# ANALYSIS OF CHARACTERISTICS OF SIMULATED FLOWS FROM SMALL SURFACE-MINED AND UNDISTURBED APPALACHIAN WATERSHEDS IN THE TUG FORK BASIN OF KENTUCKY, VIRGINIA, AND WEST VIRGINIA

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U.S. GEOLOGICAL SURVEY
Water-Resources Investigations Report 84—4151

1984

UNITED STATES DEPARTMENT OF THE INTERIOR
WILLIAM P. CLARK, Secretary

GEOLOGICAL SURVEY
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# ANALYSIS OF CHARACTERISTICS OF SIMULATED FLOWS FROM SMALL SURFACE-MINED AND UNDISTURBED APPALACHIAN WATERSHEDS IN THE TUG FORK BASIN OF KENTUCKY, VIRGINIA, AND WEST VIRGINIA

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## ABSTRACT

Hydrologic and climatologic data were collected at eight small mined and two small unmined watersheds in the Tug Fork basin of Kentucky, Virginia, and West Virginia. These data included continuous records of discharge, precipitation, and air temperature; daily records of sediment concentrations and sediment discharges; and periodic observations of water quality. Tables of all these data are presented in this report.

The observed climatic and hydrologic data from these basins were used to calibrate the U.S. Geological Survey Precipitation-Runoff Modeling System for each watershed. The calibrated models of each basin were then used with a set of nearby, long-term climatic data to simulate a 68-year record of daily streamflow and 57 years of annual peaks at each site. These simulated records were analyzed to obtain flood-frequency curves, flow-duration curves, mean-annual discharges, and the 7-day, 10-year low flow for each site.

The flow characteristics computed from the simulated records of discharge were analyzed graphically and also statistically by regression analysis to investigate the relationship between mining and runoff. For this sample of small basins, peak flows, discharges for 10- and 50-percent flow durations, and mean-annual flows were found to be directly related to percent of drainage area disturbed and drainage area. Percent of drainage area disturbed was generally a more statistically significant estimator of discharges than drainage area, particularly for those peak flows of higher recurrence intervals.

## INTRODUCTION

The 1,560 square mile Tug Fork basin is located in the mountainous areas of Kentucky, Virginia, and West Virginia, as shown on figure 1. The Tug Fork river serves as the political boundary between Kentucky on the west and West Virginia on the east. It joins the Levisa Fork at Louisa, Ky., to become the Big Sandy River. Mining the area's extensive coal deposits is the primary industry in the basin.

Flooding has long been a major problem in the basin because most of the habitable land lies on the narrow flood plains between steep mountains. The Tug Fork basin has a long history of devastating floods culminating with the April 1977 flood (Runner and Chin, 1980). This flood prompted much speculation as to what effect surface mining has on the flood and sediment characteristics of Appalachian rivers.

B L A N K  P A G E

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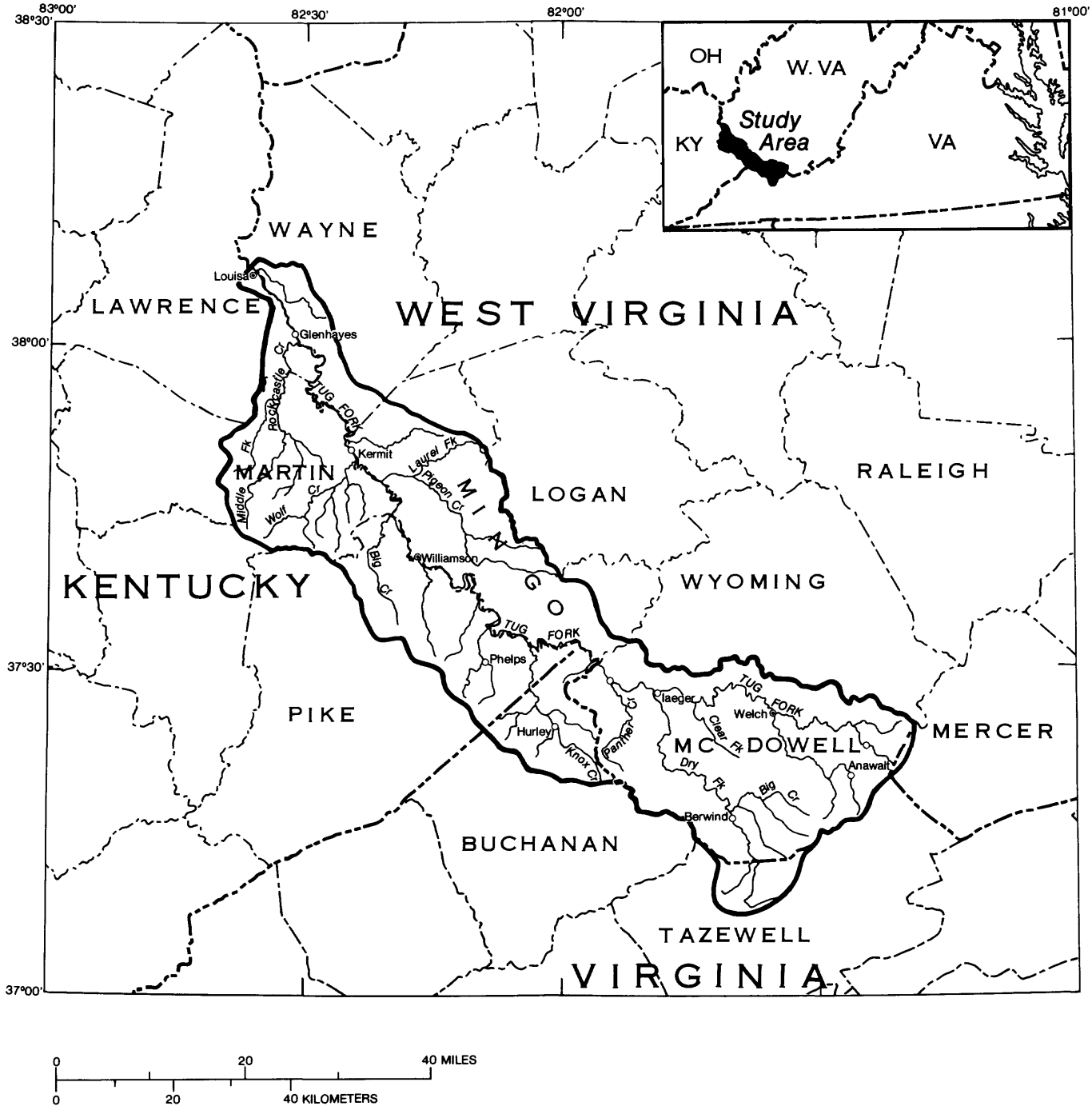


Figure 1.--Location of the Tug Fork basin.

The U.S. Geological Survey, in cooperation with the U.S. Bureau of Mines and Office of Surface Mining Reclamation and Enforcement, began a study in early 1980 of flooding in the Tug Fork basin (Scott, 1980). The objectives of the study were (1) to identify relative effects of various land use changes on the flood hydrology, (2) to assess the effectiveness of present mine-reclamation practices for controlling undesirable aspects of storm runoff, and (3) to observe and analyze cumulative impacts of typical land use changes on sediment and flood characteristics at downstream points in the Tug Fork basin.

Analyses addressing parts objectives one and three were discussed in reports by Hirsch, Scott, and Wyant, 1982; Scott and Hirsch, 1982; and by Doyle, Curwick, and Flynn, 1983. This report documents the data-collection activities and modeling analyses that are primarily concerned with objective one. It was not possible during this investigation to address the effectiveness of mine-reclamation practices because of an inability to locate suitable watersheds containing only reclaimed mining and not being currently mined. Sediment data were also collected during the investigation but were not analyzed because of time and budgetary constraints.

To provide comparisons of flow characteristics of various categories of mined and undisturbed watersheds, 10 small basins were selected and instrumented to collect hydrologic data. Two basins were selected to represent each of the five following categories of land use:

1. Surface mining prior to 1968.
2. Surface mining between 1968 and 1977.
3. Haulback mining under current Federal regulations.
4. Mountaintop mining under current Federal regulation.
5. Natural (unmined) conditions.

The locations of these sites are shown on figure 2.

Hydrologic data were collected for 2 years at each site and included continuous records of flow, rainfall, air temperature, daily sediment data, and periodic water-quality data.

The flow and climatologic data were used in conjunction with the U.S. Geological Survey Precipitation-Runoff Modeling System (PRMS) to make comparisons of the runoff characteristics of the various sites. The model was calibrated to represent observed flow at each site and then a single set of long-term climatic data used to simulate a long-term flow record at each site. A comparison of these synthetic flow records, with site-to-site climatic variability removed, was made.

## WATERSHED DESCRIPTIONS

Table 1 gives the location, drainage area, type of land use in each watershed, site 1, and percent of area disturbed. The percent of disturbed area was measured from aerial photographs taken in 1982. Station 03207915, Elkfoot Branch near Nigh, Ky., was selected to represent "haulback" mining under current Federal regulations. A mining permit was issued for this site but mining was never started during the duration of this project. A small amount of contour mining had taken place in the basin prior to 1975. Therefore, this site is included with those mined between 1968 and 1977.

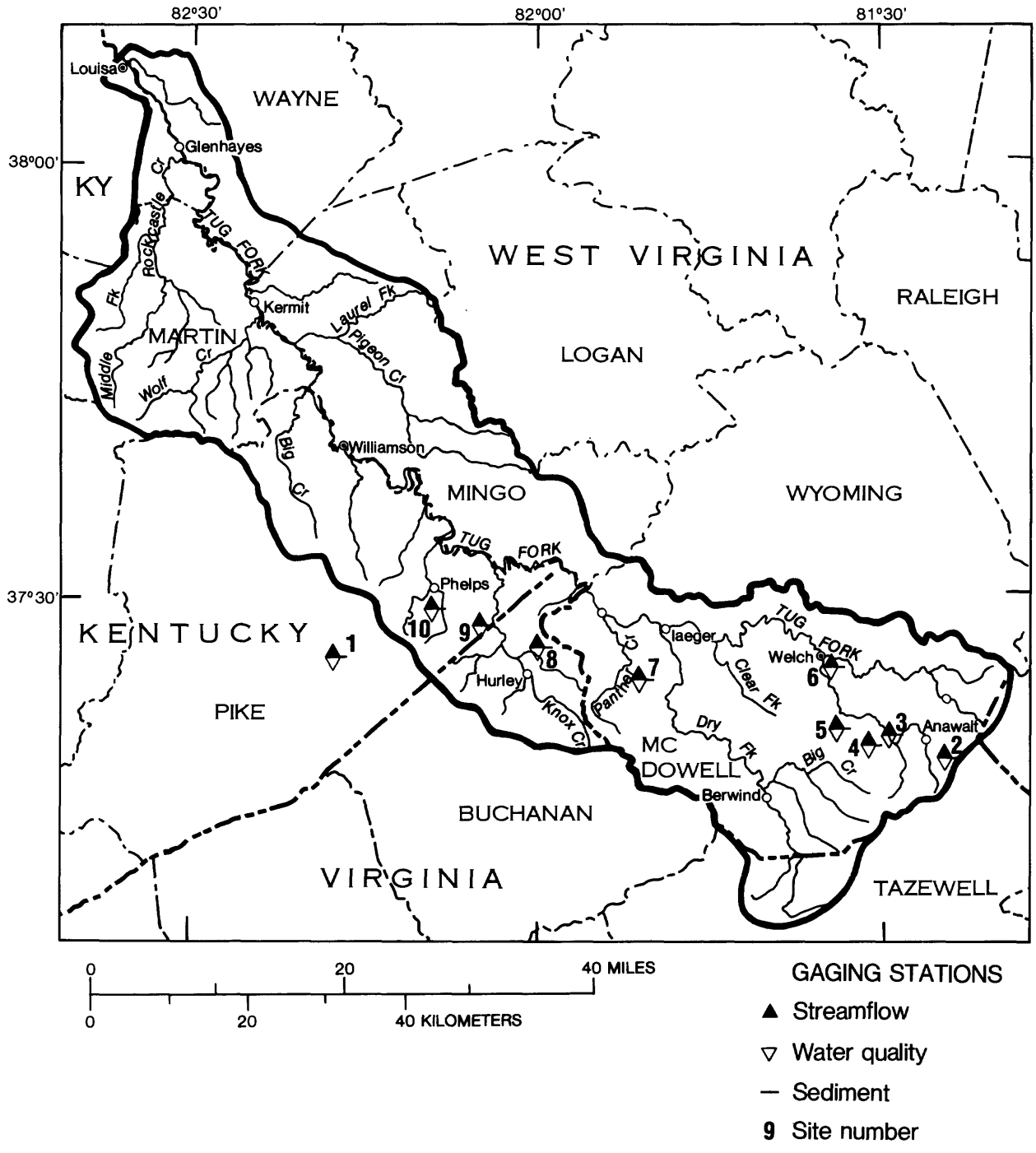


Figure 2.--Location of data-collection sites.

Table 1.--Gaged watersheds for the Tug Fork project

| Site number | Station number | Station name | Drainage area ($mi^2$) | Location | Predominant land use | Disturbed area as percent of total (1982) |
|---|---|---|---|---|---|---|
| 1 | 03207915 | Elkfoot Branch near Nigh, Ky. | 0.73 | Lat 37°23'52", long 82°17'03", Pike County, on right bank 0.3 mile upstream from mouth on Levisa Fork and about 2 miles southwest of Nigh | *Current haul-back mining | 9.2 |
| 2 | 03212558 | Puncheoncamp Branch at Leckie, W. Va. | 1.36 | Lat 37°20'37", long 81°24'42", McDowell County, on right bank 1500 ft upstream from mouth at Leckie | Surface mining prior to 1968 | 8.4 |
| 3 | 03212567 | Freemans Branch near Skygusty, W. Va. | .30 | Lat 37°16'28", long 81°29'15", McDowell County, 0.2 mi upstream from mouth, 0.5 mile north of Monson and 3.5 miles south of Skygusty | Current mountain-top mining | 35 |
| 4 | 03212580 | Left Fork Sandlick Creek at Elbert, W. Va. | 1.78 | Lat 37°20'08", long 81°31'39", McDowell County, on right bank, 0.7 mile east of Elbert | Surface mining between 1968 and 1977 | 24 |
| 5 | 03212585 | Right Fork Sandlick Creek near Gary, W. Va. | 1.21 | Lat 37°20'51", long 81°34'01", McDowell County, on left bank 1.3 miles upstream from mouth and 1.5 miles southeast of Gary | Natural basin | 0 |
| 6 | 03212703 | Elkhorn Creek Tributary at Welch, W. Va. | .63 | Lat 37°25'46", long 81°34'02", McDowell County, on left bank about 0.1 mile southeast of Stevens clinic hospital in Welch | Current mountain-top mining | 41 |
| 7 | 03213495 | Crane Creek near Panther, W. Va. | .54 | Lat 37°25'28", long 81°41'39", McDowell County, on left bank 200 ft upstream from mouth, about 4.3 miles southwest of Panther | Natural basin | 0 |
| 8 | 03213577 | Kershaw Branch near Hurley, Va. | .60 | Lat 37°21'01", long 82°00'40", Buchanan County, on left bank near last residence on private road, 0.5 mile upstream from mouth and 2.1 miles north of Hurley | Surface mining between 1968 and 1977 | 14 |
| 9 | 03213594 | Camp Creek near Argo, Ky. | 1.60 | Lat 37°28'29", long 82°05'16", Pike County, on left bank about 1.4 miles upstream from mouth on Knox Creek and 1.4 miles west of Argo | Current haul-back mining | 46 |
| 10 | 03213630 | Right Fork Hurricane Creek near Stopover, Ky. | 0.82 | Lat 37°29'46", long 82°05'22", Pike County, on left bank about 200 ft upstream from confluence with Left Fork Hurricane Creek and about 2.3 mi south of Stopover | Surface mining prior to 1968 | 32 |

*Permit issued but mining not started during project.

The following descriptions of each watershed provide detailed information on the location, physical characteristics, and land use of each basin for each category sampled. The basin characteristics were computed by methods detailed in the National Handbook of Recommended Methods for Water-Data Acquisition (Office of Water Data Coordination, 1977) and are defined as follows:

Maximum Elevation -- Highest point in the basin measured on a topographic map and expressed in feet above National Geodetic Vertical Datum of 1929.

Minimum Elevation -- Lowest point in the basin measured on a topographic map and expressed in feet above National Geodetic Vertical Datum of 1929.

Basin Relief -- Difference between Maximum Elevation and Minimum Elevation.

Average Elevation (10-85) -- Average of the streambed elevations at points 10 percent and 85 percent of the distance along the main channel from the outlet to the basin divide.

Main-Channel Slope (10-85) -- An index of the slope of the main channel computed from the difference in streambed elevation at points 10 percent and 85 percent of the distance along the main channel from the outlet to the basin divide and divided by the distance between these two points.

Basin Slope -- Average land slope from count of contour crossings computed by:

$$S = 1.571 \frac{hN}{L}$$

where S = slope
h = contour interval
N = number of times contours cross grid lines
L = length of grid lines

Main-Channel Length -- Distance, in miles, along main channel from basin divide to the outlet.

Total Stream Length -- Total length, in miles, of all blue-line streams shown on 7 1/2-minute topographic maps.

Drainage Density -- Total stream length divided by drainage area.

Shape Factor -- Dimensionless ratio computed by $SH = L^2/A$ where L is main channel length and A is drainage area.

## Undisturbed Basins

Station.--(Site 5) 03212585 Right Fork Sandlick Creek near Gary, W. Va.

Location.--Lat 37°20'51", long 81°34'01", McDowell County, on left bank 1.3 miles upstream from mouth and 1.5 miles southwest of Gary.

Drainage Area.--1.21 square miles.

Land use.--This basin is virtually undisturbed. There is a small cleared residential area of about 2 or 3 acres at the mouth, an unsurfaced road traverses the basin, and remaining area is covered with deciduous forest, as shown on figure 3.

Basin Characteristics.--

Maximum Elevation = 2,480 feet

Minimum Elevation = 1,640 feet

Basin Relief = 840 feet

Average Elevation (10-85) = 1,825 feet

Main-Channel Slope (10-85) = 209 feet/mile

Basin Slope = .46 foot/foot

Main-Channel Length = 1.98 miles

Total Stream Length = 2.98 miles

Drainage Density = 2.46

Shape Factor = 3.24

Disturbed Area = 0 percent

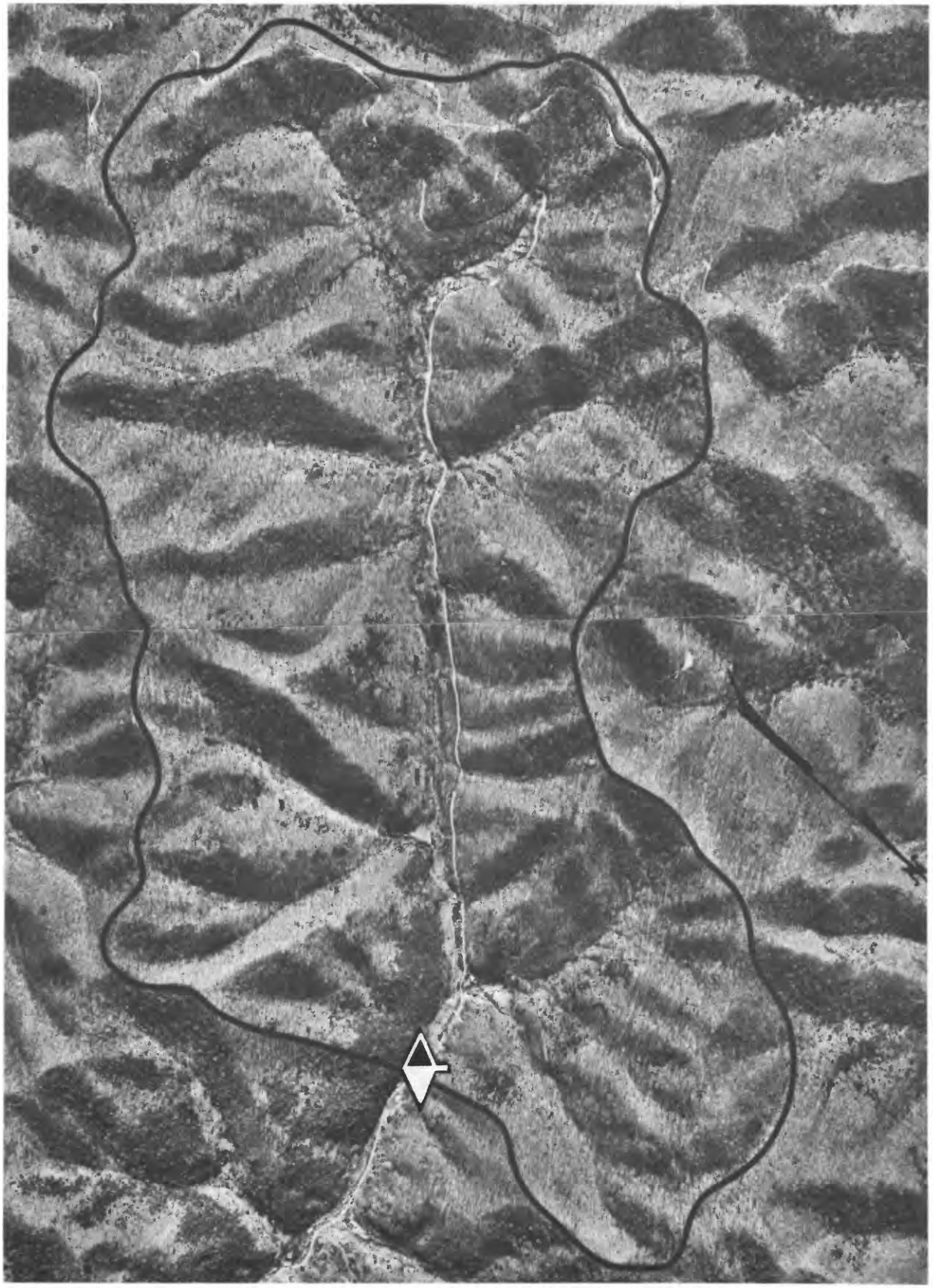

Figure 3.--Aerial photo of Right Fork Sandlick Creek watershed. Photo was taken April 1, 1982, from an elevation of 7,800 feet.

Station.--(Site 7) 03213495 Crane Creek near Panther, W. Va.

Location.--Lat 37°25'28", long 81°51'39", McDowell County, on left bank 100 feet upstream from bridge on State Route 3, 1,200 feet upstream from mouth and 4 miles southwest of Iaeger.

Drainage Area.--0.54 square miles.

Land Use.--The surface of this basin is undisturbed. There is, however, an underground mine entrance located upstream from the gage. Land cover consists of deciduous forest as shown on figure 4.

Basin Characteristics.--

Maximum Elevation = 2,100 feet

Minimum Elevation = 1,160 feet

Basin Relief = 940 feet

Average Elevation (10-85) = 1,490 feet

Main-Channel Slope (10-85) = 522 feet/mile

Basin Slope = .50 foot/foot

Main-Channel Length = 1.38 miles

Total Stream Length = 2.98 miles

Drainage Density = 2.17

Shape Factor = 3.53

Disturbed Area = 0 percent

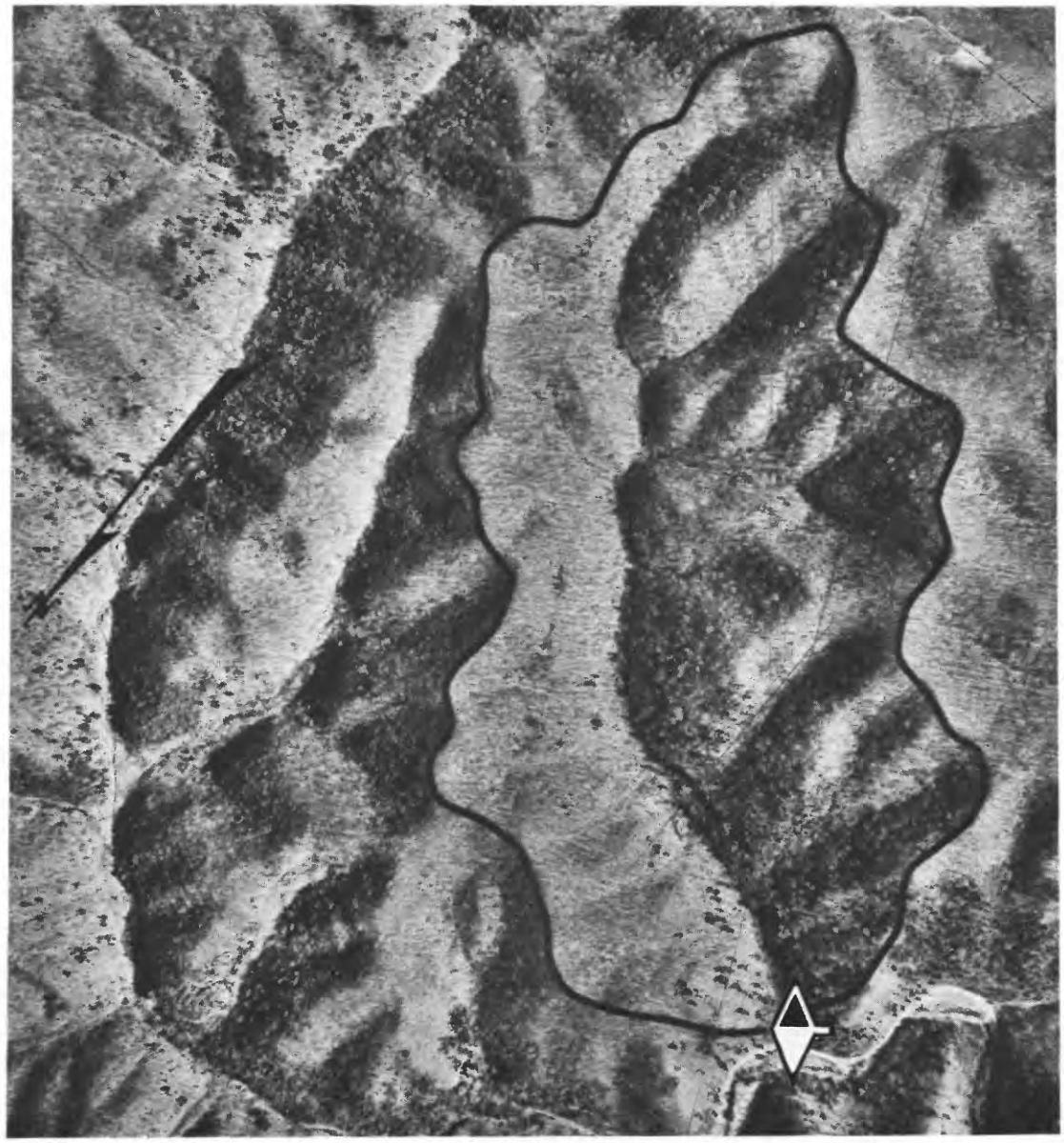

Figure 4.--Aerial photo of Crane Creek watershed. Photo was taken April 1, 1982, from an elevation of 7,800 feet.

## Surface Mining Prior to 1968

Station.--(Site 2) 03212558 Puncheoncamp Branch at Leckie, W. Va.

Location.--Lat 37°20'37", long 81°24'42", McDowell County, on right bank 1,500 feet upstream from mouth at Leckie.

Drainage Area.--1.36 square miles.

Land use.--Mining in this basin consists of two benches cut into the steep slopes of the sides of the basin. One bench is continuous around the hollow at an elevation of 2,300 feet, the other is only on the south side at an elevation of 2,500 feet. Both benches were mined prior to 1968. High walls are exposed and no reclamation has been performed. The remaining area is covered by deciduous forest as shown on figure 5.

Basin Characteristics.--

Maximum Elevation = 2,800 feet

Minimum Elevation = 1,800 feet

Basin Relief = 1,000 feet

Average Elevation (10-85) = 2,020 feet

Main-Channel Slope (10-85) = 248 feet/mile

Basin Slope = .46 foot/foot

Main-Channel Length = 2.15 miles

Total Stream Length = 2.23 miles

Drainage Density = 1.64

Shape Factor = 3.40

Disturbed Area = 8.4 percent

Figure 5.--Aerial photo of Puncheoncamp Branch watershed. Photo was taken April 1, 1982, at an elevation of 8,500 feet.

## Surface Mining Between 1968 and 1977

Station.--(Site 1) 03207915 Elkfoot Branch near Nigh, Ky.

Location.--Lat 37°23'52", long 82°17'03", Pike County, on right bank 0.3 mile upstream from mouth on Levisa Fork and about 2 miles southwest of Nigh.

Drainage Area.--0.73 square miles.

Land use.--Mining in this basin occurred prior to 1975. The mining consists of two narrow unreclaimed benches encircling the basin at elevations of about 1,100 and 1,300 feet. Highwalls are exposed on both benches. Vegetative cover consists primarily of deciduous forest except for bare areas along strip benches as shown on figure 7.

Basin Characteristics.--

Maximum Elevation = 1,800 feet

Minimum Elevation = 820 feet

Basin Relief = 980 feet

Average Elevation (10-85) = 1,070 feet

Main-Channel Slope (10-85) = 491 feet/mile

Basin Slope = .56 foot/foot

Main---Channel Length = 1.25 miles

Total Stream Length = 1.07 miles

Drainage Density = 1.53

Shape Factor = 2.23

Disturbed Area = 9.2 percent

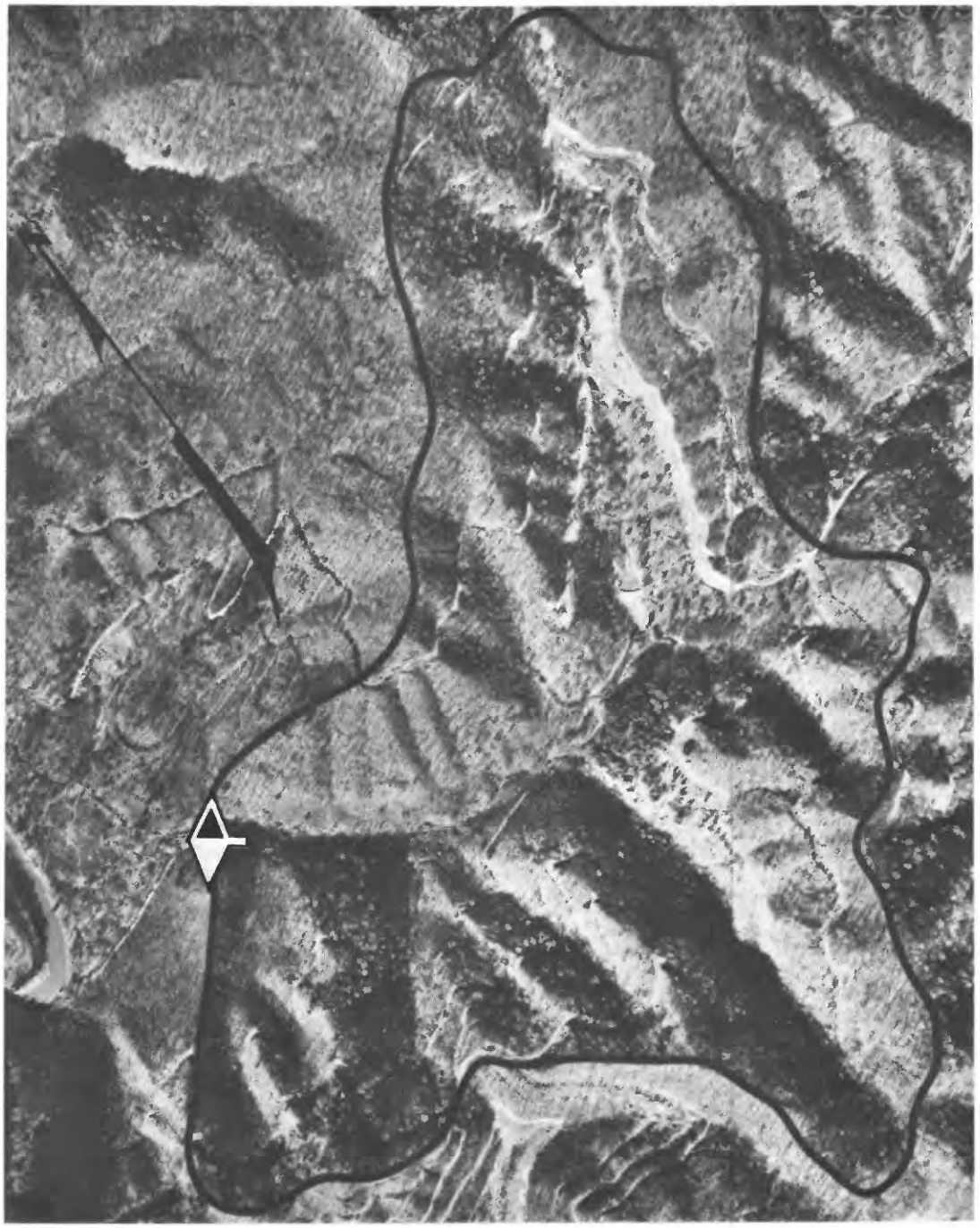

Figure 7.--Aerial photo of Elkfoot Branch watershed. Photo was taken April 1, 1982, from an elevation of 6,800 feet.

## Current Haulback Mining

Station.--(Site 9) 03213594 Camp Creek near Argo, Ky.

Location.--Lat 37°28'29", long 82°05'16", Pike County, on left bank about 1.4 miles upstream from mouth on Knox Creek and 1.4 miles west of Argo.

Drainage Area.--1.60 square miles.

Land use.--Mining in this basin consists of an active (1982) haulback operation and contour areas that were previously mined between 1963 and 1976. About 50 percent of the total disturbed area in July 1980 was mined prior to 1976. This earlier mining has been regraded and minimally revegetated with grasses. Current (1982) mining activity is extending these areas to the ridgetops. The remainder of the basin is covered with deciduous forest as shown on figure 10.

Basin Characteristics.--

Maximum Elevation = 2,200 feet

Minimum Elevation = 1,030 feet

Basin Relief = 1,170 feet

Average Elevation (10-85) = 1,205 feet

Main-Channel Slope (10-85) = 229 feet/mile

Basin Slope = .55 foot/foot

Main-Channel Length = 1.80 miles

Total Stream Length = 3.82 miles

Drainage Density = 2.39

Shape Factor = 2.02

Disturbed Area = 46 percent

Figure 10.--Aerial photo of Camp Creek watershed. Photo was taken April 1, 1982, from an altitude of 7,900 feet.

## Current Mountaintop Mining

Station.--(Site 3) 03212567 Freemans Branch near Skygusty, W. Va.

Location.--Lat 37°16'28", long 81°29'15", McDowell County, 0.2 mile upstream from mouth, 0.5 mile north of Monson and 3.5 miles south of Skygusty.

Drainage Area.--0.30 square miles.

Land use.--Original mining in this basin took place prior to 1968. In 1968, the disturbed area consisted of a single contour bench encircling the basin at about 2,400 feet. Between 1977 and 1980, the ridge top on the north side of the basin was removed. As of 1982, active mining was taking place in the western end of the basin. The northern ridge had been regraded to approximate original contours and revegetated with grasses. The remainder of the basin is covered by deciduous forest as shown on figure 11.

Basin Characteristics.--

Maximum Elevation = 2,800 feet

Minimum Elevation = 1,960 feet

Basin Relief = 840 feet

Average Elevation (10-85) = 2,295 feet

Main-Channel Slope (10-85) = 739 feet/mile

Basin Slope = .45 foot/foot

Main-Channel Length = 1.10 miles

Total Stream Length = .65 miles

Drainage Density = 2.17

Shape Factor = 4.03

Disturbed Area = 35 percent

Figure 11.--Aerial photo of Freemans Branch watershed. Photo was taken April 1, 1982, from an altitude of 8,500 feet.

Station.--(Site 6) 03212703 Elkhorn Creek Tributary at Welch, W. Va.

Location.--Lat 37°45'46", long 81°34'02", McDowell County, on left bank about 0.1 mile southeast of Stevens Clinic Hospital in Welch.

Drainage Area.--0.63 square miles.

Land use.--Mining in this basin is predominantly on mountaintops. Some earlier contour benches exist in the basin. Active mining (1982) is working toward the ridgetops. Most of the disturbed area is regraded and revegetated as it is mined. The undisturbed area is covered by deciduous forest as shown on figure 12.

Basin Characteristics.--

Maximum Elevation = 2,230 feet

Minimum Elevation = 1,400 feet

Basin Relief = 830 feet

Average Elevation (10-85) = 1,620 feet

Main-Channel Slope (10-85) = 464 feet/mile

Basin Slope = .49 foot/foot

Main-Channel Length = 1.15 miles

Total Stream Length = 1.35 miles

Drainage Density = 2.14

Shape Factor = 2.10

Disturbed Area = 41 percent

Figure 12.--Aerial photo of Elkhorn Creek tributary watershed. Photo was taken April 1, 1982, from an altitude of 7,900 feet.

## DATA COLLECTION

Hydrologic and climatologic data were collected at each of the 10 sites from October 1, 1980, through September 30, 1982. These data included continuous records of stream discharge, precipitation, and air temperature. In addition, daily sediment discharges and concentrations and periodic water-quality data were collected at some of the sites. These data were previously published by State in the U.S. Geological Survey annual series of reports on water-resources data (U.S. Geological Survey, annual series), and for the user's convenience are included in the Appendix of this report.

Appendix A lists daily values of discharge, precipitation, maximum air temperature, and minimum air temperature for each site. For some sites, missing daily values were estimated from nearby stations. Daily sediment concentrations, sediment loads, and specific conductance are listed for sites at which they are available. The analyses of periodic water-quality samples are also listed where available.

In addition to the data listed, 5-minute incremental values of discharge and rainfall are available through the U.S. Geological Survey National Water Data Storage and Retrieval System (WATSTORE) for all major storms for all sites.

## HYDROLOGIC MODEL CALIBRATION

The U.S. Geological Survey Precipitation-Runoff Modeling System (PRMS) is a distributed-parameter watershed model developed to evaluate the hydrologic impacts of land use changes. The model simulates both daily flows and shorter time-interval storm events. The model is described in detail in the User's Manual (Leavesley and others, 1983). A PRMS application to the entire Tug Fork basin is described in "A Flood Model for the Tug Fork Basin, Kentucky, Virginia, and West Virginia" (Doyle, Curwick, and Flynn, 1983).

Partitioning of the watersheds into homogeneous Hydrologic Response Units (HRU's) was based primarily on land use and land cover. These HRU's were areas of active mining or previously mined but not revegetated (bare); reclaimed areas (grass); or natural undisturbed areas (forested). Each watershed was divided into a maximum of three HRU's.

Table 2 lists the HRU's delineated for each watershed and the associated physical characteristics.

Table 2.--Area, land use, elevation, and land slope for HRU's delineated on each watershed

| Site number | Station | HRU number | Area (acres) | Land use | Mean elevation (ft) | Average land slope (ft/ft) |
|---|---|---|---|---|---|---|
| 1 | ELkfoot | 1 | 448 | Forest | 1,305 | .38 |
| 2 | Puncheoncamp | 1 | 870 | Forest | 2,325 | .34 |
| 3 | Freemans | 1 | 68 | Active | 2,550 | .39 |
| | | 2 | 18 | Reclaim | 2,550 | .39 |
| | | 3 | 106 | Forest | 2,415 | .39 |
| 4 | Left Sandlick | 1 | 863 | Forest | 2,110 | .40 |
| | | 2 | 276 | Reclaim | 1,830 | .35 |
| 5 | Right Sandlick | 1 | 774 | Forest | 1,900 | .46 |
| 6 | Elkhorn | 1 | 95 | Active | 1,800 | .30 |
| | | 2 | 70 | Reclaim | 1,880 | .32 |
| | | 3 | 238 | Forest | 1,700 | .35 |
| 7 | Crane | 1 | 346 | Forest | 1,490 | .50 |
| 8 | Kershaw | 1 | 52 | Reclaim | 1,740 | .10 |
| | | 2 | 332 | Forest | 1,624 | .38 |
| 9 | Camp | 1 | 267 | Active | 1,650 | .28 |
| | | 2 | 549 | Forest | 1,540 | .40 |
| | | 3 | 208 | Reclaim | 1,600 | .35 |
| 10 | Hurricane | 1 | 174 | Reclaim | 1,800 | .32 |
| | | 2 | 352 | Forest | 1,473 | .37 |

Land Use Key
Active -- Active surface mining
Reclaim -- Reclaimed surface mining
Forest -- Area covered with deciduous forest

The procedure used to calibrate PRMS for each watershed follows:

1. Initial parameter values were selected based on physical characteristics, land uses, experience, and results of PRMS applications to similar watersheds.

2. After an initial simulation, parameters were successively adjusted so that predicted flows better replicated observed flows. These initial calibrations were made to obtain a reasonable distribution of flow volumes for the various flow components (surface, subsurface, ground water) for the 2-year calibration period. Next adjustments were made to improve the seasonal distribution of daily flows and to improve simulation of storm-event volumes and peaks.

3. Once reasonable values of parameters were obtained, additional adjustments were made to a few selected parameters using the model optimization procedure with reasonable constraints (upper and lower boundaries) of parameter values.

Generally, all of the climatic variables and the solar-radiation computation parameters were assigned constant values for all the watersheds. The parameters dependent on vegetative type such as those concerned with interception and cover density were held constant for each land use--active surface mining, reclaimed surface mining, and forested.

Appendix B gives a description and lists the values of all the model parameters obtained by calibration for each watershed and HRU.

The primary parameters fitted during the calibration of the watersheds were SMAX, SCN, SEP, GSNK, RCF, and RCB. Constant values of SCN and GSNK were used for each watershed. The others were varied by HRU for each watershed. These six parameters were adjusted primarily by using a manual fitting procedure. Sequential adjustments were made to a single parameter while evaluating the results by inspecting the resultant hydrographs and error functions. On some basins, the automatic optimizations procedure was used for final adjustments by holding some parameters constant while optimizing two or three others.

A sensitivity analysis of parameters for one basin indicated that SMAX and SEP are the most sensitive of these parameters. Changes in the values of these two parameters will have more relative effect on predicted flows then changes in the other parameters. These were followed in order of sensitivity by RCF, SCN, RCB, and GSNK.

Calibration in the storm-event mode was made by adjustment of KSAT, PCP, and RGF. Generally, these parameters were fitted manually as previously described. Automatic optimizations were used in some cases to adjust KSAT on the basis of storm volumes. In general, though, final adjustment of parameters was made manually by attempting to fit simulated to observed flows for the larger hydrographs.

Table 3 lists the observed precipitation, net precipitation, potential evapotranspiration, actual evapotranspiration, observed runoff, predicted runoff, and inflow and outflow of each major flow component for each watershed as computed by the model.

Table 4 shows the number of storm events and the range of peaks used in the storm-event calibration of each watershed.

Table 5 provides a summation of the calibration errors. It should be noted that these errors only provide a relative measure of the "goodness of fit" between simulated data and the observed data for a 2-year period. They do not necessarily represent the predictive ability of the calibrated model--particularly for climatic and hydrologic conditions different from those represented by the observed data. The error in total runoff is the percent difference between total predicted and observed flow for the 1981 and 1982 water years. Error in storm-event volumes is the sum of the absolute values of the percent differences between observed and predicted volumes for all storms used in the calibration. The error in storm peaks is the same value for peaks for all storms used in the calibration.

Generally, the range in size of the available storm peaks is poor. The maximum usable peak observed during the 2-year data-collection period was 113 cubic feet per second at site 1. According to Runner (1980), the recurrence interval of this peak is about 5 years. The maximum for site 9 is 78 cubic feet per second. The recurrence interval of this event is less than 2 years.

The following figures (13-22) show a graphical comparison between observed and predicted flow for the 2-year calibration period for each site.

Typical storm hydrographs of predicted and observed flows at Site 8, Station 03213577, Kershaw Branch near Hurley, Va., are shown on figure 23.

The calibrations for sites 1 (Elkfoot), 2 (Puncheoncamp), 6 (Elkhorn), and 7 (Crane) seem to be reliable for the ranges of the observed data. Sites 3 (Freemans) and 10 (Hurricane) appear to be the most unreliable. There were not enough observed data to effectively evaluate the predictive capability of the calibrated models. Intuitively it would seem that, because of the very limited range of flow events experienced during the data-collection period, the simulated flow records using rare rainfall events would be poor.

Table 3.--Quantity of water for each major model component for 1981 and 1982 water years for each site

| Site number | Station | Water year | Observed precipitation (in) | Net precipitation (in) | Potential evapotranspiration (in) | Actual evapotranspiration (in) | Predicted runoff (in) | Observed runoff (in) | Ground-water reservoir inflow (in) | Subsurface reservoir inflow (in) | Subsurface to ground-water flow (in) | Surface runoff (in) | Subsurface flow (in) | Ground-water flow (in) | Ground-water sink (in) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Elkfoot | 1981 | 38.07 | 34.09 | 28.73 | 21.63 | 14.24 | 15.67 | 6.29 | 5.04 | 0 | 2.01 | 5.05 | 7.19 | 0 |
| | | 1982 | 38.87 | 34.84 | 28.73 | 23.36 | 8.56 | 10.59 | 4.63 | 1.77 | 0 | 2.23 | 1.77 | 4.56 | 0 |
| 2 | Puncheon-camp | 1981 | 39.21 | 35.43 | 28.73 | 22.87 | 5.45 | 5.67 | 7.94 | 5.16 | 0 | .25 | 5.17 | 0 | 8.34 |
| | | 1982 | 41.03 | 37.15 | 28.73 | 23.05 | 5.55 | 5.69 | 8.12 | 4.58 | 0 | .93 | 4.58 | 0 | 8.12 |
| 3 | Freemans | 1981 | 35.55 | 33.37 | 28.73 | 23.39 | 4.55 | 6.98 | 4.48 | 3.88 | 0 | .47 | 3.67 | .41 | 4.67 |
| | | 1982 | 40.70 | 38.42 | 28.73 | 24.24 | 10.10 | 8.80 | 5.58 | 8.87 | 0 | .65 | 8.99 | .45 | 5.13 |
| 4 | Left Sandlick | 1981 | 37.11 | 33.57 | 28.73 | 22.38 | 10.78 | 9.53 | 5.52 | 4.99 | 0 | .58 | 4.98 | 5.22 | 0 |
| | | 1982 | 40.19 | 36.36 | 28.73 | 22.89 | 13.67 | 11.45 | 7.08 | 5.61 | 0 | .92 | 5.62 | 7.12 | 0 |
| 5 | Right Sandlick | 1981 | 37.42 | 33.59 | 28.73 | 23.74 | 9.15 | 9.96 | 4.31 | 3.56 | 0 | 1.33 | 3.61 | 4.21 | 0 |
| | | 1982 | 37.31 | 33.34 | 28.73 | 22.92 | 12.10 | 11.02 | 6.92 | 3.77 | 0 | 1.33 | 3.77 | 7.00 | 0 |
| 6 | Elkhorn | 1981 | 37.87 | 35.44 | 28.73 | 22.99 | 7.22 | 6.94 | 5.39 | 5.68 | 0 | 1.15 | 5.69 | .38 | 5.02 |
| | | 1982 | 39.39 | 36.78 | 28.73 | 23.23 | 6.70 | 4.60 | 7.08 | 4.87 | 0 | 1.32 | 4.86 | .51 | 6.57 |
| 7 | Crane | 1981 | 37.84 | 34.97 | 28.73 | 23.05 | 9.19 | 11.25 | 4.03 | 7.72 | 0 | .60 | 7.72 | .87 | 0 |
| | | 1982 | 44.43 | 40.43 | 28.73 | 22.92 | 13.28 | 12.93 | 4.47 | 10.66 | 0 | .65 | 10.66 | 1.97 | 0 |
| 8 | Kershaw | 1981 | 46.07 | 40.93 | 28.73 | 21.51 | 13.62 | 12.01 | 7.68 | 11.40 | 0 | 1.70 | 11.50 | .42 | 7.96 |
| | | 1982 | 49.38 | 43.21 | 28.73 | 21.48 | 10.08 | 8.96 | 10.39 | 7.75 | 0 | 1.82 | 7.74 | .52 | 9.87 |
| 9 | Camp | 1981 | 39.30 | 35.39 | 28.73 | 18.30 | 18.90 | 23.51 | 2.58 | 8.99 | 0 | 7.32 | 9.14 | 2.29 | 0 |
| | | 1982 | 49.42 | 44.74 | 28.73 | 19.42 | 23.85 | 36.81 | 3.60 | 9.79 | 0 | 10.65 | 9.76 | 3.38 | 0 |
| 10 | Hurricane | 1981 | 32.52 | 29.25 | 28.73 | 23.47 | 6.35 | 10.66 | 2.79 | 3.25 | 0 | .83 | 3.30 | 2.22 | .66 |
| | | 1982 | 43.49 | 39.03 | 28.73 | 23.65 | 11.94 | 10.20 | 5.09 | 6.50 | 0 | 1.52 | 6.50 | 3.91 | 1.17 |

Table 4.--Number of storm events and range of peaks used in storm-event calibrations

| Site number | Station | Number of storms | Peak | |
|---|---|---|---|---|
| | | | Minimum ($ft^3/s$) | Maximum ($ft^3/s$) |
| 1 | Elkfoot | 23 | 0.26 | 113 |
| 2 | Puncheoncamp | 19 | 2.20 | 23 |
| 3 | Freemans | 14 | .72 | 4.80 |
| 4 | Left Sandlick | 27 | 1.00 | 15 |
| 5 | Right Sandlick | 21 | 2.00 | 26 |
| 6 | Elkhorn | 28 | .85 | 79 |
| 7 | Crane | 15 | 1.00 | 72 |
| 8 | Kershaw | 19 | .46 | 36 |
| 9 | Camp | 16 | 2.70 | 78 |
| 10 | Hurricane | 12 | 1.60 | 31 |

Table 5.--Summary of calibration errors for 1981 and 1982 water years

| Site number | Station | Total runoff (percent) | Storm event | |
|---|---|---|---|---|
| | | | Volumes (percent) | Peaks (percent) |
| 1 | Elkfoot | 13 | 45 | 42 |
| 2 | Puncheoncamp | -1.3 | 22 | 39 |
| 3 | Freemans | 7.2 | 44 | 112 |
| 4 | Left Sandlick | -16 | 44 | 59 |
| 5 | Right Sandlick | 3.1 | 34 | 54 |
| 6 | Elkhorn | -21 | 37 | 73 |
| 7 | Crane | 7.1 | 36 | 53 |
| 8 | Kershaw | 13 | 49 | 52 |
| 9 | Camp | 29 | 46 | 51 |
| 10 | Hurricane | 12 | 67 | 102 |

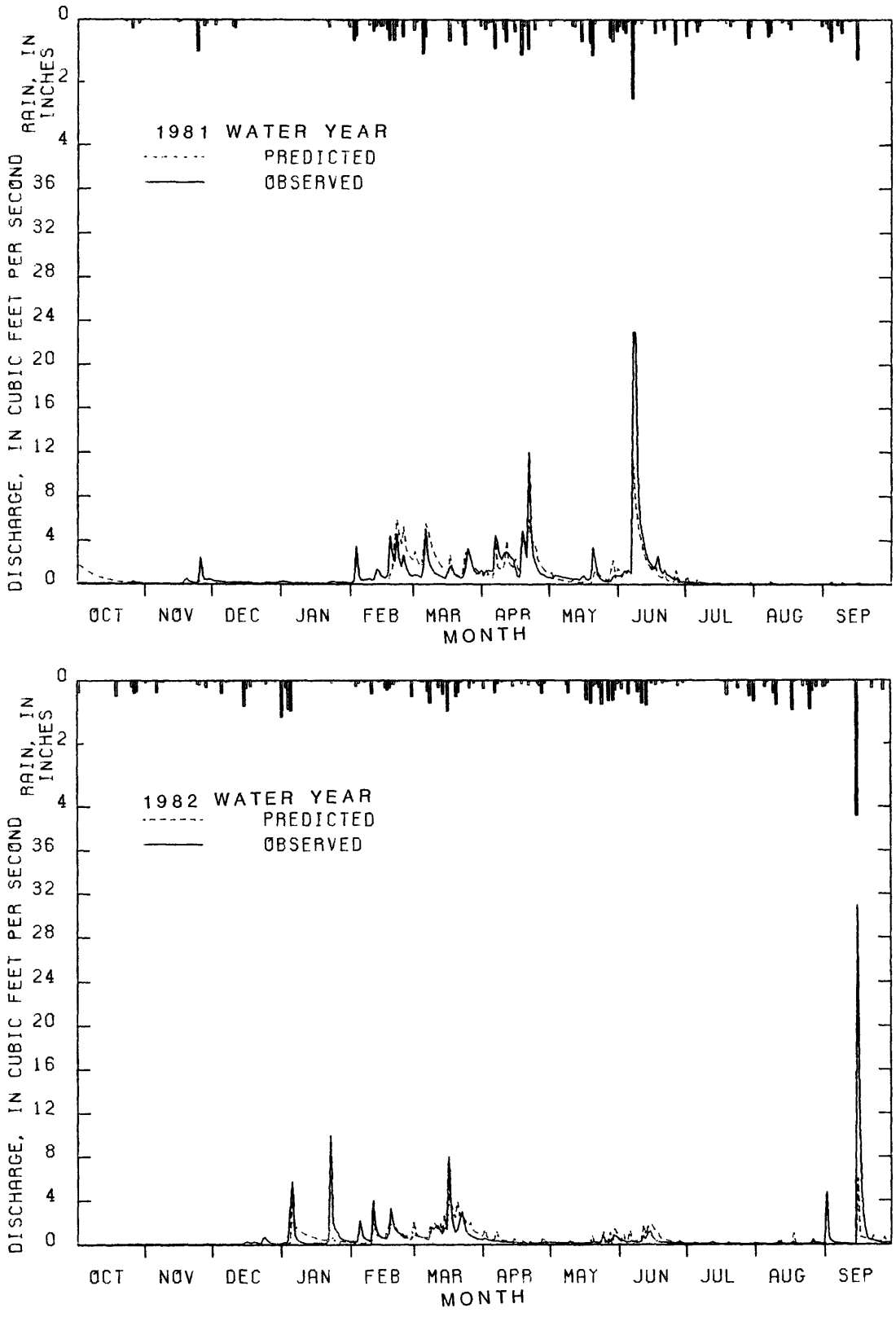


Figure 13.--Hydrographs of observed and predicted discharge and observed precipitation for Station 03207915 Elkfoot Branch near Nigh, Ky.

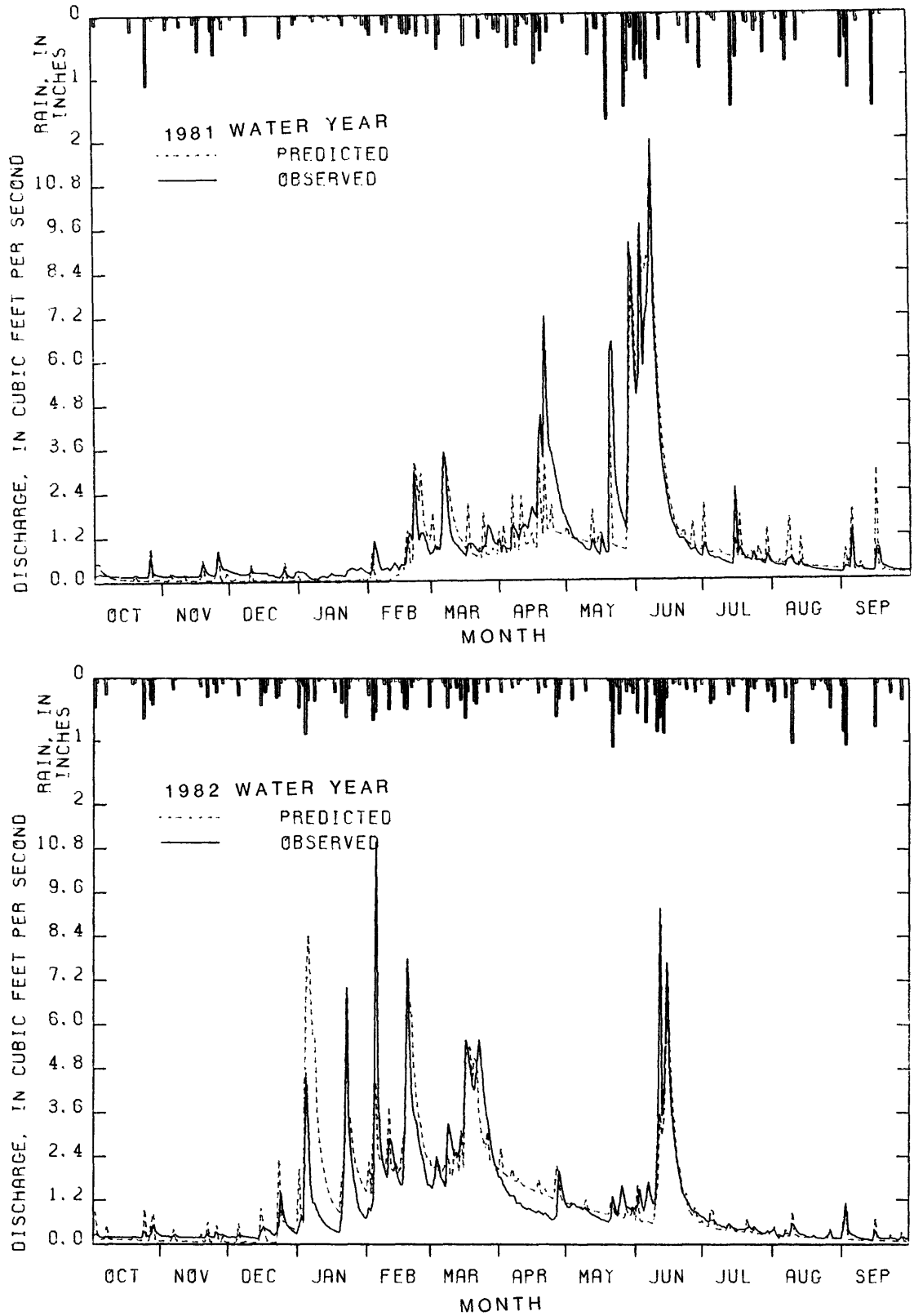


**Figure 14.--Hydrographs of observed and predicted discharge and observed precipitation for Station 03212558 Puncheoncamp Branch at Leekie, W. Va.**

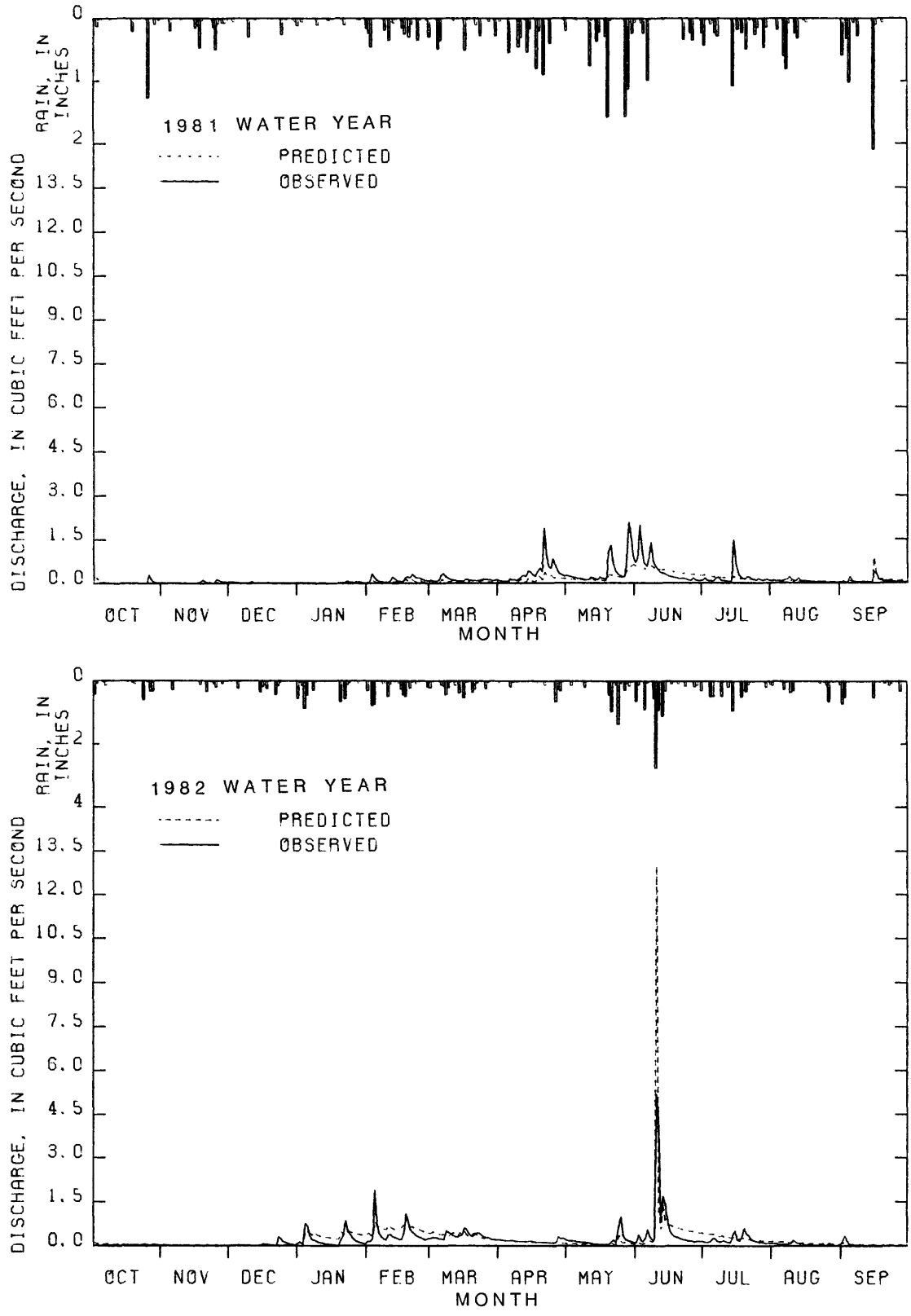


Figure 15.--Hydrographs of observed and predicted discharge and observed precipitation for Station 03212567 Freemans Branch near Skygusty, W. Va.

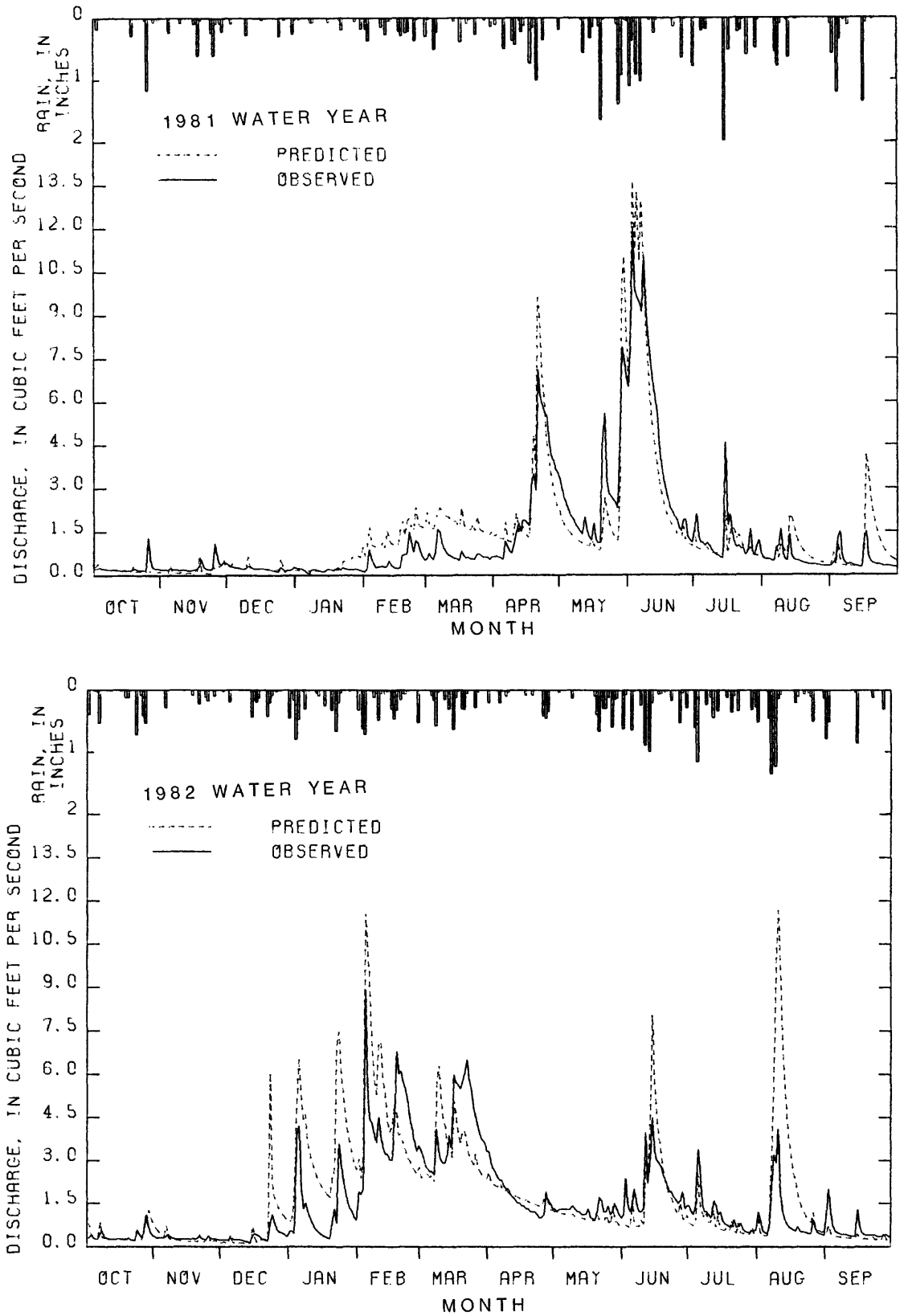


Figure 16.--Hydrographs of observed and predicted discharge and observed precipitation for Station 03212580 Left Fork Sandlick Creek at Elbert, W. Va.

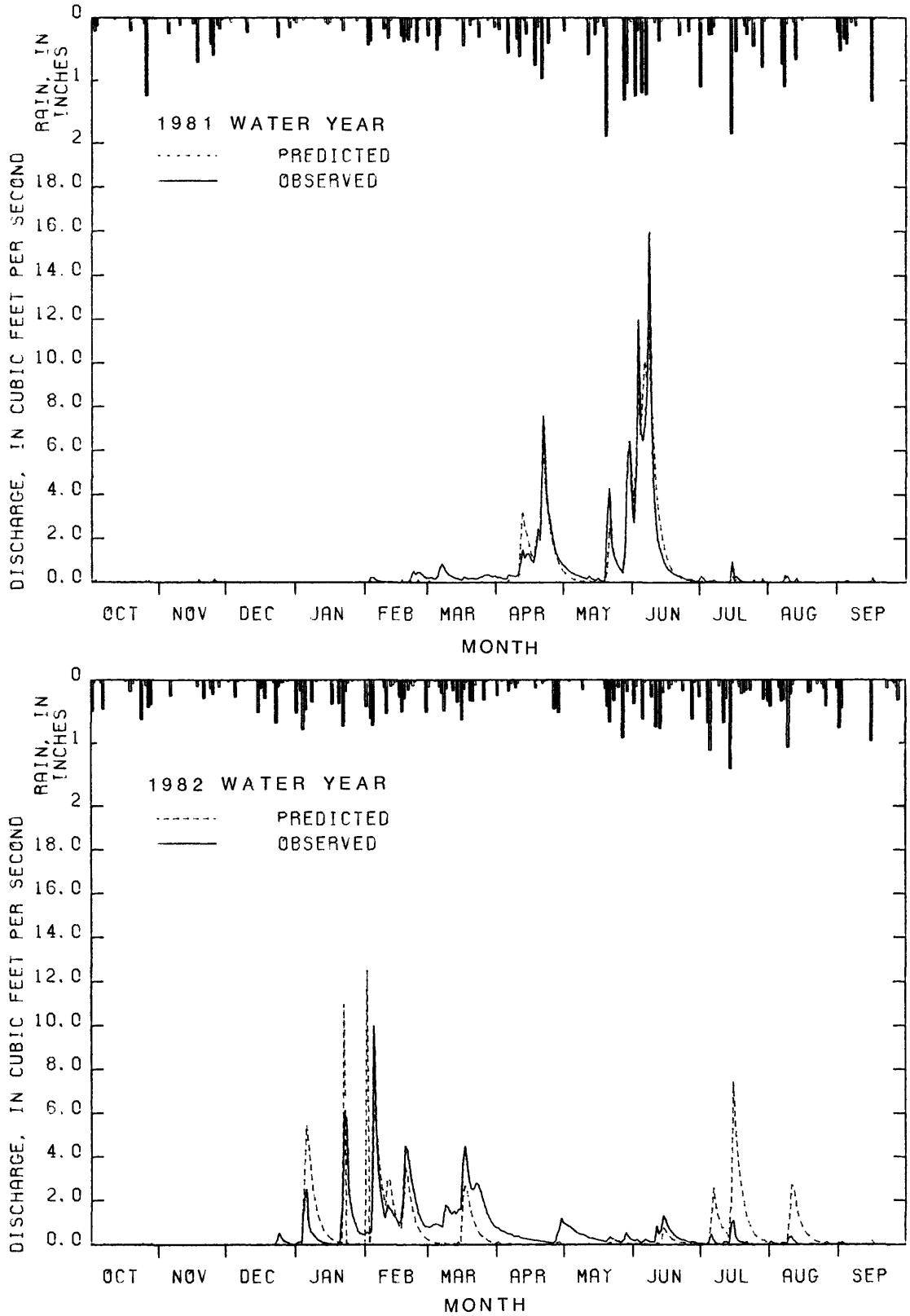


Figure 17.--Hydrographs of observed and predicted discharge and observed precipitation for Station 03212585 Right Fork Sandlick Creek near Gary, W. Va.

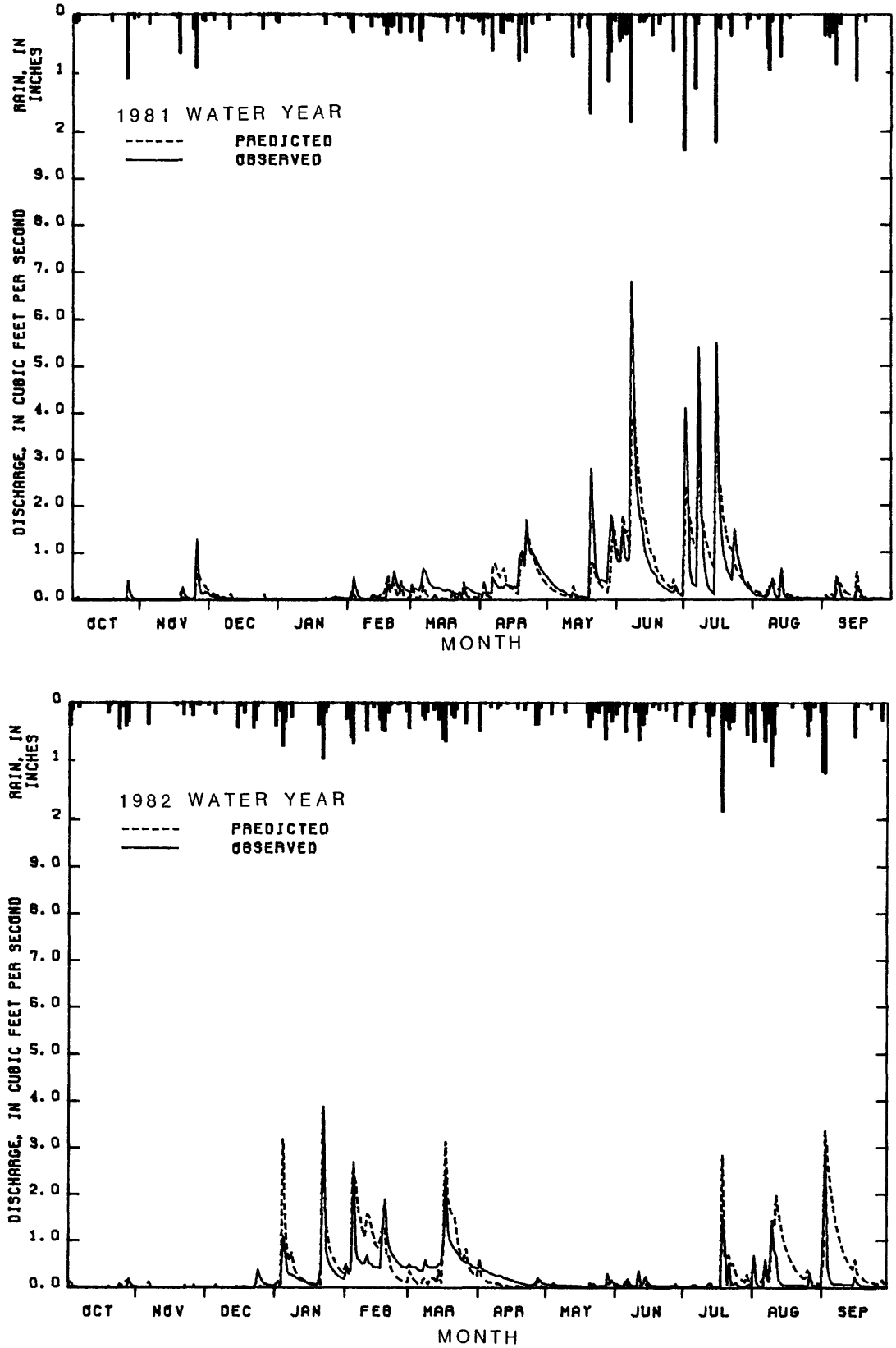


Figure 18.--Hydrographs of observed and predicted discharge and observed precipitation for Station 03212703 Elkhorn Creek tributary at Welch, W. Va.

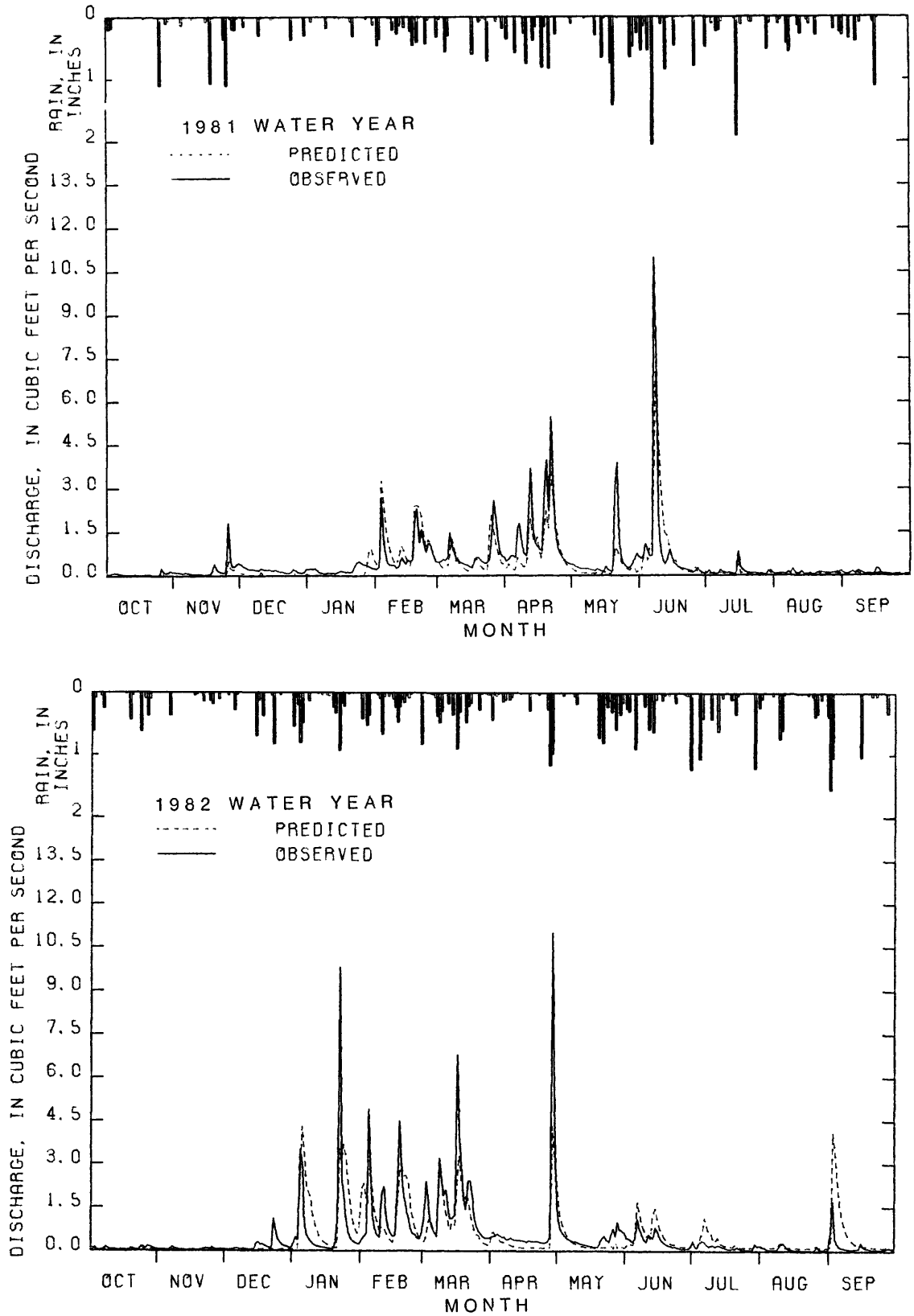


**Figure 19.--Hydrographs of observed and predicted discharge and observed precipitation for Station 03213495 Crane Creek near Panther, W. Va.**

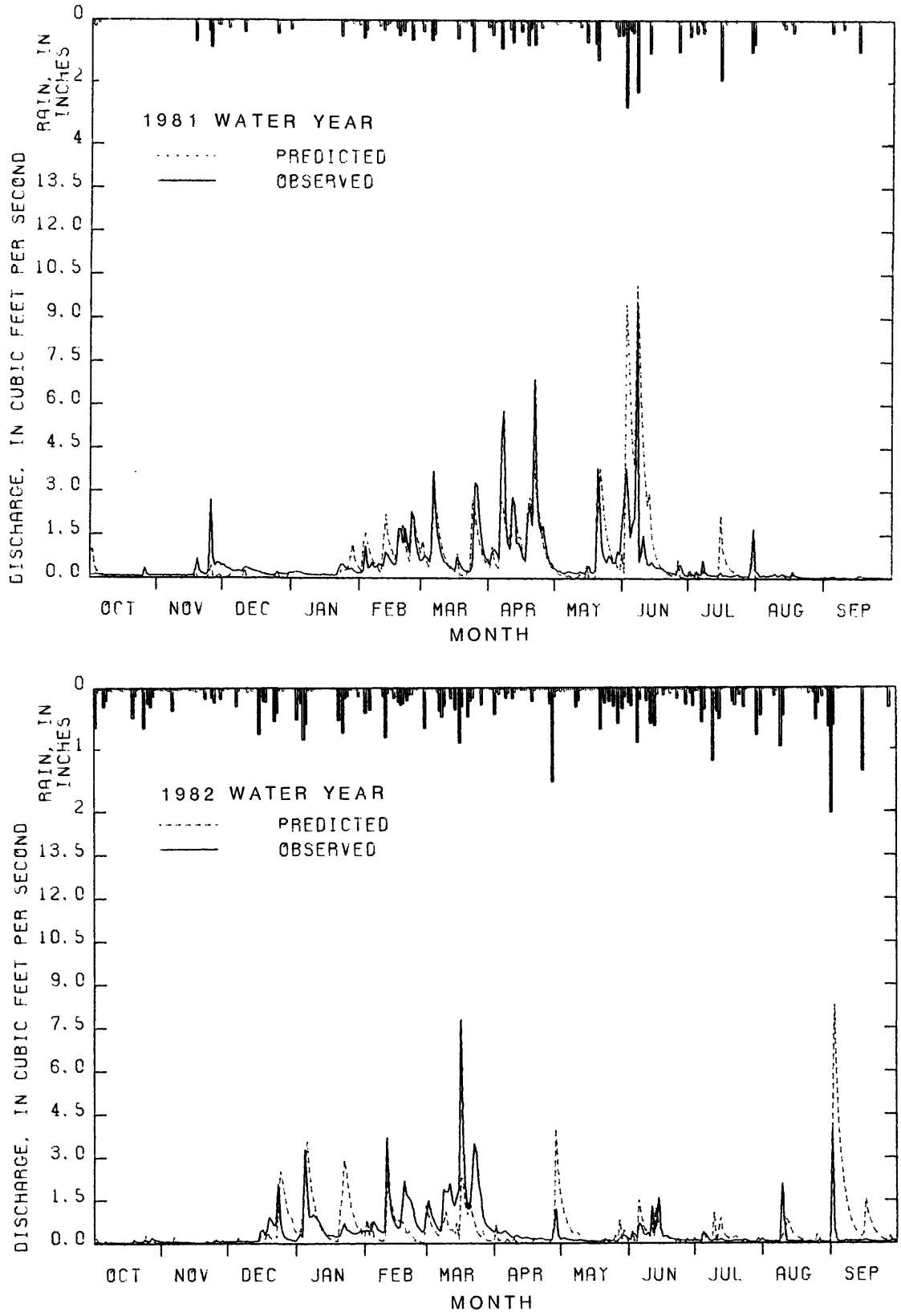


Figure 20.--Hydrographs of observed and predicted discharge and observed precipitation for Station 03213577 Kershaw Branch near Hurley, Va.

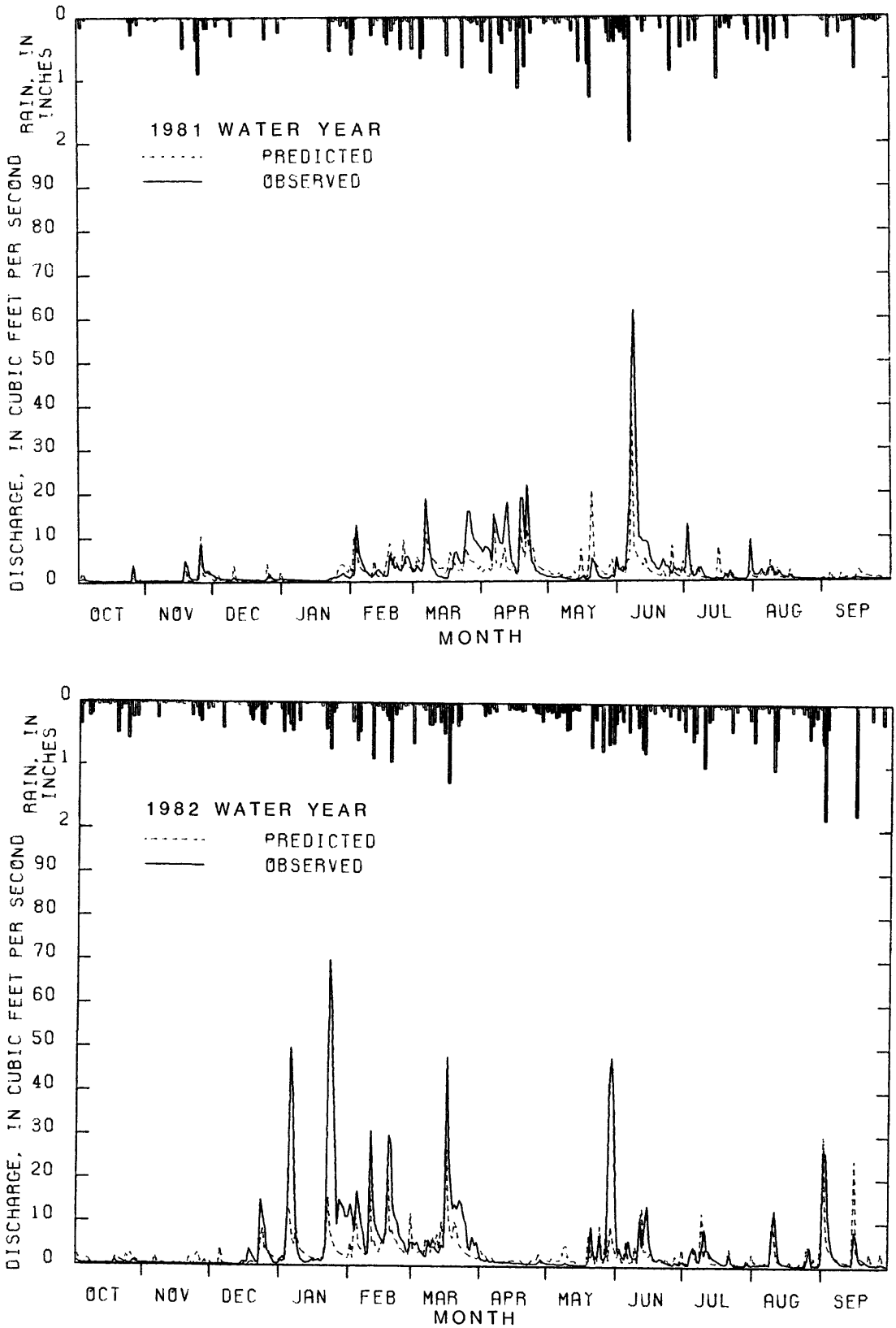


Figure 21.--Hydrographs of observed and predicted discharge and observed precipitation for Station 03213594 Camp Creek near Argo, Ky.

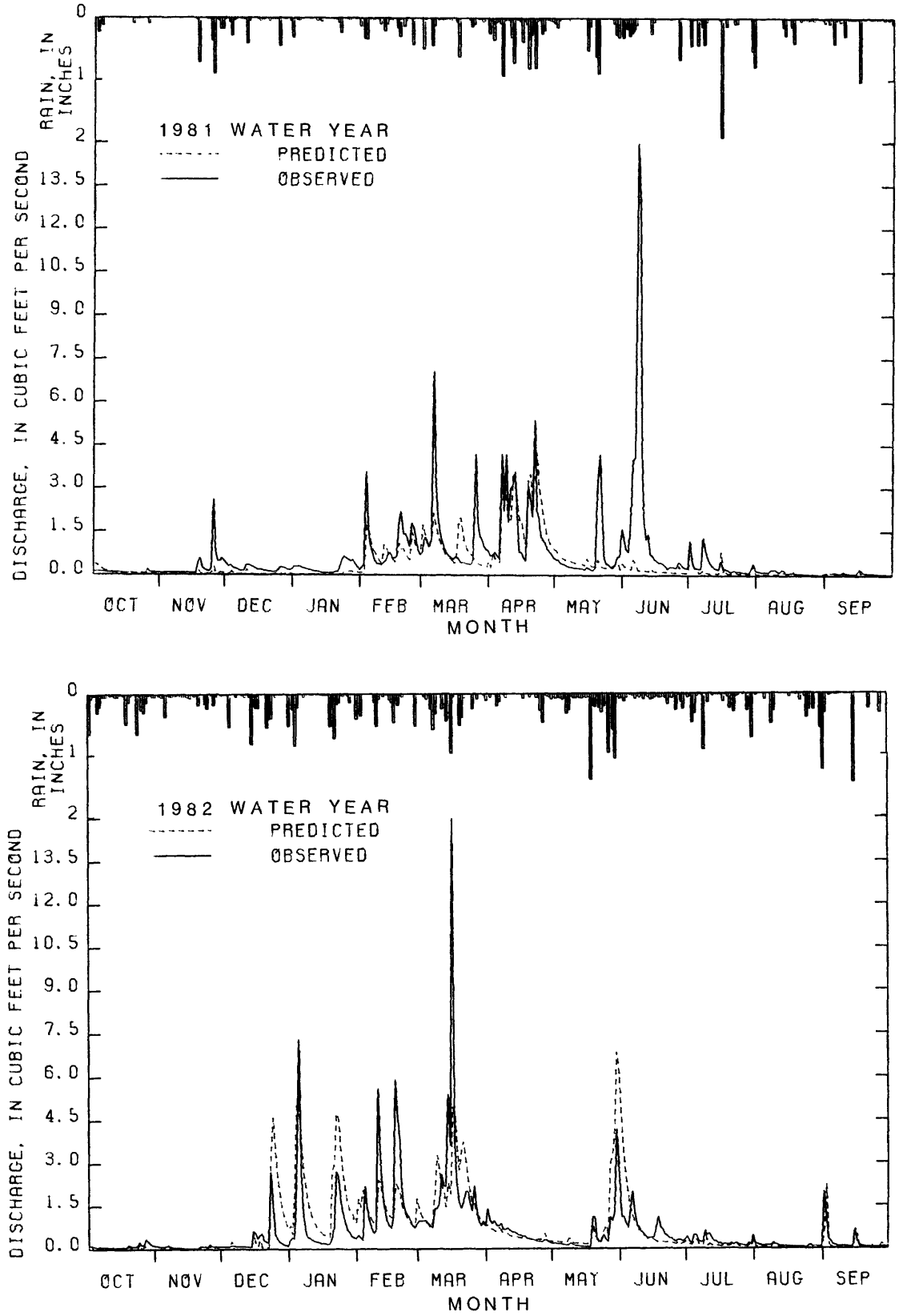


Figure 22.--Hydrographs of observed and predicted discharge and observed precipitation for Station 03213630 Right Fork Hurricane Creek near Stopover, Ky.

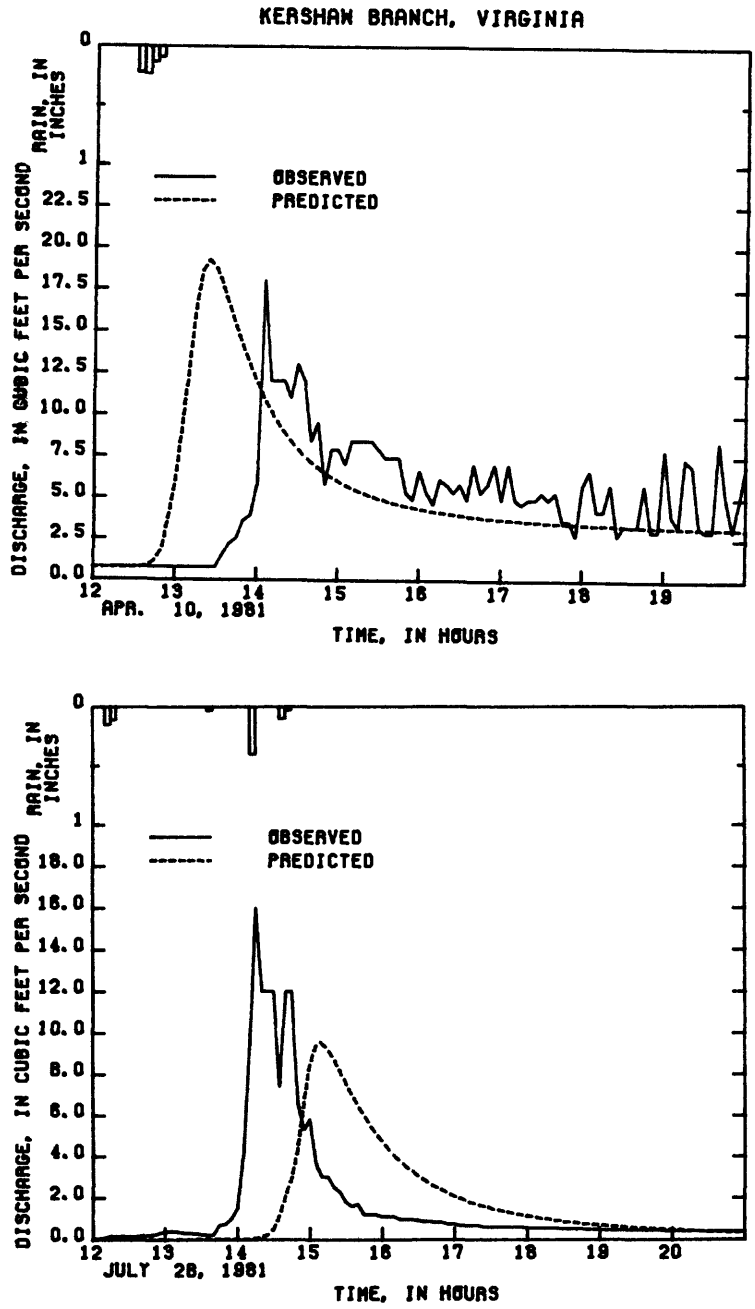


Figure 23.--Typical storm-event hydrographs of observed and predicted discharges at Station 03213577, Kershaw Branch near Hurley, Va.

## SIMULATION OF STREAMFLOW DATA

A set of optimum model parameters determined for each basin through the calibration of PRMS were used to simulate a long record of streamflow at each site. These records were simulated using a single set of long-term climatic data for all of the basins.

Long-term climatic data used as input to PRMS were daily values of precipitation, potential evapotranspiration, maximum air temperature, and minimum air temperature. Additionally, 5-minute values of precipitation were input for all significant storms for the period. All of these input data were previously obtained from the National Weather Service and were available in U.S. Geological Survey computer files. Nearby climatic stations were selected that were representative of the Tug Fork basin sites. The degree to which the input data are representative does not materially affect this study, however, because only relative differences are being investigated. The data, site location, and period of record for the climatic data used in PRMS are shown in the following table:

Table 6.--Long-term climatic data, station location, and period of record

| Data type | Station location | Period of record |
|---|---|---|
| Daily precipitation | Wytheville, Va. | 1904-72 |
| Storm-event precipitation | Wytheville, Va. | 1905-70 |
| Daily evaporation | Bluestone Lake, W. Va. | 1951-77 |
| Maximum daily temperature | Gary, W. Va. | 1921-78 |
| Minimum daily temperature | Gary, W. Va. | 1921-78 |

The simulation period was constrained by the availability of daily and 5-minute precipitation data. It was necessary to estimate or synthesize daily evaporation and temperature so that records would be as long as the precipitation record. Evaporation data were synthesized by computing a 1-day average for each day from the observed data and using the synthesized year of daily data for each year from 1904-50. The temperature data were estimated by assuming that the observed 1921-37 period was identical to the required 1904-20 period. This assumption is not critical as the temperature is used primarily in the snowmelt routines of PRMS.

The resultant simulated streamflow record consists of 68 years (1904-72) of daily flows and instantaneous, 5-minute, incremental values of discharge for all significant storms for 57 years during 1905-70. The unit (5-minute) data resulted in 57 simulated annual-peak flows for each site.

## ANALYSES

The simulated record of annual peak discharges for each site was analyzed in accordance with "Guidelines for Determining Flood Flow Frequency" (U.S. Geological Survey, 1982). Discharges of 2-, 5-, 10-, 25-, and 50-year recurrence intervals were determined for each site from these analyses. Mean-annual discharges, the 7-day, 10-year low flow, and discharges for the 10-, 50-, and 90-percent flow durations were computed for each site from the simulated daily flow record. Values for all of these flow characteristics, percent of disturbed area, and drainage area of each basin are shown in table 7.

Although Site 9, Camp Creek, has the largest percentage of disturbed area, the discharges in table 7 appear extremely high. The exact reason is not known; however, it is possible that errors in rainfall or discharge data could cause the model calibration to result in unreasonable parameters. Discharge and rainfall data were carefully reviewed for this site but no obvious errors could be identified.

A graphical comparison of the peak-flow characteristics for each site was made by dividing the discharges by drainage area and plotting the resultant frequency curves. These curves are shown on figure 24 with the land use category and percent of area disturbed for each basin.

Inspection of figure 24 indicates a relation between percent of area disturbed in the basin and peak-flow magnitude. There is no apparent correlation between the catagory of mining and peak flows. A classical statistical test of differences between these groups could not be made because the flow data are highly correlated because they are all derived from the same storm data.

Regression analyses were performed using all of the flow characteristics, described in table 7, as dependent variables and drainage area and percent of area disturbed as independent variables. Other common independent variables such as slope, length, percent of forest cover, and elevation were considered. These variables were not used because the variables were highly correlated to drainage area or disturbed area or they had a small range of values because of the similarity of the gaged basins. It was necessary to add a constant to all values of DISTA so that zeros would not be encountered during logarithmic transformations of the data.

Table 7.--Streamflow characteristics from simulated flow data, drainage area, and percent of area disturbed for each watershed

[$P_2$, $P_5$, $P_{10}$, $P_{25}$, $P_{50}$ -- Annual peak flows of the indicated recurrence interval in years, in cubic feet per second]

[QA -- Mean annual flow, in cubic feet per second]

[$D_{10}$, $D_{50}$, $D_{90}$ -- Flow in cubic feet per second equaled or exceeded during the indicated percentage of days]

[$Q_{7,10}$ -- Seven-day low flow with a 10-year recurrence interval, in cubic feet per second]

[DA -- Drainage area of basin, in square miles]

[DISTA -- Disturbed area, measured on aerial photographs taken in 1982, expressed as a percentage of the total drainage area]



| Site number | Station | P2 | P5 | P10 | P25 | P50 | QA | D10 | D50 | D90 | Q7,10 | DA | DISTA |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Elkfoot | 44 | 133 | 240 | 454 | 689 | 0.71 | 1.55 | 0.43 | 0.13 | 0.10 | 0.73 | 9.2 |
| 2 | Puncheoncamp | 52 | 164 | 311 | 632 | 1015 | 1.15 | 2.40 | 0.72 | 0.18 | 0.10 | 1.36 | 8.4 |
| 3 | Freemans | 15 | 50 | 96 | 199 | 320 | 0.78 | 0.78 | 0.30 | 0.14 | 0.11 | 0.30 | 35.0 |
| 4 | Left Sandlick | 31 | 82 | 146 | 282 | 444 | 1.67 | 3.50 | 0.94 | 0.24 | 0.08 | 1.78 | 24.0 |
| 5 | Right Sandlick | 14 | 37 | 62 | 106 | 150 | 0.45 | 0.80 | 0.18 | 0.01 | 0.00 | 1.21 | 0.0 |
| 6 | Elkhorn | 33 | 114 | 223 | 461 | 742 | 0.48 | 0.90 | 0.35 | 0.17 | 0.11 | 0.66 | 41.0 |
| 7 | Crane | 11 | 30 | 52 | 94 | 136 | 0.49 | 1.05 | 0.19 | 0.15 | 0.10 | 0.54 | 0.0 |
| 8 | Kershaw | 19 | 59 | 112 | 230 | 374 | 0.46 | 0.91 | 0.26 | 0.00 | 0.00 | 0.60 | 14.0 |
| 9 | Camp | 509 | 1080 | 1590 | 2370 | 3060 | 1.96 | 4.60 | 0.70 | 0.21 | 0.12 | 1.60 | 46.0 |
| 10 | Hurricane | 72 | 222 | 398 | 739 | 1100 | 0.74 | 1.42 | 0.42 | 0.18 | 0.11 | 0.82 | 32.0 |

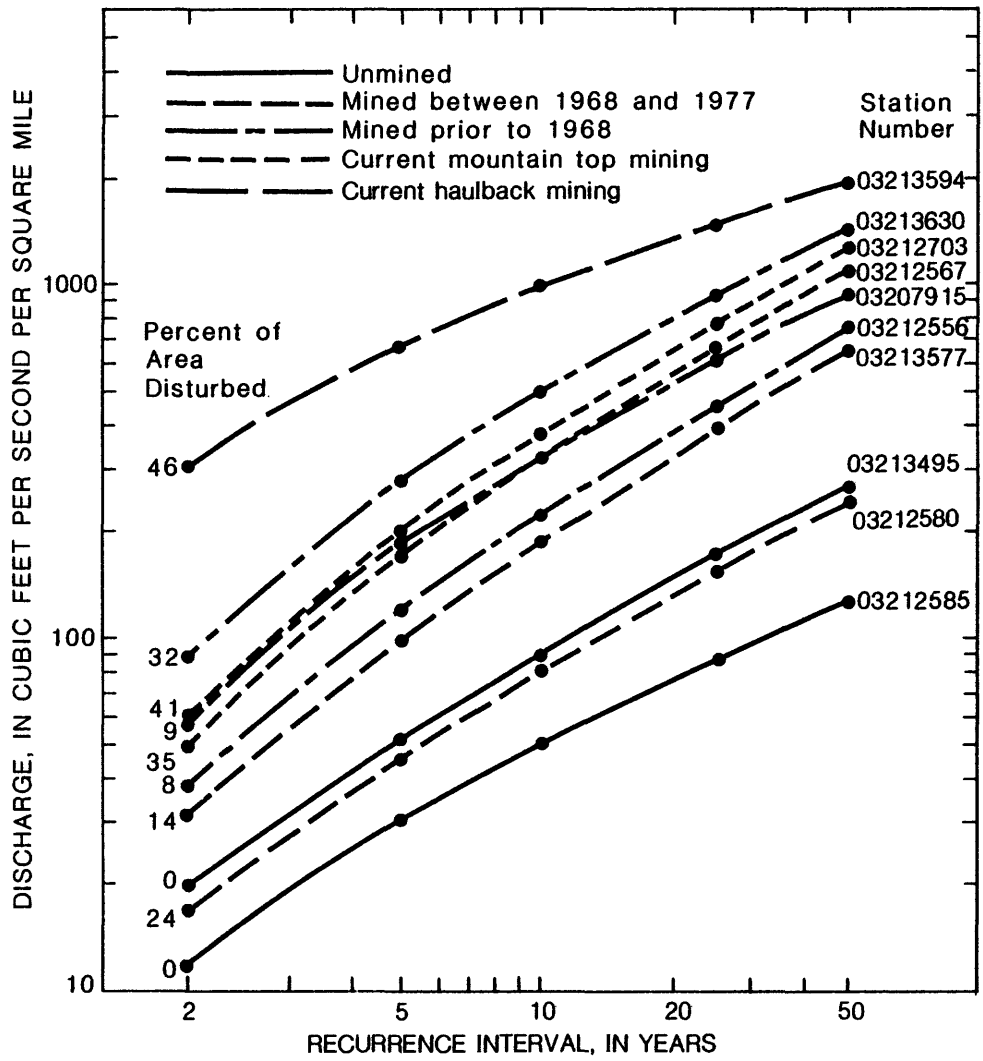


Figure 24.--Flood-frequency curves from simulated annual-peak discharges for all watersheds.

The regression equations, computed by using the "MINITAB" statistical software (Ryan, T. S., and others, 1976), standard error, and coefficient of determination are shown in the following table.

Table 8.--Regression equations for streamflow characteristics derived from simulated flow record

[$R^2$, Coefficient of determination]
[SE, Standard error of the regression, in percent]
[*, Coefficient statistically significant at 1-percent level]
[**, Coefficient statistically significant at 5-percent level]

| Regression equation | $R^2$ | SE |
|---|---|---|
| $P_2 = 37\ DA^{1.06**}\ DISTA^{.14**}$ | .57 | 99 |
| $P_2 = 31\ DISTA^{.14**}$ | .31 | 129 |
| $P_2 = 44\ DA^{1.09}$ (level of significance = 8%) | .29 | 129 |
| $P_5 = 104\ DA^{.90**}\ DISTA^{.15**}$ | .59 | 88 |
| $P_{10} = 183\ DA^{.82**}\ DISTA^{.15**}$ | .63 | 78 |
| $P_{25} = 336\ DA^{.72**}\ DISTA^{.16*}$ | .67 | 67 |
| $P_{50} = 501\ DA^{.67**}\ DISTA^{.16*}$ | .72 | 63 |
| $P_{50} = 445\ DISTA^{.17*}$ | .56 | 75 |
| $P_{50} = 602\ DA^{.70}$ (level of significance = 18%) | .17 | 107 |
| $QA = -.17 + .83\ DA* + .01\ DISTA**$ | .79 | 32 |
| $D_{10} = -.80 + 2.14\ DA* + .03\ DISTA**$ | .80 | 37 |
| $D_{50} = .39\ DA^{.62*}\ DISTA^{.09*}$ | .84 | 26 |
| $D_{90}$ - No statistically significant relation | | |
| $Q_{7,10}$ - No statistically significant relation | | |

The results of these regression analyses indicate that percent of total area disturbed (DISTA) is a highly significant predictor for all flow characteristics except $D_{90}$ and $Q_{7,10}$; the low-flow characteristics. Generally, DISTA is a more statistically significant predictor than drainage area (DA), particularly for the higher recurrence-interval peak flows. Flow characteristics in all cases are directly proportional to DISTA; that is, the larger the percent of DISTA, the larger the flow characteristic for these sites.

For peak discharges of 2-year ($P_2$) and 50-year ($P_{50}$) recurrence intervals, each variable was used in a separate regression. This was done to estimate the relative contribution of each toward explaining the total variance of the flow characteristics. It can be seen from the $R^2$ values that, in both cases, DISTA explains more variance than DA, particularly for the higher recurrence interval.

## SUMMARY

Hydrologic and climatologic data were collected at 10 small watersheds in the Tug Fork basin of Kentucky, Virginia, and West Virginia from October 1980 through September 1982. The data included continuous records of discharge, precipitation, and air temperature. Daily records of sediment concentrations and sediment discharges were also obtained and periodic observations of water-quality data taken.

The 10 watersheds, ranging in drainage area from 0.30 square miles to 1.78 square miles, were selected to represent the following catagories of land use:

1. Surface mining prior to 1968.
2. Surface mining between 1968 and 1977.
3. Current haulback surface mining.
4. Current mountaintop mining.
5. Natural (unmined) conditions.

The observed climatic and hydrologic data from these basins were used to calibrate the U.S. Geological Survey Precipitation-Runoff Modeling System for each watershed. The calibrated models of each basin were then used with a set of nearby, long-term climatic data to simulate a long record of streamflow. A 68-year record of daily streamflow and 57 years of annual peaks were simulated for each site. These simulated records were analyzed to obtain flood-frequency curves, flow-duration curves, mean-annual discharges, and the 7-day, 10-year low flow for each site.

The flow characteristics computed from the simulated records of discharge were analyzed graphically and statistically by regression analysis to investigate the degree of relationship and to define the relationship between mining and runoff. For this sample of small basins peak flows, discharges for 10- and 50-percent flow durations, and mean-annual flows are directly related to percent of drainage area disturbed (measured from aerial photographs taken during 1982) and drainage area. Percent of drainage area disturbed is generally a more statistically significant estimator of discharges than

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APPENDIX A--Hydrologic and Climatologic Data for Gaged Sites

CONTENTS

drainage area, particularly for peak flows of higher recurrence intervals. A large part of the flow increase is probably due to removal of the forest vegetation causing a decrease in precipitation-interception losses and a decrease in evapotranspiration losses from the soil. Watersheds for Sites 3 (Freemans), 4 (Left Fork Sandlick), 6 (Elkhorn), and 9 (Camp) contain sediment ponds and some drainage modification. These alterations may affect low flows but probably have no effect on higher flows because of the steepness of the terrain and the limited storage capacity of the ponds. There was no direct evidence in this study of any significant alteration of the flow characteristics investigated due to these basin modifications.

It should be noted that a previous investigation using PRMS in the Tug Fork basin by Doyle indicated that increasing mining by as much as 200 percent, from 9.24 square miles to 18.48 square miles, in a 86 square mile basin had little effect on streamflows in the immediate area and no effect downstream at the basin outlet (Doyle, Curwick, and Flynn, 1983). This present investigation did indicate significant increases in flows in much smaller basins than those investigated by Doyle. These differing results are probably because of the differences in sizes of the basins investigated and degree of disturbance in the basins--only 11 percent in Doyle's investigation and a maximum of 46 percent in this investigation. It should also be noted that Doyle's investigation did not have the benefit of the small-basin data as used in this report.

03207915 ELKFOOT BRANCH NEAR NIGH, KY

LOCATION.--Lat 37°23'52", long 82°17'03", Pike County, Hydrologic Unit 05070202, on left bank 0.2 mi (0.3 km) upstream from Levisa Fork, 1.8 mi (2.9 km) southwest of Nigh, 2.3 mi (3.7 km) northwest of Mouthcard, and at mile 0.2 (0.3 km).

DRAINAGE AREA.--0.70 $mi^2$ (1.81 $km^2$.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 through September 1982.

GAGE.--Water-stage recorder. Datum of gage is 830 ft (253 m) from topographic map.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 98 $ft^3/s$ (2.775 $m^3/s$) Sept. 14, 1982, gage height, 3.02 ft (0.920 m); minimum daily, 0.01 $ft^3/s$ (<0.001 $m^3/s$) Aug. 29, 1981.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .09 | .05 | .25 | .26 | .25 | .81 | 1.1 | .50 | .85 | .24 | .05 | .03 |
| 2 | .09 | .05 | .25 | .21 | 3.5 | .73 | .98 | .63 | 1.2 | .17 | .04 | .04 |
| 3 | .09 | .05 | .22 | .18 | .90 | .63 | .90 | .63 | 1.2 | .16 | .05 | .06 |
| 4 | .06 | .06 | .19 | .14 | .37 | 1.8 | .83 | .59 | 1.3 | .15 | .04 | .07 |
| 5 | .06 | .05 | .19 | .09 | .36 | 5.1 | 3.3 | .54 | .93 | .13 | .03 | .05 |
| 6 | .06 | .04 | .18 | .10 | .40 | 2.5 | 2.6 | .51 | 21 | .23 | .07 | .04 |
| 7 | .05 | .04 | .16 | .13 | .43 | 1.7 | 1.7 | .47 | 21 | .16 | .06 | .04 |
| 8 | .05 | .05 | .15 | .10 | .51 | 1.3 | 1.2 | .43 | 9.0 | .13 | .09 | .06 |
| 9 | .06 | .05 | .20 | .10 | .37 | 1.0 | 1.5 | .40 | 5.1 | .11 | .05 | .05 |
| 10 | .07 | .05 | .20 | .09 | .44 | .91 | 1.5 | .37 | 3.8 | .10 | .04 | .04 |
| 11 | .05 | .05 | .18 | .08 | 1.4 | .81 | 1.4 | .40 | 2.8 | .10 | .03 | .03 |
| 12 | .05 | .04 | .17 | .08 | 1.2 | .71 | .98 | .34 | 2.0 | .09 | .04 | .03 |
| 13 | .04 | .04 | .15 | .08 | .76 | .63 | .90 | .31 | 1.7 | .08 | .03 | .02 |
| 14 | .05 | .04 | .13 | .09 | .63 | .54 | .83 | .51 | 1.2 | .08 | .03 | .02 |
| 15 | .05 | .05 | .13 | .09 | .54 | .51 | .74 | .63 | .98 | .08 | .03 | .13 |
| 16 | .04 | .05 | .13 | .09 | .76 | 1.2 | .63 | .37 | 1.4 | .07 | .07 | .16 |
| 17 | .04 | .40 | .11 | .07 | 4.4 | 1.2 | 4.3 | .31 | 2.0 | .07 | .04 | .07 |
| 18 | .04 | 1.1 | .10 | .08 | 3.0 | 1.1 | 3.8 | .47 | .83 | .07 | .03 | .05 |
| 19 | .04 | .28 | .09 | .07 | 2.2 | .78 | 1.7 | 2.2 | .54 | .07 | .03 | .04 |
| 20 | .03 | .17 | .08 | .07 | 4.6 | .67 | 11 | 1.9 | .76 | .08 | .03 | .04 |
| 21 | .03 | .12 | .06 | .17 | 2.3 | .56 | 3.5 | .86 | .54 | .07 | .03 | .04 |
| 22 | .03 | .09 | .06 | .21 | 1.6 | .62 | 1.5 | .56 | .51 | .07 | .02 | .04 |
| 23 | .03 | .16 | .08 | .21 | 2.7 | 1.4 | .98 | .39 | .43 | .06 | .02 | .03 |
| 24 | .03 | 2.5 | .16 | .19 | 1.7 | 3.3 | 1.4 | .30 | .34 | .05 | .02 | .03 |
| 25 | .27 | .81 | .13 | .16 | 1.1 | 2.5 | .83 | .27 | .37 | .05 | .02 | .03 |
| 26 | .13 | .43 | .11 | .17 | .84 | 1.6 | .76 | .23 | .54 | .04 | .02 | .03 |
| 27 | .08 | .42 | .11 | .19 | .72 | 1.1 | .69 | .30 | .24 | .04 | .02 | .03 |
| 28 | .08 | .47 | .11 | .17 | .82 | .96 | .65 | .72 | .21 | .08 | .02 | .03 |
| 29 | .08 | .44 | .13 | .14 | --- | .96 | .59 | .85 | .16 | .11 | .01 | .02 |
| 30 | .07 | .31 | .24 | .12 | --- | 1.3 | .61 | .78 | .17 | .06 | .02 | .03 |
| 31 | .06 | --- | .26 | .11 | --- | .96 | --- | .77 | --- | .05 | .03 | --- |
| TOTAL | 2.00 | 8.46 | 4.71 | 4.04 | 38.70 | 39.89 | 53.40 | 18.54 | 83.10 | 3.05 | 1.11 | 1.38 |
| MEAN | .065 | .28 | .15 | .13 | 1.38 | 1.29 | 1.78 | .60 | 2.77 | .098 | .036 | .046 |
| CFSM | .09 | .40 | .21 | .19 | 1.97 | 1.84 | 2.54 | .86 | 3.96 | .14 | .05 | .07 |
| IN. | .11 | .45 | .25 | .21 | 2.05 | 2.12 | 2.83 | .98 | 4.41 | .16 | .06 | .07 |

WTR YR 1981 TOTAL 258.38 MEAN .71 CFSM 1.01 IN 13.71

03207915 ELKFOOT BRANCH NEAR NIGH, KY--Continued

WATER-DISCHARGE RECORDS

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .04 | .04 | .05 | .28 | .28 | 1.0 | .47 | .19 | .38 | .09 | .06 | .83 |
| 2 | .04 | .04 | .05 | .24 | .31 | .97 | .40 | .18 | .27 | .08 | .05 | .37 |
| 3 | .04 | .04 | .05 | 4.1 | 2.2 | .84 | .40 | .16 | .21 | .16 | .04 | .21 |
| 4 | .03 | .04 | .05 | 6.6 | 1.1 | .76 | .34 | .16 | .29 | .11 | .05 | .13 |
| 5 | .03 | .05 | .06 | 1.2 | .63 | .67 | .34 | .14 | .40 | .08 | .06 | .10 |
| 6 | .03 | .07 | .06 | .63 | .47 | .60 | .34 | .14 | .28 | .08 | .05 | .09 |
| 7 | .02 | .06 | .06 | .42 | .43 | 2.3 | .24 | .14 | .22 | .07 | .04 | .08 |
| 8 | .02 | .05 | .05 | .32 | .26 | 2.1 | .24 | .21 | .25 | .08 | .11 | .07 |
| 9 | .02 | .04 | .05 | .30 | 4.0 | 1.6 | .24 | .16 | .27 | .08 | .11 | .06 |
| 10 | .02 | .04 | .05 | .21 | 1.7 | 1.8 | .21 | .14 | 1.0 | .07 | .28 | .05 |
| 11 | .02 | .04 | .05 | .09 | .98 | 1.3 | .21 | .14 | .55 | .24 | .09 | .05 |
| 12 | .02 | .04 | .05 | .09 | .76 | .98 | .20 | .13 | 1.3 | .14 | .07 | .05 |
| 13 | .02 | .04 | .05 | .10 | .69 | 1.5 | .20 | .11 | 1.6 | .09 | .06 | .04 |
| 14 | .02 | .04 | .24 | .16 | .59 | 1.5 | .20 | .10 | .88 | .08 | .05 | 31 |
| 15 | .02 | .04 | .28 | .16 | .54 | 8.0 | .18 | .10 | .58 | .03 | .04 | 11 |
| 16 | .02 | .04 | .18 | .16 | 1.1 | 3.5 | .18 | .13 | .32 | .06 | .21 | 4.3 |
| 17 | .03 | .04 | .16 | .16 | 3.3 | 1.7 | .18 | .13 | .27 | .05 | .13 | 2.0 |
| 18 | .04 | .04 | .26 | .08 | 1.9 | 1.1 | .16 | .16 | .20 | .08 | .07 | .83 |
| 19 | .03 | .04 | .21 | .11 | 1.4 | 1.4 | .14 | .26 | .20 | .08 | .06 | .43 |
| 20 | .02 | .04 | .14 | .37 | 1.1 | 2.2 | .16 | .20 | .20 | .05 | .05 | .37 |
| 21 | .02 | .05 | .08 | 10 | .98 | 3.0 | .16 | .18 | .16 | .05 | .06 | .37 |
| 22 | .02 | .05 | .59 | 1.9 | .76 | 1.9 | .14 | .20 | .14 | .05 | .05 | .26 |
| 23 | .05 | .05 | .69 | 1.4 | .63 | 1.2 | .13 | .90 | .13 | .07 | .05 | .24 |
| 24 | .04 | .06 | .34 | 1.1 | .84 | .90 | .11 | .34 | .10 | .06 | .11 | .20 |
| 25 | .04 | .05 | .20 | .69 | .70 | .83 | .11 | .24 | .09 | .05 | .47 | .14 |
| 26 | .09 | .05 | .14 | .51 | .62 | .69 | .18 | .26 | .10 | .04 | .14 | .14 |
| 27 | .10 | .07 | .11 | .40 | .99 | .63 | .26 | .50 | .11 | .04 | .14 | .18 |
| 28 | .09 | .06 | .09 | .37 | 1.2 | .47 | .21 | .89 | .10 | .07 | .10 | .14 |
| 29 | .05 | .05 | .11 | .31 | --- | .47 | .21 | .82 | .10 | .06 | .08 | .14 |
| 30 | .06 | .05 | .11 | .26 | --- | .43 | .19 | .50 | .10 | .13 | .14 | .14 |
| 31 | .08 | --- | .21 | .31 | --- | .51 | --- | .33 | --- | .08 | 4.8 | --- |
| TOTAL | 1.17 | 1.41 | 4.82 | 33.03 | 30.46 | 46.85 | 6.73 | 8.24 | 10.80 | 2.50 | 7.82 | 54.01 |
| MEAN | .038 | .047 | .16 | 1.07 | 1.09 | 1.51 | .22 | .27 | .36 | .081 | .25 | 1.80 |
| CFSM | .05 | .07 | .23 | 1.53 | 1.56 | 2.16 | .31 | .39 | .51 | .12 | .36 | 2.57 |
| IN. | .06 | .07 | .26 | 1.75 | 1.62 | 2.49 | .36 | .44 | .57 | .13 | .41 | 2.87 |

WTR YR 1982 TOTAL 207.84 MEAN .57 CFSM .81 IN 11.03

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to current year.
PERIOD OF DAILY RECORD.--
SUSPENDED-SEDIMENT DISCHARGE: October 1980 through September 1982.
INSTRUMENTATION.--Automatic pumping sediment samplers since October 1980.
REMARKS.--Records fair.
EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATION: MAXIMUM DAILY MEAN, 462 mg/L Feb. 20, 1981; minimum daily mean, 2 mg/L on some days throughout each year.
SEDIMENT LOADS: Maximum daily, 6.2 tons (5.6 metric tons) Apr. 20, 1981; minimum daily, 0 tons (0 metric tons) on many days throughout each year.

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | --- | 5 | --- | --- | 17 | 28 | 13 | --- | 19 | 10 | --- |
| 2 | 5 | --- | 5 | --- | --- | 14 | 15 | 9 | 62 | 8 | 6 | --- |
| 3 | 8 | --- | 5 | --- | 13 | 12 | 12 | 10 | 16 | 5 | 7 | --- |
| 4 | 8 | --- | --- | --- | 11 | 36 | --- | 12 | 12 | 9 | --- | --- |
| 5 | 12 | --- | --- | --- | --- | --- | --- | 13 | 10 | 5 | --- | --- |
| 6 | 10 | --- | --- | --- | --- | 17 | --- | 15 | --- | 14 | --- | --- |
| 7 | 9 | --- | --- | --- | --- | 12 | --- | 10 | --- | 7 | --- | 11 |
| 8 | 8 | --- | --- | --- | --- | 9 | --- | 6 | --- | 11 | --- | --- |
| 9 | 6 | --- | --- | --- | --- | 8 | --- | 7 | --- | 10 | --- | --- |
| 10 | 3 | --- | --- | --- | --- | 8 | --- | 7 | --- | 13 | --- | 10 |
| 11 | 2 | --- | --- | --- | --- | 10 | --- | 8 | --- | 11 | --- | 10 |
| 12 | 3 | --- | --- | --- | --- | 9 | --- | 7 | --- | 13 | --- | --- |
| 13 | 7 | --- | --- | --- | --- | 9 | 15 | 6 | --- | 13 | --- | --- |
| 14 | 14 | --- | --- | --- | --- | --- | 15 | --- | --- | 12 | --- | --- |
| 15 | 12 | --- | --- | --- | --- | --- | 15 | --- | --- | 17 | --- | --- |
| 16 | --- | --- | 2 | --- | 17 | --- | 8 | 13 | --- | --- | --- | --- |
| 17 | --- | --- | 2 | --- | 255 | --- | --- | 14 | --- | --- | --- | --- |
| 18 | --- | --- | 2 | --- | 80 | 15 | 42 | --- | --- | --- | --- | --- |
| 19 | --- | 10 | --- | --- | 68 | 8 | 27 | --- | --- | --- | --- | --- |
| 20 | --- | 7 | --- | --- | 462 | 4 | 190 | --- | --- | --- | --- | --- |
| 21 | --- | 12 | --- | --- | 74 | 5 | 40 | --- | --- | --- | --- | 18 |
| 22 | --- | --- | --- | --- | 21 | 2 | 21 | --- | --- | --- | --- | --- |
| 23 | --- | --- | --- | --- | --- | 35 | 19 | --- | 10 | --- | --- | --- |
| 24 | --- | --- | --- | --- | 24 | 34 | 19 | --- | 10 | --- | --- | --- |
| 25 | --- | --- | --- | 2 | 15 | 15 | 16 | --- | --- | --- | --- | --- |
| 26 | --- | --- | --- | 2 | 15 | 11 | 16 | --- | --- | 3 | --- | --- |
| 27 | --- | --- | --- | 3 | 14 | 10 | 15 | --- | 18 | 3 | --- | --- |
| 28 | --- | --- | --- | 4 | 15 | 11 | 18 | --- | 14 | 39 | --- | --- |
| 29 | --- | --- | --- | 4 | --- | 12 | 17 | --- | 11 | 11 | --- | --- |
| 30 | --- | --- | --- | 3 | --- | 14 | 14 | --- | 16 | 11 | --- | --- |
| 31 | --- | --- | --- | 3 | --- | 13 | --- | --- | --- | 14 | --- | --- |

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | 3 | 10 | | --- | 12 | 12 | | --- | 16 | --- | |
| 2 | --- | 7 | 7 | | --- | 15 | 11 | | --- | 14 | 2 | |
| 3 | --- | 3 | 8 | | --- | 14 | 11 | | --- | --- | 2 | |
| 4 | --- | 3 | 10 | | --- | 17 | 16 | | --- | --- | --- | |
| 5 | 4 | --- | --- | | --- | 21 | 12 | | --- | 16 | --- | |
| 6 | 5 | --- | --- | | --- | 27 | 10 | | --- | 14 | --- | |
| 7 | 9 | --- | --- | | --- | 73 | 10 | | --- | 12 | --- | |
| 8 | 10 | --- | 9 | | --- | 23 | 13 | | --- | 14 | --- | |
| 9 | 11 | --- | 8 | | 126 | 29 | 11 | | --- | 12 | --- | |
| 10 | 7 | --- | 4 | | --- | 24 | 12 | | --- | 17 | --- | |
| 11 | 9 | --- | 5 | | --- | 23 | 14 | | --- | --- | --- | |
| 12 | 11 | --- | 8 | | --- | 21 | 25 | | --- | --- | --- | |
| 13 | 15 | --- | 8 | | --- | 68 | 33 | | --- | --- | --- | |
| 14 | 14 | --- | --- | | --- | 23 | 27 | | --- | --- | --- | |
| 15 | --- | --- | --- | | --- | --- | 26 | | 40 | --- | --- | |
| 16 | --- | --- | 11 | | --- | 204 | 29 | | 12 | --- | --- | |
| 17 | --- | --- | 13 | | --- | 59 | 36 | | 16 | --- | --- | |
| 18 | --- | --- | 15 | | --- | 30 | 38 | | 15 | --- | --- | |
| 19 | 13 | 2 | --- | | --- | 53 | 39 | | 15 | --- | --- | |
| 20 | 12 | 13 | --- | | --- | --- | 33 | | 19 | --- | --- | |
| 21 | 7 | 8 | --- | | --- | 82 | 28 | | 44 | --- | --- | |
| 22 | 5 | 12 | --- | | --- | 25 | 33 | | 19 | --- | --- | |
| 23 | --- | 11 | --- | | --- | 17 | 40 | | 18 | --- | --- | |
| 24 | 10 | 24 | --- | | 18 | 11 | 20 | | 16 | --- | --- | |
| 25 | 3 | 15 | --- | | 24 | 9 | 21 | | 14 | --- | --- | |
| 26 | --- | 16 | --- | | 21 | 13 | 30 | | 13 | --- | --- | |
| 27 | 5 | 18 | --- | | 18 | 10 | 26 | | 14 | --- | --- | |
| 28 | 4 | 12 | 24 | | 16 | 7 | 25 | | 10 | --- | --- | |
| 29 | 3 | 11 | 23 | | --- | 11 | --- | | 22 | --- | --- | |
| 30 | 4 | 11 | 23 | | --- | 11 | --- | | 19 | --- | --- | |
| 31 | 6 | --- | --- | | --- | 21 | --- | | --- | --- | --- | |

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | --- | .00 | --- | --- | .04 | .08 | .02 | --- | .01 | .00 | --- |
| 2 | .00 | --- | .00 | --- | --- | .03 | .04 | .02 | .20 | .00 | .00 | --- |
| 3 | .00 | --- | .00 | --- | .03 | .02 | .03 | .02 | .05 | .00 | .00 | --- |
| 4 | .00 | --- | --- | --- | .01 | .17 | --- | .02 | .04 | .00 | --- | --- |
| 5 | .00 | --- | --- | --- | --- | --- | --- | .02 | .03 | .00 | --- | --- |
| 6 | .00 | --- | --- | --- | --- | .11 | --- | .02 | --- | .01 | --- | --- |
| 7 | .00 | --- | --- | --- | --- | .06 | --- | .01 | --- | .00 | --- | .00 |
| 8 | .00 | --- | --- | --- | --- | .03 | --- | .01 | --- | .00 | --- | --- |
| 9 | .00 | --- | --- | --- | --- | .02 | --- | .01 | --- | .00 | --- | --- |
| 10 | .00 | --- | --- | --- | --- | .02 | --- | .01 | --- | .00 | --- | .00 |
| 11 | .00 | --- | --- | --- | --- | .02 | --- | .01 | --- | .00 | --- | .00 |
| 12 | .00 | --- | --- | --- | --- | .02 | --- | .01 | --- | .00 | --- | --- |
| 13 | .00 | --- | --- | --- | --- | .02 | .04 | .01 | --- | .00 | --- | --- |
| 14 | .00 | --- | --- | --- | --- | --- | .03 | --- | --- | .00 | --- | --- |
| 15 | .00 | --- | --- | --- | --- | --- | .03 | --- | --- | .00 | --- | --- |
| 16 | --- | --- | .00 | --- | .03 | --- | .01 | .01 | --- | --- | --- | --- |
| 17 | --- | --- | .00 | --- | 3.8 | --- | --- | .01 | --- | --- | --- | --- |
| 18 | --- | --- | .00 | --- | .65 | .04 | .43 | --- | --- | --- | --- | --- |
| 19 | --- | .00 | --- | --- | .58 | .02 | .12 | --- | --- | --- | --- | --- |
| 20 | --- | .00 | --- | --- | 5.7 | .01 | 6.2 | --- | --- | --- | --- | --- |
| 21 | --- | .00 | --- | --- | .46 | .01 | .38 | --- | --- | --- | --- | .00 |
| 22 | --- | --- | --- | --- | .09 | .00 | .09 | --- | --- | --- | --- | --- |
| 23 | --- | --- | --- | --- | --- | .13 | .05 | --- | .01 | --- | --- | --- |
| 24 | --- | --- | --- | --- | .11 | .30 | .07 | --- | .01 | --- | --- | --- |
| 25 | --- | --- | --- | .00 | .04 | .10 | .04 | --- | --- | --- | --- | --- |
| 26 | --- | --- | --- | .00 | .03 | .05 | .03 | --- | --- | .00 | --- | --- |
| 27 | --- | --- | --- | .00 | .03 | .03 | .03 | --- | .01 | .00 | --- | --- |
| 28 | --- | --- | --- | .00 | .03 | .03 | .03 | --- | .01 | .01 | --- | --- |
| 29 | --- | --- | --- | .00 | --- | .03 | .03 | --- | .00 | .00 | --- | --- |
| 30 | --- | --- | --- | .00 | --- | .05 | .02 | --- | .01 | .00 | --- | --- |
| 31 | --- | --- | --- | .00 | --- | .03 | --- | --- | --- | .00 | --- | --- |

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | .00 | .00 | | --- | .03 | .02 | | --- | .00 | --- | |
| 2 | --- | .00 | .00 | | --- | .03 | .01 | | --- | .00 | .00 | |
| 3 | --- | .00 | .00 | | --- | .02 | .01 | | --- | --- | .00 | |
| 4 | --- | .00 | .00 | | --- | .03 | .01 | | --- | --- | --- | |
| 5 | .00 | --- | --- | | --- | .03 | .01 | | --- | .00 | --- | |
| 6 | .00 | --- | --- | | --- | .03 | .01 | | --- | .00 | --- | |
| 7 | .00 | --- | --- | | --- | .32 | .01 | | --- | .00 | --- | |
| 8 | .00 | --- | .00 | | --- | .09 | .01 | | --- | .00 | --- | |
| 9 | .00 | --- | .00 | | 1.8 | .13 | .01 | | --- | .00 | --- | |
| 10 | .00 | --- | .00 | | --- | .12 | .01 | | --- | .00 | --- | |
| 11 | .00 | --- | .00 | | --- | .08 | .01 | | --- | --- | --- | |
| 12 | .00 | --- | .00 | | --- | .06 | .01 | | --- | --- | --- | |
| 13 | .00 | --- | .00 | | --- | .33 | .02 | | --- | --- | --- | |
| 14 | .00 | --- | --- | | --- | .09 | .01 | | --- | --- | --- | |
| 15 | --- | --- | --- | | --- | --- | .01 | | .04 | --- | --- | |
| 16 | --- | --- | .00 | | --- | 1.9 | .01 | | .01 | --- | --- | |
| 17 | --- | --- | .00 | | --- | .27 | .02 | | .01 | --- | --- | |
| 18 | --- | --- | .01 | | --- | .09 | .02 | | .01 | --- | --- | |
| 19 | .00 | .00 | --- | | --- | .20 | .01 | | .01 | --- | --- | |
| 20 | .00 | .00 | --- | | --- | --- | .01 | | .01 | --- | --- | |
| 21 | .00 | .00 | --- | | --- | .66 | .01 | | .02 | --- | --- | |
| 22 | .00 | .00 | --- | | --- | .13 | .01 | | .01 | --- | --- | |
| 23 | --- | .00 | --- | | --- | .06 | .01 | | .01 | --- | --- | |
| 24 | .00 | .00 | --- | | .03 | .03 | .01 | | .00 | --- | --- | |
| 25 | .00 | .00 | --- | | .03 | .02 | .01 | | .00 | --- | --- | |
| 26 | --- | .00 | --- | | .03 | .02 | .01 | | .00 | --- | --- | |
| 27 | .00 | .00 | --- | | .04 | .02 | .02 | | .00 | --- | --- | |
| 28 | .00 | .00 | .01 | | .04 | .01 | .01 | | .00 | --- | --- | |
| 29 | .00 | .00 | .00 | | --- | .01 | --- | | .01 | --- | --- | |
| 30 | .00 | .00 | .00 | | --- | .01 | --- | | .01 | --- | --- | |
| 31 | .00 | --- | --- | | --- | .03 | --- | | --- | --- | --- | |

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | TEMPER-ATURE (DEG C) |
|---|---|---|---|
| OCT | | | |
| 01... | .10 | 390 | 11.0 |
| 20... | .10 | 200 | 10.0 |
| 23... | .10 | 380 | 9.5 |
| DEC | | | |
| 17... | .16 | 420 | 5.0 |
| 31... | .29 | 210 | 2.0 |
| JAN | | | |
| 26... | .28 | 360 | 7.0 |
| FEB | | | |
| 04... | .36 | 320 | 2.0 |
| 19... | 1.7 | 350 | 8.0 |
| MAR | | | |
| 12... | .38 | 200 | 10.0 |
| 18... | 1.1 | 380 | 6.0 |
| APR | | | |
| 23... | 1.5 | 130 | 15.0 |
| MAY | | | |
| 01... | .61 | 560 | 15.0 |
| 19... | 2.9 | 340 | 14.5 |
| JUN | | | |
| 18... | .51 | 600 | 18.0 |
| 29... | .24 | 630 | 19.0 |
| JUL | | | |
| 27... | .10 | 380 | 29.0 |
| AUG | | | |
| 25... | .01 | 525 | 25.0 |
| SEP | | | |
| 21... | .01 | 630 | 18.0 |

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | OXYGEN, DIS-SOLVED (MG/L) | HARD-NESS (MG/L AS CACO3) | HARD-NESS, NONCAR-BONATE (MG/L CACO3) | CALCIUM DIS-SOLVED (MG/L AS CA) | MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) | SODIUM, DIS-SOLVED (MG/L AS NA) | SODIUM AD-SORP-TION RATIO |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | |
| 20... | .01 | 620 | -- | 9.0 | -- | -- | -- | -- | -- | -- | -- |
| NOV | | | | | | | | | | | |
| 19... | .03 | 690 | -- | 6.0 | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | | |
| 08... | .05 | 630 | -- | 7.0 | -- | -- | -- | -- | -- | -- | -- |
| 29... | .08 | 480 | -- | 3.5 | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | | |
| 08... | 1.2 | 410 | -- | 6.5 | -- | -- | -- | -- | -- | -- | -- |
| 22... | 2.0 | 410 | -- | 8.0 | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | | |
| 12... | .16 | 630 | -- | 14.4 | -- | -- | -- | -- | -- | -- | -- |
| 27... | .21 | 640 | -- | 13.6 | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | | |
| 12... | .15 | 650 | -- | 21.0 | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | | |
| 03... | .04 | 725 | 7.4 | 20.0 | -- | 254 | -- | 57 | 27 | 55 | 1.5 |
| 17... | .55 | 690 | -- | 19.0 | 10.2 | 244 | -- | 55 | 26 | 54 | 1.5 |
| SEP | | | | | | | | | | | |
| 13... | .04 | 645 | -- | 20.5 | -- | 229 | 148 | 52 | 24 | 52 | 1.5 |

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

| 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 DAY) | SOLIDS, DIS-SOLVED (TONS PER AC-FT) | PHOS-PHORUS, TOTAL (MG/L AS P) | ARSENIC TOTAL (UG/L AS AS) | CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | |
| 20... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| NOV | | | | | | | | | | | |
| 19... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 29... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 22... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | | |
| 12... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 27... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | | |
| 12... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | | |
| 03... | 280 | 1.8 | .1 | 7.4 | 624 | -- | .07 | .85 | .020 | 1 | 2 |
| 17... | 290 | 1.8 | .1 | 7.7 | 500 | -- | .74 | .68 | -- | -- | -- |
| SEP | | | | | | | | | | | |
| 13... | 200 | 2.3 | .1 | 7.5 | 471 | 391 | .05 | .64 | .020 | -- | -- |

| DATE | CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) | COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) | IRON, TOTAL RECOV-ERABLE (UG/L AS FE) | IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE) | IRON, DIS-SOLVED (UG/L AS FE) | LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) | MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) | MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN) | MANGA-NESE, DIS-SOLVED (UG/L AS MN) | MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) | SELE-NIUM, TOTAL (UG/L AS SE) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | |
| 20... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| NOV | | | | | | | | | | | |
| 19... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 29... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 22... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | | |
| 12... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 27... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | | |
| 12... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | | |
| 03... | 20 | 6 | 420 | -- | 12 | 6 | 30 | -- | 7 | <.1 | <1 |
| 17... | -- | -- | 630 | 590 | 41 | -- | 40 | 30 | 12 | -- | -- |
| SEP | | | | | | | | | | | |
| 13... | -- | -- | 310 | 300 | 10 | -- | 20 | 10 | 7 | -- | -- |

CLIMATOLOGIC RECORDS

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | .00 | .18 | --- | .67 | .08 | .31 | .04 | .00 | .04 | .00 | .13 |
| 2 | --- | .00 | --- | --- | .52 | .03 | .11 | .00 | .32 | .01 | .01 | .28 |
| 3 | .00 | .00 | .00 | --- | .03 | .04 | .09 | .00 | .55 | .03 | .00 | .70 |
| 4 | .00 | --- | .02 | --- | .01 | .52 | --- | .00 | .06 | .09 | .00 | .01 |
| 5 | .00 | .00 | .00 | --- | .00 | .46 | --- | .00 | .00 | .39 | .10 | .00 |
| 6 | .00 | .00 | .00 | --- | .00 | .80 | --- | .05 | 2.85 | .20 | .54 | .19 |
| 7 | .00 | .00 | .00 | --- | .02 | .00 | --- | .00 | .14 | .04 | .43 | .00 |
| 8 | .00 | .00 | .00 | --- | .19 | .02 | --- | .00 | .00 | .00 | .00 | .43 |
| 9 | .00 | .00 | .22 | --- | .00 | .01 | --- | .01 | .00 | .00 | .00 | .00 |
| 10 | .00 | .00 | .06 | --- | .37 | .00 | --- | .21 | .13 | .01 | .00 | .00 |
| 11 | .00 | .00 | --- | --- | .21 | .00 | --- | .23 | .00 | .00 | .00 | .06 |
| 12 | .00 | .00 | --- | --- | .10 | .00 | --- | .03 | .00 | .00 | .10 | .06 |
| 13 | .00 | .01 | --- | --- | .22 | .01 | --- | .00 | .01 | .00 | .00 | .00 |
| 14 | .00 | .08 | --- | --- | .20 | .00 | .38 | .81 | .00 | .05 | .00 | .05 |
| 15 | .00 | .05 | --- | --- | .00 | .04 | .01 | .00 | .00 | .00 | .14 | 1.28 |
| 16 | .00 | --- | --- | --- | .32 | .69 | .00 | .00 | .43 | .03 | .32 | .03 |
| 17 | .00 | .01 | --- | --- | .66 | .03 | 1.07 | .00 | .02 | .00 | .00 | .01 |
| 18 | .00 | .00 | --- | --- | .00 | .01 | .25 | .83 | .01 | .13 | .00 | .03 |
| 19 | .00 | .00 | --- | --- | .67 | .04 | .00 | 1.13 | .00 | .04 | .01 | .00 |
| 20 | .00 | .00 | --- | --- | .22 | .12 | .92 | .14 | .33 | .21 | .00 | .00 |
| 21 | .02 | .00 | --- | --- | .00 | .00 | .01 | .00 | .00 | .06 | .01 | .00 |
| 22 | .06 | .07 | --- | --- | .00 | .23 | .03 | .00 | .00 | .00 | .00 | .01 |
| 23 | .00 | 1.02 | --- | --- | .55 | .72 | .32 | .00 | .00 | .00 | .00 | .00 |
| 24 | .01 | .04 | --- | --- | .02 | .00 | .00 | .00 | .01 | .00 | .00 | .00 |
| 25 | .28 | .00 | --- | --- | .00 | .00 | .00 | .00 | .79 | .00 | .00 | .00 |
| 26 | .00 | .21 | --- | .05 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 |
| 27 | .00 | .13 | --- | .06 | .00 | .04 | .00 | .59 | .00 | .00 | .00 | .00 |
| 28 | .12 | .01 | --- | .03 | .34 | .01 | .00 | .71 | .00 | .60 | .00 | .00 |
| 29 | .00 | .00 | --- | .05 | --- | .01 | .03 | .00 | .00 | .23 | .00 | .00 |
| 30 | .00 | .00 | --- | .24 | --- | .21 | .21 | .38 | .53 | .00 | .21 | .00 |
| 31 | .00 | --- | --- | .04 | --- | .01 | --- | .21 | --- | .00 | .00 | --- |
| TOTAL | | | | | 5.32 | 3.33 | | 5.37 | 6.19 | 2.16 | 1.87 | 3.27 |
| MEAN | | | | | .19 | .11 | | .17 | .21 | .07 | .06 | .11 |

CLIMATOLOGIC RECORDS

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .38 | .00 | .05 | .01 | .00 | .00 | .00 | .00 | .28 | .00 | .00 | .11 |
| 2 | .01 | .00 | .00 | .23 | .20 | .00 | .03 | .00 | .00 | .00 | .00 | .01 |
| 3 | .00 | .00 | .00 | .92 | .11 | .05 | .01 | .00 | .00 | .00 | .02 | .00 |
| 4 | .00 | .00 | .41 | .97 | .00 | .06 | .01 | .00 | .45 | .00 | .22 | .00 |
| 5 | .06 | .38 | .02 | .00 | .00 | .01 | .40 | .00 | .00 | .00 | .06 | .00 |
| 6 | .00 | .04 | .06 | .00 | .06 | .35 | .13 | .00 | .01 | .00 | .00 | .00 |
| 7 | .00 | .05 | .04 | .03 | .01 | .72 | .00 | .14 | .07 | .00 | .00 | .00 |
| 8 | .00 | .07 | .01 | .00 | .01 | .03 | .06 | .41 | .38 | .00 | .42 | .00 |
| 9 | .00 | .00 | .00 | .00 | .43 | .00 | .03 | .00 | .00 | .00 | .77 | .00 |
| 10 | .00 | .00 | .03 | .02 | .00 | .00 | .04 | .00 | .72 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .25 | .00 | .00 | .00 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .01 | .05 | .00 | .00 | .00 | .79 | .00 | .00 | .00 |
| 13 | .00 | .02 | .00 | .03 | .05 | .45 | .20 | .00 | .00 | .00 | .00 | .05 |
| 14 | .01 | .01 | .82 | .00 | .00 | .00 | .00 | .00 | .10 | .00 | .00 | 4.31 |
| 15 | .00 | .03 | .26 | .01 | .25 | .97 | .00 | .00 | .01 | .00 | .00 | .00 |
| 16 | .01 | .04 | .02 | .01 | .32 | .05 | .00 | .62 | .15 | .00 | .95 | .00 |
| 17 | .00 | .00 | .21 | .00 | .24 | .00 | .13 | .00 | .00 | .07 | .05 | .00 |
| 18 | .44 | .00 | .02 | .00 | .12 | .00 | .01 | .73 | .00 | .47 | .00 | .00 |
| 19 | .02 | .01 | .02 | .02 | .13 | .52 | .00 | .18 | --- | .03 | .00 | .00 |
| 20 | .00 | .04 | .00 | .02 | .03 | .39 | .16 | .14 | --- | .06 | .00 | .00 |
| 21 | .01 | .00 | .02 | .00 | .07 | .07 | .03 | .11 | --- | .01 | .19 | .25 |
| 22 | .00 | .00 | .04 | .10 | .01 | .01 | .03 | .24 | .00 | .01 | .00 | .00 |
| 23 | .64 | .12 | .00 | .00 | .00 | .00 | .03 | .76 | .00 | .27 | .15 | .00 |
| 24 | .00 | .14 | .12 | .00 | .00 | .01 | .10 | .00 | .00 | .00 | .92 | .00 |
| 25 | .21 | .00 | .00 | .00 | .00 | .25 | .17 | .00 | .00 | .00 | .35 | .01 |
| 26 | .40 | .00 | .00 | .00 | .00 | .01 | .42 | .65 | .18 | .00 | .00 | .32 |
| 27 | .36 | .22 | .02 | .00 | .52 | .09 | .11 | .01 | .01 | .00 | .22 | .01 |
| 28 | .01 | .00 | .08 | .03 | .00 | .01 | .00 | .63 | .09 | .50 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .32 | .03 | .03 | .00 | .00 |
| 30 | .00 | .00 | .00 | .03 | --- | .02 | .00 | .12 | .00 | .67 | .22 | .00 |
| 31 | .08 | --- | 1.16 | .05 | --- | .27 | --- | .07 | --- | .00 | .20 | --- |
| TOTAL | 2.64 | 1.17 | 3.41 | 2.49 | 2.61 | 4.59 | 2.10 | 5.13 | | 2.12 | 4.74 | 5.07 |
| MEAN | .09 | .04 | .11 | .08 | .09 | .15 | .07 | .17 | | .07 | .15 | .17 |

CLIMATOLOGIC RECORDS

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 26.5 | 21.5 | 24.5 | 3.5 | 10.5 | 10.5 | 23.5 | 20.5 | 29.5 | 29.5 | 31.5 | 30.0 |
| 2 | 20.5 | 18.5 | 20.5 | 1.5 | 4.0 | 8.0 | 24.5 | 18.5 | 29.5 | 25.5 | 24.5 | 30.5 |
| 3 | 17.5 | 26.0 | 9.0 | 4.0 | -7.5 | 7.5 | 30.5 | 25.0 | 32.5 | 25.0 | 32.0 | 28.5 |
| 4 | 15.5 | 24.0 | 12.0 | -5.0 | -3.0 | 6.0 | 31.0 | 30.0 | 29.0 | 28.0 | 33.5 | 26.5 |
| 5 | 12.5 | 18.0 | 15.5 | -5.0 | -2.5 | 8.5 | 17.0 | 30.0 | 32.5 | 29.0 | 34.0 | 30.0 |
| 6 | 14.5 | 18.5 | 19.5 | 5.5 | 3.5 | 6.5 | 14.5 | 24.0 | 21.5 | 26.5 | 26.0 | 30.5 |
| 7 | 19.5 | 27.5 | 23.5 | 1.5 | 8.5 | 5.0 | 22.5 | 19.5 | --- | 30.5 | 29.0 | 29.0 |
| 8 | 23.5 | 27.0 | 24.5 | -0.5 | .5 | 7.0 | 26.5 | 26.0 | --- | 31.5 | 26.0 | 21.0 |
| 9 | 25.0 | 28.5 | 22.5 | 3.5 | 2.5 | 7.0 | 21.0 | 29.0 | --- | 34.5 | 29.5 | 25.0 |
| 10 | 26.5 | 22.5 | 14.5 | -1.5 | 9.0 | 11.0 | 25.5 | 28.0 | --- | 36.0 | 31.0 | --- |
| 11 | 22.5 | 14.0 | 7.5 | -4.5 | 9.5 | 8.5 | 30.0 | 15.0 | --- | 34.0 | 32.0 | --- |
| 12 | 13.5 | 14.5 | 13.5 | -4.0 | -9.0 | 13.0 | 29.0 | 13.5 | --- | 33.5 | 29.0 | --- |
| 13 | 14.5 | 23.5 | 16.5 | 6.0 | 1.0 | 18.5 | 32.5 | 28.5 | --- | 33.0 | 28.5 | --- |
| 14 | 19.0 | 20.5 | 11.5 | 11.0 | 5.0 | 8.5 | 29.0 | 30.0 | --- | 30.0 | 29.5 | --- |
| 15 | 21.5 | 21.0 | 11.0 | 3.5 | 6.5 | 19.0 | 19.0 | 16.0 | --- | 32.0 | 30.0 | --- |
| 16 | 23.5 | 16.0 | 8.0 | 3.5 | 8.0 | --- | 28.0 | 22.0 | --- | 30.5 | 28.5 | --- |
| 17 | 27.0 | 17.0 | 5.0 | -0.5 | 6.5 | --- | 19.0 | 26.5 | --- | 30.5 | 27.0 | --- |
| 18 | 24.0 | 16.5 | 10.5 | 4.0 | 13.0 | --- | 27.5 | 24.0 | --- | 32.5 | 29.0 | --- |
| 19 | 21.5 | 14.5 | 13.0 | --- | 16.0 | 4.0 | 25.5 | 21.5 | 32.0 | 32.0 | 28.0 | --- |
| 20 | 16.5 | 14.0 | -3.0 | --- | 15.0 | 2.5 | 15.0 | 14.5 | 24.5 | 29.0 | 30.0 | --- |
| 21 | 20.5 | 18.0 | -1.5 | --- | 15.5 | 11.5 | 23.0 | 26.0 | 33.0 | 29.0 | 25.5 | --- |
| 22 | 22.5 | 16.0 | 6.5 | --- | 19.0 | 10.0 | 25.5 | 30.5 | 29.0 | 28.5 | 31.5 | 28.0 |
| 23 | 21.5 | 19.0 | 8.0 | --- | 14.0 | 9.5 | 24.5 | 33.0 | 30.0 | 32.0 | 31.0 | 20.5 |
| 24 | 20.5 | 20.0 | 8.5 | --- | 7.5 | 13.0 | 16.5 | 34.0 | 31.5 | 33.5 | 31.5 | 22.5 |
| 25 | 12.5 | 14.5 | -5.5 | --- | 15.0 | 15.5 | 19.0 | 30.0 | 32.5 | 31.0 | 30.0 | 25.5 |
| 26 | 12.0 | 15.5 | 3.5 | --- | 13.5 | 19.5 | 28.0 | 33.5 | 27.0 | 33.5 | 30.5 | 29.5 |
| 27 | 18.0 | 18.0 | 3.5 | 9.0 | 18.0 | 15.0 | 32.0 | 23.0 | 28.5 | 35.0 | 30.5 | 28.5 |
| 28 | 23.0 | 14.0 | 10.0 | 6.0 | 21.5 | 25.0 | 32.0 | 18.5 | 30.5 | 32.0 | 32.5 | 25.0 |
| 29 | 11.5 | 12.5 | 11.0 | 4.0 | --- | 25.5 | 24.0 | 25.5 | 32.0 | 24.5 | 31.5 | 26.5 |
| 30 | 16.5 | 17.0 | 3.5 | -1.0 | --- | 22.0 | 22.5 | 34.0 | 30.0 | 25.5 | 30.0 | 29.0 |
| 31 | 16.5 | --- | 3.5 | 1.5 | --- | 29.0 | --- | 26.5 | --- | 26.0 | 30.0 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | 23.5 | 18.0 | 8.0 | 6.5 | 14.5 | 21.5 | 27.5 | 23.0 | 26.5 | 28.5 | 26.5 |
| 2 | --- | 24.0 | 12.0 | 11.5 | 7.5 | 20.0 | 27.0 | 25.5 | 25.5 | 28.5 | 27.5 | 26.5 |
| 3 | --- | 25.0 | 11.0 | 11.5 | 12.5 | 14.0 | 24.5 | 27.0 | 27.5 | 29.5 | 29.0 | 27.5 |
| 4 | --- | 26.0 | --- | 13.0 | 10.0 | 22.5 | 16.5 | 28.5 | 21.5 | 29.0 | 31.5 | 28.0 |
| 5 | --- | 20.0 | 4.0 | 5.0 | 10.0 | 14.0 | 21.5 | 30.5 | 19.5 | 31.5 | 22.0 | 29.0 |
| 6 | 28.0 | 15.5 | 2.5 | 12.5 | 7.5 | 12.5 | 9.0 | 30.5 | 21.0 | 31.0 | 31.5 | 30.5 |
| 7 | 17.5 | 12.0 | 15.0 | 9.5 | 1.0 | 7.0 | 7.5 | 26.0 | 27.5 | 31.5 | 29.0 | 29.5 |
| 8 | 19.0 | 16.5 | 13.5 | .5 | 9.0 | 5.0 | 8.5 | 18.5 | 29.5 | 30.0 | 27.5 | 30.0 |
| 9 | 21.0 | 20.0 | 1.5 | .5 | 7.5 | 15.0 | 7.0 | 24.0 | 31.0 | 27.5 | 24.5 | 29.0 |
| 10 | 20.0 | 15.5 | -1.0 | -11.5 | -1.0 | 21.5 | 11.0 | 26.5 | 23.0 | 30.5 | 27.5 | 30.5 |
| 11 | 23.0 | 12.0 | 1.5 | -11.5 | --- | 22.5 | 14.0 | 29.5 | 28.0 | 29.5 | 27.0 | 28.5 |
| 12 | 22.0 | 13.5 | 2.5 | -3.0 | --- | 24.5 | 24.0 | 27.0 | 27.0 | 30.0 | 25.0 | 32.0 |
| 13 | 21.0 | 14.0 | 2.5 | 1.5 | --- | 18.5 | 22.0 | 27.5 | 24.5 | 26.0 | 26.5 | 28.0 |
| 14 | 22.0 | 14.0 | 4.5 | -2.5 | --- | 15.5 | 22.5 | 29.5 | 27.5 | 32.0 | 29.0 | 28.0 |
| 15 | 19.5 | 15.0 | 3.5 | 1.5 | --- | 20.0 | 29.0 | 25.0 | 28.0 | 32.0 | 29.5 | 28.0 |
| 16 | 20.0 | 13.0 | 2.0 | 1.5 | --- | 23.0 | 28.0 | 28.5 | 29.0 | 32.0 | 28.5 | 27.0 |
| 17 | 24.5 | 14.5 | 4.5 | -11.0 | --- | 25.5 | 21.0 | 27.5 | 24.0 | 30.0 | 21.5 | 25.5 |
| 18 | 20.5 | 14.0 | -1.0 | 4.5 | --- | 27.0 | 20.0 | 29.5 | 28.5 | 29.0 | 30.0 | 26.5 |
| 19 | 11.5 | 23.0 | -3.5 | 5.0 | --- | 20.0 | 23.0 | 27.0 | 27.0 | 27.5 | 32.0 | 23.5 |
| 20 | 19.5 | 17.0 | -3.5 | 9.5 | --- | 17.0 | 22.5 | 24.0 | --- | 26.0 | 31.0 | 20.0 |
| 21 | 23.0 | 3.5 | 2.0 | 9.0 | --- | 18.5 | 17.0 | 27.5 | --- | 32.0 | 28.5 | 15.5 |
| 22 | 23.5 | 5.0 | 14.0 | 8.5 | --- | 15.5 | 17.5 | 29.5 | 25.0 | 32.0 | 30.0 | 18.0 |
| 23 | 14.0 | 10.0 | 12.5 | 14.5 | --- | 16.5 | 20.5 | 28.5 | 26.5 | 28.5 | 28.5 | 20.5 |
| 24 | 12.0 | 10.0 | 5.0 | .5 | --- | 24.5 | 26.0 | 26.0 | 26.5 | 29.0 | 30.0 | 22.5 |
| 25 | 17.0 | 9.5 | 4.5 | 7.0 | 6.0 | 25.5 | 26.5 | 31.5 | 29.5 | 32.0 | 28.0 | 22.0 |
| 26 | 18.0 | 19.5 | 7.5 | -4.5 | 9.0 | 8.0 | 24.0 | 27.0 | 29.0 | 32.0 | 29.5 | 17.0 |
| 27 | 18.0 | 16.0 | 10.5 | 4.5 | 7.0 | 4.5 | 16.5 | 26.5 | 31.5 | 32.0 | 24.5 | 19.5 |
| 28 | 18.0 | 7.0 | 12.5 | 10.5 | 12.5 | 12.5 | 20.5 | 28.0 | 28.5 | 30.5 | 27.5 | 23.5 |
| 29 | 22.0 | 10.0 | 5.0 | 10.0 | --- | 21.0 | 26.0 | 29.5 | 25.0 | 27.0 | 29.0 | 25.0 |
| 30 | 22.0 | 7.0 | 1.5 | 15.5 | --- | 26.0 | 26.0 | 30.5 | 25.5 | 29.5 | 28.0 | 26.5 |
| 31 | 22.5 | --- | 4.0 | 21.0 | --- | 25.0 | --- | 33.5 | --- | 27.0 | 25.0 | --- |

CLIMATOLOGIC RECORDS

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 13.5 | 3.0 | 5.5 | .0 | -9.0 | 5.5 | 9.0 | 7.5 | 16.5 | 14.0 | 11.0 | 17.0 |
| 2 | 11.5 | 4.5 | 8.0 | -7.0 | -9.5 | 3.0 | 3.0 | 4.0 | 17.0 | 12.5 | 16.0 | 18.0 |
| 3 | 8.5 | 3.5 | 1.5 | -7.0 | -14.0 | -3.0 | 2.5 | 2.5 | 17.0 | 14.5 | 16.0 | 18.0 |
| 4 | 6.5 | 9.0 | -0.5 | -16.0 | -17.5 | -3.5 | 11.5 | 4.5 | 18.0 | 14.5 | 16.5 | 18.5 |
| 5 | 6.5 | 6.0 | 5.0 | -17.5 | -16.5 | 2.0 | 9.5 | 9.0 | 19.0 | 16.5 | 17.0 | 17.5 |
| 6 | 5.0 | 3.5 | 7.5 | -12.0 | -7.5 | .5 | .5 | 10.0 | 18.5 | 18.5 | 17.5 | 17.5 |
| 7 | 6.5 | 4.5 | 8.5 | -5.0 | -9.0 | -4.0 | -1.0 | 5.5 | --- | 18.5 | 15.0 | 16.5 |
| 8 | 9.0 | 13.0 | 8.5 | -9.0 | -9.5 | -7.0 | 2.5 | 4.0 | --- | 19.5 | 14.0 | 12.0 |
| 9 | 12.5 | 13.0 | 14.0 | -2.5 | -12.5 | -5.0 | 11.5 | 4.5 | --- | 19.5 | 14.5 | 11.0 |
| 10 | 14.0 | 7.0 | 3.0 | -13.0 | -3.5 | -4.5 | 11.0 | 10.5 | --- | 19.5 | 15.0 | --- |
| 11 | 8.5 | 3.5 | 2.0 | -14.0 | -16.5 | 1.5 | 13.5 | 9.5 | --- | 19.0 | 15.0 | --- |
| 12 | 3.0 | 1.5 | 1.0 | -10.5 | -24.0 | -2.0 | 13.0 | 8.0 | --- | 19.5 | 12.0 | --- |
| 13 | 3.0 | 4.5 | 1.5 | -5.5 | -19.0 | -3.0 | 15.5 | 7.0 | --- | 19.5 | 12.0 | --- |
| 14 | 3.5 | 7.0 | .5 | -2.5 | -12.0 | -4.0 | 7.5 | 9.0 | --- | 17.0 | 13.0 | --- |
| 15 | 4.0 | 15.5 | -0.5 | 1.0 | -12.0 | -6.5 | 4.0 | 10.0 | --- | 16.0 | 14.5 | --- |
| 16 | 6.0 | 9.5 | 4.5 | -6.0 | -9.0 | --- | 2.0 | 8.0 | --- | 17.0 | 15.5 | --- |
| 17 | 8.5 | 10.5 | -2.0 | -9.5 | -1.0 | --- | 13.0 | 8.0 | --- | 17.0 | 12.0 | --- |
| 18 | 13.5 | 11.0 | -1.5 | -11.5 | -2.0 | --- | 8.0 | 14.5 | --- | 17.0 | 12.0 | --- |
| 19 | 10.5 | 6.5 | -2.0 | --- | 10.0 | -3.5 | 6.5 | 12.5 | 18.0 | 19.0 | 15.0 | --- |
| 20 | 2.5 | 5.5 | -10.5 | --- | 5.5 | -2.5 | 5.0 | 10.5 | 17.0 | 18.0 | 13.0 | --- |
| 21 | 4.0 | 4.0 | -12.5 | --- | 2.5 | -1.5 | 2.5 | 9.0 | 16.5 | 16.5 | 13.0 | --- |
| 22 | 3.0 | 3.0 | -10.0 | --- | .0 | .0 | 6.5 | 8.0 | 15.0 | 14.0 | 11.5 | 12.5 |
| 23 | 5.5 | 11.0 | 2.5 | --- | 5.5 | 1.0 | 12.0 | 8.5 | 11.5 | 14.5 | 14.5 | 6.5 |
| 24 | 4.5 | 15.0 | -4.5 | --- | -1.0 | .0 | 8.5 | 10.0 | 10.0 | 15.5 | 16.0 | 7.0 |
| 25 | 7.0 | 4.5 | -14.0 | --- | -1.0 | -1.5 | 6.0 | 11.0 | 14.0 | 17.0 | 12.0 | 7.0 |
| 26 | 1.5 | 4.5 | -12.0 | --- | -2.0 | -1.5 | 5.5 | 14.0 | 10.0 | 18.0 | 11.0 | 10.5 |
| 27 | 1.0 | 11.5 | -7.5 | -0.5 | -5.0 | 3.0 | 10.0 | 15.5 | 9.5 | 18.0 | 14.0 | 13.5 |
| 28 | 10.5 | 10.0 | -6.0 | -8.0 | 1.0 | 3.5 | 11.5 | 16.0 | 9.5 | 18.5 | 15.5 | 8.0 |
| 29 | 7.0 | 9.0 | -1.5 | -4.0 | --- | 5.0 | 11.0 | 15.0 | 12.0 | 11.5 | 14.0 | 7.0 |
| 30 | 4.0 | 4.5 | .0 | -11.5 | --- | 7.0 | 10.5 | 15.0 | 15.0 | 11.0 | 15.0 | 10.5 |
| 31 | 4.0 | --- | -0.5 | -15.5 | --- | 3.5 | --- | 17.0 | --- | 12.5 | 17.0 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | 4.5 | 7.0 | 1.0 | -2.5 | 1.5 | 2.0 | 3.5 | 14.0 | 9.5 | 14.5 | 20.0 |
| 2 | --- | 6.5 | 4.5 | -3.5 | -4.0 | .5 | .5 | 7.5 | 10.0 | 9.0 | 14.5 | 18.0 |
| 3 | --- | 8.0 | 1.5 | 4.5 | 5.0 | 6.5 | 10.0 | 6.5 | 11.0 | 12.5 | 15.5 | 12.5 |
| 4 | --- | 9.0 | 3.0 | 2.0 | 2.0 | 6.0 | 1.0 | 3.0 | 13.5 | 15.5 | 16.5 | 11.5 |
| 5 | --- | 11.5 | -0.5 | -3.0 | .5 | 6.0 | -0.5 | 3.5 | 10.0 | 14.5 | 16.5 | 12.0 |
| 6 | 10.5 | 9.0 | -6.0 | .5 | -5.0 | 6.0 | -0.5 | 6.0 | 10.0 | 13.0 | 17.5 | 14.5 |
| 7 | 5.5 | .5 | -4.5 | -1.0 | -11.0 | 1.0 | -3.0 | 8.5 | 11.5 | 14.5 | 16.5 | 14.5 |
| 8 | 4.5 | -1.5 | 1.5 | -6.0 | -9.0 | .0 | -0.5 | 5.5 | 13.5 | 15.0 | 17.5 | 15.5 |
| 9 | 4.0 | 2.0 | -2.5 | -11.0 | -2.0 | 2.0 | 1.0 | 6.0 | 14.0 | 16.5 | 16.5 | 16.0 |
| 10 | 9.5 | 3.0 | -3.5 | -19.0 | -5.0 | 2.0 | -2.0 | 5.0 | 14.5 | 16.5 | 14.0 | 14.5 |
| 11 | 11.0 | 1.0 | -3.0 | -18.5 | --- | 3.5 | -3.0 | 4.5 | 11.0 | 16.5 | 14.5 | 15.5 |
| 12 | 8.0 | .0 | -6.5 | -11.0 | --- | 10.5 | 1.0 | 4.0 | 10.5 | 15.0 | 10.5 | 16.5 |
| 13 | 3.5 | -2.0 | -7.5 | -4.5 | --- | 3.5 | 10.5 | 2.0 | 13.0 | 15.0 | 11.0 | 18.0 |
| 14 | 1.0 | -3.0 | .0 | -6.5 | --- | 1.5 | 6.0 | 4.5 | 10.0 | 16.0 | 13.5 | 20.0 |
| 15 | 8.0 | -3.0 | .5 | -6.5 | --- | 7.0 | 3.5 | 4.5 | 10.5 | 16.5 | 14.0 | 19.5 |
| 16 | 7.0 | -1.5 | -4.0 | -19.0 | --- | 9.0 | 10.5 | 7.5 | 12.0 | 16.5 | 14.5 | 16.0 |
| 17 | 8.0 | 7.0 | -3.0 | -24.0 | --- | 7.0 | 6.5 | 8.0 | 11.5 | 17.0 | 14.0 | 14.5 |
| 18 | 9.5 | 2.5 | -6.0 | -12.0 | --- | 3.5 | 1.5 | 7.5 | 12.0 | 16.5 | 14.5 | 14.5 |
| 19 | -0.5 | 1.0 | -11.0 | .0 | --- | 8.0 | 3.5 | 11.0 | 14.0 | 16.5 | 14.5 | 15.0 |
| 20 | -2.5 | 2.5 | -13.0 | 2.0 | --- | 12.5 | 8.0 | 10.5 | --- | 17.0 | 17.0 | 12.5 |
| 21 | .5 | 2.0 | -12.5 | 4.5 | --- | 6.0 | 3.0 | 12.5 | --- | 16.5 | 13.0 | 11.0 |
| 22 | 6.0 | -2.5 | 2.5 | 2.0 | --- | -1.5 | 1.0 | 12.0 | 13.0 | 17.0 | 13.5 | 7.5 |
| 23 | 2.5 | -5.0 | 3.5 | 1.0 | --- | 3.0 | -2.0 | 13.5 | 8.5 | 16.5 | 14.5 | 8.5 |
| 24 | -0.5 | 6.0 | .0 | -7.5 | --- | 1.5 | -1.0 | 14.0 | 8.0 | 16.5 | 17.5 | 9.0 |
| 25 | 1.5 | .5 | -3.5 | -8.5 | .0 | 4.5 | 2.5 | 14.0 | 10.5 | 16.5 | 14.5 | 10.5 |
| 26 | 12.0 | -0.5 | -2.5 | -13.5 | -3.0 | 1.5 | 12.0 | 15.0 | 14.5 | 17.5 | 15.5 | 13.5 |
| 27 | 12.5 | 7.0 | -2.0 | -15.0 | 2.0 | -4.0 | 12.0 | 15.0 | 14.0 | 18.0 | 15.5 | 12.5 |
| 28 | 7.5 | -0.5 | -1.5 | -4.0 | 1.5 | -6.0 | 4.0 | 14.5 | 15.5 | 16.0 | 15.0 | 12.5 |
| 29 | 8.5 | -1.5 | -5.5 | -8.0 | --- | -3.0 | 1.5 | 13.5 | 15.5 | 16.5 | 13.5 | 12.0 |
| 30 | 7.0 | -3.0 | -8.5 | -0.5 | --- | 6.0 | 3.0 | 14.5 | 12.0 | 17.0 | 14.5 | 12.5 |
| 31 | 5.5 | --- | -4.5 | 2.0 | --- | 4.0 | --- | 15.0 | --- | 16.5 | 18.5 | --- |

03212558 PUNCHEONCAMP BRANCH AT LECKIE, WV

LOCATION.--Lat 37°20'37", long 81°24'42", McDowell County, Hydrologic Unit 05070201, on right bank at Leckie, 1,500 ft (457 m) upstream from mouth and Little Creek, and 1.5 mi (2.4 km) northeast of Anawalt.

DRAINAGE AREA.--1.36 $mi^2$ (3.52 $km^2$).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,780.00 ft (542.544 m) National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26 $ft^3/s$ (0.74 $m^3/s$) Feb. 3, 1982, gage height, 2.48 ft (0.756 m), from rating curve extended above 10 $ft^3/s$ (0.28 $m^3/s$); minimum daily, 0.05 $ft^3/s$ (0.001 $m^3/s$) Jan. 6, 1981.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .21 | .16 | .27 | .26 | .30 | .94 | .94 | 1.4 | 5.6 | .81 | .35 | .32 |
| 2 | .24 | .16 | .25 | .23 | 1.1 | .92 | .86 | 1.2 | 9.7 | .64 | .34 | .31 |
| 3 | .23 | .16 | .24 | .17 | .78 | .83 | .85 | 1.1 | 5.8 | .59 | .35 | .27 |
| 4 | .21 | .21 | .21 | .11 | .50 | 1.3 | .84 | 1.1 | 7.1 | .59 | .34 | 1.4 |
| 5 | .21 | .18 | .21 | .07 | .30 | 3.5 | 1.5 | 1.0 | 7.5 | .55 | .32 | .37 |
| 6 | .20 | .16 | .21 | .05 | .32 | 3.2 | 1.4 | .97 | 8.7 | .57 | .51 | .29 |
| 7 | .18 | .16 | .21 | .07 | .34 | 1.9 | 1.3 | .90 | 12 | .56 | .52 | .26 |
| 8 | .18 | .16 | .21 | .06 | .36 | 1.3 | 1.1 | .82 | 7.1 | .50 | .59 | .28 |
| 9 | .18 | .18 | .29 | .12 | .28 | 1.1 | 1.4 | .79 | 5.8 | .47 | .39 | .25 |
| 10 | .18 | .17 | .26 | .15 | .36 | 1.0 | 1.5 | .79 | 4.4 | .43 | .34 | .21 |
| 11 | .17 | .16 | .24 | .13 | .50 | .96 | 1.5 | 1.1 | 3.4 | .42 | .32 | .20 |
| 12 | .16 | .16 | .24 | .11 | .40 | .86 | 1.4 | .85 | 2.9 | .39 | .49 | .18 |
| 13 | .16 | .16 | .24 | .16 | .30 | .81 | 1.7 | .74 | 2.5 | .38 | .32 | .18 |
| 14 | .16 | .16 | .24 | .22 | .45 | .73 | 2.0 | .67 | 2.0 | 2.5 | .30 | .18 |
| 15 | .16 | .17 | .24 | .18 | .43 | .67 | 1.8 | 1.2 | 1.7 | .70 | .29 | .84 |
| 16 | .16 | .18 | .24 | .16 | .45 | 1.0 | 1.7 | .86 | 1.5 | .86 | .29 | .83 |
| 17 | .16 | .43 | .18 | .16 | 1.1 | 1.0 | 3.7 | .73 | 1.4 | .66 | .26 | .39 |
| 18 | .20 | .42 | .18 | .17 | 1.3 | 1.0 | 4.5 | .73 | 1.2 | .58 | .24 | .30 |
| 19 | .19 | .27 | .18 | .14 | 1.1 | .91 | 3.3 | 6.2 | 1.1 | .53 | .23 | .29 |
| 20 | .16 | .22 | .14 | .14 | 3.0 | .82 | 7.2 | 6.5 | 1.1 | .53 | .22 | .26 |
| 21 | .16 | .19 | .13 | .30 | 1.7 | .78 | 4.7 | 3.0 | 1.1 | .48 | .21 | .23 |
| 22 | .16 | .18 | .12 | .33 | 1.1 | .79 | 3.6 | 2.4 | .97 | .73 | .20 | .22 |
| 23 | .16 | .22 | .21 | .36 | 1.3 | .92 | 3.4 | 2.0 | .86 | .48 | .19 | .20 |
| 24 | .16 | .85 | .34 | .33 | 1.3 | 1.0 | 3.1 | 1.8 | .77 | .49 | .19 | .19 |
| 25 | .69 | .56 | .19 | .30 | 1.1 | 1.5 | 2.7 | 1.6 | .81 | .48 | .18 | .19 |
| 26 | .30 | .38 | .15 | .33 | .84 | 1.4 | 2.4 | 1.4 | .84 | .42 | .17 | .19 |
| 27 | .22 | .34 | .12 | .36 | .73 | 1.2 | 2.0 | 3.5 | .70 | .39 | .17 | .18 |
| 28 | .21 | .35 | .11 | .31 | .77 | 1.0 | 1.8 | 9.2 | .65 | .68 | .17 | .18 |
| 29 | .18 | .32 | .25 | .27 | --- | .98 | 1.7 | 8.4 | .60 | .55 | .16 | .18 |
| 30 | .17 | .28 | .29 | .23 | --- | 1.1 | 1.5 | 5.7 | .99 | .44 | .16 | .18 |
| 31 | .16 | --- | .25 | .20 | --- | .90 | --- | 5.0 | --- | .39 | .17 | --- |
| TOTAL | 6.27 | 7.70 | 6.63 | 6.18 | 22.51 | 36.32 | 67.39 | 73.65 | 100.79 | 18.79 | 8.98 | 9.55 |
| MEAN | .20 | .26 | .21 | .20 | .80 | 1.17 | 2.25 | 2.38 | 3.36 | .61 | .29 | .32 |
| CFSM | .15 | .19 | .15 | .15 | .59 | .86 | 1.65 | 1.75 | 2.47 | .45 | .21 | .24 |
| IN. | .17 | .21 | .18 | .17 | .62 | .99 | 1.84 | 2.01 | 2.75 | .51 | .25 | .26 |

WTR YR 1981 TOTAL 364.76 MEAN 1.00 CFSM .74 IN 9.97

WATER-DISCHARGE RECORDS

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .24 | .21 | .20 | .71 | .90 | 1.8 | 1.6 | .99 | 1.5 | .64 | .27 | 1.1 |
| 2 | .29 | .21 | .19 | .64 | 1.2 | 2.4 | 1.5 | 1.1 | 1.1 | .60 | .16 | .40 |
| 3 | .20 | .21 | .18 | 4.7 | 11 | 2.1 | 1.4 | 1.1 | .89 | .66 | .24 | .30 |
| 4 | .18 | .18 | .24 | 3.2 | 4.1 | 1.8 | 1.3 | 1.0 | 1.2 | .65 | .21 | .27 |
| 5 | .19 | .21 | .24 | 1.6 | 2.8 | 1.7 | 1.3 | 1.0 | 1.7 | .60 | .30 | .24 |
| 6 | .21 | .26 | .21 | 1.1 | 2.3 | 1.5 | 1.3 | .97 | 1.3 | .52 | .30 | .21 |
| 7 | .21 | .20 | .21 | 1.1 | 2.0 | 3.3 | 1.1 | .94 | 1.1 | .52 | .27 | .18 |
| 8 | .18 | .18 | .20 | .90 | 1.8 | 3.0 | 1.1 | 1.0 | 1.1 | .48 | .57 | .16 |
| 9 | .18 | .18 | .19 | .75 | 2.9 | 2.7 | 1.1 | .89 | 2.8 | .48 | .48 | .16 |
| 10 | .18 | .18 | .18 | .65 | 2.8 | 2.4 | 1.0 | .83 | 9.2 | .44 | .36 | .15 |
| 11 | .18 | .18 | .16 | .57 | 2.4 | 2.5 | .97 | .79 | 3.5 | .57 | .30 | .15 |
| 12 | .18 | .18 | .15 | .50 | 2.0 | 2.4 | .94 | .77 | 4.2 | .48 | .27 | .14 |
| 13 | .18 | .18 | .14 | .46 | 1.8 | 2.9 | .96 | .73 | 7.7 | .44 | .27 | .14 |
| 14 | .18 | .17 | .34 | .42 | 1.6 | 3.0 | .92 | .71 | 4.9 | .43 | .24 | .38 |
| 15 | .18 | .18 | .45 | .39 | 1.6 | 5.6 | .88 | .66 | 3.8 | .38 | .21 | .25 |
| 16 | .18 | .18 | .42 | .36 | 3.3 | 5.3 | .85 | .65 | 3.1 | .40 | .21 | .18 |
| 17 | .18 | .20 | .39 | .33 | 7.8 | 4.8 | .90 | .62 | 2.6 | .40 | .21 | .16 |
| 18 | .19 | .18 | .35 | .32 | 5.4 | 4.3 | .83 | .60 | 2.1 | .40 | .24 | .16 |
| 19 | .19 | .17 | .28 | .90 | 4.0 | 4.2 | .79 | .70 | 1.8 | .44 | .18 | .16 |
| 20 | .18 | .28 | .24 | 2.4 | 3.5 | 4.8 | .84 | 1.3 | 1.4 | .48 | .18 | .16 |
| 21 | .17 | .20 | .30 | 7.0 | 3.3 | 5.6 | .78 | 1.0 | 1.3 | .40 | .18 | .19 |
| 22 | .17 | .18 | .50 | 3.2 | 2.8 | 4.9 | .70 | .76 | 1.2 | .48 | .16 | .18 |
| 23 | .35 | .17 | 1.4 | 2.5 | 2.5 | 4.2 | .66 | 1.1 | 1.1 | .40 | .18 | .16 |
| 24 | .24 | .33 | .80 | 1.8 | 2.3 | 3.7 | .67 | 1.6 | .97 | .36 | .18 | .14 |
| 25 | .21 | .27 | .58 | 1.5 | 1.9 | 3.3 | .77 | 1.3 | .89 | .33 | .36 | .14 |
| 26 | .27 | .24 | .48 | 1.1 | 1.6 | 2.9 | 2.0 | 1.0 | .88 | .30 | .21 | .21 |
| 27 | .52 | .25 | .42 | .90 | 1.6 | 2.5 | 1.6 | 1.0 | .85 | .30 | .18 | .21 |
| 28 | .36 | .22 | .36 | .80 | 1.5 | 2.2 | 1.3 | .96 | .77 | .36 | .18 | .16 |
| 29 | .28 | .19 | .32 | .70 | --- | 2.0 | 1.1 | 1.0 | .75 | .33 | .16 | .16 |
| 30 | .24 | .18 | .28 | .70 | --- | 1.8 | 1.0 | .96 | .71 | .36 | .16 | .14 |
| 31 | .21 | --- | .49 | .98 | --- | 1.8 | --- | 1.0 | --- | .44 | .52 | --- |
| TOTAL | 6.90 | 6.15 | 10.89 | 43.18 | 82.70 | 97.4 | 32.16 | 29.03 | 66.41 | 14.07 | 7.94 | 6.74 |
| MEAN | .22 | .21 | .35 | 1.39 | 2.95 | 3.14 | 1.07 | .94 | 2.21 | .45 | .26 | .22 |
| CFSM | .16 | .15 | .26 | 1.02 | 2.17 | 2.31 | .79 | .69 | 1.63 | .33 | .19 | .16 |
| IN. | .19 | .17 | .30 | 1.18 | 2.26 | 2.66 | .88 | .79 | 1.82 | .38 | .22 | .18 |

WTR YR 1982 TOTAL 403.57 MEAN 1.11 CFSM .82 IN 11.03

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

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

EXTREMES FOR PERIOD OF RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 841 mg/L July 14, 1981; minimum daily mean, 1 mg/L many days during year.

SEDIMENT LOADS: Maximum daily, 17 tons (15 metric tons) July 14, 1981; minimum daily, 0 ton (0 metric ton) many days during year.

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 5 | 5 | 1 | 12 | 13 | 13 | 20 | 450 | 85 | 16 | 61 |
| 2 | 4 | 4 | 4 | 1 | 22 | 10 | 12 | 20 | 195 | 17 | 13 | 58 |
| 3 | 4 | 3 | 3 | 1 | 8 | 9 | 26 | 30 | 52 | 14 | 17 | 37 |
| 4 | 4 | 8 | 2 | 1 | 8 | 41 | 17 | 31 | 153 | 37 | 18 | 633 |
| 5 | 4 | 5 | 2 | 1 | 6 | 58 | 36 | 22 | 68 | 24 | 10 | 46 |
| 6 | 4 | 3 | 3 | 1 | 5 | 32 | 26 | 20 | 384 | 30 | 178 | 6 |
| 7 | 4 | 3 | 3 | 1 | 4 | 24 | 26 | 15 | 151 | 45 | 148 | 15 |
| 8 | 2 | 3 | 3 | 1 | 4 | 19 | 17 | 10 | 52 | 19 | 38 | 35 |
| 9 | 4 | 7 | 5 | 1 | 10 | 15 | 33 | 4 | 55 | 14 | 18 | 13 |
| 10 | 4 | 4 | 2 | 1 | 10 | 17 | 25 | 5 | 36 | 13 | 10 | 8 |
| 11 | 4 | 4 | 1 | 1 | 11 | 31 | 20 | 52 | 31 | 10 | 9 | 8 |
| 12 | 4 | 2 | 1 | 1 | 9 | 25 | 25 | 8 | 53 | 8 | 62 | 9 |
| 13 | 3 | 1 | 1 | 2 | 7 | 13 | 25 | 16 | 28 | 7 | 15 | 4 |
| 14 | 2 | 2 | 1 | 2 | 5 | 15 | 48 | 20 | 23 | 841 | 12 | 5 |
| 15 | 3 | 2 | 1 | 3 | 3 | 20 | 31 | 99 | 21 | 55 | 12 | 292 |
| 16 | 3 | 3 | 1 | 3 | 15 | 27 | 31 | 29 | 20 | 78 | 10 | 64 |
| 17 | 5 | 16 | 1 | 4 | 25 | 29 | 128 | 35 | 15 | 27 | 9 | 18 |
| 18 | 10 | 11 | 1 | 6 | 10 | 26 | 70 | 16 | 14 | 20 | 9 | 10 |
| 19 | 5 | 7 | 1 | 9 | 7 | 21 | 37 | 378 | 13 | 18 | 8 | 7 |
| 20 | 3 | 5 | 1 | 11 | 63 | 19 | 275 | 91 | 12 | 40 | 7 | 9 |
| 21 | 2 | 3 | 1 | 9 | 7 | 18 | 38 | 36 | 31 | 22 | 7 | 7 |
| 22 | 1 | 1 | 1 | 9 | 2 | 14 | 35 | 30 | 12 | 260 | 8 | 8 |
| 23 | 2 | 5 | 1 | 8 | 16 | 18 | 84 | 25 | 13 | 39 | 9 | 8 |
| 24 | 2 | 81 | 6 | 7 | 5 | 17 | 32 | 20 | 12 | 53 | 9 | 6 |
| 25 | 67 | 10 | 4 | 6 | 3 | 9 | 23 | 24 | 27 | 28 | 8 | 5 |
| 26 | 8 | 10 | 2 | 4 | 3 | 5 | 10 | 20 | 28 | 12 | 8 | 5 |
| 27 | 2 | 10 | 1 | 4 | 3 | 7 | 15 | 231 | 13 | 13 | 8 | 5 |
| 28 | 5 | 10 | 1 | 3 | 7 | 13 | 20 | 336 | 10 | 379 | 8 | 5 |
| 29 | 4 | 8 | 1 | 3 | --- | 8 | 20 | 96 | 9 | 82 | 8 | 5 |
| 30 | 4 | 7 | 1 | 15 | --- | 40 | 15 | 60 | 256 | 25 | 7 | 6 |
| 31 | 4 | --- | 1 | 14 | --- | 22 | --- | 52 | --- | 20 | 22 | --- |

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | .00 | .00 | .00 | .00 | .03 | .03 | .08 | 6.8 | .22 | .02 | .15 |
| 2 | .00 | .00 | .00 | .00 | .07 | .02 | .03 | .06 | 5.9 | .03 | .01 | .05 |
| 3 | .00 | .00 | .00 | .00 | .02 | .02 | .06 | .09 | .81 | .02 | .02 | .03 |
| 4 | .00 | .00 | .00 | .00 | .01 | .14 | .04 | .09 | 3.5 | .06 | .02 | 4.9 |
| 5 | .00 | .00 | .00 | .00 | .00 | .55 | .15 | .06 | 1.4 | .04 | .00 | .05 |
| 6 | .00 | .00 | .00 | .00 | .00 | .28 | .10 | .05 | 14 | .05 | .41 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .12 | .09 | .04 | 5.3 | .07 | .41 | .01 |
| 8 | .00 | .00 | .00 | .00 | .00 | .07 | .05 | .02 | 1.0 | .03 | .06 | .03 |
| 9 | .00 | .00 | .00 | .00 | .00 | .04 | .12 | .00 | .86 | .02 | .02 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .05 | .10 | .01 | .43 | .02 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .01 | .08 | .08 | .18 | .28 | .01 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .06 | .09 | .02 | .43 | .00 | .12 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .03 | .11 | .03 | .19 | .00 | .01 | .00 |
| 14 | .00 | .00 | .00 | .00 | .00 | .03 | .26 | .04 | .12 | 17 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .00 | .04 | .15 | .39 | .10 | .10 | .00 | 1.3 |
| 16 | .00 | .00 | .00 | .00 | .02 | .07 | .14 | .07 | .08 | .21 | .00 | .17 |
| 17 | .00 | .02 | .00 | .00 | .07 | .08 | 1.6 | .07 | .06 | .05 | .00 | .02 |
| 18 | .00 | .01 | .00 | .00 | .04 | .07 | .85 | .03 | .05 | .03 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .02 | .05 | .33 | 7.4 | .04 | .03 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .51 | .04 | 6.1 | 2.2 | .04 | .06 | .00 | .00 |
| 21 | .00 | .00 | .00 | .00 | .03 | .04 | .48 | .29 | .09 | .03 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .00 | .03 | .34 | .19 | .03 | .81 | .00 | .00 |
| 23 | .00 | .00 | .00 | .00 | .06 | .04 | .85 | .14 | .03 | .05 | .00 | .00 |
| 24 | .00 | .21 | .00 | .00 | .02 | .05 | .27 | .10 | .02 | .07 | .00 | .00 |
| 25 | .15 | .02 | .00 | .00 | .00 | .04 | .17 | .10 | .06 | .04 | .00 | .00 |
| 26 | .00 | .01 | .00 | .00 | .00 | .02 | .06 | .08 | .06 | .01 | .00 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .02 | .08 | 2.8 | .02 | .01 | .00 | .00 |
| 28 | .00 | .00 | .00 | .00 | .01 | .04 | .10 | 13 | .02 | 1.3 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | --- | .02 | .19 | 2.4 | .01 | .13 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .12 | .06 | .92 | 1.5 | .03 | .00 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .05 | --- | .70 | --- | .02 | .01 | --- |
| TOTAL | 0.15 | 0.27 | 0.00 | 0.00 | 0.89 | 2.34 | 12.98 | 31.65 | 43.23 | 20.55 | 1.11 | 6.71 |
| MEAN | .00 | .01 | .00 | .00 | .03 | .08 | .43 | 1.0 | 1.4 | .66 | .04 | .22 |

WTR YR 1981 TOTAL 119.88 MEAN .33

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | OXYGEN, DIS-SOLVED (MG/L) | HARD-NESS (MG/L AS CACO3) | HARD-NESS, NONCAR-BONATE (MG/L CACO3) | ACIDITY (MG/L AS CACO3) | CALCIUM DIS-SOLVED (MG/L AS CA) | MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) | SODIUM, DIS-SOLVED (MG/L AS NA) | SODIUM AD-SORP-TION RATIO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | | |
| 28... | .21 | 360 | -- | 11.5 | 9.2 | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | | | | | |
| 10... | .30 | 235 | 7.3 | 1.0 | 10.7 | 103 | 66 | 5.0 | 20 | 13 | 6.1 | .3 |
| MAR | | | | | | | | | | | | |
| 03... | .86 | 228 | 7.4 | 4.0 | 8.4 | 92 | 48 | -- | 17 | 12 | 5.2 | .2 |
| 24... | 1.1 | 236 | 7.3 | 7.0 | 10.7 | 87 | 46 | .0 | 15 | 12 | 5.7 | .3 |
| APR | | | | | | | | | | | | |
| 14... | 1.8 | 214 | 7.1 | 14.5 | 11.1 | 85 | 44 | -- | 16 | 11 | 4.8 | .2 |
| MAY | | | | | | | | | | | | |
| 05... | 1.0 | 380 | 8.0 | 16.5 | 8.0 | -- | -- | -- | -- | -- | -- | -- |
| 19... | 8.5 | 235 | 6.9 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | | | |
| 04... | 0 | 229 | 7.4 | 15.0 | 9.4 | 90 | 43 | -- | 18 | 11 | 3.3 | .2 |
| 30... | .62 | 469 | 7.9 | 15.5 | -- | 183 | 85 | -- | 37 | 22 | 7.7 | .3 |
| JUL | | | | | | | | | | | | |
| 15... | .62 | 335 | 8.2 | 20.5 | 8.5 | 149 | 78 | -- | 30 | 18 | 6.6 | .2 |
| AUG | | | | | | | | | | | | |
| 05... | .30 | 370 | 8.3 | 22.5 | 5.2 | 201 | 102 | -- | 41 | 24 | 8.3 | .3 |

| DATE | ALKA-LINITY FIELD (MG/L AS CACO3) | SULFATE DIS-SOLVED (MG/L AS SO4) | CHLO-RIDE, DIS-SOLVED (MG/L AS CL) | SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) | SOLIDS, DIS-SOLVED (TONS PER DAY) | SOLIDS, DIS-SOLVED (TONS PER AC-FT) | IRON, TOTAL RECOV-ERABLE (UG/L AS FE) | IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE) | IRON, DIS-SOLVED (UG/L AS FE) | MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) | MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN) | MANGA-NESE, DIS-SOLVED (UG/L AS MN) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | | |
| 28... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | | | | | |
| 10... | 37 | 60 | 2.1 | -- | -- | -- | 410 | -- | <10 | 10 | 0 | 10 |
| MAR | | | | | | | | | | | | |
| 03... | 44 | 55 | 2.1 | -- | -- | -- | 120 | 100 | 20 | 10 | 1 | 9 |
| 24... | 41 | 59 | 1.4 | -- | -- | -- | 170 | -- | <10 | 10 | 6 | 4 |
| APR | | | | | | | | | | | | |
| 14... | 41 | 49 | 1.3 | -- | -- | -- | 630 | 610 | 20 | 40 | 30 | 6 |
| MAY | | | | | | | | | | | | |
| 05... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 19... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | | | |
| 04... | 47 | 43 | 1.5 | -- | -- | -- | 7000 | 7000 | 40 | 260 | 250 | 9 |
| 30... | 98 | 86 | 2.4 | 265 | .44 | .36 | 230 | 220 | 10 | 30 | 20 | 8 |
| JUL | | | | | | | | | | | | |
| 15... | 71 | 64 | -- | 218 | .36 | .30 | 1300 | 1300 | 10 | 50 | 40 | 10 |
| AUG | | | | | | | | | | | | |
| 05... | 99 | 84 | -- | 252 | .20 | .34 | 450 | 440 | 10 | 20 | 10 | 7 |

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | HARD-NESS (MG/L AS CACO3) | HARD-NESS, NONCAR-BONATE (MG/L CACO3) | CALCIUM DIS-SOLVED (MG/L AS CA) | MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) | SODIUM, DIS-SOLVED (MG/L AS NA) | SODIUM AD-SORP-TION RATIO | ALKA-LINITY FIELD (MG/L AS CACO3) | SULFATE DIS-SOLVED (MG/L AS SO4) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SEP | | | | | | | | | | | | |
| 02... | .27 | 110 | 8.1 | 19.0 | 175 | 78 | 34 | 22 | 8.0 | .3 | 97 | 76 |
| 21... | .21 | 340 | 7.5 | 17.0 | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | CHLO-RIDE, DIS-SOLVED (MG/L AS CL) | FLUO-RIDE, DIS-SOLVED (MG/L AS F) | SILICA, DIS-SOLVED (MG/L AS SIO2) | SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) | SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) | SOLIDS, DIS-SOLVED (TONS PER DAY) | SOLIDS, DIS-SOLVED (TONS PER AC-FT) | NITRO-GEN, NITRITE TOTAL (MG/L AS N) | NITRO-GEN, AMMONIA TOTAL (MG/L AS N) | NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) | PHOS-PHORUS, TOTAL (MG/L AS P) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SEP | | | | | | | | | | | |
| 02... | 3.3 | .1 | 5.8 | 249 | 210 | .18 | .34 | <.010 | .020 | .11 | .020 |
| 21... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | ARSENIC TOTAL (UG/L AS AS) | ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS) | BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) | CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) | CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD) | CHRO-MIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G) | CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) | COBALT, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CO) | COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) | COPPER, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CU) | IRON, TOTAL RECOV-ERABLE (UG/L AS FE) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SEP | | | | | | | | | | | |
| 02... | 2 | <1 | 100 | 2 | <1 | 3 | 10 | <10 | 4 | 8 | 980 |
| 21... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | IRON, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS FE) | LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) | LEAD, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS PB) | MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) | MERCURY TOTAL RECOV-ERABLE (UG/L AS HG) | MERCURY RECOV. FM BOT-TOM MA-TERIAL (UG/G AS HG) | SELE-NIUM, TOTAL (UG/L AS SE) | SELE-NIUM, TOTAL IN BOT-TOM MA-TERIAL (UG/G) | SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) | ZINC, RECOV. FM BOT-TOM MA-TERIAL (UG/G AS ZN) | CYANIDE TOTAL (MG/L AS CN) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| SEP | | | | | | | | | | | |
| 02... | 5000 | 29 | 12 | 30 | .1 | <.01 | 1 | <1 | <1 | 32 | <.01 |
| 21... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | OXYGEN, DIS-SOLVED (MG/L) | HARD-NESS (MG/L AS CACO3) | HARD-NESS, NONCAR-BONATE (MG/L CACO3) | ACIDITY (MG/L AS CACO3) | CALCIUM DIS-SOLVED (MG/L AS CA) | MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) | SODIUM, DIS-SOLVED (MG/L AS NA) | SODIUM AD-SORP-TION RATIO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | | |
| 07... | .22 | 420 | 8.2 | 11.0 | 9.6 | 178 | 83 | .0 | 35 | 22 | 7.6 | .3 |
| 29... | .27 | 350 | 8.0 | 11.0 | 9.7 | -- | -- | -- | -- | -- | -- | -- |
| NOV | | | | | | | | | | | | |
| 19... | .17 | 390 | 8.1 | 6.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | | | |
| 10... | .18 | 365 | 8.1 | .0 | -- | -- | -- | -- | -- | -- | -- | -- |
| 31... | .30 | 285 | 7.8 | .0 | -- | -- | -- | -- | -- | -- | -- | -- |
| JAN | | | | | | | | | | | | |
| 20... | 2.4 | 170 | 7.4 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | | | | | |
| 10... | 3.1 | 235 | 7.8 | 4.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | | | |
| 23... | 4.2 | 290 | 8.0 | 3.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | | | |
| 12... | .92 | 355 | 8.2 | 14.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY | | | | | | | | | | | | |
| 03... | 1.1 | 290 | 9.0 | 16.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| 25... | 1.2 | 262 | 7.4 | 13.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | | | |
| 14... | 4.4 | 250 | 8.0 | 14.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | | | |
| 06... | .52 | 380 | 8.5 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 26... | .30 | 430 | 8.1 | 22.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | | | |
| 16... | .20 | 390 | 9.3 | 20.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP | | | | | | | | | | | | |
| 08... | .16 | 360 | 9.5 | 15.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| 20... | .16 | 400 | 9.0 | 15.0 | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | ALKA-LINITY FIELD (MG/L AS CACO3) | SULFATE DIS-SOLVED (MG/L AS SO4) | CHLO-RIDE, DIS-SOLVED (MG/L AS CL) | SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) | SOLIDS, DIS-SOLVED (TONS PER DAY) | SOLIDS, DIS-SOLVED (TONS PER AC-FT) | IRON, TOTAL RECOV-ERABLE (UG/L AS FE) | IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE) | IRON, DIS-SOLVED (UG/L AS FE) | MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) | MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN) | MANGA-NESE, DIS-SOLVED (UG/L AS MN) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | | |
| 07... | 95 | 94 | 2.6 | 260 | .15 | .35 | 270 | 250 | 24 | 20 | 10 | 7 |
| 29... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| NOV | | | | | | | | | | | | |
| 19... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | | | |
| 10... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 31... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JAN | | | | | | | | | | | | |
| 20... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | | | | | |
| 10... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | | | |
| 23... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | | | |
| 12... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY | | | | | | | | | | | | |
| 03... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 25... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | | | |
| 14... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | | | |
| 06... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 26... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | | | |
| 16... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP | | | | | | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 20... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

CLIMATOLOGIC RECORDS

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .47 | .00 | .02 | .05 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | 1.06 |
| 2 | .08 | .00 | .00 | .13 | .67 | .01 | .02 | .35 | .00 | .00 | .00 | .00 |
| 3 | .00 | .00 | .01 | .89 | .54 | .01 | .00 | .00 | .01 | .40 | .00 | .00 |
| 4 | .00 | .00 | .28 | .36 | .00 | .01 | .00 | .00 | .71 | .34 | .02 | .00 |
| 5 | .02 | .19 | .01 | .00 | .00 | .08 | .16 | .00 | .06 | .01 | .31 | .00 |
| 6 | .27 | .03 | .00 | .01 | .01 | .14 | .01 | .00 | .00 | .00 | .00 | .00 |
| 7 | .02 | .00 | .02 | .37 | .10 | .48 | .01 | .00 | .01 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | .01 | .06 | .16 | .10 | .21 | .26 | .01 | 1.03 | .00 |
| 9 | .00 | .00 | .01 | .05 | .50 | .00 | .03 | .00 | .85 | .00 | .09 | .00 |
| 10 | .02 | .00 | .02 | .02 | .06 | .01 | .00 | .00 | .63 | .00 | .08 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .16 | .01 | .00 | .01 | .26 | .00 | .00 |
| 12 | .00 | .00 | .00 | .04 | .06 | .00 | .04 | .00 | .87 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .35 | .00 | .00 | .31 | .13 | .00 | .00 |
| 14 | .00 | .00 | .44 | .02 | .07 | .01 | .00 | .00 | .00 | .01 | .00 | .77 |
| 15 | .00 | .00 | .20 | .00 | .24 | .64 | .00 | .00 | .00 | .00 | .00 | .07 |
| 16 | .01 | .00 | .23 | .23 | .48 | .21 | .00 | .00 | .09 | .00 | .00 | .00 |
| 17 | .00 | .14 | .11 | .00 | .49 | .01 | .24 | .00 | .06 | .03 | .18 | .00 |
| 18 | .10 | .00 | .00 | .01 | .00 | .01 | .00 | .04 | .00 | .00 | .11 | .00 |
| 19 | .08 | .00 | .00 | .40 | .15 | .37 | .00 | .36 | .11 | .53 | .00 | .02 |
| 20 | .00 | .31 | .00 | .00 | .06 | .41 | .15 | 1.09 | .00 | .14 | .00 | .00 |
| 21 | .00 | .00 | .32 | .63 | .00 | .09 | .02 | .07 | .00 | .00 | .05 | .23 |
| 22 | .00 | .00 | .29 | .17 | .04 | .00 | .00 | .14 | .18 | .17 | .00 | .01 |
| 23 | .65 | .10 | .08 | .06 | .02 | .01 | .00 | .57 | .00 | .05 | .09 | .00 |
| 24 | .00 | .24 | .00 | .00 | .01 | .01 | .00 | .06 | .00 | .00 | .18 | .00 |
| 25 | .03 | .00 | .03 | .02 | .00 | .23 | .61 | .01 | .00 | .00 | .47 | .00 |
| 26 | .35 | .01 | .00 | .00 | .00 | .03 | .33 | .21 | .22 | .00 | .00 | .34 |
| 27 | .43 | .09 | .00 | .06 | .46 | .00 | .10 | .09 | .03 | .00 | .00 | .01 |
| 28 | .02 | .00 | .00 | .00 | .06 | .01 | .00 | .13 | .00 | .21 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | --- | .01 | .00 | .24 | .10 | .03 | .00 | .00 |
| 30 | .00 | .00 | .06 | .00 | --- | .02 | .00 | .01 | .00 | .13 | .12 | .00 |
| 31 | .00 | --- | .48 | .28 | --- | .23 | --- | .56 | --- | .38 | .84 | --- |
| TOTAL | 2.55 | 1.11 | 2.61 | 3.81 | 4.08 | 3.71 | 1.83 | 4.14 | 4.54 | 2.83 | 3.57 | 2.51 |
| MEAN | .08 | .04 | .08 | .12 | .15 | .12 | .06 | .13 | .15 | .09 | .12 | .08 |

WTR YR 1982 TOTAL 37.29 MEAN .10

CLIMATOLOGIC RECORDS

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | .00 | .01 | .01 | .22 | .00 | .30 | .00 | .76 | .01 | .00 | .75 |
| 2 | .14 | .00 | .06 | .00 | .32 | .00 | .04 | .00 | .51 | .00 | .00 | .14 |
| 3 | .02 | .21 | .00 | .10 | .00 | .00 | .05 | .00 | .08 | .00 | .13 | .43 |
| 4 | .01 | .05 | .00 | .00 | .00 | .56 | .02 | .01 | .75 | .05 | .01 | 1.22 |
| 5 | .00 | .01 | .00 | .00 | .01 | .32 | .54 | .00 | .01 | .05 | .02 | .00 |
| 6 | .00 | .00 | .00 | .01 | .00 | .00 | .02 | .01 | 1.06 | .10 | .47 | .03 |
| 7 | .00 | .03 | .00 | .04 | .01 | .00 | .02 | .02 | .01 | .14 | .79 | .01 |
| 8 | .00 | .00 | .01 | .10 | .16 | .00 | .02 | .00 | .00 | .00 | .11 | .17 |
| 9 | .00 | .17 | .31 | .00 | .01 | .00 | .50 | .01 | .02 | .00 | .00 | .00 |
| 10 | .01 | .00 | .00 | .00 | .28 | .01 | .20 | .02 | .04 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | .67 | .01 | .00 | .01 | .00 |
| 12 | .00 | .00 | .00 | .02 | .06 | .00 | .06 | .03 | .44 | .00 | .47 | .00 |
| 13 | .00 | .01 | .00 | .04 | .01 | .04 | .10 | .00 | .03 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .01 | .00 | .00 | .17 | .25 | .00 | 1.50 | .00 | .00 |
| 15 | .00 | .13 | .00 | .08 | .00 | .00 | .00 | .26 | .01 | .00 | .00 | 1.51 |
| 16 | .00 | .06 | .00 | .00 | .22 | .50 | .00 | .00 | .02 | .72 | .05 | .07 |
| 17 | .00 | .57 | .00 | .00 | .30 | .03 | .80 | .00 | .00 | .00 | .00 | .00 |
| 18 | .24 | .06 | .00 | .02 | .00 | .00 | .30 | .06 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .31 | .05 | .02 | 1.70 | .00 | .00 | .01 | .07 |
| 20 | .00 | .00 | .00 | .06 | .24 | .05 | .60 | .04 | .01 | .16 | .01 | .00 |
| 21 | .00 | .00 | .00 | .17 | .00 | .01 | .00 | .01 | .22 | .18 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 23 | .00 | .24 | .01 | .00 | .34 | .39 | .30 | .00 | .00 | .00 | .00 | .00 |
| 24 | .00 | .62 | .36 | .00 | .02 | .00 | .01 | .01 | .00 | .31 | .00 | .00 |
| 25 | 1.11 | .06 | .00 | .00 | .01 | .00 | .00 | .00 | .50 | .16 | .00 | .00 |
| 26 | .02 | .00 | .01 | .00 | .00 | .01 | .00 | .00 | .04 | .00 | .00 | .00 |
| 27 | .02 | .04 | .00 | .06 | .04 | .09 | .00 | 1.49 | .00 | .00 | .00 | .00 |
| 28 | .07 | .21 | .00 | .02 | .30 | .04 | .00 | .93 | .01 | .65 | .00 | .00 |
| 29 | .03 | .01 | .01 | .00 | --- | .03 | .01 | .16 | .00 | .06 | .00 | .00 |
| 30 | .00 | .00 | .15 | .16 | --- | .25 | .16 | .24 | .89 | .00 | .00 | .00 |
| 31 | .00 | --- | .07 | .00 | --- | .03 | --- | .02 | --- | .00 | .00 | --- |
| TOTAL | 1.67 | 2.48 | 1.00 | 0.80 | 2.87 | 2.43 | 4.24 | 5.94 | 5.42 | 4.09 | 2.08 | 4.40 |
| MEAN | .05 | .08 | .03 | .03 | .10 | .08 | .14 | .19 | .18 | .13 | .07 | .15 |

WTR YR 1981 TOTAL 37.42 MEAN .10

CLIMATOLOGIC RECORDS

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 26.5 | 18.5 | 17.0 | 4.0 | 11.0 | 10.0 | 20.0 | 16.0 | 27.0 | 24.5 | 27.0 | --- |
| 2 | 23.5 | 16.5 | 14.5 | 2.0 | 6.0 | 4.0 | 22.0 | 14.5 | 27.0 | 24.0 | 26.0 | 28.5 |
| 3 | 20.0 | 22.0 | 4.5 | 4.0 | -5.5 | 7.5 | 27.5 | 21.5 | 27.5 | 22.5 | 30.0 | 28.0 |
| 4 | 15.0 | 16.5 | 12.5 | -4.0 | -2.0 | 6.0 | 26.0 | 27.5 | 25.0 | 25.0 | 31.0 | 26.0 |
| 5 | 12.5 | 12.0 | 12.0 | -1.0 | 2.5 | 9.0 | 20.5 | 27.5 | 28.0 | 29.5 | 31.5 | 28.0 |
| 6 | 18.0 | 15.0 | 17.5 | 6.0 | 6.0 | 4.5 | 11.0 | 20.5 | 20.0 | 26.0 | 27.5 | 26.5 |
| 7 | 21.0 | 21.0 | 19.0 | 1.5 | 10.0 | 4.0 | 19.5 | 21.0 | 26.5 | 29.0 | 29.5 | 28.5 |
| 8 | 23.0 | 22.0 | 19.5 | .5 | 2.0 | 5.0 | 24.5 | 21.0 | 27.0 | 31.0 | 28.5 | 23.0 |
| 9 | 26.5 | 20.5 | 16.5 | 3.5 | 4.5 | 4.5 | 17.0 | 23.5 | 27.0 | 31.5 | 27.5 | 22.0 |
| 10 | 27.0 | 16.0 | 10.0 | -3.5 | 11.5 | 9.0 | 22.5 | 19.0 | 28.0 | 32.0 | 29.5 | 25.5 |
| 11 | 21.5 | 8.0 | 2.5 | -7.5 | 11.5 | 6.5 | 25.0 | 17.5 | 26.5 | 32.5 | 30.0 | 28.0 |
| 12 | 12.5 | 10.5 | 11.5 | -6.0 | -2.5 | 12.0 | 24.0 | 10.0 | 28.0 | 31.5 | 27.5 | 28.0 |
| 13 | 16.0 | 22.0 | 12.0 | 1.5 | 10.0 | 14.0 | 27.0 | 24.5 | 29.0 | 30.5 | 29.5 | 29.0 |
| 14 | 24.0 | 16.0 | 7.0 | 8.5 | 13.0 | 7.0 | 24.5 | 27.0 | 29.0 | 30.0 | 29.0 | 28.0 |
| 15 | 24.5 | 13.5 | 9.5 | 1.0 | 17.0 | 15.5 | 18.0 | 13.0 | 31.0 | 28.5 | 28.5 | 20.5 |
| 16 | 25.5 | 9.5 | 5.5 | 1.0 | 15.5 | 7.5 | 23.5 | 17.0 | 30.5 | 28.5 | 26.0 | 20.0 |
| 17 | 27.0 | 10.0 | 3.5 | -4.5 | 14.0 | 10.5 | 16.5 | 21.0 | 23.5 | 29.0 | 23.5 | 18.5 |
| 18 | 22.5 | 8.0 | 10.5 | 3.5 | 18.0 | 8.5 | 23.5 | 23.5 | 28.0 | 31.0 | 21.5 | 16.5 |
| 19 | 20.5 | 5.0 | 10.5 | 8.5 | 15.5 | -0.5 | 24.0 | 16.0 | 27.5 | 31.0 | 27.0 | 16.5 |
| 20 | 17.0 | 11.5 | -4.5 | 6.0 | 9.0 | .0 | 12.5 | 12.5 | 25.0 | 30.5 | 27.5 | 23.5 |
| 21 | 20.5 | 8.5 | 1.0 | 5.5 | 14.0 | 8.5 | 20.0 | 21.5 | 29.0 | 28.0 | 27.0 | 25.0 |
| 22 | 23.0 | 11.0 | 6.0 | 5.0 | 14.5 | 3.5 | 21.5 | 24.0 | 28.0 | 26.5 | --- | 23.5 |
| 23 | 17.5 | 12.0 | 6.0 | 5.5 | 11.5 | 6.5 | 19.5 | 27.5 | 27.0 | 29.5 | --- | 18.5 |
| 24 | 15.0 | 12.0 | 8.5 | 9.0 | 4.0 | 10.0 | 13.0 | 28.5 | 30.5 | 31.0 | --- | 21.0 |
| 25 | 11.0 | 6.0 | -7.0 | 15.5 | 13.0 | 12.5 | 15.0 | 27.5 | 30.5 | 30.0 | --- | 27.0 |
| 26 | 12.5 | 8.0 | 2.5 | 13.0 | 12.5 | 16.0 | 22.5 | 27.5 | 23.5 | 31.0 | --- | 28.0 |
| 27 | 18.5 | 6.5 | 4.5 | 10.5 | 19.5 | 14.5 | 26.5 | 20.5 | 25.0 | 32.0 | --- | 24.0 |
| 28 | 19.5 | 4.0 | 6.0 | 7.0 | 18.5 | 22.0 | 27.0 | 17.5 | 26.0 | 31.0 | --- | 22.0 |
| 29 | 8.0 | 3.5 | 11.0 | 4.5 | --- | 22.0 | 20.5 | 20.5 | 27.5 | 25.5 | --- | 23.0 |
| 30 | 13.5 | 12.0 | 4.5 | 4.0 | --- | 19.0 | 19.5 | 29.0 | 27.0 | 26.0 | --- | 27.5 |
| 31 | 15.5 | --- | 3.5 | 7.5 | --- | 26.0 | --- | 24.0 | --- | 25.5 | --- | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 26.5 | 23.0 | 14.0 | 8.0 | 7.0 | 11.5 | 18.5 | 21.5 | 22.5 | 25.5 | 27.5 | 24.5 |
| 2 | 13.5 | --- | 11.5 | 10.5 | 4.5 | 14.0 | 22.5 | 20.5 | 24.0 | 29.0 | 26.0 | 24.5 |
| 3 | 16.5 | --- | 8.5 | 12.5 | 13.0 | 10.5 | 19.5 | 23.5 | 27.0 | 28.5 | 28.0 | 24.0 |
| 4 | 23.0 | --- | 4.0 | 15.5 | 11.0 | 17.5 | 14.0 | 23.5 | 23.5 | 29.0 | 30.0 | 23.0 |
| 5 | 23.0 | --- | 2.5 | 8.5 | 13.0 | 11.0 | 15.5 | 27.0 | 19.0 | 28.5 | 23.0 | 25.0 |
| 6 | 23.5 | --- | 5.0 | 12.5 | 7.5 | 11.0 | 9.5 | 28.0 | 18.0 | 29.0 | 31.5 | 25.0 |
| 7 | 16.0 | --- | 12.5 | 12.5 | 3.5 | 5.5 | 6.0 | 26.0 | 25.0 | 30.5 | 29.5 | 26.5 |
| 8 | 18.0 | --- | 11.0 | 4.0 | 11.0 | 3.5 | 6.5 | 19.5 | 26.0 | 29.0 | 27.5 | 26.0 |
| 9 | 20.0 | --- | 1.0 | .0 | 11.0 | 11.5 | 6.0 | 22.5 | 28.5 | 27.5 | 26.0 | 26.0 |
| 10 | 14.5 | --- | -2.5 | -11.5 | -2.0 | 16.5 | 10.0 | 24.5 | 23.5 | 30.0 | 28.0 | 28.5 |
| 11 | 20.5 | --- | 1.5 | -11.0 | 7.0 | 17.0 | 11.0 | 28.0 | 25.0 | 29.5 | 27.5 | 27.5 |
| 12 | 16.5 | --- | 1.0 | -1.0 | 7.0 | 20.0 | 20.0 | 30.0 | 27.0 | 29.0 | 24.5 | 28.5 |
| 13 | 18.5 | --- | 9.0 | 2.0 | 1.0 | 17.5 | 19.0 | 29.0 | 22.5 | 24.5 | --- | 26.5 |
| 14 | 21.0 | --- | --- | -1.0 | 12.5 | 11.5 | 23.0 | 29.0 | 25.5 | 31.0 | --- | 26.0 |
| 15 | 19.0 | --- | --- | .0 | 14.5 | 10.0 | 24.0 | 30.0 | 28.0 | 30.5 | --- | 28.0 |
| 16 | 18.5 | --- | --- | 4.0 | 11.0 | 14.5 | 23.0 | 29.0 | 30.5 | 31.0 | --- | 26.0 |
| 17 | 25.0 | --- | --- | -9.5 | 10.5 | 23.5 | 23.5 | 30.0 | 23.5 | 31.5 | 27.5 | 26.0 |
| 18 | 20.5 | --- | --- | 3.0 | 6.0 | 24.5 | 18.5 | 27.5 | 30.0 | 28.0 | 26.5 | 22.5 |
| 19 | 11.0 | --- | --- | 10.0 | 5.0 | 18.5 | 20.5 | 25.0 | 27.0 | 29.5 | 28.5 | 20.5 |
| 20 | 19.5 | 16.0 | --- | 10.5 | 14.5 | 16.0 | 20.0 | 24.5 | 26.5 | 26.0 | 26.0 | 18.0 |
| 21 | 22.5 | .0 | --- | 8.0 | 7.5 | --- | 15.5 | 26.0 | 25.5 | 30.5 | 25.0 | 20.0 |
| 22 | 21.0 | 4.5 | --- | 3.5 | 1.5 | --- | 14.0 | 27.0 | 25.0 | 32.5 | 26.0 | 15.0 |
| 23 | 13.0 | 11.0 | --- | 11.0 | 19.5 | --- | 18.0 | 27.0 | 25.0 | 28.5 | 25.0 | 17.0 |
| 24 | 11.0 | 6.5 | --- | -0.5 | 20.5 | 17.0 | 21.5 | 24.5 | 27.0 | 28.5 | 27.0 | 19.5 |
| 25 | 13.0 | 9.5 | --- | 3.0 | 3.5 | 19.5 | 21.5 | 26.5 | 29.0 | 31.5 | 26.0 | 21.0 |
| 26 | 19.5 | 19.5 | --- | -7.5 | 3.5 | 3.0 | 22.5 | 25.0 | 29.5 | 30.5 | 27.0 | 14.5 |
| 27 | 17.5 | 17.5 | --- | 9.5 | 2.5 | .5 | 17.5 | 26.0 | 30.0 | 31.0 | 22.0 | 17.5 |
| 28 | 12.5 | 7.5 | --- | 7.5 | 7.5 | 11.0 | 17.0 | 27.0 | 29.0 | 29.0 | 25.0 | 21.0 |
| 29 | 21.0 | 9.5 | --- | 9.5 | --- | 16.5 | 18.0 | 29.0 | 27.0 | 26.5 | 23.5 | 23.5 |
| 30 | 16.0 | 7.0 | --- | 13.5 | --- | 21.0 | 21.5 | 29.0 | 28.0 | 30.0 | 25.5 | 23.0 |
| 31 | 19.5 | --- | --- | 18.0 | --- | 21.0 | --- | 30.5 | --- | 24.0 | 23.5 | --- |

CLIMATOLOGIC RECORDS

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 12.5 | -1.0 | -1.0 | -1.0 | -7.5 | 4.5 | 6.0 | 5.5 | 14.5 | 16.5 | 12.0 | --- |
| 2 | 12.5 | -1.5 | .0 | -8.0 | -10.0 | 1.0 | 1.0 | 1.5 | 14.5 | 14.5 | 16.5 | 18.5 |
| 3 | 10.5 | -0.5 | -5.5 | -9.0 | -12.5 | -5.0 | -0.5 | -1.5 | 14.0 | 15.5 | 17.0 | 18.5 |
| 4 | 7.0 | 5.0 | -8.0 | -16.5 | -16.0 | -6.0 | 7.0 | 1.5 | 14.5 | 14.0 | 16.5 | 17.5 |
| 5 | 8.0 | .0 | -2.0 | -19.0 | -13.5 | .5 | 7.0 | 5.0 | 16.5 | 16.0 | 18.5 | 17.5 |
| 6 | 4.5 | -3.0 | 2.0 | -13.0 | -6.0 | -2.0 | -2.0 | 9.0 | 17.0 | 19.5 | 19.0 | 15.0 |
| 7 | 3.5 | .5 | 2.0 | -6.5 | -8.5 | -6.0 | -4.5 | 4.5 | 12.5 | 19.0 | 19.5 | 14.5 |
| 8 | 6.5 | 6.5 | .5 | -9.5 | -8.5 | -8.0 | -0.5 | 1.0 | 10.5 | 18.5 | 16.5 | 13.0 |
| 9 | 9.5 | 6.5 | 9.5 | -4.0 | -13.5 | -5.5 | 8.0 | 4.5 | 16.0 | 20.0 | 15.5 | 9.5 |
| 10 | 10.5 | .0 | -0.5 | -16.0 | -2.0 | -6.0 | 6.5 | 12.5 | 18.5 | 19.5 | 15.0 | 7.0 |
| 11 | 8.0 | -3.5 | -4.0 | -17.0 | -13.5 | .5 | 9.0 | 9.0 | 15.0 | 19.5 | 17.0 | 10.0 |
| 12 | 5.0 | -5.5 | -5.5 | -14.0 | -19.0 | -1.5 | 10.5 | 4.0 | 13.5 | 18.5 | 11.5 | 12.0 |
| 13 | 2.0 | -2.5 | -2.5 | -10.5 | -12.0 | -3.5 | 11.0 | 3.0 | 15.0 | 18.5 | 12.0 | 12.5 |
| 14 | 1.0 | -1.0 | -5.0 | -2.0 | -6.0 | -6.5 | 6.0 | 5.0 | 17.0 | 19.0 | 14.0 | 12.5 |
| 15 | 2.0 | 9.5 | -5.5 | -1.0 | -7.0 | -9.0 | .5 | 8.0 | 17.0 | 16.0 | 15.0 | 17.0 |
| 16 | 4.0 | 2.5 | .5 | -7.5 | -2.0 | -3.5 | -0.5 | 6.5 | 15.0 | 17.0 | 13.5 | 14.0 |
| 17 | 5.5 | 3.5 | -6.0 | -8.5 | 5.5 | -7.0 | 10.0 | 4.5 | 12.0 | 19.0 | 10.5 | 8.5 |
| 18 | 16.0 | .5 | -5.0 | -8.5 | 2.5 | -2.5 | 6.0 | 12.0 | 10.5 | 16.5 | 11.0 | 8.5 |
| 19 | 9.0 | -5.5 | -4.5 | -10.5 | 8.0 | -4.5 | 3.5 | 8.0 | 13.5 | 18.0 | 9.0 | 7.0 |
| 20 | 4.0 | -8.0 | -13.0 | -6.5 | 3.0 | -5.5 | 2.0 | 7.5 | 16.0 | 18.5 | 11.5 | 4.5 |
| 21 | 3.0 | -6.5 | -15.5 | 1.5 | 1.0 | -3.5 | -1.5 | 6.0 | 13.5 | 18.5 | 14.5 | 6.0 |
| 22 | 3.0 | -7.5 | -11.0 | .5 | -0.5 | -2.0 | 3.0 | 2.5 | 15.5 | 17.5 | --- | 8.5 |
| 23 | 4.0 | 2.5 | 1.5 | .5 | 2.0 | -2.0 | 10.5 | 4.0 | 14.0 | 13.5 | --- | 4.5 |
| 24 | 6.5 | 6.0 | -6.5 | -4.0 | -2.0 | -4.5 | 4.5 | 6.5 | 11.0 | 17.0 | --- | 2.0 |
| 25 | 4.5 | -5.0 | -16.0 | -6.0 | -5.0 | -4.0 | 2.0 | 8.5 | 12.5 | 17.5 | --- | 3.5 |
| 26 | .0 | -6.0 | -16.0 | -2.0 | -4.5 | -4.0 | .5 | 11.0 | 12.0 | 18.0 | --- | 7.0 |
| 27 | -0.5 | 2.0 | -10.5 | .0 | -7.5 | -0.5 | 7.0 | 14.5 | 9.0 | 19.5 | --- | 9.5 |
| 28 | 8.0 | .5 | -1.5 | -5.5 | -1.0 | -3.0 | 7.5 | 14.0 | 9.0 | 19.0 | --- | 5.0 |
| 29 | 5.0 | .0 | 2.5 | -3.0 | --- | 1.0 | 9.5 | 12.5 | 9.5 | 17.0 | --- | 2.0 |
| 30 | 2.0 | -2.5 | .0 | -12.5 | --- | 5.0 | 8.0 | 10.0 | 12.5 | 11.0 | --- | 6.5 |
| 31 | .0 | --- | -0.5 | -16.5 | --- | 1.0 | --- | 14.0 | --- | 14.0 | --- | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7.5 | 4.5 | 5.5 | .5 | -2.5 | -2.0 | -1.5 | 1.0 | 15.0 | 11.5 | 15.0 | 17.0 |
| 2 | 3.0 | --- | 3.5 | -3.0 | 1.0 | -3.5 | -2.0 | 6.5 | 12.0 | 8.5 | 13.0 | 15.5 |
| 3 | 2.5 | --- | .5 | 3.0 | 3.0 | 5.0 | 8.5 | 5.5 | 11.5 | 13.5 | 15.0 | 10.5 |
| 4 | 1.0 | --- | 2.0 | 2.0 | 1.0 | 4.0 | .0 | 2.5 | 12.0 | 16.5 | 16.5 | 9.0 |
| 5 | 6.5 | --- | -1.0 | -2.5 | -1.5 | 2.5 | -2.0 | 3.0 | 11.5 | 14.5 | 17.0 | 5.5 |
| 6 | 10.5 | --- | -4.0 | .0 | -7.0 | 2.5 | -3.5 | 6.0 | 11.5 | 13.5 | 19.0 | 8.5 |
| 7 | 3.5 | --- | -4.5 | -0.5 | -13.0 | -3.5 | -6.5 | 8.5 | 12.0 | 13.5 | 17.0 | 8.5 |
| 8 | 2.5 | --- | .5 | -5.0 | -10.5 | -6.0 | -2.0 | 6.5 | 13.0 | 16.5 | 17.0 | 11.5 |
| 9 | 1.5 | --- | -3.5 | -10.5 | -2.0 | -3.5 | .0 | 3.0 | 13.5 | 17.5 | 18.0 | 11.0 |
| 10 | 9.5 | --- | -4.0 | -20.0 | -6.0 | -1.5 | -2.5 | 3.0 | 15.0 | 16.0 | 15.0 | 9.5 |
| 11 | 10.0 | --- | -4.0 | -19.0 | -7.0 | -0.5 | -4.0 | 4.5 | 12.5 | 17.0 | 13.5 | 10.5 |
| 12 | 5.5 | --- | -4.0 | -11.5 | -8.0 | 5.5 | .0 | 6.0 | 12.0 | 18.0 | 12.0 | 12.0 |
| 13 | 2.5 | --- | -7.5 | -3.5 | -7.5 | 2.5 | 9.5 | 7.0 | 14.0 | 16.0 | --- | 12.5 |
| 14 | 3.0 | --- | --- | -6.5 | -10.5 | -2.0 | 6.0 | 8.0 | 11.0 | 17.5 | --- | 16.5 |
| 15 | 3.0 | --- | --- | -7.0 | -5.0 | 4.0 | 5.0 | 9.0 | 9.5 | 16.5 | --- | 18.0 |
| 16 | 5.5 | --- | --- | -16.0 | 5.0 | 3.5 | 10.0 | 9.5 | 14.0 | 16.0 | --- | 14.0 |
| 17 | 2.5 | --- | --- | -24.5 | 3.5 | 3.5 | 6.5 | 9.5 | 14.0 | 17.0 | 14.0 | 11.0 |
| 18 | 10.0 | --- | --- | -11.0 | 2.0 | .0 | 1.5 | 10.0 | 11.5 | 18.0 | 13.5 | 9.0 |
| 19 | -1.5 | --- | --- | 2.0 | 2.5 | 5.5 | 2.5 | 12.5 | 14.0 | 18.0 | 11.0 | 12.5 |
| 20 | -4.0 | .0 | --- | 4.0 | 2.5 | 10.0 | 7.5 | 10.5 | 12.5 | 19.0 | 14.0 | 9.5 |
| 21 | -2.0 | -1.0 | --- | 3.0 | .5 | --- | .0 | 14.5 | 10.5 | 19.0 | 11.0 | 8.5 |
| 22 | 4.0 | -5.5 | --- | .0 | -3.0 | --- | -1.0 | 14.0 | 12.5 | 17.0 | 8.5 | 8.0 |
| 23 | 2.5 | -8.5 | --- | 1.0 | -5.0 | --- | -4.0 | 14.5 | 11.5 | 18.0 | 11.0 | 5.5 |
| 24 | -1.0 | 2.0 | --- | -7.0 | 3.0 | -3.0 | -3.0 | 14.5 | 9.0 | 17.0 | 16.0 | 3.0 |
| 25 | 3.0 | -1.0 | --- | -8.5 | -3.5 | .0 | .0 | 13.5 | 12.5 | 16.0 | 12.0 | 6.0 |
| 26 | 11.0 | -2.0 | --- | -17.0 | -6.0 | -1.5 | 9.5 | 12.0 | 14.0 | 16.5 | 10.0 | 10.5 |
| 27 | 11.5 | 7.0 | --- | -19.5 | -2.5 | -8.0 | 7.0 | 14.0 | 14.5 | 17.0 | 12.0 | 10.5 |
| 28 | 4.5 | -0.5 | --- | -6.5 | -3.5 | -10.5 | 1.5 | 15.0 | 16.0 | 17.0 | 11.5 | 8.5 |
| 29 | 3.5 | -4.0 | --- | -8.5 | --- | -6.5 | .5 | 14.5 | 17.0 | 16.0 | 7.5 | 6.5 |
| 30 | 5.5 | -5.5 | --- | -0.5 | --- | 1.5 | 1.5 | 15.5 | 14.5 | 17.5 | 10.5 | 9.5 |
| 31 | 4.0 | --- | --- | 1.0 | --- | 3.0 | --- | 15.5 | --- | 19.0 | 16.0 | --- |

03212567 FREEMAN BRANCH NEAR SKYGUSTY, WV

LOCATION.--Lat 37°16'28", long 81°29'15", McDowell County, Hydrologic Unit 05070201, on right bank 1,000 ft (305 m) upstream from mouth, 0.5 mi (0.8 km) north of Monson, and 8 mi (13 km) southeast of Gary.

DRAINAGE AREA.--0.30 $mi^2$ (0.78 $km^2$).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,960.00 ft (597.408 m ) National Geodetic Vertical Datum of 1929

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 90 $ft^3/s$ (2.44 $m_3/s$) June 9, 1982, gage height, 3.02 ft (0.920 m), on basis of slope area measurement of peak flow; no flow several days during 1981 and 1982.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .01 | .01 | .03 | .02 | .04 | .07 | .08 | .24 | .87 | .17 | .07 | .03 |
| 2 | .01 | .00 | .03 | .02 | .32 | .06 | .05 | .21 | 2.0 | .10 | .07 | .03 |
| 3 | .02 | .00 | .03 | .02 | .17 | .05 | .05 | .18 | 1.1 | .07 | .07 | .03 |
| 4 | .02 | .01 | .02 | .01 | .10 | .10 | .05 | .17 | .67 | .07 | .06 | .22 |
| 5 | .02 | .01 | .01 | .01 | .06 | .28 | .15 | .15 | .58 | .07 | .05 | .07 |
| 6 | .01 | .01 | .01 | .01 | .04 | .33 | .12 | .15 | .83 | .17 | .12 | .04 |
| 7 | .01 | .01 | .01 | .01 | .03 | .22 | .12 | .15 | 1.4 | .20 | .13 | .04 |
| 8 | .01 | .01 | .01 | .01 | .02 | .16 | .09 | .12 | .76 | .11 | .21 | .04 |
| 9 | .01 | .00 | .03 | .01 | .02 | .12 | .16 | .11 | .56 | .08 | .12 | .04 |
| 10 | .01 | .01 | .05 | .01 | .05 | .10 | .22 | .12 | .47 | .07 | .08 | .04 |
| 11 | .00 | .00 | .02 | .01 | .21 | .09 | .27 | .20 | .39 | .05 | .08 | .04 |
| 12 | .00 | .00 | .02 | .01 | .15 | .08 | .24 | .17 | .34 | .05 | .17 | .04 |
| 13 | .00 | .01 | .02 | .01 | .08 | .07 | .42 | .15 | .31 | .05 | .09 | .03 |
| 14 | .00 | .01 | .01 | .01 | .05 | .07 | .37 | .11 | .27 | 1.5 | .07 | .02 |
| 15 | .00 | .01 | .01 | .01 | .04 | .05 | .28 | .20 | .24 | .59 | .07 | .40 |
| 16 | .00 | .02 | .01 | .00 | .05 | .13 | .22 | .16 | .21 | .29 | .06 | .35 |
| 17 | .00 | .05 | .02 | .00 | .20 | .11 | .41 | .14 | .19 | .18 | .05 | .16 |
| 18 | .01 | .11 | .02 | .00 | .21 | .09 | .52 | .13 | .18 | .15 | .05 | .09 |
| 19 | .00 | .04 | .01 | .01 | .18 | .09 | .39 | 1.1 | .17 | .13 | .04 | .08 |
| 20 | .00 | .02 | .01 | .01 | .31 | .09 | 1.9 | 1.3 | .15 | .20 | .04 | .07 |
| 21 | .00 | .02 | .01 | .03 | .23 | .08 | .97 | .62 | .15 | .19 | .04 | .06 |
| 22 | .00 | .01 | .01 | .07 | .16 | .07 | .55 | .40 | .15 | .14 | .04 | .05 |
| 23 | .00 | .01 | .01 | .04 | .18 | .12 | .50 | .31 | .12 | .11 | .04 | .04 |
| 24 | .00 | .14 | .02 | .02 | .15 | .14 | .84 | .26 | .10 | .10 | .04 | .04 |
| 25 | .29 | .10 | .01 | .02 | .12 | .12 | .56 | .22 | .10 | .14 | .03 | .04 |
| 26 | .12 | .05 | .01 | .03 | .09 | .12 | .39 | .20 | .17 | .11 | .03 | .04 |
| 27 | .04 | .04 | .01 | .05 | .07 | .12 | .31 | .69 | .10 | .08 | .02 | .04 |
| 28 | .02 | .04 | .01 | .02 | .07 | .09 | .27 | 2.1 | .08 | .11 | .02 | .03 |
| 29 | .02 | .04 | .01 | .01 | --- | .09 | .24 | 1.6 | .07 | .14 | .02 | .03 |
| 30 | .01 | .03 | .02 | .01 | --- | .12 | .26 | .91 | .10 | .09 | .02 | .03 |
| 31 | .01 | --- | .02 | .02 | --- | .10 | --- | .70 | --- | .08 | .02 | --- |
| TOTAL | .65 | .82 | .52 | .52 | 3.40 | 3.53 | 11.00 | 13.27 | 12.83 | 5.59 | 2.02 | 2.26 |
| MEAN | .021 | .027 | .017 | .017 | .12 | .11 | .37 | .43 | .43 | .18 | .065 | .075 |
| CFSM | .07 | .09 | .06 | .06 | .40 | .37 | 1.23 | 1.43 | 1.43 | .60 | .22 | .25 |
| IN. | .08 | .10 | .06 | .06 | .42 | .44 | 1.36 | 1.64 | 1.59 | .69 | .25 | .28 |

WTR YR 1981 TOTAL 56.41 MEAN .15 CFSM .50 IN 6.97

WATER-DISCHARGE RECORDS

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .04 | .03 | .01 | .12 | .14 | .28 | .20 | .18 | .39 | .12 | .08 | .35 |
| 2 | .04 | .01 | .01 | .08 | .23 | .28 | .19 | .18 | .19 | .12 | .08 | .18 |
| 3 | .03 | .01 | .01 | .77 | 1.9 | .27 | .18 | .18 | .14 | .14 | .06 | .07 |
| 4 | .03 | .02 | .01 | .68 | .70 | .24 | .18 | .15 | .26 | .26 | .05 | .05 |
| 5 | .03 | .02 | .02 | .34 | .40 | .24 | .18 | .13 | .56 | .25 | .07 | .04 |
| 6 | .03 | .02 | .02 | .21 | .30 | .22 | .18 | .12 | .30 | .16 | .06 | .04 |
| 7 | .03 | .01 | .02 | .20 | .24 | .53 | .16 | .12 | .21 | .12 | .06 | .04 |
| 8 | .03 | .01 | .01 | .16 | .21 | .46 | .15 | .12 | .22 | .15 | .08 | .02 |
| 9 | .03 | .01 | .01 | .12 | .38 | .40 | .15 | .11 | 5.2 | .19 | .21 | .02 |
| 10 | .04 | .01 | .01 | .10 | .39 | .35 | .15 | .10 | 3.9 | .14 | .14 | .02 |
| 11 | .04 | .01 | .01 | .09 | .32 | .31 | .15 | .08 | .87 | .12 | .08 | .01 |
| 12 | .03 | .01 | .01 | .07 | .28 | .29 | .14 | .07 | 1.7 | .11 | .07 | .01 |
| 13 | .04 | .00 | .01 | .06 | .26 | .35 | .15 | .06 | 1.4 | .40 | .08 | .01 |
| 14 | .04 | .00 | .04 | .05 | .22 | .36 | .15 | .06 | .79 | .52 | .05 | .06 |
| 15 | .03 | .01 | .07 | .04 | .22 | .62 | .14 | .05 | .49 | .21 | .04 | .04 |
| 16 | .03 | .01 | .06 | .04 | .45 | .57 | .12 | .05 | .39 | .16 | .04 | .01 |
| 17 | .04 | .01 | .06 | .03 | 1.1 | .42 | .12 | .04 | .32 | .28 | .03 | .01 |
| 18 | .03 | .00 | .04 | .02 | .79 | .35 | .12 | .04 | .30 | .60 | .03 | .01 |
| 19 | .03 | .01 | .03 | .20 | .54 | .33 | .11 | .07 | .28 | .40 | .03 | .01 |
| 20 | .02 | .02 | .02 | .36 | .45 | .39 | .12 | .17 | .24 | .37 | .03 | .01 |
| 21 | .01 | .01 | .02 | .86 | .39 | .44 | .11 | .20 | .21 | .25 | .03 | .01 |
| 22 | .04 | .01 | .31 | .52 | .34 | .42 | .09 | .12 | .21 | .19 | .02 | .02 |
| 23 | .05 | .01 | .24 | .39 | .29 | .36 | .09 | .70 | .18 | .16 | .03 | .01 |
| 24 | .02 | .03 | .15 | .28 | .27 | .30 | .09 | 1.0 | .18 | .14 | .01 | .00 |
| 25 | .01 | .02 | .12 | .21 | .23 | .28 | .11 | .35 | .16 | .12 | .08 | .01 |
| 26 | .03 | .01 | .09 | .15 | .21 | .28 | .32 | .22 | .13 | .12 | .04 | .03 |
| 27 | .06 | .01 | .07 | .12 | .24 | .25 | .25 | .20 | .15 | .10 | .02 | .01 |
| 28 | .05 | .01 | .05 | .10 | .26 | .22 | .26 | .15 | .15 | .09 | .02 | .01 |
| 29 | .03 | .01 | .04 | .08 | --- | .21 | .22 | .14 | .15 | .10 | .01 | .01 |
| 30 | .02 | .01 | .04 | .07 | --- | .21 | .19 | .11 | .14 | .09 | .01 | .00 |
| 31 | .03 | --- | .10 | .15 | --- | .21 | --- | .13 | --- | .10 | .18 | --- |
| TOTAL | 1.01 | .36 | 1.71 | 6.67 | 11.75 | 10.44 | 4.77 | 5.40 | 19.81 | 6.28 | 1.82 | 1.12 |
| MEAN | .033 | .012 | .055 | .22 | .42 | .34 | .16 | .17 | .66 | .20 | .059 | .037 |
| CFSM | .11 | .04 | .18 | .73 | 1.40 | 1.13 | .53 | .57 | 2.20 | .67 | .20 | .12 |
| IN. | .12 | .04 | .21 | .82 | 1.45 | 1.29 | .59 | .67 | 2.45 | .78 | .22 | .14 |

WTR YR 1982 TOTAL 71.14 MEAN .19 CFSM .63 IN 8.79

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

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

EXTREMES FOR PERIOD OF RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 629 mg/L July 14, 1981; minimum daily mean detected, 1 mg/L Mar. 9, 10, 1981.

SEDIMENT LOADS: Maximum daily, 3.9 tons (3.5 metric tons) July 14, 1981; minimum daily, 0 ton (0 metric ton) many days during year.

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | | | | 6 | 19 | 5 | 25 | 258 | 32 | 11 | 35 |
| 2 | --- | | | | 25 | 9 | 3 | 30 | 265 | 9 | 8 | 13 |
| 3 | --- | | | | 7 | 2 | 3 | 10 | 32 | 8 | 8 | 13 |
| 4 | --- | | | | 5 | 12 | 13 | 10 | 26 | 8 | 8 | 51 |
| 5 | --- | | | | 5 | 35 | 41 | 10 | 26 | 6 | 4 | 13 |
| 6 | --- | | | | 5 | 21 | 16 | 10 | 114 | 141 | 24 | 10 |
| 7 | --- | | | | 5 | 7 | 4 | 9 | 77 | 31 | 172 | 10 |
| 8 | --- | | | | 4 | 4 | 8 | 8 | 34 | 17 | 190 | 10 |
| 9 | --- | | | | 4 | 1 | 36 | 11 | 24 | 12 | 60 | 10 |
| 10 | --- | | | | 9 | 1 | 47 | 13 | 21 | 10 | 18 | 7 |
| 11 | --- | | | | 10 | 2 | 57 | 15 | 20 | 9 | 14 | 6 |
| 12 | --- | | | | --- | 4 | 25 | 10 | 19 | 9 | 20 | 4 |
| 13 | --- | | | | --- | 3 | 105 | 7 | 16 | 8 | 12 | 3 |
| 14 | --- | | | | --- | 4 | 85 | 8 | 14 | 629 | 8 | 1 |
| 15 | --- | | | | --- | 8 | 55 | 10 | 15 | 90 | 7 | 214 |
| 16 | --- | | | | --- | 15 | 42 | 10 | 15 | 36 | 6 | 70 |
| 17 | --- | | | | 15 | 7 | 97 | 10 | 11 | 26 | 6 | 25 |
| 18 | --- | | | | 7 | 7 | 85 | 17 | 10 | 30 | 5 | 19 |
| 19 | --- | | | | 3 | 8 | 35 | 179 | 11 | 22 | 5 | 17 |
| 20 | --- | | | | 29 | 6 | 242 | 75 | 11 | 96 | 5 | 12 |
| 21 | --- | | | | 26 | 4 | 67 | 30 | 11 | 21 | 5 | 8 |
| 22 | --- | | | | 25 | 5 | 58 | 23 | 11 | 15 | 5 | 7 |
| 23 | --- | | | | 27 | 11 | 102 | 21 | 11 | 15 | 5 | 8 |
| 24 | --- | | | | 26 | 15 | 70 | 19 | 9 | 22 | 5 | 5 |
| 25 | 219 | | | | 25 | 12 | 27 | 18 | 12 | 26 | 4 | 4 |
| 26 | 20 | | | | 24 | 10 | 20 | 17 | 14 | 15 | 4 | 4 |
| 27 | 5 | | | | 24 | 10 | 19 | 110 | 12 | 12 | 2 | 3 |
| 28 | 2 | | | | 23 | 8 | 17 | 200 | 11 | 20 | 2 | 3 |
| 29 | 3 | | | | --- | 6 | 15 | 100 | 9 | 22 | 3 | 3 |
| 30 | 2 | | | | --- | 4 | 25 | 54 | 47 | 17 | 3 | 3 |
| 31 | 2 | | | | --- | 3 | --- | 27 | --- | 14 | 3 | --- |

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | 1.1 | .01 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | .02 | .00 | .00 | .02 | 1.5 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .10 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .00 | .03 |
| 5 | .00 | .00 | .00 | .00 | .00 | .03 | .02 | .00 | .04 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | .00 | .47 | .13 | .00 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .32 | .02 | .12 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .07 | .00 | .11 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | .04 | .00 | .02 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .03 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .00 | .04 | .00 | .02 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | .02 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .00 | .14 | .00 | .01 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .00 | .00 | .00 | .08 | .00 | .01 | 3.9 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .00 | .00 | .04 | .00 | .00 | .14 | .00 | .36 |
| 16 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | .00 | .03 | .00 | .07 |
| 17 | .00 | .00 | .00 | .00 | .00 | .00 | .11 | .00 | .00 | .01 | .00 | .01 |
| 18 | .00 | .00 | .00 | .00 | .00 | .00 | .12 | .00 | .00 | .01 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .00 | .00 | .04 | .60 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .02 | .00 | 1.4 | .30 | .00 | .08 | .00 | .00 |
| 21 | .00 | .00 | .00 | .00 | .02 | .00 | .18 | .05 | .00 | .01 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .01 | .00 | .09 | .02 | .00 | .00 | .00 | .00 |
| 23 | .00 | .00 | .00 | .00 | .01 | .00 | .22 | .02 | .00 | .00 | .00 | .00 |
| 24 | .00 | .00 | .00 | .00 | .01 | .00 | .16 | .01 | .00 | .00 | .00 | .00 |
| 25 | .18 | .00 | .00 | .00 | .00 | .00 | .04 | .01 | .00 | .00 | .00 | .00 |
| 26 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .32 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | 1.3 | .00 | .00 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .43 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .00 | .02 | .13 | .03 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .00 | --- | .05 | --- | .00 | .00 | --- |
| TOTAL | 0.18 | 0.00 | 0.00 | 0.00 | 0.09 | 0.05 | 2.84 | 3.28 | 3.81 | 4.34 | 0.25 | 0.47 |
| MEAN | .01 | .00 | .00 | .00 | .00 | .00 | .09 | .11 | .13 | .14 | .01 | .02 |

WTR YR 1981 TOTAL 15.31 MEAN .04

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | OXYGEN, DIS-SOLVED (MG/L) | HARD-NESS (MG/L AS CACO3) | HARD-NESS, NONCAR-BONATE (MG/L CACO3) | ACIDITY (MG/L AS CACO3) | CALCIUM DIS-SOLVED (MG/L AS CA) | MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) | SODIUM, DIS-SOLVED (MG/L AS NA) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FEB | | | | | | | | | | | |
| 09... | .04 | 462 | 7.0 | .0 | 11.9 | 209 | 188 | 5.0 | 39 | 27 | 6.4 |
| MAR | | | | | | | | | | | |
| 02... | .09 | 474 | 7.0 | 6.0 | 7.6 | 189 | 170 | -- | 33 | 26 | 6.5 |
| 24... | .15 | 446 | 7.0 | 4.0 | 11.2 | 157 | 141 | .0 | 25 | 23 | 6.5 |
| APR | | | | | | | | | | | |
| 13... | .49 | 343 | 7.0 | 15.5 | 11.9 | 134 | 123 | -- | 24 | 18 | 5.3 |
| MAY | | | | | | | | | | | |
| 04... | .15 | 523 | 7.4 | 17.0 | 7.6 | 206 | 189 | -- | 38 | 27 | 7.0 |
| JUN | | | | | | | | | | | |
| 03... | .94 | 404 | 7.2 | 16.5 | 9.4 | 151 | 137 | -- | 29 | 19 | 3.8 |
| 29... | .40 | 670 | 7.5 | 19.5 | -- | 261 | 239 | -- | 50 | 33 | 7.4 |
| JUL | | | | | | | | | | | |
| 15... | .54 | 430 | 7.4 | 19.0 | -- | 194 | 176 | -- | 38 | 24 | 5.5 |
| AUG | | | | | | | | | | | |
| 05... | .05 | 500 | 7.8 | 22.0 | 6.5 | 263 | 238 | -- | 51 | 33 | 7.5 |
| SEP | | | | | | | | | | | |
| 01... | .02 | 590 | 7.9 | 20.0 | -- | 249 | 219 | -- | 47 | 32 | 7.4 |

| DATE | SODIUM AD-SORP-TION RATIO | ALKA-LINITY FIELD (MG/L AS CACO3) | SULFATE DIS-SOLVED (MG/L AS SO4) | CHLO-RIDE, DIS-SOLVED (MG/L AS CL) | FLUO-RIDE, DIS-SOLVED (MG/L AS F) | SILICA, DIS-SOLVED (MG/L AS SIO2) | SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) | SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) | SOLIDS, DIS-SOLVED (TONS PER DAY) | SOLIDS, DIS-SOLVED (TONS PER AC-FT) |
|---|---|---|---|---|---|---|---|---|---|---|
| FEB | | | | | | | | | | |
| 09... | .2 | 21 | 200 | 1.4 | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | |
| 02... | .2 | 19 | 190 | 1.1 | -- | -- | -- | -- | -- | -- |
| 24... | .2 | 16 | 180 | 1.0 | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | |
| 13... | .2 | 11 | 140 | 1.0 | -- | -- | -- | -- | -- | -- |
| MAY | | | | | | | | | | |
| 04... | .2 | 17 | 200 | 1.1 | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | |
| 03... | .1 | 14 | 140 | 1.1 | -- | -- | -- | -- | -- | -- |
| 29... | .2 | 22 | 250 | 1.0 | -- | -- | 449 | -- | .48 | .61 |
| JUL | | | | | | | | | | |
| 15... | .2 | 18 | 170 | -- | -- | -- | 280 | -- | .41 | .38 |
| AUG | | | | | | | | | | |
| 05... | .2 | 25 | 200 | -- | -- | -- | 382 | -- | .05 | .52 |
| SEP | | | | | | | | | | |
| 01... | .2 | 30 | 210 | 2.4 | <.1 | 7.9 | 415 | 330 | .02 | .56 |

| DATE | NITRO-GEN, NITRITE TOTAL (MG/L AS N) | NITRO-GEN, AMMONIA TOTAL (MG/L AS N) | NITRO-GEN, NO2+NO3 TOTAL (MG/L AS N) | PHOS-PHORUS, TOTAL (MG/L AS P) | ARSENIC TOTAL (UG/L AS AS) | ARSENIC TOTAL IN BOT-TOM MA-TERIAL (UG/G AS AS) | BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) | CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD) | CADMIUM RECOV. FM BOT-TOM MA-TERIAL (UG/G AS CD) | CHRO-MIUM, RECOV. FM BOT-TOM MA-TERIAL (UG/G) |
|---|---|---|---|---|---|---|---|---|---|---|
| FEB | | | | | | | | | | |
| 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | |
| 02... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 24... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | |
| 13... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY | | | | | | | | | | |
| 04... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | |
| 03... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 29... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | |
| 15... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | |
| 05... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP | | | | | | | | | | |
| 01... | <.010 | .010 | .33 | <.010 | 1 | <1 | 100 | 2 | <1 | 4 |

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) | COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO) | COPPER, TOTAL RECOVERABLE (UG/L AS CU) | COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU) | IRON, TOTAL RECOVERABLE (UG/L AS FE) | IRON, SUSPENDED RECOVERABLE (UG/L AS FE) | IRON, DISSOLVED (UG/L AS FE) | IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE) | LEAD, TOTAL RECOVERABLE (UG/L AS PB) | LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB) |
|---|---|---|---|---|---|---|---|---|---|---|
| FEB | | | | | | | | | | |
| 09... | -- | -- | -- | -- | 290 | -- | <10 | -- | -- | -- |
| MAR | | | | | | | | | | |
| 02... | -- | -- | -- | -- | 120 | 110 | 10 | -- | -- | -- |
| 24... | -- | -- | -- | -- | 110 | -- | <10 | -- | -- | -- |
| APR | | | | | | | | | | |
| 13... | -- | -- | -- | -- | 2800 | 2800 | 20 | -- | -- | -- |
| MAY | | | | | | | | | | |
| 04... | -- | -- | -- | -- | 340 | -- | <10 | -- | -- | -- |
| JUN | | | | | | | | | | |
| 03... | -- | -- | -- | -- | 1400 | -- | <10 | -- | -- | -- |
| 29... | -- | -- | -- | -- | 260 | -- | <10 | -- | -- | -- |
| JUL | | | | | | | | | | |
| 15... | -- | -- | -- | -- | 2000 | 2000 | 10 | -- | -- | -- |
| AUG | | | | | | | | | | |
| 05... | -- | -- | -- | -- | 190 | 0 | 220 | -- | -- | -- |
| SEP | | | | | | | | | | |
| 01... | 20 | 20 | 2 | 12 | 230 | -- | -- | 7900 | 15 | 12 |

| DATE | MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) | MANGANESE, SUSPENDED RECOV. (UG/L AS MN) | MANGANESE, DISSOLVED (UG/L AS MN) | MERCURY TOTAL RECOVERABLE (UG/L AS HG) | MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG) | SELENIUM, TOTAL (UG/L AS SE) | SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G) | SILVER, TOTAL RECOVERABLE (UG/L AS AG) | ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN) | CYANIDE TOTAL (MG/L AS CN) |
|---|---|---|---|---|---|---|---|---|---|---|
| FEB | | | | | | | | | | |
| 09... | 20 | 20 | 4 | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | |
| 02... | 10 | 6 | 4 | -- | -- | -- | -- | -- | -- | -- |
| 24... | 20 | 10 | 10 | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | |
| 13... | 470 | 440 | 30 | -- | -- | -- | -- | -- | -- | -- |
| MAY | | | | | | | | | | |
| 04... | 50 | 50 | 4 | -- | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | |
| 03... | 250 | 90 | 160 | -- | -- | -- | -- | -- | -- | -- |
| 29... | 50 | 50 | 3 | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | |
| 15... | 320 | 130 | 190 | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | |
| 05... | 40 | 0 | 40 | -- | -- | -- | -- | -- | -- | -- |
| SEP | | | | | | | | | | |
| 01... | 30 | -- | -- | <.1 | <.01 | <1 | <1 | <1 | 87 | <.01 |

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

| DATE | STREAMFLOW, INSTANTANEOUS (CFS) | SPECIFIC CONDUCTANCE (UMHOS) | PH (STANDARD UNITS) | TEMPERATURE (DEG C) | OXYGEN, DISSOLVED (MG/L) | HARDNESS (MG/L AS CACO3) | HARDNESS, NONCARBONATE (MG/L CACO3) | ACIDITY (MG/L AS CACO3) | CALCIUM DISSOLVED (MG/L AS CA) | MAGNESIUM, DISSOLVED (MG/L AS MG) | SODIUM, DISSOLVED (MG/L AS NA) | SODIUM ADSORPTION RATIO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | | |
| 06... | .03 | 530 | 7.4 | 15.0 | 9.2 | 267 | 237 | .0 | 51 | 34 | 8.1 | .2 |

| DATE | ALKALINITY FIELD (MG/L AS CACO3) | SULFATE DISSOLVED (MG/L AS SO4) | CHLORIDE, DISSOLVED (MG/L AS CL) | SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) | SOLIDS, DISSOLVED (TONS PER DAY) | SOLIDS, DISSOLVED (TONS PER AC-FT) | IRON, TOTAL RECOVERABLE (UG/L AS FE) | IRON, SUSPENDED RECOVERABLE (UG/L AS FE) | IRON, DISSOLVED (UG/L AS FE) | MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) | MANGANESE, SUSPENDED RECOV. (UG/L AS MN) | MANGANESE, DISSOLVED (UG/L AS MN) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | | |
| 06... | 30 | 220 | .7 | 402 | .03 | .55 | 200 | 200 | 5 | 20 | 20 | 5 |

CLIMATOLOGIC RECORDS

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .01 | .00 | .01 | .00 | .24 | .00 | .05 | .00 | .02 | .43 | .00 | .59 |
| 2 | .13 | .00 | .06 | .06 | .46 | .00 | .00 | .00 | .00 | .02 | .00 | .01 |
| 3 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .07 | .00 | .18 | .32 |
| 4 | .02 | .20 | .00 | .00 | .00 | .49 | .01 | .00 | .24 | .10 | .00 | 1.02 |
| 5 | .01 | .00 | .00 | .00 | .00 | .36 | .55 | .04 | .00 | .03 | .00 | .00 |
| 6 | .00 | .00 | .01 | .00 | .00 | .00 | .00 | .01 | .99 | .23 | .60 | .07 |
| 7 | .00 | .00 | .01 | .00 | .00 | .00 | .00 | .02 | .02 | .28 | .81 | .01 |
| 8 | .02 | .00 | .01 | .01 | .19 | .00 | .01 | .00 | .00 | .01 | .08 | .28 |
| 9 | .00 | .02 | .30 | .11 | .00 | .00 | .46 | .00 | .00 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .35 | .00 | .31 | .05 | .02 | .00 | .00 | .01 |
| 11 | .00 | .00 | .00 | .00 | .06 | .04 | .01 | .76 | .00 | .00 | .24 | .00 |
| 12 | .00 | .00 | .02 | .00 | .08 | .00 | .02 | .04 | .01 | .00 | .32 | .00 |
| 13 | .00 | .00 | .00 | .00 | .03 | .04 | .54 | .00 | .03 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .04 | .00 | .00 | .17 | .37 | .00 | 1.08 | .00 | .00 |
| 15 | .00 | .16 | .00 | .03 | .00 | .00 | .00 | .23 | .01 | .00 | .03 | 2.10 |
| 16 | .00 | .12 | .01 | .00 | .16 | .51 | .00 | .00 | .01 | .18 | .07 | .10 |
| 17 | .00 | .47 | .00 | .00 | .25 | .03 | .80 | .00 | .00 | .00 | .00 | .00 |
| 18 | .21 | .04 | .00 | .00 | .00 | .00 | .20 | .29 | .00 | .23 | .00 | .00 |
| 19 | .01 | .00 | .00 | .00 | .30 | .06 | .00 | 1.58 | .01 | .01 | .02 | .07 |
| 20 | .00 | .00 | .00 | .05 | .10 | .01 | .90 | .04 | .00 | .49 | .00 | .01 |
| 21 | .00 | .00 | .00 | .11 | .00 | .11 | .00 | .02 | .01 | .01 | .00 | .00 |
| 22 | .00 | .00 | .01 | .01 | .00 | .00 | .00 | .00 | .34 | .03 | .00 | .00 |
| 23 | .00 | .15 | .00 | .00 | .35 | .28 | .40 | .00 | .00 | .00 | .00 | .01 |
| 24 | .01 | .50 | .26 | .00 | .03 | .00 | .01 | .00 | .00 | .26 | .00 | .00 |
| 25 | 1.27 | .09 | .01 | .00 | .01 | .00 | .00 | .00 | .23 | .15 | .00 | .00 |
| 26 | .00 | .02 | .02 | .01 | .00 | .01 | .00 | .02 | .35 | .00 | .00 | .00 |
| 27 | .01 | .08 | .00 | .02 | .03 | .06 | .00 | 1.57 | .00 | .00 | .00 | .00 |
| 28 | .10 | .08 | .00 | .03 | .30 | .00 | .00 | 1.13 | .00 | .47 | .00 | .00 |
| 29 | .01 | .01 | .02 | .00 | --- | .01 | .02 | .06 | .00 | .14 | .00 | .00 |
| 30 | .04 | .04 | .06 | .00 | --- | .28 | .20 | .24 | .23 | .00 | .00 | .00 |
| 31 | .00 | --- | .12 | .17 | --- | .00 | --- | .07 | --- | .00 | .00 | --- |
| TOTAL | 1.87 | 1.98 | 0.93 | 0.65 | 2.94 | 2.29 | 4.66 | 6.54 | 2.59 | 4.15 | 2.35 | 4.60 |
| MEAN | .06 | .07 | .03 | .02 | .11 | .07 | .16 | .21 | .09 | .13 | .08 | .15 |

WTR YR 1981 TOTAL 35.55 MEAN .10

CLIMATOLOGIC RECORDS

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .42 | .00 | .03 | .04 | .00 | .00 | .00 | .00 | .13 | .00 | .01 | .53 |
| 2 | .08 | .00 | .01 | .15 | .78 | .00 | .00 | .14 | .00 | .00 | .00 | .01 |
| 3 | .00 | .00 | .00 | .87 | .75 | .01 | .01 | .00 | .00 | .50 | .01 | .00 |
| 4 | .00 | .00 | .24 | .46 | .00 | .00 | .00 | .00 | .90 | .49 | .02 | .00 |
| 5 | .04 | .28 | .02 | .00 | .00 | .13 | .19 | .00 | .06 | .00 | .28 | .00 |
| 6 | .15 | .01 | .00 | .01 | .02 | .16 | .05 | .00 | .00 | .00 | .05 | .00 |
| 7 | .00 | .00 | .00 | .30 | .10 | .43 | .00 | .00 | .01 | .00 | .01 | .00 |
| 8 | .00 | .00 | .00 | .03 | .01 | .22 | .05 | .20 | .55 | .48 | .37 | .00 |
| 9 | .00 | .00 | .00 | .00 | .49 | .04 | .02 | .00 | 2.76 | .00 | .32 | .00 |
| 10 | .01 | .00 | .01 | .00 | .10 | .00 | .01 | .00 | .93 | .01 | .01 | .00 |
| 11 | .01 | .00 | .00 | .00 | .00 | .15 | .00 | .00 | .01 | .20 | .00 | .00 |
| 12 | .00 | .00 | .00 | .02 | .04 | .01 | .01 | .00 | 1.11 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | .00 | .02 | .38 | .00 | .00 | .32 | .95 | .00 | .00 |
| 14 | .00 | .00 | .36 | .00 | .09 | .01 | .00 | .00 | .00 | .00 | .00 | .53 |
| 15 | .00 | .00 | .18 | .00 | .26 | .54 | .00 | .00 | .00 | .00 | .00 | .00 |
| 16 | .02 | .00 | .13 | .00 | .45 | .05 | .00 | .00 | .09 | .01 | .00 | .00 |
| 17 | .00 | .12 | .25 | .00 | .49 | .04 | .08 | .00 | .04 | .51 | .00 | .00 |
| 18 | .06 | .00 | .01 | .00 | .03 | .00 | .00 | .04 | .00 | .30 | .03 | .00 |
| 19 | .10 | .00 | .01 | .66 | .23 | .36 | .00 | .45 | .09 | .34 | .00 | .07 |
| 20 | .00 | .34 | .00 | .00 | .04 | .26 | .14 | .97 | .01 | .12 | .00 | .01 |
| 21 | .00 | .00 | .43 | .57 | .05 | .07 | .01 | .04 | .00 | .00 | .08 | .15 |
| 22 | .00 | .03 | .16 | .12 | .10 | .00 | .00 | .13 | .17 | .00 | .00 | .09 |
| 23 | .61 | .09 | .06 | .07 | .02 | .00 | .00 | 1.37 | .00 | .01 | .05 | .01 |
| 24 | .00 | .20 | .00 | .00 | .01 | .00 | .00 | .08 | .00 | .01 | .14 | .00 |
| 25 | .03 | .01 | .04 | .00 | .00 | .25 | .66 | .01 | .00 | .00 | .66 | .00 |
| 26 | .33 | .00 | .00 | .00 | .00 | .05 | .27 | .29 | .19 | .00 | .00 | .33 |
| 27 | .33 | .10 | .01 | .08 | .20 | .01 | .32 | .08 | .14 | .00 | .01 | .02 |
| 28 | .01 | .00 | .00 | .00 | .22 | .00 | .02 | .16 | .01 | .20 | .00 | .00 |
| 29 | .01 | .00 | .00 | .00 | --- | .00 | .00 | .02 | .31 | .00 | .00 | .01 |
| 30 | .00 | .00 | .00 | .00 | --- | .01 | .00 | .00 | .01 | .11 | .13 | .00 |
| 31 | .00 | --- | .56 | .31 | --- | .07 | --- | .64 | --- | .15 | .73 | --- |
| TOTAL | 2.21 | 1.18 | 2.51 | 3.69 | 4.50 | 3.25 | 1.84 | 4.62 | 7.84 | 4.39 | 2.91 | 1.76 |
| MEAN | .07 | .04 | .08 | .12 | .16 | .10 | .06 | .15 | .26 | .14 | .09 | .06 |

WTR YR 1982 TOTAL 40.70 MEAN .11

CLIMATOLOGIC RECORDS

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 24.0 | 17.5 | 16.0 | --- | 7.5 | 9.0 | 19.5 | 18.0 | 26.0 | 22.5 | 24.0 | 25.5 |
| 2 | 23.0 | 16.0 | 13.0 | 3.0 | 7.5 | 5.0 | 22.5 | 14.5 | 26.0 | 21.5 | 21.0 | 26.0 |
| 3 | 19.5 | 20.5 | 3.0 | --- | 7.5 | 7.0 | 27.5 | 21.5 | 27.5 | 19.5 | 26.0 | 25.5 |
| 4 | 14.5 | 16.0 | 12.0 | -5.5 | 7.5 | 5.5 | 25.0 | 27.5 | 24.0 | 22.5 | 28.0 | 23.0 |
| 5 | 11.0 | 11.5 | --- | -4.0 | 7.5 | 8.0 | 20.5 | 27.0 | 27.5 | 27.0 | 28.0 | 25.0 |
| 6 | 16.5 | 13.0 | 16.5 | --- | 7.5 | 4.5 | 11.0 | 20.5 | 19.5 | 23.5 | 23.0 | 24.5 |
| 7 | 19.5 | 19.5 | 18.0 | -0.5 | 7.5 | 3.0 | 18.0 | 20.5 | 23.5 | 25.5 | 27.0 | 24.5 |
| 8 | 21.5 | 21.5 | 18.5 | -2.5 | 7.5 | 4.5 | 23.5 | 21.5 | 27.5 | 27.5 | 25.5 | 18.0 |
| 9 | 25.0 | 19.0 | 14.5 | 3.0 | 7.5 | 5.0 | 16.5 | 23.5 | 25.0 | 28.5 | 26.0 | 18.5 |
| 10 | 27.5 | 17.0 | 8.5 | -5.0 | 11.5 | 8.5 | 22.5 | 19.5 | 27.0 | 27.5 | 26.0 | 23.0 |
| 11 | 22.0 | 7.0 | --- | -6.5 | 12.5 | 7.5 | 24.5 | 17.0 | 25.0 | 28.5 | 27.0 | 25.0 |
| 12 | 14.0 | 8.0 | 9.0 | -6.5 | -4.0 | 11.0 | 23.5 | 10.5 | 27.0 | 28.5 | 23.0 | 26.0 |
| 13 | 15.5 | 22.0 | --- | --- | 8.0 | 16.5 | 26.5 | 25.0 | 27.5 | 27.0 | 25.0 | 25.5 |
| 14 | 22.5 | 16.5 | --- | --- | 12.0 | 6.5 | 25.0 | 27.5 | 29.0 | 25.0 | 26.5 | 26.0 |
| 15 | 23.5 | 12.5 | 9.0 | --- | 16.0 | 15.5 | 16.5 | 13.0 | 30.0 | 26.5 | 26.0 | 17.0 |
| 16 | 25.5 | 8.0 | 4.5 | .0 | 16.0 | 5.5 | 24.0 | 16.5 | 31.0 | 23.5 | 26.5 | 15.5 |
| 17 | 26.0 | 10.0 | --- | -3.5 | 14.0 | 11.0 | 15.5 | 22.0 | 23.0 | 25.0 | 22.5 | 16.0 |
| 18 | 22.5 | 7.0 | 8.5 | 1.0 | 18.0 | 8.5 | 24.0 | 22.5 | 26.0 | 25.5 | 22.5 | 12.5 |
| 19 | 20.5 | 3.5 | 7.5 | 6.5 | 15.0 | 1.0 | 24.0 | 16.0 | 27.5 | 26.0 | 19.0 | 13.0 |
| 20 | 17.0 | 9.5 | -5.5 | 5.5 | 9.5 | --- | 13.0 | 11.5 | 25.0 | 26.0 | 23.0 | 20.5 |
| 21 | 21.0 | 7.0 | -1.5 | 5.0 | 13.5 | 8.5 | 19.0 | 22.0 | 30.5 | 25.5 | 17.5 | 22.5 |
| 22 | 23.0 | 9.0 | 6.0 | 4.0 | 14.5 | 4.0 | 20.5 | 25.0 | 26.5 | 24.0 | 23.5 | 21.0 |
| 23 | 18.0 | 11.5 | --- | --- | 11.0 | --- | 19.5 | 28.0 | 28.5 | 25.5 | 24.5 | 16.5 |
| 24 | 16.0 | 12.0 | 7.0 | 7.0 | 4.0 | 10.5 | 13.0 | 28.5 | 30.5 | 27.0 | 24.0 | 17.5 |
| 25 | 10.5 | 5.0 | -7.0 | 14.5 | 12.5 | 13.0 | 14.5 | 28.5 | 31.0 | 25.5 | 25.5 | 21.5 |
| 26 | 11.5 | 8.0 | 1.5 | 12.5 | 11.5 | 16.5 | 22.0 | 27.5 | 22.5 | 28.0 | 24.5 | 24.0 |
| 27 | 17.0 | 6.5 | 2.0 | 10.5 | 18.5 | 15.5 | 27.5 | 19.5 | 24.0 | 30.0 | 24.5 | 20.5 |
| 28 | 20.0 | 3.5 | --- | 6.5 | 18.0 | --- | 27.0 | 17.5 | 26.0 | 27.0 | 26.5 | 18.5 |
| 29 | 7.5 | --- | 9.5 | 4.0 | --- | 21.5 | 20.5 | 19.5 | 27.5 | 23.0 | 23.5 | 20.0 |
| 30 | 12.0 | 9.5 | 3.5 | 7.5 | --- | 19.0 | 21.0 | 27.5 | 22.5 | 22.0 | 25.5 | 22.5 |
| 31 | 14.0 | --- | --- | 7.5 | --- | 25.5 | --- | 23.5 | --- | 21.0 | 24.0 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | 24.5 | 16.0 | 11.5 | 4.5 | 11.5 | 19.0 | 21.0 | 19.0 | 23.5 | 25.0 | 21.5 |
| 2 | --- | 23.0 | 11.0 | 12.5 | 6.5 | 14.0 | 22.0 | 18.0 | 22.0 | 27.0 | 24.5 | 22.5 |
| 3 | --- | 24.0 | 10.0 | 15.0 | 13.0 | 9.5 | 20.0 | 22.0 | 26.0 | 26.5 | 25.0 | 23.0 |
| 4 | --- | 24.0 | 6.0 | 17.5 | 8.5 | 17.0 | 14.5 | 22.0 | 22.0 | 27.0 | 26.5 | 22.5 |
| 5 | --- | 20.0 | 4.0 | 8.5 | 12.5 | 10.0 | 16.0 | 25.5 | 16.5 | 26.5 | 19.5 | 24.0 |
| 6 | --- | 16.5 | 4.5 | 11.5 | 5.5 | 11.5 | 9.0 | 27.0 | 16.0 | 27.0 | 29.0 | 23.5 |
| 7 | 16.5 | 12.5 | 13.0 | 12.0 | 2.5 | 5.5 | 6.0 | 23.5 | 24.0 | 25.5 | 25.5 | 24.5 |
| 8 | 16.5 | 18.0 | 11.0 | 3.0 | 11.5 | 3.5 | 5.5 | 18.5 | 25.0 | 24.0 | 25.0 | 22.0 |
| 9 | 18.5 | 19.0 | 2.0 | .5 | 10.0 | 12.0 | 6.0 | 21.5 | 27.0 | 23.0 | 21.5 | 21.5 |
| 10 | 13.5 | 18.5 | -1.5 | -11.0 | .0 | 16.5 | 9.0 | 24.0 | 19.5 | 29.0 | 26.0 | 24.0 |
| 11 | 13.5 | 12.0 | 1.5 | -9.5 | 6.0 | 17.5 | 11.5 | 26.0 | 24.0 | 27.5 | 23.0 | 24.0 |
| 12 | 14.5 | 15.5 | 3.0 | .0 | 7.0 | 19.5 | 20.0 | 29.5 | 24.5 | 27.0 | 22.0 | 25.5 |
| 13 | 15.5 | 17.5 | 10.0 | 3.0 | 1.0 | 17.5 | 16.0 | 29.5 | 19.5 | 23.0 | 22.0 | 23.0 |
| 14 | 20.0 | 18.0 | 7.5 | .0 | 10.5 | 11.5 | 22.0 | 29.5 | 23.0 | 27.0 | 25.5 | 19.5 |
| 15 | 20.0 | 18.0 | 5.5 | --- | 15.0 | 11.0 | 23.0 | 29.0 | 26.0 | 27.5 | 26.5 | 23.5 |
| 16 | 16.0 | 16.0 | 5.5 | --- | 11.5 | 16.5 | 21.0 | 28.5 | 28.0 | 26.5 | 26.5 | 22.5 |
| 17 | 23.0 | 12.5 | 7.0 | --- | 10.5 | 24.5 | 22.0 | 28.0 | 20.0 | 29.0 | 24.5 | 23.0 |
| 18 | 19.0 | 13.0 | 2.0 | --- | 7.5 | 24.5 | 17.0 | 25.5 | 27.0 | 24.0 | 25.0 | 20.5 |
| 19 | 9.5 | 22.0 | -2.5 | --- | 5.0 | 19.0 | 19.0 | 25.0 | 26.0 | 26.0 | 26.0 | 17.5 |
| 20 | 17.5 | 15.5 | .5 | --- | 13.5 | 18.5 | 17.5 | 22.0 | 23.0 | 22.5 | 25.5 | 12.5 |
| 21 | 21.5 | 2.0 | 5.0 | 8.5 | 9.5 | 15.0 | 15.5 | 23.5 | 24.5 | 28.0 | 23.5 | 15.5 |
| 22 | 20.5 | 5.0 | 14.5 | 5.5 | 1.5 | 10.5 | 13.5 | 27.0 | 21.5 | 29.5 | 24.0 | 9.5 |
| 23 | 12.5 | 11.5 | 17.5 | 10.5 | 17.5 | 12.5 | 16.0 | 25.5 | 23.0 | 24.5 | 24.0 | 14.5 |
| 24 | 9.5 | 7.5 | 5.0 | .5 | 21.5 | 18.0 | 20.0 | 22.0 | 25.0 | 26.5 | 24.5 | 17.0 |
| 25 | 14.0 | 9.5 | 4.5 | 3.0 | 4.0 | 20.0 | 20.0 | 24.5 | 28.0 | 28.0 | 24.0 | 15.0 |
| 26 | 18.5 | 22.5 | 8.5 | -6.5 | 3.5 | 4.0 | 20.5 | 24.0 | 24.0 | 27.5 | 24.5 | 10.0 |
| 27 | 17.0 | 18.0 | 11.0 | 5.5 | 2.5 | .0 | 16.5 | 24.0 | 27.0 | 28.0 | 19.5 | 13.5 |
| 28 | 13.5 | 9.5 | 14.0 | 7.0 | 6.5 | 9.5 | 16.0 | 24.5 | 24.5 | 26.5 | 21.5 | 18.0 |
| 29 | 22.0 | 12.0 | 7.5 | 9.0 | --- | 16.5 | 17.5 | 27.5 | 23.0 | 22.5 | 22.0 | 19.5 |
| 30 | 17.5 | 9.0 | 8.0 | 13.5 | --- | 20.5 | 19.5 | 29.0 | 24.5 | 26.0 | 24.0 | 19.5 |
| 31 | 18.5 | --- | 8.5 | 19.5 | --- | 19.5 | --- | 29.5 | --- | 19.0 | 19.5 | --- |

CLIMATOLOGIC RECORDS

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11.0 | 1.0 | 1.5 | -2.0 | 7.5 | 4.0 | 8.5 | 7.5 | 15.5 | 13.0 | 9.5 | 13.5 |
| 2 | 9.0 | -1.5 | -1.0 | -8.0 | 7.5 | 1.0 | 4.0 | 3.0 | 14.5 | 12.0 | 14.0 | 14.5 |
| 3 | 8.5 | .5 | -6.0 | -9.0 | 7.5 | -3.5 | 2.0 | -0.5 | 15.0 | 12.5 | 14.5 | 16.0 |
| 4 | 5.5 | 3.5 | -8.0 | -18.0 | 7.5 | -4.5 | 12.0 | 3.0 | 16.5 | 11.5 | 14.5 | 15.0 |
| 5 | 6.0 | .5 | -1.5 | -20.5 | 7.5 | .5 | 6.0 | 7.0 | 16.5 | 13.0 | 16.0 | 15.0 |
| 6 | .0 | -2.5 | 1.5 | -14.0 | 7.5 | -1.5 | -1.5 | 9.0 | 17.0 | 16.5 | 16.5 | 12.5 |
| 7 | 3.5 | 3.5 | 4.0 | -7.5 | 7.5 | -5.5 | -3.0 | 5.5 | 13.0 | 15.5 | 16.0 | 12.0 |
| 8 | 8.0 | 8.0 | 2.5 | -11.0 | 7.5 | -7.5 | 1.0 | 2.0 | 11.0 | 16.0 | 14.0 | 9.5 |
| 9 | 12.0 | 8.0 | 9.0 | -5.0 | -3.0 | -5.5 | 10.5 | 4.5 | 17.0 | 17.0 | 12.0 | 7.5 |
| 10 | 13.0 | .5 | -2.0 | -16.0 | -1.5 | -5.5 | 9.0 | 11.0 | 18.5 | 17.0 | 12.5 | 5.5 |
| 11 | 9.5 | -3.5 | -4.0 | -16.5 | -14.0 | 1.0 | 11.0 | 8.5 | 15.0 | 17.0 | 13.0 | 7.0 |
| 12 | 4.5 | -5.5 | -5.0 | -15.0 | -19.5 | -2.0 | 13.0 | 5.0 | 14.5 | 16.0 | 11.5 | 10.0 |
| 13 | 1.5 | -2.0 | .0 | -10.5 | -11.0 | .0 | 11.0 | 3.5 | 15.5 | 15.5 | 9.0 | 9.0 |
| 14 | 1.5 | 2.0 | -3.5 | -4.0 | -5.5 | -4.5 | 6.0 | 7.0 | 18.0 | 15.5 | 9.5 | 10.0 |
| 15 | 4.0 | 8.0 | -4.0 | -2.0 | -4.5 | -7.0 | 1.0 | 8.0 | 17.5 | 13.5 | 11.5 | 14.0 |
| 16 | 6.0 | 1.0 | -1.0 | -10.0 | -0.5 | -5.5 | 1.0 | 7.0 | 15.5 | 14.5 | 14.5 | 10.0 |
| 17 | 7.0 | 3.5 | -6.5 | -12.0 | 6.5 | -6.0 | 10.0 | 6.0 | 12.5 | 15.0 | 12.5 | 5.5 |
| 18 | 15.5 | -1.0 | -6.5 | -13.0 | 3.5 | -2.5 | 7.5 | 12.5 | 10.5 | 13.5 | 10.0 | 5.0 |
| 19 | 9.5 | -5.5 | -5.5 | -8.0 | 8.0 | -5.5 | 5.0 | 8.5 | 14.0 | 14.5 | 11.0 | 5.5 |
| 20 | 4.0 | -8.0 | -14.5 | -5.5 | 4.0 | -5.5 | 2.5 | 8.0 | 15.0 | 16.0 | 8.5 | 5.0 |
| 21 | 6.5 | -4.5 | -17.0 | .5 | 1.5 | -4.5 | -1.0 | 4.5 | 14.5 | 15.0 | 9.5 | 5.0 |
| 22 | 4.0 | -6.5 | -11.5 | -1.0 | .0 | -1.0 | 4.0 | 4.0 | 16.5 | 13.0 | 7.0 | 7.0 |
| 23 | 6.0 | 2.0 | .0 | -0.5 | 1.5 | -1.0 | 10.0 | 5.5 | 13.5 | 10.5 | 9.5 | 1.5 |
| 24 | 5.0 | 5.0 | -8.5 | -4.0 | -1.5 | -4.0 | 4.5 | 8.0 | 12.5 | 14.5 | 10.0 | -2.0 |
| 25 | 3.5 | -5.5 | -17.0 | -5.5 | -2.5 | -2.5 | 4.5 | 10.5 | 14.5 | 15.0 | 10.5 | 1.0 |
| 26 | 1.0 | -7.0 | -17.0 | 1.0 | -2.5 | -2.5 | 2.0 | 12.0 | 11.5 | 15.5 | 9.0 | 5.0 |
| 27 | .0 | 1.0 | -11.0 | .5 | -6.0 | 1.0 | 11.0 | 14.5 | 9.0 | 17.5 | 10.5 | 7.0 |
| 28 | 8.0 | -0.5 | -2.5 | -5.5 | 2.0 | -1.5 | 10.5 | 14.5 | 9.5 | 17.0 | 12.0 | 2.5 |
| 29 | 4.0 | -1.0 | 1.5 | -1.0 | --- | 4.0 | 12.0 | 13.0 | 10.5 | 12.0 | 10.5 | -0.5 |
| 30 | 1.5 | -3.0 | -1.5 | 3.5 | --- | 7.0 | 8.5 | 10.0 | 11.5 | 9.0 | 13.0 | 3.5 |
| 31 | -2.0 | --- | -2.5 | 7.5 | --- | 4.5 | --- | 15.0 | --- | 11.5 | 12.5 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | 4.5 | 8.0 | 2.0 | -2.5 | 1.0 | -0.5 | 1.5 | 13.5 | 10.5 | 13.5 | 15.5 |
| 2 | --- | 7.0 | 4.0 | -2.0 | .0 | .0 | -1.0 | 5.5 | 11.0 | 8.0 | 11.0 | 14.0 |
| 3 | --- | 8.0 | 1.5 | 5.0 | 3.5 | 5.0 | 7.0 | 3.5 | 10.5 | 13.5 | 12.5 | 9.5 |
| 4 | --- | 9.0 | 3.5 | 2.5 | -1.0 | 4.0 | 1.0 | 2.5 | 11.0 | 15.0 | 14.0 | 6.5 |
| 5 | --- | 11.0 | .0 | -1.0 | -1.5 | 2.5 | -2.0 | 4.0 | 10.5 | 13.0 | 14.5 | 5.5 |
| 6 | --- | 7.0 | -3.5 | 2.5 | -9.0 | 2.0 | -4.5 | 7.0 | 11.0 | 12.0 | 16.0 | 6.5 |
| 7 | 4.5 | .5 | .5 | .0 | -13.0 | -4.0 | -6.5 | 10.0 | 11.5 | 12.5 | 14.5 | 7.0 |
| 8 | 1.5 | -1.5 | 1.0 | -5.0 | -10.0 | -6.0 | -2.5 | 5.5 | 12.5 | 14.5 | 15.0 | 8.5 |
| 9 | 1.5 | 3.0 | -2.5 | -11.0 | -3.5 | -1.5 | -0.5 | 2.5 | 11.0 | 15.0 | 16.0 | 7.5 |
| 10 | 9.0 | 2.0 | -3.0 | -19.5 | -6.0 | -0.5 | -2.0 | 3.0 | 14.0 | 14.5 | 13.5 | 7.0 |
| 11 | 9.0 | 1.5 | -3.0 | -19.0 | -7.0 | 2.5 | -2.5 | 4.5 | 11.0 | 16.5 | 11.5 | 7.0 |
| 12 | 5.5 | -1.5 | -2.5 | -11.0 | -7.5 | 5.0 | .5 | 6.0 | 11.0 | 15.5 | 10.0 | 9.5 |
| 13 | 2.5 | -1.0 | -5.5 | -2.5 | -7.0 | 4.5 | 10.0 | 7.5 | 12.0 | 14.5 | 8.5 | 10.0 |
| 14 | 1.0 | -1.5 | 1.5 | -5.5 | -9.0 | -1.0 | 7.0 | 8.0 | 10.0 | 15.5 | 11.5 | 13.0 |
| 15 | 3.5 | -1.0 | 1.0 | --- | -3.5 | 5.0 | 5.5 | 8.5 | 8.0 | 14.5 | 10.0 | 13.5 |
| 16 | 6.5 | -0.5 | -4.0 | --- | 5.5 | 4.0 | 8.0 | 9.5 | 14.5 | 15.0 | 11.5 | 10.5 |
| 17 | 3.0 | 7.5 | -3.5 | --- | 3.5 | 7.0 | 6.5 | 9.5 | 12.5 | 15.0 | 12.5 | 8.0 |
| 18 | 9.0 | 2.5 | -5.5 | --- | 2.0 | 2.5 | 1.5 | 9.5 | 10.0 | 16.5 | 12.0 | 6.5 |
| 19 | -1.0 | 2.0 | -11.0 | --- | -0.5 | 7.0 | 2.0 | 11.0 | 11.5 | 15.5 | 10.0 | 10.0 |
| 20 | -2.5 | 1.0 | -10.5 | --- | 1.5 | 11.0 | 6.0 | 10.0 | 11.0 | 17.0 | 11.0 | 6.5 |
| 21 | -1.0 | .0 | -12.0 | 4.5 | .5 | 8.5 | .5 | 13.5 | 9.0 | 16.5 | 10.0 | 5.0 |
| 22 | 6.0 | -3.5 | 5.5 | 2.0 | -2.5 | .0 | -0.5 | 13.0 | 11.5 | 15.0 | 6.5 | 3.0 |
| 23 | .5 | -6.0 | 4.5 | 1.0 | -4.0 | -1.5 | -4.0 | 13.0 | 10.0 | 16.5 | 10.5 | .5 |
| 24 | -1.5 | 4.5 | 2.5 | -7.5 | 5.0 | -2.0 | -2.5 | 13.5 | 8.0 | 14.5 | 14.0 | 1.0 |
| 25 | 1.5 | 1.0 | -2.0 | -8.5 | -3.5 | 1.5 | 1.0 | 11.5 | 11.0 | 14.5 | 11.0 | 3.5 |
| 26 | 10.0 | .5 | -2.0 | -16.5 | -6.0 | -2.5 | 8.0 | 11.5 | 13.0 | 15.0 | 8.0 | 6.5 |
| 27 | 10.5 | 8.0 | .0 | -18.0 | -1.5 | -8.0 | 5.5 | 13.5 | 12.5 | 14.0 | 11.0 | 6.5 |
| 28 | 6.5 | .5 | .5 | -6.0 | -1.5 | -11.0 | 1.5 | 14.0 | 13.5 | 15.5 | 11.0 | 4.0 |
| 29 | 5.0 | -1.0 | -2.5 | -7.5 | --- | -5.5 | .5 | 13.5 | 15.5 | 15.0 | 8.0 | 3.0 |
| 30 | 5.5 | -2.5 | -7.5 | -1.0 | --- | 2.5 | 1.0 | 14.5 | 13.5 | 15.0 | 9.5 | 5.5 |
| 31 | 6.5 | --- | .0 | 7.0 | --- | 4.5 | --- | 14.5 | --- | 16.5 | 14.0 | --- |

03212580 LEFT FORK SANDLICK CREEK AT ELBERT, WV

LOCATION.--Lat 37°20'08", long 81°31'39", McDowell County, Hydrologic Unit 05070201, on right bank 0.7 mi (1.1 km) upstream from mouth, and 0.7 (1.1 km) east of Elbert.

DRAINAGE AREA.--1.78 $mi^2$ (4.61 $km^2$).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,610.00 ft (490.728 m) National Geodetic Vertical Datum of 1929.

REMARKS.--Water-discharge records goood except those for December, January, and March, which are poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15 $ft^3/s$ (0.42 $m^3/s$) June 1, 1981, gage height, 2.45 ft (0.747 m) from rating curve extended above 12 $ft^3/s$ (0.34 $m^3/s$); minimum daily, 0.05 $ft^3/s$ (0.001 $m^3/s$) Jan. 6, 1981.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .22 | .19 | .33 | .22 | .18 | .77 | .66 | 2.9 | 8.3 | 2.1 | .55 | .41 |
| 2 | .24 | .19 | .29 | .22 | .89 | .62 | .63 | 2.6 | 12 | 1.3 | .55 | .50 |
| 3 | .27 | .18 | .27 | .19 | .55 | .54 | .61 | 2.4 | 9.8 | 1.1 | .53 | 1.3 |
| 4 | .22 | .23 | .26 | .15 | .40 | .81 | .55 | 2.2 | 9.6 | 1.1 | .49 | 1.5 |
| 5 | .22 | .21 | .25 | .08 | .26 | 1.6 | 1.2 | 2.0 | 9.4 | 1.0 | .47 | .64 |
| 6 | .21 | .19 | .23 | .05 | .29 | 1.5 | .98 | 1.9 | 9.1 | 1.1 | .95 | .44 |
| 7 | .19 | .19 | .22 | .19 | .30 | 1.1 | .83 | 1.7 | 11 | .99 | 1.0 | .38 |
| 8 | .19 | .17 | .22 | .19 | .31 | .90 | .76 | 1.6 | 9.1 | .85 | 1.6 | .37 |
| 9 | .19 | .18 | .31 | .19 | .29 | .78 | 1.1 | 1.5 | 8.2 | .75 | .71 | .38 |
| 10 | .19 | .19 | .31 | .16 | .29 | .70 | 1.5 | 1.4 | 7.4 | .69 | .55 | .33 |
| 11 | .18 | .17 | .26 | .14 | .49 | .67 | 1.8 | 2.0 | 6.7 | .66 | .49 | .30 |
| 12 | .16 | .16 | .22 | .12 | .34 | .61 | 1.5 | 1.5 | 6.2 | .59 | 1.4 | .29 |
| 13 | .16 | .16 | .22 | .14 | .29 | .57 | 1.9 | 1.3 | 5.5 | .58 | .68 | .28 |
| 14 | .18 | .17 | .22 | .19 | .24 | .56 | 1.9 | 1.2 | 4.4 | 4.6 | .53 | .26 |
| 15 | .16 | .19 | .22 | .19 | .22 | .50 | 1.8 | 1.8 | 3.7 | 1.7 | .49 | 1.3 |
| 16 | .16 | .21 | .22 | .19 | .27 | .83 | 1.7 | 1.2 | 3.2 | 2.1 | .48 | 1.5 |
| 17 | .16 | .32 | .21 | .16 | .70 | .68 | 3.2 | 1.1 | 2.9 | 1.4 | .45 | .61 |
| 18 | .20 | .55 | .19 | .23 | .72 | .60 | 3.5 | 1.1 | 2.6 | 1.1 | .42 | .45 |
| 19 | .22 | .29 | .19 | .26 | .74 | .62 | 2.9 | 4.5 | 2.3 | .94 | .40 | .40 |
| 20 | .18 | .22 | .17 | .17 | 1.5 | .56 | 7.1 | 5.6 | 2.2 | 1.0 | .38 | .38 |
| 21 | .16 | .20 | .15 | .26 | 1.1 | .56 | 6.2 | 3.2 | 2.0 | .91 | .35 | .35 |
| 22 | .16 | .19 | .13 | .23 | .80 | .55 | 5.9 | 2.8 | 1.9 | .92 | .35 | .35 |
| 23 | .16 | .22 | .12 | .20 | 1.2 | .73 | 5.6 | 2.7 | 1.6 | .69 | .35 | .33 |
| 24 | .16 | 1.1 | .29 | .19 | 1.1 | .74 | 5.5 | 2.6 | 1.5 | .82 | .35 | .30 |
| 25 | 1.3 | .70 | .20 | .19 | .82 | .67 | 4.6 | 2.5 | 1.9 | 1.6 | .33 | .30 |
| 26 | .50 | .41 | .12 | .19 | .64 | .62 | 4.1 | 2.3 | 1.9 | .79 | .32 | .30 |
| 27 | .27 | .35 | .16 | .21 | .53 | .62 | 3.9 | 4.4 | 1.3 | .66 | .30 | .29 |
| 28 | .22 | .46 | .17 | .19 | .55 | .62 | 3.6 | 7.9 | 1.2 | 1.0 | .30 | .28 |
| 29 | .22 | .44 | .19 | .16 | --- | .55 | 3.5 | 7.4 | 1.1 | 1.2 | .30 | .27 |
| 30 | .21 | .38 | .28 | .14 | --- | .64 | 3.3 | 6.8 | 1.6 | .74 | .30 | .26 |
| 31 | .19 | --- | .26 | .12 | --- | .64 | --- | 6.5 | --- | .60 | .31 | --- |
| TOTAL | 7.45 | 8.81 | 6.88 | 5.51 | 16.01 | 22.46 | 82.32 | 90.6 | 149.6 | 35.58 | 16.68 | 15.05 |
| MEAN | .24 | .29 | .22 | .18 | .57 | .72 | 2.74 | 2.92 | 4.99 | 1.15 | .54 | .50 |
| CFSM | .14 | .16 | .12 | .10 | .32 | .40 | 1.54 | 1.64 | 2.80 | .65 | .30 | .28 |
| IN. | .16 | .18 | .14 | .12 | .33 | .47 | 1.72 | 1.89 | 3.12 | .74 | .35 | .31 |

WTR YR 1981 TOTAL 456.35 MEAN 1.25 CFSM .70 IN 9.54

WATER-DISCHARGE RECORDS

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .30 | .30 | .22 | .54 | 1.8 | 3.1 | 2.9 | 1.2 | 2.4 | 1.2 | .85 | 2.0 |
| 2 | .40 | .30 | .23 | .46 | 2.0 | 2.8 | 2.7 | 1.3 | 1.4 | 1.1 | .53 | 1.1 |
| 3 | .29 | .30 | .22 | 3.9 | 8.9 | 2.7 | 2.6 | 1.3 | 1.2 | 1.4 | .48 | .69 |
| 4 | .26 | .30 | .28 | 4.2 | 5.2 | 2.6 | 2.4 | 1.3 | 1.4 | 3.4 | .44 | .54 |
| 5 | .26 | .34 | .27 | 2.1 | 4.4 | 2.6 | 2.3 | 1.3 | 2.0 | 2.6 | .68 | .48 |
| 6 | .45 | .42 | .22 | 1.3 | 4.3 | 2.5 | 2.3 | 1.3 | 1.4 | 1.4 | 2.0 | .45 |
| 7 | .50 | .32 | .22 | 1.5 | 3.9 | 4.1 | 2.1 | 1.3 | 1.2 | 1.2 | 3.2 | .43 |
| 8 | .32 | .29 | .22 | 1.2 | 3.6 | 3.3 | 2.0 | 1.4 | 1.2 | 1.2 | 2.9 | .43 |
| 9 | .30 | .26 | .21 | 1.0 | 4.5 | 3.0 | 2.0 | 1.3 | 1.3 | 1.1 | 4.1 | .43 |
| 10 | .26 | .26 | .19 | .80 | 3.8 | 2.9 | 1.8 | 1.2 | 4.0 | .99 | 1.9 | .39 |
| 11 | .26 | .26 | .17 | .65 | 3.4 | 2.9 | 1.7 | 1.2 | 2.2 | 1.6 | 1.2 | .38 |
| 12 | .26 | .26 | .16 | .55 | 3.2 | 3.2 | 1.6 | 1.1 | 2.9 | 1.4 | .96 | .38 |
| 13 | .26 | .26 | .14 | .48 | 3.2 | 3.8 | 1.5 | 1.1 | 4.5 | 1.1 | .78 | .36 |
| 14 | .26 | .26 | .35 | .43 | 3.0 | 3.5 | 1.5 | 1.1 | 3.3 | 1.2 | .68 | 1.3 |
| 15 | .26 | .26 | .45 | .37 | 3.0 | 6.0 | 1.4 | 1.3 | 3.0 | .89 | .62 | .71 |
| 16 | .26 | .25 | .41 | .34 | 4.4 | 5.7 | 1.4 | 1.0 | 2.9 | .79 | .59 | .48 |
| 17 | .25 | .28 | .37 | .30 | 6.8 | 5.6 | 1.3 | .96 | 2.8 | .75 | .55 | .42 |
| 18 | .24 | .26 | .30 | .27 | 6.0 | 5.5 | 1.3 | .90 | 2.5 | .70 | .70 | .40 |
| 19 | .29 | .27 | .25 | .87 | 6.1 | 5.7 | 1.2 | 1.2 | 2.3 | .69 | .54 | .40 |
| 20 | .24 | .34 | .22 | 1.3 | 5.7 | 6.0 | 1.2 | 1.7 | 2.1 | .93 | .50 | .40 |
| 21 | .21 | .29 | .19 | .79 | 5.4 | 6.5 | 1.2 | 1.6 | 1.9 | .66 | .50 | .40 |
| 22 | .19 | .25 | .84 | 3.6 | 5.0 | 5.8 | 1.1 | 1.2 | 1.9 | .72 | .48 | .40 |
| 23 | .57 | .22 | 1.1 | 2.9 | 4.4 | 5.4 | 1.0 | 1.2 | 1.7 | .80 | .45 | .36 |
| 24 | .43 | .37 | .81 | 2.3 | 4.1 | 4.8 | 1.0 | 1.4 | 1.6 | .59 | .45 | .34 |
| 25 | .30 | .30 | .59 | 1.9 | 3.6 | 4.5 | 1.1 | 1.1 | 1.5 | .53 | .93 | .35 |
| 26 | .49 | .26 | .51 | 1.5 | 3.3 | 4.2 | 1.9 | 1.2 | 1.6 | .49 | .64 | .39 |
| 27 | 1.1 | .27 | .48 | 1.3 | 3.5 | 3.9 | 1.5 | 1.5 | 1.9 | .48 | .48 | .43 |
| 28 | .69 | .25 | .45 | 1.2 | 3.3 | 3.7 | 1.5 | 1.3 | 1.3 | .54 | .45 | .37 |
| 29 | .46 | .22 | .40 | 1.0 | --- | 3.6 | 1.3 | 1.1 | 1.4 | .56 | .43 | .33 |
| 30 | .38 | .22 | .35 | .90 | --- | 3.3 | 1.3 | 1.0 | 1.4 | .57 | .40 | .30 |
| 31 | .33 | --- | .54 | 1.9 | --- | 3.3 | --- | 1.1 | --- | 1.2 | 1.2 | --- |
| TOTAL | 11.07 | 8.44 | 11.36 | 41.85 | 119.8 | 126.5 | 50.1 | 38.16 | 62.2 | 32.78 | 30.61 | 15.84 |
| MEAN | .36 | .28 | .37 | 1.35 | 4.28 | 4.08 | 1.67 | 1.23 | 2.07 | 1.06 | .99 | .53 |
| CFSM | .20 | .16 | .21 | .76 | 2.40 | 2.29 | .94 | .69 | 1.16 | .60 | .56 | .30 |
| IN. | .23 | .18 | .24 | .87 | 2.50 | 2.64 | 1.05 | .80 | 1.30 | .68 | .64 | .33 |

WTR YR 1982 TOTAL 548.71 MEAN 1.50 CFSM .84 IN 11.46

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

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

EXTREMES FOR PERIOD OF RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 98 mg/L Sept. 3, 1981; minimum daily mean, 0 mg/L several days during year.
SEDIMENT LOADS: Maximum daily, 1.3 tons (1.2 metric tons) June 1, 1981; minimum daily, 0 ton (0 metric ton) many days during year.

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 1 | 1 | 17 | 9 | 3 | 1 | 12 | 40 | 14 | 4 | 6 |
| 2 | 2 | 2 | 1 | 27 | 13 | 12 | 1 | 10 | 34 | 2 | 3 | 9 |
| 3 | 2 | 1 | 2 | 25 | 5 | 1 | 1 | 9 | 7 | 2 | 2 | 98 |
| 4 | 2 | 1 | 1 | 17 | 3 | 29 | 5 | 9 | 18 | 8 | 3 | 19 |
| 5 | 2 | 1 | 1 | 10 | 3 | 4 | 36 | 12 | 7 | 4 | 1 | 5 |
| 6 | 2 | 1 | 4 | 7 | 4 | 16 | 11 | 18 | 33 | 22 | 21 | 4 |
| 7 | 2 | 1 | 6 | 14 | 5 | 5 | 3 | 19 | 25 | 5 | 26 | 9 |
| 8 | 2 | 1 | 4 | 14 | 7 | 2 | 8 | 18 | 4 | 1 | 8 | 10 |
| 9 | 1 | 6 | 23 | 13 | 9 | 14 | 14 | 15 | 4 | 1 | 4 | 3 |
| 10 | 1 | 2 | 5 | 32 | 14 | 5 | 51 | 13 | 4 | 4 | 3 | 1 |
| 11 | 1 | 1 | 3 | 32 | 6 | 3 | 11 | 30 | 4 | 5 | 3 | 2 |
| 12 | 1 | 1 | 3 | 19 | 1 | 3 | 8 | 14 | 2 | 3 | 57 | 1 |
| 13 | 1 | 0 | 3 | 9 | 1 | 6 | 31 | 8 | 3 | 1 | 5 | 0 |
| 14 | 1 | 1 | 5 | 29 | 1 | 8 | 9 | 4 | 2 | 40 | 4 | 1 |
| 15 | 1 | 2 | 7 | 29 | 1 | 7 | 6 | 13 | 1 | 1 | 4 | 60 |
| 16 | 1 | 3 | 3 | 13 | 19 | 8 | 4 | 0 | 1 | 21 | 7 | 3 |
| 17 | 1 | 26 | 2 | 10 | 21 | 3 | 48 | 0 | 4 | 1 | 10 | 1 |
| 18 | 2 | 25 | 6 | 12 | 2 | 15 | 22 | 1 | 4 | 0 | 10 | 1 |
| 19 | 1 | 2 | 14 | 14 | 2 | 22 | 10 | 64 | 0 | 0 | 6 | 1 |
| 20 | 2 | 3 | 15 | 17 | 14 | 13 | 48 | 4 | 1 | 6 | 6 | 2 |
| 21 | 0 | 2 | 13 | 43 | 2 | 10 | 8 | 8 | 2 | 3 | 7 | 2 |
| 22 | 1 | 1 | 9 | 15 | 1 | 10 | 6 | 12 | 1 | 0 | 4 | 2 |
| 23 | 0 | 21 | 21 | 11 | 5 | 25 | 4 | 12 | 1 | 0 | 7 | 2 |
| 24 | 0 | 88 | 32 | 11 | 2 | 13 | 2 | 12 | 2 | 51 | 10 | 1 |
| 25 | 61 | 3 | 9 | 11 | 3 | 5 | 3 | 13 | 29 | 43 | 8 | 0 |
| 26 | 3 | 1 | 5 | 11 | 3 | 2 | 7 | 16 | 22 | 2 | 5 | 0 |
| 27 | 1 | 6 | 6 | 11 | 2 | 0 | 8 | 35 | 2 | 2 | 7 | 1 |
| 28 | 4 | 11 | 8 | 11 | 2 | 1 | 12 | 17 | 2 | 83 | 19 | 1 |
| 29 | 1 | 5 | 18 | 11 | --- | 1 | 13 | 6 | 2 | 24 | 17 | 1 |
| 30 | 1 | 2 | 13 | 10 | --- | 2 | 17 | 9 | 29 | 5 | 10 | 1 |
| 31 | 0 | --- | 13 | 9 | --- | 3 | --- | 10 | --- | 5 | 7 | --- |
| TOTAL | 102 | 221 | 256 | 514 | 160 | 251 | 408 | 423 | 290 | 359 | 288 | 247 |
| MEAN | 3 | 7 | 8 | 17 | 6 | 8 | 14 | 14 | 10 | 12 | 9 | 8 |

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .09 | 1.3 | .12 | .00 | .00 |
| 2 | .00 | .00 | .00 | .02 | .03 | .02 | .00 | .07 | 1.1 | .00 | .00 | .01 |
| 3 | .00 | .00 | .00 | .01 | .00 | .00 | .00 | .06 | .19 | .00 | .00 | .62 |
| 4 | .00 | .00 | .00 | .00 | .00 | .09 | .00 | .05 | .47 | .02 | .00 | .08 |
| 5 | .00 | .00 | .00 | .00 | .00 | .02 | .13 | .06 | .18 | .01 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | .06 | .03 | .09 | 1.1 | .07 | .06 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .09 | .83 | .01 | .14 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .08 | .10 | .00 | .04 | .00 |
| 9 | .00 | .00 | .02 | .00 | .00 | .03 | .04 | .06 | .09 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .01 | .01 | .00 | .27 | .05 | .08 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .01 | .00 | .00 | .05 | .18 | .07 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .06 | .03 | .00 | .27 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .00 | .16 | .03 | .04 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .01 | .00 | .01 | .05 | .01 | .02 | .84 | .00 | .00 |
| 15 | .00 | .00 | .00 | .01 | .00 | .00 | .03 | .08 | .00 | .00 | .00 | .29 |
| 16 | .00 | .00 | .00 | .00 | .01 | .02 | .02 | .00 | .00 | .13 | .00 | .01 |
| 17 | .00 | .03 | .00 | .00 | .04 | .00 | .51 | .00 | .03 | .00 | .01 | .00 |
| 18 | .00 | .05 | .00 | .00 | .00 | .02 | .21 | .00 | .03 | .00 | .01 | .00 |
| 19 | .00 | .00 | .00 | .00 | .00 | .04 | .08 | 1.0 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .06 | .02 | .99 | .07 | .00 | .02 | .00 | .00 |
| 21 | .00 | .00 | .00 | .03 | .00 | .02 | .13 | .07 | .01 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .00 | .01 | .10 | .09 | .00 | .00 | .00 | .00 |
| 23 | .00 | .01 | .00 | .00 | .02 | .05 | .06 | .09 | .00 | .00 | .00 | .00 |
| 24 | .00 | .26 | .03 | .00 | .00 | .03 | .03 | .08 | .00 | .31 | .00 | .00 |
| 25 | .24 | .00 | .00 | .00 | .00 | .00 | .04 | .09 | .21 | .24 | .00 | .00 |
| 26 | .00 | .00 | .00 | .00 | .00 | .00 | .08 | .10 | .13 | .00 | .00 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .00 | .08 | .43 | .00 | .00 | .00 | .00 |
| 28 | .00 | .01 | .00 | .00 | .00 | .00 | .12 | .38 | .00 | .37 | .02 | .00 |
| 29 | .00 | .00 | .00 | .00 | --- | .00 | .12 | .12 | .00 | .10 | .01 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .00 | .15 | .17 | .25 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .00 | --- | .18 | --- | .00 | .00 | --- |
| TOTAL | 0.24 | 0.36 | 0.05 | 0.11 | 0.17 | 0.45 | 3.53 | 3.93 | 6.26 | 2.24 | 0.56 | 1.01 |
| MEAN | .01 | .01 | .00 | .00 | .01 | .01 | .12 | .13 | .21 | .07 | .02 | .03 |

WTR YR 1981 TOTAL 18.91 MEAN .05

## WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | OXYGEN, DIS-SOLVED (MG/L) | HARD-NESS (MG/L AS CACO3) | HARD-NESS, NONCAR-BONATE (MG/L CACO3) | ACIDITY (MG/L AS CACO3) | CALCIUM DIS-SOLVED (MG/L AS CA) | MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) | SODIUM, DIS-SOLVED (MG/L AS NA) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| FEB | | | | | | | | | | | |
| 10... | .24 | 810 | 5.8 | 1.0 | 10.6 | 389 | 387 | 9.4 | 80 | 46 | 7.8 |
| MAR | | | | | | | | | | | |
| 03... | .55 | 723 | 5.3 | 4.0 | 8.3 | 311 | 309 | 9.4 | 62 | 38 | 5.8 |
| 17... | .70 | 795 | 4.6 | 3.0 | 11.6 | -- | -- | -- | -- | -- | -- |
| 23... | .68 | 881 | 4.7 | 5.5 | 11.1 | 369 | 368 | 5.0 | 72 | 46 | 7.0 |
| APR | | | | | | | | | | | |
| 07... | .80 | 879 | 4.7 | 8.0 | 10.6 | 402 | 401 | -- | 80 | 49 | 7.4 |
| 28... | 3.7 | 1110 | 4.4 | 18.5 | 8.7 | 454 | -- | 43 | 91 | 55 | 7.6 |

| DATE | SODIUM AD-SORP-TION RATIO | ALKA-LINITY FIELD (MG/L AS CACO3) | SULFATE DIS-SOLVED (MG/L AS SO4) | CHLO-RIDE, DIS-SOLVED (MG/L AS CL) | IRON, TOTAL RECOV-ERABLE (UG/L AS FE) | IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE) | IRON, DIS-SOLVED (UG/L AS FE) | MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) | MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN) | MANGA-NESE, DIS-SOLVED (UG/L AS MN) |
|---|---|---|---|---|---|---|---|---|---|---|
| FEB | | | | | | | | | | |
| 10... | .2 | 2.0 | 400 | 1.1 | 1200 | 260 | 940 | 3400 | 0 | 3800 |
| MAR | | | | | | | | | | |
| 03... | .1 | 2.0 | 340 | .8 | 430 | 10 | 420 | 2700 | 0 | 2900 |
| 17... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 23... | .2 | 1.0 | 420 | .6 | 970 | 630 | 340 | 3600 | 1100 | 2500 |
| APR | | | | | | | | | | |
| 07... | .2 | 1.0 | 430 | .5 | 390 | 110 | 280 | 3300 | 0 | 3400 |
| 28... | .2 | -- | 530 | .3 | 300 | 150 | 150 | 3100 | 300 | 2800 |

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | OXYGEN, DIS-SOLVED (MG/L) | HARD-NESS (MG/L AS CACO3) | HARD-NESS, NONCAR-BONATE (MG/L CACO3) | ACIDITY (MG/L AS CACO3) | CALCIUM DIS-SOLVED (MG/L AS CA) | MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) | SODIUM, DIS-SOLVED (MG/L AS NA) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MAY | | | | | | | | | | | |
| 19... | 6.2 | 715 | 4.6 | -- | -- | -- | -- | -- | -- | -- | -- |
| 28... | 10 | 683 | 4.7 | 15.0 | 9.5 | 270 | 269 | 20 | 57 | 31 | 3.6 |
| JUN | | | | | | | | | | | |
| 18... | 2.6 | 1060 | 4.4 | 18.5 | -- | 469 | -- | 49 | 94 | 57 | 8.0 |
| JUL | | | | | | | | | | | |
| 15... | 1.8 | 800 | 4.7 | 21.0 | -- | 391 | 391 | 22 | 84 | 44 | 6.6 |
| 29... | 1.3 | 795 | 4.9 | 22.5 | -- | 400 | 399 | -- | 86 | 45 | 6.7 |
| AUG | | | | | | | | | | | |
| 19... | .40 | 875 | 4.8 | 17.0 | -- | 412 | 410 | 16 | 86 | 48 | 7.5 |
| SEP | | | | | | | | | | | |
| 09... | .40 | 850 | 5.0 | 18.0 | -- | -- | -- | -- | -- | -- | -- |

| DATE | SODIUM AD-SORP-TION RATIO | ALKA-LINITY FIELD (MG/L AS CACO3) | SULFATE DIS-SOLVED (MG/L AS SO4) | CHLO-RIDE, DIS-SOLVED (MG/L AS CL) | FLUO-RIDE, DIS-SOLVED (MG/L AS F) | SILICA, DIS-SOLVED (MG/L AS SIO2) | SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) | SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) | SOLIDS, DIS-SOLVED (TONS PER DAY) | SOLIDS, DIS-SOLVED (TONS PER AC-FT) |
|---|---|---|---|---|---|---|---|---|---|---|
| MAY | | | | | | | | | | |
| 19... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 28... | .1 | 1.0 | 330 | 3.2 | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | |
| 18... | .2 | -- | 480 | .4 | -- | -- | 786 | -- | 5.5 | 1.1 |
| JUL | | | | | | | | | | |
| 15... | .1 | .0 | 370 | -- | -- | -- | 592 | -- | 2.9 | .81 |
| 29... | .1 | 1.0 | 260 | -- | -- | -- | 600 | -- | 2.1 | .82 |
| AUG | | | | | | | | | | |
| 19... | .2 | 2.0 | 420 | .7 | .2 | 17 | 683 | 584 | .74 | .93 |
| SEP | | | | | | | | | | |
| 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | NITROGEN, NITRITE TOTAL (MG/L AS N) | NITROGEN, AMMONIA TOTAL (MG/L AS N) | NITROGEN, NO2+NO3 TOTAL (MG/L AS N) | PHOSPHORUS, TOTAL (MG/L AS P) | ARSENIC TOTAL (UG/L AS AS) | ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS) | BARIUM, TOTAL RECOVERABLE (UG/L AS BA) | CADMIUM TOTAL RECOVERABLE (UG/L AS CD) | CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD) | CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G) |
|---|---|---|---|---|---|---|---|---|---|---|
| MAY | | | | | | | | | | |
| 19... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 28... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | |
| 18... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | |
| 15... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 29... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | |
| 19... | <.010 | .050 | .11 | <.010 | 1 | 5 | <50 | 1 | <1 | <10 |
| SEP | | | | | | | | | | |
| 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) | COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO) | COPPER, TOTAL RECOVERABLE (UG/L AS CU) | COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU) | IRON, TOTAL RECOVERABLE (UG/L AS FE) | IRON, SUSPENDED RECOVERABLE (UG/L AS FE) | IRON, DISSOLVED (UG/L AS FE) | IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE) | LEAD, TOTAL RECOVERABLE (UG/L AS PB) | LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB) |
|---|---|---|---|---|---|---|---|---|---|---|
| MAY | | | | | | | | | | |
| 19... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 28... | -- | -- | -- | -- | 760 | 670 | 90 | -- | -- | -- |
| JUN | | | | | | | | | | |
| 18... | -- | -- | -- | -- | 360 | 70 | 290 | -- | -- | -- |
| JUL | | | | | | | | | | |
| 15... | -- | -- | -- | -- | 580 | 130 | 450 | -- | -- | -- |
| 29... | -- | -- | -- | -- | 650 | 190 | 460 | -- | -- | -- |
| AUG | | | | | | | | | | |
| 19... | <10 | 20 | 16 | 20 | 550 | -- | -- | 21000 | 4 | 60 |
| SEP | | | | | | | | | | |
| 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) | MANGANESE, SUSPENDED RECOV. (UG/L AS MN) | MANGANESE, DISSOLVED (UG/L AS MN) | MERCURY TOTAL RECOVERABLE (UG/L AS HG) | MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG) | SELENIUM, TOTAL (UG/L AS SE) | SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G) | SILVER, TOTAL RECOVERABLE (UG/L AS AG) | ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN) | CYANIDE TOTAL (MG/L AS CN) |
|---|---|---|---|---|---|---|---|---|---|---|
| MAY | | | | | | | | | | |
| 19... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 28... | 2100 | 200 | 1900 | -- | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | |
| 18... | 3200 | 0 | 3400 | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | |
| 15... | 3100 | 0 | 3700 | -- | -- | -- | -- | -- | -- | -- |
| 29... | 3100 | 0 | 3700 | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | |
| 19... | 3100 | -- | -- | <.1 | <.01 | <1 | <1 | <1 | 44 | <.01 |
| SEP | | | | | | | | | | |
| 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | OXYGEN, DIS-SOLVED (MG/L) | HARD-NESS (MG/L AS CACO3) | HARD-NESS, NONCAR-BONATE (MG/L CACO3) | ACIDITY (MG/L AS CACO3) | CALCIUM DIS-SOLVED (MG/L AS CA) | MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) | SODIUM, DIS-SOLVED (MG/L AS NA) | SODIUM AD-SORP-TION RATIO |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | | |
| 01... | .26 | 890 | 5.2 | 15.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| 06... | .18 | 860 | 5.8 | 15.0 | 9.5 | 388 | 386 | 84 | 81 | 45 | 6.9 | .2 |
| 20... | .18 | 850 | 5.8 | 9.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| 20... | .22 | 850 | 5.8 | 9.5 | -- | 388 | 385 | -- | 83 | 44 | 6.9 | .2 |
| NOV | | | | | | | | | | | | |
| 09... | .26 | 840 | 6.2 | 9.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | | | |
| 02... | .26 | 870 | 6.2 | 6.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| 22... | .70 | 710 | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JAN | | | | | | | | | | | | |
| 12... | .55 | 740 | 5.6 | .0 | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | | | | | |
| 03... | 13 | 605 | 5.1 | 5.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| 22... | 4.7 | 840 | 4.6 | 6.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | | | |
| 15... | 7.1 | 750 | 4.8 | 9.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | | | |
| 05... | 2.2 | 900 | 4.5 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 26... | 1.6 | 830 | 4.6 | 15.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY | | | | | | | | | | | | |
| 17... | .90 | 1010 | 4.4 | 22.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | | | |
| 07... | 1.2 | 862 | 4.6 | 20.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| 28... | 1.4 | 920 | 4.4 | 23.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | | | |
| 19... | .62 | 890 | 4.6 | 24.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | | | |
| 09... | 2.5 | 580 | 6.0 | 21.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| 31... | 1.6 | 690 | 5.4 | 18.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP | | | | | | | | | | | | |
| 20... | .38 | 780 | 5.0 | 16.0 | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | ALKA-LINITY FIELD (MG/L AS CACO3) | SULFATE DIS-SOLVED (MG/L AS SO4) | CHLO-RIDE, DIS-SOLVED (MG/L AS CL) | SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) | SOLIDS, DIS-SOLVED (TONS PER DAY) | SOLIDS, DIS-SOLVED (TONS PER AC-FT) | IRON, TOTAL RECOV-ERABLE (UG/L AS FE) | IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE) | IRON, DIS-SOLVED (UG/L AS FE) | MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) | MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN) | MANGA-NESE, DIS-SOLVED (UG/L AS MN) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | | |
| 01... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 06... | 2.0 | 400 | .3 | 668 | .32 | .91 | 930 | 210 | 720 | 3300 | 200 | 3100 |
| 20... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 20... | 3.0 | 400 | .8 | 673 | .40 | .92 | 1400 | 570 | 830 | 4200 | 1000 | 3200 |
| NOV | | | | | | | | | | | | |
| 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | | | |
| 02... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 22... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JAN | | | | | | | | | | | | |
| 12... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | | | | | |
| 03... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 22... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | | | |
| 15... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | | | |
| 05... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 26... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY | | | | | | | | | | | | |
| 17... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | | | |
| 07... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 28... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | | | |
| 19... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | | | |
| 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 31... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP | | | | | | | | | | | | |
| 20... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | .00 | .00 | .01 | .18 | .03 | .11 | .00 | 1.11 | .01 | .00 | .58 |
| 2 | .18 | .00 | .09 | .04 | .37 | .00 | .00 | .00 | .38 | .00 | .00 | .00 |
| 3 | .02 | .00 | .00 | .01 | .00 | .00 | .02 | .00 | .06 | .00 | .00 | 1.21 |
| 4 | .00 | .24 | .00 | .00 | .00 | .51 | .01 | .00 | .92 | .21 | .00 | .35 |
| 5 | .00 | .00 | .00 | .00 | .00 | .23 | .50 | .02 | .01 | .17 | .00 | .00 |
| 6 | .01 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | 1.03 | .19 | .55 | .04 |
| 7 | .00 | .00 | .00 | .08 | .01 | .01 | .01 | .01 | .00 | .01 | .78 | .01 |
| 8 | .00 | .00 | .01 | .08 | .15 | .00 | .01 | .00 | .00 | .00 | .10 | .12 |
| 9 | .00 | .08 | .28 | .00 | .02 | .00 | .37 | .00 | .00 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .27 | .00 | .44 | .04 | .04 | .00 | .00 | .00 |
| 11 | .02 | .00 | .00 | .00 | .05 | .01 | .00 | .57 | .00 | .00 | .04 | .00 |
| 12 | .00 | .00 | .00 | .00 | .05 | .00 | .05 | .02 | .25 | .00 | .64 | .00 |
| 13 | .00 | .01 | .00 | .00 | .00 | .06 | .23 | .00 | .04 | .00 | .00 | .00 |
| 14 | .00 | .01 | .00 | .01 | .00 | .00 | .13 | .33 | .01 | 1.99 | .00 | .00 |
| 15 | .00 | .10 | .00 | .07 | .00 | .00 | .00 | .15 | .00 | .00 | .03 | 1.36 |
| 16 | .00 | .09 | .04 | .00 | .22 | .39 | .00 | .00 | .05 | .52 | .04 | .08 |
| 17 | .00 | .61 | .00 | .00 | .29 | .02 | .74 | .00 | .02 | .00 | .00 | .00 |
| 18 | .29 | .04 | .00 | .00 | .01 | .00 | .16 | .14 | .00 | .00 | .00 | .00 |
| 19 | .01 | .00 | .00 | .00 | .24 | .09 | .00 | 1.65 | .00 | .00 | .00 | .03 |
| 20 | .00 | .00 | .00 | .05 | .22 | .04 | 1.01 | .03 | .00 | .23 | .00 | .00 |
| 21 | .00 | .00 | .00 | .19 | .00 | .03 | .00 | .01 | .14 | .20 | .00 | .00 |
| 22 | .00 | .00 | .00 | .01 | .01 | .01 | .00 | .00 | .00 | .03 | .00 | .00 |
| 23 | .00 | .24 | .00 | .00 | .37 | .27 | .36 | .00 | .00 | .00 | .00 | .00 |
| 24 | .04 | .61 | .30 | .00 | .03 | .01 | .01 | .00 | .00 | .60 | .00 | .00 |
| 25 | 1.17 | .09 | .00 | .00 | .00 | .00 | .00 | .00 | .65 | .00 | .00 | .00 |
| 26 | .01 | .01 | .04 | .00 | .00 | .00 | .00 | .10 | .03 | .00 | .00 | .00 |
| 27 | .00 | .09 | .00 | .06 | .00 | .04 | .00 | 1.40 | .00 | .01 | .00 | .00 |
| 28 | .07 | .22 | .00 | .00 | .30 | .00 | .00 | .93 | .00 | .49 | .00 | .00 |
| 29 | .01 | .02 | .00 | .00 | --- | .00 | .01 | .03 | .00 | .04 | .00 | .00 |
| 30 | .05 | .01 | .26 | .18 | --- | .14 | .19 | .05 | .79 | .01 | .00 | .00 |
| 31 | .00 | --- | .04 | .00 | --- | .01 | --- | .06 | --- | .00 | .10 | --- |
| TOTAL | 1.88 | 2.47 | 1.06 | 0.79 | 2.79 | 1.90 | 4.36 | 5.56 | 5.53 | 4.71 | 2.28 | 3.78 |
| MEAN | .06 | .08 | .03 | .03 | .10 | .06 | .15 | .18 | .18 | .15 | .07 | .13 |

WTR YR 1981 TOTAL 37.11 MEAN .10

03212580 LEFT FORK SANDLICK CREEK AT ELBERT, WV--Continued

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .40 | .00 | .03 | .06 | .00 | .00 | .00 | .00 | .08 | .00 | .00 | .52 |
| 2 | .00 | .00 | .00 | .17 | .63 | .00 | .01 | .04 | .00 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .80 | .72 | .01 | .00 | .00 | .00 | .61 | .00 | .00 |
| 4 | .02 | .00 | .20 | .48 | .00 | .01 | .00 | .00 | .65 | 1.16 | .02 | .00 |
| 5 | .04 | .29 | .01 | .00 | .01 | .09 | .21 | .00 | .02 | .01 | .46 | .00 |
| 6 | .54 | .00 | .00 | .02 | .00 | .17 | .02 | .00 | .00 | .00 | 1.35 | .00 |
| 7 | .00 | .00 | .00 | .31 | .12 | .58 | .01 | .00 | .00 | .00 | .01 | .00 |
| 8 | .00 | .00 | .01 | .00 | .05 | .04 | .10 | .14 | .25 | .24 | 1.23 | .00 |
| 9 | .00 | .00 | .01 | .00 | .49 | .00 | .04 | .00 | .01 | .00 | .14 | .00 |
| 10 | .00 | .00 | .00 | .00 | .06 | .01 | .00 | .00 | .89 | .12 | .08 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .16 | .01 | .00 | .00 | .45 | .00 | .00 |
| 12 | .00 | .00 | .00 | .05 | .07 | .00 | .01 | .00 | .99 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | .10 | .03 | .31 | .00 | .00 | .21 | .34 | .00 | .04 |
| 14 | .00 | .00 | .44 | .00 | .04 | .00 | .00 | .00 | .00 | .01 | .00 | .86 |
| 15 | .00 | .00 | .17 | .01 | .31 | .64 | .01 | .00 | .00 | .00 | .00 | .00 |
| 16 | .02 | .00 | .20 | .26 | .47 | .13 | .01 | .00 | .07 | .00 | .00 | .00 |
| 17 | .00 | .09 | .13 | .00 | .33 | .03 | .09 | .01 | .06 | .12 | .21 | .00 |
| 18 | .13 | .00 | .00 | .00 | .02 | .00 | .00 | .10 | .00 | .02 | .11 | .01 |
| 19 | .13 | .00 | .00 | .33 | .16 | .31 | .00 | .40 | .04 | .36 | .00 | .00 |
| 20 | .01 | .23 | .00 | .00 | .06 | .32 | .09 | .67 | .00 | .09 | .00 | .00 |
| 21 | .00 | .00 | .43 | .67 | .07 | .06 | .01 | .12 | .00 | .00 | .07 | .13 |
| 22 | .00 | .01 | .21 | .21 | .03 | .00 | .00 | .30 | .17 | .34 | .00 | .00 |
| 23 | .73 | .12 | .09 | .05 | .02 | .00 | .00 | .30 | .00 | .01 | .05 | .00 |
| 24 | .00 | .18 | .01 | .00 | .01 | .00 | .00 | .12 | .00 | .00 | .11 | .01 |
| 25 | .09 | .00 | .03 | .00 | .00 | .29 | .42 | .00 | .00 | .00 | .51 | .00 |
| 26 | .42 | .00 | .00 | .00 | .00 | .04 | .46 | .60 | .53 | .00 | .00 | .31 |
| 27 | .54 | .10 | .00 | .03 | .53 | .00 | .35 | .15 | .05 | .00 | .00 | .01 |
| 28 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .13 | .00 | .32 | .00 | .01 |
| 29 | .00 | .00 | .00 | .00 | --- | .01 | .00 | .01 | .29 | .05 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .01 | .00 | .00 | .01 | .28 | .14 | .00 |
| 31 | .00 | --- | .46 | .33 | --- | .21 | --- | .63 | --- | .52 | .79 | --- |
| TOTAL | 3.07 | 1.02 | 2.43 | 3.88 | 4.23 | 3.43 | 1.86 | 3.72 | 4.32 | 5.05 | 5.28 | 1.90 |
| MEAN | .10 | .03 | .08 | .13 | .15 | .11 | .06 | .12 | .14 | .16 | .17 | .06 |

WTR YR 1982 TOTAL 40.19 MEAN .11

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 24.5 | 18.0 | 15.5 | 2.0 | 11.0 | 9.0 | 20.0 | 16.0 | 27.0 | 26.0 | 27.5 | 29.0 |
| 2 | 20.5 | 17.0 | 14.0 | .0 | 5.0 | 4.0 | 22.5 | 14.5 | 27.5 | 24.5 | 25.0 | 28.5 |
| 3 | 16.5 | 21.5 | 2.5 | 3.5 | -7.0 | 7.0 | 27.5 | 22.0 | 28.5 | 24.0 | 29.0 | 30.0 |
| 4 | 11.0 | 16.5 | 10.5 | -5.5 | -3.0 | 5.0 | 26.0 | 28.0 | 26.0 | 25.5 | 31.0 | 28.0 |
| 5 | 9.0 | 11.5 | 11.0 | -5.5 | 1.5 | 7.5 | 20.5 | 27.5 | 29.0 | 29.5 | 32.5 | 28.5 |
| 6 | 15.0 | 14.5 | 16.0 | 4.5 | 5.0 | 5.0 | 11.0 | 20.5 | 21.0 | 26.0 | 27.0 | 27.0 |
| 7 | 18.5 | 21.0 | 18.0 | .5 | 9.0 | 3.0 | 19.5 | 20.5 | 27.0 | 30.5 | 28.5 | 27.5 |
| 8 | 21.5 | 21.5 | 18.5 | -3.0 | 1.0 | 5.0 | 24.5 | 21.5 | 28.0 | 31.0 | 27.5 | 22.5 |
| 9 | 25.5 | 20.5 | 15.5 | 2.5 | 3.5 | 4.5 | 17.0 | 25.0 | 28.0 | 31.0 | 29.0 | 22.0 |
| 10 | 25.0 | 16.0 | 9.5 | -5.0 | 10.5 | 8.0 | 23.0 | 20.5 | 28.0 | 32.5 | 29.5 | 25.5 |
| 11 | 19.5 | 7.5 | 1.5 | -8.5 | 12.0 | 7.0 | 25.0 | 16.0 | 28.0 | 32.0 | 30.0 | 29.0 |
| 12 | 10.5 | 8.5 | 9.5 | -8.5 | -4.0 | 12.0 | 24.0 | 10.0 | 29.5 | 31.0 | 26.5 | 28.0 |
| 13 | 13.5 | 22.0 | 11.0 | .5 | 9.0 | 15.0 | 28.0 | 25.0 | 29.5 | 30.5 | 27.0 | 28.5 |
| 14 | 22.5 | 16.0 | 5.5 | 6.5 | 12.5 | 7.0 | 24.5 | 27.0 | 31.0 | 29.5 | 29.0 | 28.0 |
| 15 | 22.5 | 12.5 | 8.5 | .0 | 16.0 | 15.0 | 17.5 | 13.0 | 32.0 | 29.0 | 28.5 | 20.5 |
| 16 | 24.0 | 8.0 | 4.0 | -1.0 | 15.0 | 6.0 | 23.5 | 18.0 | 31.5 | 27.0 | 28.5 | 19.0 |
| 17 | 25.5 | 9.0 | 1.5 | -5.5 | 13.0 | 10.5 | 17.0 | 23.0 | 25.0 | 29.5 | 27.0 | 19.0 |
| 18 | 21.5 | 8.0 | 9.0 | 2.0 | 19.0 | 8.5 | 23.5 | 23.5 | 30.0 | 31.0 | 27.0 | 15.0 |
| 19 | 19.0 | 3.5 | 10.0 | 7.0 | 15.0 | 1.0 | 23.5 | 16.0 | 28.5 | 30.5 | 24.0 | 16.0 |
| 20 | 15.0 | 9.0 | -5.5 | 5.0 | 9.5 | -1.0 | 12.0 | 11.5 | 26.0 | 30.0 | 27.5 | 23.0 |
| 21 | 19.5 | 7.5 | -2.5 | 5.0 | 14.0 | 8.5 | 20.5 | 21.0 | 30.0 | 27.5 | 22.0 | 25.5 |
| 22 | 21.5 | 10.0 | 5.5 | 3.5 | 15.0 | 4.0 | 21.0 | 24.5 | 29.0 | 26.5 | 26.5 | 23.5 |
| 23 | 17.0 | 6.0 | 5.0 | 4.5 | 11.0 | 6.5 | 19.5 | 28.0 | 28.0 | 29.0 | 27.0 | 18.0 |
| 24 | 16.5 | 10.5 | 8.0 | 7.5 | 4.0 | 10.5 | 13.0 | 28.0 | 32.0 | 32.0 | 28.0 | 21.0 |
| 25 | 9.5 | 5.0 | -8.5 | 15.0 | 13.0 | 13.0 | 14.5 | 27.0 | 30.5 | 29.5 | 28.0 | 26.0 |
| 26 | 11.0 | 7.5 | 1.0 | 13.0 | 12.0 | 16.0 | 23.0 | 28.0 | 24.5 | 31.0 | 28.5 | 28.0 |
| 27 | 17.0 | 6.0 | 2.0 | 10.5 | 19.5 | 14.5 | 27.0 | 20.5 | 26.0 | 32.0 | 28.5 | 24.0 |
| 28 | 19.5 | 3.0 | 6.0 | 5.5 | 19.0 | 22.5 | 27.5 | 18.5 | 28.5 | 29.5 | 30.5 | 21.5 |
| 29 | 8.5 | 3.0 | 10.0 | 4.0 | --- | 22.5 | 20.5 | 22.0 | 30.0 | 24.0 | 27.0 | 23.5 |
| 30 | 14.0 | 10.5 | 4.0 | 1.0 | --- | 20.0 | 19.0 | 28.0 | 27.0 | 26.0 | 30.0 | 27.0 |
| 31 | 14.5 | --- | 3.0 | 6.5 | --- | 25.5 | --- | 24.5 | --- | 25.0 | 27.5 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 26.0 | 23.0 | --- | --- | 5.0 | 11.5 | 20.0 | 22.5 | 23.5 | 25.5 | 28.5 | 26.0 |
| 2 | 13.0 | 21.5 | --- | --- | 5.5 | 14.5 | 24.5 | 21.0 | 25.5 | 28.5 | 27.0 | 26.0 |
| 3 | 16.0 | 24.0 | 9.0 | --- | 14.0 | 10.0 | 21.0 | 24.5 | 28.0 | 28.5 | 28.0 | 25.5 |
| 4 | 23.5 | 22.5 | 4.5 | --- | 8.5 | 18.5 | 15.0 | 26.0 | 25.0 | 29.0 | 31.5 | 25.0 |
| 5 | 24.0 | 16.0 | 2.5 | --- | 12.5 | 13.0 | 17.0 | 28.0 | 20.5 | 31.0 | 24.0 | 27.5 |
| 6 | 24.5 | 12.5 | 4.0 | --- | 6.0 | 11.5 | 11.0 | 28.0 | 20.0 | 31.0 | 32.0 | 26.5 |
| 7 | 15.5 | 10.5 | 12.0 | --- | 3.5 | 5.5 | 7.5 | 26.5 | 26.0 | 30.5 | 30.0 | 28.5 |
| 8 | 18.0 | 16.5 | 11.0 | 1.5 | 11.5 | 4.0 | 7.5 | 18.0 | 28.0 | 29.0 | 29.0 | 27.5 |
| 9 | 20.0 | 16.0 | .5 | -1.5 | 11.0 | 11.5 | 7.0 | 23.5 | 28.5 | 28.5 | 26.0 | 27.5 |
| 10 | 14.5 | 17.0 | -3.0 | -14.0 | .5 | 16.0 | 12.0 | 26.0 | 24.0 | 30.5 | 29.0 | 29.0 |
| 11 | 22.5 | 11.0 | .0 | -13.0 | 7.5 | 18.0 | 13.0 | 29.0 | 26.5 | 30.0 | 28.0 | 29.5 |
| 12 | 17.0 | 14.0 | 1.0 | -3.0 | 7.5 | 21.5 | 21.5 | 31.5 | 27.0 | 28.5 | 26.5 | 30.0 |
| 13 | 19.0 | 15.0 | 8.0 | .5 | 1.0 | 17.5 | 19.0 | 31.0 | 23.0 | 25.5 | 28.0 | 28.0 |
| 14 | 21.0 | 16.5 | 6.5 | -2.5 | 13.0 | 12.0 | 23.5 | 31.0 | 26.5 | 31.0 | 29.0 | 27.5 |
| 15 | 18.5 | 16.0 | 4.0 | .0 | 14.5 | 12.0 | 25.5 | 31.0 | 28.0 | 31.5 | 30.0 | 29.0 |
| 16 | 18.5 | 15.0 | 2.5 | 3.0 | 10.5 | 17.0 | 24.0 | 29.5 | 30.0 | 32.5 | 29.5 | 27.0 |
| 17 | 26.0 | 11.5 | 6.0 | -11.5 | 11.0 | 24.5 | 23.0 | 31.0 | 24.0 | 32.5 | 29.0 | 26.5 |
| 18 | 19.5 | 11.0 | .5 | 2.5 | 7.5 | 26.0 | 19.5 | 29.5 | 29.0 | 29.0 | 27.5 | 24.0 |
| 19 | 10.5 | 20.0 | -5.0 | 8.0 | 5.5 | 19.5 | 21.0 | 25.5 | 26.0 | 29.0 | 29.5 | 22.0 |
| 20 | 19.5 | 17.0 | -3.5 | 8.0 | 14.5 | 17.5 | 20.5 | 25.0 | 25.0 | 26.5 | 28.0 | 19.0 |
| 21 | 22.0 | -0.5 | 1.5 | 9.0 | 7.5 | 16.5 | 16.0 | 27.0 | 26.0 | 31.0 | 26.5 | 19.5 |
| 22 | 22.5 | 3.0 | 12.0 | 5.0 | 2.5 | 13.5 | 15.0 | 29.0 | 26.0 | 32.0 | 27.0 | 15.5 |
| 23 | 12.5 | --- | 16.0 | 11.5 | 18.5 | 15.0 | 18.0 | 28.0 | 25.0 | 29.5 | 26.5 | 18.5 |
| 24 | 11.0 | --- | 3.0 | .5 | 21.5 | 19.5 | 22.0 | 24.5 | 27.5 | 31.0 | 28.0 | 20.0 |
| 25 | 13.5 | --- | 3.0 | 3.5 | 4.5 | 21.0 | 22.0 | 28.0 | 28.5 | 32.5 | 27.0 | 21.0 |
| 26 | 17.0 | --- | 6.5 | -6.0 | 3.5 | 4.0 | 20.0 | 27.5 | 29.5 | 31.0 | 28.5 | 15.0 |
| 27 | 16.5 | --- | 8.5 | 5.5 | 2.5 | .5 | 18.0 | 27.5 | 29.5 | 32.5 | 24.0 | 18.0 |
| 28 | 13.0 | --- | 12.0 | 7.5 | 6.5 | 12.0 | 18.5 | 28.0 | 29.0 | 29.0 | 25.0 | 22.0 |
| 29 | 21.0 | --- | 3.5 | 9.5 | --- | 18.0 | 20.5 | 30.5 | 26.0 | 27.0 | 26.5 | 25.0 |
| 30 | 16.5 | --- | -1.0 | 14.0 | --- | 22.0 | 23.0 | 31.5 | 27.0 | 29.5 | 27.0 | 25.5 |
| 31 | 18.5 | --- | -0.5 | 19.0 | --- | 22.5 | --- | 32.0 | --- | 25.0 | 25.0 | --- |

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9.5 | -2.0 | -10.0 | | | --- | 6.0 | 5.0 | | 10.5 | 11.0 | 15.5 |
| 2 | 8.5 | -2.5 | -1.5 | | | --- | --- | 2.0 | | 13.0 | 16.5 | 10.5 |
| 3 | 7.5 | -1.0 | -6.5 | | | --- | --- | --- | | 14.5 | 17.0 | 18.0 |
| 4 | 4.0 | 3.0 | -9.0 | | | --- | 9.0 | 1.5 | | 13.5 | 17.0 | 18.0 |
| 5 | 5.0 | .0 | -3.5 | | | --- | 6.5 | 5.5 | | 16.0 | 18.0 | 18.0 |
| 6 | 1.5 | -3.0 | .0 | | | --- | --- | 8.5 | | 18.5 | 19.0 | 16.5 |
| 7 | 1.5 | -1.5 | 1.5 | | | --- | --- | 1.5 | | 18.0 | 19.0 | 15.5 |
| 8 | 3.0 | 6.0 | -1.0 | | | --- | --- | .0 | | 19.0 | 16.5 | 11.5 |
| 9 | 7.0 | 6.0 | 7.5 | | | --- | 9.0 | 3.0 | | 20.0 | 10.5 | 9.5 |
| 10 | 8.0 | 1.0 | --- | | | --- | 8.0 | 8.5 | | 18.5 | 16.0 | 9.0 |
| 11 | 5.5 | -4.0 | --- | | | --- | 9.5 | 8.5 | | 18.5 | 16.0 | 10.0 |
| 12 | 1.5 | -6.0 | --- | | | --- | 10.5 | 3.5 | | 18.5 | 14.5 | 12.0 |
| 13 | -1.0 | -3.5 | --- | | | --- | 10.5 | 3.0 | | 18.5 | 13.0 | 13.0 |
| 14 | -1.5 | -1.5 | --- | | | --- | 1.5 | 5.0 | | 17.5 | 13.0 | 12.5 |
| 15 | -0.5 | 7.0 | --- | | | --- | .5 | 8.0 | | 11.5 | 14.0 | 17.0 |
| 16 | 2.0 | 1.0 | --- | | | --- | --- | 1.5 | | 17.5 | 17.0 | 13.0 |
| 17 | 3.0 | 1.5 | --- | | | --- | 10.0 | 5.0 | | 17.5 | 14.0 | 8.5 |
| 18 | 13.5 | -0.5 | --- | | | --- | 6.5 | 12.0 | | 10.5 | 13.0 | 8.5 |
| 19 | 7.0 | -6.5 | --- | | | --- | 3.5 | 8.5 | | 10.5 | 13.5 | 6.0 |
| 20 | 2.0 | -9.0 | --- | | | --- | 2.0 | 7.5 | | 18.0 | 12.0 | 5.0 |
| 21 | 1.0 | -7.5 | --- | | | --- | --- | 5.5 | | 10.5 | 11.0 | 7.0 |
| 22 | 1.5 | -8.0 | --- | | | --- | 3.0 | 3.5 | | 15.5 | 8.5 | 8.5 |
| 23 | 2.0 | 1.0 | --- | | | --- | 10.5 | 4.0 | | 10.5 | 11.5 | 4.0 |
| 24 | 3.0 | 5.0 | --- | | | --- | 4.5 | 6.5 | | 16.0 | 12.0 | 3.0 |
| 25 | 3.0 | -9.5 | --- | | | --- | 3.0 | 8.5 | | 10.5 | 12.5 | 3.0 |
| 26 | -1.5 | -7.5 | --- | | | --- | 1.0 | 11.5 | | 18.5 | 10.0 | 6.5 |
| 27 | -2.5 | 1.5 | --- | | | --- | 7.0 | 11.5 | | 18.5 | 13.0 | 9.5 |
| 28 | 9.0 | .0 | --- | | | --- | 7.5 | 14.0 | | 19.5 | 14.0 | 5.5 |
| 29 | 5.0 | -1.0 | --- | | | .5 | 9.0 | 13.5 | | 14.0 | 12.0 | 3.5 |
| 30 | 1.5 | -4.0 | --- | | | 4.5 | 7.5 | 12.0 | | 12.0 | 15.0 | 6.5 |
| 31 | .0 | --- | --- | | | 1.0 | --- | 14.5 | | 13.5 | 11.5 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 7.0 | 1.5 | --- | --- | --- | -1.0 | .0 | 2.5 | 10.5 | 11.5 | 16.0 | 18.5 |
| 2 | 2.5 | 4.5 | --- | --- | --- | -8.5 | -9.5 | 7.5 | 12.5 | 10.0 | 15.0 | 17.5 |
| 3 | 2.5 | 4.5 | -0.5 | --- | 3.5 | 4.0 | 10.0 | 7.0 | 11.5 | 13.5 | 15.0 | 12.0 |
| 4 | 1.0 | 6.0 | 1.0 | --- | -1.0 | 5.0 | 1.0 | 3.5 | 15.0 | 16.5 | 17.0 | 10.5 |
| 5 | 6.0 | 8.5 | -1.0 | --- | -8.5 | 2.5 | -1.0 | 4.0 | 12.0 | 15.5 | 18.0 | 8.5 |
| 6 | 9.5 | 6.0 | --- | --- | -7.5 | 1.5 | -8.5 | 7.0 | 12.0 | 13.0 | 19.0 | 10.5 |
| 7 | 3.5 | -2.0 | --- | --- | -12.5 | --- | -4.5 | 10.0 | 13.5 | 14.0 | 18.0 | 12.0 |
| 8 | 2.0 | -4.0 | .5 | -10.0 | -10.0 | -5.0 | -1.0 | 7.0 | 14.0 | 16.0 | 17.5 | 13.0 |
| 9 | 1.5 | .0 | -9.5 | -13.5 | -3.0 | -3.0 | 1.0 | 5.5 | 14.0 | 17.5 | 18.5 | 11.5 |
| 10 | 9.0 | .0 | -4.5 | -30.0 | -9.5 | --- | -1.0 | 4.5 | 15.5 | 17.5 | 15.5 | 11.0 |
| 11 | 9.0 | -1.0 | -4.0 | -30.0 | -7.0 | -0.5 | -3.0 | 6.0 | 10.5 | 17.5 | 10.5 | 11.5 |
| 12 | 5.0 | -4.0 | --- | -12.5 | -8.0 | 5.0 | .5 | 7.0 | 12.0 | 17.5 | 11.5 | 13.5 |
| 13 | 2.0 | -5.0 | --- | -8.5 | -9.5 | 1.5 | 8.5 | 8.5 | 14.5 | 17.5 | 12.5 | 13.5 |
| 14 | .0 | -5.5 | -1.0 | -7.5 | -9.5 | -2.0 | 6.5 | 9.0 | 11.0 | 17.5 | 14.5 | 18.0 |
| 15 | 2.5 | -9.5 | .0 | -8.0 | -6.0 | 4.5 | 4.5 | 9.5 | 9.5 | 17.5 | 14.0 | 18.5 |
| 16 | 5.0 | -4.0 | --- | -17.5 | 4.0 | 5.5 | 8.5 | 11.0 | 13.0 | 16.5 | 14.5 | 15.0 |
| 17 | 4.5 | -5.5 | --- | -26.0 | 4.0 | 5.0 | 9.0 | 11.0 | 13.5 | 17.5 | 15.0 | 12.0 |
| 18 | 10.0 | -10.0 | -9.5 | -13.5 | 2.5 | 1.0 | 2.0 | 11.0 | 13.0 | 18.0 | 14.5 | 11.0 |
| 19 | -1.5 | -9.5 | -12.5 | .0 | -1.0 | 7.0 | 2.5 | 14.0 | 13.5 | 17.5 | 13.5 | 14.5 |
| 20 | -3.5 | .5 | -12.5 | 1.5 | 2.5 | 11.0 | 7.5 | 10.5 | 12.0 | 19.0 | 15.0 | 10.5 |
| 21 | -2.0 | -9.5 | --- | 3.5 | .5 | 9.0 | 1.5 | 10.5 | 11.0 | 18.5 | 12.5 | 10.5 |
| 22 | 4.5 | -9.5 | --- | .5 | --- | 1.0 | .0 | 11.5 | 12.5 | 17.5 | 11.0 | 7.5 |
| 23 | 2.0 | --- | --- | 2.0 | -5.0 | .5 | -3.5 | 16.0 | 11.0 | 18.5 | 11.5 | 5.0 |
| 24 | -1.5 | --- | --- | -10.0 | 2.0 | -1.5 | -2.5 | 15.5 | 10.5 | 16.5 | 16.5 | 5.0 |
| 25 | 1.0 | --- | --- | -10.0 | -3.0 | 1.5 | .5 | 14.5 | 12.0 | 15.5 | 13.0 | 8.0 |
| 26 | 10.5 | --- | --- | -14.0 | -9.5 | -0.5 | 9.0 | 13.5 | 13.5 | 10.5 | 12.0 | 10.5 |
| 27 | 11.5 | --- | --- | -17.0 | --- | -8.5 | 9.0 | 10.5 | 16.0 | 18.0 | 13.0 | 10.5 |
| 28 | 5.0 | --- | --- | -7.5 | -2.5 | -9.0 | 4.0 | 16.0 | 11.5 | 17.5 | 13.0 | 9.5 |
| 29 | 4.0 | --- | --- | -9.5 | --- | -6.0 | 1.0 | 15.0 | 17.0 | 17.5 | 11.5 | 8.5 |
| 30 | 2.5 | --- | --- | -2.0 | --- | 3.0 | 2.0 | 11.5 | 14.0 | 18.5 | 12.0 | 8.5 |
| 31 | 3.0 | --- | --- | 1.0 | --- | 4.0 | --- | 10.5 | --- | 19.5 | 11.5 | --- |

03212585 RIGHT FORK SANDLICK CREEK NEAR GARY, WV

LOCATION.--Lat 37°20'51", long 81°34'01", McDowell County, Hydrologic Unit 05070201, on left bank 1.3 mi (2.1 km) upstream from mouth and 1.5 mi (2.4 km) southwest of Gary.

DRAINAGE AREA.--1.21 $mi^2$ (3.13 $km^2$).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,640.00 ft (499.872 m) National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge 26 $ft^3/s$ (0.03 $m^3/s$) June 6, 1981, gage height, 2.49 ft (0.759 m) from rating curve extended above 14 $ft^3/s$ (0.40 $m^3/s$); no flow many days during 1981 and 1982.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | .00 | .00 | .00 | .00 | .22 | .23 | .60 | 4.7 | .18 | .00 | .02 |
| 2 | .00 | .00 | .00 | .00 | .25 | .17 | .17 | .50 | 12 | .04 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | .20 | .14 | .15 | .43 | 6.9 | .01 | .00 | .01 |
| 4 | .00 | .00 | .00 | .00 | .10 | .28 | .16 | .37 | 6.4 | .05 | .00 | .07 |
| 5 | .00 | .00 | .00 | .00 | .05 | .68 | .34 | .33 | 7.2 | .01 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .03 | .84 | .29 | .30 | 9.0 | .12 | .04 | .00 |
| 7 | .00 | .00 | .00 | .00 | .01 | .66 | .29 | .26 | 16 | .01 | .18 | .00 |
| 8 | .00 | .00 | .00 | .00 | .01 | .45 | .27 | .21 | 7.5 | .00 | .29 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .34 | .34 | .18 | 4.4 | .00 | .04 | .00 |
| 10 | .00 | .00 | .00 | .00 | .01 | .28 | .81 | .14 | 2.9 | .00 | .01 | .00 |
| 11 | .00 | .00 | .00 | .00 | .01 | .24 | 1.5 | .29 | 1.9 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .19 | 1.1 | .16 | 1.5 | .00 | .17 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .17 | 1.3 | .12 | 1.2 | .00 | .01 | .00 |
| 14 | .00 | .00 | .00 | .00 | .00 | .13 | 1.3 | .09 | .86 | .95 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .00 | .11 | 1.0 | .19 | .68 | .19 | .00 | .13 |
| 16 | .00 | .00 | .00 | .00 | .00 | .25 | .88 | .08 | .56 | .27 | .00 | .01 |
| 17 | .00 | .00 | .00 | .00 | .00 | .18 | 1.6 | .05 | .49 | .13 | .00 | .00 |
| 18 | .00 | .00 | .00 | .00 | .00 | .15 | 2.4 | .04 | .40 | .05 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .00 | .18 | 2.2 | 2.8 | .34 | .01 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .29 | .17 | 7.6 | 4.3 | .28 | .01 | .00 | .00 |
| 21 | .00 | .00 | .00 | .00 | .53 | .16 | 5.4 | 1.7 | .29 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .36 | .16 | 3.7 | 1.2 | .23 | .03 | .00 | .00 |
| 23 | .00 | .00 | .00 | .00 | .46 | .23 | 2.9 | .92 | .16 | .00 | .00 | .00 |
| 24 | .00 | .07 | .00 | .00 | .45 | .25 | 2.3 | .73 | .13 | .01 | .00 | .00 |
| 25 | .00 | .04 | .00 | .00 | .36 | .32 | 1.7 | .59 | .13 | .01 | .00 | .00 |
| 26 | .00 | .01 | .00 | .00 | .26 | .33 | 1.3 | .49 | .14 | .00 | .00 | .00 |
| 27 | .00 | .01 | .00 | .01 | .19 | .33 | 1.1 | 1.5 | .06 | .00 | .00 | .00 |
| 28 | .00 | .01 | .00 | .00 | .20 | .28 | .91 | 5.8 | .03 | .11 | .00 | .00 |
| 29 | .00 | .01 | .00 | .00 | --- | .26 | .80 | 6.2 | .08 | .02 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .29 | .73 | 4.0 | .28 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .22 | --- | 2.7 | --- | .00 | .00 | --- |
| TOTAL | .00 | .15 | .00 | .01 | 3.77 | 8.66 | 44.77 | 37.27 | 86.74 | 2.21 | .74 | .24 |
| MEAN | .000 | .005 | .000 | .000 | .13 | .28 | 1.49 | 1.20 | 2.89 | .071 | .024 | .008 |
| CFSM | .000 | .004 | .000 | .000 | .11 | .23 | 1.23 | .99 | 2.39 | .06 | .02 | .007 |
| IN. | .00 | .00 | .00 | .00 | .12 | .27 | 1.38 | 1.14 | 2.66 | .07 | .02 | .01 |

WTR YR 1981 TOTAL 184.56 MEAN .51 CFSM .42 IN 5.67

WATER-DISCHARGE RECORDS

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | .00 | .00 | .11 | .49 | .83 | .64 | .85 | .23 | .01 | .03 | .12 |
| 2 | .00 | .00 | .00 | .10 | .74 | .91 | .60 | .78 | .11 | .00 | .00 | .01 |
| 3 | .00 | .00 | .00 | 2.1 | 10 | .93 | .57 | .68 | .07 | .14 | .00 | .00 |
| 4 | .00 | .00 | .00 | 2.5 | 5.4 | .90 | .48 | .61 | .16 | .49 | .00 | .00 |
| 5 | .00 | .00 | .00 | 1.0 | 3.2 | .84 | .47 | .53 | .24 | .20 | .08 | .00 |
| 6 | .00 | .00 | .00 | .56 | 2.3 | .78 | .46 | .49 | .16 | .06 | .01 | .00 |
| 7 | .00 | .00 | .00 | .48 | 1.6 | 1.8 | .37 | .45 | .11 | .01 | .01 | .00 |
| 8 | .00 | .00 | .00 | .34 | 1.2 | 1.7 | .37 | .45 | .12 | .01 | .33 | .00 |
| 9 | .00 | .00 | .00 | .22 | 1.8 | 1.5 | .37 | .38 | .12 | .00 | .36 | .00 |
| 10 | .00 | .00 | .00 | .16 | 1.6 | 1.4 | .30 | .32 | .84 | .12 | .20 | .00 |
| 11 | .00 | .00 | .00 | .12 | 1.5 | 1.5 | .28 | .29 | .49 | .11 | .08 | .00 |
| 12 | .00 | .00 | .00 | .08 | 1.3 | 1.4 | .27 | .28 | .65 | .05 | .02 | .00 |
| 13 | .00 | .00 | .00 | .06 | 1.2 | 1.6 | .25 | .25 | 1.3 | .96 | .01 | .00 |
| 14 | .00 | .00 | .00 | .04 | 1.0 | 1.6 | .22 | .22 | 1.1 | 1.1 | .00 | .03 |
| 15 | .00 | .00 | .00 | .03 | .98 | 3.7 | .20 | .19 | .82 | .32 | .00 | .00 |
| 16 | .00 | .00 | .00 | .02 | 2.1 | 4.5 | .18 | .17 | .66 | .18 | .00 | .00 |
| 17 | .00 | .00 | .00 | .02 | 4.5 | 3.6 | .18 | .14 | .53 | .10 | .00 | .00 |
| 18 | .00 | .00 | .00 | .01 | 4.3 | 2.8 | .16 | .12 | .41 | .10 | .06 | .00 |
| 19 | .00 | .00 | .00 | .15 | 3.5 | 2.5 | .14 | .23 | .33 | .05 | .00 | .00 |
| 20 | .00 | .00 | .00 | 1.6 | 2.8 | 2.5 | .14 | .34 | .27 | .12 | .00 | .00 |
| 21 | .00 | .00 | .00 | 6.1 | 2.3 | 2.8 | .12 | .25 | .22 | .02 | .00 | .00 |
| 22 | .00 | .00 | .19 | 5.7 | 1.8 | 2.7 | .09 | .20 | .22 | .01 | .00 | .00 |
| 23 | .00 | .00 | .54 | 2.3 | 1.4 | 2.4 | .07 | .15 | .16 | .01 | .00 | .00 |
| 24 | .00 | .00 | .28 | 1.6 | 1.2 | 2.0 | .06 | .12 | .12 | .00 | .00 | .00 |
| 25 | .00 | .00 | .17 | 1.2 | .96 | 1.7 | .10 | .08 | .09 | .00 | .01 | .00 |
| 26 | .00 | .00 | .11 | .88 | .81 | 1.4 | .47 | .22 | .12 | .00 | .00 | .00 |
| 27 | .00 | .00 | .07 | .60 | .83 | 1.2 | .70 | .54 | .10 | .00 | .00 | .00 |
| 28 | .00 | .00 | .03 | .50 | .79 | 1.0 | 1.2 | .36 | .05 | .00 | .00 | .00 |
| 29 | .00 | .00 | .01 | .47 | --- | .85 | .96 | .24 | .05 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | .44 | --- | .77 | .90 | .18 | .04 | .02 | .00 | .00 |
| 31 | .00 | --- | .08 | .56 | --- | .75 | --- | .15 | --- | .14 | .05 | --- |
| TOTAL | .00 | .00 | 1.48 | 30.05 | 61.60 | 54.86 | 11.32 | 10.26 | 9.89 | 4.33 | 1.25 | .16 |
| MEAN | .000 | .000 | .048 | .97 | 2.20 | 1.77 | .38 | .33 | .33 | .14 | .040 | .005 |
| CFSM | .000 | .000 | .04 | .80 | 1.82 | 1.46 | .31 | .27 | .27 | .12 | .03 | .004 |
| IN. | .00 | .00 | .05 | .92 | 1.89 | 1.69 | .35 | .32 | .30 | .13 | .04 | .00 |

WTR YR 1982 TOTAL 185.20 MEAN .51 CFSM .42 IN 5.69

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

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

EXTREMES FOR PERIOD OF RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 529 mg/L May 19, 1981; minimum daily mean detected, 0 mg/L Feb. 1, 9, 1981.

SEDIMENT LOADS: Maximum daily, 13 tons (12 metric tons) June 6, 1981; minimum daily, 0 ton (0 metric ton) many days during year.

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | 0 | 140 | 20 | 7 | 288 | 50 | --- | 55 |
| 2 | | | | | 122 | 15 | 7 | 7 | 130 | 14 | --- | --- |
| 3 | | | | | 6 | 14 | 3 | 8 | 75 | 13 | --- | 24 |
| 4 | | | | | 3 | 170 | 2 | 8 | 209 | 101 | --- | 150 |
| 5 | | | | | 2 | 80 | 94 | 9 | 70 | 40 | --- | --- |
| 6 | | | | | 2 | 30 | 8 | 9 | 281 | 100 | 162 | --- |
| 7 | | | | | 2 | 17 | 1 | 14 | 150 | 25 | 250 | --- |
| 8 | | | | | 2 | 10 | 1 | 8 | 65 | --- | 307 | --- |
| 9 | | | | | 0 | 16 | 16 | 14 | 46 | --- | 37 | --- |
| 10 | | | | | 80 | 21 | 274 | 16 | 40 | --- | 6 | --- |
| 11 | | | | | 125 | 15 | 85 | 86 | 34 | --- | --- | --- |
| 12 | | | | | --- | 6 | 21 | 5 | 100 | --- | 300 | --- |
| 13 | | | | | --- | 3 | 113 | 6 | 60 | --- | 70 | --- |
| 14 | | | | | --- | 7 | 28 | 15 | 30 | 501 | --- | --- |
| 15 | | | | | --- | 5 | 18 | 65 | 28 | 40 | --- | 233 |
| 16 | | | | | --- | 82 | 18 | 6 | 27 | 233 | --- | 117 |
| 17 | | | | | --- | 11 | 54 | 6 | 26 | 76 | --- | --- |
| 18 | | | | | --- | 4 | 58 | 5 | 22 | 38 | --- | --- |
| 19 | | | | | --- | 5 | 49 | 529 | 19 | 20 | --- | --- |
| 20 | | | | | 45 | 4 | 421 | 61 | 18 | 10 | --- | --- |
| 21 | | | | | 10 | 6 | 110 | 13 | 103 | --- | --- | --- |
| 22 | | | | | 2 | 19 | 65 | 8 | 27 | 12 | --- | --- |
| 23 | | | | | 135 | 26 | 113 | 7 | 16 | --- | --- | --- |
| 24 | | | | | 20 | 12 | 45 | 6 | 16 | 2 | --- | --- |
| 25 | | | | | 6 | 3 | 22 | 5 | 22 | 3 | --- | --- |
| 26 | | | | | 6 | 2 | 19 | 4 | 26 | --- | --- | --- |
| 27 | | | | | 6 | 1 | 16 | 272 | 13 | --- | --- | --- |
| 28 | | | | | 60 | 1 | 17 | 263 | 10 | 207 | --- | --- |
| 29 | | | | | --- | 3 | 22 | 99 | 7 | 160 | --- | --- |
| 30 | | | | | --- | 5 | 35 | 44 | 141 | --- | --- | --- |
| 31 | | | | | --- | 7 | --- | 12 | --- | --- | --- | --- |

03212585 RIGHT FORK SANDLICK CREEK NEAR GARY, WV--Continued

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | .00 | .00 | .00 | .00 | .08 | .01 | .01 | 7.7 | .02 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 4.2 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 1.4 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | .00 | .17 | .00 | .00 | 4.7 | .03 | .00 | .03 |
| 5 | .00 | .00 | .00 | .00 | .00 | .15 | .11 | .00 | 1.4 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | .07 | .00 | .00 | 13 | .03 | .02 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | 6.5 | .00 | .50 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | 1.3 | .00 | .37 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .01 | .01 | .00 | .55 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .02 | 1.3 | .00 | .31 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .00 | .34 | .11 | .17 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .00 | .06 | .00 | .59 | .00 | .35 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .00 | .49 | .00 | .19 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .00 | .00 | .00 | .10 | .00 | .07 | 3.1 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .05 | .05 | .02 | .00 | .14 |
| 16 | .00 | .00 | .00 | .00 | .00 | .06 | .04 | .00 | .04 | .33 | .00 | .00 |
| 17 | .00 | .00 | .00 | .00 | .00 | .00 | .23 | .00 | .03 | .03 | .00 | .00 |
| 18 | .00 | .00 | .00 | .00 | .00 | .00 | .38 | .00 | .02 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .00 | .00 | .29 | 5.4 | .02 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .04 | .00 | 9.3 | .94 | .01 | .00 | .00 | .00 |
| 21 | .00 | .00 | .00 | .00 | .01 | .00 | 1.6 | .06 | .10 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .00 | .00 | .65 | .03 | .02 | .00 | .00 | .00 |
| 23 | .00 | .00 | .00 | .00 | .17 | .02 | 1.0 | .02 | .00 | .00 | .00 | .00 |
| 24 | .00 | .03 | .00 | .00 | .02 | .00 | .28 | .01 | .00 | .00 | .00 | .00 |
| 25 | .00 | .01 | .00 | .00 | .00 | .00 | .10 | .00 | .00 | .00 | .00 | .00 |
| 26 | .00 | .00 | .00 | .00 | .00 | .00 | .07 | .00 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | 1.6 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .00 | .00 | .03 | .00 | .04 | 4.2 | .00 | .06 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | --- | .00 | .05 | 1.5 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .00 | .07 | .48 | .42 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .00 | --- | .09 | --- | .00 | .00 | --- |
| TOTAL | 0.00 | 0.04 | 0.00 | 0.00 | 0.35 | 0.62 | 16.62 | 14.50 | 42.79 | 3.62 | 1.24 | 0.17 |
| MEAN | .00 | .00 | .00 | .00 | .01 | .02 | .55 | .47 | 1.4 | .12 | .04 | .01 |

WTR YR 1981 TOTAL 79.95 MEAN .22

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | OXYGEN, DIS-SOLVED (MG/L) |
|---|---|---|---|---|---|
| FEB | | | | | |
| 04... | .10 | 174 | 6.5 | .0 | 9.7 |
| 24... | .50 | 122 | 6.8 | 5.0 | 10.7 |
| MAR | | | | | |
| 24... | .26 | 172 | 6.8 | 7.5 | 10.8 |
| APR | | | | | |
| 14... | 1.3 | 161 | 6.8 | 13.5 | 9.2 |
| MAY | | | | | |
| 04... | .37 | 318 | 7.2 | 18.0 | 7.2 |
| 19... | 2.3 | 148 | 7.1 | -- | -- |
| 19... | -- | 140 | -- | -- | -- |
| 19... | -- | 120 | -- | -- | -- |
| 19... | -- | 120 | -- | -- | -- |
| 19... | -- | 120 | -- | -- | -- |
| 19... | -- | 120 | -- | -- | -- |
| 19... | -- | 115 | -- | -- | -- |
| 19... | -- | 115 | -- | -- | -- |
| 19... | -- | 120 | -- | -- | -- |
| 19... | -- | 120 | -- | -- | -- |
| 19... | -- | 120 | -- | -- | -- |
| 19... | -- | 115 | -- | -- | -- |
| 19... | -- | 115 | -- | -- | -- |
| 19... | -- | 115 | -- | -- | -- |
| 19... | -- | 110 | -- | -- | -- |
| 19... | -- | 100 | -- | -- | -- |
| 19... | -- | 80 | -- | -- | -- |
| 19... | -- | 80 | -- | -- | -- |
| 19... | -- | 80 | -- | -- | -- |
| 19... | -- | 80 | -- | -- | -- |
| 19... | -- | 85 | -- | -- | -- |
| 19... | -- | 90 | -- | -- | -- |
| 19... | -- | 85 | -- | -- | -- |
| 19... | -- | 85 | -- | -- | -- |
| JUN | | | | | |
| 03... | 6.0 | 206 | 7.1 | -- | -- |
| 04... | 3.9 | 242 | 7.2 | 13.5 | 10.4 |
| JUL | | | | | |
| 17... | .15 | 230 | 7.4 | -- | 7.9 |
| AUG | | | | | |
| 06... | .10 | 200 | 7.6 | 20.0 | -- |
| SEP | | | | | |
| 15... | .18 | 160 | -- | -- | -- |

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) |
|---|---|---|---|---|
| JAN | | | | |
| 21... | 9.0 | 89 | 7.9 | -- |
| FEB | | | | |
| 03... | 14 | 93 | 7.2 | 5.5 |
| 09... | 1.8 | 215 | 7.5 | 6.0 |
| MAR | | | | |
| 01... | .83 | 265 | 7.7 | 8.0 |
| 22... | 2.6 | 250 | 7.7 | -- |
| APR | | | | |
| 12... | .26 | 320 | 8.1 | 10.5 |
| MAY | | | | |
| 03... | .71 | 300 | 8.0 | 13.0 |
| 24... | .10 | 338 | 7.2 | 17.5 |
| JUN | | | | |
| 14... | 1.2 | 180 | 8.5 | 15.0 |
| JUL | | | | |
| 06... | .06 | 270 | 9.0 | 18.0 |

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .01 | .00 | .00 | .01 | .44 | .04 | .19 | .00 | 1.25 | .02 | .00 | .53 |
| 2 | .21 | .00 | .08 | .00 | .38 | .01 | .00 | .00 | .21 | .00 | .03 | .01 |
| 3 | .13 | .00 | .00 | .05 | .00 | .00 | .00 | .00 | .02 | .00 | .00 | .34 |
| 4 | .00 | .25 | .00 | .00 | .00 | .52 | .01 | .00 | 1.20 | .27 | .00 | .42 |
| 5 | .00 | .00 | .00 | .01 | .00 | .28 | .56 | .02 | .01 | .27 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .02 | 1.23 | .15 | .74 | .08 |
| 7 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .01 | .00 | 1.10 | .01 |
| 8 | .01 | .01 | .02 | .06 | .18 | .00 | .00 | .00 | .00 | .00 | .10 | .13 |
| 9 | .00 | .12 | .24 | .00 | .00 | .00 | .34 | .00 | .01 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .33 | .00 | .62 | .04 | .08 | .00 | .00 | .00 |
| 11 | .03 | .00 | .00 | .00 | .05 | .01 | .01 | .59 | .01 | .00 | .07 | .00 |
| 12 | .00 | .00 | .02 | .00 | .00 | .00 | .05 | .02 | .37 | .00 | .67 | .00 |
| 13 | .00 | .00 | .00 | .08 | .05 | .05 | .26 | .00 | .06 | .00 | .00 | .00 |
| 14 | .00 | .01 | .00 | .11 | .00 | .00 | .00 | .27 | .00 | 1.85 | .00 | .00 |
| 15 | .00 | .10 | .00 | .08 | .00 | .00 | .00 | .08 | .00 | .00 | .05 | 1.33 |
| 16 | .00 | .08 | .03 | .00 | .29 | .45 | .00 | .00 | .05 | .54 | .01 | .03 |
| 17 | .00 | .71 | .00 | .00 | .38 | .01 | .76 | .00 | .01 | .00 | .00 | .00 |
| 18 | .21 | .02 | .01 | .00 | .02 | .00 | .15 | .14 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .35 | .12 | .00 | 1.89 | .00 | .00 | .01 | .02 |
| 20 | .00 | .00 | .00 | .05 | .15 | .04 | .97 | .01 | .00 | .13 | .00 | .00 |
| 21 | .00 | .00 | .00 | .21 | .00 | .04 | .00 | .01 | .28 | .27 | .00 | .00 |
| 22 | .00 | .02 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .01 |
| 23 | .03 | .42 | .32 | .00 | .39 | .31 | .41 | .00 | .00 | .00 | .00 | .00 |
| 24 | .10 | .60 | .00 | .00 | .04 | .00 | .01 | .00 | .00 | .46 | .00 | .00 |
| 25 | 1.25 | .00 | .01 | .00 | .00 | .00 | .01 | .01 | .22 | .01 | .00 | .00 |
| 26 | .02 | .12 | .00 | .00 | .00 | .00 | .00 | .02 | .02 | .00 | .00 | .00 |
| 27 | .02 | .18 | .02 | .06 | .00 | .05 | .01 | 1.31 | .00 | .00 | .00 | .00 |
| 28 | .07 | .04 | .16 | .00 | .28 | .01 | .00 | 1.05 | .00 | .79 | .00 | .00 |
| 29 | .02 | .00 | .00 | .00 | --- | .01 | .01 | .04 | .01 | .06 | .00 | .00 |
| 30 | .00 | .01 | .05 | .00 | --- | .15 | .21 | .07 | 1.10 | .00 | .03 | .00 |
| 31 | .00 | --- | .09 | .00 | --- | .00 | --- | .03 | --- | .00 | .23 | --- |
| TOTAL | 2.11 | 2.69 | 1.05 | 0.72 | 3.34 | 2.10 | 4.58 | 5.64 | 6.15 | 4.87 | 3.04 | 2.91 |
| MEAN | .07 | .09 | .03 | .02 | .12 | .07 | .15 | .18 | .21 | .16 | .10 | .10 |

WTR YR 1981 TOTAL 39.20 MEAN .11

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .49 | .00 | .03 | .06 | .00 | .00 | .00 | .00 | .11 | .00 | .00 | .45 |
| 2 | .04 | .00 | .00 | .17 | .61 | .00 | .02 | .02 | .00 | .00 | .00 | .00 |
| 3 | .00 | .00 | .01 | .78 | .72 | .02 | .00 | .00 | .00 | .68 | .00 | .00 |
| 4 | .00 | .00 | .27 | .47 | .00 | .00 | .00 | .00 | .62 | 1.12 | .12 | .00 |
| 5 | .04 | .25 | .02 | .00 | .00 | .11 | .18 | .00 | .04 | .01 | .34 | .00 |
| 6 | .46 | .00 | .00 | .00 | .01 | .21 | .06 | .00 | .00 | .00 | .32 | .00 |
| 7 | .00 | .00 | .01 | .35 | .00 | .49 | .01 | .00 | .00 | .00 | .00 | .00 |
| 8 | .00 | .00 | .02 | .00 | .12 | .14 | .13 | .16 | .27 | .10 | 1.07 | .00 |
| 9 | .00 | .00 | .00 | .02 | .53 | .01 | .06 | .00 | .01 | .00 | .23 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .74 | .68 | .08 | .00 |
| 11 | .00 | .00 | .00 | .01 | .19 | .17 | .00 | .00 | .01 | .30 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .08 | .01 | .00 | .00 | .77 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | .02 | .04 | .35 | .00 | .00 | .20 | 1.41 | .00 | .00 |
| 14 | .00 | .00 | .51 | .00 | .03 | .00 | .00 | .00 | .00 | .05 | .00 | .97 |
| 15 | .00 | .00 | .13 | .01 | .27 | .63 | .00 | .00 | .00 | .00 | .00 | .00 |
| 16 | .02 | .00 | .00 | .38 | .50 | .15 | .00 | .00 | .14 | .00 | .00 | .00 |
| 17 | .00 | .10 | .29 | .00 | .30 | .04 | .13 | .01 | .08 | .11 | .21 | .00 |
| 18 | .18 | .00 | .00 | .00 | .03 | .00 | .01 | .14 | .00 | .22 | .19 | .01 |
| 19 | .06 | .00 | .00 | .37 | .16 | .33 | .00 | .42 | .04 | .20 | .01 | .00 |
| 20 | .00 | .29 | .00 | .00 | .05 | .34 | .06 | .67 | .00 | .17 | .00 | .00 |
| 21 | .00 | .00 | .04 | .73 | .09 | .08 | .02 | .14 | .00 | .00 | .07 | .13 |
| 22 | .00 | .01 | .68 | .18 | .03 | .00 | .00 | .33 | .17 | .17 | .00 | .00 |
| 23 | .63 | .13 | .10 | .05 | .01 | .00 | .00 | .10 | .00 | .01 | .07 | .00 |
| 24 | .00 | .22 | .01 | .00 | .00 | .00 | .00 | .12 | .00 | .00 | .14 | .01 |
| 25 | .09 | .00 | .04 | .02 | .00 | .32 | .46 | .00 | .00 | .00 | .42 | .00 |
| 26 | .43 | .01 | .00 | .00 | .00 | .03 | .44 | .92 | .62 | .00 | .00 | .32 |
| 27 | .39 | .11 | .02 | .00 | .51 | .00 | .52 | .06 | .04 | .00 | .00 | .02 |
| 28 | .00 | .00 | .00 | .03 | .11 | .01 | .00 | .19 | .01 | .31 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .01 | .27 | .01 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .01 | .00 | .00 | .01 | .34 | .14 | .00 |
| 31 | .00 | --- | .52 | .42 | --- | .25 | --- | .38 | --- | .42 | .76 | --- |
| TOTAL | 2.83 | 1.12 | 2.70 | 4.07 | 4.30 | 3.70 | 2.10 | 3.67 | 4.15 | 6.31 | 4.17 | 1.91 |
| MEAN | .09 | .04 | .09 | .13 | .15 | .12 | .07 | .12 | .14 | .20 | .13 | .06 |

WTR YR 1982 TOTAL 41.03 MEAN .11

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 21.5 | 16.0 | 13.5 | 1.5 | 11.0 | 8.5 | 20.0 | 16.0 | 26.5 | 25.0 | 29.5 | 28.0 |
| 2 | 21.0 | 12.5 | 13.0 | .0 | 5.0 | 4.5 | 22.5 | 14.5 | 26.0 | 23.5 | 28.0 | 29.0 |
| 3 | 15.0 | 20.0 | .5 | 3.5 | -7.0 | 6.5 | 27.5 | 22.0 | 28.0 | 24.0 | 31.5 | 29.5 |
| 4 | 11.5 | 15.5 | 6.5 | -5.5 | -3.0 | 4.5 | 26.5 | 28.0 | 21.0 | 25.5 | 33.0 | 27.5 |
| 5 | 10.0 | 10.5 | 10.0 | -5.5 | -2.0 | 7.5 | 16.5 | 27.0 | 27.5 | 28.5 | 34.0 | 28.5 |
| 6 | 14.0 | 11.0 | 11.5 | 4.5 | 4.5 | 4.5 | 11.5 | 20.0 | 19.5 | 24.5 | 24.0 | 28.5 |
| 7 | 15.5 | 19.5 | 14.5 | .0 | 9.0 | 3.0 | 19.5 | 21.0 | 25.5 | 29.5 | 31.0 | 27.0 |
| 8 | 19.0 | 19.5 | 18.0 | -3.5 | 2.0 | 4.5 | 25.5 | 22.0 | 26.5 | 30.5 | 29.5 | 24.0 |
| 9 | 21.0 | 20.5 | 15.5 | .5 | 2.0 | 5.0 | 17.0 | 24.0 | 26.5 | 31.0 | 30.0 | 24.5 |
| 10 | 21.5 | 13.5 | 9.0 | -4.5 | 8.5 | 9.0 | 22.5 | 19.0 | 27.5 | 33.5 | 31.0 | 26.0 |
| 11 | 17.5 | 5.5 | --- | -8.0 | 10.0 | 6.5 | 25.0 | 16.5 | 27.0 | 32.5 | 32.0 | 28.5 |
| 12 | 10.0 | 6.5 | 6.5 | -9.0 | -5.0 | 12.5 | 23.5 | 9.5 | 27.5 | 31.5 | 27.5 | 29.0 |
| 13 | 11.5 | 17.0 | 10.5 | 1.0 | 5.0 | 14.5 | 26.5 | 25.0 | 28.0 | 31.0 | 29.0 | 29.5 |
| 14 | 16.5 | 14.0 | 5.0 | 6.0 | 6.5 | 6.5 | 24.5 | 27.5 | 28.5 | 29.0 | 29.5 | 27.0 |
| 15 | 18.0 | 11.0 | 8.5 | 1.0 | 10.5 | 15.5 | 17.5 | 12.5 | 31.0 | 30.0 | 29.5 | 22.5 |
| 16 | 19.0 | 6.5 | 4.0 | .5 | 14.0 | 5.5 | 23.5 | 17.0 | 30.0 | 28.0 | 30.5 | 21.0 |
| 17 | 22.5 | 8.0 | -0.5 | -4.5 | 13.0 | 10.5 | 17.0 | 22.0 | 23.5 | 31.5 | 28.5 | 19.0 |
| 18 | 21.0 | 7.0 | 7.0 | .5 | 16.5 | 7.5 | 23.5 | 22.0 | 28.0 | 32.0 | 28.0 | 16.5 |
| 19 | 16.5 | 1.5 | --- | 6.5 | 14.5 | 1.0 | 23.5 | 16.5 | 27.5 | 31.5 | 25.5 | 18.0 |
| 20 | 13.5 | 2.0 | -5.5 | 5.0 | 9.5 | .0 | 12.5 | 11.5 | 25.0 | 31.5 | 29.0 | 24.0 |
| 21 | 15.5 | 5.5 | -3.5 | 5.0 | 11.5 | 8.5 | 20.5 | 21.0 | 28.5 | 31.0 | 23.5 | 24.5 |
| 22 | 18.0 | 3.0 | 3.0 | 4.5 | 15.0 | 4.0 | 21.5 | 24.5 | 27.5 | 28.5 | 28.5 | 24.0 |
| 23 | 15.0 | 6.0 | 5.5 | 5.0 | 8.5 | 6.0 | 19.5 | 29.0 | 27.0 | 31.5 | 29.0 | 19.5 |
| 24 | 14.0 | 10.5 | 7.0 | 6.5 | 4.0 | 10.0 | 13.0 | 28.0 | 30.5 | 34.0 | 28.0 | 21.0 |
| 25 | 8.5 | 4.5 | -8.0 | 12.5 | 11.0 | 12.5 | 15.0 | 27.0 | 29.5 | 31.0 | 29.0 | 25.0 |
| 26 | 8.0 | 7.5 | 1.0 | 13.5 | 9.5 | 16.5 | 23.0 | 27.5 | 23.5 | 34.5 | 29.0 | 27.0 |
| 27 | 14.5 | 6.5 | -0.5 | 10.0 | 16.0 | 14.0 | 27.0 | 19.0 | 25.5 | 35.0 | 30.0 | 25.0 |
| 28 | 19.0 | 3.0 | 6.5 | 5.5 | 18.0 | 22.0 | 27.0 | 17.5 | 27.5 | 29.5 | 29.0 | 22.5 |
| 29 | 7.0 | 1.5 | 10.0 | 4.5 | --- | 21.5 | 21.0 | 20.5 | 28.5 | 24.5 | 28.0 | 22.5 |
| 30 | 12.0 | 6.5 | 4.5 | -0.5 | --- | 19.0 | 19.5 | 27.0 | 26.5 | 28.0 | 29.0 | 26.0 |
| 31 | 12.0 | --- | 2.0 | 1.5 | --- | 25.5 | --- | 23.0 | --- | 26.5 | 28.5 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 27.5 | 20.5 | --- | 4.0 | 3.5 | 10.5 | 18.5 | 21.0 | --- | 25.0 | 25.0 | 22.5 |
| 2 | 16.0 | --- | --- | 6.0 | 4.5 | 13.5 | 23.0 | 19.0 | --- | 28.0 | 24.0 | 22.0 |
| 3 | 17.0 | --- | --- | 10.0 | 11.5 | 9.0 | 19.5 | 22.0 | --- | 27.5 | 25.5 | 21.0 |
| 4 | 21.5 | --- | --- | 11.0 | 8.0 | 17.5 | 14.0 | 23.0 | --- | 28.5 | 27.0 | 21.5 |
| 5 | 23.0 | --- | --- | 1.0 | 11.0 | 11.0 | 15.0 | 26.0 | --- | 30.0 | 21.0 | 23.5 |
| 6 | 25.0 | --- | --- | 8.0 | 5.5 | 11.5 | 7.5 | 26.0 | --- | 30.5 | 28.5 | 23.0 |
| 7 | 16.0 | --- | --- | 7.0 | -1.0 | 5.0 | 6.0 | 24.0 | --- | 29.5 | 27.0 | 23.5 |
| 8 | 17.5 | --- | --- | -3.0 | 6.0 | 3.5 | 5.5 | 15.5 | 26.5 | 26.5 | 25.0 | 21.5 |
| 9 | 18.0 | --- | --- | -3.5 | 7.0 | 11.0 | 4.0 | 21.5 | 26.0 | 27.5 | 23.0 | 23.5 |
| 10 | 16.5 | --- | -1.0 | -14.5 | -1.5 | 15.0 | 10.5 | 24.5 | 22.5 | 29.0 | 26.0 | 24.5 |
| 11 | 21.5 | --- | 2.0 | -14.5 | 3.5 | 16.5 | 12.0 | 27.0 | 25.5 | 27.5 | 24.0 | 24.5 |
| 12 | 18.0 | --- | 2.5 | -5.0 | 4.5 | 20.5 | 21.0 | 29.0 | 25.5 | 26.5 | 23.5 | 24.5 |
| 13 | 18.0 | --- | 4.5 | -1.5 | .0 | 15.0 | 19.0 | 28.5 | 21.5 | 24.0 | 24.5 | 22.5 |
| 14 | 21.5 | --- | 8.0 | -4.5 | 6.0 | 11.5 | 22.5 | 28.5 | 25.5 | 28.0 | 26.0 | 23.5 |
| 15 | 20.0 | --- | 6.0 | -2.0 | 12.0 | 11.5 | 25.5 | 28.5 | 26.5 | 28.5 | 26.5 | 24.0 |
| 16 | 19.5 | --- | 1.5 | 1.0 | 10.5 | 15.5 | 24.0 | 26.5 | 28.5 | 28.0 | 26.0 | 22.5 |
| 17 | 23.0 | --- | 4.0 | -13.5 | 11.0 | 22.5 | 22.0 | 27.5 | 22.5 | 30.5 | 26.5 | 23.0 |
| 18 | 21.0 | 12.0 | 1.5 | .5 | 7.0 | 24.0 | 18.0 | 26.0 | 28.0 | 27.0 | 25.5 | 20.0 |
| 19 | 11.5 | 20.5 | -3.5 | 3.0 | 4.5 | 17.5 | 20.0 | 23.5 | 26.0 | 28.5 | 26.5 | 19.0 |
| 20 | 18.0 | 15.0 | -3.0 | 4.5 | 13.0 | 16.0 | 19.0 | 21.5 | 25.0 | 25.0 | 25.5 | 16.5 |
| 21 | 20.5 | 1.5 | 3.0 | 8.0 | 6.0 | 15.0 | 16.0 | 23.5 | 24.5 | 29.0 | 23.0 | 16.0 |
| 22 | 22.5 | --- | 9.0 | 4.5 | 2.0 | 11.5 | 14.0 | 25.0 | 24.5 | 29.5 | 24.0 | 13.0 |
| 23 | 14.5 | --- | 16.0 | 11.0 | 16.0 | 13.0 | 18.0 | 24.5 | 25.0 | 28.0 | 24.0 | 16.0 |
| 24 | 11.5 | --- | 5.5 | -0.5 | 19.5 | 17.0 | 21.0 | 20.5 | 26.5 | 30.0 | 23.5 | 16.5 |
| 25 | 16.0 | --- | 5.5 | 3.0 | 3.5 | 19.5 | 21.0 | 25.0 | 27.5 | 30.5 | 23.5 | 16.0 |
| 26 | 19.0 | --- | 9.0 | -6.5 | 3.0 | 2.5 | 22.5 | 25.0 | 28.5 | 28.5 | 24.5 | 12.5 |
| 27 | 18.0 | --- | 10.5 | 1.5 | 1.5 | .0 | 16.5 | 26.0 | 29.0 | 29.5 | 21.5 | 15.0 |
| 28 | 15.0 | --- | 13.0 | 6.5 | 5.5 | 11.0 | 17.0 | 27.0 | 27.0 | 26.5 | 23.5 | 18.0 |
| 29 | 21.0 | --- | 8.0 | 7.0 | --- | 17.0 | 18.5 | 28.5 | 26.0 | 24.5 | 23.5 | 19.5 |
| 30 | 17.0 | --- | 1.5 | 13.5 | --- | 20.5 | 21.5 | 30.0 | 25.5 | 27.0 | 23.0 | 20.0 |
| 31 | 19.0 | --- | .5 | 18.0 | --- | 20.0 | --- | --- | --- | 21.5 | 21.5 | --- |

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9.5 | -2.0 | -2.5 | -1.5 | -9.5 | 4.0 | 6.0 | 5.0 | 11.0 | 15.0 | 12.5 | 18.0 |
| 2 | 8.0 | -2.0 | -1.5 | -9.0 | -10.0 | .5 | 1.0 | 1.5 | 11.0 | 12.5 | 18.0 | 19.0 |
| 3 | 7.5 | -1.5 | -6.5 | -10.0 | -14.5 | -5.5 | -1.0 | -2.0 | 11.0 | 14.0 | 19.5 | 20.0 |
| 4 | 4.5 | 2.5 | -9.5 | -18.0 | -17.5 | -6.0 | 8.0 | 1.0 | 14.5 | 13.0 | 18.5 | 20.5 |
| 5 | 4.5 | .5 | -3.5 | -21.0 | -15.0 | .5 | 6.5 | 5.5 | 16.0 | 16.0 | 20.5 | 19.5 |
| 6 | 2.0 | -3.0 | .5 | -14.5 | -7.5 | -2.5 | -2.5 | 8.5 | 15.5 | 19.0 | 15.5 | 18.0 |
| 7 | .5 | -1.0 | 2.0 | -7.0 | -9.0 | -6.0 | -5.0 | 3.5 | 12.0 | 19.0 | 21.0 | 17.5 |
| 8 | 4.5 | 6.0 | .0 | -10.0 | -9.5 | -8.5 | -1.0 | .5 | 11.0 | 19.0 | 17.5 | 14.0 |
| 9 | 8.0 | 5.5 | 8.0 | -5.0 | -13.5 | -6.5 | 8.0 | 2.5 | 15.0 | 19.5 | 17.5 | 11.5 |
| 10 | 9.0 | -1.0 | -2.0 | -17.0 | -3.0 | -6.5 | 7.5 | 8.5 | 17.5 | 19.5 | 18.5 | 10.5 |
| 11 | 6.0 | -4.0 | -4.5 | -18.0 | -13.0 | .0 | 9.0 | 8.0 | 14.5 | 19.0 | 18.0 | 12.5 |
| 12 | 1.5 | -6.5 | -6.0 | -15.0 | -20.5 | -2.5 | 10.0 | 2.5 | --- | 20.0 | 15.0 | 14.5 |
| 13 | -1.0 | -4.0 | -4.0 | -11.5 | -14.0 | -5.0 | 9.5 | 2.0 | 15.5 | 19.5 | 15.0 | 15.0 |
| 14 | -1.0 | -2.0 | -5.5 | -3.0 | -7.0 | -6.5 | 5.0 | 5.0 | 17.5 | 19.0 | 15.5 | 15.0 |
| 15 | .5 | 6.5 | -6.0 | -1.5 | -8.0 | -9.5 | .0 | 8.0 | 17.0 | 17.5 | 17.0 | 19.0 |
| 16 | 2.5 | .0 | -0.5 | -7.5 | -2.5 | -6.5 | -1.0 | 6.0 | --- | 19.0 | 18.5 | 14.5 |
| 17 | 3.5 | .0 | -7.5 | -13.5 | 5.0 | -8.5 | 10.0 | 4.0 | 12.5 | 19.0 | 15.0 | 10.0 |
| 18 | 13.5 | -0.5 | -7.5 | -15.0 | 3.0 | -3.0 | 6.0 | 11.5 | 11.5 | 18.5 | 13.5 | 9.0 |
| 19 | 7.5 | -6.0 | -6.0 | -11.0 | 7.0 | -5.0 | 3.5 | 8.5 | 13.5 | 20.0 | 15.5 | 8.5 |
| 20 | -0.5 | -9.0 | -14.5 | -6.0 | 2.5 | -5.5 | 1.5 | 6.0 | 16.0 | 20.5 | 12.5 | 6.5 |
| 21 | -0.5 | -7.5 | -17.0 | .5 | .0 | -5.5 | -1.0 | 5.5 | 14.0 | 20.0 | 13.5 | 9.0 |
| 22 | 1.0 | -8.5 | -13.0 | -1.5 | -2.0 | -3.0 | 2.5 | 2.0 | 15.5 | 18.5 | 10.5 | 10.0 |
| 23 | 1.0 | .5 | -0.5 | -1.0 | 1.0 | -2.0 | 9.5 | 4.0 | 14.0 | 17.5 | 14.0 | 7.0 |
| 24 | 1.5 | 5.0 | -8.0 | -4.0 | -2.5 | -3.5 | 4.5 | 6.5 | 11.0 | 19.0 | 14.5 | 4.5 |
| 25 | .5 | -6.0 | -17.5 | -6.5 | -5.5 | -4.5 | 2.5 | 9.0 | 13.5 | 20.0 | 14.5 | 5.0 |
| 26 | -2.5 | -7.5 | -17.5 | -2.5 | -4.5 | -4.5 | .5 | 11.5 | 11.5 | 21.5 | 12.5 | 9.5 |
| 27 | -3.5 | 1.5 | -11.5 | .0 | -7.5 | -0.5 | 7.0 | 11.5 | 9.5 | 21.5 | 15.0 | 12.0 |
| 28 | 7.5 | .0 | -4.0 | -6.0 | -1.0 | -2.0 | 8.0 | 14.0 | 8.5 | 21.0 | 16.0 | 9.0 |
| 29 | 4.5 | -2.0 | -1.5 | -3.5 | --- | .5 | 8.5 | 13.0 | 9.5 | 15.0 | 14.0 | 5.5 |
| 30 | 1.0 | -3.5 | -1.0 | -13.0 | --- | 5.0 | 7.5 | 11.0 | 13.0 | 13.5 | 17.5 | 9.0 |
| 31 | .0 | --- | -2.0 | -17.0 | --- | 1.5 | --- | --- | --- | 15.5 | 17.5 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10.0 | 4.0 | --- | -2.5 | -4.0 | -2.0 | -1.5 | 1.0 | --- | 10.5 | 13.5 | 16.5 |
| 2 | 4.0 | --- | --- | -7.0 | -3.5 | -3.5 | -2.5 | 6.0 | --- | 8.0 | 13.0 | 14.0 |
| 3 | 5.0 | --- | --- | .0 | 3.0 | 3.5 | 8.0 | 5.0 | --- | 12.5 | 13.0 | 10.0 |
| 4 | 2.5 | --- | --- | -1.5 | -1.0 | 4.0 | .0 | 1.0 | --- | 15.0 | 15.5 | 8.0 |
| 5 | 8.5 | --- | --- | -6.5 | -3.5 | 2.0 | -3.0 | 2.0 | --- | 14.5 | 16.0 | 6.0 |
| 6 | 12.0 | --- | --- | -4.5 | -8.5 | .5 | -4.0 | 4.5 | --- | 12.5 | 17.5 | 8.0 |
| 7 | 6.0 | --- | --- | -4.0 | -14.0 | -4.0 | -6.0 | 7.5 | --- | 13.0 | 16.5 | 9.5 |
| 8 | 3.5 | --- | --- | -9.5 | -11.5 | -6.0 | -2.5 | 4.5 | 12.5 | 15.0 | 15.5 | 11.0 |
| 9 | 3.5 | --- | --- | -14.0 | -3.5 | -4.0 | -0.5 | 2.5 | 13.0 | 16.0 | 16.5 | 9.5 |
| 10 | 11.0 | --- | -3.0 | -25.5 | -7.0 | -3.0 | -3.0 | 2.0 | 14.5 | 16.0 | 13.5 | 8.5 |
| 11 | 11.5 | --- | -2.5 | -23.0 | -7.5 | -1.0 | -4.5 | 3.5 | 11.5 | 17.0 | 13.0 | 10.0 |
| 12 | 8.0 | --- | -2.5 | -15.0 | -9.0 | 4.0 | -1.0 | 4.5 | 11.0 | 16.0 | 10.5 | 11.0 |
| 13 | 4.5 | --- | -7.0 | -6.5 | -8.0 | 1.5 | 7.5 | 6.5 | 13.0 | 16.0 | 11.0 | 11.0 |
| 14 | 3.0 | --- | .5 | -10.0 | -10.5 | -3.0 | 6.0 | 7.0 | 10.0 | 17.5 | 13.5 | 15.5 |
| 15 | 5.0 | --- | 1.5 | -10.5 | -6.0 | 4.0 | 3.5 | 7.0 | 8.0 | 16.5 | 12.0 | 15.5 |
| 16 | 8.0 | --- | -4.0 | -19.5 | 3.5 | 4.5 | 7.5 | 8.5 | 12.5 | 16.0 | 13.5 | 12.0 |
| 17 | 7.0 | --- | -4.0 | -30.5 | 3.5 | 5.0 | 7.0 | 9.0 | 12.5 | 16.5 | 13.0 | 9.5 |
| 18 | 11.0 | --- | -5.0 | -16.0 | 2.0 | .0 | 1.5 | 8.5 | 12.0 | 17.5 | 13.0 | 8.0 |
| 19 | .5 | --- | -11.5 | -2.0 | -1.5 | 5.5 | 1.0 | 11.5 | 12.5 | 17.0 | 11.5 | 12.5 |
| 20 | -1.5 | --- | -11.5 | -1.0 | .0 | 9.5 | 6.0 | 9.0 | 11.0 | 17.5 | 13.0 | 7.5 |
| 21 | .0 | --- | -12.5 | 1.5 | .0 | 7.5 | 1.0 | 13.0 | 9.5 | 17.0 | 11.0 | 8.0 |
| 22 | 6.5 | --- | 3.0 | .0 | -3.5 | .0 | -1.0 | 12.5 | 11.5 | 16.5 | 9.5 | 5.0 |
| 23 | 3.5 | --- | 5.0 | 1.0 | -5.5 | -1.5 | -4.5 | 13.5 | 10.5 | 18.0 | 10.0 | 1.5 |
| 24 | .0 | --- | 3.0 | -10.0 | 1.5 | -3.0 | -3.5 | 13.0 | 9.0 | 17.0 | 14.5 | 2.5 |
| 25 | 3.5 | --- | -2.5 | -10.5 | -3.5 | .0 | -0.5 | 13.0 | 11.0 | 15.0 | 11.0 | 6.0 |
| 26 | 12.5 | --- | -2.5 | -17.5 | -7.5 | -2.0 | 8.0 | 11.5 | 14.0 | 16.5 | 10.5 | 9.0 |
| 27 | 13.0 | --- | -1.0 | -19.0 | -2.0 | -8.0 | 7.0 | 15.0 | 14.5 | 16.0 | 11.0 | 7.5 |
| 28 | 6.5 | --- | .0 | -7.5 | -3.0 | -11.5 | 1.5 | 15.0 | 15.5 | 16.0 | 11.5 | 7.5 |
| 29 | 5.5 | --- | -3.5 | -9.5 | --- | -7.5 | -0.5 | 13.5 | 16.0 | 16.5 | 10.0 | 6.5 |
| 30 | 5.0 | --- | -8.5 | -2.0 | --- | 1.0 | .5 | 15.0 | 13.0 | 16.5 | 10.0 | 7.0 |
| 31 | 5.0 | --- | -7.5 | .5 | --- | 3.0 | --- | --- | --- | 16.5 | 15.0 | --- |

03212703 ELKHORN CREEK TRIBUTARY AT WELCH, WV

LOCATION.--Lat 37°25'45", long 81°34'02", McDowell County, Hydrologic Unit 05070201, on left bank 0.1 mi (0.2 km) southeast of Stevens Clinic Hospital, and 0.2 mi (0.3 km) upstream from mouth and Elkhorn Creek.

DRAINAGE AREA.--0.63 $mi^2$ (1.63 $kkm^2$).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,360.00 ft (414.528 m) National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 79 $ft^3/s$ (2.24 $m^3/s$) July 6, 1981, gage height. 2.84 ft (0.866 m), from rating curve extended above 58 $ft^3/s$ (1.64 $m^3/s$); no flow many days during 1981 and 1982.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | .00 | .06 | .00 | .02 | .24 | .14 | .37 | .80 | 2.5 | .08 | .02 |
| 2 | .00 | .00 | .05 | .00 | .48 | .22 | .15 | .31 | 1.5 | .62 | .09 | .02 |
| 3 | .00 | .00 | .04 | .00 | .21 | .19 | .15 | .26 | .89 | .34 | .07 | .02 |
| 4 | .00 | .00 | .04 | .00 | .06 | .28 | .12 | .23 | .83 | .30 | .06 | .03 |
| 5 | .00 | .00 | .04 | .00 | .01 | .66 | .46 | .19 | .85 | .28 | .05 | .02 |
| 6 | .00 | .00 | .03 | .00 | .01 | .59 | .35 | .18 | 6.8 | 5.4 | .08 | .49 |
| 7 | .00 | .00 | .03 | .00 | .00 | .43 | .28 | .15 | 4.4 | 2.3 | .26 | .31 |
| 8 | .00 | .00 | .02 | .00 | .02 | .33 | .24 | .12 | 2.6 | 1.0 | .39 | .05 |
| 9 | .00 | .00 | .03 | .00 | .02 | .29 | .27 | .09 | 2.0 | .60 | .08 | .03 |
| 10 | .00 | .00 | .02 | .00 | .02 | .24 | .25 | .08 | 1.7 | .30 | .04 | .02 |
| 11 | .00 | .00 | .02 | .00 | .01 | .24 | .34 | .13 | 1.4 | .20 | .04 | .01 |
| 12 | .00 | .00 | .02 | .00 | .04 | .24 | .29 | .11 | 1.0 | .15 | .66 | .01 |
| 13 | .00 | .00 | .01 | .00 | .03 | .23 | .29 | .06 | .89 | .10 | .11 | .01 |
| 14 | .00 | .00 | .01 | .00 | .03 | .19 | .27 | .05 | .75 | 5.5 | .05 | .01 |
| 15 | .00 | .00 | .01 | .00 | .03 | .18 | .26 | .06 | .62 | 2.5 | .04 | .24 |
| 16 | .00 | .00 | .01 | .00 | .03 | .22 | .24 | .05 | .56 | 1.5 | .04 | .22 |
| 17 | .00 | .01 | .01 | .00 | .32 | .19 | .93 | .04 | .52 | 1.0 | .04 | .05 |
| 18 | .00 | .27 | .00 | .00 | .32 | .15 | 1.0 | .05 | .37 | .80 | .03 | .03 |
| 19 | .00 | .05 | .00 | .00 | .24 | .14 | .71 | 2.8 | .32 | .60 | .03 | .02 |
| 20 | .00 | .03 | .00 | .00 | .60 | .12 | 1.7 | 1.6 | .28 | .50 | .03 | .02 |
| 21 | .00 | .01 | .00 | .00 | .35 | .10 | 1.1 | .66 | .24 | .40 | .03 | .02 |
| 22 | .00 | .00 | .00 | .00 | .24 | .09 | .96 | .43 | .21 | 1.5 | .03 | .02 |
| 23 | .00 | .01 | .00 | .01 | .32 | .12 | .96 | .40 | .17 | 1.0 | .03 | .01 |
| 24 | .00 | 1.3 | .00 | .04 | .26 | .25 | .87 | .41 | .15 | .80 | .03 | .01 |
| 25 | .41 | .32 | .00 | .04 | .21 | .24 | .76 | .39 | .15 | .60 | .02 | .01 |
| 26 | .11 | .12 | .00 | .04 | .18 | .19 | .66 | .35 | .26 | .40 | .02 | .01 |
| 27 | .03 | .13 | .00 | .04 | .15 | .16 | .60 | 1.3 | .11 | .30 | .02 | .00 |
| 28 | .00 | .16 | .00 | .03 | .17 | .13 | .53 | 1.8 | .08 | .25 | .02 | .00 |
| 29 | .00 | .14 | .00 | .02 | --- | .12 | .49 | 1.2 | .07 | .20 | .02 | .00 |
| 30 | .00 | .09 | .00 | .02 | --- | .12 | .42 | .90 | 4.1 | .15 | .01 | .00 |
| 31 | .00 | --- | .00 | .01 | --- | .09 | --- | .80 | --- | .10 | .02 | --- |
| TOTAL | .55 | 2.64 | .45 | .25 | 4.46 | 6.98 | 15.79 | 15.57 | 34.62 | 32.19 | 2.52 | 1.71 |
| MEAN | .018 | .088 | .015 | .008 | .16 | .23 | .53 | .50 | 1.15 | 1.04 | .081 | .057 |
| CFSM | .03 | .14 | .02 | .01 | .25 | .37 | .84 | .79 | 1.83 | 1.65 | .13 | .09 |
| IN. | .03 | .16 | .03 | .01 | .26 | .41 | .93 | .92 | 2.04 | 1.90 | .15 | .10 |

WTR YR 1981 TOTAL 117.73 MEAN .32 CFSM .51 IN 6.94

## WATER-DISCHARGE RECORDS

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .01 | .00 | .00 | .13 | .33 | .42 | .42 | .05 | .06 | .02 | .10 | 3.0 |
| 2 | .03 | .00 | .00 | .06 | .35 | .42 | .35 | .06 | .03 | .01 | .03 | .44 |
| 3 | .01 | .00 | .00 | 1.1 | 2.7 | .42 | .35 | .10 | .03 | .04 | .02 | .17 |
| 4 | .01 | .00 | .01 | .73 | .79 | .37 | .32 | .05 | .07 | .05 | .02 | .08 |
| 5 | .00 | .01 | .00 | .33 | .60 | .35 | .29 | .04 | .19 | .06 | .60 | .07 |
| 6 | .00 | .00 | .00 | .27 | .56 | .35 | .28 | .04 | .05 | .02 | .19 | .07 |
| 7 | .00 | .00 | .00 | .27 | .50 | .58 | .25 | .04 | .04 | .01 | .41 | .07 |
| 8 | .00 | .00 | .00 | .24 | .50 | .45 | .24 | .04 | .03 | .01 | 1.4 | .07 |
| 9 | .00 | .00 | .00 | .20 | .68 | .42 | .25 | .04 | .03 | .01 | .79 | .06 |
| 10 | .00 | .00 | .00 | .17 | .51 | .42 | .24 | .04 | .37 | .00 | .68 | .06 |
| 11 | .00 | .00 | .00 | .15 | .49 | .42 | .20 | .04 | .08 | .10 | .15 | .06 |
| 12 | .00 | .00 | .00 | .15 | .43 | .42 | .19 | .03 | .11 | .09 | .09 | .06 |
| 13 | .00 | .00 | .00 | .12 | .42 | .49 | .18 | .03 | .24 | .01 | .05 | .05 |
| 14 | .00 | .00 | .01 | .09 | .42 | .50 | .15 | .03 | .10 | .01 | .05 | .23 |
| 15 | .00 | .00 | .02 | .07 | .41 | .96 | .15 | .03 | .05 | .01 | .05 | .10 |
| 16 | .00 | .00 | .01 | .06 | 1.3 | 2.4 | .12 | .02 | .04 | .00 | .05 | .05 |
| 17 | .00 | .00 | .03 | .05 | 1.9 | 1.2 | .12 | .02 | .04 | 1.5 | .05 | .04 |
| 18 | .00 | .00 | .01 | .04 | 1.1 | .98 | .09 | .02 | .03 | .96 | .05 | .04 |
| 19 | .00 | .00 | .00 | .16 | .85 | .90 | .08 | .03 | .03 | .06 | .05 | .03 |
| 20 | .00 | .01 | .00 | .38 | .75 | .81 | .07 | .05 | .03 | .53 | .05 | .03 |
| 21 | .00 | .00 | .02 | 3.8 | .66 | .76 | .06 | .08 | .03 | .05 | .05 | .03 |
| 22 | .00 | .00 | .10 | .80 | .58 | .70 | .05 | .03 | .03 | .08 | .05 | .03 |
| 23 | .01 | .00 | .38 | .61 | .52 | .60 | .05 | .03 | .03 | .12 | .04 | .03 |
| 24 | .00 | .01 | .20 | .45 | .47 | .56 | .05 | .03 | .03 | .03 | .04 | .03 |
| 25 | .00 | .00 | .11 | .40 | .42 | .52 | .06 | .03 | .03 | .02 | .31 | .02 |
| 26 | .01 | .00 | .07 | .32 | .42 | .52 | .21 | .04 | .03 | .02 | .05 | .02 |
| 27 | .19 | .00 | .05 | .27 | .41 | .49 | .13 | .30 | .02 | .01 | .04 | .02 |
| 28 | .06 | .00 | .04 | .23 | .49 | .42 | .08 | .10 | .02 | .05 | .03 | .01 |
| 29 | .02 | .00 | .03 | .20 | --- | .42 | .07 | .13 | .02 | .07 | .03 | .01 |
| 30 | .01 | .00 | .03 | .17 | --- | .40 | .06 | .09 | .02 | .02 | .02 | .00 |
| 31 | .01 | --- | .08 | .35 | --- | .43 | --- | .04 | --- | .68 | 1.4 | --- |
| TOTAL | .37 | .03 | 1.20 | 12.37 | 19.56 | 19.10 | 5.16 | 1.70 | 1.91 | 4.65 | 6.94 | 4.98 |
| MEAN | .012 | .001 | .039 | .40 | .70 | .62 | .17 | .055 | .064 | .15 | .22 | .17 |
| CFSM | .02 | .002 | .06 | .64 | 1.11 | .98 | .27 | .09 | .10 | .24 | .35 | .27 |
| IN. | .02 | .00 | .07 | .73 | 1.15 | 1.13 | .30 | .10 | .11 | .27 | .41 | .29 |

WTR YR 1982 TOTAL 77.97 MEAN .21 CFSM .33 IN 4.60

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

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

EXTREMES FOR PERIOD OF RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 5,350 mg/L July 14, 1981; minimum daily mean detected, 0 mg/L several days during year.
SEDIMENT LOADS: Maximum daily, 312 tons (283 metric tons) June 6, 1981; minimum daily, 0 ton (0 metric ton) many days during year.

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | --- | 5 | --- | 5 | 3 | 6 | 16 | 93 | 158 | 7 | 17 |
| 2 | --- | --- | 5 | --- | 179 | 1 | 3 | 12 | 205 | 10 | 19 | 10 |
| 3 | --- | --- | 3 | --- | 15 | 0 | 2 | 14 | 18 | 11 | 6 | 20 |
| 4 | --- | --- | 1 | --- | 11 | 106 | 3 | 10 | 61 | 10 | 7 | 16 |
| 5 | --- | --- | 2 | --- | --- | 61 | 124 | 3 | 47 | 10 | 6 | 11 |
| 6 | --- | --- | 1 | --- | --- | 3 | 9 | 0 | 3990 | 2420 | 169 | 1260 |
| 7 | --- | --- | 3 | --- | --- | 2 | 10 | 0 | 41 | 21 | 179 | 69 |
| 8 | --- | --- | 3 | --- | --- | 1 | 10 | 2 | 15 | 13 | 136 | 25 |
| 9 | --- | --- | 115 | --- | --- | 1 | 8 | 1 | 12 | 9 | 7 | 13 |
| 10 | --- | --- | 12 | --- | --- | 0 | 49 | 1 | 37 | 13 | 4 | 17 |
| 11 | --- | --- | 4 | --- | --- | 1 | 5 | 4 | 12 | 5 | 3 | 9 |
| 12 | --- | --- | 3 | --- | --- | 3 | 5 | 11 | 10 | 7 | 231 | 4 |
| 13 | --- | --- | 2 | --- | --- | 6 | 4 | 9 | 8 | 5 | 8 | 7 |
| 14 | --- | --- | 1 | --- | --- | 5 | 1 | 19 | 8 | 5350 | 4 | 7 |
| 15 | --- | --- | 1 | 50 | --- | 4 | 1 | 57 | 9 | 120 | 5 | 246 |
| 16 | --- | --- | 1 | 21 | --- | 9 | 2 | 4 | 24 | 63 | 19 | 32 |
| 17 | --- | --- | 1 | --- | 39 | 5 | 79 | 5 | 14 | 12 | 5 | 23 |
| 18 | --- | 294 | --- | --- | 13 | 6 | 13 | 4 | 6 | 5 | 4 | 14 |
| 19 | --- | 5 | --- | --- | 10 | 0 | 5 | 410 | 10 | 5 | 3 | 8 |
| 20 | --- | 3 | --- | --- | 22 | 1 | 153 | 30 | 9 | 17 | 3 | 4 |
| 21 | --- | 1 | --- | --- | 8 | 1 | 17 | 5 | 13 | 26 | 2 | 4 |
| 22 | --- | --- | --- | --- | 5 | 1 | 13 | 5 | 10 | 78 | 1 | 7 |
| 23 | --- | --- | --- | --- | 14 | 55 | 10 | 5 | 8 | 6 | 2 | 6 |
| 24 | --- | 273 | --- | --- | 7 | 91 | 7 | 3 | 25 | 4 | 5 | 3 |
| 25 | 185 | 30 | --- | 13 | 7 | 4 | 4 | 9 | 100 | 4 | 2 | 4 |
| 26 | 24 | 8 | --- | --- | 5 | 14 | 4 | 12 | 49 | 3 | 0 | 4 |
| 27 | --- | 7 | --- | --- | 8 | 13 | 6 | 629 | 31 | 2 | 1 | --- |
| 28 | --- | 19 | --- | --- | 7 | 4 | 18 | 177 | 33 | 2 | 4 | --- |
| 29 | --- | 13 | --- | --- | --- | 5 | 19 | 20 | 27 | 2 | 7 | --- |
| 30 | --- | 5 | --- | --- | --- | 7 | 12 | 14 | 3120 | 3 | 6 | --- |
| 31 | --- | --- | --- | --- | --- | 7 | --- | 12 | --- | 2 | 6 | --- |

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .29 | .35 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | .31 | .00 | .00 | .01 | 1.2 | .02 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .04 | .01 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | .00 | .12 | .00 | .00 | .17 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .00 | .00 | .11 | .19 | .00 | .12 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 312 | 144 | .04 | 6.2 |
| 7 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .65 | .13 | .31 | .09 |
| 8 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .11 | .04 | .24 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .06 | .01 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .00 | .04 | .00 | .17 | .01 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | 1.0 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | 249 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .02 | .81 | .00 | .24 |
| 16 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .04 | .26 | .00 | .02 |
| 17 | .00 | .00 | .00 | .00 | .04 | .00 | .35 | .00 | .02 | .03 | .00 | .00 |
| 18 | .00 | .31 | .00 | .00 | .01 | .00 | .04 | .00 | .00 | .01 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 3.7 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .04 | .00 | 1.0 | .18 | .00 | .02 | .00 | .00 |
| 21 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .00 | .03 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .00 | .32 | .00 | .00 |
| 23 | .00 | .00 | .00 | .00 | .01 | .04 | .03 | .00 | .00 | .02 | .00 | .00 |
| 24 | .00 | 1.5 | .00 | .00 | .00 | .07 | .02 | .00 | .00 | .00 | .00 | .00 |
| 25 | .39 | .03 | .00 | .00 | .00 | .00 | .00 | .00 | .07 | .00 | .00 | .00 |
| 26 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .03 | .00 | .00 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | 2.9 | .00 | .00 | .00 | --- |
| 28 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .98 | .00 | .00 | .00 | --- |
| 29 | .00 | .00 | .00 | .00 | --- | .00 | .03 | .06 | .00 | .00 | .00 | --- |
| 30 | .00 | .00 | .00 | .00 | --- | .00 | .01 | .03 | 191 | .00 | .00 | --- |
| 31 | .00 | --- | .00 | .00 | --- | .00 | --- | .03 | --- | .00 | .00 | --- |
| TOTAL | 0.39 | 1.84 | 0.00 | 0.00 | 0.41 | 0.34 | 1.82 | 7.93 | 506.11 | 395.07 | 1.59 | 6.55 |
| MEAN | .01 | .06 | .00 | .00 | .01 | .01 | .06 | .26 | 17 | 13 | .05 | .25 |

WTR YR 1981 TOTAL 922.05 MEAN 2.6

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) |
|---|---|---|---|---|
| FEB | | | | |
| 04... | .06 | 311 | 6.6 | .0 |
| 24... | .29 | 365 | 7.3 | 5.0 |
| MAR | | | | |
| 16... | .20 | 506 | 7.6 | 5.5 |
| 24... | .22 | 565 | 7.5 | 6.5 |
| APR | | | | |
| 06... | .33 | 488 | 7.4 | 9.5 |
| 27... | .60 | 512 | 7.5 | 13.5 |
| MAY | | | | |
| 19... | 7.0 | 445 | 7.2 | -- |
| 28... | 3.2 | 426 | 7.1 | 13.5 |
| JUN | | | | |
| 17... | .50 | 639 | 7.4 | 15.0 |
| JUL | | | | |
| 14... | -- | 260 | -- | -- |
| 14... | 17 | 214 | 5.8 | -- |
| 14... | -- | 315 | -- | -- |
| AUG | | | | |
| 05... | .04 | 570 | 8.0 | 16.0 |
| 18... | .04 | 610 | 8.1 | 18.0 |
| SEP | | | | |
| 09... | .03 | 550 | 7.9 | 17.0 |

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) |
|---|---|---|---|---|
| OCT | | | | |
| 02... | .02 | 480 | 7.2 | 12.0 |
| DEC | | | | |
| 21... | .02 | 460 | 7.3 | .0 |
| JAN | | | | |
| 11... | .15 | 520 | 8.0 | .0 |
| FEB | | | | |
| 02... | .29 | 650 | 8.0 | 7.5 |
| 03... | 5.8 | 330 | 7.4 | 6.5 |
| 22... | .58 | 560 | 7.9 | 7.0 |
| MAR | | | | |
| 15... | .85 | 530 | 7.7 | 9.0 |
| APR | | | | |
| 05... | .29 | 650 | 8.1 | 9.0 |
| 26... | .29 | 830 | 7.9 | 12.0 |
| MAY | | | | |
| 17... | .02 | 544 | 8.2 | 16.0 |
| JUN | | | | |
| 07... | .04 | 629 | 8.0 | 15.5 |
| 28... | .02 | 610 | 8.0 | 18.0 |
| JUL | | | | |
| 19... | .04 | 660 | 7.8 | 19.5 |
| AUG | | | | |
| 10... | .57 | 470 | 7.9 | 19.0 |
| 30... | .02 | 800 | 8.1 | 17.5 |
| SEP | | | | |
| 21... | .02 | 800 | 8.1 | 14.5 |

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .01 | .01 | .02 | .00 | .24 | .03 | .35 | .00 | .46 | .01 | .00 | .37 |
| 2 | .15 | .00 | .10 | .02 | .31 | .00 | .03 | .00 | .40 | .01 | .07 | .01 |
| 3 | .12 | .01 | .00 | .00 | .00 | .00 | .07 | .01 | .02 | .00 | .01 | .39 |
| 4 | .00 | .17 | .01 | .00 | .00 | .45 | .03 | .00 | .35 | .05 | .01 | .32 |
| 5 | .00 | .00 | .01 | .02 | .03 | .24 | .62 | .00 | .05 | 1.28 | .00 | .00 |
| 6 | .00 | .00 | .02 | .03 | .00 | .00 | .00 | .01 | 1.84 | .17 | .58 | .85 |
| 7 | .01 | .02 | .00 | .00 | .00 | .00 | .01 | .00 | .01 | .01 | .95 | .01 |
| 8 | .00 | .00 | .00 | .02 | .05 | .02 | .00 | .01 | .01 | .00 | .12 | .17 |
| 9 | .00 | .00 | .25 | .03 | .04 | .02 | .31 | .00 | .01 | .01 | .00 | .01 |
| 10 | .00 | .00 | .00 | .00 | .21 | .03 | .31 | .02 | .13 | .00 | .01 | .00 |
| 11 | .00 | .00 | .00 | .00 | .02 | .03 | .01 | .73 | .01 | .00 | .00 | .01 |
| 12 | .00 | .00 | .01 | .00 | .04 | .04 | .11 | .01 | .13 | .00 | .73 | .00 |
| 13 | .00 | .01 | .00 | .02 | .05 | .04 | .07 | .01 | .06 | .01 | .01 | .00 |
| 14 | .01 | .02 | .00 | .00 | .03 | .02 | .12 | .22 | .02 | 2.18 | .00 | .00 |
| 15 | .00 | .03 | .00 | .00 | .05 | .06 | .01 | .06 | .00 | .01 | .02 | 1.14 |
| 16 | .00 | .06 | .03 | .00 | .20 | .30 | .01 | .00 | .36 | .24 | .06 | .02 |
| 17 | .00 | .68 | .00 | .00 | .36 | .03 | .79 | .00 | .01 | .00 | .00 | .00 |
| 18 | .13 | .01 | .02 | .00 | .04 | .02 | .16 | .23 | .00 | .01 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .22 | .01 | .01 | 1.69 | .17 | .01 | .01 | .12 |
| 20 | .00 | .00 | .00 | .04 | .20 | .02 | .66 | .00 | .01 | .07 | .00 | .01 |
| 21 | .00 | .00 | .00 | .18 | .02 | .12 | .01 | .01 | .03 | .37 | .00 | .00 |
| 22 | .00 | .00 | .03 | .00 | .03 | .00 | .00 | .01 | .01 | .01 | .00 | .00 |
| 23 | .00 | .27 | .00 | .00 | .31 | .34 | .16 | .00 | .00 | .01 | .00 | .00 |
| 24 | .00 | .92 | .26 | .00 | .00 | .03 | .01 | .00 | .00 | .00 | .00 | .00 |
| 25 | 1.18 | .00 | .01 | .03 | .04 | .03 | .02 | .00 | .63 | .00 | .00 | .00 |
| 26 | .02 | .01 | .03 | .02 | .03 | .05 | .00 | .00 | .01 | .00 | .00 | .00 |
| 27 | .02 | .10 | .02 | .05 | .06 | .07 | .00 | 1.15 | .00 | .00 | .00 | .00 |
| 28 | .08 | .12 | .01 | .02 | .30 | .07 | .00 | .63 | .00 | .24 | .00 | .00 |
| 29 | .00 | .01 | .02 | .00 | --- | .05 | .00 | .04 | .00 | .08 | .00 | .00 |
| 30 | .06 | .02 | .13 | .02 | --- | .13 | .10 | .12 | 2.32 | .00 | .00 | .00 |
| 31 | .00 | --- | .15 | .07 | --- | .06 | --- | .01 | --- | .01 | .00 | --- |
| TOTAL | 1.79 | 2.47 | 1.13 | 0.57 | 2.88 | 2.31 | 3.98 | 4.97 | 7.05 | 4.79 | 2.58 | 3.43 |
| MEAN | .06 | .08 | .04 | .02 | .10 | .07 | .13 | .16 | .24 | .15 | .08 | .11 |

WTR YR 1981 TOTAL 37.95 MEAN .10

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .40 | .00 | .05 | .02 | .00 | .01 | .00 | .01 | .07 | .00 | .00 | 1.22 |
| 2 | .13 | .01 | .00 | .15 | .61 | .01 | .02 | .21 | .00 | .00 | .00 | .01 |
| 3 | .00 | .00 | .01 | .76 | .71 | .01 | .00 | .00 | .03 | .43 | .00 | .00 |
| 4 | .01 | .00 | .21 | .35 | .00 | .02 | .01 | .00 | .51 | .21 | .13 | .00 |
| 5 | .09 | .39 | .00 | .00 | .02 | .00 | .09 | .00 | .06 | .02 | .68 | .00 |
| 6 | .00 | .00 | .00 | .03 | .00 | .23 | .01 | .00 | .00 | .00 | .36 | .00 |
| 7 | .00 | .00 | .02 | .25 | .03 | .30 | .00 | .00 | .01 | .00 | .02 | .00 |
| 8 | .00 | .00 | .01 | .00 | .02 | .17 | .11 | .18 | .16 | .00 | 1.09 | .00 |
| 9 | .00 | .00 | .01 | .00 | .50 | .01 | .05 | .00 | .01 | .00 | .55 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .00 | .66 | .15 | .05 | .00 |
| 11 | .00 | .00 | .00 | .00 | .02 | .13 | .01 | .00 | .01 | .59 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .09 | .02 | .02 | .00 | .39 | .01 | .00 | .00 |
| 13 | .00 | .00 | .00 | .00 | .01 | .30 | .00 | .00 | .20 | .22 | .00 | .00 |
| 14 | .00 | .00 | .44 | .00 | .03 | .00 | .00 | .00 | .00 | .01 | .00 | .60 |
| 15 | .00 | .00 | .06 | .00 | .30 | .64 | .00 | .00 | .01 | .00 | .01 | .07 |
| 16 | .00 | .02 | .01 | .01 | .49 | .68 | .01 | .00 | .08 | .00 | .00 | .00 |
| 17 | .02 | .05 | .19 | .00 | .50 | .03 | .11 | .00 | .03 | 1.87 | .09 | .00 |
| 18 | .19 | .01 | .00 | .00 | .05 | .00 | .00 | .18 | .01 | .13 | .01 | .00 |
| 19 | .04 | .03 | .00 | .39 | .18 | .21 | .00 | .43 | .12 | .30 | .01 | .02 |
| 20 | .02 | .22 | .00 | .00 | .04 | .27 | .13 | .29 | .01 | .46 | .01 | .00 |
| 21 | .02 | .00 | .45 | .98 | .01 | .12 | .02 | .14 | .00 | .01 | .00 | .11 |
| 22 | .00 | .00 | .31 | .18 | .00 | .00 | .00 | .15 | .14 | .34 | .00 | .01 |
| 23 | .47 | .09 | .07 | .09 | .04 | .00 | .01 | .19 | .00 | .00 | .11 | .00 |
| 24 | .01 | .23 | .00 | .00 | .03 | .01 | .00 | .05 | .00 | .01 | .58 | .01 |
| 25 | .07 | .00 | .02 | .02 | .00 | .37 | .39 | .02 | .00 | .00 | .31 | .01 |
| 26 | .41 | .04 | .00 | .00 | .02 | .00 | .39 | .65 | .33 | .00 | .00 | .31 |
| 27 | .34 | .05 | .01 | .01 | .16 | .00 | .10 | .06 | .05 | .00 | .09 | .01 |
| 28 | .00 | .00 | .00 | .00 | .45 | .01 | .00 | .16 | .01 | .56 | .01 | .00 |
| 29 | .01 | .00 | .00 | .01 | --- | .01 | .00 | .34 | .03 | .00 | .00 | .01 |
| 30 | .00 | .01 | .00 | .01 | --- | .01 | .00 | .04 | .01 | .19 | .17 | .01 |
| 31 | .00 | --- | .41 | .29 | --- | .50 | --- | .21 | --- | .68 | 1.19 | --- |
| TOTAL | 2.23 | 1.15 | 2.28 | 3.55 | 4.31 | 4.08 | 1.48 | 3.31 | 2.94 | 6.19 | 5.47 | 2.40 |
| MEAN | .07 | .04 | .07 | .11 | .15 | .13 | .05 | .11 | .10 | .20 | .18 | .08 |

WTR YR 1982 TOTAL 39.39 MEAN .11

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 23.0 | 15.0 | 15.5 | 2.0 | 12.0 | 9.0 | 19.0 | 17.5 | 25.0 | 25.5 | 26.5 | 25.5 |
| 2 | 20.0 | 12.0 | 2.5 | .5 | 5.0 | 4.5 | 21.0 | 14.5 | 24.5 | 24.0 | 22.5 | 26.5 |
| 3 | 18.0 | 19.5 | 1.5 | 3.5 | -7.0 | 5.5 | 27.5 | 21.0 | 27.5 | 22.5 | 27.0 | 24.5 |
| 4 | 13.5 | 16.0 | 7.5 | -5.0 | -2.5 | 5.0 | 26.0 | 26.5 | 23.5 | 26.0 | 29.0 | 24.0 |
| 5 | 11.0 | 9.0 | 10.5 | -5.5 | -1.5 | 7.5 | 18.5 | 29.0 | 28.5 | 28.0 | 29.0 | 27.5 |
| 6 | 13.5 | 10.5 | 14.5 | 5.0 | 4.5 | 3.5 | 10.5 | 20.0 | 20.0 | 23.0 | 24.5 | 25.0 |
| 7 | 16.0 | 18.5 | 16.5 | .0 | 9.5 | 2.5 | 19.0 | 19.5 | 26.5 | 29.5 | 27.5 | 26.0 |
| 8 | 19.5 | 19.0 | 18.5 | -3.0 | 1.5 | 3.5 | 24.5 | 22.0 | 27.0 | 29.0 | 25.5 | 19.0 |
| 9 | 22.0 | 19.0 | 15.5 | 1.0 | 2.0 | 4.5 | 18.0 | 24.5 | 26.0 | 30.0 | 26.0 | 20.0 |
| 10 | 24.0 | 13.5 | 9.0 | -4.0 | 8.0 | 8.0 | 23.0 | 22.0 | 26.5 | 30.5 | 28.0 | 23.5 |
| 11 | 19.5 | 4.0 | 1.5 | -7.5 | 11.5 | --- | 25.5 | 15.0 | 26.5 | 31.0 | 28.5 | 25.5 |
| 12 | 11.0 | 4.0 | 6.0 | -8.5 | -4.5 | --- | 24.0 | 10.0 | 27.0 | 29.5 | 25.5 | 26.5 |
| 13 | 12.5 | 16.0 | 10.5 | -8.5 | 7.0 | --- | 28.0 | 24.0 | 28.5 | 29.0 | 26.5 | 26.5 |
| 14 | 16.5 | 14.0 | 5.5 | 7.0 | 10.0 | --- | 25.5 | 28.0 | 30.0 | 27.5 | 27.0 | 28.0 |
| 15 | 18.5 | 11.0 | 7.5 | .5 | 14.0 | --- | 16.5 | 13.5 | 30.0 | 27.5 | 27.0 | 20.0 |
| 16 | 20.0 | 6.5 | 4.0 | 1.0 | 15.0 | -0.5 | 24.0 | 16.5 | 30.5 | 25.0 | 28.0 | 17.5 |
| 17 | 23.5 | 6.5 | 1.5 | -4.0 | 12.5 | 11.5 | 16.5 | 23.0 | 24.0 | 27.0 | 24.0 | 17.5 |
| 18 | 24.0 | 6.5 | 8.0 | 1.5 | 18.5 | 7.0 | 23.0 | 20.5 | 28.0 | 29.5 | 25.5 | 16.0 |
| 19 | 18.0 | 3.0 | 7.5 | 6.5 | 13.5 | .5 | 23.5 | 15.0 | 25.0 | 28.5 | 22.0 | 16.0 |
| 20 | 14.5 | 6.0 | -5.0 | 3.5 | 10.0 | .5 | 12.5 | 12.5 | 23.5 | 27.0 | 26.0 | 21.5 |
| 21 | 17.5 | 6.0 | -3.0 | 4.0 | 12.0 | 7.5 | 18.0 | 21.5 | 28.5 | 27.5 | 21.0 | 22.5 |
| 22 | 19.5 | 7.0 | 4.5 | 4.0 | 15.0 | 5.0 | 22.0 | 24.5 | 27.0 | 25.5 | 25.0 | 22.5 |
| 23 | 16.5 | 6.0 | 5.5 | 4.5 | 10.0 | 6.0 | 20.5 | 27.0 | 28.0 | 27.5 | 26.0 | 17.5 |
| 24 | 14.5 | 10.5 | 6.5 | 6.5 | 4.0 | 10.0 | 13.0 | 28.0 | 30.0 | 29.0 | 26.5 | 18.0 |
| 25 | 9.0 | 5.0 | -8.0 | 13.0 | 12.0 | 12.0 | 13.0 | 27.5 | 28.5 | 27.5 | 27.0 | 21.5 |
| 26 | 8.5 | 7.5 | 1.5 | 14.0 | 10.5 | 17.0 | 21.5 | 26.5 | 24.0 | 29.5 | 27.0 | 24.0 |
| 27 | 15.0 | 6.0 | 3.5 | 10.5 | 15.0 | 13.5 | 27.5 | 19.0 | 25.5 | 29.5 | 26.0 | 25.0 |
| 28 | 19.0 | 3.5 | 7.5 | 6.5 | 18.5 | 21.5 | 29.0 | 17.0 | 27.0 | 28.5 | 27.0 | 20.0 |
| 29 | 7.0 | 2.0 | 10.5 | 5.0 | --- | 22.0 | 20.5 | 19.5 | 27.5 | 22.5 | 26.0 | 20.5 |
| 30 | 10.5 | 9.0 | 4.0 | 1.5 | --- | 19.5 | 18.5 | 28.5 | 25.5 | 25.5 | 26.0 | 22.5 |
| 31 | 11.5 | --- | 3.5 | 5.0 | --- | 25.0 | --- | 23.5 | --- | 25.0 | 26.5 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 25.5 | 20.0 | 14.0 | 6.5 | 3.0 | 10.0 | 18.5 | 21.5 | 21.5 | 25.5 | 25.5 | 23.0 |
| 2 | 12.5 | 20.0 | 8.0 | 9.0 | 5.5 | 14.5 | 24.5 | 21.0 | 24.5 | 28.0 | 26.0 | 23.5 |
| 3 | 14.0 | 22.5 | 7.0 | 11.0 | 11.0 | 9.5 | 22.0 | 24.0 | 25.0 | 29.0 | 26.0 | 24.5 |
| 4 | 19.5 | 22.0 | 3.0 | 14.0 | 8.0 | 17.5 | 14.5 | 25.5 | 23.0 | 27.0 | 29.0 | 22.5 |
| 5 | 19.5 | 17.0 | 1.0 | 4.5 | 10.0 | 11.5 | 17.0 | 27.5 | 18.5 | 29.5 | 20.5 | 25.0 |
| 6 | 24.5 | 12.5 | .5 | 9.5 | 5.5 | 11.5 | 9.5 | 28.5 | 17.5 | 29.5 | 28.0 | 25.0 |
| 7 | 15.0 | 9.0 | 10.5 | 8.5 | -0.5 | 5.0 | 5.5 | 25.5 | 26.5 | 29.5 | 27.0 | 25.0 |
| 8 | 15.5 | 14.0 | 9.5 | .0 | 7.0 | .5 | 7.5 | 17.0 | 26.5 | 29.0 | 24.5 | 25.5 |
| 9 | 17.5 | 16.0 | -0.5 | -2.0 | 6.5 | 10.5 | 6.5 | 22.5 | 28.0 | 25.5 | 22.0 | 25.0 |
| 10 | 15.0 | 12.5 | -4.0 | -13.0 | -1.5 | 16.0 | 9.5 | 25.5 | 22.0 | 28.5 | 26.0 | 25.5 |
| 11 | 19.5 | 8.0 | -0.5 | -12.5 | 3.5 | 18.0 | 12.5 | 28.5 | 26.0 | 27.5 | 25.0 | 25.0 |
| 12 | 17.5 | 11.0 | -0.5 | -3.5 | 5.5 | 19.5 | 21.5 | 30.5 | 26.5 | 27.0 | 23.0 | 27.5 |
| 13 | 16.5 | 13.5 | 5.0 | .0 | .5 | 15.0 | 19.5 | 30.5 | 22.0 | 23.5 | 24.5 | 25.5 |
| 14 | 19.0 | 14.0 | 4.0 | -2.5 | 9.0 | 12.0 | 21.5 | 30.5 | 26.0 | 29.5 | 24.5 | 23.5 |
| 15 | 18.0 | 13.0 | 2.5 | -1.0 | 11.0 | 11.0 | 25.0 | 30.0 | 27.0 | 27.5 | 26.5 | 25.0 |
| 16 | 17.5 | 12.5 | -0.5 | 2.0 | 9.5 | 14.5 | 23.5 | 29.0 | 29.5 | 30.5 | 26.5 | 24.0 |
| 17 | 20.5 | 11.0 | 2.0 | -11.5 | 11.5 | 23.0 | 22.0 | 30.0 | 21.5 | 31.5 | 26.5 | 23.0 |
| 18 | 20.0 | 9.0 | -1.5 | 3.0 | 7.5 | 24.0 | 17.0 | 27.0 | 28.5 | 25.5 | 24.5 | 23.5 |
| 19 | 8.5 | 19.0 | -5.0 | 3.0 | 4.5 | 18.5 | 22.0 | 25.0 | 27.0 | 28.0 | 24.5 | 20.5 |
| 20 | 17.0 | 13.0 | -5.0 | 5.5 | 13.0 | 16.5 | 18.5 | 23.5 | 24.0 | 24.0 | 25.0 | 18.0 |
| 21 | 20.0 | -0.5 | .0 | 7.5 | 7.5 | 15.5 | 15.0 | 25.5 | 25.0 | 28.5 | 24.0 | 18.0 |
| 22 | 21.5 | 1.0 | 6.5 | 4.5 | 2.5 | 10.5 | 14.0 | 27.0 | 23.5 | 29.5 | 24.5 | 14.0 |
| 23 | 12.0 | 6.0 | 14.5 | 11.5 | 16.5 | 13.0 | 17.0 | 26.5 | 26.0 | 25.5 | 23.5 | 16.5 |
| 24 | 9.5 | 6.0 | 3.0 | -0.5 | 21.0 | 18.5 | 21.0 | 24.5 | 26.0 | 27.5 | 24.5 | 19.5 |
| 25 | 14.0 | 6.0 | 2.5 | 3.5 | 4.5 | 21.5 | 23.0 | 25.5 | 29.0 | 29.0 | 24.5 | 18.5 |
| 26 | 15.5 | 17.0 | 6.0 | -6.5 | 4.0 | 5.0 | 22.0 | 25.0 | 28.0 | 29.0 | 24.5 | 14.5 |
| 27 | 16.0 | 15.5 | 8.0 | 2.0 | 1.5 | 1.5 | 17.5 | 25.0 | 29.5 | 29.0 | 19.5 | 18.5 |
| 28 | 13.0 | 5.5 | 10.5 | 7.0 | 6.5 | 9.5 | 17.0 | 27.0 | 27.5 | 27.0 | 21.5 | 20.0 |
| 29 | 19.5 | 6.5 | 4.5 | 7.5 | --- | 17.5 | 21.5 | 27.5 | 26.0 | 24.0 | 23.0 | 21.0 |
| 30 | 17.0 | 6.0 | 3.0 | 14.0 | --- | 22.5 | 22.5 | 27.5 | 24.5 | 27.5 | 23.5 | 22.0 |
| 31 | 17.0 | --- | 4.0 | 18.5 | --- | 21.5 | --- | 30.5 | --- | 22.5 | 21.5 | --- |

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11.5 | -1.5 | -2.0 | -1.0 | -7.0 | 4.5 | 7.0 | 7.5 | 15.5 | 14.0 | 12.0 | 16.0 |
| 2 | 10.5 | -2.0 | -0.5 | -7.0 | -9.5 | 1.0 | 1.5 | 3.0 | 15.5 | 13.5 | 17.0 | 17.5 |
| 3 | 8.5 | -2.0 | -5.0 | -7.5 | -13.5 | -3.5 | .5 | -0.5 | 15.5 | 11.0 | 18.5 | 18.5 |
| 4 | 6.0 | 3.5 | -7.5 | -16.0 | -16.0 | -4.5 | 8.5 | 2.5 | 16.0 | 15.0 | 17.5 | 19.0 |
| 5 | 7.0 | .0 | -2.5 | -18.0 | -14.0 | 1.0 | 7.5 | 7.0 | 17.0 | 16.5 | 19.5 | 18.5 |
| 6 | 5.0 | -3.5 | 2.0 | -13.0 | -7.0 | -1.5 | -1.0 | 9.0 | 17.5 | 19.0 | 19.0 | 16.5 |
| 7 | 4.0 | -2.5 | 3.0 | -7.0 | -7.5 | -4.5 | -3.0 | 6.0 | 15.0 | 19.0 | 18.5 | 15.5 |
| 8 | 6.5 | 5.0 | .5 | -9.0 | -7.5 | -6.0 | .5 | 1.0 | 11.0 | 19.0 | 18.0 | 14.0 |
| 9 | 10.0 | 4.5 | 8.0 | -4.5 | -11.0 | -4.0 | 1.0 | 4.5 | 11.0 | 20.0 | 17.0 | 11.5 |
| 10 | 11.5 | .0 | -2.0 | -15.0 | -2.0 | -4.5 | 9.0 | 9.5 | 18.5 | 19.0 | 17.0 | 10.5 |
| 11 | 8.0 | -5.0 | -3.0 | -16.0 | -13.0 | --- | 10.5 | 9.0 | 15.5 | --- | 16.5 | 11.5 |
| 12 | 4.0 | -7.0 | -4.5 | -13.5 | -18.0 | --- | 11.5 | 4.5 | 15.5 | 19.5 | 15.5 | 13.0 |
| 13 | 2.0 | -4.0 | -3.0 | -10.5 | -12.5 | --- | 12.5 | 4.5 | 11.0 | --- | 14.0 | 14.0 |
| 14 | .5 | -2.0 | -4.0 | -2.5 | -5.5 | --- | 1.0 | 6.5 | 19.0 | 18.5 | 14.5 | 14.5 |
| 15 | 2.0 | 6.5 | -4.5 | -1.5 | -6.0 | --- | 2.0 | 8.0 | 18.0 | 17.0 | 15.5 | 16.5 |
| 16 | 5.0 | .0 | .0 | -8.0 | -2.0 | -4.5 | .5 | 7.0 | 17.0 | 18.0 | 17.5 | 13.5 |
| 17 | 5.0 | .0 | -5.5 | -12.0 | 5.0 | -7.0 | 10.5 | 6.0 | 14.0 | 18.0 | 14.0 | 9.5 |
| 18 | 14.5 | .0 | -5.5 | -13.5 | 4.5 | -2.0 | 7.5 | 12.0 | 11.0 | 18.0 | 12.0 | 9.5 |
| 19 | 8.5 | -5.0 | -5.0 | -10.0 | 7.0 | -4.0 | 4.5 | 9.0 | 16.0 | 18.5 | 13.5 | 7.5 |
| 20 | 3.0 | -7.5 | -12.5 | -4.5 | 3.5 | -5.0 | 1.0 | 8.0 | 17.0 | 11.0 | 12.5 | 6.5 |
| 21 | 3.0 | -6.0 | -15.0 | 1.0 | 1.5 | -3.0 | .0 | 7.0 | 16.5 | 18.0 | 12.0 | 9.0 |
| 22 | 3.0 | -7.0 | -12.0 | -0.5 | .0 | -2.0 | 3.5 | 4.5 | 16.5 | 16.5 | 11.0 | 10.0 |
| 23 | 3.5 | 1.0 | -0.5 | .5 | 2.5 | -1.0 | 11.0 | 5.5 | 14.0 | 15.0 | 12.5 | 5.5 |
| 24 | 3.5 | 5.0 | -7.5 | -3.0 | -1.5 | -2.0 | 5.0 | 8.0 | 13.5 | 17.0 | 13.0 | 5.0 |
| 25 | 2.5 | -4.5 | -15.0 | -5.0 | -3.5 | -3.0 | 4.5 | 10.0 | 15.5 | 18.0 | 14.5 | 5.0 |
| 26 | -1.0 | -6.0 | -15.0 | -1.5 | -3.0 | -2.5 | 2.0 | 11.0 | 12.5 | 19.0 | 12.0 | 8.5 |
| 27 | -2.0 | 1.5 | -9.5 | 1.5 | -5.5 | 1.5 | 7.5 | 14.0 | 11.5 | 19.5 | 14.0 | 11.5 |
| 28 | 7.5 | -0.5 | -4.0 | -4.5 | .0 | .0 | 8.5 | 14.0 | 11.0 | 20.0 | 16.5 | 7.5 |
| 29 | 4.5 | -1.5 | -1.0 | -2.5 | --- | 2.0 | 9.5 | 14.5 | 12.5 | 14.0 | 13.0 | 5.5 |
| 30 | 2.0 | -2.5 | -0.5 | -10.0 | --- | 6.5 | 9.0 | 13.5 | 14.5 | 12.5 | 16.5 | 8.0 |
| 31 | .0 | --- | -0.5 | -13.5 | --- | 2.5 | --- | 16.0 | --- | 14.5 | 16.0 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 8.5 | 3.0 | 5.5 | -0.5 | -2.5 | .0 | 2.5 | 3.0 | 15.5 | 11.0 | 16.0 | 18.5 |
| 2 | 3.5 | 5.5 | 2.5 | -4.5 | -0.5 | -2.5 | .0 | 8.5 | 13.0 | 10.0 | 15.0 | 17.0 |
| 3 | 4.0 | 6.0 | -1.0 | 2.0 | 3.5 | 4.5 | 8.5 | 8.5 | 12.0 | 14.0 | 15.5 | 13.0 |
| 4 | 3.0 | 6.5 | 1.0 | .5 | .0 | 4.5 | 2.5 | 4.0 | 15.0 | 16.5 | 17.5 | 11.0 |
| 5 | 7.5 | 9.5 | -2.0 | -3.0 | -2.0 | 2.5 | -0.5 | 5.0 | 12.0 | 15.0 | 17.0 | 10.5 |
| 6 | 11.5 | 6.0 | -6.0 | -1.5 | -7.5 | 1.0 | -2.0 | 7.0 | 12.0 | 14.5 | 19.0 | 11.5 |
| 7 | 5.0 | -1.0 | -5.0 | -1.5 | -11.0 | -3.0 | -4.5 | 10.0 | 13.5 | 15.5 | 17.5 | 12.0 |
| 8 | 3.5 | -2.5 | -0.5 | -6.5 | -9.5 | -4.5 | -1.0 | 8.0 | 14.5 | 11.0 | 17.0 | 14.5 |
| 9 | 2.5 | .5 | -5.0 | -12.0 | -3.0 | -2.5 | 1.0 | 6.5 | 15.0 | 18.0 | 18.0 | 13.5 |
| 10 | 9.5 | 1.5 | -6.0 | -21.0 | -6.0 | -1.5 | -0.5 | 6.0 | 16.0 | 18.0 | 15.5 | 12.0 |
| 11 | 10.5 | -1.0 | -5.0 | -20.5 | -6.5 | .5 | -1.5 | 6.5 | 13.0 | 18.0 | 14.5 | 13.0 |
| 12 | 1.0 | -3.0 | -4.0 | -12.5 | -6.5 | 6.0 | 1.5 | 7.5 | 13.0 | 17.5 | 12.0 | 13.5 |
| 13 | 3.5 | -4.0 | -8.0 | -4.5 | -6.0 | 2.5 | 9.0 | 9.0 | 15.0 | 17.0 | 11.5 | 14.5 |
| 14 | 2.5 | -4.5 | -1.0 | -7.5 | -8.5 | -1.0 | 7.0 | 10.0 | 12.0 | 17.5 | 14.5 | 18.0 |
| 15 | 4.0 | -3.5 | -1.5 | -8.0 | -4.0 | 4.5 | 4.5 | 10.0 | 10.0 | 18.5 | 13.5 | 18.5 |
| 16 | 7.5 | -3.0 | -5.5 | -17.0 | 4.5 | 4.5 | 9.0 | 11.5 | 13.5 | 17.5 | 14.0 | 15.0 |
| 17 | 6.0 | 5.5 | -5.0 | -26.0 | 4.5 | 6.5 | 8.5 | 12.5 | 14.5 | 18.5 | 14.0 | 13.0 |
| 18 | 8.5 | .0 | -7.5 | -13.0 | 2.5 | 2.5 | 3.0 | 11.0 | 14.0 | 18.5 | 13.5 | 11.5 |
| 19 | -0.5 | -1.0 | -12.0 | -0.5 | 1.5 | 7.5 | 3.0 | 14.0 | 11.0 | 18.5 | 12.5 | 13.0 |
| 20 | -2.0 | -1.0 | -12.5 | .5 | 2.5 | 11.5 | 7.5 | 12.5 | 12.0 | 11.0 | 15.0 | 11.5 |
| 21 | -0.5 | -1.5 | -13.5 | 2.0 | .5 | 9.0 | 2.5 | 15.0 | 12.0 | 18.0 | 11.5 | 10.0 |
| 22 | 5.5 | -5.0 | .0 | 1.0 | -2.0 | 2.0 | 1.0 | 14.5 | 12.5 | 17.5 | 10.0 | 8.0 |
| 23 | 3.0 | -7.5 | 2.0 | 1.0 | -4.0 | 1.0 | -2.0 | 15.5 | 11.5 | 18.0 | 11.0 | 7.0 |
| 24 | -1.0 | 1.5 | .0 | -7.0 | 2.0 | -1.0 | -1.0 | 15.5 | 11.0 | 17.0 | 15.5 | 6.5 |
| 25 | 2.0 | -1.5 | -4.0 | -8.5 | -2.5 | 2.5 | 1.5 | 15.0 | 11.0 | 16.5 | 12.0 | 9.0 |
| 26 | 10.5 | -3.0 | -4.0 | -14.5 | -5.5 | -0.5 | 9.0 | 13.0 | 15.0 | 17.5 | 11.5 | 11.5 |
| 27 | 11.0 | 4.5 | -2.5 | -16.0 | -0.5 | -5.5 | 8.0 | 16.0 | 16.0 | 18.0 | 12.0 | 11.0 |
| 28 | 6.0 | -1.0 | -2.5 | -6.0 | -1.0 | -8.0 | 5.0 | 16.0 | 17.5 | 18.5 | 12.0 | 10.0 |
| 29 | 5.0 | -3.0 | -5.0 | -7.0 | --- | -4.5 | 1.0 | 15.5 | 18.0 | 16.5 | 10.5 | 9.0 |
| 30 | 4.5 | -5.0 | -9.0 | -1.0 | --- | 3.5 | 3.0 | 16.0 | 14.0 | 18.5 | 11.5 | 10.5 |
| 31 | 4.0 | --- | -4.0 | 1.0 | --- | 5.5 | --- | 17.0 | --- | 18.5 | 17.0 | --- |

03213495 CRANE CREEK NEAR PANTHER, WV

LOCATION.--Lat 37°25'28", long 81°51'39", McDowell County, Hydrologic Unit 05070201, on left bank 100 ft (30 m) upstream from culvert on State Route 3/1, 200 ft (61 m) upstream from mouth and Panther Creek, and 4 mi (6.4 km) southwest of Iaeger.

DRAINAGE AREA.--0.54 $mi^2$ (1.40 $km^2$).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

GAGE.--Water-stage and rainfall recorders. Datum of gage is 1,160.00 ft (353.568 m) National Geodetic Vertical Datum of 1929.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 72 $ft^3/s$ (2.04 $m^3/s$) June 6, 1981, gage height, 3.12 ft (0.951 m); minimum, less than 0.01 $ft^3/s$ (<0.001 $m^3/s$) Oct. 14-16, 21-24, 1980, Sept. 28-30, Oct. 1, 1981; minimum gage height 1.66 ft (0.506 m) Oct. 1, 1981.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .04 | .10 | .30 | .23 | .28 | .48 | .57 | .32 | .65 | .16 | .03 | .04 |
| 2 | .05 | .10 | .27 | .23 | 2.7 | .57 | .67 | .28 | 1.1 | .09 | .05 | .03 |
| 3 | .08 | .08 | .23 | .24 | 1.1 | .53 | .67 | .25 | .88 | .08 | .07 | .09 |
| 4 | .09 | .08 | .21 | .16 | .62 | .62 | .61 | .23 | .66 | .06 | .06 | .14 |
| 5 | .07 | .09 | .21 | .10 | .41 | 1.5 | 1.6 | .22 | .67 | .06 | .04 | .07 |
| 6 | .05 | .07 | .20 | .07 | .35 | 1.0 | 1.8 | .22 | 11 | .19 | .14 | .13 |
| 7 | .03 | .06 | .18 | .06 | .35 | .80 | 1.1 | .21 | 7.4 | .12 | .07 | .15 |
| 8 | .02 | .04 | .17 | .05 | .35 | .50 | .76 | .18 | 1.7 | .10 | .22 | .11 |
| 9 | .02 | .04 | .23 | .10 | .26 | .50 | .67 | .17 | .78 | .08 | .09 | .08 |
| 10 | .02 | .04 | .21 | .08 | .30 | .45 | 2.2 | .16 | .51 | .10 | .04 | .03 |
| 11 | .02 | .04 | .19 | .07 | .62 | .42 | 3.7 | .21 | .38 | .08 | .04 | .04 |
| 12 | .02 | .04 | .18 | .06 | .50 | .37 | 1.6 | .17 | .57 | .04 | .14 | .05 |
| 13 | .02 | .02 | .20 | .10 | .40 | .36 | 1.1 | .14 | .89 | .04 | .05 | .04 |
| 14 | .01 | .02 | .17 | .14 | .53 | .31 | 1.0 | .14 | .60 | .82 | .03 | .04 |
| 15 | .01 | .03 | .17 | .16 | .49 | .28 | .90 | .31 | .42 | .28 | .03 | .24 |
| 16 | .01 | .03 | .19 | .14 | .53 | .45 | .86 | .18 | .36 | .19 | .05 | .24 |
| 17 | .01 | .20 | .15 | .12 | 1.9 | .62 | 2.8 | .14 | .29 | .13 | .04 | .08 |
| 18 | .02 | .41 | .13 | .12 | 2.3 | .62 | 4.0 | .14 | .25 | .09 | .03 | .04 |
| 19 | .02 | .19 | .13 | .11 | 1.1 | .54 | 2.2 | 2.9 | .22 | .07 | .06 | .04 |
| 20 | .02 | .14 | .10 | .13 | 1.6 | .47 | 5.5 | 3.9 | .20 | .07 | .12 | .05 |
| 21 | .01 | .11 | .09 | .32 | 1.1 | .42 | 3.3 | 1.1 | .18 | .08 | .10 | .03 |
| 22 | .01 | .09 | .08 | .45 | .78 | .44 | 1.5 | .60 | .16 | .08 | .09 | .03 |
| 23 | .01 | .12 | .12 | .49 | 1.1 | .54 | .95 | .42 | .14 | .05 | .08 | .03 |
| 24 | .01 | 1.8 | .21 | .43 | 1.1 | 1.5 | .75 | .33 | .10 | .04 | .08 | .02 |
| 25 | .25 | .51 | .17 | .37 | .80 | 2.6 | .61 | .27 | .15 | .04 | .07 | .02 |
| 26 | .12 | .30 | .12 | .36 | .60 | 2.0 | .52 | .25 | .24 | .03 | .07 | .02 |
| 27 | .08 | .30 | .10 | .32 | .48 | 1.2 | .46 | .38 | .12 | .02 | .10 | .02 |
| 28 | .10 | .39 | .08 | .28 | .46 | .75 | .41 | .58 | .09 | .16 | .12 | .01 |
| 29 | .15 | .42 | .12 | .25 | --- | .64 | .39 | .76 | .07 | .16 | .12 | .01 |
| 30 | .12 | .36 | .23 | .23 | --- | .62 | .37 | .64 | .08 | .07 | .15 | .01 |
| 31 | .12 | --- | .21 | .21 | --- | .49 | --- | .59 | --- | .04 | .08 | --- |
| TOTAL | 1.61 | 6.22 | 5.35 | 6.18 | 23.11 | 22.59 | 43.57 | 16.38 | 30.86 | 3.62 | 2.46 | 1.93 |
| MEAN | .052 | .21 | .17 | .20 | .83 | .73 | 1.45 | .53 | 1.03 | .12 | .079 | .064 |
| CFSM | .10 | .39 | .32 | .37 | 1.54 | 1.35 | 2.69 | .99 | 1.91 | .22 | .15 | .12 |
| IN. | .11 | .43 | .37 | .42 | 1.59 | 1.55 | 3.00 | 1.13 | 2.12 | .25 | .17 | .13 |

[illegible] 1981 TOTAL 163.88 MEAN .45 CFSM .83 IN 11.27

WATER-DISCHARGE RECORDS

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .03 | .03 | .03 | .47 | .49 | 2.4 | .49 | .71 | .42 | .13 | .10 | 1.7 |
| 2 | .12 | .03 | .03 | .38 | .59 | 1.7 | .51 | .59 | .36 | .09 | .06 | .42 |
| 3 | .04 | .03 | .03 | 3.5 | 4.9 | 1.0 | .57 | .49 | .30 | .28 | .04 | .23 |
| 4 | .02 | .03 | .05 | 3.0 | 2.4 | .77 | .50 | .41 | .44 | .35 | .03 | .15 |
| 5 | .02 | .04 | .08 | 1.0 | 1.2 | .62 | .45 | .37 | 1.1 | .32 | .03 | .10 |
| 6 | .05 | .14 | .06 | .54 | .74 | .54 | .47 | .34 | .74 | .21 | .03 | .08 |
| 7 | .13 | .08 | .06 | .42 | .52 | 3.2 | .37 | .31 | .54 | .15 | .02 | .06 |
| 8 | .07 | .06 | .07 | .31 | .45 | 2.5 | .38 | .32 | .38 | .18 | .17 | .05 |
| 9 | .04 | .04 | .06 | .22 | 2.0 | 1.9 | .43 | .26 | .31 | .19 | .26 | .04 |
| 10 | .04 | .03 | .05 | .17 | 2.2 | 2.1 | .37 | .23 | .55 | .13 | .26 | .04 |
| 11 | .04 | .03 | .04 | .14 | 1.2 | 1.5 | .36 | .21 | .49 | .19 | .13 | .05 |
| 12 | .03 | .02 | .03 | .12 | .77 | 1.1 | .36 | .20 | .43 | .18 | .07 | .06 |
| 13 | .02 | .02 | .03 | .10 | .62 | 1.1 | .37 | .17 | .81 | .13 | .05 | .06 |
| 14 | .01 | .02 | .26 | .09 | .49 | 1.2 | .35 | .16 | .65 | .11 | .04 | .28 |
| 15 | .01 | .01 | .30 | .08 | .50 | 6.8 | .33 | .15 | .45 | .08 | .03 | .12 |
| 16 | .01 | .01 | .21 | .06 | 2.4 | 4.0 | .30 | .12 | .33 | .06 | .03 | .08 |
| 17 | .02 | .02 | .22 | .06 | 4.5 | 2.9 | .35 | .12 | .27 | .06 | .03 | .07 |
| 18 | .05 | .02 | .17 | .05 | 2.6 | 1.8 | .32 | .12 | .21 | .08 | .02 | .06 |
| 19 | .08 | .01 | .13 | .24 | 1.8 | 1.4 | .32 | .34 | .18 | .07 | .01 | .03 |
| 20 | .04 | .04 | .10 | 1.1 | 1.5 | 2.4 | .33 | .45 | .16 | .14 | .01 | .03 |
| 21 | .02 | .08 | .08 | 9.8 | 1.1 | 2.4 | .32 | .51 | .12 | .07 | .01 | .04 |
| 22 | .02 | .07 | 1.1 | 2.5 | .76 | 1.8 | .29 | .35 | .14 | .04 | .01 | .03 |
| 23 | .15 | .06 | .70 | 1.8 | .58 | 1.1 | .27 | .32 | .10 | .03 | .01 | .03 |
| 24 | .13 | .11 | .37 | 1.0 | .55 | .82 | .27 | .58 | .08 | .03 | .02 | .04 |
| 25 | .06 | .06 | .27 | .60 | .44 | .66 | .31 | .78 | .06 | .03 | .18 | .04 |
| 26 | .16 | .04 | .20 | .40 | .39 | .57 | .47 | .50 | .06 | .02 | .05 | .09 |
| 27 | .15 | .04 | .16 | .33 | .56 | .48 | 11 | 1.0 | .06 | .03 | .03 | .10 |
| 28 | .10 | .05 | .13 | .27 | 1.1 | .42 | 4.9 | .74 | .07 | .24 | .03 | .05 |
| 29 | .07 | .03 | .10 | .23 | --- | .42 | 1.8 | .70 | .16 | .16 | .02 | .04 |
| 30 | .05 | .03 | .08 | .22 | --- | .42 | 1.0 | .63 | .34 | .16 | .03 | .04 |
| 31 | .04 | --- | .25 | .39 | --- | .49 | --- | .44 | --- | .16 | .62 | --- |
| TOTAL | 1.82 | 1.28 | 5.45 | 29.59 | 37.35 | 50.51 | 28.56 | 12.62 | 10.31 | 4.10 | 2.43 | 4.21 |
| MEAN | .059 | .043 | .18 | .95 | 1.33 | 1.63 | .95 | .41 | .34 | .13 | .078 | .14 |
| CFSM | .11 | .08 | .33 | 1.76 | 2.46 | 3.02 | 1.76 | .76 | .63 | .24 | .14 | .26 |
| IN. | .13 | .09 | .37 | 2.03 | 2.57 | 3.47 | 1.96 | .87 | .71 | .28 | .17 | .29 |

WTR YR 1982 TOTAL 188.23 MEAN .52 CFSM .96 IN 12.94

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

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

EXTREMES FOR PERIOD OF RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 254 mg/L June 6, 1981; minimum daily mean, 0 mg/L many days during year.

SEDIMENT LOADS: Maximum daily, 27 tons (24 metric tons) June 6, 1981; minimum daily, 0 ton (0 metric ton) many days during year.

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 2 | 2 | 2 | 2 | 1 | 14 | 2 | 18 | 4 | 2 | 0 |
| 2 | 2 | 2 | 3 | 2 | 23 | 1 | 3 | 2 | 10 | 2 | 1 | 0 |
| 3 | 2 | 2 | 3 | 2 | 3 | 1 | 2 | 2 | 9 | 3 | 1 | 17 |
| 4 | 2 | 2 | 3 | 2 | 2 | 4 | 2 | 2 | 16 | 3 | 0 | 4 |
| 5 | 2 | 2 | 2 | 2 | 2 | 17 | 23 | 2 | 10 | 5 | 1 | 2 |
| 6 | 2 | 2 | 1 | 1 | 1 | 3 | 9 | 2 | 254 | 11 | 8 | 11 |
| 7 | 2 | 2 | 2 | 1 | 1 | 2 | 7 | 2 | 94 | 3 | 4 | 7 |
| 8 | 2 | 2 | 3 | 1 | 2 | 1 | 6 | 2 | 12 | 2 | 25 | 2 |
| 9 | 2 | 2 | 3 | 1 | 2 | 1 | 5 | 2 | 10 | 1 | 8 | 2 |
| 10 | 2 | 2 | 3 | 1 | 3 | 1 | 119 | 3 | 8 | 2 | 3 | 2 |
| 11 | 2 | 2 | 3 | 1 | 6 | 1 | 34 | 15 | 5 | 2 | 3 | 2 |
| 12 | 2 | 2 | 3 | 1 | 2 | 1 | 16 | 7 | 51 | 3 | 11 | 2 |
| 13 | 2 | 2 | 2 | 1 | 2 | 1 | 17 | 5 | 5 | 3 | 2 | 2 |
| 14 | 2 | 1 | 2 | 2 | 2 | 1 | 10 | 6 | 9 | 102 | 3 | 2 |
| 15 | 2 | 1 | 3 | 3 | 2 | 1 | 8 | 20 | 6 | 7 | 3 | 13 |
| 16 | 2 | 2 | 3 | 3 | 4 | 5 | 7 | 5 | 10 | 4 | 2 | 6 |
| 17 | 2 | 8 | 2 | 3 | 15 | 1 | 41 | 4 | 10 | 2 | 1 | 2 |
| 18 | 2 | 9 | 2 | 2 | 6 | 2 | 12 | 10 | 4 | 2 | 2 | 2 |
| 19 | 2 | 3 | 2 | 1 | 5 | 2 | 5 | 74 | 4 | 2 | 6 | 2 |
| 20 | 2 | 3 | 2 | 1 | 5 | 2 | 199 | 12 | 4 | 1 | 0 | 2 |
| 21 | 2 | 3 | 2 | 7 | 5 | 2 | 25 | 9 | 4 | 1 | 0 | 1 |
| 22 | 2 | 2 | 2 | 1 | 5 | 2 | 20 | 8 | 4 | 1 | 0 | 1 |
| 23 | 2 | 3 | 2 | 1 | 12 | 8 | 15 | 8 | 3 | 1 | 0 | 1 |
| 24 | 2 | 107 | 2 | 1 | 0 | 26 | 10 | 7 | 4 | 1 | 0 | 1 |
| 25 | 11 | 5 | 2 | 1 | 0 | 19 | 5 | 5 | 17 | 0 | 0 | 0 |
| 26 | 3 | 3 | 2 | 1 | 0 | 11 | 2 | 4 | 10 | 0 | 0 | 0 |
| 27 | 2 | 3 | 2 | 1 | 0 | 4 | 2 | 18 | 3 | 1 | 0 | 0 |
| 28 | 4 | 3 | 1 | 2 | 0 | 2 | 2 | 7 | 3 | 28 | 0 | 1 |
| 29 | 5 | 3 | 1 | 3 | --- | 2 | 2 | 7 | 3 | 5 | 0 | 1 |
| 30 | 3 | 2 | 1 | 2 | --- | 2 | 2 | 18 | 8 | 1 | 0 | 1 |
| 31 | 2 | --- | 2 | 1 | --- | 2 | --- | 11 | --- | 3 | 0 | --- |

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .03 | .00 | .00 | .00 |
| 2 | .00 | .00 | .00 | .00 | .20 | .00 | .00 | .00 | .03 | .00 | .00 | .00 |
| 3 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | .00 | .00 |
| 4 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .04 | .00 | .00 | .00 |
| 5 | .00 | .00 | .00 | .00 | .00 | .07 | .10 | .00 | .02 | .00 | .00 | .00 |
| 6 | .00 | .00 | .00 | .00 | .00 | .00 | .04 | .00 | 27 | .00 | .00 | .00 |
| 7 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | 3.0 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .06 | .00 | .02 | .00 |
| 9 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .00 | .00 | 1.4 | .00 | .01 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .01 | .00 | .34 | .00 | .00 | .00 | .00 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .00 | .07 | .00 | .24 | .00 | .00 | .00 |
| 13 | .00 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .01 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .00 | .00 | .00 | .03 | .00 | .01 | .60 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .02 | .00 | .00 | .00 | .00 |
| 16 | .00 | .00 | .00 | .00 | .00 | .00 | .02 | .00 | .01 | .00 | .00 | .00 |
| 17 | .00 | .00 | .00 | .00 | .10 | .00 | .43 | .00 | .01 | .00 | .00 | .00 |
| 18 | .00 | .01 | .00 | .00 | .04 | .00 | .13 | .00 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .01 | .00 | .03 | .81 | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .02 | .00 | 3.2 | .14 | .00 | .00 | .00 | .00 |
| 21 | .00 | .00 | .00 | .00 | .01 | .00 | .22 | .03 | .00 | .00 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .01 | .00 | .08 | .01 | .00 | .00 | .00 | .00 |
| 23 | .00 | .00 | .00 | .00 | .04 | .01 | .04 | .00 | .00 | .00 | .00 | .00 |
| 24 | .00 | .86 | .00 | .00 | .00 | .13 | .02 | .00 | .00 | .00 | .00 | .00 |
| 25 | .00 | .00 | .00 | .00 | .00 | .13 | .00 | .00 | .01 | .00 | .00 | .00 |
| 26 | .00 | .00 | .00 | .00 | .00 | .06 | .00 | .00 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .02 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .01 | .00 | .00 |
| 29 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .01 | .00 | .00 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .00 | .00 | .03 | .00 | .00 | .00 | .00 |
| 31 | .00 | --- | .00 | .00 | --- | .00 | --- | .02 | --- | .00 | .00 | --- |
| TOTAL | 0.00 | 0.87 | 0.00 | 0.00 | 0.44 | 0.41 | 6.28 | 1.10 | 30.52 | 0.61 | 0.02 | 0.00 |
| MEAN | .00 | .03 | .00 | .00 | .02 | .01 | .21 | .04 | 1.0 | .02 | .00 | .00 |

WTR YR 1981 TOTAL 40.25 MEAN .11

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | OXYGEN, DIS-SOLVED (MG/L) | HARD-NESS (MG/L AS CACO3) | HARD-NESS, NONCAR-BONATE (MG/L CACO3) | ACIDITY (MG/L AS CACO3) | CALCIUM DIS-SOLVED (MG/L AS CA) | MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) | SODIUM, DIS-SOLVED (MG/L AS NA) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | | |
| 18... | .36 | 69 | 6.0 | 7.0 | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | | |
| 01... | .28 | 36 | 6.5 | 7.0 | -- | -- | -- | -- | -- | -- | -- |
| 12... | .12 | 44 | 6.6 | .0 | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | | | | |
| 03... | .89 | 41 | 6.4 | 1.0 | 9.2 | 17 | -- | 5.0 | 3.8 | 1.9 | 2.5 |
| 23... | 1.1 | 40 | 6.6 | 7.0 | 10.4 | 15 | 8 | 5.0 | 3.1 | 1.8 | 2.4 |
| 27... | -- | 40 | 6.6 | 7.0 | 10.4 | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | | |
| 17... | .66 | 45 | 6.2 | 5.0 | 11.8 | -- | -- | -- | -- | -- | -- |
| 23... | .49 | 46 | 6.1 | 3.5 | 12.5 | 16 | 9 | 5.0 | 3.0 | 2.0 | 2.9 |
| APR | | | | | | | | | | | |
| 07... | 1.0 | 40 | 6.4 | 9.0 | 10.6 | 15 | 9 | 1.0 | 3.1 | 1.8 | 2.3 |
| 28... | .42 | 55 | 6.6 | 12.0 | 13.6 | 18 | 9 | 1.0 | 3.7 | 2.2 | 3.3 |
| MAY | | | | | | | | | | | |
| 27... | .45 | 58 | 6.5 | 14.0 | 10.3 | 18 | 7 | 1.0 | 3.9 | 2.1 | 2.7 |

| DATE | SODIUM AD-SORP-TION RATIO | ALKA-LINITY FIELD (MG/L AS CACO3) | SULFATE DIS-SOLVED (MG/L AS SO4) | CHLO-RIDE, DIS-SOLVED (MG/L AS CL) | IRON, TOTAL RECOV-ERABLE (UG/L AS FE) | IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE) | IRON, DIS-SOLVED (UG/L AS FE) | MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) | MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN) | MANGA-NESE, DIS-SOLVED (UG/L AS MN) |
|---|---|---|---|---|---|---|---|---|---|---|
| NOV | | | | | | | | | | |
| 18... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | |
| 01... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 12... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | | | |
| 03... | .3 | -- | 13 | 1.3 | 400 | 380 | 20 | 10 | 9 | 1 |
| 23... | .3 | 7.0 | 14 | .7 | 180 | 150 | 30 | 10 | 8 | 2 |
| 23... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | |
| 17... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 23... | .3 | 7.0 | 13 | .7 | 70 | -- | <10 | 10 | -- | <1 |
| APR | | | | | | | | | | |
| 07... | .3 | 6.0 | 11 | .5 | 150 | 130 | 20 | 10 | -- | <1 |
| 28... | .3 | 9.0 | 14 | .6 | 120 | -- | <10 | 10 | -- | <1 |
| MAY | | | | | | | | | | |
| 27... | .3 | 11 | 15 | .9 | 220 | -- | <10 | 20 | -- | <1 |
| JUN | | | | | | | | | | |
| 12... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | OXYGEN, DIS-SOLVED (MG/L) | HARD-NESS (MG/L AS CACO3) | HARD-NESS, NONCAR-BONATE (MG/L CACO3) | ACIDITY (MG/L AS CACO3) | CALCIUM DIS-SOLVED (MG/L AS CA) | MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) | SODIUM, DIS-SOLVED (MG/L AS NA) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| JUN | | | | | | | | | | | |
| 17... | .30 | 68 | 6.5 | 17.5 | -- | 21 | 10 | 1.0 | 4.5 | 2.4 | 3.5 |
| JUL | | | | | | | | | | | |
| 14... | 1.6 | 71 | 6.4 | 20.0 | 8.3 | 21 | 12 | -- | 4.5 | 2.3 | 2.9 |
| 28... | .25 | 114 | 7.4 | 21.0 | -- | 31 | 10 | -- | 7.0 | 3.4 | 8.0 |
| AUG | | | | | | | | | | | |
| 18... | .03 | 122 | 7.2 | 17.0 | 7.5 | 32 | 10 | -- | 7.2 | 3.5 | 7.5 |
| SEP | | | | | | | | | | | |
| 09... | .08 | 108 | 7.3 | 16.0 | -- | -- | -- | -- | -- | -- | -- |

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | SODIUM ADSORPTION RATIO | ALKALINITY FIELD (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 DAY) | SOLIDS, DISSOLVED (TONS PER AC-FT) |
|---|---|---|---|---|---|---|---|---|---|---|
| JUN | | | | | | | | | | |
| 17... | .3 | 11 | 15 | .7 | -- | -- | 45 | -- | .04 | .06 |
| JUL | | | | | | | | | | |
| 14... | .3 | 9.0 | 13 | -- | -- | -- | 47 | -- | .20 | .06 |
| 28... | .6 | 21 | 23 | -- | -- | -- | 71 | -- | .05 | .10 |
| AUG | | | | | | | | | | |
| 18... | .6 | 22 | 24 | .8 | <.1 | 8.0 | 77 | 66 | .01 | .10 |
| SEP | | | | | | | | | | |
| 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | NITROGEN, NITRITE TOTAL (MG/L AS N) | NITROGEN, AMMONIA TOTAL (MG/L AS N) | NITROGEN, NO2+NO3 TOTAL (MG/L AS N) | PHOSPHORUS, TOTAL (MG/L AS P) | ARSENIC TOTAL (UG/L AS AS) | ARSENIC TOTAL IN BOTTOM MATERIAL (UG/G AS AS) | BARIUM, TOTAL RECOVERABLE (UG/L AS BA) | CADMIUM TOTAL RECOVERABLE (UG/L AS CD) | CADMIUM RECOV. FM BOTTOM MATERIAL (UG/G AS CD) | CHROMIUM, RECOV. FM BOTTOM MATERIAL (UG/G) |
|---|---|---|---|---|---|---|---|---|---|---|
| JUN | | | | | | | | | | |
| 17... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | |
| 14... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 28... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | |
| 18... | <.010 | <.010 | .51 | <.010 | 1 | 5 | <50 | <1 | <1 | <10 |
| SEP | | | | | | | | | | |
| 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) | COBALT, RECOV. FM BOTTOM MATERIAL (UG/G AS CO) | COPPER, TOTAL RECOVERABLE (UG/L AS CU) | COPPER, RECOV. FM BOTTOM MATERIAL (UG/G AS CU) | IRON, TOTAL RECOVERABLE (UG/L AS FE) | IRON, SUSPENDED RECOVERABLE (UG/L AS FE) | IRON, DISSOLVED (UG/L AS FE) | IRON, RECOV. FM BOTTOM MATERIAL (UG/G AS FE) | LEAD, TOTAL RECOVERABLE (UG/L AS PB) | LEAD, RECOV. FM BOTTOM MATERIAL (UG/G AS PB) |
|---|---|---|---|---|---|---|---|---|---|---|
| JUN | | | | | | | | | | |
| 17... | -- | -- | -- | -- | 200 | 180 | 20 | -- | -- | -- |
| JUL | | | | | | | | | | |
| 14... | -- | -- | -- | -- | 1000 | 930 | 70 | -- | -- | -- |
| 28... | -- | -- | -- | -- | 540 | 520 | 20 | -- | -- | -- |
| AUG | | | | | | | | | | |
| 18... | 10 | 10 | 4 | <10 | 110 | -- | -- | 6300 | 17 | 10 |
| SEP | | | | | | | | | | |
| 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) | MANGANESE, SUSPENDED RECOV. (UG/L AS MN) | MANGANESE, DISSOLVED (UG/L AS MN) | MERCURY TOTAL RECOVERABLE (UG/L AS HG) | MERCURY RECOV. FM BOTTOM MATERIAL (UG/G AS HG) | SELENIUM, TOTAL (UG/L AS SE) | SELENIUM, TOTAL IN BOTTOM MATERIAL (UG/G) | SILVER, TOTAL RECOVERABLE (UG/L AS AG) | ZINC, RECOV. FM BOTTOM MATERIAL (UG/G AS ZN) | CYANIDE TOTAL (MG/L AS CN) |
|---|---|---|---|---|---|---|---|---|---|---|
| JUN | | | | | | | | | | |
| 17... | 0 | 0 | 4 | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | |
| 14... | 30 | 20 | 6 | -- | -- | -- | -- | -- | -- | -- |
| 28... | 10 | 6 | 4 | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | |
| 18... | 10 | -- | -- | <.1 | <.01 | <1 | <1 | <1 | 15 | <.01 |
| SEP | | | | | | | | | | |
| 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | OXYGEN, DIS-SOLVED (MG/L) | HARD-NESS (MG/L AS CACO3) | HARD-NESS, NONCAR-BONATE (MG/L CACO3) | CALCIUM DIS-SOLVED (MG/L AS CA) | MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) | SODIUM, DIS-SOLVED (MG/L AS NA) | SODIUM AD-SORP-TION RATIO | ALKA-LINITY FIELD (MG/L AS CACO3) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | | |
| 01... | .01 | 142 | 7.1 | 15.0 | 7.6 | 43 | 19 | 9.5 | 4.6 | 9.8 | .7 | 24 |
| 20... | .04 | 138 | 7.2 | 9.0 | 8.0 | 36 | -- | 8.0 | 4.0 | 9.6 | .7 | -- |
| NOV | | | | | | | | | | | | |
| 09... | .03 | 118 | 7.2 | 7.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | | | |
| 01... | .03 | 120 | 7.2 | 6.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| 21... | .08 | 85 | 7.1 | .0 | -- | -- | -- | -- | -- | -- | -- | -- |
| JAN | | | | | | | | | | | | |
| 11... | .22 | 77 | 7.2 | .0 | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | | | | | |
| 02... | .53 | 58 | 7.0 | 2.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| 22... | .72 | 54 | 7.3 | 5.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | | | |
| 15... | 12 | 45 | 7.0 | 7.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | | | |
| 05... | .45 | 53 | 7.3 | 7.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| 26... | .45 | 64 | 7.3 | 10.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY | | | | | | | | | | | | |
| 17... | .12 | 89 | 7.1 | 14.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | | | |
| 07... | .53 | 52 | 7.2 | 14.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| 28... | .08 | 112 | 7.1 | 17.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | | | |
| 19... | .06 | 102 | 7.1 | 18.5 | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | | | |
| 10... | .22 | 80 | 7.1 | 18.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| 31... | .67 | 70 | 7.1 | 17.0 | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP | | | | | | | | | | | | |
| 21... | .03 | 125 | 7.1 | 14.0 | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | SULFATE DIS-SOLVED (MG/L AS SO4) | CHLO-RIDE, DIS-SOLVED (MG/L AS CL) | SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) | SOLIDS, DIS-SOLVED (TONS PER DAY) | SOLIDS, DIS-SOLVED (TONS PER AC-FT) | IRON, TOTAL RECOV-ERABLE (UG/L AS FE) | IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE) | IRON, DIS-SOLVED (UG/L AS FE) | MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) | MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN) | MANGA-NESE, DIS-SOLVED (UG/L AS MN) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | |
| 01... | 30 | .5 | 85 | .00 | .12 | 120 | 110 | 9 | 10 | 0 | 14 |
| 20... | 28 | .7 | 85 | .01 | .12 | 80 | -- | <3 | 10 | 6 | 4 |
| NOV | | | | | | | | | | | |
| 09... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | | |
| 01... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 21... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JAN | | | | | | | | | | | |
| 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | | | | |
| 02... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 22... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | | |
| 15... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | | |
| 05... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 26... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY | | | | | | | | | | | |
| 17... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | | | | |
| 07... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 28... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | | |
| 19... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | | |
| 10... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 31... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| SEP | | | | | | | | | | | |
| 21... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | .00 | .01 | .01 | .46 | .04 | .36 | .00 | .54 | .02 | .00 | .00 |
| 2 | .20 | .00 | .16 | .08 | .36 | .00 | .00 | .00 | .15 | .00 | .12 | .00 |
| 3 | .18 | .00 | .00 | .00 | .00 | .00 | .01 | .00 | .08 | .11 | .06 | .35 |
| 4 | .02 | .13 | .00 | .00 | .00 | .56 | .01 | .00 | .54 | .00 | .00 | .00 |
| 5 | .01 | .00 | .00 | .00 | .00 | .30 | .58 | .00 | .01 | .23 | .00 | .00 |
| 6 | .00 | .00 | .01 | .00 | .02 | .00 | .00 | .03 | 2.06 | .22 | .43 | .40 |
| 7 | .00 | .00 | .00 | .00 | .02 | .00 | .00 | .00 | .01 | .08 | .57 | .00 |
| 8 | .00 | .00 | .00 | .00 | .21 | .00 | .00 | .00 | .00 | .00 | .02 | .10 |
| 9 | .00 | .05 | .30 | .18 | .00 | .00 | .26 | .00 | .00 | .01 | .00 | .00 |
| 10 | .00 | .00 | .02 | .00 | .28 | .00 | .75 | .00 | .12 | .00 | .00 | .00 |
| 11 | .00 | .00 | .00 | .00 | .14 | .00 | .01 | .30 | .00 | .00 | .15 | .00 |
| 12 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .01 | .85 | .00 | .28 | .00 |
| 13 | .00 | .01 | .00 | .02 | .17 | .01 | .38 | .00 | .02 | .04 | .00 | .00 |
| 14 | .00 | .00 | .00 | .01 | .00 | .00 | .16 | .66 | .00 | 1.92 | .00 | .09 |
| 15 | .00 | .08 | .05 | .04 | .00 | .01 | .00 | .03 | .00 | .00 | .06 | 1.12 |
| 16 | .00 | .05 | .02 | .00 | .23 | .60 | .00 | .01 | .47 | .13 | .12 | .03 |
| 17 | .00 | 1.07 | .00 | .00 | .46 | .01 | .81 | .00 | .00 | .00 | .00 | .00 |
| 18 | .03 | .02 | .00 | .00 | .02 | .00 | .16 | .75 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .05 | .02 | .41 | .09 | .00 | 1.42 | .00 | .00 | .30 | .01 |
| 20 | .00 | .00 | .00 | .08 | .02 | .06 | .93 | .00 | .02 | .09 | .00 | .00 |
| 21 | .00 | .00 | .00 | .31 | .00 | .02 | .00 | .02 | .00 | .09 | .00 | .00 |
| 22 | .00 | .00 | .00 | .00 | .00 | .05 | .00 | .00 | .00 | .01 | .00 | .00 |
| 23 | .00 | .36 | .01 | .00 | .44 | .71 | .28 | .00 | .00 | .00 | .00 | .00 |
| 24 | .00 | 1.11 | .37 | .00 | .06 | .00 | .00 | .00 | .00 | .00 | .00 | .00 |
| 25 | 1.10 | .00 | .00 | .00 | .00 | .00 | .00 | .00 | .80 | .00 | .00 | .00 |
| 26 | .00 | .04 | .00 | .00 | .00 | .01 | .01 | .00 | .01 | .00 | .00 | .00 |
| 27 | .00 | .20 | .00 | .04 | .00 | .08 | .00 | .65 | .00 | .00 | .20 | .00 |
| 28 | .10 | .21 | .01 | .00 | .32 | .00 | .00 | .48 | .00 | .53 | .00 | .00 |
| 29 | .06 | .03 | .00 | .00 | --- | .01 | .02 | .01 | .00 | .11 | .00 | .00 |
| 30 | .00 | .00 | .30 | .13 | --- | .19 | .11 | .26 | .49 | .00 | .25 | .06 |
| 31 | .00 | --- | .00 | .00 | --- | .01 | --- | .02 | --- | .00 | .30 | --- |
| TOTAL | 1.70 | 3.36 | 1.31 | 0.92 | 3.62 | 2.76 | 4.74 | 4.65 | 6.17 | 3.59 | 2.86 | 2.16 |
| MEAN | .05 | .11 | .04 | .03 | .13 | .09 | .16 | .15 | .21 | .12 | .09 | .07 |

WTR YR 1981 TOTAL 37.84 MEAN .10

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .62 | .00 | .05 | .08 | .00 | .01 | .03 | .00 | .30 | .00 | .00 | 1.05 |
| 2 | .09 | .00 | .00 | .19 | .53 | .00 | .06 | .05 | .00 | .00 | .00 | .01 |
| 3 | .00 | .00 | .02 | .81 | .37 | .02 | .03 | .00 | .00 | 1.07 | .00 | .00 |
| 4 | .00 | .00 | .29 | .49 | .00 | .03 | .01 | .00 | .90 | .41 | .00 | .00 |
| 5 | .06 | .37 | .04 | .00 | .00 | .08 | .15 | .00 | .02 | .01 | .05 | .00 |
| 6 | .26 | .00 | .00 | .01 | .00 | .38 | .12 | .01 | .00 | .00 | .00 | .00 |
| 7 | .00 | .00 | .01 | .14 | .04 | .48 | .00 | .06 | .00 | .00 | .00 | .00 |
| 8 | .00 | .00 | .00 | .00 | .10 | .30 | .12 | .18 | .22 | .42 | .74 | .00 |
| 9 | .00 | .00 | .00 | .00 | .67 | .00 | .08 | .01 | .06 | .00 | .61 | .00 |
| 10 | .00 | .00 | .00 | .00 | .07 | .01 | .00 | .00 | .59 | .01 | .03 | .00 |
| 11 | .00 | .00 | .00 | .02 | .00 | .18 | .01 | .00 | .13 | .62 | .00 | .00 |
| 12 | .00 | .00 | .00 | .01 | .07 | .01 | .00 | .00 | .63 | .01 | .00 | .00 |
| 13 | .00 | .00 | .00 | .05 | .02 | .36 | .02 | .00 | .11 | .08 | .00 | .00 |
| 14 | .00 | .00 | .70 | .00 | .11 | .00 | .00 | .00 | .00 | .01 | .00 | 1.04 |
| 15 | .00 | .00 | .13 | .05 | .24 | .90 | .00 | .00 | .00 | .00 | .00 | .01 |
| 16 | .02 | .05 | .00 | .06 | .48 | .31 | .01 | .00 | .12 | .00 | .02 | .00 |
| 17 | .00 | .03 | .38 | .00 | .23 | .01 | .29 | .01 | .04 | .11 | .00 | .00 |
| 18 | .44 | .00 | .00 | .24 | .11 | .00 | .00 | .72 | .00 | .10 | .02 | .00 |
| 19 | .05 | .02 | .00 | .33 | .16 | .48 | .00 | .33 | .05 | .35 | .00 | .06 |
| 20 | .00 | .15 | .00 | .00 | .05 | .22 | .01 | .81 | .01 | .05 | .00 | .00 |
| 21 | .01 | .00 | .05 | .93 | .09 | .17 | .03 | .08 | .00 | .00 | .04 | .06 |
| 22 | .01 | .00 | .83 | .17 | .03 | .00 | .00 | .23 | .16 | .00 | .00 | .00 |
| 23 | .63 | .14 | .01 | .22 | .00 | .00 | .00 | .13 | .00 | .00 | .06 | .00 |
| 24 | .00 | .19 | .00 | .00 | .00 | .00 | .01 | .31 | .00 | .00 | .38 | .01 |
| 25 | .10 | .00 | .04 | .02 | .00 | .28 | .27 | .00 | .00 | .00 | .34 | .02 |
| 26 | .38 | .01 | .00 | .00 | .00 | .02 | 1.17 | .59 | .02 | .00 | .00 | .33 |
| 27 | .10 | .11 | .01 | .00 | .83 | .01 | .98 | .02 | .05 | .00 | .11 | .01 |
| 28 | .00 | .00 | .01 | .01 | .01 | .02 | .01 | .35 | .05 | 1.22 | .00 | .01 |
| 29 | .00 | .00 | .00 | .00 | --- | .04 | .00 | .16 | 1.24 | .01 | .00 | .00 |
| 30 | .00 | .00 | .00 | .00 | --- | .04 | .00 | .00 | .01 | .24 | .39 | .00 |
| 31 | .00 | --- | .55 | .42 | --- | .44 | --- | .25 | --- | .10 | 1.56 | --- |
| TOTAL | 2.77 | 1.07 | 3.12 | 4.25 | 4.21 | 4.80 | 3.41 | 4.30 | 4.71 | 4.82 | 4.35 | 2.61 |
| MEAN | .09 | .04 | .10 | .14 | .15 | .15 | .11 | .14 | .16 | .16 | .14 | .09 |

WTR YR 1982 TOTAL 44.42 MEAN .12

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 19.5 | 15.5 | 13.5 | 2.0 | 8.0 | --- | 19.5 | 16.5 | 23.5 | 23.0 | 24.0 | 26.5 |
| 2 | 18.5 | 11.5 | 13.5 | 1.0 | 4.0 | --- | 20.0 | 14.0 | 23.0 | 23.5 | 20.5 | 24.5 |
| 3 | 15.0 | 17.0 | 2.0 | 3.0 | -7.0 | --- | 25.5 | 19.5 | 25.0 | 21.5 | 26.0 | 23.5 |
| 4 | 11.5 | 16.5 | 5.5 | -6.5 | -2.5 | --- | 25.0 | 24.5 | 24.5 | 24.5 | 26.5 | 24.0 |
| 5 | 10.0 | 10.0 | 9.5 | -5.0 | -2.5 | --- | 14.0 | 25.0 | 27.0 | 25.5 | 27.0 | 25.0 |
| 6 | 12.0 | 10.5 | 11.5 | 3.0 | 4.5 | --- | 9.5 | 19.0 | 19.5 | 23.0 | 25.0 | 25.0 |
| 7 | 13.5 | 18.0 | 15.5 | -0.5 | 9.0 | --- | 17.5 | 17.0 | 24.0 | 25.0 | 25.5 | 23.5 |
| 8 | 19.0 | 19.0 | 17.0 | -4.5 | 1.0 | --- | 22.5 | 21.0 | 27.0 | 27.0 | 24.5 | 20.0 |
| 9 | 19.5 | 19.5 | 14.0 | .5 | 1.5 | --- | 17.0 | 23.0 | 27.0 | 28.5 | 24.0 | 20.0 |
| 10 | 21.5 | 13.5 | 9.0 | -4.0 | 6.0 | --- | 20.5 | 21.0 | 27.5 | 29.0 | 25.5 | 21.0 |
| 11 | 19.0 | 5.0 | 1.5 | -7.5 | 9.5 | --- | 25.0 | 13.0 | 24.5 | 28.5 | 27.5 | 22.0 |
| 12 | 10.0 | 5.0 | 6.5 | -8.0 | -6.0 | --- | 23.5 | 9.5 | 27.5 | 28.5 | 23.0 | 23.5 |
| 13 | 11.5 | 16.5 | 11.0 | .5 | 3.5 | --- | 27.0 | 22.5 | 27.0 | 27.5 | 23.5 | 23.5 |
| 14 | 13.5 | 13.0 | 6.0 | 5.0 | 6.0 | --- | 24.0 | 25.0 | 27.5 | 25.0 | 24.5 | 24.0 |
| 15 | --- | 10.5 | 5.5 | .5 | 8.0 | --- | 15.0 | 12.0 | 29.0 | 25.5 | 26.0 | 19.5 |
| 16 | 16.5 | 6.0 | 3.0 | .0 | 9.0 | --- | 22.5 | 16.5 | 29.5 | 25.0 | 25.0 | 18.5 |
| 17 | 19.5 | 6.5 | .0 | -4.5 | 10.5 | 10.5 | 15.5 | 21.0 | 23.0 | 25.5 | 23.5 | 16.0 |
| 18 | 20.5 | 6.0 | 7.5 | 2.0 | 16.5 | 5.0 | 22.0 | 19.0 | 26.0 | 27.5 | 24.0 | 14.0 |
| 19 | 17.5 | 3.0 | 7.0 | 5.0 | 12.5 | -0.5 | 22.0 | 15.5 | 24.5 | 28.0 | 22.0 | 16.5 |
| 20 | 14.0 | 3.0 | -5.5 | 3.5 | 10.5 | -1.5 | 10.5 | 13.0 | 22.0 | 27.0 | 23.5 | 20.5 |
| 21 | 16.0 | 6.5 | -3.5 | 2.5 | --- | --- | 17.5 | 19.5 | 29.0 | 26.0 | 20.0 | 19.5 |
| 22 | 18.0 | 5.0 | 2.5 | 4.0 | 16.0 | --- | 21.0 | 22.0 | 28.0 | 24.5 | 23.5 | 21.5 |
| 23 | 16.0 | 6.5 | 5.5 | 5.0 | 8.0 | --- | 18.5 | 24.5 | 26.0 | 25.5 | 24.5 | 15.5 |
| 24 | 14.5 | 10.0 | 6.0 | 6.0 | --- | --- | 12.0 | 26.0 | 29.0 | 26.5 | 25.5 | 17.0 |
| 25 | 8.5 | 5.0 | -7.5 | 9.5 | --- | --- | 13.0 | 24.0 | 28.5 | 26.0 | 25.5 | 18.5 |
| 26 | 9.0 | 6.0 | .5 | 14.0 | --- | 15.0 | 21.5 | 24.0 | 22.5 | 28.5 | 25.5 | 21.5 |
| 27 | 13.0 | 8.0 | .5 | 10.5 | --- | 12.5 | 25.5 | 19.0 | 23.5 | 29.0 | 24.0 | 21.5 |
| 28 | 17.5 | 4.0 | 6.0 | 6.5 | --- | 20.5 | 27.5 | 17.5 | 25.5 | 25.0 | 25.5 | 19.5 |
| 29 | 6.0 | 3.0 | 10.0 | 4.0 | --- | 20.5 | 21.0 | 19.0 | 26.0 | 21.0 | 25.0 | 19.0 |
| 30 | 10.5 | 6.5 | 3.5 | -0.5 | --- | 19.0 | 18.0 | 25.5 | 23.5 | 23.0 | 24.0 | 19.0 |
| 31 | 11.0 | --- | 3.0 | 1.5 | --- | 24.5 | --- | 22.5 | --- | 24.0 | 25.0 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 24.5 | 18.0 | --- | 6.0 | 3.5 | 11.0 | 19.5 | 22.0 | 20.0 | 22.5 | 25.0 | 22.0 |
| 2 | 12.0 | 18.5 | 9.0 | 8.0 | 5.5 | 15.0 | 24.5 | 21.0 | 22.0 | 24.5 | 24.0 | 22.0 |
| 3 | 13.5 | 19.5 | 8.5 | 8.5 | 10.0 | 10.5 | 21.5 | 23.5 | 23.0 | 27.0 | 24.5 | 22.0 |
| 4 | 17.0 | 19.5 | 4.0 | 13.5 | 8.0 | 18.0 | 15.5 | 25.0 | 21.0 | 26.0 | 26.0 | 19.5 |
| 5 | 19.0 | 14.0 | 2.0 | 3.0 | 9.5 | 10.5 | 18.0 | 27.0 | 19.5 | 25.5 | 22.0 | 21.0 |
| 6 | 21.5 | 11.5 | 1.0 | 10.0 | 5.0 | 9.0 | 9.5 | 28.0 | 18.0 | 25.5 | 26.0 | 22.0 |
| 7 | 14.5 | 8.0 | 12.0 | 8.5 | -1.0 | 4.0 | 6.5 | 26.0 | 23.5 | 25.5 | 25.5 | 21.0 |
| 8 | 15.5 | 12.5 | 11.0 | .0 | 5.0 | 1.0 | 8.0 | 18.0 | 24.5 | 26.5 | 22.5 | 22.0 |
| 9 | 16.5 | 15.0 | .0 | -1.0 | 5.0 | 11.0 | 7.0 | 23.5 | 24.5 | 23.5 | 23.0 | 22.0 |
| 10 | 15.5 | 12.0 | -2.5 | -12.5 | -1.0 | 16.0 | 11.0 | 24.5 | 20.5 | 26.0 | 24.0 | 21.5 |
| 11 | 19.5 | 9.0 | .5 | -11.5 | 3.5 | 17.5 | 13.5 | 27.0 | 22.5 | 25.5 | 24.5 | 22.0 |
| 12 | 18.0 | --- | .5 | -4.0 | 3.5 | 20.0 | 22.5 | 29.0 | 22.5 | 24.5 | 22.5 | 23.5 |
| 13 | 16.5 | --- | 2.5 | .0 | .0 | 15.5 | 21.0 | 29.0 | 20.5 | 22.5 | 23.5 | --- |
| 14 | 18.0 | --- | 3.0 | -2.5 | 4.5 | 12.0 | 21.5 | 29.0 | 23.0 | 25.5 | 24.5 | --- |
| 15 | --- | --- | 3.0 | -1.0 | 7.0 | 14.0 | 25.5 | 28.0 | 25.5 | 26.0 | 24.5 | --- |
| 16 | --- | --- | -0.5 | .5 | 9.5 | 17.0 | 24.0 | 28.0 | 28.5 | 25.5 | 24.0 | --- |
| 17 | --- | --- | 3.0 | -12.5 | 11.0 | 23.5 | 19.0 | 27.5 | 22.0 | 27.0 | 24.5 | --- |
| 18 | --- | --- | -1.0 | 2.5 | 10.0 | 25.0 | 18.0 | 27.5 | 25.5 | 23.5 | 24.0 | --- |
| 19 | --- | --- | -5.0 | 2.5 | 5.5 | 18.0 | 20.5 | 24.0 | 25.0 | 26.0 | 24.0 | --- |
| 20 | --- | --- | -4.5 | 5.0 | 14.0 | 16.5 | 20.0 | 20.5 | 22.5 | 23.0 | 25.5 | --- |
| 21 | 17.5 | --- | .0 | 7.0 | 7.5 | 17.0 | 14.5 | 23.0 | 25.0 | 26.0 | 24.0 | --- |
| 22 | 19.5 | --- | 8.5 | 5.5 | 3.5 | 12.0 | 14.5 | 25.5 | 21.5 | 26.0 | 25.5 | 14.0 |
| 23 | 11.0 | --- | 13.5 | 12.0 | 16.0 | 13.5 | 17.5 | 24.0 | 23.0 | 26.0 | 24.5 | 15.5 |
| 24 | 8.5 | --- | 3.0 | .5 | 21.0 | 19.5 | 22.0 | 23.5 | 24.0 | 26.0 | 24.0 | 14.5 |
| 25 | 13.5 | --- | 3.5 | 4.0 | 4.5 | 20.5 | 22.0 | 25.0 | 26.0 | 26.5 | 24.5 | 17.0 |
| 26 | 14.0 | --- | 6.0 | -5.5 | 5.0 | 5.0 | 22.0 | 23.5 | 24.5 | 28.0 | 22.0 | 14.0 |
| 27 | 15.5 | --- | 8.5 | 1.5 | 1.5 | 2.0 | 20.0 | 22.0 | 26.0 | 26.5 | 21.0 | 16.5 |
| 28 | 12.5 | --- | 10.5 | 8.0 | 7.0 | 10.5 | 17.5 | 25.0 | 25.0 | 26.0 | 22.5 | 17.5 |
| 29 | 18.0 | --- | 4.0 | 6.0 | --- | 18.0 | 21.5 | 25.5 | 24.0 | 24.5 | 21.0 | 18.5 |
| 30 | 16.0 | --- | .5 | 13.5 | --- | 22.0 | 23.0 | 28.0 | 24.5 | 25.0 | 21.5 | 19.5 |
| 31 | 18.0 | --- | 1.5 | 19.0 | --- | 22.0 | --- | 27.5 | --- | 22.5 | 21.0 | --- |

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 11.5 | -2.0 | -1.5 | -1.0 | -7.0 | --- | 5.5 | 6.0 | 15.5 | 16.0 | 12.0 | 17.5 |
| 2 | 10.0 | -2.5 | -0.5 | -6.5 | -10.0 | --- | .0 | 2.5 | 16.0 | 13.5 | 17.5 | 18.0 |
| 3 | 8.0 | -2.0 | -4.5 | -7.0 | -13.5 | --- | -1.0 | -1.0 | 15.5 | 15.0 | 18.0 | 18.5 |
| 4 | 6.0 | 3.5 | -7.5 | -16.5 | -16.0 | --- | 5.0 | 2.0 | 16.5 | 15.0 | 17.5 | 18.5 |
| 5 | 6.5 | .5 | -2.5 | -19.0 | -15.0 | --- | 5.5 | 6.5 | 17.0 | 17.0 | 19.0 | 18.5 |
| 6 | 3.5 | -3.0 | 1.0 | -14.0 | -8.0 | --- | -2.5 | 8.0 | 17.0 | 19.0 | 19.0 | 16.5 |
| 7 | 2.5 | -2.0 | 4.0 | -6.5 | -8.0 | --- | -4.5 | 5.0 | 14.0 | 19.0 | 17.5 | 16.0 |
| 8 | 5.0 | 6.0 | .5 | -9.0 | -8.0 | --- | -1.5 | .5 | 13.5 | 19.0 | 17.0 | 12.5 |
| 9 | 9.0 | 5.0 | 7.5 | -5.0 | -12.0 | --- | 7.5 | 2.5 | 16.0 | 19.5 | 15.5 | 10.5 |
| 10 | 10.0 | -0.5 | -2.5 | -15.5 | -2.5 | --- | 7.0 | 8.5 | 18.5 | 19.5 | 17.5 | 10.0 |
| 11 | 6.5 | -4.5 | -3.0 | -16.5 | -13.5 | --- | 8.5 | 8.0 | 16.5 | 20.0 | 16.5 | 11.0 |
| 12 | 2.0 | -6.5 | -4.0 | -12.5 | -20.0 | --- | 9.5 | 4.5 | 15.5 | 20.0 | 15.5 | 13.5 |
| 13 | -0.5 | -4.0 | -3.0 | -9.5 | -15.0 | --- | 11.5 | 4.5 | 17.0 | 19.0 | 14.5 | 14.0 |
| 14 | .0 | -1.5 | -4.0 | -4.0 | -6.0 | --- | 5.5 | 6.0 | 18.5 | 19.0 | 14.5 | 14.0 |
| 15 | 1.0 | 6.5 | -4.5 | -1.5 | -7.0 | --- | .5 | 8.0 | 19.0 | 17.0 | 15.5 | 16.5 |
| 16 | 3.5 | .5 | .0 | -7.0 | -2.5 | --- | -1.0 | 6.5 | 17.5 | 18.0 | 17.5 | 13.5 |
| 17 | 4.0 | .5 | -5.5 | -14.0 | 4.0 | 1.0 | 9.0 | 5.5 | 14.5 | 18.5 | 14.5 | 9.0 |
| 18 | 13.0 | .5 | -5.5 | -15.5 | 4.0 | -4.0 | 6.5 | 12.0 | 14.0 | 18.0 | 12.5 | 8.0 |
| 19 | 9.0 | -4.5 | -5.5 | -10.5 | 6.5 | -5.5 | 3.5 | 10.0 | 17.0 | 19.0 | 14.5 | 7.5 |
| 20 | 1.5 | -7.5 | -13.0 | -4.5 | 4.0 | -6.0 | 1.5 | 7.0 | 17.5 | 19.5 | 12.5 | 5.0 |
| 21 | 1.5 | -6.5 | -15.5 | -0.5 | 1.0 | -5.0 | -1.0 | 6.0 | 16.0 | 18.5 | 12.0 | 8.0 |
| 22 | 1.5 | -7.0 | -13.0 | -1.5 | -2.0 | -3.5 | 2.5 | 4.5 | 17.0 | 16.5 | 11.0 | 7.5 |
| 23 | 1.5 | .0 | -1.0 | -1.5 | 3.5 | -2.5 | 9.0 | 5.0 | 15.5 | 15.5 | 12.5 | 6.0 |
| 24 | 1.0 | 5.5 | -7.0 | -4.0 | --- | -4.0 | 4.5 | 7.0 | 14.0 | 17.5 | 13.5 | 4.0 |
| 25 | 2.0 | -4.0 | -15.0 | -6.0 | --- | -4.5 | 3.5 | 9.0 | 15.5 | 18.5 | 14.0 | 4.5 |
| 26 | -2.0 | -6.0 | -15.5 | -1.5 | --- | -4.0 | 1.5 | 12.0 | 13.5 | 19.0 | 11.5 | 9.0 |
| 27 | -2.5 | .5 | -10.5 | 1.0 | --- | .5 | 7.0 | 13.5 | 12.0 | 19.0 | 14.5 | 10.5 |
| 28 | 6.0 | .0 | -6.0 | -5.5 | --- | -1.0 | 7.5 | 15.0 | 10.0 | 20.0 | 16.0 | 8.0 |
| 29 | 3.0 | -1.0 | -1.0 | -3.5 | --- | .5 | 9.5 | 14.0 | 12.5 | 14.5 | 13.5 | 4.5 |
| 30 | 1.0 | -2.5 | -0.5 | -10.5 | --- | 4.5 | 9.0 | 13.0 | 15.0 | 13.5 | 16.0 | 8.0 |
| 31 | -1.5 | --- | -1.0 | -14.0 | --- | 1.0 | --- | 16.0 | --- | 14.5 | 17.0 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 8.0 | 1.0 | --- | .0 | -3.0 | .5 | .5 | 3.5 | 16.0 | 13.0 | 17.5 | 19.0 |
| 2 | 3.5 | 3.5 | 3.5 | -4.5 | -4.0 | -2.0 | .0 | 8.5 | 13.0 | 11.0 | 16.5 | 17.5 |
| 3 | 3.5 | 4.0 | .0 | 2.0 | 3.5 | 4.0 | 10.5 | 8.0 | 12.5 | 14.5 | 16.0 | 13.0 |
| 4 | 2.5 | 5.0 | 1.5 | 1.0 | -0.5 | 4.5 | 2.0 | 4.5 | 16.0 | 17.0 | 18.0 | 10.5 |
| 5 | 8.0 | 9.0 | -1.0 | -2.5 | -2.0 | 2.0 | -0.5 | 5.5 | 13.0 | 17.0 | 18.5 | 10.5 |
| 6 | 11.5 | 6.0 | -6.5 | -1.5 | -8.0 | 2.0 | -1.5 | 7.5 | 12.0 | 15.5 | 20.0 | 11.5 |
| 7 | 4.5 | -1.5 | -4.0 | -1.5 | -11.0 | -2.5 | -4.0 | 11.0 | 13.5 | 16.5 | 19.0 | 12.5 |
| 8 | 2.0 | -4.0 | .5 | -6.5 | -9.5 | -4.5 | -0.5 | 9.0 | 15.5 | 17.5 | 19.0 | 14.0 |
| 9 | 2.0 | -0.5 | -3.0 | -11.5 | -3.0 | -2.0 | 1.0 | 6.5 | 14.5 | 17.5 | 19.0 | 13.0 |
| 10 | 6.5 | 2.0 | -4.5 | -20.0 | -6.0 | -1.5 | -0.5 | 6.0 | 17.0 | 19.0 | 17.0 | 13.0 |
| 11 | 11.0 | -0.5 | -3.5 | -20.0 | -6.5 | .5 | -1.5 | 7.0 | 14.0 | 19.0 | 16.5 | 14.5 |
| 12 | 7.0 | --- | -4.0 | -12.0 | -6.5 | 6.5 | 1.5 | 8.0 | 13.0 | 18.5 | 13.5 | 15.5 |
| 13 | 4.0 | --- | -8.0 | -5.5 | -7.0 | 3.0 | 9.5 | 10.0 | 14.5 | 17.5 | 13.0 | --- |
| 14 | .0 | --- | -1.0 | -7.5 | -9.5 | -1.0 | 7.0 | 10.5 | 12.5 | 18.5 | 16.0 | --- |
| 15 | --- | --- | -0.5 | -7.5 | -5.0 | 4.5 | 4.0 | 10.5 | 10.0 | 18.0 | 15.0 | --- |
| 16 | --- | --- | -4.5 | -17.0 | 3.0 | 6.0 | 9.0 | 12.5 | 13.5 | 18.5 | 16.5 | --- |
| 17 | --- | --- | -4.5 | -26.0 | 6.0 | 6.5 | 8.0 | 13.5 | 14.5 | 19.0 | 16.0 | --- |
| 18 | --- | --- | -6.5 | -13.5 | 3.5 | 2.0 | 2.5 | 11.0 | 14.0 | 18.5 | 15.0 | --- |
| 19 | --- | --- | -11.5 | -1.5 | -0.5 | 7.5 | 3.0 | 14.5 | 14.5 | 18.0 | 14.0 | --- |
| 20 | --- | --- | -11.5 | .0 | .5 | 11.5 | 7.5 | 12.5 | 13.5 | 19.5 | 15.0 | --- |
| 21 | -2.0 | --- | -13.0 | 1.5 | 1.0 | 8.5 | 3.0 | 15.5 | 11.5 | 19.5 | 13.5 | --- |
| 22 | 4.5 | --- | .0 | 1.5 | -2.5 | 1.0 | 1.5 | 14.5 | 13.0 | 18.0 | 12.0 | 8.0 |
| 23 | 1.5 | --- | 2.0 | 2.0 | -4.0 | .5 | -2.0 | 15.5 | 12.5 | 18.5 | 12.5 | 5.5 |
| 24 | -2.5 | --- | .0 | -7.0 | 2.0 | -1.0 | -1.0 | 16.0 | 10.5 | 20.0 | 16.5 | 7.0 |
| 25 | -0.5 | --- | -4.5 | -8.5 | -2.5 | 1.5 | 1.0 | 15.0 | 13.0 | 18.5 | 14.5 | 9.0 |
| 26 | 8.5 | --- | -3.5 | -14.5 | -5.0 | -0.5 | 10.0 | 14.5 | 16.0 | 19.0 | 13.5 | 12.0 |
| 27 | 10.5 | --- | -2.5 | -17.0 | -0.5 | -4.5 | 9.0 | 15.0 | 16.0 | 19.0 | 14.0 | 10.0 |
| 28 | 4.0 | --- | -2.0 | -5.5 | -1.0 | -8.0 | 5.5 | 16.5 | 17.5 | 19.0 | 14.5 | 9.5 |
| 29 | 4.0 | --- | -5.0 | -7.5 | --- | -5.0 | 1.5 | 15.5 | 18.0 | 18.5 | 12.0 | 10.5 |
| 30 | 3.0 | --- | -9.0 | -1.5 | --- | 3.0 | 3.5 | 16.5 | 16.0 | 19.5 | 14.0 | 10.0 |
| 31 | 1.0 | --- | -5.5 | .0 | --- | 5.5 | --- | 17.0 | --- | 19.0 | 18.0 | --- |

03213594 CAMP CREEK NEAR ARGO, KY

LOCATION.--Lat 37°28'29", long 82°05'16", Pike County, Hydrologic Unit 05070201, on left bank 1.4 mi (2.3 km) upstream from Knox Creek, 1.3 mi (2.1 km) west of Argo, and at mile 1.4 (2.3 km).

DRAINAGE AREA.--1.60 $mi^2$ (4.14 $km^2$)

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,030 ft (314 m) from topographic map.

REMARKS.--Records poor.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 167 $ft^3/s$ (4.73 $m^3/s$) June 6, 1981, gage height, 2.90 ft (0.884 m); minimum daily, 0.14 $ft^3/s$ (0.004 $m^3/s$) Nov. 18, 19, 21-23, 1981.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .54 | .29 | 1.0 | .62 | 1.5 | 3.7 | 7.9 | .96 | 2.4 | 13 | 1.2 | .24 |
| 2 | .76 | .29 | 1.0 | .58 | 13 | 2.9 | 7.7 | .76 | 2.1 | 4.2 | 1.4 | .20 |
| 3 | .61 | .30 | .81 | .54 | 6.6 | 2.2 | 7.1 | .78 | 2.8 | 1.4 | 2.5 | .22 |
| 4 | .51 | .36 | .61 | .50 | 5.0 | 4.2 | 4.5 | .93 | 10 | .97 | 1.3 | .21 |
| 5 | .42 | .28 | .61 | .47 | 3.7 | 19 | 15 | .94 | 21 | 1.2 | .87 | .17 |
| 6 | .40 | .28 | .66 | .45 | 2.5 | 12 | 13 | .82 | 48 | 4.7 | 2.7 | .17 |
| 7 | .37 | .29 | .57 | .42 | 2.1 | 6.5 | 10 | .63 | 62 | 3.1 | 2.9 | .17 |
| 8 | .37 | .29 | .48 | .40 | 1.4 | 3.1 | 8.7 | .46 | 28 | 1.8 | 3.0 | .25 |
| 9 | .32 | .26 | 1.0 | .39 | 1.1 | 2.4 | 8.5 | .42 | 10 | .89 | .98 | .24 |
| 10 | .29 | .25 | .75 | .37 | 1.7 | 1.5 | 14 | .30 | 9.7 | .59 | 1.2 | .16 |
| 11 | .24 | .25 | .61 | .33 | 2.5 | 1.1 | 18 | .30 | 8.9 | .48 | 2.1 | .16 |
| 12 | .25 | .25 | .57 | .29 | 2.8 | 1.1 | 8.6 | .24 | 9.1 | .31 | 1.1 | .17 |
| 13 | .21 | .25 | .50 | .27 | 2.0 | .87 | 4.3 | .41 | 8.7 | .31 | .87 | .17 |
| 14 | .19 | .25 | .49 | .27 | 1.5 | .71 | 3.8 | .60 | 5.4 | .65 | .75 | .16 |
| 15 | .18 | .26 | .50 | .27 | 1.2 | .71 | 2.3 | 1.1 | 4.3 | .39 | .59 | .53 |
| 16 | .17 | .26 | .48 | .29 | 1.3 | 3.0 | 2.0 | .47 | 3.8 | .44 | 1.2 | .52 |
| 17 | .17 | 4.9 | .42 | .28 | 6.0 | 2.7 | 19 | .39 | 2.7 | .36 | .48 | .33 |
| 18 | .22 | 3.6 | .40 | .26 | 5.0 | 6.5 | 19 | .76 | 2.5 | 1.5 | .46 | .29 |
| 19 | .20 | 1.0 | .40 | .27 | 2.9 | 6.8 | 9.5 | 5.2 | 3.4 | .51 | .40 | .27 |
| 20 | .19 | .71 | .48 | .29 | 3.7 | 5.0 | 22 | 3.9 | 5.0 | 2.3 | .34 | .26 |
| 21 | .18 | .66 | .30 | .76 | 2.7 | 4.1 | 11 | 2.2 | 3.3 | .59 | .32 | .23 |
| 22 | .19 | .61 | .34 | .87 | 2.4 | 4.2 | 4.3 | 1.1 | 3.3 | .43 | .31 | .22 |
| 23 | .19 | .76 | .37 | 1.0 | 3.8 | 9.0 | 3.9 | .78 | 2.4 | .34 | .31 | .21 |
| 24 | .18 | 8.8 | .82 | 1.0 | 5.7 | 16 | 2.3 | .56 | 1.5 | .30 | .30 | .21 |
| 25 | 3.9 | 3.4 | 1.8 | 1.2 | 5.8 | 16 | 2.0 | .59 | 3.1 | .27 | .27 | .21 |
| 26 | .36 | 2.3 | .93 | 1.6 | 4.3 | 11 | 1.6 | .49 | 2.3 | .26 | .27 | .20 |
| 27 | .26 | 2.3 | .54 | 2.0 | 2.2 | 9.5 | 1.5 | .69 | 2.7 | .27 | .26 | .25 |
| 28 | .38 | 1.9 | .51 | 1.3 | 2.3 | 9.0 | 1.2 | 1.2 | 2.0 | .84 | .24 | .21 |
| 29 | .31 | 1.8 | .54 | 1.1 | --- | 8.3 | 1.0 | .76 | 2.3 | 9.5 | .22 | .20 |
| 30 | .28 | 1.5 | .76 | .85 | --- | 7.6 | 1.0 | 5.5 | 9.6 | 2.2 | .22 | .22 |
| 31 | .28 | --- | .61 | 1.4 | --- | 6.6 | --- | 2.6 | --- | 1.3 | .30 | --- |
| TOTAL | 13.12 | 38.65 | 19.86 | 20.64 | 96.7 | 187.29 | 234.7 | 36.84 | 282.3 | 55.40 | 29.36 | 7.05 |
| MEAN | .42 | 1.29 | .64 | .67 | 3.45 | 6.04 | 7.82 | 1.19 | 9.41 | 1.79 | .95 | .24 |
| CFSM | .26 | .81 | .40 | .42 | 2.16 | 3.78 | 4.89 | .74 | 5.88 | 1.12 | .59 | .15 |
| IN. | .30 | .90 | .46 | .48 | 2.25 | 4.35 | 5.45 | .86 | 6.56 | 1.29 | .68 | .16 |

WTR YR 1981 TOTAL 1021.91 MEAN 2.80 CFSM 1.75 IN 23.74

WATER-DISCHARGE RECORDS

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .80 | .26 | .22 | 2.1 | 11 | 4.8 | 1.4 | .61 | 3.8 | .50 | .50 | 26 |
| 2 | .30 | .24 | .18 | 1.3 | 8.0 | 5.4 | 1.2 | .66 | 2.5 | .49 | .65 | 12 |
| 3 | .24 | .24 | .17 | 14 | 17 | 3.8 | 1.4 | .61 | 1.8 | 2.9 | .70 | 6.7 |
| 4 | .24 | .22 | .24 | 50 | 13 | 3.0 | 1.1 | .51 | 3.0 | 4.6 | .61 | 3.4 |
| 5 | .24 | .30 | .21 | 39 | 9.7 | 2.5 | 1.1 | .48 | 6.0 | 4.1 | .68 | 2.3 |
| 6 | .32 | .22 | .19 | 17 | 7.6 | 2.1 | 1.3 | .48 | 2.7 | 1.3 | .72 | 1.8 |
| 7 | .22 | .17 | .24 | 6.0 | 2.5 | 6.0 | .93 | .54 | 1.9 | 1.3 | .64 | 1.6 |
| 8 | .21 | .17 | .21 | 2.6 | 3.1 | 4.3 | 1.0 | .93 | 2.1 | 8.4 | 8.2 | 1.1 |
| 9 | .20 | .17 | .18 | 1.5 | 31 | 4.3 | 1.1 | .54 | 1.6 | 8.7 | 13 | .82 |
| 10 | .20 | .17 | .16 | .90 | 16 | 4.3 | 1.0 | .42 | 11 | 3.9 | 6.7 | .76 |
| 11 | .20 | .17 | .16 | .64 | 10 | 3.4 | .93 | .40 | 4.5 | 3.7 | 1.9 | .71 |
| 12 | .21 | .17 | .16 | .70 | 8.0 | 3.0 | .93 | .37 | 9.0 | 2.4 | 1.0 | .76 |
| 13 | .20 | .17 | .17 | .84 | 7.0 | 4.8 | .93 | .34 | 14 | 2.0 | .82 | .66 |
| 14 | .20 | .16 | .93 | 1.3 | 6.0 | 4.3 | .82 | .32 | 6.0 | 1.7 | .82 | 8.2 |
| 15 | .19 | .16 | .93 | 1.1 | 5.0 | 48 | .82 | .32 | 3.5 | 1.4 | .66 | 6.0 |
| 16 | .19 | .16 | .66 | 1.2 | 8.0 | 25 | .76 | .30 | 2.0 | 1.1 | .54 | 2.1 |
| 17 | .19 | .16 | 3.8 | 1.4 | 30 | 18 | .87 | .32 | 1.5 | .76 | .51 | 1.2 |
| 18 | 1.1 | .14 | 2.7 | .90 | 28 | 13 | .76 | 1.4 | 1.4 | .66 | .34 | 1.1 |
| 19 | .22 | .14 | 1.8 | 1.6 | 13 | 14 | .71 | 9.2 | 1.9 | .76 | .34 | 1.4 |
| 20 | .21 | .16 | .71 | 5.0 | 11 | 13 | .66 | 3.4 | 1.7 | 3.0 | .32 | 1.1 |
| 21 | .20 | .14 | .66 | 70 | 10 | 15 | .71 | 1.8 | 1.2 | 1.1 | .42 | .82 |
| 22 | .20 | .14 | 15 | 60 | 6.7 | 14 | .56 | 2.3 | 1.0 | .45 | .42 | .71 |
| 23 | .66 | .14 | 11 | 42 | 6.0 | 11 | .54 | 6.7 | .80 | .42 | .34 | .61 |
| 24 | .25 | .26 | 8.7 | 26 | 5.4 | 9.7 | .54 | 1.9 | .66 | .37 | 1.9 | .54 |
| 25 | .21 | .17 | 3.4 | 9.2 | 3.4 | 4.3 | .66 | 1.4 | .52 | .51 | 4.8 | .54 |
| 26 | .89 | .16 | 3.0 | 15 | 3.0 | 3.8 | 1.1 | 2.7 | 1.1 | .45 | .45 | .93 |
| 27 | 1.1 | .20 | 1.4 | 14 | 5.4 | 6.7 | 1.6 | 42 | .70 | .40 | .54 | .82 |
| 28 | .45 | .17 | .54 | 13 | 5.4 | 4.8 | .93 | 48 | .59 | 1.0 | .45 | .54 |
| 29 | .34 | .17 | .42 | 11 | --- | 5.4 | .82 | 38 | 1.2 | .62 | .40 | .48 |
| 30 | .29 | .18 | .47 | 11 | --- | 2.7 | .66 | 11 | .89 | 3.4 | 1.2 | .48 |
| 31 | .26 | --- | 1.6 | 14 | --- | 1.6 | --- | 3.4 | --- | .68 | 27 | --- |
| TOTAL | 10.73 | 5.48 | 60.21 | 434.28 | 290.2 | 266.0 | 27.84 | 181.35 | 90.56 | 63.07 | 77.57 | 86.18 |
| MEAN | .35 | .18 | 1.94 | 14.0 | 10.4 | 8.58 | .93 | 5.85 | 3.02 | 2.03 | 2.50 | 2.87 |
| CFSM | .22 | .11 | 1.21 | 8.75 | 6.50 | 5.36 | .58 | 3.66 | 1.89 | 1.27 | 1.56 | 1.79 |
| IN. | .25 | .13 | 1.40 | 10.09 | 6.74 | 6.18 | .65 | 4.21 | 2.10 | 1.47 | 1.80 | 2.00 |

WTR YR 1982 TOTAL 1593.47 MEAN 4.37 CFSM 2.73 IN 37.03

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.
PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1981 to December 1981.
SUSPENDED-SEDIMENT DISCHARGE: October 1980 to September 1982.
INSTRUMENTATION.--Sediment pumping sampler.
REMARKS.--Suspended-sediment discharge record is fair.
EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 37,000 mg/L June 27, 1981; minimum daily mean, 0 on many days throughout each year.
SEDIMENT LOADS: Maximum daily, 774 tons (702 metric tons) June 27, 1981: minimum daily, 0 tons (0 metric tons) on many days throughout each year.

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 4 | 1 | 15 | 8 | 74 | 12 | --- | 55 | --- | --- | --- | 12 |
| 2 | --- | 1 | --- | 6 | 406 | 11 | 13 | 29 | --- | 948 | 113 | 15 |
| 3 | 3 | 1 | 14 | 6 | 88 | 11 | 10 | 25 | --- | 320 | --- | --- |
| 4 | 3 | 3 | 5 | 7 | 84 | 788 | 9 | 30 | --- | 320 | --- | --- |
| 5 | 2 | 1 | 5 | 10 | --- | 971 | 131 | 58 | --- | --- | 8400 | 8 |
| 6 | 2 | 1 | 7 | 12 | --- | 235 | 36 | 53 | --- | --- | --- | 11 |
| 7 | 2 | 0 | 11 | 5 | 59 | 121 | 22 | 22 | --- | --- | --- | 14 |
| 8 | 0 | 1 | 5 | 6 | 38 | 32 | 98 | 25 | --- | 13600 | --- | --- |
| 9 | 1 | 1 | 113 | 9 | 27 | 17 | 139 | 16 | --- | 11200 | 440 | 179 |
| 10 | 2 | 1 | 15 | 8 | 1340 | 13 | --- | 10 | --- | 8400 | --- | 9 |
| 11 | 4 | 1 | 5 | 5 | 1420 | 11 | 154 | 15 | --- | 254 | --- | 9 |
| 12 | 4 | 1 | 4 | 3 | 145 | 11 | 67 | 17 | --- | 97 | 160 | 8 |
| 13 | 1 | 1 | 5 | 4 | 122 | 8 | 22 | 26 | --- | 53 | 1480 | --- |
| 14 | 2 | 1 | 5 | 3 | 138 | 9 | 169 | --- | --- | 1450 | 180 | 28 |
| 15 | 3 | 0 | 5 | 4 | 108 | --- | 43 | --- | --- | --- | 100 | --- |
| 16 | 2 | 0 | 6 | 2 | --- | --- | 15 | --- | --- | 560 | --- | --- |
| 17 | 2 | --- | 15 | 3 | --- | 76 | 2480 | --- | --- | 110 | 153 | 7 |
| 18 | 2 | --- | 11 | 1 | 450 | 16 | 510 | 240 | --- | --- | 16 | 5 |
| 19 | 1 | 30 | 9 | 2 | 310 | 4 | 112 | 1140 | 750 | --- | 7 | 8 |
| 20 | 1 | 9 | --- | 10 | 240 | 6 | 581 | 345 | 5660 | 11200 | 9 | 8 |
| 21 | 2 | 8 | 17 | 44 | 260 | 6 | 3540 | 72 | 59 | 5270 | 8 | 9 |
| 22 | 1 | 4 | 17 | 68 | 268 | 3 | 233 | 40 | 31 | 187 | 7 | 7 |
| 23 | 3 | --- | 18 | 184 | 382 | 2 | 108 | 21 | 9 | 64 | 2 | 6 |
| 24 | 1 | --- | 210 | 106 | 20 | 358 | 38 | 22 | 7 | 52 | 19 | 6 |
| 25 | 355 | 97 | 30 | 54 | 17 | 75 | 37 | 24 | 4850 | 64 | 21 | 7 |
| 26 | 53 | 130 | 18 | 63 | 15 | 39 | 21 | 29 | --- | 67 | 7 | 9 |
| 27 | 18 | 395 | 12 | 73 | 18 | 41 | 308 | --- | 37000 | 79 | --- | --- |
| 28 | 31 | 90 | 12 | 61 | 18 | 43 | 140 | --- | 11300 | 1770 | --- | 9 |
| 29 | 2 | 82 | 11 | 15 | --- | 14 | 105 | 40 | 14600 | --- | 12 | 7 |
| 30 | 1 | 29 | --- | 8 | --- | 4 | 60 | 2550 | --- | 66 | 8 | 6 |
| 31 | 1 | --- | 9 | 8 | --- | 46 | --- | 278 | --- | 70 | --- | --- |

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | 0 | 7 | | --- | 21 | --- | 7 | --- | 4 | 8 | --- |
| 2 | --- | 0 | 4 | | --- | 22 | 3 | 5 | --- | --- | 7 | 36 |
| 3 | --- | 0 | 9 | | --- | 52 | 4 | 5 | --- | --- | 6 | 37 |
| 4 | 30 | 0 | 3 | | --- | 55 | 3 | 6 | 2230 | --- | 6 | 20 |
| 5 | --- | 646 | 0 | | --- | 47 | --- | 3 | --- | --- | 4 | 8 |
| 6 | --- | 1380 | 0 | | --- | --- | --- | 2 | 25 | --- | 5 | 9 |
| 7 | --- | 430 | 0 | | --- | --- | 1 | 392 | --- | --- | 10 | --- |
| 8 | --- | 75 | 0 | | --- | 48 | 0 | 886 | --- | --- | 16300 | --- |
| 9 | 2 | 0 | 1 | | 4510 | 38 | 0 | 6 | --- | --- | --- | --- |
| 10 | 3 | 0 | 0 | | 782 | 30 | 1 | 0 | --- | --- | --- | 1 |
| 11 | 3 | 0 | 0 | | 363 | 31 | 1 | 0 | --- | --- | 9 | 2 |
| 12 | 6 | 0 | 0 | | 36 | --- | 4 | 0 | --- | 1300 | 5 | 4 |
| 13 | 20 | 0 | 0 | | 22 | --- | 9 | 0 | --- | 15 | 4 | --- |
| 14 | 6 | 0 | 166 | | 19 | --- | 3 | 0 | --- | 14 | 3 | --- |
| 15 | 4 | 0 | --- | | --- | --- | 1 | 0 | 10 | 12 | 3 | --- |
| 16 | 10 | 0 | --- | | --- | --- | 1 | 30 | 9 | 20 | --- | 19 |
| 17 | 3 | 0 | --- | | 2650 | --- | 2 | 22 | 6 | 9 | --- | 11 |
| 18 | 2190 | 0 | --- | | --- | --- | 1 | --- | --- | 8 | 2 | 11 |
| 19 | 118 | 0 | --- | | 528 | --- | 3 | --- | 36 | --- | 2 | 9 |
| 20 | 27 | --- | --- | | 264 | 305 | 5 | --- | 44 | --- | 4 | 7 |
| 21 | 16 | 0 | --- | | 34 | 133 | 5 | --- | 42 | --- | 4 | --- |
| 22 | 3 | 2 | --- | | 33 | 18 | 3 | 434 | 11 | 55 | 5 | 7 |
| 23 | 664 | 18 | --- | | 34 | 27 | 1 | 3410 | 27 | 8 | 5 | 7 |
| 24 | 4 | 1260 | --- | | 31 | 28 | 3 | 558 | 20 | 9 | --- | 10 |
| 25 | 12 | 445 | --- | | 33 | 11 | --- | 495 | 12 | 7 | --- | 10 |
| 26 | --- | 51 | --- | | 23 | 10 | --- | --- | --- | 9 | 1 | --- |
| 27 | 594 | 459 | --- | | 80 | 9 | 1540 | --- | --- | 12 | 123 | --- |
| 28 | 205 | 10 | --- | | 28 | 9 | 5 | --- | 1 | --- | --- | 5 |
| 29 | 1 | 7 | --- | | --- | 11 | 7 | --- | 927 | --- | --- | 4 |
| 30 | 0 | 7 | --- | | --- | 7 | 9 | --- | 19 | --- | --- | 4 |
| 31 | 1 | --- | --- | | --- | --- | --- | --- | --- | 11 | --- | --- |

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .01 | .00 | .04 | .01 | .94 | .12 | --- | .14 | --- | --- | --- | .01 |
| 2 | --- | .00 | --- | .01 | 16 | .09 | .27 | .06 | --- | 12 | .43 | .01 |
| 3 | .00 | .00 | .03 | .01 | 1.6 | .07 | .19 | .05 | --- | 1.2 | --- | --- |
| 4 | .00 | .00 | .01 | .01 | 1.1 | 15 | .11 | .08 | --- | .84 | --- | --- |
| 5 | .00 | .00 | .01 | .01 | --- | 53 | 5.3 | .15 | --- | --- | 20 | .00 |
| 6 | .00 | .00 | .01 | .01 | --- | 7.6 | 1.3 | .12 | --- | --- | --- | .01 |
| 7 | .00 | .00 | .02 | .01 | .33 | 2.1 | .59 | .04 | --- | --- | --- | .01 |
| 8 | .00 | .00 | .01 | .01 | .14 | .27 | 2.3 | .03 | --- | 66 | --- | --- |
| 9 | .00 | .00 | .40 | .39 | .08 | .11 | 3.2 | .02 | --- | 27 | 1.2 | .29 |
| 10 | .00 | .00 | .03 | .01 | 8.7 | .05 | --- | .01 | --- | 13 | --- | .00 |
| 11 | .00 | .00 | .01 | .00 | 9.6 | .03 | 7.5 | .01 | --- | .33 | --- | .00 |
| 12 | .00 | .00 | .01 | .00 | 1.1 | .03 | 1.6 | .01 | --- | .08 | .48 | .00 |
| 13 | .00 | .00 | .01 | .00 | .66 | .02 | .26 | .03 | --- | .04 | 8.5 | --- |
| 14 | .00 | .00 | .01 | .00 | .56 | .02 | 2.5 | --- | --- | 3.9 | .36 | .01 |
| 15 | .00 | .00 | .01 | .00 | .35 | --- | .27 | --- | --- | --- | .16 | --- |
| 16 | .00 | .00 | .01 | .00 | --- | --- | .08 | --- | --- | .94 | --- | --- |
| 17 | .00 | --- | .02 | .00 | --- | .55 | 161 | --- | --- | .11 | .20 | .00 |
| 18 | .00 | --- | .01 | .00 | 6.1 | .45 | 26 | 3.8 | --- | --- | .01 | .00 |
| 19 | .00 | .08 | .01 | .00 | 2.4 | .07 | 2.9 | 23 | 6.9 | --- | .01 | .01 |
| 20 | .00 | .02 | --- | .01 | 2.4 | .08 | 45 | 5.0 | 130 | 196 | .01 | .01 |
| 21 | .00 | .01 | .01 | .09 | 1.9 | .07 | 105 | .43 | .53 | 12 | .01 | .01 |
| 22 | .00 | .01 | .02 | .16 | 1.7 | .03 | 2.7 | .12 | .28 | .22 | .01 | .00 |
| 23 | .00 | --- | .02 | .50 | 4.6 | .05 | 1.1 | .04 | .06 | .06 | .00 | .00 |
| 24 | .00 | --- | .65 | .29 | .31 | 20 | .24 | .03 | .03 | .04 | .02 | .00 |
| 25 | 5.4 | .89 | .15 | .17 | .27 | 3.2 | .20 | .04 | 116 | .05 | .02 | .00 |
| 26 | .06 | .81 | .05 | .27 | .17 | 1.2 | .09 | .04 | --- | .05 | .01 | .00 |
| 27 | .01 | 2.5 | .02 | .39 | .11 | 1.1 | 1.4 | --- | 774 | .06 | --- | --- |
| 28 | .04 | .46 | .02 | .21 | .11 | 1.0 | .45 | --- | 191 | 9.3 | --- | .01 |
| 29 | .00 | .40 | .02 | .04 | --- | .31 | .28 | .08 | 199 | --- | .01 | .02 |
| 30 | .00 | .12 | --- | .02 | --- | .08 | .16 | 141 | --- | .39 | .34 | .00 |
| 31 | .00 | --- | .01 | .03 | --- | .82 | --- | 2.0 | --- | .25 | --- | --- |

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | .00 | .00 | | --- | .27 | --- | .01 | --- | .01 | .01 | --- |
| 2 | --- | .00 | .00 | | --- | .32 | .01 | .01 | --- | --- | .01 | 1.2 |
| 3 | --- | .00 | .00 | | --- | .53 | .02 | .01 | --- | --- | .01 | .67 |
| 4 | .02 | .00 | .00 | | --- | .45 | .01 | .01 | 58 | --- | .01 | .18 |
| 5 | --- | 2.6 | .00 | | --- | .32 | --- | .00 | --- | --- | .01 | .05 |
| 6 | --- | 1.5 | .00 | | --- | --- | --- | .00 | .18 | --- | .01 | .04 |
| 7 | --- | .20 | .00 | | --- | --- | .00 | 1.5 | --- | --- | .02 | --- |
| 8 | --- | .03 | .00 | | --- | .56 | .00 | 3.7 | --- | --- | 1030 | --- |
| 9 | .00 | .00 | .00 | | 472 | .44 | .00 | .01 | --- | --- | --- | --- |
| 10 | .00 | .00 | .00 | | 34 | .35 | .00 | .00 | --- | --- | --- | .00 |
| 11 | .00 | .00 | .00 | | 9.8 | .28 | .00 | .00 | --- | --- | .05 | .00 |
| 12 | .00 | .00 | .00 | | .78 | --- | .01 | .00 | --- | 8.4 | .01 | .01 |
| 13 | .01 | .00 | .00 | | .42 | --- | .02 | .00 | --- | .08 | .01 | --- |
| 14 | .00 | .00 | .48 | | .31 | --- | .01 | .00 | --- | .06 | .01 | --- |
| 15 | .00 | .00 | --- | | --- | --- | .00 | .00 | .09 | .05 | .01 | --- |
| 16 | .01 | .00 | --- | | --- | --- | .00 | .02 | .05 | .06 | --- | .11 |
| 17 | .00 | .00 | --- | | 267 | --- | .00 | .02 | .02 | .02 | --- | .04 |
| 18 | 14 | .00 | --- | | --- | --- | .00 | --- | --- | .01 | .00 | .03 |
| 19 | .07 | .00 | --- | | 19 | --- | .01 | --- | .18 | --- | .00 | .03 |
| 20 | .02 | --- | --- | | 7.8 | 11 | .01 | --- | .20 | --- | .00 | .02 |
| 21 | .01 | .00 | --- | | .92 | 5.4 | .01 | --- | .14 | --- | .00 | --- |
| 22 | .00 | .00 | --- | | .60 | .68 | .00 | 5.9 | .03 | .09 | .01 | .01 |
| 23 | 1.5 | .01 | --- | | .55 | .80 | .00 | 85 | .06 | .01 | .00 | .01 |
| 24 | .00 | 2.3 | --- | | .45 | .73 | .00 | 2.9 | .04 | .01 | --- | .01 |
| 25 | .01 | .20 | --- | | .30 | .13 | --- | 1.9 | .02 | .01 | --- | .01 |
| 26 | --- | .02 | --- | | .19 | .10 | --- | --- | --- | .01 | .00 | --- |
| 27 | 13 | .42 | --- | | 1.3 | .16 | 14 | --- | --- | .01 | .32 | --- |
| 28 | .33 | .00 | --- | | .41 | .12 | .01 | --- | .00 | --- | --- | .01 |
| 29 | .00 | .00 | --- | | --- | .16 | .02 | --- | 13 | --- | --- | .01 |
| 30 | .00 | .00 | --- | | --- | .05 | .02 | --- | .05 | --- | --- | .01 |
| 31 | .00 | --- | --- | | --- | --- | --- | --- | --- | .02 | --- | --- |

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | OXYGEN, DIS-SOLVED (MG/L) | ALKA-LINITY FIELD (MG/L AS CACO3) | SULFATE DIS-SOLVED (MG/L AS SO4) | SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) |
|---|---|---|---|---|---|---|---|---|
| DEC | | | | | | | | |
| 17... | .40 | 450 | -- | 2.5 | -- | -- | -- | -- |
| 31... | .58 | 450 | 7.5 | .0 | 12.0 | -- | -- | -- |
| JAN | | | | | | | | |
| 15... | .28 | 430 | 7.4 | .5 | 13.0 | -- | -- | -- |
| 26... | 1.4 | 400 | 7.5 | 7.0 | 10.0 | -- | -- | -- |
| FEB | | | | | | | | |
| 09... | 1.2 | 420 | 7.6 | 1.0 | 14.4 | -- | -- | -- |
| 23... | 4.3 | 410 | 7.8 | 8.0 | -- | 72 | 140 | 287 |
| MAR | | | | | | | | |
| 10... | 1.8 | 380 | -- | 4.0 | -- | -- | -- | -- |
| 18... | 4.5 | 400 | 7.4 | 8.0 | -- | -- | -- | -- |
| APR | | | | | | | | |
| 10... | 22 | 300 | -- | -- | -- | -- | -- | -- |
| 22... | 4.0 | 420 | 7.0 | 14.0 | -- | -- | -- | -- |
| MAY | | | | | | | | |
| 04... | 1.1 | 606 | 7.4 | -- | -- | 92 | 200 | 490 |
| 18... | .26 | 670 | 7.6 | 17.0 | -- | -- | -- | -- |
| JUN | | | | | | | | |
| 02... | 2.0 | 510 | 7.4 | 21.5 | -- | -- | -- | -- |
| 18... | 2.0 | 740 | 8.2 | 27.5 | 7.2 | -- | -- | -- |
| JUL | | | | | | | | |
| 06... | 2.7 | 680 | -- | 24.0 | -- | -- | -- | -- |
| 27... | .71 | 616 | 7.4 | 28.0 | -- | 76 | 91 | 437 |
| AUG | | | | | | | | |
| 06... | -- | 686 | -- | -- | -- | -- | -- | -- |
| 24... | .31 | 744 | 7.9 | 26.0 | -- | 118 | 270 | 584 |
| SEP | | | | | | | | |
| 22... | .21 | 700 | 7.7 | 18.0 | -- | 94 | 270 | 514 |

| DATE | SOLIDS, DIS-SOLVED (TONS PER DAY) | SOLIDS, DIS-SOLVED (TONS PER AC-FT) | IRON, TOTAL RECOV-ERABLE (UG/L AS FE) | IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE) | IRON, DIS-SOLVED (UG/L AS FE) | MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) | MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN) | MANGA-NESE, DIS-SOLVED (UG/L AS MN) |
|---|---|---|---|---|---|---|---|---|
| DEC | | | | | | | | |
| 17... | -- | -- | -- | -- | -- | -- | -- | -- |
| 31... | -- | -- | -- | -- | -- | -- | -- | -- |
| JAN | | | | | | | | |
| 15... | -- | -- | -- | -- | -- | -- | -- | -- |
| 26... | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | |
| 09... | -- | -- | -- | -- | -- | -- | -- | -- |
| 23... | 3.3 | .39 | 7500 | 7500 | 10 | 490 | 220 | 270 |
| MAR | | | | | | | | |
| 10... | -- | -- | -- | -- | -- | -- | -- | -- |
| 18... | -- | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | |
| 10... | -- | -- | -- | -- | -- | -- | -- | -- |
| 22... | -- | -- | -- | -- | -- | -- | -- | -- |
| MAY | | | | | | | | |
| 04... | 1.4 | .67 | 700 | -- | 10 | 90 | -- | 10 |
| 18... | -- | -- | -- | -- | -- | -- | -- | -- |
| JUN | | | | | | | | |
| 02... | -- | -- | -- | -- | -- | -- | -- | -- |
| 18... | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | |
| 06... | -- | -- | -- | -- | -- | -- | -- | -- |
| 27... | .84 | .59 | 70000 | 70000 | 10 | 2000 | 1500 | 500 |
| AUG | | | | | | | | |
| 06... | -- | -- | 240000 | -- | -- | 3500 | -- | -- |
| 24... | .49 | .79 | 330 | 260 | 70 | 70 | 10 | 60 |
| SEP | | | | | | | | |
| 22... | .29 | .70 | 170 | 160 | 10 | 10 | 0 | 10 |

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | ALKA-LINITY FIELD (MG/L AS CACO3) | SULFATE DIS-SOLVED (MG/L AS SO4) | SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) | SOLIDS, DIS-SOLVED (TONS PER DAY) |
|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | |
| 26... | .85 | 560 | 7.8 | 12.5 | 78 | 190 | 368 | .85 |
| NOV | | | | | | | | |
| 19... | .14 | 520 | -- | 10.5 | -- | -- | -- | -- |
| DEC | | | | | | | | |
| 14... | 2.1 | 350 | -- | 2.0 | -- | -- | -- | -- |
| 28... | .50 | 500 | -- | 4.5 | -- | -- | -- | -- |
| FEB | | | | | | | | |
| 08... | 2.0 | 500 | -- | 5.0 | -- | -- | -- | -- |
| MAR | | | | | | | | |
| 08... | 3.1 | 470 | -- | 7.0 | -- | -- | -- | -- |
| 30... | 1.6 | 700 | -- | 18.3 | -- | -- | -- | -- |
| APR | | | | | | | | |
| 22... | .53 | 740 | -- | 18.3 | -- | -- | -- | -- |
| JUL | | | | | | | | |
| 08... | .72 | 680 | -- | 23.5 | -- | -- | -- | -- |
| 27... | .37 | 530 | -- | 29.0 | -- | -- | -- | -- |
| AUG | | | | | | | | |
| 23... | .35 | 590 | -- | 20.0 | -- | -- | -- | -- |
| SEP | | | | | | | | |
| 22... | .71 | 780 | -- | 15.5 | -- | -- | -- | -- |

| DATE | SOLIDS, DIS-SOLVED (TONS PER AC-FT) | IRON, TOTAL RECOV-ERABLE (UG/L AS FE) | IRON, SUS-PENDED RECOV-ERABLE (UG/L AS FE) | IRON, DIS-SOLVED (UG/L AS FE) | MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) | MANGA-NESE, SUS-PENDED RECOV. (UG/L AS MN) | MANGA-NESE, DIS-SOLVED (UG/L AS MN) |
|---|---|---|---|---|---|---|---|
| OCT | | | | | | | |
| 26... | .50 | 1900 | 1900 | 20 | 240 | 30 | 210 |
| NOV | | | | | | | |
| 19... | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | |
| 14... | -- | -- | -- | -- | -- | -- | -- |
| 28... | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- |
| 30... | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | |
| 22... | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- |
| 27... | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | |
| 23... | -- | -- | -- | -- | -- | -- | -- |
| SEP | | | | | | | |
| 22... | -- | -- | -- | -- | -- | -- | -- |

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | | --- | .00 | --- | .05 | .40 | .03 | --- | --- | .01 | .09 |
| 2 | .16 | | --- | .03 | --- | .02 | .09 | .06 | --- | --- | .02 | .01 |
| 3 | .00 | | --- | .00 | --- | .03 | .06 | .06 | .12 | --- | .46 | .35 |
| 4 | .04 | | --- | .00 | --- | .66 | .02 | .12 | .37 | --- | .01 | .05 |
| 5 | .01 | | --- | .01 | --- | .51 | --- | --- | --- | --- | .00 | .01 |
| 6 | .00 | | --- | .00 | --- | .00 | --- | --- | --- | --- | .27 | --- |
| 7 | .00 | | --- | .00 | --- | .02 | --- | --- | --- | --- | .57 | --- |
| 8 | .00 | | --- | .00 | --- | .04 | --- | --- | --- | --- | .01 | --- |
| 9 | .00 | | --- | .00 | .00 | .04 | --- | --- | --- | --- | .02 | --- |
| 10 | .00 | | --- | .02 | .29 | .04 | .43 | --- | --- | --- | .38 | .10 |
| 11 | .00 | | --- | .01 | .13 | .04 | .04 | --- | --- | --- | .03 | .10 |
| 12 | .00 | | --- | .00 | .03 | .04 | .06 | --- | --- | --- | .00 | .09 |
| 13 | .00 | | --- | .00 | .06 | .05 | .07 | --- | --- | --- | .01 | .08 |
| 14 | .00 | | --- | .00 | .01 | .03 | .23 | --- | --- | --- | .01 | .08 |
| 15 | .00 | | --- | .00 | .04 | .08 | .04 | --- | --- | --- | .10 | .85 |
| 16 | .00 | | --- | .01 | .32 | .62 | .06 | --- | --- | --- | .34 | .05 |
| 17 | .00 | | --- | --- | .44 | .03 | 1.14 | --- | --- | --- | .01 | .05 |
| 18 | .00 | | .02 | --- | .04 | .05 | .18 | --- | --- | --- | .01 | .04 |
| 19 | .00 | | .03 | --- | .22 | .02 | .04 | --- | .00 | --- | .02 | .08 |
| 20 | .00 | | .04 | --- | .11 | .04 | .80 | --- | .00 | --- | .02 | .09 |
| 21 | .02 | | .01 | --- | .05 | .02 | .03 | --- | .00 | --- | .01 | .08 |
| 22 | .02 | | .02 | --- | .02 | .06 | .04 | --- | --- | --- | .01 | .06 |
| 23 | .00 | | .00 | --- | .52 | .81 | .27 | --- | --- | --- | .01 | .08 |
| 24 | .07 | | .35 | --- | .07 | .02 | .02 | --- | --- | --- | .00 | .09 |
| 25 | --- | | .03 | --- | .04 | .05 | .00 | --- | --- | --- | .02 | .11 |
| 26 | --- | | .01 | --- | .07 | .07 | .04 | --- | --- | --- | .01 | .08 |
| 27 | --- | | .02 | --- | .08 | .10 | .04 | --- | --- | --- | .01 | .06 |
| 28 | --- | | .01 | --- | .51 | .08 | .04 | --- | --- | .15 | .02 | .01 |
| 29 | --- | | .01 | --- | --- | .04 | .12 | --- | --- | .39 | .02 | --- |
| 30 | --- | | .25 | --- | --- | .13 | .09 | --- | --- | .01 | .03 | --- |
| 31 | --- | | .00 | --- | --- | .02 | --- | --- | --- | .01 | .07 | --- |
| TOTAL | | | | | | 3.81 | | | | | 2.51 | |
| MEAN | | | | | | .12 | | | | | .08 | |

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | .02 | --- | .00 | .01 | .04 | .13 | .12 | --- | .06 | .05 | .38 |
| 2 | --- | .03 | --- | .20 | .02 | .03 | .17 | .23 | --- | .04 | .06 | .01 |
| 3 | --- | .03 | --- | .36 | .01 | .08 | .05 | .21 | --- | .59 | .05 | .01 |
| 4 | --- | .03 | --- | .01 | .00 | .12 | .09 | .13 | --- | .45 | .04 | .02 |
| 5 | --- | .27 | --- | .02 | .02 | .04 | .14 | .14 | --- | .03 | .12 | .01 |
| 6 | .20 | .00 | --- | .00 | .00 | .35 | .01 | .12 | --- | .02 | .04 | .01 |
| 7 | .04 | .04 | --- | .01 | .01 | .36 | .00 | .43 | --- | .02 | .05 | .01 |
| 8 | .00 | .05 | --- | .00 | .05 | .31 | .00 | .00 | --- | 1.01 | 1.05 | .00 |
| 9 | .06 | .03 | --- | .01 | .90 | .07 | .01 | .11 | --- | .03 | .56 | .00 |
| 10 | .03 | .03 | --- | .03 | .05 | .06 | .00 | .09 | --- | .28 | .04 | .01 |
| 11 | .05 | .03 | --- | .00 | .07 | .31 | .11 | .10 | --- | .23 | .02 | .01 |
| 12 | .05 | .03 | --- | .00 | .06 | .06 | .07 | .11 | --- | .03 | .03 | .00 |
| 13 | .05 | .05 | --- | .00 | .13 | .49 | .10 | .01 | --- | .02 | .04 | .02 |
| 14 | .07 | .04 | .02 | .00 | .07 | .08 | .11 | .00 | --- | .03 | .04 | 1.57 |
| 15 | .03 | .04 | .08 | .01 | .22 | 1.28 | .10 | .00 | --- | .07 | .04 | .00 |
| 16 | .05 | .06 | .22 | .00 | .29 | .32 | .08 | .00 | --- | .03 | .13 | --- |
| 17 | .04 | .01 | .30 | .07 | .95 | .03 | .13 | .00 | .00 | .08 | .03 | --- |
| 18 | .51 | .03 | .13 | .00 | .06 | .03 | .12 | --- | .06 | .06 | .04 | --- |
| 19 | .14 | .00 | .09 | .10 | .20 | .37 | .00 | --- | .11 | .06 | .03 | --- |
| 20 | .07 | .23 | .05 | .07 | .10 | .27 | --- | --- | .05 | .44 | .05 | --- |
| 21 | .07 | .03 | .34 | .00 | .11 | .00 | --- | --- | .06 | .03 | .14 | --- |
| 22 | .06 | .10 | .37 | .00 | .03 | .00 | .08 | --- | .19 | .12 | .05 | --- |
| 23 | .59 | .24 | .12 | .00 | .06 | .00 | .15 | --- | .05 | .02 | .18 | --- |
| 24 | .05 | .31 | .00 | .02 | .05 | .00 | .16 | --- | .04 | .02 | .55 | --- |
| 25 | .26 | .02 | .05 | .01 | .01 | .00 | .17 | --- | .05 | .02 | .32 | --- |
| 26 | .02 | --- | .01 | .02 | .04 | .00 | .29 | --- | .24 | .02 | .05 | --- |
| 27 | .25 | --- | .01 | .01 | .65 | .00 | .08 | --- | .04 | .07 | .21 | --- |
| 28 | .02 | --- | .02 | .01 | .02 | .00 | .13 | --- | .10 | .25 | .03 | --- |
| 29 | .04 | --- | .02 | .00 | --- | .00 | .11 | --- | .43 | .03 | .06 | --- |
| 30 | .03 | --- | .12 | .00 | --- | .04 | .15 | --- | .02 | .53 | .62 | --- |
| 31 | .04 | --- | .48 | .04 | --- | .21 | --- | --- | --- | .05 | 1.84 | --- |
| TOTAL | | | | 1.00 | 4.19 | 4.95 | | | | 4.74 | 6.56 | |
| MEAN | | | | .03 | .15 | .16 | | | | .15 | .21 | |

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 28.5 | | --- | 1.5 | 11.5 | 21.0 | | | --- | 31.0 | 31.5 | 31.0 |
| 2 | 22.0 | | --- | -0.5 | 6.0 | 7.5 | | | --- | 30.0 | 24.5 | 29.5 |
| 3 | 18.5 | | --- | 3.5 | 3.5 | 8.5 | | | 33.0 | 30.5 | 32.0 | 30.5 |
| 4 | 17.0 | | --- | -5.5 | 8.0 | 5.5 | | | 31.0 | 32.5 | 33.0 | 26.5 |
| 5 | 13.5 | | --- | -4.5 | 7.5 | 8.5 | | | 34.5 | 32.5 | 33.0 | 29.0 |
| 6 | 17.5 | | --- | -3.5 | 13.5 | 5.5 | | | 24.5 | 29.0 | 27.5 | 29.0 |
| 7 | 19.0 | | --- | -6.5 | 9.0 | 4.5 | | | 32.5 | 34.5 | 30.0 | 28.0 |
| 8 | 25.5 | | --- | -9.0 | 1.5 | 4.0 | | | 34.0 | 34.0 | 29.5 | 22.0 |
| 9 | 28.0 | | --- | -4.0 | 2.5 | 5.5 | | | 31.5 | 37.0 | 30.0 | 23.5 |
| 10 | 28.5 | | --- | -9.0 | 10.0 | 7.5 | | | 34.5 | 37.5 | 33.5 | 27.0 |
| 11 | 24.0 | | --- | -11.0 | 3.0 | -1.0 | | | 33.0 | 35.0 | 33.5 | 28.5 |
| 12 | 14.0 | | --- | -10.0 | -7.0 | 5.5 | | | 34.5 | 36.0 | 28.0 | 29.5 |
| 13 | 16.0 | | --- | .0 | 4.0 | 11.0 | | | 36.0 | 35.5 | 30.0 | 30.0 |
| 14 | 22.0 | | --- | 5.5 | 8.0 | 1.5 | | | 37.0 | 31.0 | 31.0 | 30.0 |
| 15 | 23.5 | | --- | .0 | 16.0 | 14.0 | | | 37.5 | 33.0 | 31.0 | 22.5 |
| 16 | 26.0 | | --- | -0.5 | 9.0 | 3.5 | | | 38.5 | 31.0 | 31.0 | 21.5 |
| 17 | 28.5 | | --- | -4.5 | 10.0 | 12.0 | | | 30.0 | 32.5 | 27.5 | 18.0 |
| 18 | 26.0 | | 9.5 | .0 | 14.5 | 7.5 | | | 34.5 | 34.0 | 30.0 | 17.0 |
| 19 | 21.5 | | 2.0 | 5.5 | 9.5 | 1.5 | | | 34.0 | 33.0 | 27.0 | 19.0 |
| 20 | 17.5 | | 4.0 | 4.0 | 7.0 | 1.0 | | | 30.0 | 33.5 | 29.5 | 25.0 |
| 21 | --- | | 5.0 | 3.5 | 7.0 | 20.0 | | | 37.0 | 32.0 | 24.0 | 28.0 |
| 22 | --- | | 12.5 | 4.0 | 10.5 | 24.0 | | | 33.0 | 29.5 | 30.5 | 27.0 |
| 23 | --- | | 13.5 | 4.5 | 12.5 | 20.0 | | | 34.0 | 31.5 | 30.0 | 20.0 |
| 24 | --- | | 14.0 | 5.5 | 8.5 | --- | | | 36.0 | 34.0 | 29.0 | 22.5 |
| 25 | --- | | -2.5 | 13.5 | 16.5 | --- | | | 37.0 | 30.5 | 29.5 | 26.0 |
| 26 | --- | | 6.0 | 14.0 | 13.5 | --- | | | 32.0 | 34.5 | 31.0 | 29.0 |
| 27 | --- | | 4.0 | 9.5 | 19.0 | --- | | | 31.5 | 33.5 | 31.0 | 27.5 |
| 28 | --- | | 9.5 | 6.5 | 20.5 | --- | | | 34.5 | 32.5 | 31.5 | 23.0 |
| 29 | --- | | 11.5 | 4.0 | --- | --- | | | 36.5 | 22.5 | 31.0 | 25.0 |
| 30 | --- | | 3.5 | 9.0 | --- | --- | | | 33.0 | 28.0 | 27.5 | 26.5 |
| 31 | --- | | .5 | 10.0 | --- | --- | | | --- | 27.5 | 31.5 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | 22.0 | 18.5 | 8.0 | 5.0 | 14.0 | 20.5 | 26.0 | 23.5 | 26.5 | 29.0 | 28.5 |
| 2 | --- | 22.0 | 12.0 | 11.0 | 8.0 | 19.0 | 20.0 | 23.5 | 24.5 | 30.5 | 28.0 | 25.5 |
| 3 | --- | 24.5 | 10.0 | 10.5 | 14.0 | 11.5 | 24.0 | 25.5 | 27.0 | 31.5 | 30.0 | 25.5 |
| 4 | --- | 25.0 | 6.0 | 15.5 | 9.5 | 21.0 | 15.5 | 27.5 | 22.0 | 30.0 | 32.5 | --- |
| 5 | --- | 18.5 | 4.5 | 6.0 | 10.0 | 12.0 | 19.5 | 29.5 | 21.0 | 30.5 | 25.0 | --- |
| 6 | 24.0 | 16.0 | 3.0 | 13.0 | 7.0 | 10.5 | 10.5 | 33.0 | 21.5 | 33.5 | 33.0 | --- |
| 7 | 17.0 | 10.5 | 14.5 | 10.0 | 2.5 | 5.0 | 7.0 | 29.0 | 28.0 | 33.0 | 31.0 | --- |
| 8 | 18.0 | 14.5 | 13.0 | 1.0 | 9.0 | 5.0 | 8.5 | 21.5 | 28.0 | 33.0 | 29.5 | --- |
| 9 | 20.5 | 18.5 | 1.5 | .5 | 6.5 | 13.0 | 7.5 | 25.5 | 31.5 | 27.5 | 26.5 | --- |
| 10 | 19.0 | 15.0 | -1.5 | -10.5 | -0.5 | 18.5 | 11.0 | 26.0 | 23.0 | 32.0 | 29.5 | --- |
| 11 | 23.0 | 11.5 | 2.0 | -11.0 | 6.0 | 20.5 | 14.5 | 29.0 | 28.0 | 31.5 | 28.5 | --- |
| 12 | 21.5 | 11.0 | 1.5 | -2.0 | 5.5 | 23.0 | 23.0 | 33.5 | 27.0 | 28.5 | 25.0 | --- |
| 13 | 20.0 | 12.0 | 3.5 | 2.0 | 1.5 | 17.0 | 22.0 | 34.5 | 24.0 | 26.5 | 25.5 | --- |
| 14 | 21.5 | 15.0 | 4.0 | -1.0 | 10.5 | 14.0 | 22.0 | 34.0 | 27.5 | 33.0 | 28.5 | --- |
| 15 | 18.5 | 14.0 | 3.5 | 1.5 | 11.0 | 17.5 | 27.5 | 33.5 | 30.0 | 33.0 | 31.5 | --- |
| 16 | 20.0 | 12.5 | .5 | 4.0 | 13.0 | 20.5 | 26.0 | 32.0 | 30.5 | 34.0 | 30.5 | --- |
| 17 | 25.0 | 13.5 | 8.0 | -10.5 | 13.5 | 26.5 | 22.0 | 33.0 | 25.5 | 34.5 | 31.5 | --- |
| 18 | 20.5 | 12.5 | -0.5 | 4.0 | 13.0 | 27.0 | 18.5 | 31.5 | 30.5 | 31.5 | 28.5 | --- |
| 19 | 11.5 | 21.5 | -4.0 | 5.5 | 8.0 | 20.5 | 22.0 | 28.5 | 29.0 | 30.0 | 29.5 | --- |
| 20 | 19.0 | 16.0 | -4.0 | 7.5 | 17.0 | 18.5 | 22.0 | 28.0 | 25.5 | 27.0 | 30.0 | --- |
| 21 | 22.5 | 2.0 | 4.0 | 9.5 | 9.5 | 19.0 | 15.0 | 27.5 | 26.5 | 33.0 | 28.5 | --- |
| 22 | 22.5 | 3.5 | 13.0 | 8.0 | 5.5 | 13.5 | 15.0 | 31.0 | 28.0 | 33.0 | 29.0 | -26.0 |
| 23 | 13.5 | 7.5 | 14.0 | 14.5 | 20.0 | 14.0 | 19.0 | 28.5 | 27.5 | 29.5 | 30.5 | --- |
| 24 | 11.0 | 9.5 | 4.0 | 1.5 | 24.0 | 20.0 | 23.0 | 28.0 | 28.0 | 31.5 | 30.5 | --- |
| 25 | 15.0 | 7.5 | 4.0 | 6.5 | 5.5 | 22.0 | 25.0 | 29.5 | 31.0 | 34.0 | 29.5 | --- |
| 26 | 15.0 | 19.0 | 7.5 | -4.5 | 6.5 | 6.5 | 22.0 | 26.0 | 30.0 | 33.5 | 30.0 | --- |
| 27 | 19.0 | 15.5 | 10.0 | 3.0 | 4.5 | 1.5 | 20.0 | 29.0 | 31.0 | 33.0 | 25.5 | --- |
| 28 | 16.5 | 5.5 | 3.5 | 10.5 | 10.5 | 10.5 | 18.0 | 28.0 | 31.0 | 31.5 | 27.0 | --- |
| 29 | 22.0 | 9.0 | 6.5 | 9.0 | --- | 20.5 | 23.0 | 31.5 | 29.0 | 29.0 | 29.0 | --- |
| 30 | 21.0 | 6.5 | 1.0 | 15.5 | --- | 23.0 | 24.0 | 31.5 | 28.5 | 32.0 | 27.5 | --- |
| 31 | 21.5 | --- | 3.0 | 21.5 | --- | 24.5 | --- | 33.5 | --- | 28.0 | 26.0 | --- |

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 14.0 | | --- | -2.5 | -8.0 | 6.0 | | | --- | 20.5 | 13.5 | 19.5 |
| 2 | 12.5 | | --- | -2.0 | -2.5 | 4.0 | | | --- | 18.5 | 19.5 | 19.5 |
| 3 | 10.5 | | --- | -8.0 | -4.0 | -3.0 | | | 20.0 | 20.0 | 19.5 | 19.0 |
| 4 | 8.0 | | --- | -15.5 | -6.0 | -4.0 | | | 21.0 | 20.5 | 19.0 | 19.5 |
| 5 | 7.5 | | --- | -17.0 | -5.0 | 2.5 | | | 21.0 | 22.5 | 20.5 | 18.5 |
| 6 | 6.0 | | --- | -11.5 | 3.0 | -0.5 | | | 21.0 | 24.0 | 20.0 | 18.0 |
| 7 | 5.5 | | --- | -13.5 | 1.0 | -4.0 | | | 18.0 | 24.0 | 18.5 | 17.5 |
| 8 | 9.5 | | --- | -15.0 | 9.0 | -7.0 | | | 18.5 | 24.0 | 17.0 | 12.5 |
| 9 | 11.5 | | --- | -10.0 | -12.0 | -5.0 | | | 20.5 | 24.0 | 17.0 | 11.0 |
| 10 | 14.5 | | --- | -20.5 | -3.0 | -8.0 | | | 23.0 | 24.0 | 19.0 | 11.0 |
| 11 | 11.5 | | --- | -20.5 | -15.0 | -7.0 | | | 21.0 | 23.0 | 19.0 | 11.5 |
| 12 | 7.5 | | --- | -15.0 | -23.0 | -9.5 | | | 20.0 | 23.5 | 17.0 | 14.5 |
| 13 | 3.5 | | --- | -10.0 | -17.5 | -10.0 | | | 22.5 | 23.0 | 16.5 | 15.0 |
| 14 | 4.0 | | --- | -7.0 | -9.5 | -10.0 | | | 23.5 | 21.0 | 17.0 | 15.5 |
| 15 | 4.5 | | --- | -1.5 | -10.5 | -11.5 | | | 23.0 | 19.5 | 18.5 | 18.0 |
| 16 | 7.5 | | --- | -9.5 | -6.5 | -7.0 | | | 23.0 | 21.5 | 19.0 | 13.5 |
| 17 | 8.5 | | --- | -14.5 | .5 | -8.5 | | | 18.0 | 21.5 | 14.5 | 9.0 |
| 18 | 17.0 | | -2.0 | -15.0 | .0 | -2.0 | | | 18.0 | 21.0 | 13.5 | 9.0 |
| 19 | 14.0 | | -6.0 | -11.5 | 2.0 | -4.5 | | | 22.5 | 22.0 | 15.0 | 8.5 |
| 20 | 3.5 | | -2.5 | -5.5 | -2.0 | -3.5 | | | 23.0 | 22.5 | 14.0 | 8.0 |
| 21 | --- | | -6.0 | -0.5 | -5.5 | -3.0 | | | 22.5 | 20.5 | 12.5 | 10.5 |
| 22 | --- | | -4.5 | -1.5 | -8.5 | 2.0 | | | 21.5 | 17.5 | 12.5 | 11.0 |
| 23 | --- | | 7.5 | -2.5 | 7.5 | 8.0 | | | 19.0 | 17.5 | 15.0 | 6.5 |
| 24 | --- | | -0.5 | -5.0 | .5 | --- | | | 18.5 | 19.5 | 16.0 | 6.0 |
| 25 | --- | | -10.0 | -7.0 | -1.0 | --- | | | 20.5 | 21.0 | 13.5 | 6.5 |
| 26 | --- | | -9.5 | 1.0 | -1.5 | --- | | | 17.0 | 21.0 | 12.5 | 11.0 |
| 27 | --- | | -11.5 | -2.5 | -4.0 | --- | | | 16.5 | 20.5 | 16.0 | 13.0 |
| 28 | --- | | -4.5 | -7.0 | 1.5 | --- | | | 16.0 | 21.0 | 17.0 | 7.5 |
| 29 | --- | | -0.5 | -4.0 | --- | --- | | | 18.5 | 14.5 | 16.0 | 6.0 |
| 30 | --- | | .0 | -5.0 | --- | --- | | | 20.5 | 13.5 | 18.5 | 9.0 |
| 31 | --- | | -3.0 | -8.0 | --- | --- | | | --- | 15.5 | 19.0 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | 3.5 | 5.5 | 1.5 | -2.0 | .5 | .5 | 4.0 | 17.0 | 12.5 | 17.5 | 20.5 |
| 2 | --- | 6.0 | 4.0 | -3.5 | -4.0 | -1.5 | -0.5 | 8.5 | 13.0 | 12.0 | 17.5 | 19.0 |
| 3 | --- | 7.5 | .5 | 4.0 | 5.0 | 5.0 | 11.0 | 7.5 | 14.0 | 15.5 | 17.5 | 25.5 |
| 4 | --- | 8.0 | 2.5 | 2.5 | 2.5 | 4.0 | 3.0 | 4.5 | 16.0 | 18.5 | 20.0 | 25.5 |
| 5 | --- | 10.5 | -0.5 | -3.0 | -1.0 | 3.5 | -0.5 | 5.5 | 14.0 | 18.0 | 19.5 | --- |
| 6 | 10.0 | 8.5 | -7.0 | -0.5 | -5.0 | 3.5 | -1.5 | 8.0 | 12.0 | 17.0 | 21.5 | --- |
| 7 | 4.5 | .0 | -4.0 | -0.5 | -11.5 | -1.5 | -3.5 | 11.0 | 13.5 | 18.0 | 20.0 | --- |
| 8 | 3.5 | -2.0 | 2.0 | -6.0 | -9.0 | -3.0 | .0 | 8.5 | 16.0 | 19.0 | 20.5 | --- |
| 9 | 3.0 | 2.0 | -1.5 | -10.5 | -1.5 | -1.0 | 1.5 | 8.5 | 16.0 | 19.5 | 19.5 | --- |
| 10 | 8.5 | 2.5 | -3.5 | -19.0 | -5.0 | .0 | -0.5 | 7.5 | 18.0 | 20.0 | 17.5 | --- |
| 11 | 10.0 | 1.0 | -2.5 | -19.0 | -5.5 | 1.0 | -2.0 | 7.5 | 13.5 | 21.0 | 17.5 | --- |
| 12 | 6.5 | -1.0 | -4.5 | -10.5 | -6.5 | 7.5 | 2.0 | 9.0 | 14.0 | 18.5 | 13.5 | --- |
| 13 | 3.5 | -2.5 | -8.0 | -4.0 | -6.5 | 2.0 | 10.5 | 10.0 | 15.0 | 18.5 | 14.0 | --- |
| 14 | .5 | -3.5 | -0.5 | -6.0 | -9.5 | -0.5 | 6.0 | 11.5 | 13.0 | 19.5 | 16.0 | --- |
| 15 | 6.0 | -3.0 | .5 | -6.0 | -4.0 | 6.0 | 4.0 | 11.0 | 12.0 | 19.5 | 16.0 | --- |
| 16 | 7.0 | -1.5 | -5.0 | -15.5 | 5.0 | 8.5 | 10.0 | 13.0 | 15.5 | 19.5 | 18.0 | --- |
| 17 | 8.0 | 7.5 | -4.0 | -26.0 | 8.5 | 6.0 | 6.0 | 14.5 | 15.0 | 20.5 | 17.0 | --- |
| 18 | 8.5 | 1.5 | -6.0 | -13.0 | 6.5 | 3.0 | 2.0 | 12.5 | 15.0 | 19.5 | 14.5 | --- |
| 19 | -0.5 | .5 | -10.5 | .5 | .5 | 8.5 | 3.0 | 16.5 | 16.0 | 19.5 | 15.0 | --- |
| 20 | -2.0 | 1.5 | -12.5 | 2.0 | 2.0 | 13.0 | 8.0 | 14.5 | 12.5 | 20.5 | 16.0 | --- |
| 21 | .0 | 1.5 | -12.5 | 4.0 | 3.0 | 6.5 | 1.5 | 16.5 | 12.5 | 19.5 | 12.5 | --- |
| 22 | 5.5 | -4.0 | 3.0 | 3.0 | -2.0 | .5 | .0 | 15.0 | 14.5 | 19.5 | 12.5 | --- |
| 23 | 2.5 | -6.0 | 4.0 | 3.0 | -3.5 | .5 | -3.0 | 17.0 | 12.0 | 20.0 | 15.0 | --- |
| 24 | -1.5 | 3.5 | 1.0 | -7.0 | 4.0 | -0.5 | -1.5 | 17.0 | 11.0 | 20.0 | 19.0 | --- |
| 25 | 1.5 | -0.5 | -3.5 | -8.0 | -0.5 | 2.5 | 1.5 | 16.0 | 14.0 | 19.5 | 15.5 | --- |
| 26 | 11.5 | -2.0 | -2.0 | -14.0 | -4.5 | -0.5 | 11.5 | 16.0 | 17.5 | 20.0 | 16.0 | --- |
| 27 | 11.5 | 6.5 | -2.0 | -15.5 | 1.0 | -5.0 | 9.5 | 16.5 | 17.5 | 20.0 | 16.5 | --- |
| 28 | 6.5 | -1.0 | -1.5 | -4.5 | .5 | -7.5 | 3.0 | 17.5 | 18.0 | 20.0 | 15.5 | --- |
| 29 | 7.0 | -2.0 | -4.0 | -7.5 | --- | -5.0 | 1.0 | 17.0 | 19.0 | 19.5 | 14.0 | --- |
| 30 | 5.0 | -3.5 | -9.0 | -0.5 | --- | 4.0 | 2.0 | 18.0 | 15.5 | 20.5 | 16.0 | --- |
| 31 | 5.0 | --- | -6.0 | 1.5 | --- | 6.0 | --- | 18.0 | --- | 19.0 | 20.0 | --- |

03213577 KERSHAW BRANCH NEAR HURLEY, VA

LOCATION.--Lat 37°27'01", long 82°00'40", Buchanon County, Hydrologic Unit 05070201, on right bank 0.5 mi (0.8 km) upstream from Guess Fork, 2.1 mi (3.4 km) north of Hurley.

DRAINAGE AREA.--0.60 $mi^2$ (1.55 $km^2$).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,140 ft (347 m) from topographic map.

REMARKS.--Records fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 97 $ft^3/s$ (2.75 $m^3/s$) June 6, 1981, gage height, 2.95 ft (0.899 m); minimum daily, 0.02 $ft^3/s$ (0.001 $m^3/s$) Sept. 10-14, 29, 30, 1981, and Nov. 18, 19, 1981.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .10 | .07 | .34 | .21 | .25 | .79 | .94 | .24 | 3.8 | .15 | .09 | .04 |
| 2 | .10 | .07 | .32 | .21 | 1.1 | .70 | 1.0 | .25 | 2.7 | .10 | .09 | .04 |
| 3 | .12 | .07 | .28 | .20 | .34 | .59 | .88 | .17 | 1.4 | .26 | .10 | .06 |
| 4 | .10 | .07 | .23 | .18 | .38 | .86 | .67 | .17 | 1.9 | .14 | .08 | .06 |
| 5 | .09 | .07 | .23 | .14 | .54 | 3.7 | 4.8 | .22 | 2.1 | .11 | .08 | .03 |
| 6 | .08 | .06 | .24 | .13 | .36 | 2.3 | 5.8 | .22 | 9.4 | .63 | .11 | .03 |
| 7 | .08 | .07 | .24 | .12 | .39 | 1.5 | 2.0 | .20 | .55 | .19 | .11 | .03 |
| 8 | .08 | .07 | .21 | .12 | .49 | 1.1 | 1.2 | .18 | .88 | .14 | .17 | .04 |
| 9 | .08 | .07 | .34 | .11 | .45 | .75 | 1.0 | .17 | 1.5 | .11 | .09 | .03 |
| 10 | .08 | .07 | .36 | .11 | .41 | .56 | 2.8 | .17 | .83 | .10 | .09 | .02 |
| 11 | .08 | .06 | .32 | .11 | .90 | .50 | 2.5 | .22 | .49 | .10 | .16 | .02 |
| 12 | .07 | .06 | .28 | .10 | .79 | .42 | 1.2 | .19 | .45 | .09 | .12 | .02 |
| 13 | .07 | .06 | .26 | .10 | .65 | .39 | 1.2 | .17 | .58 | .11 | .09 | .02 |
| 14 | .06 | .07 | .22 | .13 | .54 | .31 | .99 | .25 | .42 | .20 | .08 | .02 |
| 15 | .06 | .07 | .21 | .11 | .46 | .27 | .67 | .44 | .36 | .10 | .08 | .10 |
| 16 | .06 | .08 | .20 | .10 | .50 | .70 | .58 | .20 | .36 | .11 | .25 | .10 |
| 17 | .06 | .28 | .15 | .09 | 1.7 | .52 | 2.2 | .18 | .36 | .09 | .09 | .05 |
| 18 | .06 | .68 | .13 | .10 | 1.7 | .38 | 2.5 | .28 | .34 | .08 | .07 | .04 |
| 19 | .06 | .24 | .12 | .09 | 1.2 | .28 | 1.8 | 3.8 | .26 | .08 | .05 | .04 |
| 20 | .07 | .16 | .10 | .10 | 1.7 | .24 | 6.9 | 2.2 | .22 | .10 | .04 | .04 |
| 21 | .05 | .13 | .09 | .33 | 1.2 | .20 | 3.2 | .99 | .20 | .12 | .04 | .04 |
| 22 | .05 | .11 | .08 | .47 | .88 | .22 | 1.9 | .67 | .18 | .14 | .04 | .04 |
| 23 | .04 | .24 | .10 | .47 | 2.3 | .42 | 1.6 | .55 | .17 | .09 | .03 | .04 |
| 24 | .05 | 2.7 | .20 | .38 | 2.1 | 3.3 | 1.8 | .78 | .14 | .08 | .03 | .04 |
| 25 | .34 | .70 | .16 | .30 | 1.2 | 3.2 | 1.2 | .70 | .45 | .08 | .03 | .03 |
| 26 | .11 | .42 | .14 | .30 | .84 | 2.1 | .78 | .52 | .46 | .07 | .03 | .03 |
| 27 | .08 | .53 | .14 | .32 | .60 | 1.4 | .55 | .55 | .20 | .07 | .03 | .03 |
| 28 | .08 | .51 | .14 | .22 | .63 | .88 | .49 | .93 | .11 | .40 | .03 | .03 |
| 29 | .08 | .44 | .15 | .18 | --- | .67 | .34 | .82 | .10 | 1.7 | .04 | .02 |
| 30 | .07 | .44 | .20 | .17 | --- | .61 | .30 | 1.9 | .14 | .26 | .04 | .02 |
| 31 | .07 | --- | .18 | .17 | --- | .52 | --- | 2.7 | --- | .19 | .04 | --- |
| TOTAL | 2.58 | 8.67 | 6.36 | 5.87 | 24.60 | 30.38 | 53.79 | 21.03 | 31.05 | 6.19 | 2.42 | 1.15 |
| MEAN | .083 | .29 | .21 | .19 | .88 | .98 | 1.79 | .68 | 1.04 | .20 | .078 | .038 |
| CFSM | .14 | .48 | .35 | .32 | 1.47 | 1.63 | 2.98 | 1.13 | 1.73 | .33 | .13 | .06 |
| IN. | .16 | .54 | .39 | .36 | 1.52 | 1.88 | 3.33 | 1.30 | 1.92 | .38 | .15 | .07 |

WTR YR 1981 TOTAL 194.09 MEAN .53 CFSM .88 IN 12.01

03213577 KERSHAW BRANCH NEAR HURLEY, VA--Continued

WATER-DISCHARGE RECORDS

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .06 | .06 | .07 | .34 | .42 | 1.1 | .37 | .17 | .34 | .08 | .06 | .49 |
| 2 | .06 | .06 | .07 | .22 | .42 | .88 | .34 | .13 | .30 | .07 | .06 | .09 |
| 3 | .04 | .06 | .07 | 3.3 | .78 | .70 | .38 | .12 | .19 | .38 | .05 | .04 |
| 4 | .03 | .06 | .08 | 1.9 | .61 | .55 | .43 | .10 | .70 | .30 | .04 | .04 |
| 5 | .04 | .06 | .09 | .93 | .47 | .44 | .34 | .09 | .61 | .18 | .06 | .06 |
| 6 | .04 | .07 | .08 | .94 | .42 | .44 | .27 | .09 | .30 | .08 | .05 | .08 |
| 7 | .04 | .06 | .08 | 1.0 | .38 | 1.9 | .21 | .08 | .27 | .07 | .05 | .07 |
| 8 | .04 | .05 | .08 | .93 | .40 | 1.8 | .20 | .12 | .36 | .12 | 2.1 | .07 |
| 9 | .04 | .05 | .07 | .83 | 3.7 | 1.8 | .27 | .09 | .22 | .09 | .65 | .07 |
| 10 | .03 | .05 | .07 | .66 | 1.8 | 2.1 | .24 | .07 | 1.3 | .09 | .07 | .07 |
| 11 | .03 | .04 | .07 | .50 | 1.1 | 1.5 | .19 | .07 | .44 | .13 | .04 | .07 |
| 12 | .03 | .04 | .08 | .36 | .80 | 1.3 | .18 | .06 | .64 | .10 | .06 | .07 |
| 13 | .03 | .03 | .08 | .27 | .64 | 1.6 | .19 | .07 | 1.6 | .06 | .06 | .07 |
| 14 | .03 | .03 | .42 | .27 | .52 | 1.9 | .20 | .08 | .47 | .06 | .05 | .08 |
| 15 | .03 | .03 | .48 | .27 | .58 | 7.8 | .16 | .07 | .22 | .06 | .05 | .10 |
| 16 | .03 | .03 | .28 | .27 | 1.3 | 3.5 | .14 | .07 | .24 | .06 | .06 | .07 |
| 17 | .03 | .03 | .45 | .22 | 2.2 | 1.9 | .15 | .06 | .24 | .08 | .05 | .06 |
| 18 | .09 | .02 | .91 | .24 | 1.7 | 1.2 | .13 | .09 | .18 | .10 | .04 | .05 |
| 19 | .08 | .02 | .80 | .28 | 1.6 | 1.2 | .15 | .12 | .15 | .08 | .04 | .05 |
| 20 | .06 | .05 | .64 | .52 | 1.5 | 2.1 | .15 | .09 | .12 | .09 | .04 | .04 |
| 21 | .06 | .04 | .62 | .70 | 1.2 | 3.5 | .15 | .09 | .11 | .08 | .04 | .04 |
| 22 | .06 | .04 | 2.1 | .47 | .74 | 3.2 | .12 | .07 | .11 | .12 | .03 | .04 |
| 23 | .13 | .04 | .78 | .44 | .58 | 2.1 | .11 | .09 | .10 | .08 | .03 | .04 |
| 24 | .10 | .09 | .36 | .38 | .49 | 1.7 | .11 | .06 | .09 | .06 | .04 | .04 |
| 25 | .08 | .08 | .22 | .34 | .38 | .93 | .12 | .06 | .09 | .04 | .09 | .04 |
| 26 | .20 | .07 | .17 | .34 | .42 | .70 | .55 | .18 | .10 | .04 | .04 | .06 |
| 27 | .14 | .08 | .14 | .36 | .99 | .58 | 1.2 | .24 | .09 | .04 | .04 | .10 |
| 28 | .11 | .07 | .12 | .42 | 1.5 | .52 | .24 | .27 | .09 | .15 | .04 | .09 |
| 29 | .09 | .07 | .10 | .42 | --- | .44 | .14 | .24 | .10 | .08 | .03 | .07 |
| 30 | .07 | .07 | .09 | .42 | --- | .38 | .16 | .15 | .09 | .14 | .06 | .06 |
| 31 | .07 | --- | .22 | .44 | --- | .45 | --- | .12 | --- | .08 | 4.0 | --- |
| TOTAL | 1.97 | 1.55 | 9.89 | 18.98 | 27.64 | 50.21 | 7.59 | 3.41 | 9.86 | 3.19 | 8.12 | 2.32 |
| MEAN | .064 | .052 | .32 | .61 | .99 | 1.62 | .25 | .11 | .33 | .10 | .26 | .077 |
| CFSM | .11 | .09 | .53 | 1.02 | 1.65 | 2.70 | .42 | .18 | .55 | .17 | .43 | .13 |
| IN. | .12 | .10 | .61 | 1.17 | 1.71 | 3.11 | .47 | .21 | .61 | .20 | .50 | .14 |

WTR YR 1982 TOTAL 144.73 MEAN .40 CFSM .67 IN 8.96

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.
PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to December 1981.
SUSPENDED-SEDIMENT DISCHARGE: October 1980 to September 1982.
INSTRUMENTATION.--Sediment pumping sampler.
REMARKS.--Suspended-sediment discharge record is fair.
EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,000 mg/L July 8, 1982; minimum daily mean, 0 mg/L on many days throughout 1981.
SEDIMENT LOADS: Maximum daily, 43 tons (39 metric tons) Mar. 15, 1982; minimum daily, 0 tons (0 metric tons) on many days throughout each year.

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | 6 | 10 | 8 | 23 | 19 | 127 | 13 | 200 | --- | 4 | 3 |
| 2 | 11 | 4 | --- | 3 | 145 | 16 | 50 | 11 | 72 | 8 | 7 | 3 |
| 3 | 8 | 3 | 10 | 8 | 2[illegible] | 14 | 30 | 10 | 38 | --- | --- | 28 |
| 4 | 6 | 3 | 6 | 3 | 14 | 124 | 28 | 33 | 157 | --- | 29 | 4 |
| 5 | 5 | 2 | 16 | 1 | 10 | 541 | 298 | --- | 39 | 65 | 6 | 5 |
| 6 | 3 | 2 | 8 | 1 | 19 | 138 | 46 | 18 | --- | 116 | --- | 4 |
| 7 | 2 | 2 | 2 | 0 | 31 | 34 | 28 | 23 | --- | 6 | --- | 7 |
| 8 | 3 | 3 | 0 | 1 | 14 | 24 | 24 | 30 | --- | 81 | --- | 30 |
| 9 | 2 | 4 | 6 | 1 | 13 | 16 | 46 | 14 | --- | 93 | 11 | 6 |
| 10 | 3 | 2 | 5 | 0 | 40 | 16 | 495 | 7 | --- | 24 | 11 | 14 |
| 11 | 4 | 2 | 14 | 1 | 105 | 20 | 68 | 7 | --- | 2 | 231 | 7 |
| 12 | 4 | 3 | 8 | 1 | 17 | 30 | 45 | 6 | 259 | 1 | 40 | 2 |
| 13 | 4 | 0 | 2 | 1 | 28 | 12 | 23 | 7 | 31 | --- | 14 | 3 |
| 14 | 3 | 0 | 2 | 7 | 23 | 26 | 37 | --- | 14 | --- | 19 | 23 |
| 15 | 3 | 4 | 1 | 3 | 24 | 23 | 30 | --- | 10 | 28 | 26 | --- |
| 16 | 4 | 4 | 1 | 2 | 30 | --- | 21 | 10 | 10 | 4 | 96 | 3 |
| 17 | 4 | --- | 1 | 4 | 436 | 18 | 243 | 9 | 8 | 5 | 30 | 0 |
| 18 | 3 | --- | 0 | 2 | 98 | 14 | 19 | --- | 6 | 4 | 14 | 1 |
| 19 | 2 | 3 | 0 | 2 | 84 | 28 | 9 | --- | 4 | 2 | 16 | 1 |
| 20 | 4 | 4 | 0 | 8 | 106 | 15 | --- | --- | 3 | --- | 19 | 1 |
| 21 | 2 | 4 | 0 | --- | 70 | 11 | 43 | 43 | 2 | --- | 12 | 0 |
| 22 | 2 | 2 | 1 | 48 | 44 | 23 | 32 | 34 | 4 | --- | 15 | 2 |
| 23 | 3 | 12 | 1 | 38 | 170 | --- | 22 | --- | 11 | 5 | 8 | 2 |
| 24 | 3 | 275 | --- | 19 | 40 | 309 | 23 | --- | 17 | 5 | 13 | 2 |
| 25 | --- | 15 | 3 | 7 | 34 | 104 | 21 | --- | --- | 4 | 5 | 4 |
| 26 | 28 | 5 | 6 | 5 | 30 | 37 | 16 | 9 | --- | 4 | 0 | 2 |
| 27 | 6 | 6 | 3 | 13 | 27 | 25 | 15 | 10 | 2 | 5 | 4 | 1 |
| 28 | 3 | 24 | 1 | 10 | 25 | 25 | 14 | 28 | 2 | 413 | 24 | 1 |
| 29 | 3 | 28 | 12 | 8 | --- | 26 | 13 | 4 | 19 | --- | 13 | 2 |
| 30 | 3 | 11 | 21 | 10 | --- | 30 | 8 | 196 | --- | 5 | 84 | 1 |
| 31 | 3 | --- | 27 | 15 | --- | 32 | --- | 35 | --- | 4 | 4 | --- |

WATER-QUALITY RECORDS

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | 11 | 12 | | --- | 41 | 20 | 37 | --- | 19 | 99 | --- |
| 2 | 13 | 11 | 17 | | --- | 30 | 20 | 40 | 34 | 6 | 8 | --- |
| 3 | 12 | 9 | 18 | | --- | 25 | 22 | 31 | 36 | 666 | 5 | 21 |
| 4 | 9 | 10 | 35 | | --- | 26 | 21 | 27 | 993 | 566 | 6 | 36 |
| 5 | --- | --- | 34 | | --- | 33 | 20 | 80 | 38 | 470 | 9 | 23 |
| 6 | 19 | 9 | 14 | | --- | --- | --- | 16 | 30 | 530 | 9 | 16 |
| 7 | 5 | 10 | 11 | | --- | --- | --- | 29 | 19 | 220 | 50 | 15 |
| 8 | 4 | 10 | 15 | | --- | --- | 15 | 16 | 69 | 2000 | 1220 | 10 |
| 9 | 3 | 9 | 15 | | --- | 88 | 15 | 27 | 31 | 1220 | --- | 8 |
| 10 | --- | 9 | 16 | | --- | 73 | 21 | 82 | 505 | --- | 44 | 7 |
| 11 | 18 | 10 | 22 | | 26 | 35 | 21 | 107 | 20 | --- | 28 | 12 |
| 12 | 6 | 7 | 23 | | 30 | 30 | 20 | 34 | --- | 197 | 14 | 8 |
| 13 | 8 | 6 | 22 | | 49 | --- | 15 | 20 | --- | 71 | 9 | 21 |
| 14 | 6 | 10 | --- | | 38 | 38 | 12 | 15 | 40 | 40 | 12 | --- |
| 15 | 15 | 7 | --- | | --- | 1540 | 13 | 11 | 22 | 53 | 22 | --- |
| 16 | 11 | 9 | --- | | --- | 160 | 13 | 18 | 19 | 27 | 17 | 11 |
| 17 | 47 | 10 | --- | | 185 | 65 | 13 | 16 | 49 | --- | 9 | 10 |
| 18 | 52 | 13 | --- | | 37 | 39 | --- | --- | 32 | --- | 10 | 14 |
| 19 | 5 | 18 | --- | | 49 | 64 | --- | --- | 34 | 64 | 11 | 24 |
| 20 | 13 | 21 | --- | | 51 | 71 | 10 | 33 | --- | 30 | 10 | 20 |
| 21 | 6 | 25 | --- | | 42 | 66 | 10 | 14 | 15 | 34 | 10 | 14 |
| 22 | 12 | 15 | --- | | 35 | 54 | 12 | 19 | --- | 1550 | 16 | 10 |
| 23 | --- | 6 | --- | | 49 | 41 | 12 | --- | 148 | 145 | 14 | 6 |
| 24 | 11 | --- | --- | | 45 | 32 | 10 | 13 | 26 | 187 | --- | 10 |
| 25 | --- | 16 | --- | | 23 | --- | 10 | 12 | 8 | 66 | --- | 17 |
| 26 | --- | 18 | --- | | 21 | --- | --- | 55 | --- | 10 | 21 | --- |
| 27 | 9 | 15 | --- | | 235 | 16 | --- | 77 | --- | 9 | 14 | --- |
| 28 | 12 | 24 | --- | | 51 | 23 | 56 | --- | 15 | --- | 15 | 6 |
| 29 | 12 | 21 | --- | | --- | 22 | 42 | 53 | --- | --- | 19 | 24 |
| 30 | 14 | 13 | --- | | --- | 31 | 33 | 28 | 20 | --- | --- | 8 |
| 31 | 9 | --- | --- | | --- | 74 | --- | --- | --- | 68 | --- | --- |

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | .00 | .01 | .00 | .02 | .04 | .47 | .01 | 4.6 | --- | .00 | .00 |
| 2 | .00 | .00 | --- | .00 | .66 | .03 | .14 | .01 | .52 | .00 | .00 | .00 |
| 3 | .00 | .00 | .01 | .00 | .02 | .02 | .07 | .00 | .14 | --- | --- | .01 |
| 4 | .00 | .00 | .01 | .00 | .01 | .41 | .05 | .02 | 3.0 | --- | .01 | .00 |
| 5 | .00 | .00 | .01 | .00 | .01 | 5.8 | 4.0 | --- | .22 | .02 | .00 | .00 |
| 6 | .00 | .00 | .01 | .00 | .02 | .86 | .72 | .01 | --- | .38 | --- | .00 |
| 7 | .00 | .00 | .00 | .00 | .03 | .14 | .15 | .01 | --- | .00 | --- | .00 |
| 8 | .00 | .00 | .00 | .00 | .02 | .07 | .08 | .01 | --- | .03 | --- | .00 |
| 9 | .00 | .00 | .01 | .00 | .02 | .03 | .14 | .01 | --- | .03 | .00 | .00 |
| 10 | .00 | .00 | .00 | .00 | .04 | .02 | 8.6 | .00 | --- | .01 | .00 | .00 |
| 11 | .00 | .00 | .01 | .00 | .24 | .03 | .46 | .00 | --- | .00 | .39 | .00 |
| 12 | .00 | .00 | .01 | .00 | .04 | .03 | .15 | .00 | .18 | .00 | .01 | .00 |
| 13 | .00 | .00 | .00 | .00 | .05 | .01 | .07 | .00 | .05 | --- | .00 | .00 |
| 14 | .00 | .00 | .00 | .00 | .03 | .02 | .14 | --- | .02 | --- | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .03 | .02 | .05 | --- | .01 | .01 | .01 | --- |
| 16 | .00 | .00 | .00 | .00 | .04 | --- | .03 | .01 | .01 | .00 | .09 | .00 |
| 17 | .00 | --- | .00 | .00 | 1.7 | .03 | 1.7 | .00 | .01 | .00 | .01 | .00 |
| 18 | .00 | --- | .00 | .00 | .45 | .01 | .13 | --- | .01 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .27 | .02 | .04 | --- | .00 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .49 | .01 | --- | --- | .00 | --- | .00 | .00 |
| 21 | .00 | .00 | .00 | --- | .23 | .01 | .37 | .11 | .00 | --- | .00 | .00 |
| 22 | .00 | .00 | .00 | .06 | .10 | .02 | .16 | .06 | .00 | --- | .00 | .00 |
| 23 | .00 | .01 | .00 | .05 | 1.1 | --- | .10 | --- | .01 | .00 | .00 | .00 |
| 24 | .00 | 3.1 | --- | .02 | .23 | 4.7 | .11 | --- | .01 | .00 | .00 | .00 |
| 25 | --- | .03 | .00 | .01 | .11 | .90 | .07 | --- | --- | .00 | .00 | .00 |
| 26 | .01 | .01 | .00 | .00 | .07 | .21 | .03 | .01 | --- | .00 | .00 | .00 |
| 27 | .00 | .01 | .00 | .01 | .04 | .09 | .02 | .01 | .00 | .00 | .00 | .00 |
| 28 | .00 | .03 | .00 | .01 | .04 | .06 | .02 | .08 | .00 | 3.0 | .00 | .00 |
| 29 | .00 | .03 | .00 | .00 | --- | .05 | .01 | .01 | .00 | --- | .00 | .00 |
| 30 | .00 | .01 | .01 | .00 | --- | .05 | .01 | 2.5 | --- | .00 | .01 | .00 |
| 31 | .00 | --- | .01 | .01 | --- | .04 | --- | .26 | --- | .00 | .00 | --- |

WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | .00 | .00 | | --- | .12 | .02 | .02 | --- | .00 | .02 | --- |
| 2 | .00 | .00 | .00 | | --- | .07 | .02 | .01 | .03 | .00 | .00 | --- |
| 3 | .00 | .00 | .00 | | --- | .05 | .02 | .01 | .02 | .34 | .00 | .00 |
| 4 | .00 | .00 | .01 | | --- | .04 | .02 | .01 | 3.8 | .81 | .00 | .00 |
| 5 | --- | --- | .01 | | --- | .04 | .02 | .02 | .06 | .23 | .00 | .00 |
| 6 | .00 | .00 | .00 | | --- | --- | --- | .00 | .02 | .11 | .00 | .00 |
| 7 | .00 | .00 | .00 | | --- | --- | --- | .01 | .01 | .04 | .01 | .00 |
| 8 | .00 | .00 | .00 | | --- | --- | .01 | .01 | .23 | 1.1 | 12 | .00 |
| 9 | .00 | .00 | .00 | | --- | .43 | .01 | .01 | .02 | .30 | --- | .00 |
| 10 | --- | .00 | .00 | | --- | .41 | .01 | .02 | 3.3 | --- | .01 | .00 |
| 11 | .00 | .00 | .00 | | .08 | .14 | .01 | .02 | .02 | --- | .00 | .00 |
| 12 | .00 | .00 | .00 | | .06 | .11 | .01 | .01 | --- | .05 | .00 | .00 |
| 13 | .00 | .00 | .00 | | .08 | --- | .01 | .00 | --- | .01 | .00 | .00 |
| 14 | .00 | .00 | --- | | .05 | .19 | .01 | .00 | .05 | .01 | .00 | --- |
| 15 | .00 | .00 | --- | | --- | 43 | .01 | .00 | .01 | .01 | .00 | --- |
| 16 | .00 | .00 | --- | | --- | 1.5 | .00 | .00 | .01 | .01 | .00 | .00 |
| 17 | .00 | .00 | --- | | 1.1 | .33 | .01 | .00 | .04 | --- | .00 | .00 |
| 18 | .02 | .00 | --- | | .17 | .13 | --- | --- | .02 | --- | .00 | .00 |
| 19 | .00 | .00 | --- | | .21 | .30 | --- | --- | .01 | .01 | .00 | .00 |
| 20 | .00 | .00 | --- | | .21 | .40 | .00 | .01 | --- | .01 | .00 | .00 |
| 21 | .00 | .00 | --- | | .14 | .62 | .00 | .00 | .00 | .01 | .00 | .00 |
| 22 | .00 | .00 | --- | | .07 | .47 | .00 | .00 | --- | 1.4 | .00 | .00 |
| 23 | --- | .00 | --- | | .08 | .23 | .00 | --- | .04 | .03 | .00 | .00 |
| 24 | .00 | --- | --- | | .06 | .15 | .00 | .00 | .01 | .03 | --- | .00 |
| 25 | --- | .00 | --- | | .02 | --- | .00 | .00 | .00 | .01 | --- | .00 |
| 26 | --- | .00 | --- | | .02 | --- | --- | .10 | --- | .00 | .00 | --- |
| 27 | .00 | .00 | --- | | .63 | .03 | --- | .09 | --- | .00 | .00 | --- |
| 28 | .00 | .00 | --- | | .21 | .03 | .04 | --- | .00 | --- | .00 | .00 |
| 29 | .00 | .00 | --- | | --- | .03 | .02 | .03 | --- | --- | .00 | .00 |
| 30 | .00 | .00 | --- | | --- | .03 | .01 | .01 | .00 | --- | --- | .00 |
| 31 | .00 | --- | --- | | --- | .11 | --- | --- | --- | .01 | --- | --- |

WATER-QUALITY RECORDS

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 180 | 215 | 140 | 140 | 135 | 150 | 115 | 160 | 105 | --- | 200 | 210 |
| 2 | 190 | 200 | 130 | 140 | 100 | 145 | 115 | 160 | 120 | 125 | 200 | 240 |
| 3 | 190 | 195 | 130 | 140 | 100 | 150 | 110 | 160 | 130 | --- | 200 | 180 |
| 4 | 190 | 180 | 130 | 140 | 110 | 150 | 115 | 160 | 130 | --- | 205 | 205 |
| 5 | 190 | 180 | 160 | 140 | 120 | 100 | 140 | --- | 125 | --- | 210 | 215 |
| 6 | 185 | 180 | 160 | 145 | 120 | 105 | 105 | 200 | 125 | 125 | 200 | 210 |
| 7 | 185 | 185 | 160 | 140 | 125 | 140 | 110 | 105 | --- | 170 | 215 | 190 |
| 8 | 190 | 185 | 155 | 140 | 125 | 135 | 115 | 200 | --- | 170 | 205 | 205 |
| 9 | 195 | 185 | 155 | 140 | 150 | 135 | 120 | 180 | --- | 170 | 205 | 215 |
| 10 | 195 | 185 | 155 | 140 | 150 | 140 | 100 | 190 | --- | 185 | 200 | 260 |
| 11 | 200 | 180 | 150 | 140 | 150 | 145 | 110 | 195 | 135 | 180 | 200 | 205 |
| 12 | 190 | 185 | 150 | 140 | 135 | 160 | 120 | 195 | 155 | 175 | 200 | 220 |
| 13 | 185 | 185 | 150 | 140 | 135 | 160 | 125 | 200 | 130 | 180 | 200 | 225 |
| 14 | 185 | 180 | 150 | 140 | 135 | 160 | 140 | 200 | 140 | 170 | 205 | 200 |
| 15 | 190 | 185 | 145 | 120 | 135 | 165 | 140 | 190 | 220 | 175 | 205 | 200 |
| 16 | 190 | 185 | 150 | 125 | 135 | 145 | 140 | 195 | --- | 180 | 175 | 205 |
| 17 | 190 | 185 | --- | 120 | 125 | 140 | 100 | 195 | --- | 180 | 205 | 210 |
| 18 | 185 | 180 | --- | 125 | 125 | 140 | 105 | 200 | 160 | 180 | 200 | 220 |
| 19 | 180 | 155 | --- | 120 | 125 | 140 | 110 | 145 | --- | 180 | 205 | 225 |
| 20 | 180 | 155 | --- | 120 | 125 | 140 | 100 | 120 | --- | 185 | 205 | 200 |
| 21 | 185 | 155 | 170 | 120 | 125 | 155 | 115 | 140 | --- | 185 | 210 | 215 |
| 22 | 185 | 165 | 170 | 125 | 130 | 145 | 130 | 130 | --- | 170 | 210 | 215 |
| 23 | 185 | 165 | 170 | 125 | 120 | 135 | 130 | 150 | --- | 175 | 180 | 220 |
| 24 | 185 | 105 | 150 | 120 | 120 | 100 | 130 | 170 | 170 | 180 | 210 | --- |
| 25 | 155 | 110 | 170 | 120 | 120 | 110 | 140 | 170 | --- | 190 | 205 | 230 |
| 26 | 165 | 115 | 150 | 130 | 125 | 115 | 140 | 185 | --- | 180 | 205 | 220 |
| 27 | 165 | 140 | 150 | 130 | 125 | 120 | 140 | 180 | --- | 190 | 200 | 220 |
| 28 | 170 | 145 | 150 | 135 | 145 | 130 | 140 | 180 | --- | 105 | 210 | 220 |
| 29 | 170 | 145 | 175 | 135 | --- | 140 | 140 | 180 | 120 | 180 | 210 | 220 |
| 30 | 170 | 140 | 150 | 130 | --- | 120 | 150 | 135 | --- | 195 | 210 | 215 |
| 31 | 180 | --- | 160 | 130 | --- | 120 | --- | 130 | --- | 200 | --- | --- |

WATER-QUALITY RECORDS

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
ONCE-DAILY

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | 255 | 265 | | | | | | | | | |
| 2 | --- | 270 | 265 | | | | | | | | | |
| 3 | --- | 265 | 265 | | | | | | | | | |
| 4 | --- | 265 | 275 | | | | | | | | | |
| 5 | --- | 265 | 230 | | | | | | | | | |
| 6 | --- | 265 | 270 | | | | | | | | | |
| 7 | --- | 275 | 265 | | | | | | | | | |
| 8 | --- | 275 | 265 | | | | | | | | | |
| 9 | --- | 275 | 260 | | | | | | | | | |
| 10 | --- | 255 | 260 | | | | | | | | | |
| 11 | --- | 275 | 260 | | | | | | | | | |
| 12 | --- | 275 | 265 | | | | | | | | | |
| 13 | --- | 200 | --- | | | | | | | | | |
| 14 | --- | 275 | --- | | | | | | | | | |
| 15 | --- | 255 | --- | | | | | | | | | |
| 16 | --- | 265 | --- | | | | | | | | | |
| 17 | --- | 275 | --- | | | | | | | | | |
| 18 | --- | 275 | --- | | | | | | | | | |
| 19 | --- | 270 | --- | | | | | | | | | |
| 20 | --- | 275 | --- | | | | | | | | | |
| 21 | --- | 270 | --- | | | | | | | | | |
| 22 | --- | 285 | --- | | | | | | | | | |
| 23 | --- | 315 | --- | | | | | | | | | |
| 24 | --- | 265 | --- | | | | | | | | | |
| 25 | --- | 275 | --- | | | | | | | | | |
| 26 | 235 | 265 | --- | | | | | | | | | |
| 27 | 235 | 265 | --- | | | | | | | | | |
| 28 | 265 | 240 | --- | | | | | | | | | |
| 29 | 235 | 270 | --- | | | | | | | | | |
| 30 | 265 | 265 | --- | | | | | | | | | |
| 31 | 240 | --- | --- | | | | | | | | | |

## WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | OXYGEN, DIS-SOLVED (MG/L) |
|---|---|---|---|---|---|
| OCT | | | | | |
| 20... | .02 | 110 | -- | 10.5 | -- |
| DEC | | | | | |
| 17... | .13 | 150 | -- | 5.0 | -- |
| 31... | .17 | 150 | -- | 1.0 | -- |
| JAN | | | | | |
| 15... | .10 | 145 | -- | 1.5 | -- |
| 26... | .30 | 130 | -- | 6.5 | -- |
| FEB | | | | | |
| 09... | .30 | 116 | -- | 3.5 | -- |
| 23... | 3.0 | 120 | -- | 8.0 | -- |
| MAR | | | | | |
| 10... | .51 | 124 | -- | 5.0 | -- |
| 18... | .35 | 126 | -- | 7.1 | -- |
| APR | | | | | |
| 22... | 1.5 | 120 | -- | 18.0 | -- |
| MAY | | | | | |
| 05... | .15 | 160 | 6.5 | 17.0 | 13.2 |
| JUN | | | | | |
| 02... | 2.1 | 104 | 6.4 | 17.0 | 18.2 |
| 18... | .36 | 143 | 7.4 | 22.0 | 8.3 |
| JUL | | | | | |
| 06... | .68 | 470 | -- | 25.0 | -- |
| 28... | .10 | 176 | 7.2 | 24.0 | 6.7 |
| AUG | | | | | |
| 24... | .03 | 320 | 7.6 | 24.5 | -- |
| SEP | | | | | |
| 22... | .04 | 108 | 6.6 | 21.0 | 4.7 |

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | TEMPER-ATURE (DEG C) |
|---|---|---|---|
| OCT | | | |
| 26... | .25 | 210 | 12.0 |
| NOV | | | |
| 19... | .01 | 240 | 11.0 |
| DEC | | | |
| 14... | .30 | 180 | 2.5 |
| 28... | .12 | 180 | 5.0 |
| FEB | | | |
| 11... | 1.0 | 110 | 5.5 |
| MAR | | | |
| 08... | 1.6 | 120 | 6.5 |
| 30... | .38 | 160 | 13.0 |
| APR | | | |
| 22... | .11 | 190 | 17.0 |
| JUL | | | |
| 08... | .06 | 190 | 23.5 |
| AUG | | | |
| 23... | .02 | 200 | 17.0 |
| SEP | | | |
| 22... | .04 | 220 | 14.0 |

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | --- | .07 | .00 | .60 | .06 | .49 | .05 | 2.81 | .02 | .00 | .09 |
| 2 | .23 | --- | .28 | --- | .35 | .03 | .08 | .04 | .26 | .02 | .00 | .02 |
| 3 | .00 | --- | .04 | --- | .03 | .03 | .05 | .04 | .33 | .43 | .01 | .41 |
| 4 | .12 | --- | .03 | --- | .00 | .67 | .09 | .06 | .42 | .02 | .00 | .04 |
| 5 | .00 | --- | .00 | --- | .00 | .47 | .93 | .06 | .01 | .14 | .01 | .01 |
| 6 | .00 | --- | .02 | --- | .00 | .03 | .04 | .11 | 2.31 | .42 | .01 | .07 |
| 7 | .00 | --- | .03 | --- | .05 | .03 | .04 | .02 | .01 | .06 | .00 | .01 |
| 8 | .00 | --- | .03 | --- | .22 | .01 | .04 | .04 | .02 | --- | .01 | .29 |
| 9 | .00 | --- | .41 | --- | .02 | .02 | .31 | .06 | .01 | --- | .01 | .01 |
| 10 | .00 | --- | .05 | --- | .34 | .00 | .72 | .07 | .14 | --- | --- | .03 |
| 11 | .00 | --- | .01 | --- | .17 | .04 | .03 | .24 | .02 | --- | --- | .03 |
| 12 | .02 | --- | .00 | --- | .14 | .00 | .04 | .01 | 1.07 | --- | --- | .03 |
| 13 | .00 | --- | .01 | --- | .07 | .02 | .06 | .06 | .01 | --- | --- | .03 |
| 14 | .00 | --- | .03 | --- | .05 | .00 | .38 | .72 | --- | --- | .02 | .02 |
| 15 | .00 | --- | .05 | --- | .06 | .07 | .05 | .02 | --- | --- | .14 | 1.02 |
| 16 | .00 | --- | .03 | .04 | .28 | .61 | .10 | .03 | --- | --- | .40 | .01 |
| 17 | .00 | --- | .03 | .01 | .51 | .01 | .81 | .04 | --- | --- | .01 | .02 |
| 18 | .09 | --- | .01 | .02 | .01 | .05 | .27 | .76 | --- | --- | .01 | .01 |
| 19 | .00 | --- | .05 | .02 | .38 | .11 | .12 | 1.29 | .03 | --- | .05 | .00 |
| 20 | .02 | .01 | .03 | .02 | .10 | .09 | .80 | .03 | .07 | --- | .03 | .03 |
| 21 | .02 | .02 | .03 | .02 | .04 | .04 | .05 | .05 | .02 | --- | .02 | .03 |
| 22 | .02 | .03 | .03 | .54 | .01 | .20 | .03 | .06 | .03 | --- | .04 | .02 |
| 23 | .00 | .37 | .02 | .06 | .66 | 1.02 | .25 | .05 | .04 | --- | .04 | .03 |
| 24 | .00 | .90 | .45 | .07 | .05 | .03 | .02 | .05 | .05 | --- | .03 | .03 |
| 25 | .09 | .03 | .01 | .04 | .03 | .05 | .03 | .04 | 1.02 | --- | .05 | .02 |
| 26 | .00 | .05 | .02 | .06 | .07 | .04 | .04 | .04 | .05 | --- | .02 | .04 |
| 27 | .00 | .18 | .03 | .14 | .05 | .09 | .05 | .26 | .02 | --- | .02 | .03 |
| 28 | .00 | .18 | .01 | .07 | .38 | .04 | .06 | .51 | .02 | --- | .02 | .04 |
| 29 | .00 | .03 | .05 | .03 | --- | .04 | .09 | .01 | .04 | .78 | .03 | .03 |
| 30 | .01 | .01 | .31 | .18 | --- | .25 | .15 | .50 | .53 | .00 | .08 | .10 |
| 31 | .00 | --- | .00 | .01 | --- | .07 | --- | .05 | --- | .01 | .02 | --- |
| TOTAL | 0.62 | | 2.17 | | 4.67 | 4.22 | 6.22 | 5.37 | | | | 2.55 |
| MEAN | .02 | | .07 | | .17 | .14 | .21 | .17 | | | | .09 |

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .65 | .04 | .02 | .04 | .01 | .02 | .07 | .04 | --- | .06 | .03 | .62 |
| 2 | .07 | .03 | .00 | .25 | .36 | .02 | .11 | .07 | --- | .03 | .03 | .00 |
| 3 | .03 | .05 | .02 | .84 | .01 | .05 | .03 | .04 | --- | .57 | .04 | .03 |
| 4 | .03 | .05 | .30 | .59 | .00 | --- | .03 | .05 | --- | .36 | .03 | .03 |
| 5 | .31 | .37 | .05 | .04 | .01 | --- | .18 | .04 | --- | .02 | .14 | .02 |
| 6 | .21 | .02 | .01 | .00 | .01 | --- | .09 | .05 | --- | .01 | .06 | .01 |
| 7 | .04 | .04 | .00 | .05 | .00 | --- | .01 | .32 | --- | .04 | .02 | .03 |
| 8 | .05 | .04 | .00 | .02 | .14 | --- | .18 | .22 | --- | 1.19 | .96 | .02 |
| 9 | .05 | .03 | .07 | .00 | .81 | --- | .08 | .05 | --- | .02 | .46 | .02 |
| 10 | .01 | .03 | .01 | .02 | .09 | --- | .03 | .04 | --- | .39 | .03 | .03 |
| 11 | .03 | .02 | .06 | .02 | .02 | --- | .04 | .05 | --- | .52 | .02 | .01 |
| 12 | .03 | .04 | .00 | .01 | .04 | --- | .04 | .06 | --- | .03 | .03 | .02 |
| 13 | .05 | .04 | .00 | .02 | .17 | --- | .05 | .04 | --- | .02 | .02 | .01 |
| 14 | .05 | .04 | .76 | .01 | .01 | --- | .05 | .06 | --- | .02 | .02 | 1.36 |
| 15 | .02 | .05 | .14 | .02 | .23 | --- | .04 | .04 | --- | .01 | .02 | .02 |
| 16 | .02 | .06 | .22 | .03 | .28 | --- | .03 | .04 | --- | .02 | .03 | .01 |
| 17 | .03 | .01 | .23 | .02 | .26 | --- | .23 | .04 | --- | .23 | .03 | .01 |
| 18 | .49 | .04 | .01 | .02 | .09 | --- | .05 | .68 | .03 | .29 | .05 | .01 |
| 19 | .13 | .02 | .01 | .53 | .21 | --- | .02 | .14 | .10 | .04 | .02 | .00 |
| 20 | .03 | .18 | .01 | .13 | .11 | --- | .05 | .26 | .04 | .12 | .03 | .00 |
| 21 | .00 | .01 | .55 | .73 | .11 | --- | .05 | .03 | .03 | .01 | .10 | .05 |
| 22 | .01 | .01 | .41 | .17 | .02 | --- | .04 | --- | .18 | .32 | .03 | --- |
| 23 | .66 | .16 | .04 | .14 | .04 | --- | .04 | --- | .03 | .04 | .09 | --- |
| 24 | .02 | .24 | .00 | .03 | .05 | --- | .04 | --- | .05 | .02 | .53 | --- |
| 25 | .26 | .01 | .05 | .04 | .00 | --- | .27 | --- | .04 | .02 | .26 | --- |
| 26 | .31 | .02 | .00 | .01 | .01 | --- | 1.51 | --- | .28 | .02 | .03 | --- |
| 27 | .14 | .18 | .00 | .04 | .66 | --- | .15 | --- | .03 | .01 | .15 | --- |
| 28 | .03 | .04 | .01 | .14 | .02 | --- | .06 | --- | .10 | .78 | .01 | --- |
| 29 | .02 | .01 | .00 | .01 | --- | --- | .05 | --- | .30 | .02 | .04 | --- |
| 30 | .05 | .02 | .02 | .01 | --- | --- | .07 | --- | .06 | .46 | .64 | --- |
| 31 | .04 | --- | .52 | .41 | --- | --- | --- | --- | --- | .03 | 2.03 | --- |
| TOTAL | 3.87 | 1.90 | 3.52 | 4.39 | 3.77 | | 3.69 | | | 5.72 | 5.98 | |
| MEAN | .12 | .06 | .11 | .14 | .13 | | .12 | | | .18 | .19 | |

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 31.0 | --- | 17.0 | 3.0 | --- | 11.5 | 22.0 | 18.5 | 31.0 | 27.5 | 29.5 | 30.5 |
| 2 | 24.5 | --- | 5.5 | 3.0 | --- | 8.0 | 24.0 | 15.0 | 29.0 | 26.5 | 23.0 | 29.0 |
| 3 | 23.0 | --- | 15.0 | 4.0 | --- | 10.5 | 27.5 | 21.0 | 27.5 | 27.5 | 29.0 | 31.0 |
| 4 | 16.5 | --- | 13.0 | -6.0 | --- | 8.0 | 27.5 | 26.0 | 27.5 | 28.5 | 31.0 | 26.5 |
| 5 | 15.5 | --- | 19.5 | -2.0 | --- | 10.5 | 16.5 | 29.0 | 30.0 | 29.0 | 31.5 | 29.5 |
| 6 | 20.5 | --- | 20.5 | 4.5 | --- | 8.0 | 12.5 | 21.0 | 19.5 | 24.0 | 26.5 | 29.0 |
| 7 | 22.0 | --- | --- | 1.0 | --- | 7.5 | 21.0 | 19.5 | 29.0 | 31.0 | 29.5 | 28.5 |
| 8 | 28.0 | --- | --- | 1.0 | --- | 8.5 | 24.0 | 24.0 | 30.0 | 31.0 | 27.0 | 21.5 |
| 9 | 30.5 | --- | --- | 3.5 | --- | 9.0 | 19.5 | 28.0 | 27.0 | 34.0 | 29.0 | --- |
| 10 | 31.5 | --- | --- | --- | 14.0 | 13.0 | 23.5 | 24.0 | 29.5 | 32.5 | 30.0 | --- |
| 11 | 26.5 | --- | --- | --- | 14.5 | 10.5 | 27.0 | 15.5 | 28.0 | 32.0 | 30.0 | --- |
| 12 | 17.0 | --- | --- | --- | -1.0 | 16.0 | 26.0 | 12.0 | 30.0 | 31.5 | 26.0 | --- |
| 13 | 20.0 | --- | --- | --- | 11.0 | 18.0 | 30.0 | 26.5 | 31.5 | 31.0 | 27.5 | --- |
| 14 | 26.5 | --- | --- | --- | 15.0 | 10.0 | 26.5 | 27.5 | 32.0 | 30.0 | 29.5 | --- |
| 15 | 27.5 | --- | --- | --- | 19.5 | 19.0 | 18.0 | 15.0 | 34.0 | 30.0 | 28.5 | --- |
| 16 | 29.5 | --- | --- | 1.5 | 14.5 | 7.0 | 25.5 | 22.0 | 33.0 | 27.5 | 29.0 | --- |
| 17 | 30.5 | --- | --- | -4.0 | 14.5 | 13.5 | 17.0 | 25.0 | 25.5 | 29.5 | 26.0 | --- |
| 18 | 27.5 | --- | --- | 4.0 | 21.5 | 7.5 | 24.0 | 23.0 | 29.0 | 29.5 | 28.0 | --- |
| 19 | 25.0 | --- | --- | 6.5 | 16.0 | 2.5 | 22.5 | 21.5 | 29.5 | 28.0 | 25.0 | --- |
| 20 | 21.0 | 12.5 | --- | 5.0 | --- | .5 | 12.5 | 16.5 | 24.0 | 26.5 | 28.0 | --- |
| 21 | 24.5 | 11.0 | --- | 3.5 | --- | 10.5 | 20.0 | 24.0 | 31.0 | 29.0 | 24.0 | --- |
| 22 | 27.0 | 14.0 | --- | 4.0 | --- | 7.0 | 22.5 | 27.5 | 30.5 | 26.0 | 28.5 | --- |
| 23 | --- | 9.0 | --- | 5.5 | --- | 8.5 | 19.0 | 30.0 | 28.0 | 28.5 | 28.5 | --- |
| 24 | --- | 11.5 | --- | 9.0 | 7.0 | 13.0 | 14.0 | 31.5 | 34.0 | 29.5 | 28.0 | --- |
| 25 | .0 | 6.0 | --- | 15.0 | 16.0 | 14.5 | 14.5 | 28.5 | 30.0 | 26.0 | 30.0 | --- |
| 26 | .0 | 7.5 | --- | 14.5 | 14.0 | 18.5 | 23.5 | 31.0 | 27.0 | 30.5 | 30.0 | --- |
| 27 | --- | 9.5 | --- | 12.0 | 22.0 | 13.0 | 28.5 | 23.5 | 27.5 | 32.0 | 31.0 | --- |
| 28 | --- | 5.5 | --- | 7.5 | 20.5 | 23.5 | 28.5 | 20.5 | 30.0 | 28.0 | 30.5 | --- |
| 29 | .0 | 5.0 | --- | 4.5 | --- | 23.5 | 21.0 | 25.5 | 30.5 | 22.0 | 30.0 | --- |
| 30 | .0 | 13.5 | --- | 3.0 | --- | 21.0 | 19.5 | 32.0 | 28.5 | 26.0 | 28.5 | --- |
| 31 | .0 | --- | --- | --- | --- | 27.5 | --- | 26.5 | --- | 27.0 | 31.0 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 30.0 | 23.0 | 17.5 | 9.0 | 8.0 | 14.0 | 21.5 | --- | 25.0 | 28.0 | | |
| 2 | 13.5 | 23.5 | 12.5 | 14.0 | 11.0 | 17.5 | 25.5 | --- | 26.0 | 30.5 | | |
| 3 | 18.0 | 26.0 | 9.0 | 12.5 | 16.5 | 13.0 | 22.5 | --- | 27.5 | 31.0 | | |
| 4 | 25.0 | 26.0 | 4.5 | 16.5 | 11.5 | 21.0 | 16.0 | --- | 24.5 | 31.0 | | |
| 5 | 24.5 | 17.0 | 3.0 | 9.5 | 13.5 | 12.0 | 20.5 | --- | 21.5 | 32.5 | | |
| 6 | 24.5 | 15.5 | 5.5 | 14.0 | 9.0 | 11.5 | 11.5 | --- | 21.5 | 33.5 | | |
| 7 | 19.0 | 12.0 | 14.0 | 11.0 | 7.0 | 6.0 | 7.5 | --- | 27.0 | 34.5 | | |
| 8 | 19.5 | 19.0 | 11.0 | 4.5 | 15.0 | 7.0 | 8.5 | --- | 28.5 | 35.0 | | |
| 9 | 22.5 | 18.0 | 3.0 | 1.0 | 9.5 | 15.0 | 7.0 | --- | 31.5 | 29.5 | | |
| 10 | 19.0 | 16.5 | -1.0 | -10.5 | 4.5 | 19.0 | 11.0 | --- | 24.5 | 33.0 | | |
| 11 | 25.0 | 13.0 | 2.0 | -9.0 | 9.0 | 19.5 | 14.0 | --- | 27.5 | 30.0 | | |
| 12 | 24.0 | 15.0 | 1.5 | -1.5 | 6.5 | 22.5 | 23.0 | --- | 28.0 | 31.5 | | |
| 13 | 22.0 | 17.5 | 10.0 | 2.5 | 2.0 | 19.5 | 21.0 | --- | 25.0 | 24.5 | | |
| 14 | 25.5 | 19.0 | 3.5 | -0.5 | 13.5 | 14.5 | 22.5 | --- | 28.5 | 32.5 | | |
| 15 | 19.0 | 16.5 | 2.5 | 2.0 | 10.5 | 17.0 | 27.0 | --- | 29.0 | 33.0 | | |
| 16 | 19.5 | 12.5 | 3.0 | 5.0 | 13.0 | 19.5 | 25.5 | --- | 30.0 | 33.0 | | |
| 17 | 27.5 | 13.0 | 7.5 | -9.5 | 12.5 | 26.5 | 20.5 | --- | 27.0 | 32.5 | | |
| 18 | 20.5 | 12.5 | -1.5 | 5.5 | 11.5 | 27.0 | 19.0 | --- | 31.0 | 31.0 | | |
| 19 | 12.5 | 20.5 | -3.5 | 6.0 | 6.5 | 21.0 | 21.5 | 27.5 | 28.5 | 30.0 | | |
| 20 | 22.0 | 12.5 | -1.5 | 9.5 | 16.5 | 18.5 | 21.0 | 27.0 | 26.5 | 27.0 | | |
| 21 | 24.0 | .0 | 2.0 | 11.0 | 9.0 | 18.5 | 16.5 | 28.0 | 28.0 | 32.5 | | |
| 22 | 22.5 | 4.5 | 15.0 | 10.0 | 5.0 | 13.5 | --- | 29.0 | 28.0 | 33.5 | | |
| 23 | 13.0 | 10.5 | 15.5 | 16.5 | 20.5 | 15.0 | --- | 29.0 | 28.0 | 31.0 | | |
| 24 | 13.5 | 7.0 | 4.0 | 4.0 | 23.5 | 20.0 | --- | 27.5 | 30.0 | 30.5 | | |
| 25 | 14.0 | 10.0 | 5.5 | 7.5 | 4.5 | 22.5 | --- | 28.5 | 31.5 | 33.0 | | |
| 26 | 16.5 | 19.5 | 8.0 | -3.0 | 6.5 | 6.0 | --- | 27.5 | 31.5 | --- | | |
| 27 | 19.0 | 15.5 | 11.5 | 11.0 | 4.0 | 2.5 | --- | 29.0 | 33.0 | --- | | |
| 28 | 15.5 | 7.0 | 13.0 | 14.0 | 10.5 | 11.5 | --- | 28.5 | 31.0 | --- | | |
| 29 | 25.0 | 9.5 | 6.0 | 13.0 | --- | 19.5 | --- | 30.5 | 29.0 | --- | | |
| 30 | 22.5 | 9.0 | 9.5 | 17.0 | --- | 24.0 | --- | 31.0 | 29.0 | --- | | |
| 31 | 24.5 | --- | 5.0 | 24.0 | --- | 23.5 | --- | 32.0 | --- | --- | | |

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 15.5 | --- | .5 | -0.5 | --- | 6.5 | 8.0 | 7.0 | 18.0 | 15.5 | 12.0 | 17.0 |
| 2 | 15.0 | --- | -6.0 | -6.0 | --- | 3.5 | 2.5 | 3.5 | 17.0 | 13.5 | 17.5 | 18.0 |
| 3 | 12.5 | --- | -6.0 | -7.0 | --- | -0.5 | 2.5 | -0.5 | 15.5 | 15.5 | 18.5 | 18.0 |
| 4 | 10.5 | --- | 3.5 | -15.5 | --- | -1.5 | 10.5 | 2.5 | 15.5 | 16.5 | 17.0 | 18.0 |
| 5 | 9.0 | --- | 5.0 | -17.5 | --- | 4.0 | 8.5 | 7.5 | 17.0 | 17.5 | 19.0 | 17.0 |
| 6 | 8.0 | --- | 4.0 | -12.5 | --- | 2.5 | .5 | 9.5 | 17.0 | 19.5 | 18.5 | 16.5 |
| 7 | 7.5 | --- | --- | -6.0 | --- | -1.0 | -2.5 | 5.5 | 13.5 | 19.5 | 17.5 | 15.5 |
| 8 | 9.5 | --- | --- | -9.0 | --- | -3.0 | 2.0 | 1.5 | 13.0 | 20.0 | 16.5 | 11.5 |
| 9 | 14.0 | --- | --- | -4.0 | --- | -1.5 | 11.5 | 3.5 | 16.0 | 20.5 | 15.5 | 9.5 |
| 10 | 15.5 | --- | --- | --- | .5 | -1.0 | 7.5 | 10.0 | 18.5 | 20.0 | 16.0 | 9.5 |
| 11 | 12.5 | --- | --- | --- | -12.0 | 4.5 | 11.0 | 9.5 | 15.5 | 19.0 | 16.0 | 10.5 |
| 12 | 7.5 | --- | --- | --- | -17.5 | 1.0 | 12.0 | 6.5 | 14.5 | 19.5 | 14.0 | 12.5 |
| 13 | 6.0 | --- | --- | --- | -12.0 | -0.5 | 14.5 | 6.5 | 17.5 | 19.0 | 13.5 | 13.5 |
| 14 | 5.0 | --- | --- | --- | -3.5 | -3.0 | 6.0 | 8.0 | 18.5 | 17.0 | 14.0 | 13.5 |
| 15 | 6.0 | --- | --- | --- | -4.5 | -6.0 | 2.0 | 10.5 | 18.0 | 15.5 | 15.5 | 16.0 |
| 16 | 8.5 | --- | --- | -8.0 | .0 | -3.5 | 1.0 | 8.0 | 17.5 | 17.0 | 17.0 | 12.0 |
| 17 | 9.5 | --- | --- | -12.5 | 7.5 | -6.0 | 11.5 | 8.0 | 12.5 | 17.5 | 13.0 | 7.5 |
| 18 | 16.5 | --- | --- | -13.5 | 6.5 | -1.5 | 8.0 | 14.5 | 12.5 | 17.0 | 12.0 | 7.5 |
| 19 | 15.5 | --- | --- | -10.0 | 9.5 | -3.5 | 4.5 | 13.0 | 17.0 | 17.5 | 15.0 | 7.0 |
| 20 | 6.5 | -6.0 | --- | -4.5 | --- | -4.0 | 3.0 | 9.5 | 17.5 | 17.5 | 12.5 | 5.0 |
| 21 | 7.5 | -4.5 | --- | .0 | --- | -3.0 | .0 | 9.0 | 17.5 | 17.0 | 12.0 | 8.5 |
| 22 | 7.0 | -5.5 | --- | -0.5 | --- | -1.0 | 4.0 | 7.0 | 16.5 | 13.5 | 10.5 | 8.5 |
| 23 | --- | 3.0 | --- | -1.0 | --- | -0.5 | 10.0 | 8.0 | 13.5 | 13.0 | 13.5 | 8.0 |
| 24 | --- | 6.5 | --- | -4.0 | .0 | -2.0 | 5.5 | 9.5 | 13.0 | 15.5 | 14.0 | 6.5 |
| 25 | --- | -3.5 | --- | -6.0 | -2.5 | -2.5 | 4.5 | 11.5 | 14.5 | 16.5 | 13.0 | 6.5 |
| 26 | --- | -4.5 | --- | 2.0 | -1.5 | -2.0 | 3.0 | 14.5 | 12.5 | 16.0 | 12.0 | 10.0 |
| 27 | --- | 4.0 | --- | 1.5 | -3.5 | 2.5 | 8.5 | 16.5 | 11.5 | 16.0 | 14.5 | 12.5 |
| 28 | --- | 2.0 | --- | -6.0 | 3.0 | .5 | 8.5 | 17.0 | 10.5 | 17.5 | 15.0 | 9.0 |
| 29 | --- | 2.0 | --- | -3.5 | --- | 4.5 | 10.0 | 15.5 | 13.0 | 13.5 | 13.5 | 6.0 |
| 30 | --- | -1.5 | --- | -9.5 | --- | 8.0 | 9.5 | 15.0 | 15.0 | 12.5 | 16.0 | 9.5 |
| 31 | --- | --- | --- | --- | --- | 3.0 | --- | 18.5 | --- | 14.0 | 17.0 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 10.0 | 3.0 | 8.0 | 1.5 | .5 | 1.0 | .5 | --- | 16.0 | 13.5 | | |
| 2 | 4.5 | 5.5 | 4.0 | -2.5 | -1.0 | -0.5 | .0 | --- | 13.0 | 12.5 | | |
| 3 | 4.5 | 6.0 | .0 | 5.0 | 8.0 | 6.0 | 10.0 | --- | 12.5 | 16.0 | | |
| 4 | 3.5 | 7.0 | 3.0 | 2.5 | 4.5 | 6.0 | 2.5 | --- | 15.5 | 19.0 | | |
| 5 | 9.5 | 10.5 | -2.5 | -1.5 | 1.5 | 4.5 | -0.5 | --- | 14.0 | 18.0 | | |
| 6 | 11.5 | 7.0 | -6.5 | .5 | -2.5 | 4.5 | -1.5 | --- | 12.5 | 17.0 | | |
| 7 | 5.0 | -1.5 | -4.0 | .0 | -8.0 | -0.5 | -4.0 | --- | 14.0 | 17.5 | | |
| 8 | 3.5 | -3.0 | .5 | -5.0 | -5.5 | -2.0 | -0.5 | --- | 16.5 | 19.5 | | |
| 9 | 3.5 | 1.0 | -2.5 | -9.5 | 1.0 | .5 | 1.5 | --- | 15.5 | 18.5 | | |
| 10 | 8.5 | 2.0 | -3.5 | -18.5 | -2.0 | 1.0 | -0.5 | --- | 18.0 | 19.5 | | |
| 11 | 10.5 | -0.5 | -3.0 | -18.0 | -3.0 | 3.0 | -1.5 | --- | 14.0 | 20.0 | | |
| 12 | 7.5 | -3.0 | -4.5 | -10.0 | -4.5 | 8.0 | 2.0 | --- | 14.0 | 19.0 | | |
| 13 | 4.5 | -4.0 | -7.0 | -3.5 | -6.0 | 3.5 | 10.5 | --- | 15.5 | 18.0 | | |
| 14 | 1.0 | -5.0 | .5 | -5.5 | -9.0 | .5 | 6.0 | --- | 12.5 | 19.0 | | |
| 15 | 6.0 | -4.5 | -0.5 | -5.5 | -3.5 | 6.5 | 3.5 | --- | 11.5 | 19.0 | | |
| 16 | 7.0 | -3.0 | -4.5 | -15.5 | 5.5 | 8.5 | 10.5 | --- | 15.0 | 19.0 | | |
| 17 | 6.5 | 5.5 | -4.0 | -23.5 | 6.5 | 7.0 | 7.0 | --- | 15.0 | 19.5 | | |
| 18 | 8.0 | -0.5 | -6.5 | -11.0 | 5.5 | 3.5 | 2.0 | --- | 14.5 | 19.5 | | |
| 19 | .0 | -1.0 | -11.0 | 1.5 | -0.5 | 9.0 | 3.0 | 14.5 | 16.0 | 19.5 | | |
| 20 | -2.0 | -0.5 | -12.5 | 3.5 | 2.5 | 12.5 | 7.5 | 13.0 | 13.5 | 20.5 | | |
| 21 | .0 | -1.0 | -12.0 | 6.0 | 2.0 | 6.5 | 3.0 | 15.0 | 13.0 | 19.0 | | |
| 22 | 5.5 | -5.5 | 2.0 | 5.0 | -2.0 | .5 | --- | 14.0 | 14.0 | 19.5 | | |
| 23 | 2.0 | -7.5 | 3.5 | 4.0 | -3.0 | 1.5 | --- | 16.0 | 12.5 | 19.5 | | |
| 24 | -1.0 | 2.5 | 1.0 | -4.5 | 4.5 | -0.5 | --- | 16.0 | 12.0 | 20.0 | | |
| 25 | 2.0 | -2.0 | -3.5 | -5.5 | -1.0 | 2.5 | --- | 14.5 | 14.5 | 18.5 | | |
| 26 | 11.0 | -3.0 | -2.5 | -12.5 | -3.0 | -0.5 | --- | 14.5 | 17.0 | --- | | |
| 27 | 11.0 | 4.5 | -2.0 | -14.0 | 1.0 | -4.5 | --- | 15.5 | 17.5 | --- | | |
| 28 | 6.0 | -1.0 | -1.5 | -0.5 | 1.0 | -7.5 | --- | 16.5 | 19.0 | --- | | |
| 29 | 6.0 | -3.5 | -4.0 | -4.5 | --- | -4.5 | --- | 16.0 | 19.0 | --- | | |
| 30 | 5.5 | -4.5 | -8.0 | 2.5 | --- | 4.0 | --- | 14.5 | 16.5 | --- | | |
| 31 | 4.5 | --- | -5.0 | 6.0 | --- | 5.5 | --- | 18.0 | --- | --- | | |

03213630 RIGHT FORK HURRICANE CREEK NEAR STOPOVER, KY

LOCATION.--Lat 37°29'46", long 82°05'22", Pike County, Hydrologic Unit 05070201, on right bank 190 ft (58 m) upstream from confluence of Left Fork Hurricane Creek, 1.4 mi (2.3 km) south of Stopover.

DRAINAGE AREA.-- 0.82 $mi^2$ (2.12 $km^2$).

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.

GAGE.--Water-stage recorder. Datum of gage is 1,040 ft (317 m) from topographic map.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .10 | .06 | .30 | .30 | .38 | 1.3 | .71 | .52 | .87 | .46 | .11 | .08 |
| 2 | .12 | .07 | .34 | .30 | 3.6 | 1.2 | .78 | .40 | .78 | .26 | .10 | .08 |
| 3 | .11 | .07 | .24 | .27 | 1.4 | .96 | .64 | .38 | 1.9 | .23 | .11 | .08 |
| 4 | .10 | .07 | .21 | .24 | .96 | 1.2 | .58 | .34 | 4.0 | .21 | .10 | .11 |
| 5 | .10 | .08 | .18 | .21 | .71 | 7.1 | 4.2 | .30 | 4.1 | .23 | .09 | .06 |
| 6 | .08 | .07 | .14 | .18 | .47 | 3.1 | 2.2 | .27 | 15 | 1.3 | .18 | .05 |
| 7 | .08 | .07 | .14 | .16 | .38 | 2.0 | 4.2 | .27 | 13 | .84 | .17 | .05 |
| 8 | .08 | .07 | .14 | .15 | .38 | 1.3 | 1.8 | .24 | 4.2 | .57 | .19 | .12 |
| 9 | .07 | .06 | .34 | .13 | .34 | 1.1 | 3.0 | .24 | 1.8 | .40 | .12 | .07 |
| 10 | .07 | .06 | .34 | .12 | .42 | .87 | 3.1 | .23 | 1.2 | .30 | .09 | .06 |
| 11 | .07 | .06 | .30 | .10 | .50 | .71 | 3.6 | .21 | 1.4 | .25 | .19 | .05 |
| 12 | .07 | .06 | .27 | .09 | .71 | .62 | 2.0 | .21 | .71 | .20 | .16 | .05 |
| 13 | .06 | .06 | .24 | .08 | .78 | .58 | .78 | .18 | .64 | .19 | .06 | .05 |
| 14 | .05 | .06 | .18 | .07 | .58 | .54 | .78 | .27 | .52 | .48 | .06 | .05 |
| 15 | .05 | .06 | .18 | .08 | .58 | .64 | .58 | .21 | .47 | .21 | .08 | .18 |
| 16 | .05 | .06 | .18 | .08 | .64 | .58 | .47 | .18 | .42 | .20 | .08 | .16 |
| 17 | .06 | .42 | .14 | .07 | 1.8 | .42 | 3.1 | .16 | .42 | .17 | .06 | .07 |
| 18 | .05 | .58 | .14 | .08 | 2.2 | .42 | 2.6 | .27 | .38 | .12 | .05 | .06 |
| 19 | .05 | .24 | .12 | .12 | 1.4 | .42 | 2.0 | 3.1 | .30 | .11 | .05 | .06 |
| 20 | .04 | .17 | .11 | .11 | 1.4 | .38 | 5.4 | 4.2 | .21 | .16 | .04 | .06 |
| 21 | .04 | .13 | .10 | .30 | 1.2 | .38 | 2.2 | 2.2 | .27 | .13 | .03 | .05 |
| 22 | .05 | .12 | .11 | .52 | .96 | .34 | 2.0 | .56 | .27 | .12 | .03 | .05 |
| 23 | .04 | .21 | .11 | .64 | 1.8 | .52 | 1.3 | .37 | .26 | .11 | .03 | .05 |
| 24 | .04 | 2.6 | .24 | .58 | 1.6 | 4.2 | 1.2 | .34 | .24 | .09 | .03 | .04 |
| 25 | .18 | .78 | .27 | .52 | 1.2 | 1.8 | 1.1 | .27 | .44 | .07 | .03 | .04 |
| 26 | .08 | .46 | .24 | .47 | .87 | 1.3 | .87 | .30 | .38 | .07 | .02 | .04 |
| 27 | .07 | .46 | .20 | .52 | .71 | 1.2 | .78 | .34 | .28 | .07 | .02 | .04 |
| 28 | .07 | .58 | .18 | .38 | .78 | .96 | .71 | .64 | .24 | .24 | .02 | .03 |
| 29 | .07 | .47 | .16 | .27 | --- | .87 | .58 | .64 | .23 | .41 | .02 | .03 |
| 30 | .06 | .38 | .21 | .18 | --- | .83 | .52 | 1.6 | 1.2 | .15 | .03 | .04 |
| 31 | .06 | --- | .30 | .27 | --- | .65 | --- | 1.2 | --- | .13 | .10 | --- |
| TOTAL | 2.22 | 8.64 | 6.35 | 7.59 | 28.75 | 38.49 | 53.78 | 20.64 | 56.13 | 8.48 | 2.45 | 1.96 |
| MEAN | .072 | .29 | .20 | .24 | 1.03 | 1.24 | 1.79 | .67 | 1.87 | .27 | .079 | .065 |
| CFSM | .09 | .35 | .24 | .29 | 1.26 | 1.51 | 2.18 | .82 | 2.28 | .33 | .10 | .08 |
| IN. | .10 | .39 | .29 | .34 | 1.30 | 1.74 | 2.44 | .94 | 2.54 | .38 | .11 | .09 |

WTR YR 1981 TOTAL 235.49 MEAN .65 CFSM .79 IN 10.67

WATER-DISCHARGE RECORDS

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .11 | .08 | .08 | .38 | .38 | .96 | .96 | .18 | 1.1 | .21 | .13 | 1.1 |
| 2 | .08 | .07 | .08 | .34 | .28 | .96 | .87 | .16 | .87 | .16 | .11 | .30 |
| 3 | .06 | .08 | .08 | 3.1 | 2.2 | .96 | .96 | .16 | .71 | .47 | .10 | .24 |
| 4 | .04 | .07 | .11 | 7.3 | 1.4 | .87 | .78 | .14 | 1.3 | .47 | .10 | .12 |
| 5 | .07 | .11 | .11 | 2.6 | .96 | .78 | .78 | .12 | 2.0 | .24 | .10 | .10 |
| 6 | .05 | .07 | .08 | 1.1 | .71 | .71 | .87 | .11 | 1.2 | .21 | .10 | .08 |
| 7 | .05 | .04 | .08 | .58 | .52 | 1.4 | .64 | .12 | .78 | .21 | .10 | .07 |
| 8 | .04 | .03 | .08 | .38 | .60 | 1.4 | .64 | .18 | .71 | .58 | .16 | .07 |
| 9 | .04 | .03 | .08 | .34 | 5.6 | 1.6 | .71 | .12 | .58 | .47 | .14 | .07 |
| 10 | .04 | .03 | .07 | .30 | 3.2 | 2.6 | .64 | .10 | .52 | .52 | .12 | .06 |
| 11 | .04 | .03 | .07 | .26 | 2.0 | 2.2 | .58 | .10 | .42 | .34 | .08 | .06 |
| 12 | .04 | .02 | .06 | .23 | 1.4 | 2.2 | .58 | .08 | .34 | .24 | .07 | .05 |
| 13 | .04 | .02 | .06 | .21 | .96 | 5.4 | .52 | .07 | .38 | .24 | .06 | .05 |
| 14 | .04 | .02 | .62 | .18 | .78 | 3.6 | .47 | .06 | .38 | .16 | .06 | .67 |
| 15 | .04 | .02 | .52 | .18 | .71 | 15 | .47 | .06 | .38 | .18 | .06 | .24 |
| 16 | .04 | .02 | .34 | .16 | 1.1 | 3.6 | .42 | .06 | .78 | .12 | .05 | .10 |
| 17 | .04 | .02 | .47 | .14 | 5.9 | 2.2 | .42 | .05 | 1.1 | .16 | .05 | .06 |
| 18 | .13 | .02 | .52 | .16 | 4.6 | 1.6 | .34 | 1.1 | .71 | .14 | .05 | .05 |
| 19 | .08 | .02 | .27 | .35 | 3.9 | 1.4 | .34 | 1.1 | .64 | .12 | .04 | .04 |
| 20 | .08 | .10 | .21 | .74 | 2.0 | 1.6 | .30 | .30 | .47 | .18 | .03 | .04 |
| 21 | .07 | .08 | .20 | 2.7 | 1.4 | 2.0 | .30 | .24 | .42 | .12 | .04 | .04 |
| 22 | .07 | .06 | 2.7 | 2.5 | 1.2 | 2.0 | .26 | .24 | .34 | .18 | .04 | .04 |
| 23 | .24 | .05 | 1.5 | 1.7 | 1.1 | 1.6 | .24 | .47 | .34 | .14 | .03 | .04 |
| 24 | .12 | .14 | .47 | 1.2 | .96 | 1.3 | .24 | .30 | .27 | .13 | .07 | .04 |
| 25 | .12 | .09 | .34 | .87 | .78 | 2.2 | .24 | .24 | .24 | .11 | .14 | .03 |
| 26 | .33 | .09 | .24 | .64 | .71 | 1.4 | .30 | 1.1 | .30 | .10 | .06 | .04 |
| 27 | .25 | .10 | .18 | .58 | .87 | .96 | .30 | .96 | .30 | .10 | .07 | .06 |
| 28 | .17 | .08 | .14 | .42 | .96 | .78 | .21 | 1.3 | .24 | .19 | .06 | .04 |
| 29 | .12 | .08 | .11 | .38 | --- | .96 | .18 | 4.2 | .30 | .12 | .05 | .04 |
| 30 | .10 | .07 | .10 | .34 | --- | .78 | .18 | 2.6 | .42 | .47 | .11 | .05 |
| 31 | .10 | --- | .30 | .46 | --- | 1.4 | --- | 1.1 | --- | .15 | 2.0 | --- |
| TOTAL | 2.84 | 1.74 | 10.27 | 30.82 | 47.18 | 66.42 | 14.74 | 17.12 | 18.54 | 7.23 | 4.38 | 3.99 |
| MEAN | .092 | .058 | .33 | .99 | 1.69 | 2.14 | .49 | .55 | .62 | .23 | .14 | .13 |
| CFSM | .11 | .07 | .40 | 1.21 | 2.06 | 2.61 | .60 | .67 | .76 | .28 | .17 | .16 |
| IN. | .13 | .08 | .47 | 1.40 | 2.14 | 3.01 | .67 | .78 | .84 | .33 | .20 | .18 |

WTR YR 1982 TOTAL 225.27 MEAN .62 CFSM .76 IN 10.21

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to September 1982.
PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1981 to February 1982.
SUSPENDED-SEDIMENT DISCHARGE: October 1980 to September 1982.
INSTRUMENTATION.--Sediment pumping sampler.
REMARKS.--Suspended-sediment discharge record is fair.
EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily, mean, 12,500 mg/L May 29, 1982; minimum daily mean, 0 mg/L on many days in 1982.
SEDIMENT LOADS: Maximum daily, 473 tons (429 metric tons) June 6, 1981; minimum daily, 0 tons (0 metric tons) on many days throughout each year.

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 2 | --- | 7 | 8 | --- | --- | --- | 17 | 132 | --- | 5 | 75 |
| 2 | 16 | --- | 177 | 3 | --- | --- | --- | 18 | --- | 6 | 5 | 52 |
| 3 | 2 | --- | 4 | 4 | 32 | 200 | 678 | 11 | --- | 4 | --- | --- |
| 4 | 3 | 3 | 6 | 5 | --- | 808 | 388 | 13 | --- | 19 | 5 | 53 |
| 5 | 3 | 3 | 5 | 5 | --- | --- | --- | 9 | 350 | --- | 5 | 42 |
| 6 | 4 | 3 | 3 | 4 | 24 | --- | --- | 10 | 6260 | --- | --- | 32 |
| 7 | 4 | 3 | 4 | 3 | 25 | 530 | --- | 7 | 400 | --- | 44 | 30 |
| 8 | 3 | 3 | 4 | 3 | 29 | 550 | --- | 11 | 29 | 16 | 29 | --- |
| 9 | 3 | 3 | 59 | 3 | --- | 190 | 428 | 12 | 46 | 7 | 14 | --- |
| 10 | 3 | 3 | 9 | 2 | 55 | 1730 | --- | 13 | 28 | 5 | 19 | 26 |
| 11 | 5 | 2 | 7 | 1 | --- | --- | 556 | 15 | --- | 5 | 1050 | 27 |
| 12 | 2 | 2 | 5 | 1 | --- | --- | 490 | 11 | 43 | 4 | --- | 28 |
| 13 | 2 | 2 | 5 | 1 | --- | 40 | 260 | 9 | 28 | 3 | 30 | 27 |
| 14 | 7 | 2 | 4 | 1 | 38 | --- | 476 | --- | 25 | 841 | 15 | 29 |
| 15 | 5 | 3 | 4 | 0 | 26 | --- | 80 | --- | 26 | 10 | --- | --- |
| 16 | 3 | 2 | 5 | 0 | 50 | --- | 80 | 32 | 31 | 10 | 25 | --- |
| 17 | 5 | --- | 6 | 2 | 213 | 2090 | 3110 | 20 | 14 | 7 | 25 | 25 |
| 18 | 4 | --- | 10 | 4 | 82 | 821 | 628 | --- | 14 | 2 | 25 | 27 |
| 19 | 3 | 5 | 5 | 2 | 71 | 625 | 208 | --- | 12 | 5 | 24 | 28 |
| 20 | 3 | 2 | 8 | 2 | 235 | 618 | 698 | --- | 11 | --- | 24 | 27 |
| 21 | 3 | 2 | --- | 8 | 141 | 580 | 220 | 146 | 10 | --- | 23 | 27 |
| 22 | 3 | 2 | --- | 15 | 80 | 525 | 115 | 78 | 8 | 3 | 21 | 27 |
| 23 | 3 | 33 | 10 | 12 | 107 | --- | 139 | 46 | 5 | 2 | 18 | 32 |
| 24 | 3 | 1110 | --- | 10 | 44 | --- | 68 | 39 | 1 | 3 | 15 | 30 |
| 25 | --- | 17 | 7 | 6 | 49 | 360 | 66 | 32 | --- | 2 | 18 | 34 |
| 26 | --- | 13 | --- | 14 | 26 | 231 | 44 | --- | --- | 3 | 21 | 33 |
| 27 | --- | 18 | 16 | 17 | 32 | 170 | 43 | --- | 3 | 4 | 26 | 30 |
| 28 | --- | 9 | 15 | 7 | --- | --- | 42 | --- | 2 | 1610 | 36 | 33 |
| 29 | --- | 9 | 14 | 4 | --- | 1300 | 36 | 82 | 2 | --- | 41 | 30 |
| 30 | --- | 8 | 10 | 3 | --- | 1040 | 20 | 228 | --- | 5 | --- | 25 |
| 31 | --- | --- | 44 | --- | --- | 1280 | --- | --- | --- | 5 | 209 | --- |

WATER-QUALITY RECORDS

SEDIMENT, SUSPENDED CONCENTRATION (MG/L), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | 1 | 17 | 63 | --- | 128 | --- | 2 | --- | 14 | 7 | --- |
| 2 | --- | 0 | 3 | 20 | --- | 151 | 147 | 2 | 86 | 19 | 5 | 58 |
| 3 | 1 | 0 | 2 | --- | --- | 148 | 92 | 1 | 55 | 761 | 4 | 35 |
| 4 | 6 | 1 | 11 | 546 | 45 | --- | 42 | 0 | --- | --- | 5 | 20 |
| 5 | 4 | --- | 5 | --- | 45 | 181 | 18 | 1 | --- | 24 | 5 | 7 |
| 6 | 1 | --- | 2 | 57 | 36 | 210 | --- | 5 | 83 | 17 | 3 | 1 |
| 7 | 1 | 2 | 2 | 70 | 25 | --- | 40 | --- | 58 | --- | 1 | 2 |
| 8 | 2 | 3 | 2 | 25 | --- | 1150 | 31 | --- | 52 | 2470 | 106 | 1 |
| 9 | 2 | 2 | 1 | 22 | --- | 1050 | 75 | 0 | 45 | 78 | --- | 0 |
| 10 | 16 | 2 | 1 | 18 | --- | --- | 36 | 25 | --- | 95 | --- | 0 |
| 11 | 7 | 1 | 0 | 21 | 160 | --- | 13 | 13 | --- | 49 | 6 | 0 |
| 12 | 0 | 2 | 0 | 21 | 120 | --- | 6 | 3 | --- | 23 | 5 | 0 |
| 13 | 1 | 3 | 0 | 21 | 62 | --- | 5 | 4 | --- | 20 | 4 | 0 |
| 14 | 1 | 2 | --- | 10 | --- | --- | 5 | 5 | 29 | 12 | 3 | 724 |
| 15 | 0 | 1 | 255 | 6 | --- | --- | 5 | 8 | 23 | --- | 4 | --- |
| 16 | 1 | 3 | 42 | 3 | --- | 320 | 6 | 12 | --- | 10 | 6 | 6 |
| 17 | 2 | 2 | 241 | 3 | --- | 410 | 6 | 11 | --- | --- | 8 | 2 |
| 18 | 509 | 2 | 32 | 3 | 191 | --- | 5 | 1200 | --- | --- | 4 | 1 |
| 19 | 46 | 1 | 13 | --- | 209 | --- | 4 | 329 | --- | 10 | 2 | 0 |
| 20 | 1 | --- | 9 | --- | 180 | --- | 3 | 402 | --- | --- | 3 | 0 |
| 21 | 1 | 2 | 13 | --- | 134 | --- | 4 | 71 | --- | 9 | 11 | 8 |
| 22 | 1 | 3 | --- | --- | 140 | --- | 5 | --- | --- | 106 | 7 | 1 |
| 23 | 118 | 1 | --- | --- | 206 | --- | 5 | --- | 29 | 37 | 10 | 0 |
| 24 | 1 | --- | 37 | --- | 195 | 168 | 17 | --- | 13 | 13 | --- | 0 |
| 25 | 1 | 10 | 27 | --- | 147 | 378 | 6 | --- | 7 | 4 | --- | 2 |
| 26 | 98 | 9 | 12 | --- | 165 | 235 | 47 | 1820 | 199 | 5 | 3 | --- |
| 27 | 219 | 10 | 10 | --- | --- | 163 | --- | 378 | 54 | 5 | --- | 3 |
| 28 | 17 | 8 | 8 | --- | --- | 115 | 4 | 763 | 2 | --- | 2 | 1 |
| 29 | 3 | 7 | 5 | --- | --- | 92 | 5 | 12500 | 326 | 4 | 1 | 1 |
| 30 | 2 | 40 | 4 | --- | --- | 101 | 4 | 770 | 36 | --- | --- | 0 |
| 31 | 1 | --- | 667 | --- | --- | --- | --- | --- | --- | 9 | --- | --- |

## WATER-QUALITY RECORDS

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .00 | --- | .01 | .01 | --- | --- | --- | .02 | .25 | --- | .00 | .02 |
| 2 | .01 | --- | .25 | .00 | --- | --- | --- | .02 | --- | .00 | .00 | .01 |
| 3 | .00 | --- | .00 | .00 | .10 | .48 | 1.2 | .01 | --- | .00 | --- | --- |
| 4 | .00 | .00 | .00 | .00 | --- | 3.2 | .61 | .01 | --- | .00 | .00 | .02 |
| 5 | .00 | .00 | .00 | .00 | --- | --- | --- | .01 | 5.5 | --- | .00 | .01 |
| 6 | .00 | .00 | .00 | .00 | .03 | --- | --- | .01 | 473 | --- | --- | .00 |
| 7 | .00 | .00 | .00 | .00 | .02 | 3.0 | --- | .01 | 18 | --- | .05 | .00 |
| 8 | .00 | .00 | .00 | .00 | .03 | 2.5 | --- | .01 | .65 | .03 | .02 | --- |
| 9 | .00 | .00 | .05 | .00 | --- | .67 | 10 | .01 | .57 | .01 | .00 | --- |
| 10 | .00 | .00 | .01 | .00 | .09 | 3.8 | --- | .01 | .21 | .00 | .00 | .00 |
| 11 | .00 | .00 | .01 | .00 | --- | --- | 5.4 | .01 | --- | .00 | 2.2 | .00 |
| 12 | .00 | .00 | .00 | .00 | --- | --- | 2.6 | .01 | .17 | .00 | --- | .00 |
| 13 | .00 | .00 | .00 | .00 | --- | .06 | .55 | .00 | .09 | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .00 | .12 | --- | 1.1 | --- | .07 | 3.9 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .16 | --- | .13 | --- | .07 | .01 | --- | --- |
| 16 | .00 | .00 | .00 | .00 | .10 | --- | .10 | .02 | .07 | .01 | .01 | --- |
| 17 | .00 | --- | .00 | .00 | 1.1 | 2.4 | 48 | .01 | .03 | .00 | .00 | .00 |
| 18 | .00 | --- | .00 | .00 | .49 | .93 | 4.4 | --- | .03 | .00 | .00 | .00 |
| 19 | .00 | .00 | .00 | .00 | .27 | .71 | 1.1 | --- | .01 | .00 | .00 | .00 |
| 20 | .00 | .00 | .00 | .00 | .89 | .63 | 12 | --- | .01 | --- | .00 | .00 |
| 21 | .00 | .00 | --- | .00 | .46 | .60 | 1.3 | .87 | .01 | --- | .00 | .00 |
| 22 | .00 | .00 | --- | .02 | .21 | .48 | .62 | .12 | .01 | .00 | .00 | .00 |
| 23 | .00 | .04 | .00 | .02 | .52 | --- | .70 | .05 | .00 | .00 | .00 | .00 |
| 24 | .00 | 21 | --- | .02 | .19 | --- | .22 | .03 | .00 | .00 | .00 | .00 |
| 25 | --- | .04 | .01 | .01 | .16 | 1.7 | .20 | .02 | --- | .00 | .00 | .00 |
| 26 | --- | .02 | --- | .02 | .06 | .81 | .10 | --- | --- | .00 | .00 | .00 |
| 27 | --- | .02 | .01 | .02 | .06 | .55 | .09 | --- | .00 | .00 | .00 | .00 |
| 28 | --- | .01 | .01 | .01 | --- | --- | .08 | --- | .00 | 3.9 | .00 | .00 |
| 29 | --- | .01 | .01 | .00 | --- | 3.1 | .06 | .12 | .00 | --- | .00 | .00 |
| 30 | --- | .01 | .01 | .00 | --- | 2.3 | .03 | 3.8 | --- | .00 | --- | .00 |
| 31 | --- | --- | .04 | --- | --- | 2.2 | --- | --- | --- | .00 | .12 | --- |

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MEAN VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | .00 | .00 | .06 | --- | .33 | --- | .00 | --- | .01 | .00 | --- |
| 2 | --- | .00 | .00 | .02 | --- | .39 | .35 | .00 | .20 | .01 | .00 | .05 |
| 3 | .00 | .00 | .00 | --- | --- | .38 | .24 | .00 | .11 | 2.2 | .00 | .02 |
| 4 | .00 | .00 | .00 | 18 | .17 | --- | .09 | .00 | --- | --- | .00 | .01 |
| 5 | .00 | --- | .00 | --- | .12 | .38 | .04 | .00 | --- | .02 | .00 | .00 |
| 6 | .00 | --- | .00 | .17 | .07 | .40 | --- | .00 | .27 | .01 | .00 | .00 |
| 7 | .00 | .00 | .00 | .11 | .04 | --- | .07 | --- | .12 | --- | .00 | .00 |
| 8 | .00 | .00 | .00 | .03 | --- | 4.3 | .05 | --- | .10 | 22 | .12 | .00 |
| 9 | .00 | .00 | .00 | .02 | --- | 4.5 | .14 | .00 | .07 | .10 | --- | .00 |
| 10 | .00 | .00 | .00 | .01 | --- | --- | .06 | .01 | --- | .47 | --- | .00 |
| 11 | .00 | .00 | .00 | .01 | .86 | --- | .02 | 1.8 | --- | .04 | .00 | .00 |
| 12 | .00 | .00 | .00 | .01 | .45 | --- | .01 | .54 | --- | .01 | .00 | .00 |
| 13 | .00 | .00 | .00 | .01 | .16 | --- | .01 | .00 | --- | .01 | .00 | .00 |
| 14 | .00 | .00 | --- | .00 | --- | --- | .01 | .00 | .03 | .01 | .00 | 6.0 |
| 15 | .00 | .00 | .44 | .00 | --- | --- | .01 | .00 | .02 | --- | .00 | --- |
| 16 | .00 | .00 | .04 | .00 | --- | 3.1 | .01 | .00 | --- | .00 | .00 | .00 |
| 17 | .00 | .00 | .39 | .00 | --- | 2.4 | .01 | .00 | --- | --- | .00 | .00 |
| 18 | .53 | .00 | .04 | .00 | 2.4 | --- | .00 | 11 | --- | --- | .00 | .00 |
| 19 | .00 | .00 | .01 | --- | 2.2 | --- | .00 | 1.8 | --- | .00 | .00 | .00 |
| 20 | .00 | --- | .01 | --- | .97 | --- | .00 | .54 | --- | --- | .00 | .00 |
| 21 | .00 | .00 | .01 | --- | .51 | --- | .00 | .05 | --- | .00 | .00 | .00 |
| 22 | .00 | .00 | --- | --- | .45 | --- | .00 | --- | --- | .08 | .00 | .00 |
| 23 | .09 | .00 | --- | --- | .61 | --- | .00 | --- | .03 | .01 | .00 | .00 |
| 24 | .00 | --- | .05 | --- | .51 | .59 | .01 | --- | .01 | .00 | --- | .00 |
| 25 | .00 | .00 | .02 | --- | .31 | 4.9 | .00 | --- | .01 | .00 | --- | .00 |
| 26 | .10 | .00 | .01 | --- | .32 | .89 | .06 | 16 | .44 | .00 | .00 | --- |
| 27 | .23 | .00 | .00 | --- | --- | .42 | --- | .98 | .04 | .00 | --- | .00 |
| 28 | .01 | .00 | .00 | --- | --- | .24 | .00 | 2.7 | .00 | --- | .00 | .00 |
| 29 | .00 | .00 | .00 | --- | --- | .24 | .00 | 386 | .60 | .00 | .00 | .00 |
| 30 | .00 | .01 | .00 | --- | --- | .21 | .00 | 5.4 | .04 | --- | --- | .00 |
| 31 | .00 | --- | .92 | --- | --- | --- | --- | --- | --- | .00 | --- | --- |

## WATER-QUALITY RECORDS

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
ONCE-DAILY

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | --- | --- | 480 | 590 | 380 | 480 | --- | 650 |
| 2 | | | | | 235 | 365 | 480 | 600 | 385 | 565 | --- | 700 |
| 3 | | | | | 250 | --- | 460 | 605 | 365 | 580 | 610 | 630 |
| 4 | | | | | --- | 360 | 490 | 610 | 280 | 595 | 675 | 660 |
| 5 | | | | | --- | 260 | 360 | 610 | 275 | 560 | --- | --- |
| 6 | | | | | --- | 330 | 350 | 610 | 215 | 435 | 700 | 690 |
| 7 | | | | | --- | 390 | 400 | 615 | 360 | 410 | 650 | --- |
| 8 | | | | | --- | 455 | 450 | --- | --- | 465 | 600 | --- |
| 9 | | | | | --- | --- | 420 | --- | 500 | 520 | 600 | 570 |
| 10 | | | | | --- | 470 | 280 | --- | 540 | --- | 640 | 670 |
| 11 | | | | | --- | 510 | 320 | --- | 580 | --- | 560 | 670 |
| 12 | | | | | --- | 540 | 380 | --- | 580 | 575 | 630 | 670 |
| 13 | | | | | --- | 600 | 420 | --- | --- | 565 | 650 | 660 |
| 14 | | | | | --- | --- | 455 | --- | --- | 375 | --- | 670 |
| 15 | | | | | --- | 560 | 500 | --- | 630 | --- | --- | 470 |
| 16 | | | | | --- | 470 | --- | --- | 650 | 650 | 660 | 570 |
| 17 | | | | | --- | 460 | 320 | --- | 650 | 660 | 675 | 530 |
| 18 | | | | | --- | --- | 305 | --- | --- | 690 | 680 | 600 |
| 19 | | | | | --- | --- | 350 | --- | --- | 670 | 700 | --- |
| 20 | | | | | --- | 520 | 280 | --- | --- | --- | --- | 585 |
| 21 | | | | | --- | --- | 340 | --- | --- | 680 | --- | 655 |
| 22 | | | | | --- | 480 | 400 | --- | --- | 690 | 700 | 650 |
| 23 | | | | | 345 | 380 | 450 | --- | 645 | 600 | --- | 650 |
| 24 | | | | | 350 | 365 | --- | --- | 575 | 700 | 710 | 670 |
| 25 | | | | | 385 | 350 | 505 | --- | 560 | 710 | 715 | 580 |
| 26 | | | | | 430 | 400 | 540 | 510 | 595 | --- | 710 | 680 |
| 27 | | | | | 400 | 415 | 545 | 520 | 630 | 725 | 700 | 680 |
| 28 | | | | | 335 | 480 | 560 | 465 | 635 | 600 | 705 | 620 |
| 29 | | | | | --- | --- | 550 | 420 | 630 | 615 | --- | 600 |
| 30 | | | | | --- | 510 | 575 | 490 | 640 | --- | --- | --- |
| 31 | | | | | --- | 540 | --- | 360 | --- | --- | 550 | --- |

SPECIFIC CONDUCTANCE (MICROMHOS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
ONCE-DAILY

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | --- | 640 | 615 | 395 | 525 | | | | | | | |
| 2 | --- | --- | 615 | --- | 505 | | | | | | | |
| 3 | --- | 660 | 630 | 245 | 320 | | | | | | | |
| 4 | --- | 670 | 590 | 260 | 350 | | | | | | | |
| 5 | --- | 640 | 595 | 360 | 405 | | | | | | | |
| 6 | --- | 640 | 610 | 405 | --- | | | | | | | |
| 7 | --- | 640 | 610 | 455 | 505 | | | | | | | |
| 8 | --- | 640 | 615 | 490 | --- | | | | | | | |
| 9 | --- | 640 | --- | 485 | --- | | | | | | | |
| 10 | --- | 575 | 605 | 535 | --- | | | | | | | |
| 11 | --- | 675 | 630 | 545 | --- | | | | | | | |
| 12 | --- | 675 | 630 | 545 | --- | | | | | | | |
| 13 | --- | 660 | 640 | 525 | --- | | | | | | | |
| 14 | --- | --- | 415 | 535 | --- | | | | | | | |
| 15 | --- | 660 | 455 | 545 | --- | | | | | | | |
| 16 | --- | 690 | 500 | 550 | --- | | | | | | | |
| 17 | --- | 665 | 400 | 545 | --- | | | | | | | |
| 18 | --- | 665 | 445 | 585 | --- | | | | | | | |
| 19 | --- | 655 | --- | 525 | --- | | | | | | | |
| 20 | --- | 650 | 530 | 425 | --- | | | | | | | |
| 21 | --- | 660 | 465 | 270 | --- | | | | | | | |
| 22 | 690 | 615 | 340 | 340 | --- | | | | | | | |
| 23 | 510 | 640 | 380 | 370 | --- | | | | | | | |
| 24 | 540 | 540 | 400 | --- | --- | | | | | | | |
| 25 | 640 | 615 | 445 | 425 | --- | | | | | | | |
| 26 | 530 | 670 | 465 | 485 | --- | | | | | | | |
| 27 | 445 | 650 | 485 | 485 | --- | | | | | | | |
| 28 | 445 | 665 | 510 | 510 | --- | | | | | | | |
| 29 | 615 | 675 | 530 | 550 | --- | | | | | | | |
| 30 | 620 | 690 | 550 | 535 | --- | | | | | | | |
| 31 | 640 | --- | 390 | 505 | --- | | | | | | | |

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | TEMPER-ATURE (DEG C) |
|---|---|---|---|
| OCT | | | |
| 21... | .10 | 450 | 9.0 |
| DEC | | | |
| 17... | .20 | 461 | 2.0 |
| 31... | .32 | 380 | 1.0 |
| JAN | | | |
| 15... | .10 | 450 | 1.0 |
| 15-15 | .10 | 446 | 1.0 |
| 26... | .70 | 400 | 7.0 |
| FEB | | | |
| 09... | .40 | 394 | -- |
| 23... | 1.4 | 320 | 9.5 |
| MAR | | | |
| 10... | .74 | 430 | 7.5 |
| 18... | .41 | 440 | 6.5 |
| MAY | | | |
| 18... | .22 | 630 | 17.0 |
| 19... | 2.2 | 360 | 14.5 |
| 19... | 2.0 | 360 | 14.5 |
| JUN | | | |
| 02... | 1.0 | 400 | 19.0 |
| 18... | .40 | 680 | 22.5 |
| JUL | | | |
| 28... | .12 | 570 | 25.5 |
| AUG | | | |
| 24... | .10 | 560 | 23.0 |
| SEP | | | |
| 22... | .10 | 670 | 13.0 |

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

| DATE | STREAM-FLOW, INSTAN-TANEOUS (CFS) | SPE-CIFIC CON-DUCT-ANCE (UMHOS) | PH (STAND-ARD UNITS) | TEMPER-ATURE (DEG C) | HARD-NESS (MG/L AS CACO3) | HARD-NESS, NONCAR-BONATE (MG/L CACO3) | CALCIUM DIS-SOLVED (MG/L AS CA) | MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) | SODIUM, DIS-SOLVED (MG/L AS NA) | SODIUM AD-SORP-TION RATIO | SULFATE DIS-SOLVED (MG/L AS SO4) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | |
| 26... | .32 | 510 | -- | 12.0 | -- | -- | -- | -- | -- | -- | -- |
| NOV | | | | | | | | | | | |
| 19... | .02 | 650 | -- | 10.5 | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | | |
| 14... | .83 | 370 | -- | 2.5 | -- | -- | -- | -- | -- | -- | -- |
| 28... | .11 | 480 | -- | 6.0 | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | | | | |
| 11... | 1.4 | 400 | -- | 5.5 | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | | |
| 08... | 1.3 | 380 | -- | 7.0 | -- | -- | -- | -- | -- | -- | -- |
| 30... | .75 | 570 | -- | 15.2 | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | | |
| 22... | .25 | 650 | -- | 14.5 | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | | |
| 08... | .13 | 660 | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | | |
| 02... | .10 | 658 | 7.8 | 23.5 | 325 | -- | 69 | 37 | 8.2 | .2 | 280 |
| 18... | .05 | 689 | -- | 23.0 | 341 | -- | 74 | 38 | 8.7 | .2 | 220 |
| SEP | | | | | | | | | | | |
| 14... | 1.8 | 400 | -- | 19.5 | 157 | 131 | 33 | 18 | 5.7 | .2 | 130 |
| 29... | .03 | 680 | -- | 14.5 | -- | -- | -- | -- | -- | -- | -- |

WATER-QUALITY RECORDS

WATER QUALITY DATA, WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982

| DATE | 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 DAY) | SOLIDS, DISSOLVED (TONS PER AC-FT) | PHOSPHORUS, TOTAL (MG/L AS P) | ARSENIC TOTAL (UG/L AS AS) | CADMIUM TOTAL RECOVERABLE (UG/L AS CD) | CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | | |
| 26... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| NOV | | | | | | | | | | | |
| 19... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | | |
| 14... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 28... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | | | | |
| 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 30... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | | |
| 22... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | | |
| 02... | 1.6 | .1 | 6.8 | 516 | -- | .14 | .70 | .020 | 1 | 2 | 20 |
| 18... | 2.5 | .1 | 5.6 | 606 | -- | .08 | .82 | -- | -- | -- | -- |
| SEP | | | | | | | | | | | |
| 14... | 1.9 | .1 | 5.2 | 254 | 214 | 1.2 | .35 | .290 | -- | -- | -- |
| 29... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

| DATE | COPPER, TOTAL RECOVERABLE (UG/L AS CU) | IRON, TOTAL RECOVERABLE (UG/L AS FE) | IRON, SUSPENDED RECOVERABLE (UG/L AS FE) | IRON, DISSOLVED (UG/L AS FE) | LEAD, TOTAL RECOVERABLE (UG/L AS PB) | MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) | MANGANESE, SUSPENDED RECOV. (UG/L AS MN) | MANGANESE, DISSOLVED (UG/L AS MN) | MERCURY TOTAL RECOVERABLE (UG/L AS HG) | SELENIUM, TOTAL (UG/L AS SE) |
|---|---|---|---|---|---|---|---|---|---|---|
| OCT | | | | | | | | | | |
| 26... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| NOV | | | | | | | | | | |
| 19... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| DEC | | | | | | | | | | |
| 14... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 28... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| FEB | | | | | | | | | | |
| 11... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| MAR | | | | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| 30... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| APR | | | | | | | | | | |
| 22... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| JUL | | | | | | | | | | |
| 08... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |
| AUG | | | | | | | | | | |
| 02... | 8 | 1000 | 980 | 16 | 9 | 80 | 60 | 23 | .3 | <1 |
| 18... | -- | 1600 | 1600 | 31 | -- | 110 | 80 | 35 | -- | -- |
| SEP | | | | | | | | | | |
| 14... | -- | 18000 | 18000 | 77 | -- | 840 | 590 | 250 | -- | -- |
| 29... | -- | -- | -- | -- | -- | -- | -- | -- | -- | -- |

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .01 | .01 | .00 | .03 | .59 | .02 | .35 | --- | .17 | --- | .00 | .01 |
| 2 | .01 | .04 | .03 | .04 | .32 | .01 | .07 | --- | .22 | .00 | .00 | .00 |
| 3 | .02 | .04 | .04 | .00 | .02 | .02 | --- | --- | .25 | .00 | .00 | .01 |
| 4 | .00 | .01 | .05 | .02 | .02 | .43 | --- | --- | --- | .00 | .01 | .15 |
| 5 | .00 | .07 | .04 | .01 | .04 | .12 | --- | --- | --- | .00 | .00 | .11 |
| 6 | .00 | .04 | .01 | .01 | .02 | .00 | --- | --- | .00 | .00 | .00 | .00 |
| 7 | .00 | .01 | .04 | .02 | .03 | .03 | --- | --- | .00 | .00 | .00 | .00 |
| 8 | .00 | .02 | .04 | .02 | .10 | .03 | --- | .00 | .00 | .00 | .00 | .00 |
| 9 | .00 | .05 | .00 | .00 | .00 | .04 | --- | .00 | .00 | .00 | .00 | .01 |
| 10 | .00 | .05 | .00 | .05 | .21 | .03 | --- | .00 | .00 | .00 | .00 | .10 |
| 11 | .00 | .04 | .00 | .04 | .10 | .02 | --- | .02 | .00 | .00 | .00 | .00 |
| 12 | .00 | .02 | .00 | .06 | .03 | .04 | --- | .00 | --- | .00 | .00 | .00 |
| 13 | .00 | .04 | .00 | .01 | .03 | .04 | --- | .00 | --- | .00 | .00 | .00 |
| 14 | .00 | .00 | .00 | .02 | .04 | .00 | --- | .52 | .00 | .00 | .00 | .00 |
| 15 | .00 | .00 | .00 | .00 | .01 | .07 | --- | .13 | .00 | .00 | .00 | .00 |
| 16 | .01 | .03 | .00 | .00 | .16 | .62 | --- | .00 | .00 | .00 | .00 | .00 |
| 17 | .00 | .00 | .00 | .01 | .30 | .01 | --- | .00 | .00 | .00 | .00 | .00 |
| 18 | .00 | .01 | .03 | .02 | .00 | .01 | --- | .60 | .00 | .00 | .00 | .00 |
| 19 | .00 | .00 | .05 | .03 | .13 | .00 | --- | .89 | .00 | .00 | .00 | .00 |
| 20 | .00 | .03 | .02 | .08 | .04 | .00 | --- | .00 | .00 | .00 | .00 | .00 |
| 21 | .08 | .01 | .05 | .24 | .01 | .03 | --- | .00 | .03 | .00 | .00 | .03 |
| 22 | .04 | .01 | .01 | .01 | .00 | .14 | --- | .00 | .00 | .00 | .14 | .01 |
| 23 | .00 | .00 | .00 | .01 | .43 | .10 | --- | .00 | .00 | .00 | .00 | .00 |
| 24 | .00 | .00 | .02 | .02 | .01 | .01 | --- | .00 | .00 | .00 | .12 | .00 |
| 25 | .00 | .01 | .02 | .04 | .01 | .03 | --- | .00 | .67 | .00 | .00 | .00 |
| 26 | .08 | .00 | .00 | .03 | .00 | .03 | --- | .09 | .00 | .00 | .00 | .00 |
| 27 | .00 | .00 | .03 | .01 | .02 | .07 | --- | .27 | .00 | .00 | .00 | .00 |
| 28 | .00 | .00 | .01 | .03 | .50 | .05 | --- | .31 | .00 | .07 | .00 | .00 |
| 29 | .00 | .00 | .01 | .00 | --- | .01 | --- | .00 | .00 | .02 | .00 | .00 |
| 30 | .00 | .00 | .01 | .13 | --- | .25 | --- | .31 | --- | .10 | .01 | .01 |
| 31 | .00 | --- | .00 | .02 | --- | .05 | --- | .16 | --- | .00 | .09 | --- |
| TOTAL | 0.25 | 0.54 | 0.51 | 1.01 | 3.17 | 2.31 | | | | | 0.28 | 0.44 |
| MEAN | .01 | .02 | .02 | .03 | .11 | .07 | | | | | .01 | .01 |

CLIMATOLOGIC DATA

RAINFALL, ACCUMULATED (INCHES), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
SUMMATION VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | .08 | .00 | | | --- | .00 | .00 | .06 | .08 | .07 | --- | .32 |
| 2 | .00 | .00 | | | --- | .00 | .06 | .08 | .13 | .05 | --- | .00 |
| 3 | .00 | .00 | | | --- | .05 | .01 | .07 | .07 | .48 | .01 | .04 |
| 4 | .00 | .00 | | | --- | .09 | .00 | .08 | .02 | .33 | .01 | .03 |
| 5 | .14 | .16 | | | --- | .02 | .20 | .10 | .03 | .05 | .10 | .02 |
| 6 | .01 | .00 | | | --- | .25 | .13 | .07 | .04 | .03 | .01 | .03 |
| 7 | .00 | .00 | | | --- | .59 | .00 | .33 | .09 | .03 | .00 | .03 |
| 8 | .00 | .00 | | | --- | --- | .02 | .27 | .05 | .92 | .50 | .02 |
| 9 | .00 | .00 | | | --- | --- | .07 | .05 | .07 | .01 | .29 | .01 |
| 10 | .00 | .00 | | | --- | --- | .00 | .08 | .04 | .15 | .01 | .03 |
| 11 | .00 | .00 | | | --- | --- | .00 | .08 | .10 | .01 | .00 | .02 |
| 12 | .00 | .00 | | | .05 | --- | .01 | .07 | .04 | .04 | .00 | .02 |
| 13 | .00 | .00 | | | .03 | --- | .01 | .08 | .06 | .02 | .01 | .02 |
| 14 | .00 | .00 | | | .02 | --- | .00 | .08 | .10 | .03 | .01 | 1.45 |
| 15 | .00 | .00 | | | .10 | --- | .00 | .06 | .09 | .03 | .00 | --- |
| 16 | .00 | .01 | | | .14 | --- | .00 | .07 | .07 | .03 | .06 | --- |
| 17 | .00 | .00 | | | .47 | --- | .08 | .06 | .05 | .13 | .02 | --- |
| 18 | .00 | .00 | | | .02 | --- | .01 | 1.40 | .07 | .02 | .02 | --- |
| 19 | .05 | .00 | | | .19 | --- | .00 | .12 | .07 | .06 | .03 | --- |
| 20 | .31 | .20 | | | .03 | --- | .06 | .22 | .06 | .24 | .02 | --- |
| 21 | .00 | .00 | | | .05 | --- | .02 | .05 | .08 | .03 | .12 | --- |
| 22 | --- | .00 | | | .01 | --- | .01 | .23 | .18 | .30 | .01 | --- |
| 23 | --- | .00 | | | .00 | --- | .07 | .31 | .07 | .05 | .06 | --- |
| 24 | .00 | .31 | | | .00 | --- | .07 | .21 | .08 | .04 | .40 | --- |
| 25 | .17 | .00 | | | .00 | --- | .28 | .01 | .06 | .01 | .27 | --- |
| 26 | --- | .00 | | | .01 | --- | .48 | .97 | .28 | .03 | .01 | --- |
| 27 | .06 | .07 | | | .53 | --- | .03 | .02 | .03 | .01 | .26 | --- |
| 28 | .00 | .00 | | | .00 | --- | .05 | .59 | .14 | .28 | .00 | --- |
| 29 | .00 | --- | | | --- | --- | .06 | 1.06 | .25 | .00 | .01 | --- |
| 30 | .00 | --- | | | --- | --- | .09 | .06 | .02 | .73 | .57 | --- |
| 31 | .00 | --- | | | --- | --- | --- | .08 | --- | --- | 1.25 | --- |
| TOTAL | | | | | | | 1.82 | 7.02 | 2.52 | 4.21 | | |
| MEAN | | | | | | | .06 | .23 | .08 | .14 | | |

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 33.0 | 19.0 | 22.5 | 1.0 | 12.5 | 9.5 | 24.5 | 20.5 | 27.0 | 29.5 | 31.0 | 28.5 |
| 2 | 23.5 | 17.0 | 19.0 | .0 | 5.0 | 6.5 | 25.0 | 17.5 | 27.5 | 27.5 | 25.5 | 31.0 |
| 3 | 23.5 | 21.5 | 10.0 | 2.5 | -4.0 | 9.5 | 29.0 | 25.5 | 30.0 | 29.5 | 33.5 | 29.5 |
| 4 | 17.5 | 20.0 | 14.5 | -8.5 | -0.5 | 4.5 | 29.0 | 31.0 | 28.0 | 29.5 | 33.5 | 27.0 |
| 5 | 16.0 | 12.0 | 13.5 | -5.0 | 2.0 | 8.0 | 18.0 | 30.0 | 31.0 | 32.5 | 35.5 | 29.5 |
| 6 | 22.5 | 14.5 | 23.0 | 3.0 | 6.5 | 7.5 | 14.5 | 22.5 | 22.0 | 27.0 | 29.0 | 26.0 |
| 7 | 24.0 | 21.0 | 24.5 | -1.0 | 9.5 | 4.5 | 22.0 | 23.0 | 29.5 | 31.5 | 31.0 | 28.0 |
| 8 | 30.0 | 22.5 | 26.0 | .0 | 2.0 | 4.5 | 26.0 | 26.5 | 30.5 | 34.0 | 31.5 | 21.5 |
| 9 | 32.5 | 20.5 | 22.5 | 2.5 | 5.0 | 6.0 | 20.0 | 29.0 | 29.5 | 35.0 | 32.0 | 22.0 |
| 10 | 33.0 | 16.0 | 14.5 | -5.0 | 13.5 | 12.0 | --- | 25.5 | 32.0 | 35.0 | 32.5 | 25.0 |
| 11 | 27.5 | 8.5 | 8.5 | -7.5 | 13.0 | 7.5 | --- | 16.5 | 29.0 | 35.5 | 32.5 | 28.5 |
| 12 | 17.5 | 10.0 | 17.0 | -7.0 | -3.5 | 14.0 | --- | 13.5 | 31.5 | 35.0 | 30.0 | 29.0 |
| 13 | 21.5 | 18.5 | 18.5 | 2.0 | 9.0 | 16.0 | --- | 28.0 | 32.0 | 35.5 | 29.0 | 29.0 |
| 14 | 27.0 | 15.0 | 13.0 | 8.5 | 13.5 | 8.5 | --- | 28.5 | 33.5 | 33.0 | 31.0 | 29.0 |
| 15 | 29.0 | 13.5 | 13.0 | 1.0 | 18.0 | 17.5 | --- | 16.5 | 33.5 | 33.0 | 30.0 | 21.0 |
| 16 | 29.0 | 8.0 | 10.0 | 1.5 | 13.5 | 6.0 | --- | 21.5 | 33.0 | 32.0 | 31.5 | 23.5 |
| 17 | 31.5 | 8.5 | 10.0 | -3.5 | 14.0 | 14.0 | --- | 26.5 | 26.5 | 34.0 | 28.5 | 19.5 |
| 18 | 28.0 | 8.5 | 16.5 | 3.0 | 20.5 | 6.5 | --- | 22.0 | 32.0 | 35.5 | 29.5 | 15.0 |
| 19 | 26.5 | 9.0 | 16.5 | 8.0 | 15.0 | 1.5 | --- | 21.0 | 30.5 | 33.5 | 26.5 | 19.0 |
| 20 | 22.5 | 12.0 | .5 | 5.5 | 13.0 | .5 | --- | 15.5 | 25.5 | 32.5 | 30.5 | 26.5 |
| 21 | 24.0 | 12.0 | 3.0 | 4.5 | 16.0 | 10.5 | --- | 26.0 | 32.0 | 33.0 | 24.0 | 28.0 |
| 22 | 27.0 | 14.5 | 10.5 | 5.0 | 17.0 | 6.5 | --- | 29.0 | 29.5 | 32.0 | 30.5 | 27.5 |
| 23 | 22.0 | 10.5 | 9.5 | 6.5 | 11.0 | 8.0 | 21.5 | 31.5 | 30.0 | 34.5 | 31.0 | 21.5 |
| 24 | 22.0 | 13.5 | 10.0 | 9.5 | 6.0 | 14.5 | 15.0 | 31.5 | 33.0 | 36.0 | 30.5 | 24.5 |
| 25 | 12.5 | 8.5 | -4.0 | 16.0 | 15.5 | 15.0 | 18.0 | 27.0 | 32.5 | 34.0 | 31.0 | 29.5 |
| 26 | 14.0 | 10.0 | 3.5 | 15.5 | 14.0 | 18.0 | 27.0 | 28.5 | 27.0 | 36.0 | 30.5 | 31.5 |
| 27 | 16.0 | 12.0 | 6.0 | 12.5 | 21.0 | 14.0 | 32.0 | 20.5 | 29.0 | 38.0 | 30.5 | 26.5 |
| 28 | 21.0 | 8.5 | 8.0 | 7.5 | 19.5 | 25.5 | 32.5 | 19.0 | 31.0 | 32.5 | 31.5 | 25.5 |
| 29 | 9.0 | 8.5 | 9.5 | 5.0 | --- | 24.0 | 24.0 | 25.0 | 31.5 | 23.0 | 28.5 | 24.5 |
| 30 | 16.5 | 15.5 | .5 | 3.5 | --- | 22.0 | 25.0 | 28.0 | 29.0 | 28.5 | 29.0 | 30.5 |
| 31 | 16.5 | --- | 1.0 | 6.5 | --- | 29.0 | --- | 22.5 | --- | 29.5 | 30.5 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MAXIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 30.5 | --- | 18.5 | 9.5 | 5.5 | 14.5 | 24.0 | 25.5 | 26.5 | 32.0 | 30.0 | 27.0 |
| 2 | 13.5 | --- | 12.5 | 13.5 | 9.5 | 17.5 | 27.5 | 22.5 | 28.5 | 33.5 | 28.0 | 25.5 |
| 3 | 19.0 | --- | 11.0 | 11.5 | 14.5 | 12.0 | 24.5 | 27.0 | 27.0 | 33.0 | 30.5 | 26.0 |
| 4 | 25.5 | --- | 6.5 | 17.0 | 9.5 | 22.0 | 18.5 | 28.0 | 22.5 | 33.5 | 29.5 | 26.5 |
| 5 | 25.5 | --- | 5.0 | 10.0 | 10.0 | 12.0 | 20.5 | 30.5 | 24.0 | 35.0 | 24.0 | 29.0 |
| 6 | 25.0 | --- | 7.0 | 14.0 | 7.5 | 10.0 | 12.0 | 31.0 | 23.0 | 33.5 | 32.5 | 29.0 |
| 7 | 20.0 | --- | 15.5 | 11.5 | 5.0 | 4.5 | 10.0 | 27.0 | 30.0 | 35.0 | 30.5 | 29.5 |
| 8 | 20.0 | --- | 14.0 | 5.5 | 13.0 | 6.5 | 9.0 | 21.0 | 30.5 | 33.0 | 29.5 | 28.5 |
| 9 | 22.0 | --- | 4.5 | 1.5 | 7.5 | 16.0 | 8.5 | 26.5 | 32.0 | 29.5 | 26.0 | 28.5 |
| 10 | 19.0 | --- | .5 | -10.0 | 1.5 | 20.0 | 14.0 | 28.5 | 25.0 | 33.0 | 29.5 | 30.0 |
| 11 | 25.0 | --- | 3.5 | -9.0 | 7.5 | 20.0 | 17.0 | 31.5 | 29.5 | 30.5 | 27.5 | 30.0 |
| 12 | 24.0 | --- | 2.5 | -1.0 | 6.0 | 23.5 | 25.0 | 33.0 | 26.0 | 32.5 | 24.5 | 31.5 |
| 13 | 22.5 | --- | 9.5 | 3.0 | 2.0 | 19.5 | 24.8 | 34.5 | 25.5 | 28.5 | 29.0 | 27.5 |
| 14 | 24.0 | --- | 5.5 | -0.5 | 12.0 | 15.0 | 25.0 | 33.0 | 29.0 | 31.0 | 30.5 | 28.5 |
| 15 | 20.0 | --- | 4.5 | 2.0 | 9.5 | 18.0 | 29.5 | 31.0 | 31.5 | 35.5 | 32.0 | 28.0 |
| 16 | 21.5 | --- | 4.5 | 4.5 | 11.5 | 22.5 | 27.5 | 32.0 | 32.5 | 35.5 | 29.5 | 27.5 |
| 17 | 28.0 | --- | 9.5 | -3.5 | 12.5 | 28.0 | 23.0 | 30.5 | 28.0 | 36.0 | 33.0 | 27.5 |
| 18 | 21.5 | --- | .5 | 5.5 | 11.0 | 28.5 | 22.5 | 31.5 | 31.5 | 30.0 | 30.0 | 25.0 |
| 19 | 13.5 | --- | -1.5 | 6.5 | 7.0 | 20.5 | 22.5 | 29.0 | 28.5 | 33.0 | 32.0 | 21.5 |
| 20 | 21.5 | 16.0 | .5 | 8.0 | 17.0 | 19.0 | 23.0 | 26.5 | 29.5 | 28.5 | 31.5 | 18.5 |
| 21 | 24.0 | 2.5 | 3.5 | 11.0 | 8.0 | 19.5 | 17.5 | 28.5 | 30.5 | 35.5 | 27.0 | 14.0 |
| 22 | 22.5 | 6.0 | 15.0 | 9.0 | 5.0 | 15.5 | 18.5 | 31.5 | 28.5 | 36.5 | 30.5 | 16.0 |
| 23 | 14.0 | 11.5 | 17.0 | 16.0 | 21.0 | 16.5 | 21.5 | 30.0 | 28.5 | 32.0 | 28.5 | 20.5 |
| 24 | 14.5 | 9.5 | 5.5 | 3.0 | 24.0 | 21.0 | 25.0 | 27.0 | 32.5 | 34.0 | 29.5 | 21.0 |
| 25 | 15.5 | 11.0 | 5.5 | 7.5 | 4.5 | 22.0 | 24.5 | 30.0 | 34.5 | 35.0 | 28.0 | 22.0 |
| 26 | --- | 20.0 | 9.0 | -3.5 | 6.5 | 6.5 | 23.5 | 28.0 | 33.0 | 33.5 | 30.0 | 15.0 |
| 27 | --- | 18.0 | 12.0 | 8.0 | 4.0 | 4.0 | 20.0 | 30.5 | 33.0 | 34.5 | 25.0 | 19.0 |
| 28 | --- | 7.0 | 14.5 | 12.5 | 10.0 | 13.0 | 20.0 | 31.0 | 34.5 | 32.0 | 26.0 | 23.0 |
| 29 | --- | 10.5 | 7.0 | 11.0 | --- | 21.0 | 24.0 | 29.5 | 32.5 | 30.0 | 30.0 | 27.0 |
| 30 | --- | 7.0 | 7.5 | 16.0 | --- | 24.0 | 25.5 | 33.5 | 32.0 | 31.5 | 26.0 | 26.0 |
| 31 | --- | --- | 4.5 | 22.0 | --- | 25.0 | --- | 35.5 | --- | 26.0 | 26.0 | --- |

CLIMATOLOGIC DATA

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1980 TO SEPTEMBER 1981
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 17.0 | -2.0 | 3.0 | -2.5 | -8.0 | 5.0 | 7.5 | 8.5 | 15.5 | 18.0 | 14.0 | 18.5 |
| 2 | 15.5 | -2.5 | 4.5 | -10.0 | -9.5 | 2.5 | 2.0 | 4.5 | 16.5 | 14.5 | 20.5 | 18.5 |
| 3 | 12.5 | -2.0 | -1.0 | -10.0 | -14.5 | -4.0 | 1.0 | 1.5 | 16.5 | 15.5 | 21.0 | 17.5 |
| 4 | 11.5 | 2.5 | -3.5 | -18.5 | -16.5 | -5.0 | 10.0 | 5.0 | 17.5 | 16.5 | 20.5 | 17.5 |
| 5 | 10.0 | -0.5 | 3.5 | -20.5 | -15.5 | 2.0 | 8.5 | 10.0 | 19.0 | 19.0 | 21.0 | 17.0 |
| 6 | 7.5 | -4.0 | 7.0 | -15.0 | -7.0 | -0.5 | -0.5 | 11.5 | 19.0 | 21.0 | 21.0 | 16.0 |
| 7 | 8.5 | -2.0 | 8.5 | -8.0 | -8.0 | -4.5 | -3.0 | 6.0 | 16.0 | 21.0 | 19.5 | 15.0 |
| 8 | 11.5 | 6.5 | 8.5 | -10.0 | -8.5 | -7.0 | .5 | 2.0 | 15.0 | 22.0 | 17.5 | 10.0 |
| 9 | 14.5 | 6.5 | 14.5 | -5.0 | -12.0 | -4.0 | 10.5 | 4.5 | 19.0 | 22.5 | 17.5 | 8.0 |
| 10 | 16.5 | -0.5 | 3.0 | -17.0 | -2.0 | -5.0 | --- | 10.5 | 21.0 | 22.5 | 18.5 | 7.5 |
| 11 | 13.0 | -3.5 | 3.5 | -18.0 | -15.5 | 2.0 | --- | 11.0 | 17.5 | 22.5 | 18.5 | 8.5 |
| 12 | 6.0 | -6.0 | 2.5 | -12.5 | -21.5 | -2.0 | --- | 6.5 | 16.5 | 22.5 | 16.0 | 12.0 |
| 13 | 6.0 | -2.5 | 3.0 | -8.5 | -15.5 | -3.5 | --- | 7.0 | 18.5 | 22.5 | 16.0 | 12.0 |
| 14 | 5.5 | -0.5 | 1.5 | -5.5 | -6.5 | -5.5 | --- | 9.0 | 20.0 | 21.0 | 16.5 | 13.0 |
| 15 | 6.5 | 8.0 | 1.5 | -1.5 | -7.0 | -9.0 | --- | 11.0 | 20.0 | 19.5 | 18.0 | 16.5 |
| 16 | 8.5 | 1.5 | 6.5 | -7.0 | -2.5 | -5.5 | --- | 8.5 | 19.0 | 21.0 | 18.5 | 12.0 |
| 17 | 11.5 | 2.5 | 1.5 | -13.0 | 5.5 | -7.5 | --- | 8.0 | 15.0 | 22.0 | 14.0 | 7.5 |
| 18 | 16.5 | 3.0 | .5 | -14.0 | 5.0 | -3.5 | --- | 15.0 | 14.5 | 21.5 | 13.0 | 7.5 |
| 19 | 13.0 | -3.0 | -0.5 | -11.0 | 8.5 | -4.5 | --- | 13.0 | 18.5 | 23.0 | 16.5 | 8.0 |
| 20 | 6.0 | -5.5 | -8.5 | -5.0 | 3.5 | -4.0 | --- | 10.5 | 18.5 | 23.0 | 14.0 | 7.0 |
| 21 | 7.0 | -4.5 | -10.5 | .5 | 1.0 | -3.5 | --- | 9.0 | 17.5 | 22.5 | 13.5 | 10.0 |
| 22 | 6.0 | -4.5 | -8.5 | -1.0 | -1.5 | -2.0 | --- | 6.5 | 18.0 | 20.0 | 12.0 | 10.0 |
| 23 | 5.5 | 4.0 | 3.5 | -1.0 | 4.0 | -0.5 | 10.0 | 7.0 | 15.5 | 19.5 | 15.0 | 6.5 |
| 24 | 5.0 | 9.0 | -5.0 | -4.5 | -2.0 | -1.5 | 6.5 | 8.0 | 14.5 | 21.0 | 15.0 | 5.5 |
| 25 | 6.0 | -2.0 | -14.0 | -6.0 | -4.5 | -3.5 | 4.5 | 9.5 | 16.5 | 23.0 | 14.0 | 6.0 |
| 26 | .5 | -3.0 | -12.5 | 2.0 | -4.0 | -3.0 | 4.5 | 13.5 | 13.5 | 23.5 | 12.0 | 10.5 |
| 27 | -0.5 | 6.5 | -9.5 | -0.5 | -6.5 | 1.0 | 9.5 | 14.5 | 13.0 | 23.0 | 15.5 | 12.0 |
| 28 | 8.5 | 5.0 | -7.0 | -6.5 | -0.5 | .5 | 10.5 | 15.5 | 12.0 | 25.0 | 17.0 | 8.0 |
| 29 | 5.0 | 5.5 | -3.5 | -3.0 | --- | 3.0 | 12.0 | 14.0 | 13.5 | 16.5 | 15.0 | 5.5 |
| 30 | 1.5 | 1.0 | -1.5 | -11.0 | --- | 6.5 | 9.5 | 13.5 | 16.5 | 16.5 | 16.5 | 9.0 |
| 31 | -0.5 | --- | -2.5 | -14.5 | --- | 2.0 | --- | 16.0 | --- | 17.0 | 18.0 | --- |

TEMPERATURE, AIR (DEG. C), WATER YEAR OCTOBER 1981 TO SEPTEMBER 1982
MINIMUM VALUES

| DAY | OCT | NOV | DEC | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 9.0 | --- | 6.0 | 2.5 | -2.0 | .0 | 1.0 | 4.0 | 17.5 | 16.0 | 16.0 | 19.5 |
| 2 | 4.5 | --- | 5.0 | -3.0 | -3.0 | -2.0 | 1.0 | 9.0 | 14.0 | 14.5 | 16.0 | 17.5 |
| 3 | 4.0 | --- | 1.0 | 4.5 | 6.0 | 5.0 | 11.5 | 8.5 | 14.0 | 18.5 | 16.0 | 12.5 |
| 4 | 3.0 | --- | 3.5 | 3.5 | 3.0 | 5.0 | 2.5 | 4.5 | 16.5 | 20.5 | 18.5 | 11.0 |
| 5 | 9.5 | --- | .0 | -2.0 | .0 | 4.0 | .5 | 5.5 | 15.0 | 20.0 | 19.0 | 11.5 |
| 6 | 10.5 | --- | -5.5 | 1.0 | -4.0 | 4.0 | .0 | 7.5 | 12.5 | 18.5 | 20.5 | 13.5 |
| 7 | 5.0 | --- | -3.5 | .5 | -10.5 | -1.0 | -2.0 | 11.0 | 14.0 | 20.0 | 19.0 | 14.0 |
| 8 | 3.0 | --- | 2.5 | -5.5 | -8.0 | -2.5 | 1.5 | 8.0 | 16.5 | 20.5 | 20.0 | 15.0 |
| 9 | 3.5 | --- | -0.5 | -10.0 | .0 | .0 | 3.5 | 7.5 | 17.5 | 20.0 | 20.0 | 15.5 |
| 10 | 9.0 | --- | -2.0 | -18.5 | -4.0 | .0 | .0 | 6.5 | 18.5 | 20.5 | 16.5 | 15.0 |
| 11 | 11.0 | --- | -1.5 | -17.5 | -4.5 | 2.0 | -0.5 | 7.0 | 14.5 | 21.0 | 16.5 | 15.5 |
| 12 | 7.5 | --- | -3.0 | -9.5 | -6.5 | 7.5 | 3.0 | 8.0 | 14.5 | 20.0 | 13.5 | 16.0 |
| 13 | 3.5 | --- | -7.0 | -3.0 | -7.5 | 3.5 | 11.5 | 10.0 | 16.0 | 19.5 | 13.0 | 17.5 |
| 14 | 1.0 | --- | .5 | -4.5 | -10.5 | .5 | 7.0 | 11.0 | 13.0 | 20.5 | 15.5 | 19.5 |
| 15 | 7.0 | --- | 2.0 | -5.0 | -5.0 | 7.0 | 4.5 | 11.0 | 12.5 | 20.5 | 15.5 | 19.0 |
| 16 | 7.0 | --- | -3.5 | -16.0 | 3.5 | 8.5 | 11.0 | 13.0 | 15.5 | 21.5 | 18.0 | 14.5 |
| 17 | 6.0 | --- | -3.0 | -24.0 | 6.5 | 7.5 | 8.0 | 13.5 | 16.0 | 22.5 | 17.5 | 13.5 |
| 18 | 9.5 | --- | -4.5 | -11.5 | 5.5 | 3.0 | 3.0 | 11.0 | 17.0 | 21.0 | 15.0 | 14.0 |
| 19 | .5 | --- | -9.5 | 1.5 | -1.0 | 9.0 | 4.0 | 16.5 | 17.0 | 21.5 | 14.0 | 14.5 |
| 20 | -1.5 | 2.0 | -11.0 | 3.0 | 2.5 | 13.0 | 9.5 | 15.0 | 14.5 | 23.5 | 16.0 | 12.5 |
| 21 | .5 | 1.5 | -11.5 | 5.0 | 2.5 | 8.5 | 3.0 | 17.0 | 14.0 | 22.0 | 13.5 | 10.5 |
| 22 | 5.5 | -4.0 | 3.5 | 4.0 | -3.0 | .5 | 1.0 | 15.5 | 16.5 | 22.0 | 12.0 | 7.5 |
| 23 | 3.0 | -6.5 | 5.0 | 2.5 | -4.0 | 1.5 | -2.0 | 17.5 | 14.5 | 22.5 | 14.0 | 6.0 |
| 24 | -1.0 | 4.5 | 2.0 | -6.0 | 3.0 | .0 | -1.0 | 17.0 | 14.0 | 22.0 | 17.0 | 8.5 |
| 25 | 2.0 | -0.5 | -2.5 | -7.0 | -1.5 | 2.5 | 2.0 | 16.5 | 16.0 | 21.5 | 14.5 | 10.0 |
| 26 | --- | -2.0 | -1.5 | -13.0 | -5.0 | .5 | 12.0 | 16.0 | 20.5 | 21.0 | 15.0 | 13.5 |
| 27 | --- | 7.0 | -1.0 | -14.5 | 1.0 | -4.0 | 10.0 | 17.0 | 21.0 | 21.0 | 14.5 | 11.5 |
| 28 | --- | -0.5 | -0.5 | -3.0 | .5 | -7.0 | 4.5 | 18.0 | 22.0 | 19.5 | 14.0 | 10.5 |
| 29 | --- | -2.5 | -3.5 | -6.5 | --- | -4.5 | 1.0 | 17.0 | 22.5 | 19.5 | 13.5 | 11.0 |
| 30 | --- | -4.0 | -8.0 | 1.0 | --- | 4.5 | 2.5 | 18.0 | 19.0 | 20.0 | 14.5 | 10.0 |
| 31 | --- | --- | -5.0 | 3.0 | --- | 5.5 | --- | 19.0 | --- | 18.5 | 18.5 | --- |

APPENDIX B--Precipitation-Runoff Modeling System Parameters and Variables

CONTENTS

Table B-1.--Monthly values for climatic variables used for all sites

[PAT, the maximum air temperature (in degrees Celsius) which, when exceeded, forces precipitation to be rain regardless of minimum temperature]

[AJMX, adjustment factor for proportion of rain in a rain-snow mix event]

[TLX, lapse rate for maximum daily air temperature] (degrees celcius per 1,000 feet elevation change)

[TLN, lapse rate for minimum daily air temperature] (degrees celcius per 1,000 feet elevation change)

[EVC, evaporation-pan coefficient]

| Month | PAT | AJMX | TLX | TLN | EVC |
|---|---|---|---|---|---|
| January | 4.5 | 1.0 | 1.5 | 1.5 | 0.76 |
| February | 4.5 | 1.0 | 1.5 | 1.5 | .76 |
| March | 4.5 | 1.0 | 1.5 | 1.5 | .76 |
| April | 4.5 | 1.0 | 1.5 | 1.5 | .76 |
| May | 4.5 | 1.0 | 1.5 | 1.5 | .82 |
| June | 4.5 | 1.0 | 1.5 | 1.5 | .82 |
| July | 4.5 | 1.0 | 1.5 | 1.5 | .82 |
| August | 4.5 | 1.0 | 1.5 | 1.5 | .82 |
| September | 4.5 | 1.0 | 1.5 | 1.5 | .82 |
| October | 4.5 | 1.0 | 1.5 | 1.5 | .82 |
| November | 4.5 | 1.0 | 1.5 | 1.5 | .76 |
| December | 4.5 | 1.0 | 1.5 | 1.5 | .76 |

The following values were also used to define climate data for all sites:

| Variable | Description | Value |
|---|---|---|
| PARS | Predicted solar radiation correction factor for summer day with precipitation. | 0.25 |
| PARW | Predicted solar radiation correction factor for winter day with precipitation. | .25 |
| RDMX | Maximum percent of potential solar radiation. | .80 |
| RMXA | Proportion of rain in a rain-snow precipitation event above which snow albedo is not reset (snow-pack accumulation stage). | .8 |
| RMXM | Same as RMXA but for snowpack melt stage. | .6 |
| CTS | Air temperature ET coefficient. | .017 |
| CTW | Proportion of potential evapotranspiration that is sublimated from a snow surface (decimal form). | .10 |
| ISP1 | Julian date to start looking for spring snowmelt stage. | 90 |
| ISP2 | Julian date to force snowpack to spring snowmelt stage. | 120 |
| EAIR | Emissivity of air on days without precipitation. | .80 |
| FWCAP | Free water holding capacity of snowpack expressed as a decimal fraction of total snowpack water equivalent. | .04 |
| DENI | Initial density of new-fallen snow. | .20 |
| DENMX | Average maximum snowpack density. | .40 |
| SETCON | Snowpack settlement time constant. | .10 |
| BST | Temperature above which precipitation is all rain and below which it is all snow, in degrees Celsius. | 0. |

Table B-2.--Parameters used to compute solar radiation data for all sites

| Variable | Description | Value |
|---|---|---|
| PARS | Predicted correction factor for summer day with precipitation. | 0.25 |
| PARW | Predicted correction factor for winter day with precipitation. | .25 |
| RDB | Sky cover/solar radiation computation coefficient. | .25 |
| RDP | Sky cover/solar radiation computation coefficient. | .61 |
| RDMX | Maximum percent of potential solar radiation receiveable. | .80 |
| RDM | Slope of max-min air temperature/sky cover relationship. | -.13 for all months |
| RDC | Y-intercept of max-min air temperature/sky cover relationship. | 1.83 for all months |

Table B-3.--Parameters and variables for daily runoff computations defined by calibration for each site

COVDNS, Summer vegetation cover density (decimal).

COVDNW, Winter vegetation cover density (decimal).

TRNCF, Transmission coefficient for shortwave radiation through the winter vegetation canopy (decimal form); assigned a constant value of 0.55.

SNST, Interception storage capacity of major winter vegetation for snow (inches); assigned a constant value of 0.01.

RNSTS, Interception-storage capacity of major summer vegetation (inches).

RNSTW, Interception-storage capacity of major winter vegetation (inches).

ITST, Month transpiration begins.

ITND, Month transpiration ends.

SMAX, Maximum available water-holding capacity of soil profile (inches).

REMX, Maximum available water-holding capacity of soil recharge zone (inches).

SCN, Coefficient in contributing area-moisture index relationship.

SEP, Maximum daily recharge from soil moisture excess to designated ground-water reservoir (inches per day).

RES, Initial storage in each subsurface flow routing reservoir (inches).

GW, Initial storage in each ground-water flow routing reservoir (inches).

RESMX, Coefficient for computing seepage from the subsurface reservoir to its designated ground-water reservoir, assigned a constant value of 1.00.

REXP, Exponent for computing seepage from subsurface reservoir to its designated ground-water reservoir; assigned a constant value of 1.00.

GSNK, Coefficient used in computing the seepage rate from the ground-water reservoir to a ground-water sink.

RCF, Subsurface flow-routing coefficient.

RCP, Subsurface flow-routing coefficient, assigned a constant value of 0.0.

RCB, Ground-water flow-routing coefficient.

Table B-3.--Parameters and variables for daily runoff computations defined by calibration for each site (continued)

| Site number | Station | HRU number | Predominant cover type | COVDNS | COVDNW | RNSTS | RNSTW | ITST | ITND | SMAX | SMAV |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Elkfoot | 1 | Forest | .70 | 0.30 | 0.06 | 0.04 | 4 | 11 | 7.79 | 5.00 |
| 2 | Puncheon-camp | 1 | Forest | .70 | .30 | .06 | .04 | 4 | 11 | 6.82 | 4.80 |
| 3 | Freemans | 1 | Bare | 0 | 0 | 0 | 0 | 1 | 1 | 7.42 | 5.00 |
| | | 2 | Grasses | .30 | .10 | .06 | .04 | 4 | 11 | 6.98 | 4.50 |
| | | 3 | Forest | .70 | .30 | .06 | .04 | 4 | 11 | 6.56 | 4.00 |
| 4 | Left Sandlick | 1 | Forest | .85 | .30 | .06 | .04 | 4 | 11 | 2.98 | 1.80 |
| | | 2 | Grasses | .30 | .10 | .06 | .04 | 4 | 11 | 3.28 | 1.80 |
| 5 | Right Sandlick | 1 | Forest | .70 | .30 | .06 | .04 | 4 | 11 | 4.88 | 4.00 |
| 6 | Elkhorn | 1 | Bare | 0 | 0 | 0 | 0 | 1 | 1 | 5.50 | 4.40 |
| | | 2 | Grasses | .30 | .10 | 0 | 0 | 4 | 11 | 5.50 | 4.40 |
| | | 3 | Forest | .70 | .30 | .06 | .04 | 4 | 11 | 6.50 | 4.40 |
| 7 | Crane | 1 | Forest | .70 | .30 | .06 | .04 | 4 | 11 | 6.30 | 4.00 |
| 8 | Kershaw | 1 | Grasses | .30 | .10 | .01 | .01 | 4 | 11 | 5.70 | 4.80 |
| | | 2 | Forest | .70 | .30 | .06 | .04 | 4 | 11 | 6.10 | 4.80 |
| 9 | Camp | 1 | Bare | 0 | 0 | 0 | 0 | 1 | 1 | 5.46 | 5.40 |
| | | 2 | Forest | .85 | .30 | .06 | .04 | 4 | 11 | 5.46 | 5.40 |
| | | 3 | Grasses | .30 | .10 | .06 | .04 | 4 | 11 | 6.00 | 5.40 |
| 10 | Hurricane | 1 | Grasses | .30 | .10 | 0 | 0 | 4 | 11 | 7.60 | 4.80 |
| | | 2 | Forest | .70 | .30 | .06 | .04 | 4 | 11 | 7.86 | 5.40 |

Table B-3.--Parameters and variables for daily runoff computations defined by calibration for each site (continued)

| Site number | Station | HRU number | REMX | SCN | SEP | RES | GW | GSNK | RCF | RCB |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Elkfoot | 1 | 2.50 | 0.0030 | .84 | 0.01 | 0.90 | 0 | 0.2800 | 0.1000 |
| 2 | Puncheon-camp | 1 | .75 | .0030 | .48 | .05 | .10 | 0 | .2720 | .0180 |
| 3 | Freemans | 1 | 2.77 | .0006 | .27 | .02 | .60 | .522 | .0429 | .0440 |
| | | 2 | 2.77 | .0006 | .25 | .02 | .60 | .522 | .0344 | .0440 |
| | | 3 | 2.77 | .0006 | .23 | .02 | .60 | .522 | .0290 | .0440 |
| 4 | Left Sandlick | 1 | 1.25 | .0076 | .33 | .01 | .22 | 0 | .1960 | .0236 |
| | | 2 | .50 | .0076 | .44 | .01 | .22 | 0 | .3920 | .0071 |
| 5 | Right Sandlick | 1 | 2.77 | .0009 | .71 | .01 | .40 | 1.00 | .2800 | (a) |
| 6 | Elkhorn | 1 | 1.10 | .0020 | .67 | .01 | .01 | .50 | .2300 | .0275 |
| | | 2 | 1.15 | .0020 | .42 | .01 | .01 | .50 | .1900 | .0275 |
| | | 3 | 1.18 | .0020 | .57 | .01 | .01 | .50 | .1400 | .0275 |
| 7 | Crane | 1 | 1.80 | .0012 | .13 | 0 | .10 | 0 | .3000 | .0011 |
| 8 | Kershaw | 1 | 1.75 | .0030 | .35 | .10 | .70 | 1.00 | .3000 | (a) |
| | | 2 | 1.75 | .0030 | .25 | .10 | .70 | 1.00 | .3000 | (a) |
| 9 | Camp | 1 | .10 | .0188 | .12 | .15 | .05 | 0. | .3520 | .0120 |
| | | 2 | 1.25 | .0188 | .03 | .15 | .05 | 0. | .1250 | .0400 |
| | | 3 | .50 | .0188 | .06 | .15 | .05 | 0. | .2500 | .0120 |
| 10 | Hurricane | 1 | 1.15 | .0011 | .25 | .05 | .10 | .008 | .3590 | .0200 |
| | | 2 | 1.75 | .0011 | .15 | .05 | .10 | .008 | .2470 | .0400 |

(a) RCB not used because no ground-water flow.

Note: RESMC = 0.0, REXP = 1.0, RSEP = 0.0, SNST = 0.01, TRNCF = 0.55, and RCP = 0.00 for all basins.

Table B-4.--Parameters for storm event computations defined by calibration of each site

[REMX, Maximum available water-holding capacity of soil recharge zone (inches)]

[KSAT, Hydraulic conductivity of transmission zone (inches per hour)]

[PSP, Combined effect of moisture deficit as indexed by RECHR and capillary potential (suction) at the wetting front for RECHR equal to field capacity, REMX (inches)]

[RGF, Ratio of combined effects of moisture deficit, as indexed by RECHR, and capillary potential (suction) at the wetting front for RECHR = 0 = wilting point, to the value associated with field capacity conditions, PSP]

[DRN, Drainage factor for redistribution of saturated moisture storage, SMS, to base (unsaturated) moisture storage, RECHR, as a fraction of hydraulic conductivity, KSAT]

| Site number | Station | HRU number | REMX | KSAT | PSP | RGF | DRN |
|---|---|---|---|---|---|---|---|
| 1 | Elkfoot | 1 | 2.50 | 0.95 | 0.43 | 12.0 | 1.00 |
| 2 | Puncheoncamp | 1 | .75 | 2.54 | .33 | 18.0 | 1.00 |
| 3 | Freemans | 1 | 2.77 | .36 | 1.50 | 25.8 | 1.00 |
| | | 2 | 2.77 | .36 | 1.50 | 25.8 | 1.00 |
| | | 3 | 2.77 | .50 | 1.50 | 28.9 | 1.00 |
| 4 | Left Sandlick | 1 | 1.25 | 2.75 | .55 | 22.5 | 1.00 |
| | | 2 | .50 | 2.25 | .55 | 18.0 | 1.00 |
| 5 | Right Sandlick | 1 | 2.77 | 3.75 | .65 | 25.0 | 1.00 |
| 6 | Elkhorn | 1 | 1.10 | 1.35 | .35 | 15.0 | 1.00 |
| | | 2 | 1.15 | 1.35 | .35 | 15.0 | 1.00 |
| | | 3 | 1.18 | 1.67 | .35 | 18.5 | 1.00 |
| 7 | Crane | 1 | 1.80 | 2.50 | .55 | 23.5 | 1.00 |
| 8 | Kershaw | 1 | 1.75 | 1.75 | .40 | 13.0 | 1.00 |
| | | 2 | 1.75 | 2.25 | .40 | 16.0 | 1.00 |
| 9 | Camp | 1 | .10 | .10 | .46 | 18.3 | 1.00 |
| | | 2 | 1.25 | .25 | .46 | 24.4 | 1.00 |
| | | 3 | .50 | .10 | .46 | 19.5 | 1.00 |
| 10 | Hurricane | 1 | 1.15 | .89 | .25 | 25.0 | 1.00 |
| | | 2 | 1.75 | 1.15 | .25 | 28.0 | 1.00 |

Table B-5.--Ranges of parameters used for overland and channel kinematic-wave routing

| Site number | Station | Overland flow | | | Channel | | |
|---|---|---|---|---|---|---|---|
| | | m | α min | α max | m | α min | α max |
| 1 | Elkfoot | 1.67 | 3.63 | 4.13 | 1.67 | 1.04 | 3.14 |
| 2 | Puncheoncamp | 1.67 | 8.43 | -- | 1.67 | 1.06 | 3.49 |
| 3 | Freemans | 1.67 | 2.72 | 2.94 | 1.67 | .50 | 1.62 |
| 4 | Left Sandlick | 1.67 | 2.63 | 2.72 | 1.67 | .62 | 1.59 |
| 5 | Right Sandlick | 1.67 | 2.72 | -- | 1.67 | .69 | 1.67 |
| 6 | Elkhorn | 1.67 | 2.41 | 5.88 | 1.67 | 1.39 | 2.76 |
| 7 | Crane | 1.67 | 1.88 | -- | 1.67 | .90 | 2.44 |
| 8 | Kershaw | 1.67 | 1.88 | 3.00 | 1.67 | .57 | 2.10 |
| 9 | Camp | 1.67 | 2.85 | 3.37 | 1.67 | 1.31 | 4.37 |
| 10 | Hurricane | 1.67 | 3.02 | 4.00 | 1.67 | .68 | 2.44 |