82	32.84	32.09	33.03	33.19	34.23	34.55
28	32.83	---	33.10	33.84	33.19	32.80	32.53	32.12	33.04	33.24	34.26	34.51
29	32.86	---	33.55	33.67	---	32.74	32.78	32.05	32.96	33.24	34.30	34.51
30	32.92	---	33.47	33.73	---	32.52	32.70	32.19	32.87	33.27	34.24	34.50
31	32.90	---	33.15	33.56	---	32.73	---	32.14	---	33.18	34.20	---
MEAN	32.87	33.16	33.16	33.64	33.39	32.91	32.68	32.36	32.60	33.23	33.72	34.38
MAX	33.06	33.39	33.76	34.64	33.60	33.49	33.19	32.81	33.08	33.49	34.30	34.84
MIN	32.72	32.78	32.81	33.22	33.04	32.52	32.31	31.68	32.10	32.96	33.21	33.98

WTR YR 1988: HIGHEST 31.68 MAY 23; LOWEST 34.84 SEPTEMBER 26.

405928077115501. Local number, UN 51.

LOCATION.--Lat 40°59'28", long 77°11'55", Hydrologic Unit 02050206, at Raymond B. Winter Park. Owner: U.S. Geological Survey.

AQUIFER.--Shale of Reedsville Formation of Late Ordovician age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 115 ft, cased to 91 ft, open hole.

INSTRUMENTATION.--Digital recorder with 60-minute recording interval. Pa. Department of Environmental Resources satellite telemeter at station.

DATUM.--Elevation of land-surface is 1,550 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plywood cover, 3.6 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 25.26 ft below land-surface datum, Apr. 10, 1978; lowest, 42.24 ft below land-surface datum, Jan. 29 to Feb. 1, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35.38	38.45	37.17	38.16	39.35	38.15	37.18	37.54	33.81	39.27	40.36	40.12
2	35.51	38.48	37.00	38.22	39.34	38.21	36.84	37.66	34.28	39.35	40.33	40.13
3	35.69	38.49	---	38.24	39.29	38.26	36.53	37.76	34.72	39.42	40.35	40.14
4	35.86	38.51	---	38.29	39.16	---	36.26	37.86	35.11	39.48	40.37	40.13
5	36.00	38.58	36.21	38.33	39.14	38.46	36.13	37.95	---	39.53	40.38	40.11
6	36.14	38.62	---	38.46	39.12	38.50	36.04	38.03	---	39.58	40.39	40.11
7	36.35	38.65	---	38.48	39.09	38.60	35.98	38.12	---	39.63	40.35	40.12
8	36.55	38.67	35.55	38.48	39.00	38.63	35.97	38.18	36.36	39.68	40.27	40.13
9	36.70	38.71	35.43	38.55	38.88	38.65	35.97	38.25	36.63	39.74	40.24	40.15
10	36.82	38.72	35.41	38.59	38.70	---	35.93	38.29	36.86	39.78	40.21	40.18
11	36.95	38.72	35.44	38.63	38.52	38.74	35.90	38.42	37.06	39.84	40.21	40.19
12	37.08	38.73	35.62	38.63	38.26	38.73	35.88	38.47	37.26	39.88	40.19	40.20
13	---	38.76	35.84	38.71	38.07	38.74	35.68	38.51	37.44	39.92	40.18	40.21
14	37.29	38.81	35.99	38.74	37.99	38.73	35.56	38.54	37.61	39.97	40.17	40.23
15	37.39	38.83	---	38.76	37.92	38.76	35.49	38.56	37.75	---	40.15	40.25
16	37.48	38.84	---	38.81	37.90	38.81	35.45	38.57	37.89	40.07	40.14	40.25
17	37.55	38.81	36.49	38.83	37.65	38.85	35.45	38.60	38.03	40.09	40.12	40.25
18	37.63	38.78	36.64	38.88	37.58	38.84	35.56	38.59	38.16	40.12	40.11	40.25
19	37.71	38.74	36.79	38.92	37.56	38.81	35.67	38.44	38.26	40.16	40.11	40.26
20	37.75	38.64	36.93	38.91	37.49	38.86	35.76	37.22	38.33	40.20	40.09	40.27
21	37.84	38.61	37.07	38.92	37.57	38.87	35.97	34.14	38.48	40.21	40.11	40.28
22	37.91	38.59	37.18	38.93	37.58	38.86	36.15	31.64	38.57	40.25	40.11	40.29
23	37.99	38.52	37.36	38.95	37.64	38.83	36.25	30.34	38.71	40.27	40.11	40.33
24	38.03	38.43	37.43	38.98	37.69	38.76	36.47	29.80	38.78	40.30	40.11	40.33
25	38.10	38.30	37.54	39.07	37.79	38.71	36.65	30.11	38.84	40.33	40.11	40.34
26	38.14	38.12	37.68	39.15	37.82	38.58	36.80	30.58	38.95	40.35	40.14	40.36
27	38.18	37.99	37.76	39.19	37.93	38.39	36.96	31.09	39.02	40.37	40.16	40.37
28	38.23	37.90	37.81	39.23	37.98	38.26	37.09	31.62	39.08	40.38	40.19	40.39
29	38.28	37.88	37.95	---	38.08	38.10	37.23	32.21	39.15	40.39	40.17	40.41
30	38.31	37.87	38.02	39.28	---	37.90	37.41	32.77	39.22	40.42	40.13	40.43
31	38.42	---	38.06	39.32	---	37.58	---	---	---	40.42	40.11	---
MEAN	37.24	38.53	36.81	38.75	38.28	38.56	36.21	35.93	37.57	39.98	40.20	40.24
MAX	38.42	38.84	38.06	39.32	39.35	38.87	37.41	38.60	39.22	40.42	40.39	40.43
MIN	35.38	37.87	35.41	38.16	37.49	37.58	35.45	29.80	33.81	39.27	40.09	40.11

WTR YR 1988: HIGHEST 29.80 MAY 24; LOWEST 40.43 SEPTEMBER 30.

400320076451501. Local number, YO 180.

LOCATION.--Lat 40°03'20", long 76°45'15", Hydrologic Unit 02050306, near Zions View.
Owner: New York Wire Cloth Company.
AQUIFER.--Shale of New Oxford Formation of Late Triassic age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 490 ft, casing information not available.
INSTRUMENTATION.--Continuous strip-chart recorder.
DATUM.--Elevation of land-surface is 360 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing at land-surface datum.
PERIOD OF RECORD.--March 1962 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.84 ft below land-surface datum, May 7, 1987; lowest, 37.55 ft below land-surface datum, Nov. 3, 4, 1963.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1987 TO SEPTEMBER 1988
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.15	20.95	---	17.17	18.32	17.23	17.92	19.28	16.86	---	20.69	22.07
2	20.30	20.77	17.47	17.32	18.18	17.33	17.97	19.35	17.04	---	20.73	22.06
3	20.42	20.71	17.46	17.32	18.12	17.32	17.97	19.38	17.18	---	20.79	21.97
4	20.47	20.51	17.18	17.18	17.82	17.31	17.90	19.39	17.34	---	20.82	21.87
5	20.47	20.44	17.20	17.35	17.61	17.24	18.07	19.38	17.39	---	20.80	21.76
6	20.35	20.73	17.26	17.49	17.59	17.27	18.07	19.15	17.57	---	20.84	21.91
7	20.38	20.72	17.28	17.54	17.59	17.15	18.00	18.84	17.71	---	20.90	21.92
8	20.52	20.75	17.24	17.48	17.42	16.97	18.05	18.72	17.92	---	20.94	21.92
9	20.45	20.78	17.07	17.54	17.39	17.00	18.05	18.50	18.16	---	20.98	21.86
10	20.35	20.81	16.88	17.73	17.42	16.79	17.98	18.21	18.41	---	21.04	21.94
11	20.30	20.65	16.81	17.82	17.39	16.71	17.95	18.13	18.53	---	21.11	22.09
12	20.27	20.34	16.86	17.90	17.06	16.78	17.95	18.19	18.70	---	21.17	22.13
13	20.40	20.14	17.19	18.10	17.21	16.85	17.95	18.04	18.91	---	21.23	22.10
14	20.40	19.89	17.34	18.46	17.32	17.07	17.99	18.01	19.07	---	21.30	22.20
15	20.44	19.86	17.25	18.49	17.06	17.65	17.98	17.97	19.15	---	21.33	22.37
16	20.49	19.65	17.10	18.63	17.28	17.65	18.09	17.85	19.20	---	21.52	22.35
17	20.57	19.32	17.40	18.68	17.24	17.68	18.12	17.90	19.32	---	21.56	22.30
18	20.71	19.08	17.44	18.79	17.26	17.82	18.06	17.84	19.55	---	21.75	22.25
19	20.78	18.95	17.45	18.80	17.14	17.90	18.19	17.63	19.69	---	21.81	22.29
20	20.83	18.66	17.36	18.73	16.78	---	18.34	17.36	19.74	---	21.88	22.33
21	21.08	18.70	17.33	18.38	17.00	---	18.39	17.14	19.87	---	21.99	22.45
22	21.23	18.71	17.30	18.36	16.97	---	18.57	16.97	19.97	---	22.17	22.60
23	21.36	18.63	17.35	18.28	16.89	---	18.58	16.84	20.23	---	22.19	22.62
24	21.36	18.63	17.33	18.24	16.95	---	18.73	16.68	20.47	---	22.02	22.85
25	21.51	18.64	17.18	18.17	17.04	---	18.85	16.69	20.57	---	22.00	22.93
26	21.50	18.60	17.23	18.23	17.00	---	18.89	16.77	20.60	---	22.11	---
27	21.40	18.63	17.24	18.44	17.03	---	19.00	16.78	20.84	21.27	22.16	---
28	21.29	18.60	17.12	18.45	17.12	---	19.03	16.74	---	21.13	22.16	---
29	21.16	18.39	17.12	18.41	---	17.83	19.05	---	---	20.95	22.10	22.86
30	20.89	17.69	17.28	18.36	---	17.85	19.22	16.86	---	20.82	22.06	22.88
31	21.01	---	17.25	18.38	---	17.91	---	16.86	---	20.69	22.07	---
MEAN	20.74	19.63	17.23	18.07	17.33	17.33	18.30	17.92	18.89	20.97	21.49	22.25
MAX	21.51	20.95	17.47	18.80	18.32	17.91	19.22	19.39	20.84	21.27	22.19	22.93
MIN	20.15	17.69	16.81	17.17	16.78	16.71	17.90	16.68	16.86	20.69	20.69	21.76

WTR YR 1988: HIGHEST 16.68 MAY 24; LOWEST 22.93 SEPTEMBER 25.

☆U.S. GOVERNMENT PRINTING OFFICE: 1989 - 614 - 145/ REGION NO. 4

October 1, 1978

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

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

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

U.S. DEPARTMENT OF THE INTERIOR
Geological Survey
P.O. Box 1107
Harrisburg, PA 17108

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE $300

SPECIAL 4TH CLASS BOOK RATE