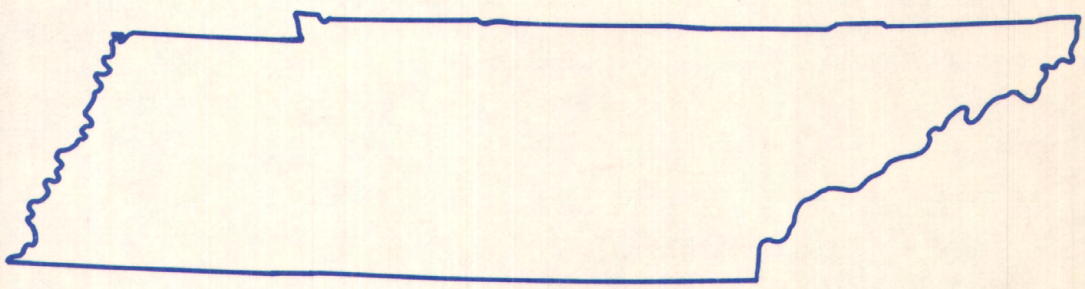
Water Resources Data Tennessee Water Year 1991



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TN–91–1
Prepared in cooperation with the State of Tennessee
and with other agencies

1990

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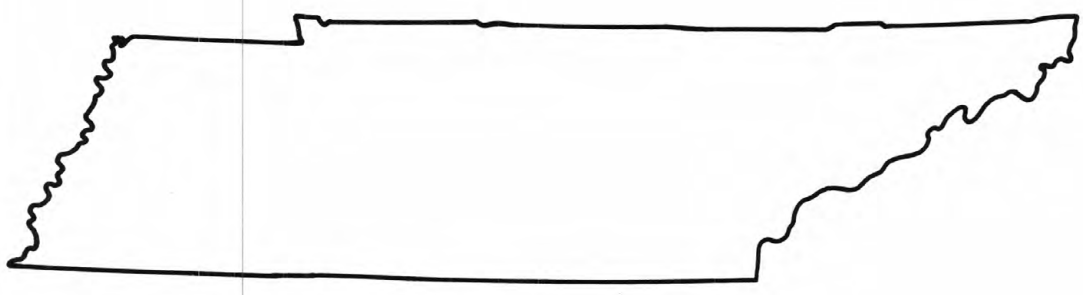
Water Resources Data
Tennessee
Water Year 1991

by L.R. Mercer, D.F. Flohr, P.H. Counts, F.D. Edwards,

and J.W. Garrett



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT TN-91-1
Prepared in cooperation with the State of Tennessee
and with other agencies

U.S. DEPARTMENT OF THE INTERIOR

MANUEL LUJAN, JR., SECRETARY

U.S. GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in Tennessee write to:
District Chief, Water Resources Division
U.S. Geological Survey
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Nashville, Tennessee 37203

1992

PREFACE

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

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. The authors had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines. Most of the data were collected, computed, and processed from the subdistrict offices under the supervision of the following subdistrict chiefs:

Jess D. Weaver, Knoxville
W. Harry Doyle, Jr., Memphis
Jerry F. Lowery, Nashville

The data were collected, computed, and processed by the following personnel:

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R.L. Kemp
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J.G. Lewis
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A.T. Oaks
R.A. Orr
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P. Powers
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This report was prepared in cooperation with the State of Tennessee and with other agencies under the general supervision of C.R. Gamble, Data Management Section Chief, and Ferdinand Quiñones, District Chief, Tennessee.

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15. Supplementary Notes

Prepared in cooperation with the Tennessee Department of Environment and Conservation; the Tennessee Valley Authority; and with other State, municipal, and Federal agencies.

16. Abstract (Limit: 200 words)

Water resources data for the 1991 water year for Tennessee consists of records of stage, discharge, and water quality of streams and springs; stage, contents, and water quality of lakes and reservoirs; water levels and water quality of wells; and quantity and quality of precipitation. This report contains discharge records for 93 gaging stations; stage only records for 7 gaging stations; elevation and contents for 27 lakes and reservoirs; water quality for 14 stations and 12 wells; water levels for 22 observation wells; and 1 precipitation station. Also included are 91 crest-stage partial-record stations. Additional water data were collected at various stream sites not involved in the systematic data collection program and are published as miscellaneous measurements and analyses. These data represent that part of the National Water Data System operated by the U.S. Geological Survey and cooperating State and Federal agencies in Tennessee.

17. Document Analysis a. Descriptors

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

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

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

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

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

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

QUALITY OF GROUND WATER, 1991 WATER YEAR

QUALITY OF PRECIPITATION

INTRODUCTION

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

This report consists of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality of ground-water wells. This volume contains discharge records for 93 gaging stations; stage only at 7 gaging stations; stage and contents at 27 lakes and reservoirs; water quality for 14 stations, and 12 wells; and water levels at 22 observation wells. Also included are data for 91 crest-stage partial-record stations. Locations of these sites are shown on figures 5 through 8. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements and miscellaneous analyses or as seepage investigations.

This series of annual reports for Tennessee began with the 1961 water year with a report that contained only data relating to the quantities of surface water. Water-quality records for water years 1964 through 1974 were similarly released either in separate reports or in conjunction with streamflow records. Beginning with the 1975 water year, the report format was changed to present, in one volume, data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to introduction of this series and for several years concurrent with it, water-resources data for Tennessee were published in U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States." For the 1961 through 1970 years, the data were published in two 5-year reports. Data on chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Water of the United States," and water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States and may be purchased from the Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225.

Publications similar to this report are published annually by the USGS for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report TN-91-1." For archiving and general distribution, the reports for the 1971-74 water years also are identified as water-data reports. These water-data reports are for sale in paper copy or in microfiche by the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc.

Additional information, including current prices, for ordering specific reports may be obtained from the District Chief at the address given on the back of the title page or by telephone (615) 736-5424. A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

COOPERATION

The USGS and agencies of the State of Tennessee have had cooperative agreements for the systematic collection of streamflow records since 1918, for ground-water levels since 1946, and for water-quality records since 1960. Organizations that assisted in collecting data contained in this report through cooperative agreement with the Survey are:

Tennessee Department of Environment and Conservation
Tennessee Department of Transportation
Tennessee Wildlife Resources Agency
City of Alcoa
City of Columbia
City of Dickson
City of Franklin
City of Lawrenceburg
City of Memphis
City of Murfreesboro
Town of Rogersville
City of Sevierville
City of Union City
Shelby County
Metropolitan Government of Nashville and Davidson County

Assistance in the form of funds or services was given by the Corps of Engineers, U.S. Army, Nashville District, in collecting records for 23 gaging stations and 4 water-quality stations and by the Tennessee Valley Authority for 18 gaging stations. All data are published in this report.

Organizations that supplied data are acknowledged in station descriptions.

SUMMARY OF HYDROLOGIC CONDITIONS

Surface Water

The State of Tennessee benefits from an abundance of streams, rivers, and lakes. The Tennessee and the Cumberland are the largest rivers in the State, excluding the Mississippi River which flows along Tennessee's western boundary. The main stems of the Tennessee and Cumberland are highly regulated with a complex system of dams used for navigation, flood control, recreation, and water-supply. Natural flow conditions occur only in tributaries to these rivers, or in other streams draining smaller basins throughout the State. Runoff data representing natural flow conditions are collected at sites such as the Harpeth River near Kingston Springs (USGS station 03434500) in the Cumberland River Basin; Emory River at Oakdale (03540500) and Buffalo River below Lobelville (03604400) in the Tennessee River Basin.

Runoff data from the gaging stations indicated above show that mean-monthly discharges during several months of the 1991 water year were greater than long-term mean runoff values for the same months (fig. 1). Also, the mean for the 1991 water year was greater than the 30-year base-period yearly mean at the three index stations. This indicates that runoff during the year was greater than normal.

A comparison of the mean discharges for the 1991 water year and the period of record at unregulated streams also can be used to measure hydrologic conditions. The data for 1991 show that mean discharges at unregulated streams ranged from 93 to 182 percent of the period-of-record mean. At gaging stations in the Cumberland and Tennessee River Basins, the mean annual flow was about 135 percent of the period-of-record mean, and about 164 percent for streams in West Tennessee.

The most significant flooding in Tennessee during the 1991 water year occurred on December 23, 1990. Severe floods occurred in parts of Middle and East Tennessee, with peaks discharges exceeding the 100-year recurrence interval, were recorded at Emory river at Oakdale (03540500) and Sequatchie River near Whitwell (03571000). At Collins River near McMinnville (03421000), the peak discharge during the same flood had a recurrence interval of 60 years.

Localized flooding of lesser magnitude occurred in the Duck River Basin (Middle Tennessee) in February and May 1991. A peak discharge of 49,400 cubic feet per second (ft^3/s) was recorded at Piney River at Vernon (03602500). This flood had a recurrence interval of about 100 years and was the maximum of record at the site since 1925.

Ground Water

Ground-water levels at key aquifers throughout Tennessee were normal or above normal during the 1991 water year. Ground-water levels are recorded continuously at a series of observation wells across the State (fig. 2). Record high levels were recorded during February and April 1991 at well Ld:F-4 (Lauderdale County); during December 1990 and February 1991 at well Hm:O-15 (Hamilton County); and during April 1991 at well Pm:C-1 (Putnam County).

Water levels recorded from wells throughout Middle and East Tennessee generally respond faster and exhibit larger fluctuations than wells drilled into the sand and gravel aquifers of West Tennessee. Observation wells in Shelby County show that ground water levels are strongly affected by ground water withdrawals by the City of Memphis and surrounding communities. At well Sh:Q-1 (fig. 3), near downtown Memphis, water levels declined steadily since 1972, although a more stable rate of decline began in 1988. The decline in ground water levels in the Memphis area are not indicative of a reduction in the available ground-water supplies, but the response of the aquifer to additional withdrawals. Hydrographs showing lowest daily water levels for each of the continuous recording observation wells are included in the body of this report.

Water Quality

Water-quality data were collected at 16 surface-water sites during the 1991 water year. Six of these sites are part of the U.S. Geological Survey's National Stream Quality Accounting Network (NASQAN), where chemical, physical, and bacteriological determinations are made quarterly or bimonthly. These six stations are located on the Cumberland, Holston, Clinch, Tennessee, Obion, and Hatchie Rivers. Data were also collected at two additional stations that are a part of the national Hydrologic Benchmark Network (HBN). Basins gaged as part of this network are relatively undisturbed by the activities of man. The HBN sites are located on the Buffalo and Little Rivers. Other surface-water quality activities in Tennessee included:

- Operation of three continuous monitors to measure temperature, dissolved oxygen, pH, and specific conductance in the Cumberland River Basin in support of the U.S. Army Corps of Engineers, Nashville District operations.

- Determination of water quality of Carter's Creek in Maury County in support of a water resources study in that area.

The data from these networks did not identify any significant water-quality problems. Sanitary conditions (bacteria concentrations) at the stations were generally within the maximum allowable standards for human contact and recreation. There were no indications of toxic organics or inorganic compounds.

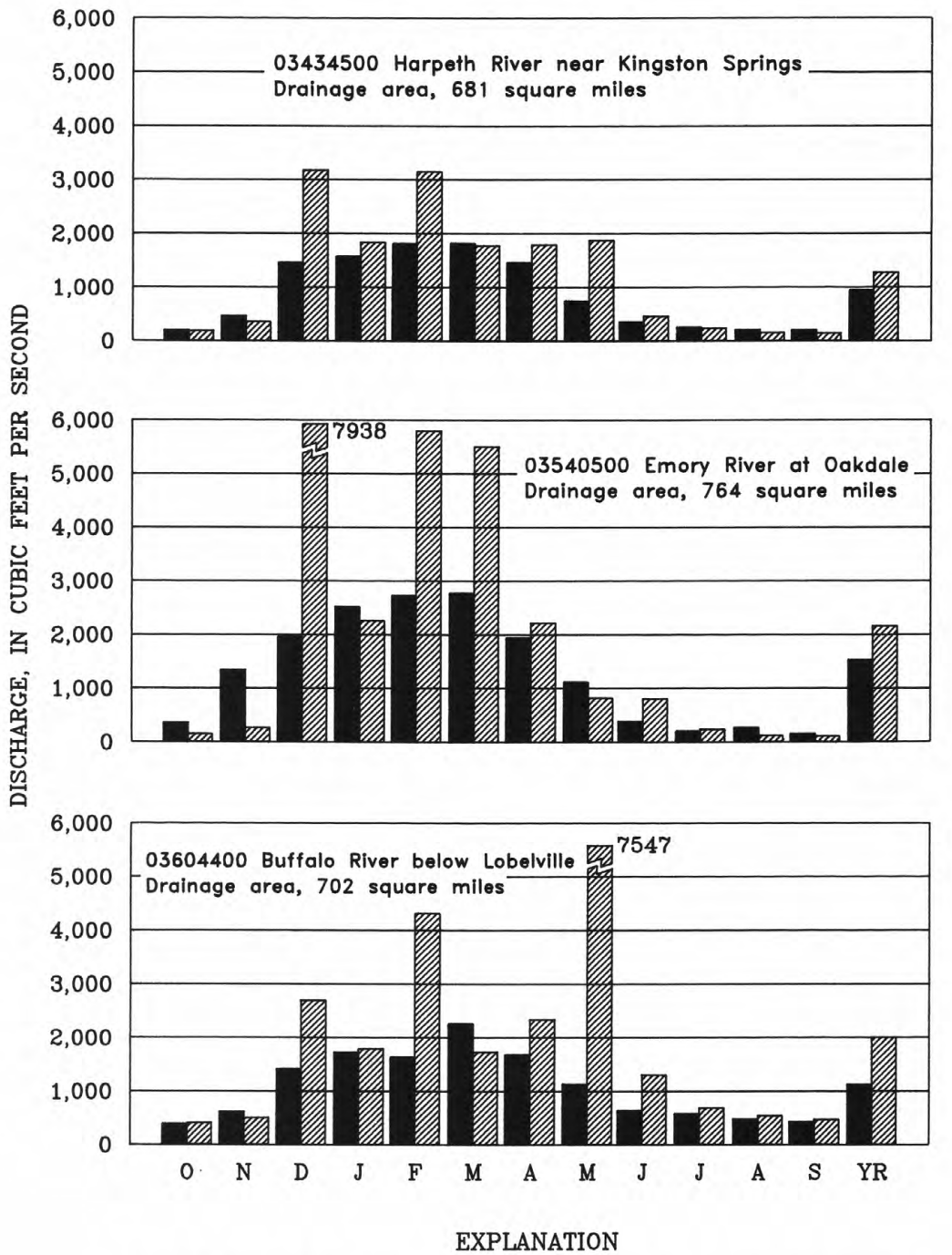

Figure 1.--Discharge for 1991 water year compared with median discharge for period 1961–90 at three representative gaging stations

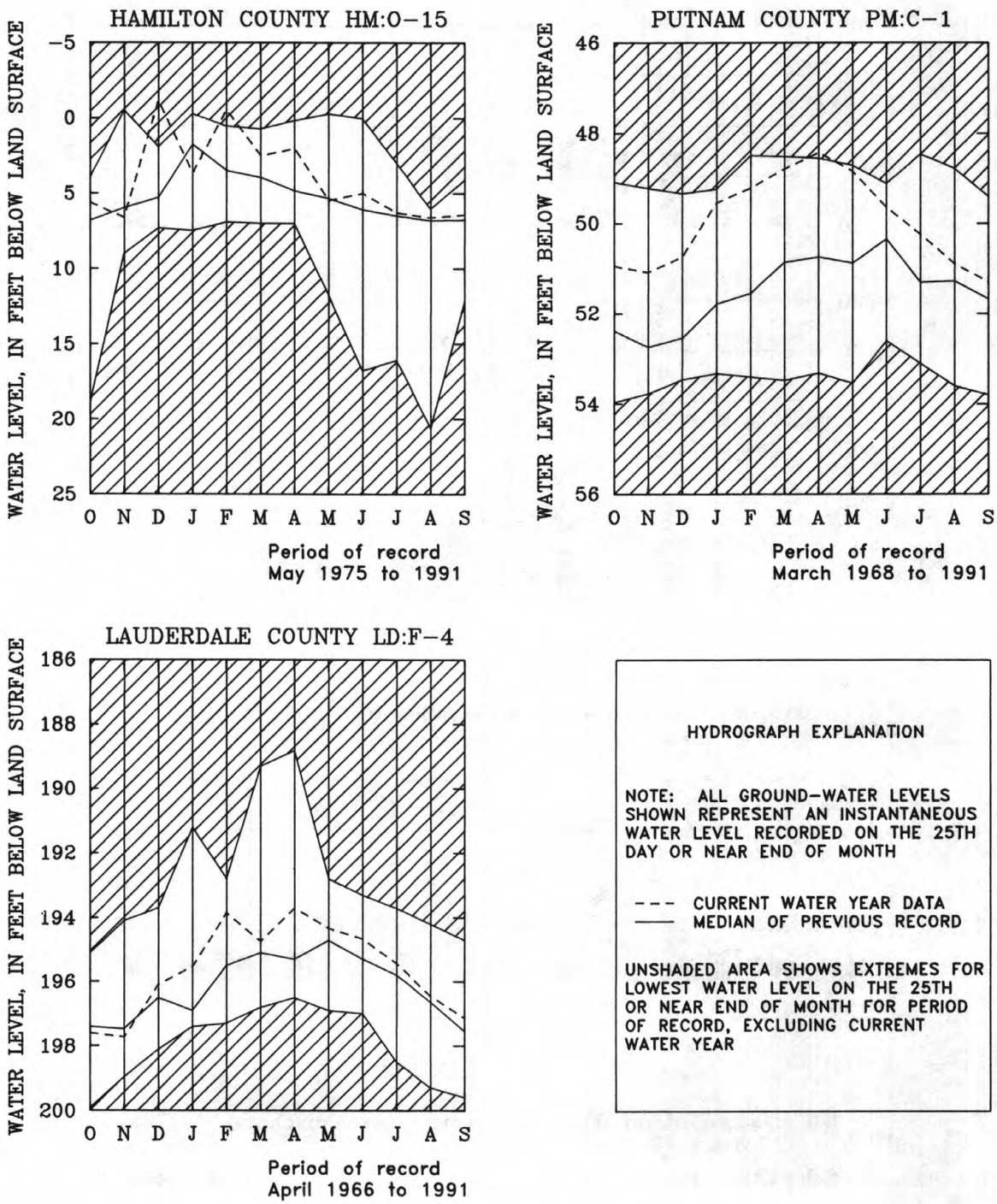

Figure 2.--Ground-water levels for the 1991 water year compared to the maximum, minimum, and median water levels for the period of record.

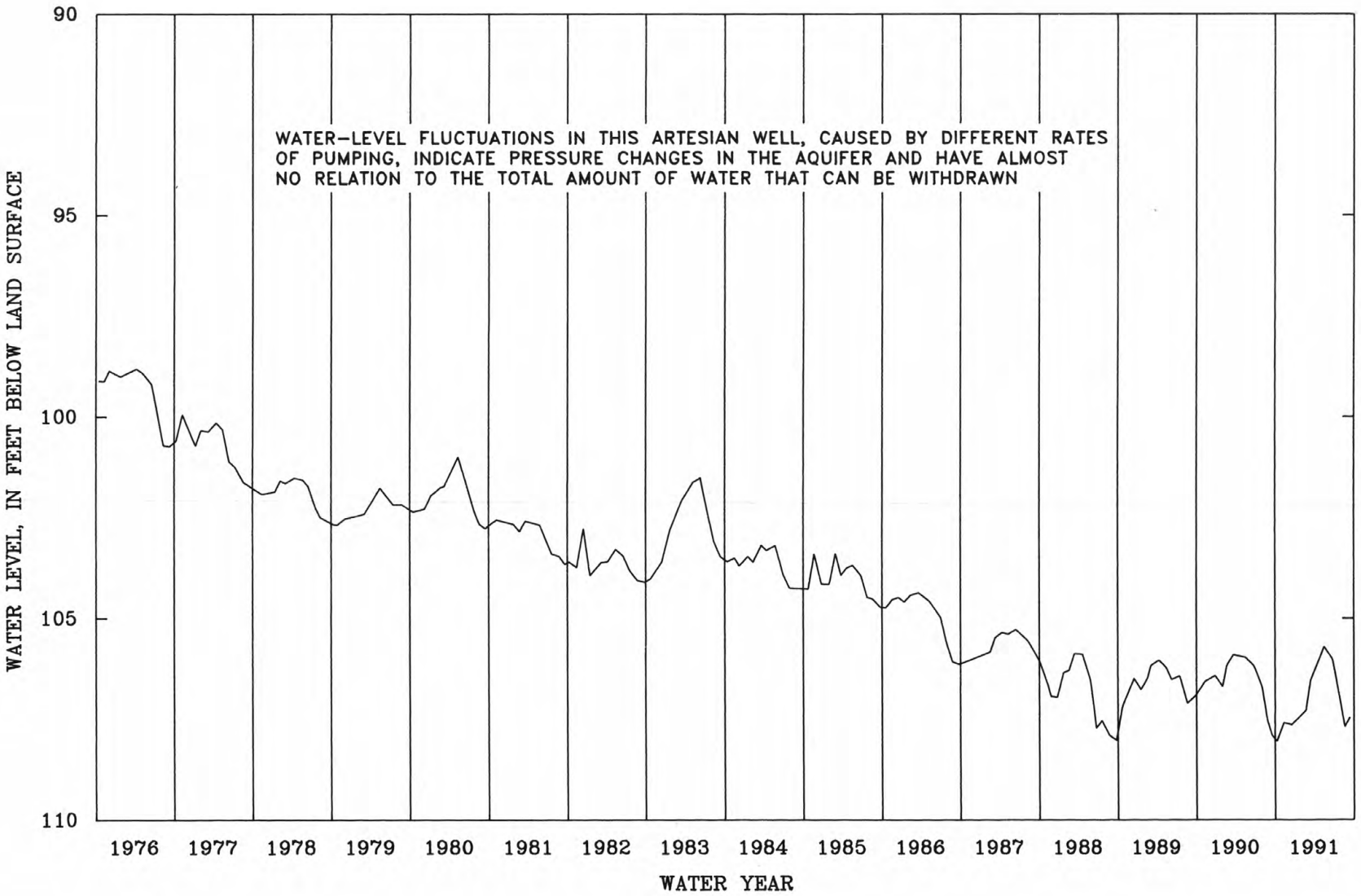

Figure 3.--Hydrograph of well SH:Q-1 in Shelby County showing long-term decline in the water level.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic bench-mark station is one that provides hydrologic data for a basin in which the hydrologic regimen will likely be governed solely by natural conditions. Data collected at a bench-mark station may be used to separate effects of natural from manmade changes in other basins which have been developed and in which the physiography, climate, and geology are similar to those in the undeveloped bench-mark basin.

National stream-quality accounting network (NASQAN) is a data collection network designed by the USGS to meet many of the information demands of agencies or groups involved in national or regional water-quality planning and management. Both accounting and broad-scale monitoring objectives have been incorporated into the network design. Areal configuration of the network is based on river-basin accounting units (identified by 8-digit hydrologic-unit numbers) designated by the Office of Water Data Coordination in consultation with the Water Resources Council. Primary objectives of the network are (1) to depict areal variability of streamflow and water-quality conditions nationwide on a year-by-year basis and (2) to detect and assess long-term changes in streamflow and stream quality.

Pesticide program is a network of regularly sampled water-quality stations where samples are collected to determine the concentration and distribution of pesticides in streams where potential contamination could result from the application of the commonly used insecticides and herbicides. Operation of the network is a Federal interagency activity.

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

EXPLANATION OF RECORDS

The surface-water and ground-water records published in this report are for the 1991 water year that began October 1, 1990, and ended September 30, 1991. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The locations of the stations and wells where the data were collected are shown in figures 5 through 8. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or well, in this report is assigned a unique identification number. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the USGS to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic location. The "downstream order" system is used for surface-water stations and the "latitude-longitude" system is used for wells.

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in Survey reports is in a downstream direction along the main stream. All stations on a tributary entering upstream from a mainstream station are listed before that station. A station on a tributary that enters between two mainstream stations is listed between them. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary with respect to the stream to which it is immediately tributary is indicated by an indention in the "List of Stations" in the front of this report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

Each hydrologic station and partial-record station has been assigned a station number. These are in the same downstream order used in this report. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete number for each station such as 03540500...., which appears just to the left of the station name, includes the 2-digit part number "03" plus the multi-digit downstream order number "540500...." This downstream numbering system is used in most cases; however, in some cases latitude and longitude numbers are assigned to hydrologic stations and partial-record stations as a means of identification (See Numbering System for Wells).

Numbering system for wells

Downstream order station numbers are not assigned to wells. The well numbering system of the USGS is based on the grid system of latitude and longitude. The system provides the geographic location of the well and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, the next 7 digits denote degrees, minutes, and seconds of longitude, and the last 2 digits (assigned sequentially) identify the wells within a 1-second grid.

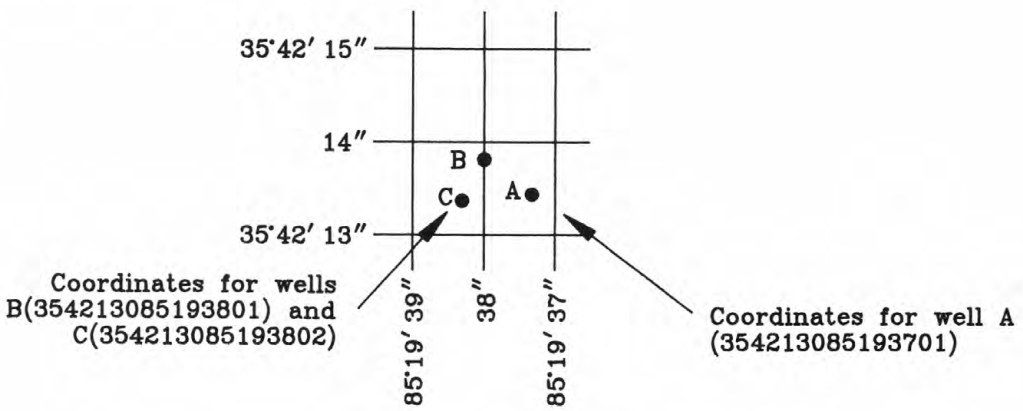

Figure 4.--System for numbering wells (latitude and longitude).

Records of Stage and Water Discharge

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

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

Data Collection and Computation

The data obtained at a complete-record gaging station on a stream consist of a continuous record of stage, individual measurements of discharge throughout a range of stages, and notations regarding factors that may affect the relation between stage and discharge. These data, together with supplemental information, such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relation between stage and lake content. These data are used with stage-area and stage-capacity curves or tables to compute water-surface areas and lake storage.

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

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

Daily mean discharges are computed from gage heights and rating tables. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features that form the control, the daily mean discharge is computed by the shifting-control method, in which correction factors based on individual discharge measurements and notes of the personnel making the measurements are used in applying the gage heights to the rating tables. The shifting-control method also is used if the stage-discharge relation is changed temporarily because of aquatic growth or debris on the control. For some stations, formation of ice in the winter may so obscure the stage-discharge relations that daily mean discharges must be estimated from other information such as temperature and precipitation records, notes of observations, and comparable records of discharge for other stations in the same or nearby basins.

At some stream-gaging stations, the stage-discharge relation is affected by backwater from reservoirs, tributary streams, or other sources. This necessitates the use of the slope method in which the slope or fall in a reach of the stream is a factor in computing discharge. The slope or fall is obtained by means of an auxiliary gage set at some distance from the base gage. At some stations the stage-discharge relation is affected by changing stage; at these stations the rate of change in stage is used as a factor in computing discharge.

For a lake or reservoir station, capacity tables giving the contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly change in contents is computed. If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys, the computed contents may be increasingly in error due to the gradual accumulation of sediment.

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

Data Presentation

Streamflow data in this report are presented in a new format that is considerably different from the format in data reports prior to the 1991 water year. The major changes are that statistical characteristics of discharge now appear in tabular summaries following the water-year data table and less information is provided in the text or station manuscript above the table. These changes represent the results of a pilot program to reformat the annual water-data report to meet current user needs and data preferences.

The records published for each continuous-record surface-water discharge station (gaging station) now consist of four parts, the manuscript or station description; the data table of daily mean values of discharge for the current water year with summary data; a tabular statistical summary of monthly mean flow data for a designated period, by water year; and a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

Station manuscript

The manuscript provides, under various headings, descriptive information, such as station location; period of record; historical extremes outside the period of record; record accuracy; and other remarks pertinent to station operation and regulation. The following information, as appropriate, is provided with each continuous record of discharge or lake content. Comments to follow clarify information presented under the various headings of the station description.

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileage is that determined and used by the USGS, Tennessee Valley Authority, U.S. Army Corps of Engineers, or other agencies using methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council.

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

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Previously published streamflow records of some stations have been found to be in error on the basis of data or information later obtained. Revisions of such records are usually published along with the current records in one of the annual reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given. It should be noted that for all stations for which cubic feet per second per square mile and runoff in inches are published, a revision of the drainage area necessitates corresponding revision of all figures based on the drainage area. Revised figures of cubic feet per second per square mile and runoff in inches resulting from a revision of the drainage area only are usually not published in the annual series of reports.

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

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

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

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

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

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

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

Headings for AVERAGE DISCHARGE, EXTREMES FOR PERIOD OF RECORD, AND EXTREMES FOR CURRENT YEAR have been deleted and the information contained in these paragraphs, except for the listing of secondary instantaneous peak discharges in the EXTREMES FOR CURRENT YEAR paragraph, is now presented in the tabular summaries following the discharge table or in the REMARKS paragraph, as appropriate. No changes have been made to the data presentations of lake contents.

Data table of daily mean values

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

Statistics of monthly mean data

A tabular summary of the mean (line headed "MEAN"), maximum (line headed "MAX"), and minimum line (line headed "MIN") of monthly mean flows for each month for a designated period is provided below the mean values table. The water years of the first occurrence of the maximum and minimum monthly flows are provided immediately below those figures. The designated period will be expressed as "FOR WATER YEARS ____-____, BY WATER YEAR (WY)," and will list the first and last water years of the range of years selected from the PERIOD OF RECORD paragraph in the station manuscript. It will consist of all of the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript.

Summary statistics

A table titled "SUMMARY STATISTICS" follows the statistics of monthly mean data tabulation. This table consists of four columns, with the first column containing the line headings of the statistics being reported. The table provides a statistical summary of yearly, daily, and instantaneous flows, not only for the current water year but also for the previous calendar water year and for a designated period, as appropriate. The designated period selected, "WATER YEARS ____-____," will consist of all the station record within the specified water years, inclusive, including complete months of record for partial water years, if any, and may coincide with the period of record for the station. The water years for which the statistics are computed will be consecutive, unless a break in the station record is indicated in the manuscript. All of the calculations for the statistical characteristics designated ANNUAL (See line headings below), except for the "ANNUAL 7-DAY MINIMUM" statistic, are calculated for the designated period using complete water years. The other statistical characteristics may be calculated using partial water years.

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in footnotes. When the designated period is not the same as the station period of record published in the manuscript, values and dates of occurrence for daily and instantaneous extremes outside the designated period will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration curve statistics and runoff data are also given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

The following summary statistics data, as appropriate, are provided with each continuous record of discharge. Comments to follow clarify information presented under the various line headings of the summary statistics table.

ANNUAL TOTAL.--The sum of the daily mean values of discharge for the year. At some stations the annual total discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnote.

ANNUAL MEAN.--The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes. At least 5 complete years of record must be available before this statistic is published for the designated period.

HIGHEST ANNUAL MEAN.--The maximum annual mean discharge occurring for the designated period.

LOWEST ANNUAL MEAN.--The minimum annual mean discharge occurring for the designated period.

HIGHEST DAILY MEAN.--The maximum daily mean discharge for the year or for the designated period.

LOWEST DAILY MEAN.--The minimum daily mean discharge for the year or for the designated period.

ANNUAL 7-DAY MINIMUM.--The lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1-March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

INSTANTANEOUS PEAK FLOW.--The maximum instantaneous discharge occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are stored in District computer files for stations meeting certain criteria. Those discharge values may be obtained by writing to the District Office. (See address on back of title page of this report.)

INSTANTANEOUS PEAK STAGE.--The maximum instantaneous stage occurring for the water year or for the designated period. If the dates of occurrence for the instantaneous peak flow and instantaneous peak stage differ, the REMARKS paragraph in the manuscript or a footnote may be used to provide further information.

INSTANTANEOUS LOW FLOW.--The minimum instantaneous discharge occurring for the water year or for the designated period.

ANNUAL RUNOFF (AC-FT).--Indicates the depth, in acre-feet, to which the drainage area would be covered if all the runoff for the year were uniformly distributed on it.

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

ANNUAL RUNOFF (INCHES).--Indicates the depth to which the drainage area would be covered if all the runoff for the year were uniformly distributed on it.

10 PERCENT EXCEEDS.--The discharge that is exceeded by 10 percent of the flow for the designated period.

50 PERCENT EXCEEDS.--The discharge that is exceeded by 50 percent of the flow for the designated period.

90 PERCENT EXCEEDS.--The discharge that is exceeded by 90 percent of the flow for the designated period.

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

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

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

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

Other Data Available

Records of discharge, not published by the USGS, are collected in Tennessee at several sites by the U.S. Army Corps of Engineers and Tennessee Valley Authority. the National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 22092, maintains an index of these sites as well as an index of records of discharge collected by other agencies but not published by the USGS. Information on records at specific sites can be obtained from that office upon request.

Information used in the preparation of the records in this publication, such as discharge-measurements notes, gage-height records, temperature measurements, and rating tables are on file in the Tennessee District office. Also, most of the daily mean discharges are in computer-readable form and have been analyzed statistically. Information on the availability of the unpublished information or on the results of statistical analyses of the published records may be obtained from the District office.

Records of Surface-Water Quality

Records of surface-water quality ordinarily are collected at or near stream-gaging stations. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of Records

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

Arrangement of Records

Water-quality records collected at a surface-water daily record station are published immediately following that record, regardless of the frequency of sample collection. Station number and name are the same for both records. Where a surface-water daily record station is not available or where the water quality differs significantly from that at the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-Site Measurements and Sample Collection

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

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

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

Traditionally, dissolved trace-element concentrations have been reported at the microgram per liter (μg/L) level. Recent evidence, mostly from large rivers, indicates that actual dissolved-phase concentrations for a number of trace elements are within the range of 10's to 100's of nanograms per liter (ng/L). Present data above the μg/L level should be viewed with caution. Such data may actually represent elevated environmental concentrations from natural or human causes; however, these data could reflect contamination introduced during sampling, processing, or analysis. To confidently produce dissolved trace-element data with insignificant contamination, the USGS will begin using new trace-element protocols in the near future.

For chemical-quality stations equipped with digital monitors, the records consist of daily maximum, minimum, and mean values for each constituent measured and are based upon hourly punches beginning at 0100 hours and ending at 2400 hours for the day of record. More detailed records (hourly values) may be obtained from the USGS District Office whose address is given on the back of the title page of this report.

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are taken at time of discharge measurements for water-discharge stations. For stations where water temperatures are taken manually once or twice daily, the water temperatures are taken at about the same time each day. Large streams have a small diurnal temperature change; shallow streams may have a daily range of several degrees and may follow closely the changes in air temperature. Some streams may be affected by waste-heat discharges.

At stations where recording instruments are used, maximum, minimum, and mean temperatures for each day are published. Water temperatures measured at the time of water-discharge measurements are on file in the District office and are also published in this report.

Sediment

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

During periods of rapidly changing flow or rapidly changing concentration, samples may have been collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs from the value computed as the product of discharge times mean concentration times 0.0027, the reader can assume that the sediment discharge for that day was computed by the subdivided-day method. For periods when no samples were collected, daily loads of suspended sediment were estimated on the basis of water discharge, sediment concentrations observed immediately before and after the periods, and suspended-sediment loads for other periods of similar water discharge.

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

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

Laboratory Measurements

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

Data Presentation

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

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

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

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

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

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

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

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

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

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the USGS's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Users of USGS water-quality data should be aware of this update procedure because corrections are not documented in the State data-report series.

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

Remark Codes

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

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

Records of Ground-Water Levels

Only ground-water level data from a basic network of observation wells are published herein. This basic network contains observation wells so located that the most significant data are obtained from the fewest wells in the most important aquifers.

Data Collection and Computation

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

Tables of water-level data are presented by counties arranged in alphabetical order. Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is provided for local needs.

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

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

Data Presentation

Each well record consists of three parts, the station description, the data table of water levels observed during the current water year, and a graph of the water levels for the current water year or other selected period. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings of the well description.

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

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

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

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

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

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

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

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

A table of water levels follows the station description for each well. Water levels are reported in feet below land-surface datum and all taped measurements of water level are listed. For wells equipped with recorders, only abbreviated tables are published; generally, only water-level lows are listed for every fifth day and at the end of the month (eom). The highest and lowest water levels of the water year and their dates of occurrence are shown on a line below the abbreviated table. Because all values are not published for wells with recorders, the extremes may be values that are not listed in the table. Missing records are indicated by dashes in place of the water level. A hydrograph for a selected period of record follows each water-level table.

Records of Ground-Water Quality

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

Data Collection and Computation

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

Most methods for collecting and analyzing water samples are described in the "U.S. Geological Survey Techniques of Water-Resources Investigations" manuals listed on a following page. The values reported in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. The wells sampled were pumped long enough to assure that the water collected came directly from the aquifer and had not stood in the well casing where it would have been exposed to the atmosphere and to the material comprising the casings.

Data Presentation

The records of ground-water quality are published in a section titled QUALITY OF GROUND WATER immediately following the ground-water-level records. Data for quality of ground water are listed alphabetically by County and are identified by well number. The prime identification number for wells sampled is the 15-digit number derived from the latitude-longitude locations. No descriptive statements are given for ground-water-quality records; however, the well number, depth of well, date of sampling, and other pertinent data are given in the table containing the chemical analyses of the ground water. The REMARK codes listed for surface-water-quality records are also applicable to ground-water-quality records.

EXPLANATION OF PRECIPITATION-QUALITY RECORDS

Collection of the Data

The precipitation-quality records in this report are for one site operated by the USGS in the National Trends Network. Field measurements of pH and specific conductance of weekly composite precipitation samples and daily precipitation quantity are made. Other chemical analyses for all National Trends Network sites are performed by the Central Analytical Laboratory of the Illinois Water Survey. A numerical agency code (17003) has been assigned to the Illinois Water-Survey for data storage purposes.

ACCESS TO WATSTORE DATA

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

* Station Header File - Contains descriptive information on more than 440,000 sites throughout the United States and its territories where the USGS collects or has collected data.

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

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

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

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

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

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

In addition to providing direct access to WATSTORE, data can be provided in various machine-readable formats on magnetic tape or 5¼ inch floppy disk; and, as noted in the introduction, on CD-ROM discs. Beginning with the 1990 water year, all water-data reports will also be available on Compact Disc - Read Only Memory (CD-ROM). All data reports published for the current water year for the entire Nation, including Puerto Rico and the Trust Territories, will be reproduced on a single CD-ROM disc. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division's District offices. (See address on the back of the title page.) A limited number of CD-ROM discs will be available for sale by the Books and Open-File Reports Section, U.S. Geological Survey, Federal Center, Box 25425, Denver, Colorado 80225.

DEFINITION OF TERMS

Terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. See also table for converting English units to International System (SI) Units on the inside of the back cover.

Acre-foot (AC-FT, acre-ft) is the quantity of water required to cover 1 acre to a depth of 1 foot and is equivalent to 43,560 cubic feet or about 326,000 gallons or 1,233 cubic meters.

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

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

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

Fecal coliform bacteria are bacteria that are present in the intestines or feces of warm-blooded animals. They are often used as indicators of the sanitary quality of the water. In the laboratory they are defined as all organisms which produce blue colonies within 24 hours when incubated at 44.5 °C ± 0.2 °C on M-FC medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

Bottom material in tables of data, refers to the chemical analysis of unconsolidated matter described as bed material and specifically includes anthropogenic matter in addition to natural solid material.

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

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

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

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

Cubic feet per second per square mile [$(ft^3/s)/mi^2$] (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming that the runoff is distributed uniformly in time and area.

Cubic foot per second (ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point during 1 second and is equivalent to approximately 7.48 gallons per second or 448.8 gallons per minute or 0.02832 cubic meters per second.

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

Discharge is the volume of water (or more broadly, volume of fluid plus suspended sediment) that passes a given point within a given period of time.

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

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

Annual 7-day minimum is the lowest mean discharge for 7 consecutive days for a calendar year or a water year. Note that most low-flow frequency analyses of annual 7-day minimum flows use a climatic year (April 1 - March 31). The date shown in the summary statistics table is the initial date of the 7-day period. (This value should not be confused with the 7-day 10-year low-flow statistic.)

Dissolved is that material in a representative water sample which passes through a 0.45-micrometer membrane filter. This is a convenient operational definition used by Federal agencies that collect water data. Determinations of "dissolved" constituents are made on subsamples of the filtrate.

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

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

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

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

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

Hardness of water is a physical-chemical characteristic that is commonly recognized by the increased quantity of soap required to produce lather. It is attributable to the presence of alkaline earths (principally calcium and magnesium) and is expressed as equivalent calcium carbonate ($CaCO_3$).

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an eight-digit number.

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

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

Micrograms per gram ($\mu g/g$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent sorbed per unit mass (gram) of sediment.

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

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

National Geodetic Vertical Datum of 1929 (NGVD) is a geodetic datum derived from a general adjustment of the first order level nets of both the United States and Canada. It was formerly called "Sea Level Datum of 1929" or "mean sea level" in this series of reports. Although the datum was derived from the average sea level over a period of many years at 26 tide stations along the Atlantic, Gulf of Mexico, and Pacific Coasts, it does not necessarily represent local mean sea level at any particular place.

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

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

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

Partial-record station is a particular site where limited streamflow and/or water-quality data are collected systematically over a period of years for use in hydrologic analyses.

Particle size is the diameter, in millimeters (mm), of suspended sediment or bed material determined by either sieve or sedimentation methods. Sedimentation methods (pipet, bottom-withdrawal tube, visual- accumulation tube) determine fall diameter of particles in either distilled water (chemically dispersed) or in native water (the river water at the time and point of sampling).

Particle-size classification used in this report agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

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

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

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

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides. Insecticides and herbicides, which control insects and plants respectively, are the two categories reported.

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

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

Radiochemical program is a network of regularly sampled water-quality stations where samples are collected to be analyzed for radioisotopes. The streams that are sampled represent major drainage basins in the conterminous United States.

Recoverable from bottom material is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and thus the determination represents less than the total amount (that is, less than 95 percent) of the constituent in the sample. To achieve comparability of analytical data, equivalent digestion procedures would be required of all laboratories performing such analyses because different digestion procedures are likely to produce different analytical results.

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

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

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

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

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

Suspended-sediment load is the quantity of suspended sediment passing a section in a specified period.

Total sediment discharge (tons/day) is the total quantity of sediment (suspended-sediment and bed-load) as measured by dry weight or volume, that passes a section during a specified period.

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

Solute is any substance that is dissolved in water.

Specific conductance is a measure of the ability of a water to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific conductance is related to the type and concentration of ions in solution and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is about 65 percent of the specific conductance (in microsiemens). This relation is not constant from stream to stream, and it may vary in the same source with changes in the composition of the water.

Stage-discharge relation is the relation between gage height (stage) and the volume of water per unit of time, flowing in a channel.

Streamflow is the discharge that occurs in a natural channel. Although the term "discharge" can be applied to the flow of a canal, the word "streamflow" uniquely describes the discharge in a surface stream course. The term "streamflow" is more general than "runoff" as streamflow may be applied to discharge whether or not it is affected by diversion or regulation.

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

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

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

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

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

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

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

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

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

Total in bottom material is the total amount of a given constituent in a representative sample of bottom material. This term is used only when the analytical procedure assures measurement of at least 95 percent of the constituent determined. A knowledge of the expected form of the constituent in the sample, as well as the analytical methodology used, is required to judge when the results should be reported as "total in bottom material."

Total load is the quantity of any individual constituent, as measured by dry mass or volume that passes through a section during a specified period. It is computed by multiplying the total stream discharge, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

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

Water year in USGS reports dealing with surface-water supply is the 12-month period, October 1 through September 30. The water year is designated by the calendar year in which it ends and which includes 9 of the 12 months. Thus, the year ending September 30, 1980, is called the "1980 water year."

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

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

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1976.

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

Cumberland River Basin

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5	03416000	WOLF RIVER NEAR BYRDSTOWN	31
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28	03427690	BUSHMAN CREEK AT PITTS LANE FORD NEAR COMPTON	59-61
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35	03431040	SEVENMILE CREEK AT BLACKMAN ROAD	204
36	03431060	MILL CREEK AT THOMPSON LANE NEAR WOODBINE	204
37	03431062	MILL CREEK TRIB AT GLENROSE AVENUE AT WOODBINE	205
38	03431120	WEST FORK BROWNS CREEK AT GENERAL BATES DRIVE AT NASHVILLE	205
39	03431240	EAST FORK BROWNS CREEK AT BAIRD-WARD PRINTING COMPANY AT NASHVILLE	205
40	03431340	BROWNS CREEK AT FACTORY STREET AT NASHVILLE	205
41	03431490	PAGES BRANCH AT AVONDALE	205
42	03431500	CUMBERLAND RIVER AT NASHVILLE	74-75
43	03431550	EARTHMAN FORK AT WHITES CREEK	206
44	03431573	EWING CREEK AT RICHMOND HILL DRIVE AT PARKWOOD	206
45	03431575	EWING CREEK AT BRICK CHURCH PIKE AT PARKWOOD	206
46	03431578	EWING CREEK AT GWYNWOOD DRIVE NEAR JORDONIA	206
47	03431581	EWING CREEK BELOW KNIGHT ROAD NEAR BORDEAUX	206
48	03431677	SUGARTREE CREEK AT YMCA ACCESS ROAD AT GREEN HILLS	206
49	03431679	SUGARTREE CREEK AT ABBOTT MARTIN ROAD AT GREEN HILLS	207
50	03431795	BEDNIGO BRANCH TRIB AT CHESTNUT GROVE	207
51	03431800	SYCAMORE CREEK NEAR ASHLAND CITY	76
52	03432350	HARPETH RIVER AT FRANKLIN	77
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54	03432470	MURFREES FORK ABOVE BURWOOD	207
55	03432925	LITTLE HARPETH RIVER AT GRANNY WHITE PIKE	207
56	03433500	HARPETH RIVER AT BELLEVUE	79
57	03434500	HARPETH RIVER NEAR KINGSTON SPRINGS	80
58	03434590	JONES CREEK NEAR BURNS	207
59	03434616	HALL BRANCH NEAR CHARLOTTE	207
60	03435000	CUMBERLAND RIVER BELOW CHEATHAM DAM	81
61	034350021	BARTONS CREEK NEAR CUMBERLAND FURNACE	207
62	0343500213	BARTONS CREEK TRIB NEAR STAYTON	208
63	034351113	HONEY RUN CREEK BELOW CROSS PLAINS	208
64	03435770	SULPHUR FORK RED RIVER ABOVE SPRINGFIELD	208
65	03435930	SPRING CREEK TRIB NEAR CEDAR HILL	208
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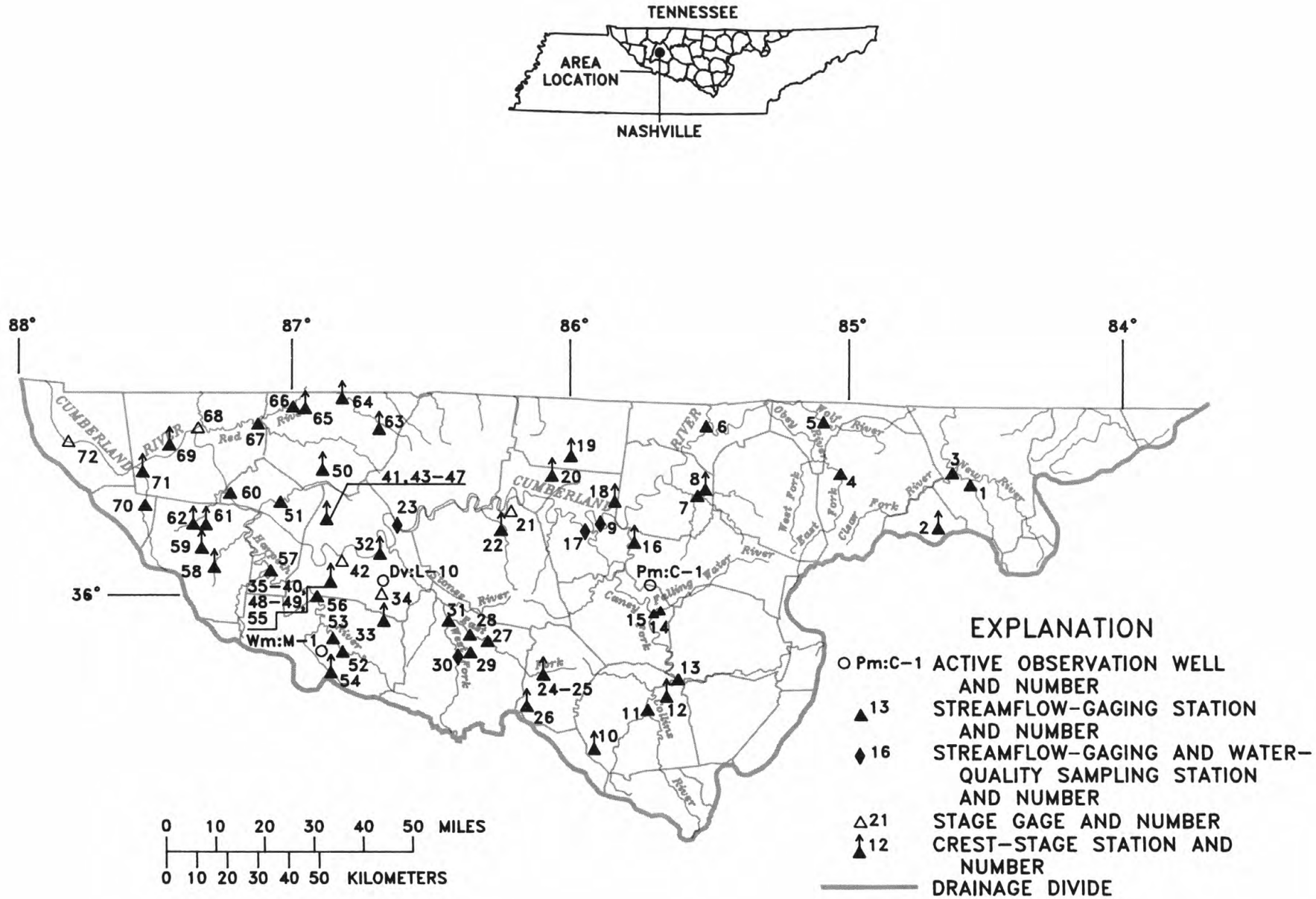

Figure 5.--Location of gaging sites in the Cumberland River basin.

03408500 NEW RIVER AT NEW RIVER, TN

LOCATION.--Lat 36°23'08", long 84°33'17", Scott County, Hydrologic Unit 05130104, on left bank at town of New River, 700 ft downstream from Phillips Creek, 1,000 ft downstream from bridge on U.S. Highway 27, 1.7 mi downstream from Brimstone Creek, and at mile 8.6.
DRAINAGE AREA.--382 mi².
PERIOD OF RECORD.--August 1934 to current year. Gage-height records collected in this vicinity 1908-52 are contained in reports of U.S. Weather Bureau.
REVISED RECORDS.--WSP 1436: Drainage area. WDR TN-73: 1939(M), 1951(M), 1970(M).
GAGE.--Water-stage recorder. Datum of gage is 1,092.67 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records good, except for periods of estimated record, which are fair. Highest daily mean and instantaneous peak flows from rating curve extended above 27,000 ft³/s on basis of slope-area and contracted-opening measurements of peak flow. Maximum stage from high-water mark in gage well. Minimum discharge also occurred Aug. 13-15, 1944. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 23, 1929, reached a stage of 41.2 ft, discharge, 74,700 ft³/s, estimated, based on field survey at old U.S. Weather Bureau gage, 1,200 ft upstream at datum 3.41 ft higher.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	52	199	2540	900	486	1730	317	326	240	51	e50
2	14	47	165	1580	768	1090	1250	272	363	218	49	e45
3	12	42	2730	1130	658	3510	967	238	260	510	39	e40
4	35	41	6460	859	568	5880	783	214	273	326	40	e35
5	83	45	1440	701	499	2400	688	210	243	362	211	e30
6	97	60	792	601	695	1680	625	259	170	295	89	e35
7	54	114	525	5580	943	1590	518	240	131	e180	62	e40
8	46	82	369	4070	900	1240	473	186	111	e150	58	e35
9	65	75	281	2020	807	1000	523	168	95	e200	70	e30
10	82	220	232	1380	716	823	1180	164	85	e300	139	e26
11	55	460	200	1530	609	679	872	153	75	e250	e100	23
12	54	264	175	1620	503	597	667	385	412	e220	e90	20
13	53	187	160	1360	590	896	810	299	1300	e190	e75	18
14	50	144	160	1080	6500	1200	1010	267	454	e160	e60	17
15	45	118	170	892	2760	1050	3570	200	312	e120	e50	16
16	37	101	190	923	1510	886	2660	160	286	e100	e60	18
17	33	93	389	856	1370	786	1580	154	465	e90	e70	17
18	43	88	2400	746	16900	1980	1120	161	1860	e80	e60	17
19	236	82	4500	681	19200	1840	1150	743	623	e120	e50	20
20	135	77	2010	722	14800	1320	1720	1830	347	e110	e45	18
21	88	71	3570	701	3650	1030	1130	874	516	e100	e40	22
22	158	66	7620	610	2090	1120	902	515	768	e90	e35	32
23	559	71	38000	560	1450	16900	730	329	2160	e80	e30	25
24	341	85	6980	529	1090	4030	591	264	1220	e70	e25	43
25	192	93	2300	466	908	1950	466	223	1120	158	e20	130
26	137	81	1450	404	748	1340	392	171	1220	190	e20	181
27	105	73	1180	379	617	1030	343	143	865	109	e18	109
28	85	89	7620	406	527	1220	346	1360	581	107	29	69
29	73	248	3980	378	---	9500	332	1250	491	86	e40	48
30	64	268	2680	397	---	7640	425	573	317	70	e70	37
31	56	---	5190	1010	---	2810	---	352	---	60	e60	---
TOTAL	3102	3537	104117	36711	83276	79503	29553	12674	17449	5341	1855	1246
MEAN	100	118	3359	1184	2974	2565	985	409	582	172	59.8	41.5
MAX	559	460	38000	5580	19200	16900	3570	1830	2160	510	211	181
MIN	12	41	160	378	499	486	332	143	75	60	18	16
CFSM	.26	.31	8.79	3.10	7.79	6.71	2.58	1.07	1.52	.45	.16	.11
IN.	.30	.34	10.14	3.57	8.11	7.74	2.88	1.23	1.70	.52	.18	.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1991, BY WATER YEAR (WY)

MEAN	148	524	1078	1414	1515	1553	1086	694	344	272	165	135
MAX	1035	2683	3359	4206	3891	4371	2564	3095	2850	1986	1159	1235
(WY)	1990	1958	1991	1937	1939	1975	1977	1973	1989	1967	1942	1989
MIN	.64	2.35	43.9	42.1	112	530	216	60.6	4.54	3.99	5.71	2.68
(WY)	1953	1940	1966	1981	1941	1985	1942	1936	1936	1944	1936	1953

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1934 - 1991	
ANNUAL TOTAL	298396		378364			
ANNUAL MEAN	818		1037		741	
HIGHEST ANNUAL MEAN					1350	1973
LOWEST ANNUAL MEAN					341	1988
HIGHEST DAILY MEAN	*38000	Dec 23	*38000	Dec 23	*38000	Dec 23 1990
LOWEST DAILY MEAN	12	Oct 3	12	Oct 3	.10	Aug 9 1944
ANNUAL SEVEN-DAY MINIMUM	18	Sep 27	18	Sep 12	.10	Aug 9 1944
INSTANTANEOUS PEAK FLOW			*46800	Dec 23	*63700	May 27 1973
INSTANTANEOUS PEAK STAGE			32.14	Dec 23	*37.91	May 27 1973
INSTANTANEOUS LOW FLOW			11	Oct 3	*.00	Aug 12 1944
ANNUAL RUNOFF (CFSM)	2.14		2.71		1.94	
ANNUAL RUNOFF (INCHES)	29.06		36.85		26.35	
10 PERCENT EXCEEDS	1840		1990		1670	
50 PERCENT EXCEEDS	263		281		260	
90 PERCENT EXCEEDS	34		40		18	

e Estimated.
* See REMARKS.

03409500 CLEAR FORK NEAR ROBBINS, TN

LOCATION.--Lat 36°23'18", long 84°37'49", Scott County, Hydrologic Unit 05130104, on right bank 300 ft downstream from Burnt Mill Bridge, 3.3 mi northwest of Robbins, and at mile 3.7.
DRAINAGE AREA.--272 mi².
PERIOD OF RECORD.--October 1930 to September 1971, July 1975 to current year. Published as Clear Fork River near Robbins, October 1951 to September 1954.
REVISED RECORDS.--WSP 1306: 1931(M), 1936-37(M), 1943-44(M). WSP 1436: Drainage area. WSP 1910: 1935(M).
GAGE.--Water-stage recorder. Datum of gage is 1,081.46 ft, Sandy Hook datum. Prior to Aug. 10, 1940, nonrecording gage at site 300 ft upstream at datum 1.00 ft higher.
REMARKS.--No estimated daily discharges. Records good. Highest daily mean and instantaneous peak flows from rating curve extended above 14,000 ft³/s on basis of slope-area measurement of peak flow. Maximum stage from flood marks, site and datum then in use. Minimum flow for current year also occurred on Oct. 4. Minimum flow for period of record, minimum observed, also occurred on Sept. 20 and 21, 1932. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 23, 1929 reached a stage of 22.1 ft, former site and datum, from information by local residents, and flood of May 27, 1973, reached a stage of 18.92 ft, present site and datum, from floodmark; discharge 35,700 ft³/s, from rating curve extended above 14,000 ft³/s, on basis of slope-area measurement at gage height 18.5 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.9	38	143	1950	381	358	1440	161	167	156	44	21
2	7.3	35	122	1220	342	838	976	140	121	116	36	20
3	6.8	32	1940	870	316	1920	737	122	90	93	30	17
4	15	30	4200	671	290	3880	580	110	73	100	26	14
5	26	30	1310	548	269	1880	488	109	59	162	26	12
6	33	31	657	473	398	1210	422	166	48	132	26	14
7	29	31	430	2560	678	1060	357	170	40	91	25	19
8	25	40	308	3110	613	798	458	133	35	73	21	16
9	21	46	234	1620	527	638	456	114	31	134	20	16
10	22	286	188	1080	452	524	415	111	28	158	20	13
11	25	426	162	1550	382	438	342	107	25	123	22	11
12	27	231	143	1450	319	392	293	219	162	115	19	9.7
13	27	156	130	1090	370	643	365	1000	458	90	18	8.8
14	27	120	130	830	2500	787	462	668	338	74	18	8.3
15	34	100	146	673	1810	664	1840	394	413	65	16	8.5
16	28	84	187	616	1050	551	1840	270	221	48	19	9.7
17	24	76	279	578	964	480	1010	204	159	39	30	23
18	30	69	898	477	13300	1340	713	170	162	34	31	20
19	36	66	2260	428	15900	1270	632	512	140	63	24	15
20	40	62	1340	451	9900	884	843	2080	114	55	22	13
21	32	56	4190	466	3030	689	641	1690	128	56	21	11
22	112	52	9170	411	1670	768	532	835	260	45	19	9.4
23	549	54	24800	366	1120	10800	441	512	495	34	16	8.2
24	265	72	5720	343	825	4110	360	356	576	32	14	12
25	144	88	1990	308	664	1650	289	253	608	54	12	34
26	103	76	1200	274	552	1050	248	188	419	500	11	76
27	80	66	949	258	465	779	221	149	287	262	11	64
28	66	70	5100	263	394	689	204	147	208	157	12	45
29	54	150	3000	259	---	6140	195	177	242	104	16	33
30	46	177	1840	249	---	6280	180	136	234	76	37	26
31	41	---	3410	416	---	2540	---	138	---	58	31	---
TOTAL	1983.0	2850	76576	25858	59481	56050	17980	11541	6341	3299	693	607.6
MEAN	64.0	95.0	2470	834	2124	1808	599	372	211	106	22.4	20.3
MAX	549	426	24800	3110	15900	10800	1840	2080	608	500	44	76
MIN	6.8	30	122	249	269	358	180	107	25	32	11	8.2
CFSM	.24	.35	9.08	3.07	7.81	6.65	2.20	1.37	.78	.39	.08	.07
IN.	.27	.39	10.47	3.54	8.13	7.67	2.46	1.58	.87	.45	.09	.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1991, BY WATER YEAR (WY)

MEAN	96.7	306	661	908	1043	1007	726	461	209	159	101	99.7
MAX	747	1303	2470	3418	2794	2757	1968	2043	1742	1122	940	974
(WY)	1990	1958	1991	1937	1939	1963	1977	1984	1989	1967	1971	1982
MIN	1.84	4.97	28.6	32.4	141	333	152	64.1	8.29	6.40	8.07	2.92
(WY)	1954	1954	1964	1981	1941	1969	1942	1948	1988	1944	1987	1953

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1931 - 1991	
ANNUAL TOTAL	201369.4		263259.6			
ANNUAL MEAN	552		721		479	
HIGHEST ANNUAL MEAN					864	1989
LOWEST ANNUAL MEAN					215	1931
HIGHEST DAILY MEAN	*24800	Dec 23	*24800	Dec 23	*24800	Dec 23 1990
LOWEST DAILY MEAN	6.0	Jul 11	6.8	Oct 3	.20	Sep 20 1932
ANNUAL SEVEN-DAY MINIMUM	7.1	Jul 6	9.9	Sep 10	.51	Sep 15 1932
INSTANTANEOUS PEAK FLOW			*30200	Dec 23	*34000	Feb 3 1939
INSTANTANEOUS PEAK STAGE			17.58	Dec 23	18.50	Feb 3 1939
INSTANTANEOUS LOW FLOW			*6.5	Oct 3	*.20	Sep 19 1932
ANNUAL RUNOFF (CFSM)	2.03		2.65		1.76	
ANNUAL RUNOFF (INCHES)	27.54		36.00		23.91	
10 PERCENT EXCEEDS	1300		1580		1110	
50 PERCENT EXCEEDS	152		167		162	
90 PERCENT EXCEEDS	11		19		11	

* See REMARKS.

03414500 EAST FORK OBEY RIVER NEAR JAMESTOWN, TN

LOCATION.--Lat 36°24'58", Long 85°01'35", Fentress County, Hydrologic Unit 05130105, on right bank 200 ft upstream from bridge on State Highway 52, 0.5 mi upstream from Poplar Cove Creek, 5.3 mi west of Jamestown, and at mile 12.7.
DRAINAGE AREA.--202 mi², includes 6.0 mi² without surface drainage.
PERIOD OF RECORD.--October 1942 to current year. Prior to February 1943 monthly discharge only, published in WSP 1306.
REVISED RECORDS.--WSP 1276: 1944, 1946(M). WSP 1506: Drainage area.
GAGE.--Water-stage encoder and satellite telemeter at station. Datum of gage is 680.30 ft, Sandy Hook Datum. Feb. 24 to Apr. 7, 1943, nonrecording gage 200 ft upstream at same datum.
REMARKS.--Records good, except those for estimated daily discharges, which are fair. Minimum discharge for current water year also occurred Oct. 2, 3, 4. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1929 reached a stage of about 30.7 ft, from flood profile by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.6	24	101	1600	368	342	1190	177	126	50	22	19
2	e8.4	21	87	1080	339	585	886	153	110	42	20	19
3	e8.3	21	1490	782	322	2000	669	134	98	39	18	23
4	e8.2	19	1580	599	294	2550	526	126	114	34	18	23
5	e25	19	717	494	274	1360	453	169	108	35	17	20
6	e20	22	480	436	332	1020	395	278	79	42	18	18
7	e15	24	337	2170	447	866	347	283	64	34	17	17
8	e15	27	224	1800	453	672	384	223	54	28	17	16
9	e20	38	170	1160	421	553	376	199	48	44	19	16
10	e210	231	141	909	385	471	380	195	42	58	18	16
11	151	277	122	1250	341	407	330	197	38	50	19	16
12	82	168	108	1270	296	363	298	370	57	43	24	15
13	39	110	99	1030	484	515	349	921	180	39	21	14
14	23	82	101	794	2480	611	444	568	201	35	18	13
15	18	65	131	638	1390	558	1720	375	194	32	21	16
16	15	55	206	579	916	486	1370	271	151	26	18	18
17	13	51	307	545	1300	442	898	240	130	23	18	13
18	16	48	959	464	10600	876	664	213	95	21	24	12
19	26	44	1640	417	9440	842	761	858	73	20	21	14
20	37	40	1150	412	4870	695	906	3250	58	20	19	13
21	28	37	3630	423	2030	564	669	1150	51	22	18	12
22	70	34	12400	393	1350	743	549	726	56	19	17	12
23	225	42	19900	360	1020	6640	448	490	82	17	17	11
24	183	57	2940	335	808	2130	380	367	70	47	16	14
25	97	62	1460	305	639	1260	320	272	346	103	15	32
26	71	53	1030	278	502	942	277	207	173	72	15	46
27	54	47	1090	261	431	752	246	215	113	61	16	40
28	43	60	4110	255	373	663	226	345	87	44	15	27
29	36	117	2000	248	---	5270	215	257	74	35	16	20
30	30	134	1850	276	---	3890	204	196	62	29	36	17
31	27	---	3490	380	---	1770	---	159	---	25	20	---
TOTAL	1622.5	2029	64050	21943	42905	40838	16880	13584	3134	1189	588	562
MEAN	52.3	67.6	2066	708	1532	1317	563	438	104	38.4	19.0	18.7
MAX	225	277	19900	2170	10600	6640	1720	3250	346	103	36	46
MIN	8.2	19	87	248	274	342	204	126	38	17	15	11
CFSM	.26	.33	10.2	3.50	7.59	6.52	2.79	2.17	.52	.19	.09	.09
IN.	.30	.37	11.80	4.04	7.90	7.52	3.11	2.50	.58	.22	.11	.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1991, BY WATER YEAR (WY)

MEAN	102	299	614	787	861	873	619	392	182	118	74.7	80.9
MAX	589	973	2066	2253	1900	2897	1369	1617	682	961	722	494
(WY)	1990	1958	1991	1950	1956	1975	1977	1973	1989	1967	1982	1944
MIN	4.76	8.05	22.1	43.6	161	206	139	66.7	10.9	9.73	10.0	7.18
(WY)	1948	1954	1964	1981	1968	1983	1986	1962	1988	1944	1962	1953

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1943 - 1991	
ANNUAL TOTAL	177375.0		209324.5			
ANNUAL MEAN	486		573		416	
HIGHEST ANNUAL MEAN					743	1973
LOWEST ANNUAL MEAN					218	1986
HIGHEST DAILY MEAN	19900	Dec 23	19900	Dec 23	23200	Dec 30 1969
LOWEST DAILY MEAN	8.2	Sep 10	8.2	Oct 4	3.6	Sep 26 1948
ANNUAL SEVEN-DAY MINIMUM	9.1	Sep 6	12	Sep 17	3.9	Sep 22 1948
INSTANTANEOUS PEAK FLOW			35800	Dec 23	44800	May 27 1973
INSTANTANEOUS PEAK STAGE			27.77	Dec 23	30.46	May 27 1973
INSTANTANEOUS LOW FLOW			*8.2	Oct 1	3.6	Sep 26 1948
ANNUAL RUNOFF (CFSM)	2.41		2.84		2.06	
ANNUAL RUNOFF (INCHES)	32.67		38.55		27.96	
10 PERCENT EXCEEDS	1070		1250		954	
50 PERCENT EXCEEDS	156		153		160	
90 PERCENT EXCEEDS	13		17		14	

e Estimated.
* See REMARKS.

03416000 WOLF RIVER NEAR BYRDSTOWN, TN

LOCATION.--Lat 36°33'37", long 85°04'23", Pickett County, Hydrologic Unit 05130105, on right bank 0.3 mi upstream from bridge on county road, 0.5 mi upstream from Widow Creek, 3.2 mi east of Byrdstown, 5.4 mi upstream from Lick Creek, and at mile 26.2.
DRAINAGE AREA.--106 mi².
PERIOD OF RECORD.--October 1942 to current year. Prior to June 1943 monthly discharge only, published in WSP 1306.
REVISED RECORD.--WSP 1276: 1943. WSP 1910: Drainage area. WDR TN-82: 1944-81(M).
GAGE.--Water-stage encoder and satellite telemeter at station. Datum of gage is 707.54 ft, Sandy Hook datum.
REMARKS.--No estimated daily discharges. Records good. Maximum discharge from rating curve extended above 7,300 ft³/s on basis of slope-area measurement at gage height 10.09 and 17.14 ft. Minimum discharge for the period of record result of construction at Mill dam upstream. Minimum discharge for current water year also occurred on Oct. 4, Sept. 20, 21-23, 24. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1929 reached a stage of about 10.8 ft, discharge, about 12,400 ft³/s from information by local resident. From flood marks, flood of June 30, 1928, reached a stage 1.5 ft higher than that in March 1929 at a point 12.5 mi upstream.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.7	18	55	777	243	158	537	72	101	26	13	15
2	9.5	17	51	508	213	197	399	66	85	28	13	13
3	9.2	16	828	363	190	613	314	61	74	39	12	11
4	23	16	603	276	168	895	255	57	65	35	12	12
5	22	18	266	230	155	544	223	62	54	32	11	14
6	18	18	180	213	193	422	196	68	46	28	11	13
7	14	20	131	1310	250	335	179	59	41	25	11	12
8	16	19	102	864	237	265	211	52	37	23	11	12
9	18	37	84	559	219	225	192	54	35	29	12	12
10	19	295	72	485	201	195	196	54	34	30	14	13
11	17	162	64	768	174	173	172	84	32	28	14	12
12	59	92	58	676	153	162	160	111	61	26	12	12
13	50	66	54	539	563	191	168	175	79	22	12	12
14	29	51	50	416	3130	200	180	118	54	21	12	11
15	21	42	62	333	875	190	682	89	43	20	13	10
16	18	37	204	288	512	179	522	79	38	19	12	10
17	17	35	342	237	664	177	373	122	35	18	13	9.8
18	17	33	1080	205	4700	353	289	85	32	18	15	9.6
19	17	31	983	186	3220	312	241	103	30	17	16	10
20	18	29	671	181	1770	262	203	219	28	17	16	9.4
21	16	28	1940	172	901	229	174	186	29	16	15	9.2
22	37	28	5550	156	601	324	155	143	31	15	14	9.2
23	126	47	6630	147	436	957	137	115	56	15	12	9.2
24	60	71	1210	138	336	610	120	97	77	16	11	14
25	39	53	643	126	269	414	106	79	99	18	11	25
26	31	44	436	117	225	317	98	64	55	19	12	26
27	27	38	530	113	194	258	93	175	40	18	12	19
28	23	48	1730	113	170	257	90	336	34	16	11	15
29	21	77	821	105	---	2210	86	221	31	15	12	13
30	20	65	1300	190	---	1580	80	163	28	14	14	12
31	19	---	1930	312	---	805	---	128	---	14	20	---
TOTAL	840.4	1551	28660	11103	20962	14009	6831	3497	1484	677	399	384.4
MEAN	27.1	51.7	925	358	749	452	228	113	49.5	21.8	12.9	12.8
MAX	126	295	6630	1310	4700	2210	682	336	101	39	20	26
MIN	9.2	16	50	105	153	158	80	52	28	14	11	9.2
CFSM	.26	.49	8.72	3.38	7.06	4.26	2.15	1.06	.47	.21	.12	.12
IN.	.29	.54	10.06	3.90	7.36	4.92	2.40	1.23	.52	.24	.14	.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1943 - 1991, BY WATER YEAR (WY)

MEAN	40.6	116	267	347	395	396	286	176	103	59.6	43.1	47.1
MAX	434	412	925	1040	980	1508	743	753	457	238	544	646
(WY)	1990	1974	1991	1950	1956	1975	1977	1984	1981	1967	1971	1982
MIN	6.14	7.86	13.0	18.1	80.6	93.9	41.6	30.8	10.1	8.09	9.49	7.16
(WY)	1954	1954	1954	1981	1968	1983	1986	1948	1988	1944	1954	1948

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1943 - 1991	
ANNUAL TOTAL	76936.8		90397.8			
ANNUAL MEAN	211		248		189	
HIGHEST ANNUAL MEAN					293	1979
LOWEST ANNUAL MEAN					87.3	1988
HIGHEST DAILY MEAN	6630	Dec 23	6630	Dec 23	13400	Mar 13 1975
LOWEST DAILY MEAN	8.6	Sep 11	9.2	Oct 3	2.1	Sep 17 1954
ANNUAL SEVEN-DAY MINIMUM	9.2	Sep 6	9.5	Sep 17	4.8	Sep 13 1954
INSTANTANEOUS PEAK FLOW			12200	Dec 23	*23500	Sep 2 1982
INSTANTANEOUS PEAK STAGE			11.08	Dec 23	17.14	Sep 2 1982
INSTANTANEOUS LOW FLOW			*9.2	Oct 3	*2.0	Sep 17 1954
ANNUAL RUNOFF (CFSM)	1.99		2.34		1.78	
ANNUAL RUNOFF (INCHES)	27.00		31.72		24.18	
10 PERCENT EXCEEDS	424		561		413	
50 PERCENT EXCEEDS	81		64		72	
90 PERCENT EXCEEDS	13		12		12	

* See REMARKS.

03417500 CUMBERLAND RIVER AT CELINA, TN

LOCATION.--Lat 36°33'15", long 85°30'52", Clay County, Hydrologic Unit 05130106, on right bank at State Highway 52 bridge, 0.5 mi northwest of courthouse in Celina, 600 ft downstream from Obey River, and at mile 380.8.
DRAINAGE AREA.--7,307 mi².
PERIOD OF RECORD.--October 1922 to current year. Gage-height records collected at same site 1903-54 are in reports of U.S. Weather Bureau.
REVISED RECORDS.--WSP 893: 1923-38. WSP 1276: 1924. WSP 1306: 1943 (monthly runoff). WSP 2110: Drainage area.
GAGE.--Water-stage encoder, satellite telemeter and crest-stage gage at station. Datum of gage is 489.00 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 20, 1930, nonrecording gage at site 400 ft downstream at same datum. Since Feb. 2, 1973, auxiliary water-stage recorder 15.8 mi downstream from base gage at same datum.
REMARKS.--Records good, except those for periods of low fall, which are poor. Flow regulated by Lake Cumberland (station 03413500) and Dale Hollow Lake (station 03416500) (see p. 89). Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 145,000 ft³/s, Dec. 29, 1926, maximum gage height, 57.25 ft, Dec. 29, 1926, from graph based on gage readings; minimum daily, 69 ft³/s, Sept. 2, 11-14, 1925; minimum gage height observed, 0.20 ft, Sept. 2, 11-14, 1925.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1793, 59.2 ft in March 1826, from Cumberland River profile.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1660	3860	2180	37800	26200	36100	32100	5810	19700	5440	2490	7520
2	3480	4050	1660	32200	19300	37300	30300	5370	13000	11400	2930	8100
3	3640	3060	5350	29700	11600	38700	30200	4180	9430	15800	2160	6640
4	4280	859	8140	28800	6630	41500	30100	5050	16300	16000	2820	4930
5	3820	1770	9870	28400	13000	39100	30300	1530	18600	13300	4380	5410
6	2130	3080	8930	28700	17400	37600	30300	e700	8370	6960	8540	5750
7	e900	4970	4350	34800	19400	36900	29100	2520	2840	917	15500	5190
8	1300	6590	2000	35600	18800	36600	28000	2140	2340	4810	17600	5170
9	3720	7890	1320	31800	18200	36200	27300	1990	2380	11200	12200	4510
10	2400	8410	3070	30100	e12000	36000	27800	1850	3370	6540	8060	4200
11	2670	3120	10200	32200	e5400	35800	27900	2030	5470	2250	3580	3810
12	3660	1470	13300	33400	7820	35700	28200	513	6050	4820	3540	3630
13	2360	2820	11800	31200	10400	36100	28300	e400	6560	9290	6640	3800
14	e1000	3600	5280	29800	17200	36500	27000	3160	7860	6510	7830	4050
15	1840	3410	4290	28900	15200	36200	29100	3660	7010	7180	8190	3960
16	7270	3280	8360	28700	21600	34100	25400	6360	1590	12300	7470	5170
17	8890	2480	7690	28600	22700	31700	23900	5570	726	14400	8080	5510
18	8330	1060	22100	28400	37700	33100	24000	3150	464	14000	8090	5570
19	8920	2040	22200	27200	38300	31700	23900	2720	9010	14100	8050	5600
20	7700	6450	9940	27000	38400	29500	21700	3300	17500	13200	7980	5330
21	1840	4600	8420	27200	34900	28900	17500	6050	21400	9770	7820	5520
22	1100	3060	18300	27300	34700	30900	13300	13200	18600	8450	8320	5250
23	3790	517	27100	27400	36500	34700	12400	19000	11700	11300	8120	4940
24	5330	1390	15600	27000	36900	31800	12700	19500	4640	14100	7930	5730
25	6990	2100	17600	26400	36700	29400	13200	18100	5960	13500	8300	5180
26	8460	1580	25300	26300	36300	30500	13000	17300	11400	6380	7400	5860
27	7320	2480	26200	25500	36200	31300	13400	16400	19200	1660	8120	5220
28	3060	2550	35400	26600	36200	31500	8960	12400	21300	571	8140	5840
29	1320	3310	33900	26200	---	34200	3110	15000	19000	515	8500	3820
30	3450	3080	36400	26100	---	37400	4880	19600	12200	1640	7790	3040
31	4640	---	45500	27500	---	34400	---	20400	---	2440	8240	---
TOTAL	127270	98936	451750	906800	665650	1071400	667350	238953	303970	260743	234810	154250
MEAN	4105	3298	14570	29250	23770	34560	22240	7708	10130	8411	7575	5142
MAX	8920	8410	45500	37800	38400	41500	32100	20400	21400	16000	17600	8100
MIN	900	517	1320	25500	5400	28900	3110	400	464	515	2160	3040

CAL YR 1990 MEAN‡ 11870 CFSM‡ 1.62 IN.‡ 22.05
WTR YR 1991 MEAN‡ 14110 CFSM‡ 1.93 IN.‡ 26.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1991, BY WATER YEAR (WY)

MEAN	5968	7509	12290	16500	15980	17930	18810	13190	10840	9382	8829	6871
MAX	16400	18080	34870	45350	38780	42500	46910	39520	26850	22280	16380	16530
(WY)	1990	1990	1952	1974	1974	1962	1975	1968	1983	1973	1971	1982
MIN	1703	2092	1711	2151	4855	4374	5474	3456	2490	2524	2219	2016
(WY)	1969	1969	1969	1969	1969	1959	1983	1976	1951	1956	1975	1951

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		*WATER YEARS 1951 - 1991	
ANNUAL TOTAL	3372495		5181882			
ANNUAL MEAN	9240		14200		11730	
HIGHEST ANNUAL MEAN					18340	1973
LOWEST ANNUAL MEAN					5388	1988
HIGHEST DAILY MEAN	45500	Dec 31	45500	Dec 31	62600	Feb 27 1962
LOWEST DAILY MEAN	419	Sep 30	400	May 13	167	Aug 3 1975
ANNUAL SEVEN-DAY MINIMUM	1780	May 28	1630	May 7	299	Jan 22 1956
INSTANTANEOUS PEAK FLOW			47200	Dec 31	70900	Mar 22 1952
INSTANTANEOUS PEAK STAGE			22.64	Dec 31	38.15	Mar 13 1975
10 PERCENT EXCEEDS	18500		34100		26300	
50 PERCENT EXCEEDS	7620		8420		9130	
90 PERCENT EXCEEDS	2380		2140		2650	

e Estimated.
‡ Adjusted for change in contents in Lake Cumberland and Dale Hollow Lake.
NOTE.--Contents (cfs-days) for adjustments furnished by U.S. Army Corps of Engineers.
* Regulated period only.

03418070 ROARING RIVER ABOVE GAINESBORO, TN

LOCATION.--Lat 36°21'04", long 85°32'45", Jackson County, Hydrologic Unit 05130106, near left bank of downstream end of county road bridge, 1.1 mi upstream from Blackburn Fork, 6.3 mi east of Gainesboro, and at mile 9.1.
DRAINAGE AREA.--210 mi², includes 34 mi² without surface drainage.
PERIOD OF RECORD.--October 1974 to current year.
GAGE.--Water-stage encoder, crest-stage gage and satellite telemeter at station. Datum of gage is 520.56 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharges. Records good, except those below 5.0 ft³/s, which are poor. Minimum discharge for current year and period of record, no flow many days each year. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	17	1430	153	310	967	44	2.8	.00	.00	.00
2	.00	.00	13	963	125	610	734	32	39	.00	.00	.00
3	.00	.00	979	714	112	864	594	25	5.9	.00	.00	.00
4	3.4	.00	1070	563	104	1440	474	23	2.5	.00	.00	.00
5	13	.00	432	430	96	926	381	38	3.7	.00	.00	.00
6	.05	.00	230	428	150	797	305	49	.99	.00	.00	.00
7	.00	.00	138	2140	211	761	253	29	.03	.00	.00	.00
8	.00	.00	90	1560	205	567	226	19	.00	.00	.00	.00
9	.00	14	66	1000	186	442	200	31	.00	61	.00	.00
10	.00	469	51	933	165	341	182	26	.00	5.6	.00	.00
11	.00	271	41	1540	138	278	144	108	.00	1.7	.00	.00
12	28	84	35	1150	114	248	123	1100	.43	.11	.00	.00
13	33	32	29	894	532	332	126	424	39	.00	.00	.00
14	1.9	17	28	720	2330	298	128	188	90	.00	.00	.00
15	.00	8.7	30	605	1140	229	797	95	24	.00	.00	.00
16	.00	3.4	76	543	748	185	635	56	39	.00	.00	.00
17	.00	2.5	171	400	1520	172	395	37	24	.00	.00	.00
18	.00	1.3	1020	286	6580	506	286	22	6.1	.00	.00	.00
19	.00	.15	1410	234	6950	457	276	40	2.5	.00	.00	.00
20	.00	.00	1140	226	3920	353	346	296	1.3	.00	.00	.00
21	.00	.00	4220	200	1800	300	230	98	1.5	.00	.00	.00
22	.58	.00	8020	165	1220	467	185	60	1.6	.00	.00	.00
23	31	.00	9880	146	890	3450	150	37	.49	.00	.00	.00
24	12	.43	2540	131	706	1390	119	23	.00	.00	.00	.00
25	1.7	.23	1310	112	590	846	92	14	.00	.00	.00	21
26	.07	.00	899	101	498	653	76	9.3	.00	.00	.00	5.2
27	.00	.00	1020	95	391	544	64	6.7	.00	.00	.00	.03
28	.00	19	2870	95	315	488	62	9.8	.00	.00	.00	.00
29	.00	77	1420	83	---	3300	84	8.1	.00	.00	.00	.00
30	.00	36	2320	97	---	2790	72	5.1	.00	.00	.00	.00
31	.00	---	3090	198	---	1400	---	4.2	---	.00	.19	---
TOTAL	124.70	1035.71	44655	18182	31889	25744	8706	2957.2	284.84	68.41	0.19	26.23
MEAN	4.02	34.5	1440	587	1139	830	290	95.4	9.49	2.21	.006	.87
MAX	33	469	9880	2140	6950	3450	967	1100	90	61	.19	21
MIN	.00	.00	13	83	96	172	62	4.2	.00	.00	.00	.00
CFSM	.02	.16	6.86	2.79	5.42	3.95	1.38	.45	.05	.01	.00	.00
IN.	.02	.18	7.91	3.22	5.65	4.56	1.54	.52	.05	.01	.00	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1991, BY WATER YEAR (WY)

MEAN	78.9	185	413	518	541	457	363	266	93.1	35.8	40.1	68.8
MAX	476	539	1440	1271	1426	1146	1015	1361	483	147	331	261
(WY)	1990	1980	1991	1979	1989	1980	1979	1984	1981	1989	1982	1982
MIN	.000	.39	.43	.22	74.3	36.6	8.05	.46	.000	.058	.000	.000
(WY)	1979	1981	1981	1981	1981	1983	1986	1985	1984	1984	1975	1976

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1975 - 1991	
ANNUAL TOTAL	120253.74		133673.28			
ANNUAL MEAN	329		366		252	
HIGHEST ANNUAL MEAN					444	1979
LOWEST ANNUAL MEAN					83.0	1986
HIGHEST DAILY MEAN	9880	Dec 23	9880	Dec 23	12400	May 7 1984
LOWEST DAILY MEAN	*.00	Jun 25	*.00	Oct 1	*.00	Oct 28 1974
ANNUAL SEVEN-DAY MINIMUM	.00	Jun 25	.00	Oct 15	.00	Oct 28 1974
INSTANTANEOUS PEAK FLOW			14200	Dec 23	22400	Mar 12 1975
INSTANTANEOUS PEAK STAGE			19.09	Dec 23	21.83	Mar 12 1975
ANNUAL RUNOFF (CFSM)	1.57		1.74		1.20	
ANNUAL RUNOFF (INCHES)	21.30		23.68		16.30	
10 PERCENT EXCEEDS	881		972		623	
50 PERCENT EXCEEDS	38		25		38	
90 PERCENT EXCEEDS	.00		.00		.00	

* See REMARKS.

03418420 CUMBERLAND RIVER BELOW CORDELL HULL DAM, TN

LOCATION.--Lat 36°17'12", long 85°56'27", Smith County, Hydrologic Unit 05130108, on right bank in powerhouse at Cordell Hull Dam, 2.7 mi north of Carthage, and at mile 313.5.
DRAINAGE AREA.--8,095 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1980 to current year. Equivalent record prior to 1981 published in annual reports of Tennessee Valley Authority entitled "Operation of TVA Reservoirs".
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Flow regulated by Lake Cumberland (station 03413500) and Dale Hollow Lake (station 03416500) (see p. 89).
COOPERATION.--Records provided by U.S. Army Corps of Engineers.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily discharge, 116,000 ft³/s, Mar. 13, 1975; no flow Nov. 2, 1980.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3390	5870	6570	49000	28900	36000	38200	4140	19300	7530	5180	7770
2	3710	6840	5350	41000	22700	37600	35700	10500	16800	10200	4420	8430
3	5550	5520	10500	35300	15700	37100	35900	7500	11800	14300	4170	10400
4	5250	4550	14800	33200	13700	42700	31300	7440	10900	15400	4090	6180
5	5410	4570	15400	30800	14500	41200	32500	5010	14900	14100	5280	6260
6	5100	4920	14200	29900	17200	36600	32400	4070	14100	9300	8630	6170
7	3380	7490	11000	39400	22600	35800	32000	4060	4480	4850	14000	6470
8	3680	9020	5630	44500	21000	36000	30000	5000	3120	4830	18300	6250
9	4830	10300	4710	38400	21300	35200	29300	5020	3770	9890	12000	8120
10	5670	15900	6300	37200	18100	35100	31200	6780	4380	10100	8760	6870
11	4950	7590	9570	37300	11900	34300	29600	4700	6030	4530	5730	5540
12	5580	4630	15400	38100	8980	36200	28800	11900	8000	5450	4060	5880
13	7530	5050	16100	37400	15400	37500	31900	5140	8400	9140	6790	5070
14	2770	6800	13100	32600	28400	37500	31300	5090	8110	9900	9370	5850
15	4050	6800	5830	30100	25300	37800	31800	9610	9400	7220	8050	6150
16	8200	6460	8670	31700	18600	37000	33800	8680	6210	11000	7710	6220
17	11200	5790	12900	32100	30100	33200	22300	9070	3490	16100	8470	6170
18	9920	4790	28600	31800	57800	32100	26400	7930	3080	14800	8060	7020
19	10700	5110	31800	29900	60800	36700	28300	5000	6460	12500	8690	7590
20	8710	7200	17900	29000	54500	32600	26300	5130	16200	11900	8190	6870
21	6080	9200	24600	26600	39300	27900	17700	8490	20600	11100	9120	6510
22	5670	7110	37700	29000	38500	34100	13100	13600	17500	9930	8140	6290
23	5180	3930	50900	31500	35900	43000	10400	17500	13000	9630	8800	6370
24	6470	4340	35400	27100	38100	41800	10600	16500	7550	13700	9030	7750
25	8050	4770	18000	25100	38000	38300	12400	18600	5900	13900	8410	7630
26	10200	5100	28600	28300	36600	29800	12500	14000	9580	7540	9300	8660
27	10400	5860	33800	30500	35800	32900	11200	16600	15900	4630	9350	6800
28	6170	5730	37600	28700	36900	34500	8600	13700	20800	2770	8370	6700
29	4530	6960	42100	29200	---	45400	5830	14100	19300	3700	8220	5950
30	5270	6920	40700	26900	---	49300	5020	18100	13300	3090	8700	5380
31	6010	---	50600	27000	---	44500	---	19300	---	5060	8130	---
TOTAL	193610	195120	654330	1018600	806580	1149700	726350	302260	322360	288090	255520	203320
MEAN	6245	6504	21110	32860	28810	37090	24210	9750	10750	9293	8243	6777
MAX	11200	15900	50900	49000	60800	49300	38200	19300	20800	16100	18300	10400
MIN	2770	3930	4710	25100	8980	27900	5020	4060	3080	2770	4060	5070

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1991, BY WATER YEAR (WY)

MEAN	6843	8722	14100	15880	16360	15530	11740	12030	13040	10300	9822	7700
MAX	18890	20780	23430	32860	28810	37090	24210	37590	24760	19250	15800	16180
(WY)	1990	1990	1987	1991	1991	1991	1991	1984	1983	1989	1982	1982
MIN	3156	1795	2269	2493	4466	3686	4830	3925	5446	6090	5945	4409
(WY)	1989	1981	1981	1981	1981	1981	1981	1985	1985	1986	1988	1988

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1981 - 1991	
ANNUAL TOTAL	4340640		6115840			
ANNUAL MEAN	11890		16760		11820	
HIGHEST ANNUAL MEAN					16830	1989
LOWEST ANNUAL MEAN					6159	1988
HIGHEST DAILY MEAN	50900	Dec 23	60800	Feb 19	85200	May 8 1984
LOWEST DAILY MEAN	2770	Oct 14	2770	Oct 14	.00	Nov 2 1980
ANNUAL SEVEN-DAY MINIMUM	4120	Sep 26	4060	Jul 28	1290	Nov 22 1980
10 PERCENT EXCEEDS	23000		37000		24500	
50 PERCENT EXCEEDS	8890		10400		8750	
90 PERCENT EXCEEDS	4770		4840		3560	

03418420 CUMBERLAND RIVER BELOW CORDELL HULL DAM, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1980 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1980 to current year.
pH: October 1990 to Septmeber 1991.
WATER TEMPERATURE: October 1980 to current year.
DISSOLVED OXYGEN: October 1980 to current year.

INSTRUMENTATION.--Water-quality monitor since October 1980.

REMARKS.--Flow regulated by Cordell Hull Dam and other reservoirs above station. Interruptions in the record were due to instrument malfunctions.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 290 microsiemens, Mar. 27, 1990; minimum, 140 microsiemens, Sept. 3, 1984.
WATER TEMPERATURE: Maximum, 23.6°C, July 8, 1988; minimum, 2.0°C, Jan. 12, 15-21, 1981.
DISSOLVED OXYGEN: Maximum, 15.5 mg/L, Mar. 4, 1983; minimum, 3.7 mg/L, Aug. 5, 1988.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 263 microsiemens, Oct. 23; minimum, 150 microsiemens, Dec. 25, 26, July 8.
pH: Maximum, 8.8 units, Aug. 6; minimum, 6.7 units, Sept. 27.
WATER TEMPERATURE: Maximum, 24.7°C, July 18; minimum, 6.7°C, Feb. 18.
DISSOLVED OXYGEN: Maximum, 12.4 mg/L, Jan 30; minimum, 5.2 mg/L, June 17.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	208	192	197	217	201	204	210	206	206	200	185	192
2	208	192	197	209	201	203	206	202	205	185	174	179
3	200	192	194	217	201	204	206	202	203	206	185	197
4	204	188	194	218	205	208	206	202	204	210	206	208
5	231	192	203	214	206	209	210	206	208	210	210	210
6	231	192	199	218	206	208	213	209	211	211	210	211
7	212	192	200	210	206	207	217	213	213	211	207	208
8	216	188	200	215	206	210	224	213	216	208	204	207
9	208	192	198	215	203	208	217	213	213	204	192	199
10	216	192	198	211	203	206	217	209	212	201	192	195
11	208	192	197	220	203	207	213	209	212	205	201	204
12	212	188	197	220	204	210	212	212	212	209	201	207
13	208	188	194	220	204	208	212	208	212	202	198	200
14	204	192	198	208	167	188	213	212	212	209	198	202
15	215	192	201	215	172	197	223	211	213	209	209	209
16	211	192	199	208	196	200	211	210	210	209	208	208
17	212	192	199	208	196	202	210	205	207	208	208	208
18	209	193	199	208	200	203	209	204	204	208	204	206
19	209	193	200	208	200	202	204	202	203	204	200	203
20	210	194	199	208	200	201	202	194	199	200	199	199
21	206	195	198	212	204	205	194	177	186	199	195	196
22	242	195	210	212	208	209	176	169	170	195	194	195
23	263	200	214	225	209	215	184	171	179	194	188	192
24	217	196	204	217	213	213	168	155	161	188	187	188
25	225	197	207	221	209	213	155	150	151	187	185	186
26	236	198	205	221	209	213	159	150	155	185	183	184
27	203	198	201	221	205	211	187	159	172	183	181	183
28	219	203	208	211	205	208	199	187	193	181	176	181
29	223	203	209	207	207	207	199	191	197	188	175	182
30	216	200	204	211	207	207	196	188	191	188	184	186
31	208	200	202	---	---	---	200	188	196	188	184	185
MONTH	263	188	201	225	167	206	224	150	198	211	174	197

03418420 CUMBERLAND RIVER BELOW CORDELL HULL DAM, TN--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	184	180	182	169	168	169	164	163	163	173	170	170
2	184	180	182	168	168	168	168	164	167	173	170	171
3	---	---	---	171	167	168	169	168	168	173	170	170
4	---	---	---	174	170	170	169	169	169	173	170	170
5	198	194	197	174	170	173	169	165	168	173	170	170
6	198	193	197	173	168	169	166	166	166	170	170	170
7	197	196	196	172	168	171	166	166	166	173	170	170
8	200	199	199	175	170	171	167	166	166	173	170	170
9	195	194	195	170	169	170	167	163	165	173	170	172
10	198	194	197	173	169	172	163	159	161	177	173	174
11	201	196	197	172	172	172	164	159	162	177	172	175
12	196	196	196	172	171	171	164	164	164	176	172	176
13	199	191	195	171	167	170	164	160	162	180	176	178
14	191	190	190	170	165	169	164	160	160	180	175	178
15	197	190	194	169	165	168	165	161	161	179	175	177
16	197	184	191	168	167	168	169	165	166	179	179	179
17	191	184	186	167	166	167	173	169	169	179	178	179
18	191	186	189	166	165	166	174	170	172	178	178	178
19	194	162	175	165	165	165	174	170	171	182	178	181
20	165	157	161	170	165	167	170	170	170	182	181	182
21	168	157	163	166	166	166	173	170	170	185	181	181
22	175	167	170	167	163	166	173	170	170	189	185	186
23	182	175	178	167	163	163	170	170	170	193	189	190
24	182	177	178	168	163	164	170	170	170	192	184	190
25	177	176	177	168	164	166	173	166	170	184	180	184
26	176	171	173	169	164	165	173	170	170	184	179	180
27	175	174	175	165	165	165	170	170	170	179	175	178
28	174	169	171	166	165	165	170	170	170	175	171	172
29	---	---	---	166	162	165	173	170	170	175	167	171
30	---	---	---	167	162	165	173	170	171	170	166	168
31	---	---	---	163	163	163	---	---	---	166	163	165
MONTH	201	157	185	175	162	168	174	159	167	193	163	176
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	166	162	163	162	154	156	170	166	168	175	170	173
2	165	162	162	162	153	155	170	166	168	178	170	172
3	169	162	167	153	153	153	170	166	168	177	169	170
4	173	165	169	156	152	152	174	166	168	177	168	172
5	173	165	168	---	---	---	177	166	170	176	168	171
6	169	165	168	---	---	---	174	170	171	180	167	171
7	169	165	165	---	---	---	173	173	173	179	167	171
8	169	165	166	177	150	157	178	173	174	174	166	171
9	169	165	166	165	158	163	178	174	176	174	166	170
10	169	164	166	169	165	165	178	178	178	177	169	170
11	168	164	165	169	165	166	178	178	178	176	169	171
12	168	164	165	169	165	165	183	174	177	176	169	172
13	168	164	164	169	165	165	179	175	177	176	172	173
14	168	164	165	173	165	166	179	175	176	176	172	173
15	172	164	165	169	165	165	179	175	176	176	172	173
16	172	164	166	169	165	166	179	173	176	176	169	172
17	175	165	169	169	169	169	180	176	177	172	169	172
18	171	168	168	169	169	169	180	176	177	176	172	173
19	168	168	168	169	169	169	180	176	177	172	172	172
20	168	167	167	169	169	169	180	176	177	172	172	172
21	170	167	167	169	169	169	181	177	178	172	172	172
22	167	166	166	173	165	168	181	177	178	184	172	174
23	169	166	166	173	165	167	177	176	177	176	172	173
24	166	161	165	174	166	168	179	175	177	176	172	173
25	168	161	162	170	166	166	179	175	176	176	172	173
26	161	160	160	166	166	166	179	174	176	172	171	172
27	164	160	161	174	166	168	178	174	175	174	171	172
28	164	159	160	174	166	167	177	173	175	174	174	174
29	159	155	158	174	166	167	181	172	176	174	171	174
30	159	154	155	170	166	168	180	172	175	174	174	174
31	---	---	---	174	166	168	176	171	173	---	---	---
MONTH	175	154	165	177	150	165	183	166	175	184	166	172

03418420 CUMBERLAND RIVER BELOW CORDELL HULL DAM, TN--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.8	7.5	8.0	7.9	7.7	7.6	---	---	8.0	7.9	---	---
2	7.7	7.5	8.0	7.9	7.7	7.6	---	---	8.0	7.9	---	---
3	7.6	7.5	8.0	7.9	7.6	7.5	---	---	8.1	7.2	---	---
4	7.6	7.4	8.0	7.8	7.9	7.6	---	---	7.6	7.2	---	---
5	7.7	7.4	8.0	7.8	---	---	---	---	7.5	7.5	---	---
6	7.6	7.3	8.0	7.8	---	---	---	---	7.6	7.5	---	---
7	7.5	7.3	7.9	7.8	---	---	---	---	7.5	7.5	---	---
8	7.5	7.3	7.9	7.8	---	---	---	---	7.6	7.5	---	---
9	7.5	7.2	7.9	7.8	---	---	---	---	7.6	7.5	---	---
10	7.4	7.2	7.8	7.8	---	---	---	---	7.6	7.6	---	---
11	7.6	7.4	7.9	7.8	---	---	---	---	7.7	7.6	---	---
12	7.6	7.4	7.8	7.8	---	---	---	---	7.7	7.6	---	---
13	7.6	7.2	7.9	7.7	---	---	---	---	7.7	7.4	---	---
14	7.5	7.2	8.0	7.5	---	---	---	---	7.7	7.7	---	---
15	7.7	7.3	8.0	7.7	8.0	7.9	7.8	7.7	7.8	7.7	---	---
16	8.0	7.4	7.8	7.7	---	---	7.9	7.8	7.8	7.7	---	---
17	8.0	7.6	7.9	7.7	---	---	---	---	7.8	7.7	---	---
18	7.9	7.7	7.9	7.7	---	---	---	---	7.8	7.7	---	---
19	7.8	7.7	7.8	7.6	---	---	---	---	---	---	---	---
20	7.9	7.7	7.7	7.5	---	---	---	---	---	---	7.7	7.6
21	7.9	7.8	7.6	7.3	7.9	7.7	---	---	---	---	7.6	7.6
22	7.9	7.8	7.4	7.1	---	---	---	---	---	---	7.8	7.5
23	7.9	7.8	7.1	6.9	---	---	---	---	---	---	7.6	7.6
24	7.9	7.8	7.1	6.9	---	---	---	---	---	---	7.6	7.6
25	7.9	7.8	7.1	7.0	---	---	---	---	---	---	7.7	7.6
26	7.9	7.8	7.0	6.8	---	---	---	---	---	---	7.9	7.6
27	7.9	7.8	7.6	6.8	---	---	---	---	---	---	7.8	7.5
28	7.9	7.7	7.7	7.6	---	---	---	---	---	---	7.6	7.5
29	7.8	7.6	7.6	7.5	---	---	---	---	---	---	7.6	7.6
30	8.1	7.6	7.6	7.5	---	---	8.0	7.8	---	---	7.6	7.5
31	8.0	7.9	---	---	---	---	8.0	7.9	---	---	7.6	7.5
MONTH	8.1	7.2	8.0	6.8	8.0	7.5	8.0	7.7	8.1	7.2	7.9	7.5
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.7	7.6	7.9	7.7	7.7	7.1	7.9	7.3	8.0	7.3	7.6	7.0
2	7.8	7.7	8.2	7.6	7.6	7.0	8.1	7.3	8.0	7.1	7.6	6.9
3	7.8	7.8	8.0	7.7	7.6	7.1	8.1	7.6	8.1	7.1	7.7	7.1
4	7.8	7.8	8.3	7.6	7.9	7.2	8.1	7.6	7.8	7.2	7.6	7.1
5	7.8	7.7	8.0	7.7	7.9	7.4	8.0	7.5	8.5	7.2	7.7	7.0
6	7.7	7.7	7.9	7.6	7.9	7.5	7.9	7.3	8.8	7.0	7.5	7.1
7	7.8	7.7	7.8	7.5	7.8	7.3	7.9	7.4	8.7	7.4	7.9	7.0
8	7.8	7.7	7.7	7.4	7.6	7.3	7.9	7.2	8.7	7.5	7.8	7.0
9	7.9	7.8	7.7	7.4	7.7	7.2	7.9	7.1	8.5	7.5	7.6	7.1
10	7.9	7.8	7.9	7.4	7.7	7.2	7.5	7.1	8.2	7.4	7.7	7.1
11	7.9	7.8	7.8	7.6	7.7	7.2	7.5	7.0	7.8	7.3	7.7	7.1
12	7.8	7.7	8.0	7.6	7.7	7.2	7.6	7.1	7.5	7.3	7.7	7.0
13	7.7	7.7	8.0	7.6	7.8	7.2	7.7	7.1	7.7	7.1	7.7	7.0
14	7.7	7.6	7.8	7.5	7.8	7.2	7.6	7.0	8.5	7.1	7.7	7.0
15	7.7	7.6	7.9	7.5	7.8	7.2	7.6	6.9	8.1	7.0	7.7	7.0
16	7.7	7.7	8.1	7.5	7.8	7.2	7.5	7.0	8.2	7.0	7.8	7.0
17	7.8	7.7	7.9	7.4	7.5	7.1	7.8	6.9	8.7	7.0	7.7	7.0
18	7.7	7.7	7.9	7.5	7.4	7.4	7.9	7.0	7.5	7.2	7.7	6.9
19	7.8	7.7	7.6	7.5	7.7	7.3	7.8	6.9	7.5	7.1	7.8	7.2
20	7.8	7.8	7.7	7.5	8.2	7.5	8.0	6.9	8.0	7.0	7.8	7.1
21	7.9	7.8	7.8	7.5	8.1	7.5	8.0	7.0	8.7	7.0	8.1	7.1
22	7.9	7.8	8.1	7.5	8.1	7.8	8.1	6.9	8.2	7.0	7.9	7.1
23	8.0	7.8	8.4	7.4	7.9	7.6	8.1	7.1	7.8	6.9	7.8	7.1
24	7.9	7.8	8.4	7.5	7.9	7.6	8.6	7.3	7.8	7.3	7.6	7.0
25	8.2	7.8	8.2	7.6	7.8	7.5	8.7	7.5	8.5	7.1	7.6	6.9
26	8.0	7.9	7.9	7.4	7.9	7.6	7.5	7.3	8.5	7.0	7.5	6.9
27	8.0	7.8	8.0	7.4	8.6	7.6	7.4	7.1	8.3	6.9	7.5	6.7
28	8.0	7.7	7.6	7.4	8.6	7.8	7.3	7.0	8.2	6.9	---	---
29	8.0	7.8	8.0	7.2	8.3	7.8	7.4	7.1	8.1	6.9	---	---
30	8.0	7.8	8.0	7.2	8.0	7.7	7.5	7.1	8.2	7.0	---	---
31	---	---	7.7	7.1	---	---	8.2	7.1	7.7	7.1	---	---
MONTH	8.2	7.6	8.4	7.1	8.6	7.0	8.7	6.9	8.8	6.9	8.1	6.7

03418420 CUMBERLAND RIVER BELOW CORDELL HULL DAM, TN--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	20.4	19.8	20.1	14.3	13.9	14.2	12.3	12.3	12.3	10.7	10.1	10.3
2	20.3	19.1	19.7	14.2	13.8	14.0	12.4	12.1	12.3	10.1	9.5	9.8
3	21.0	19.4	19.9	14.2	13.6	14.0	12.4	12.3	12.3	9.5	9.1	9.4
4	21.0	19.7	20.3	14.2	13.8	14.0	12.3	11.5	11.9	9.4	9.1	9.2
5	21.0	19.3	20.0	14.2	13.8	14.0	11.5	11.1	11.3	9.6	9.4	9.5
6	20.5	19.5	19.9	13.9	13.4	13.7	11.3	10.8	11.0	9.8	9.6	9.7
7	20.3	19.4	19.7	13.5	13.1	13.4	10.8	10.0	10.4	9.8	9.8	9.8
8	20.0	19.3	19.6	13.1	12.9	13.1	10.0	9.6	10.0	10.0	9.8	9.9
9	20.3	19.1	19.7	12.9	12.5	12.8	10.0	9.4	9.8	9.8	9.4	9.6
10	20.0	18.9	19.3	12.5	12.2	12.3	9.8	9.6	9.7	9.6	9.4	9.4
11	19.1	18.7	18.9	12.2	11.9	11.9	9.8	9.6	9.8	9.9	9.6	9.8
12	19.0	18.6	18.9	12.1	11.5	11.9	9.8	9.6	9.7	9.9	9.5	9.8
13	18.9	18.4	18.7	12.3	11.7	12.0	9.6	9.6	9.6	9.5	9.1	9.4
14	19.4	18.2	18.5	12.9	11.9	12.2	9.8	9.6	9.7	9.1	8.7	9.0
15	18.5	18.1	18.4	12.2	11.8	12.0	10.2	9.8	9.9	8.7	8.7	8.7
16	18.7	17.9	18.3	12.3	12.1	12.1	10.1	9.5	9.9	8.8	8.5	8.7
17	18.7	18.3	18.5	12.1	11.5	11.9	10.8	9.9	10.2	9.0	8.8	8.9
18	18.5	17.9	18.3	12.2	11.5	11.8	11.6	10.6	11.0	9.0	8.8	8.9
19	17.9	17.5	17.7	12.0	11.6	11.8	11.6	11.5	11.5	9.0	8.8	8.9
20	17.7	17.4	17.5	12.0	11.8	11.9	11.6	11.3	11.4	9.0	8.8	8.9
21	17.5	17.2	17.3	12.0	11.8	11.9	11.8	11.6	11.7	8.9	8.3	8.5
22	17.4	16.7	17.1	12.1	12.0	12.0	12.0	11.8	11.9	8.3	7.9	8.0
23	16.7	16.3	16.5	12.3	11.9	12.2	12.0	11.8	11.9	7.9	7.7	7.8
24	16.7	16.1	16.4	12.1	11.7	12.0	12.0	11.0	11.5	7.7	7.5	7.6
25	16.3	15.9	16.0	12.3	11.7	12.0	11.0	10.2	10.5	7.7	7.4	7.6
26	15.9	15.5	15.7	12.6	12.1	12.3	10.0	8.8	9.5	7.7	7.5	7.7
27	15.3	15.1	15.2	13.3	12.4	12.7	8.8	7.6	8.1	7.7	7.5	7.7
28	15.3	14.7	15.0	13.3	12.8	13.1	9.2	7.8	8.4	7.9	7.7	7.8
29	15.1	14.3	14.6	12.8	12.3	12.7	9.7	9.2	9.5	8.2	7.9	8.1
30	14.7	14.1	14.5	12.4	12.1	12.3	10.3	9.7	10.1	8.5	8.2	8.4
31	14.5	14.1	14.3	---	---	---	10.7	10.5	10.6	8.5	8.3	8.4
MONTH	21.0	14.1	17.9	14.3	11.5	12.6	12.4	7.6	10.6	10.7	7.4	8.9
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.5	8.1	8.3	8.6	8.4	8.5	10.5	9.7	10.1	14.9	14.3	14.5
2	8.4	8.1	8.3	9.2	8.4	8.9	11.1	10.3	10.6	15.7	13.9	14.7
3	8.8	8.2	8.6	9.2	9.0	9.1	11.2	10.8	11.0	15.7	15.1	15.3
4	8.4	8.2	8.4	8.9	8.7	8.9	11.0	10.8	11.0	16.9	14.9	15.5
5	8.6	8.4	8.4	8.7	8.5	8.7	11.2	10.6	10.9	16.3	15.3	15.7
6	8.8	8.4	8.6	8.9	8.5	8.7	11.8	11.0	11.3	16.3	14.7	15.4
7	8.7	8.6	8.7	8.9	8.7	8.8	12.1	11.7	11.8	15.9	14.7	15.3
8	8.7	8.7	8.7	9.1	8.7	8.9	12.3	11.9	12.0	16.3	15.5	15.9
9	8.9	8.5	8.8	8.9	8.5	8.8	12.4	12.1	12.2	16.9	16.1	16.4
10	9.1	8.7	9.0	8.8	8.4	8.6	12.6	12.3	12.4	17.8	16.1	16.9
11	8.9	8.7	8.9	8.8	8.6	8.7	12.7	12.3	12.5	17.3	16.5	17.0
12	9.1	8.7	8.9	9.0	8.8	8.9	12.5	12.4	12.5	18.8	16.9	17.8
13	9.1	8.8	8.9	9.0	8.8	9.0	12.4	12.0	12.2	18.8	16.9	17.6
14	8.8	8.6	8.8	8.8	8.8	8.8	12.2	11.8	12.0	18.6	17.5	17.7
15	8.4	7.5	8.0	9.2	8.8	9.0	12.9	12.4	12.6	19.2	17.6	18.2
16	7.5	7.1	7.3	9.7	9.2	9.4	13.1	12.7	12.9	20.4	17.8	18.8
17	7.5	7.1	7.2	9.5	9.3	9.5	13.8	13.0	13.4	20.4	17.6	19.2
18	7.3	6.7	6.9	9.5	9.3	9.5	14.2	13.6	13.9	20.6	18.4	19.6
19	8.7	7.7	8.2	9.9	9.3	9.6	14.2	13.8	14.1	19.4	18.6	19.1
20	9.5	8.9	9.2	10.3	9.9	10.1	13.8	13.4	13.6	21.4	18.6	19.5
21	9.7	9.5	9.7	10.6	10.2	10.4	13.4	12.8	13.1	21.8	19.2	20.3
22	9.5	9.1	9.4	10.8	10.4	10.5	13.0	12.8	12.9	23.6	20.0	21.4
23	9.1	8.7	9.0	11.2	10.6	10.9	13.2	12.6	13.0	24.4	20.3	22.5
24	8.9	8.7	8.8	12.1	11.2	11.6	13.4	12.8	13.1	24.2	20.9	22.5
25	8.7	8.3	8.6	12.2	11.9	12.1	14.0	12.6	13.4	23.4	21.1	22.3
26	8.4	8.2	8.3	12.1	11.7	11.9	14.2	13.4	13.9	21.9	19.9	20.8
27	8.4	8.2	8.3	11.7	11.2	11.4	14.2	13.8	14.0	21.1	19.1	20.1
28	8.4	8.2	8.3	11.2	10.8	11.0	14.4	13.8	14.0	19.5	17.9	18.8
29	---	---	---	11.0	10.6	10.8	14.8	14.0	14.3	19.5	17.5	18.6
30	---	---	---	10.4	10.1	10.3	14.9	14.3	14.6	20.1	17.7	19.0
31	---	---	---	10.1	9.7	9.9	---	---	---	19.5	17.7	18.7
MONTH	9.7	6.7	8.5	12.2	8.4	9.7	14.9	9.7	12.6	24.4	13.9	18.2

03418420 CUMBERLAND RIVER BELOW CORDELL HULL DAM, TN--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	19.3	17.7	18.4	19.1	17.5	18.4	19.7	18.1	18.6	20.1	18.1	19.2
2	19.1	17.7	18.4	19.9	17.3	18.3	19.4	17.6	18.3	20.3	18.5	19.3
3	19.3	17.9	18.6	20.1	17.3	18.4	19.1	17.3	17.9	20.5	18.7	19.4
4	19.3	18.1	18.6	20.5	17.5	18.8	19.3	16.8	17.7	20.1	18.7	19.3
5	20.3	18.3	19.1	20.9	18.1	19.4	20.7	17.6	18.3	20.7	18.5	19.1
6	19.8	18.4	18.9	20.2	18.5	19.4	22.8	18.1	19.5	19.7	18.5	19.2
7	19.6	17.8	18.5	19.6	18.6	19.1	23.1	18.5	20.7	21.1	18.3	19.3
8	19.2	18.0	18.4	19.4	18.6	18.9	24.5	19.6	22.1	21.1	18.5	19.5
9	19.2	18.0	18.3	22.1	18.5	19.9	24.2	21.0	22.1	20.3	18.1	19.5
10	19.0	18.0	18.3	20.2	19.0	19.7	23.8	21.3	22.1	20.7	18.9	19.5
11	19.3	17.9	18.3	20.5	18.7	19.5	22.5	21.0	21.6	20.3	18.9	19.6
12	19.3	17.7	18.4	19.8	18.4	18.9	21.2	20.2	20.7	20.3	18.7	19.5
13	19.5	18.1	18.5	21.4	18.4	19.3	21.1	19.5	20.2	20.1	18.7	19.3
14	19.5	17.5	18.5	20.9	18.5	19.8	22.4	19.1	20.1	20.1	18.7	19.2
15	19.4	17.4	18.3	21.6	19.0	20.2	21.6	18.3	19.8	20.0	18.6	19.3
16	19.2	17.4	18.4	22.0	19.5	20.6	21.6	18.4	19.5	20.4	18.6	19.3
17	20.2	18.4	19.1	24.5	20.3	22.2	22.6	18.6	19.9	20.4	18.8	19.5
18	19.4	18.8	19.0	24.7	21.0	22.4	19.9	18.7	19.3	20.6	19.0	19.6
19	20.6	18.8	19.5	24.2	21.5	22.2	19.8	18.6	19.1	20.2	18.6	19.3
20	23.6	19.4	21.4	23.5	20.8	21.8	20.8	18.4	19.2	20.2	18.6	19.4
21	24.0	19.9	22.8	22.0	19.9	20.6	21.8	19.0	19.7	20.6	19.0	19.6
22	23.4	22.0	22.3	21.6	19.4	20.3	21.3	19.1	19.8	20.6	19.4	19.7
23	22.4	21.3	21.9	21.0	19.2	19.8	20.3	18.7	19.5	20.1	19.3	19.7
24	21.5	20.3	20.8	22.4	18.7	20.2	20.1	18.7	19.1	19.9	19.1	19.6
25	20.5	18.6	19.3	22.6	19.2	20.4	21.5	18.3	19.3	19.7	18.9	19.2
26	20.6	18.2	19.1	19.4	19.1	19.3	21.9	18.3	19.6	19.1	18.3	18.9
27	22.5	18.4	20.3	19.3	18.8	19.0	21.3	18.1	19.5	18.7	17.9	18.4
28	21.9	18.6	21.0	19.6	18.6	18.7	21.1	18.3	19.6	18.7	17.7	18.1
29	20.6	18.4	19.9	18.9	18.3	18.6	20.7	18.1	19.4	18.1	17.5	17.8
30	19.6	18.2	18.9	19.8	18.0	18.5	21.1	18.3	19.5	18.2	17.2	17.5
31	---	---	---	20.1	17.8	18.6	19.9	18.3	19.3	---	---	---
MONTH	24.0	17.4	19.4	24.7	17.3	19.7	24.5	16.8	19.7	21.1	17.2	19.2

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	7.8	7.4	7.6	10.6	6.4	8.9	9.7	9.4	9.6	11.1	10.9	11.0
6	9.3	6.1	7.6	7.9	7.4	7.7	---	---	---	10.9	10.7	10.8
7	8.0	5.9	7.6	7.7	7.1	7.3	---	---	---	10.9	10.7	10.8
8	8.2	7.5	7.9	8.0	6.8	7.3	---	---	---	10.9	10.0	10.7
9	8.2	7.4	7.9	9.4	7.5	8.2	---	---	---	11.0	10.2	10.8
10	8.3	8.0	8.1	9.5	9.3	9.3	---	---	---	10.9	10.1	10.8
11	8.9	7.8	8.2	9.4	9.2	9.3	---	---	---	11.1	10.8	11.0
12	8.4	6.1	8.1	9.3	9.1	9.3	---	---	---	11.5	11.0	11.2
13	8.4	6.4	7.8	11.3	9.0	9.4	---	---	---	11.6	11.5	11.5
14	8.5	7.8	8.2	10.8	8.6	9.2	---	---	---	11.6	11.3	11.5
15	8.4	7.7	8.0	8.7	8.4	8.6	---	---	---	11.5	11.1	11.5
16	7.8	6.9	7.4	8.8	8.0	8.5	---	---	---	11.5	11.4	11.5
17	8.5	7.3	7.9	8.8	8.6	8.7	---	---	---	11.5	11.2	11.5
18	8.5	6.9	7.6	8.8	8.5	8.7	---	---	---	11.6	10.4	11.4
19	7.2	6.8	6.9	8.8	8.6	8.7	---	---	---	11.6	11.3	11.5
20	7.4	6.7	7.0	9.6	8.4	8.8	---	---	---	11.6	11.2	11.5
21	7.4	6.7	7.0	9.0	8.5	8.8	---	---	---	11.5	10.7	11.3
22	7.6	7.0	7.2	9.1	8.8	9.0	---	---	---	11.4	11.0	11.2
23	7.2	6.8	6.9	9.1	8.8	8.9	---	---	---	11.4	10.3	11.0
24	10.2	6.8	7.8	9.3	8.9	9.0	---	---	---	11.3	10.3	10.9
25	7.3	6.9	7.0	9.2	8.9	9.1	---	---	---	11.3	9.5	10.9
26	7.2	6.6	6.9	11.3	9.1	9.7	---	---	---	11.3	9.2	11.0
27	7.1	6.5	6.8	10.5	8.1	8.9	11.2	---	---	11.3	10.5	11.1
28	9.6	6.8	7.4	9.4	8.2	8.5	11.6	10.9	11.1	11.3	9.3	10.9
29	10.5	9.2	9.6	10.4	9.4	9.9	11.2	10.9	11.0	11.4	9.5	10.9
30	10.7	8.7	9.4	10.2	9.6	9.9	11.2	11.0	11.1	12.4	11.2	11.7
31	9.9	8.0	8.8	---	---	---	11.2	11.0	11.1	12.2	10.4	11.4
MONTH	10.7	5.9	7.7	11.3	6.4	8.7	---	---	---	12.4	9.2	11.1

03418420 CUMBERLAND RIVER BELOW CORDELL HULL DAM, TN--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	10.4	8.4	9.7	10.5	10.4	10.4	10.4	10.3	10.3	9.2	8.8	9.1
2	10.3	8.2	9.3	10.5	10.5	10.5	10.5	10.4	10.5	9.4	8.8	9.1
3	11.8	8.4	10.4	10.5	10.3	10.4	10.7	10.5	10.6	9.5	8.9	9.1
4	11.8	10.3	11.0	10.3	9.2	9.8	12.3	10.5	11.3	10.2	8.7	9.3
5	11.3	10.7	11.0	10.1	9.4	9.9	11.2	10.0	10.6	9.4	9.1	9.3
6	11.4	10.6	10.8	10.3	10.1	10.2	10.0	9.9	9.9	9.1	8.5	8.8
7	10.8	10.5	10.6	10.4	10.3	10.3	9.9	9.8	9.8	8.7	8.4	8.6
8	10.8	10.6	10.7	10.5	10.3	10.3	9.9	9.6	9.8	9.6	8.4	9.0
9	10.6	10.3	10.5	10.6	10.4	10.4	11.1	9.5	9.8	9.2	8.7	9.0
10	10.3	10.1	10.2	10.6	10.4	10.5	9.4	9.3	9.4	10.2	8.7	8.9
11	10.2	10.0	10.1	11.0	10.6	10.6	9.4	9.3	9.3	8.9	8.4	8.7
12	10.1	9.9	10.0	10.7	10.5	10.6	9.3	9.2	9.2	9.5	8.5	9.0
13	10.0	9.8	9.9	10.6	10.2	10.4	9.3	9.1	9.2	10.3	8.0	8.9
14	9.9	9.8	9.9	10.4	9.5	10.2	9.2	9.0	9.1	9.4	8.8	9.1
15	10.2	9.9	10.0	10.4	10.0	10.3	8.9	8.9	8.9	9.5	8.6	8.9
16	10.1	9.9	10.0	10.5	10.3	10.4	8.9	8.9	8.9	9.4	8.3	8.7
17	9.9	9.8	9.9	10.7	10.5	10.6	9.0	8.7	8.9	9.3	8.1	8.7
18	10.2	9.9	10.1	10.6	10.5	10.6	8.8	8.4	8.6	8.8	8.3	8.6
19	10.2	9.9	10.0	10.6	10.2	10.3	9.3	8.4	8.8	8.3	7.7	8.1
20	9.9	9.5	9.7	10.3	10.2	10.2	9.3	9.1	9.2	8.2	7.3	7.7
21	9.9	9.5	9.5	10.4	10.2	10.2	9.1	8.9	9.1	8.1	7.2	7.6
22	10.8	9.9	10.2	10.4	10.3	10.3	9.2	8.8	9.1	8.8	7.2	7.8
23	10.2	9.8	10.0	10.5	10.3	10.4	9.2	8.9	9.1	9.3	7.3	8.3
24	10.1	9.9	9.9	10.3	9.9	10.1	9.2	8.9	9.1	9.4	7.6	8.5
25	10.3	10.0	10.2	10.1	10.0	10.0	10.0	9.0	9.4	9.5	8.6	9.1
26	10.3	10.1	10.2	10.3	10.1	10.2	9.7	9.3	9.5	9.4	8.3	8.8
27	10.3	10.2	10.3	10.3	10.2	10.3	9.5	9.2	9.4	9.8	8.7	9.1
28	10.4	10.3	10.3	10.5	10.2	10.3	9.6	8.9	9.3	9.4	8.8	9.1
29	---	---	---	10.4	10.3	10.3	9.5	9.0	9.3	10.0	8.1	9.2
30	---	---	---	10.3	10.1	10.2	10.1	9.1	9.3	10.1	9.1	9.6
31	---	---	---	10.3	10.0	10.2	---	---	---	9.8	9.0	9.6
MONTH	11.8	8.2	10.2	11.0	9.2	10.3	12.3	8.4	9.5	10.3	7.2	8.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	9.8	9.0	9.4	9.3	8.0	8.8	8.5	7.2	7.7	8.1	7.2	7.6
2	9.7	8.6	9.2	9.7	8.4	8.9	8.4	7.0	7.5	8.2	7.1	7.6
3	9.8	8.7	9.2	9.5	8.5	9.0	8.9	6.9	7.4	8.1	7.2	7.6
4	9.9	7.7	8.9	9.2	8.7	9.0	7.9	6.8	7.2	8.2	7.0	7.5
5	9.6	8.3	9.0	9.3	8.6	8.9	8.6	6.4	7.2	8.5	6.9	7.5
6	9.4	8.4	8.9	9.3	8.5	8.8	10.0	6.8	7.8	8.1	6.9	7.5
7	9.2	7.9	8.4	9.0	8.3	8.6	9.4	7.5	8.4	8.9	7.0	7.6
8	8.2	7.3	7.9	8.8	8.0	8.4	9.4	7.8	8.6	8.7	7.1	7.6
9	8.3	6.8	7.5	9.2	7.5	8.3	9.0	7.5	8.1	7.6	6.9	7.3
10	8.1	6.7	7.3	8.4	7.7	8.1	8.7	7.4	7.7	7.8	6.7	7.2
11	7.9	6.8	7.1	8.2	7.5	7.7	8.2	7.2	7.5	7.6	6.5	7.0
12	7.8	6.6	7.0	8.5	7.5	7.8	7.9	7.1	7.6	7.9	6.3	7.1
13	8.0	6.5	7.1	8.6	7.4	7.9	8.4	7.3	7.8	8.0	6.8	7.1
14	7.5	5.8	6.6	8.4	7.3	8.0	9.4	7.5	8.1	7.9	6.5	7.1
15	7.4	6.5	6.8	8.3	7.5	7.8	8.9	7.5	8.0	7.8	6.6	7.1
16	7.2	5.9	6.6	7.8	7.1	7.5	9.2	7.5	8.0	8.0	6.5	7.0
17	7.6	5.2	6.6	8.4	7.1	7.7	9.6	7.6	8.1	7.8	6.6	7.1
18	7.2	6.5	7.0	8.7	7.3	7.9	8.0	7.5	7.7	7.7	6.5	6.9
19	7.6	6.4	7.0	8.8	7.8	8.1	8.3	7.5	7.8	9.0	6.3	6.9
20	8.1	6.8	7.5	9.1	7.7	8.2	8.7	7.4	7.8	7.2	6.4	6.7
21	8.2	6.7	7.6	8.9	8.0	8.3	9.5	7.4	8.0	7.1	6.4	6.6
22	8.3	7.8	8.0	9.0	7.8	8.4	8.8	7.3	7.8	---	---	---
23	8.1	7.8	8.0	9.1	7.8	8.5	8.1	7.0	7.5	---	---	---
24	8.3	7.7	8.0	9.2	7.8	8.7	8.2	7.2	7.5	---	---	---
25	8.1	7.7	8.0	9.2	8.3	8.7	8.9	7.0	7.6	---	---	---
26	8.4	7.7	7.9	8.4	8.1	8.3	8.6	7.1	7.6	---	---	---
27	9.3	8.0	8.4	8.2	7.4	7.8	8.7	7.1	7.7	---	---	---
28	9.5	8.6	9.1	8.0	7.3	7.7	8.7	7.2	7.8	8.4	7.4	7.8
29	9.2	8.5	9.0	7.9	7.2	7.6	8.5	6.8	7.6	8.5	7.6	7.9
30	9.3	8.5	8.8	7.8	7.3	7.5	8.7	6.9	7.7	8.8	7.6	7.9
31	---	---	---	8.8	7.1	7.9	8.2	7.3	7.7	---	---	---
MONTH	9.9	5.2	7.9	9.7	7.1	8.2	10.0	6.4	7.8	9.0	6.3	7.3

03421000 COLLINS RIVER NEAR MCMINNVILLE, TN

LOCATION.--Lat 35°42'32", long 85°43'46", Warren County, Hydrologic Unit 05130107, on left bank at downstream side of bridge on U.S. Highway 70S, 1.8 mi downstream from Barren Fork River, 2.5 mi northeast of McMinnville, and at mile 19.5.
DRAINAGE AREA.--640 mi².
PERIOD OF RECORD.--October 1924 to current year. Prior to April 1925 monthly discharge only, published in WSP 1306.
REVISED RECORDS.--WSP 873: 1929, 1932(M), 1934-35, 1936(M), 1937. WSP 1276: 1925-26, 1928(M), 1933, 1936, 1940. WSP 2110: Drainage area.
GAGE.--Water-stage encoder and satellite telemeter at station. Datum of gage is 825.78 ft, Sandy Hook datum. Prior to Oct. 16, 1926, nonrecording gage on upstream side of bridge at same datum.
REMARKS.--No estimated daily discharges. Records good. Maximum discharge for current year from rating curve extended above 42,000 ft³/s on basis of slope-area measurement of peak flow. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in 1854 is believed to have been about equal to that of Mar. 23, 1929, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	128	630	5530	919	1510	4000	947	320	424	151	188
2	94	119	512	3720	844	2530	2950	834	347	429	146	164
3	91	112	1770	2850	799	3590	2310	740	353	452	141	140
4	129	109	5560	2240	775	6110	1900	729	363	355	139	131
5	160	115	3350	1870	760	4090	1670	2060	638	322	146	126
6	132	110	1980	1630	853	3080	1580	2420	488	300	144	122
7	111	109	1360	3120	1040	2450	1420	1830	399	289	134	121
8	125	120	1030	3270	973	1970	1370	1440	330	271	129	117
9	238	183	803	2340	922	1680	1540	1190	290	270	1420	114
10	330	1010	657	2110	879	1480	1830	1060	267	256	760	117
11	308	1510	566	4260	830	1330	1580	935	250	249	366	125
12	222	1040	495	3590	773	1230	1400	816	280	259	263	128
13	175	692	444	3060	836	1340	1870	754	394	255	216	128
14	150	525	448	2460	3860	1480	2350	714	727	243	192	118
15	132	423	482	2050	3550	1300	5270	646	759	221	178	113
16	120	348	514	1880	2500	1170	5040	615	678	214	168	108
17	111	298	562	1780	2730	1090	3350	666	508	212	159	106
18	113	259	1600	1560	21400	1220	2460	615	402	195	159	104
19	115	235	3790	1410	31200	1330	2000	620	344	188	160	116
20	110	213	3610	1370	29400	1200	2000	689	305	182	157	105
21	108	195	9000	1330	13700	1110	1810	625	381	181	153	102
22	147	179	19400	1220	6080	1060	1560	497	617	174	146	102
23	241	174	64100	1120	4010	8370	1350	436	1330	164	141	101
24	430	164	37400	1050	3150	4950	1160	396	1060	220	137	216
25	414	159	14500	979	2550	3070	999	367	2280	260	135	922
26	320	156	5400	911	2190	2310	880	348	1100	219	139	565
27	252	148	3530	864	1880	1870	801	372	806	202	141	362
28	202	212	7100	843	1640	1790	782	648	658	182	137	268
29	170	771	6830	813	---	13300	889	498	625	172	132	218
30	151	792	5020	815	---	17200	1070	398	517	168	207	187
31	137	---	7830	1000	---	6980	---	350	---	158	178	---
TOTAL	5636	10608	210273	63045	141043	103190	59191	25255	17816	7686	6974	5534
MEAN	182	354	6783	2034	5037	3329	1973	815	594	248	225	184
MAX	430	1510	64100	5530	31200	17200	5270	2420	2280	452	1420	922
MIN	91	109	444	813	760	1060	782	348	250	158	129	101
CFSM	.28	.55	10.6	3.18	7.87	5.20	3.08	1.27	.93	.39	.35	.29
IN.	.33	.62	12.22	3.66	8.20	6.00	3.44	1.47	1.04	.45	.41	.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1991, BY WATER YEAR (WY)

MEAN	315	765	1542	2092	2427	2476	1774	1079	603	420	300	276
MAX	2345	4286	6783	6262	6564	6279	4203	3825	4216	2091	1439	1120
(WY)	1976	1958	1991	1974	1939	1929	1970	1984	1928	1989	1942	1989
MIN	63.5	69.0	107	126	391	619	462	225	85.9	115	76.2	62.9
(WY)	1932	1932	1940	1940	1941	1988	1986	1941	1988	1944	1925	1925

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1925 - 1991	
ANNUAL TOTAL	617466		656251			
ANNUAL MEAN	1692		1798		1166	
HIGHEST ANNUAL MEAN					2193	1973
LOWEST ANNUAL MEAN					409	1931
HIGHEST DAILY MEAN	64100	Dec 23	64100	Dec 23	64100	Dec 23 1990
LOWEST DAILY MEAN	90	Sep 8	91	Oct 3	37	Oct 28 1961
ANNUAL SEVEN-DAY MINIMUM	92	Sep 4	105	Sep 17	50	Sep 24 1925
INSTANTANEOUS PEAK FLOW			*74300	Dec 23	75300	Mar 23 1929
INSTANTANEOUS PEAK STAGE			38.70	Dec 23	39.10	Mar 23 1929
INSTANTANEOUS LOW FLOW			89	Oct 3	35	Sep 21 1930
ANNUAL RUNOFF (CFSM)	2.64		2.81		1.82	
ANNUAL RUNOFF (INCHES)	35.89		38.14		24.76	
10 PERCENT EXCEEDS	3600		3540		2570	
50 PERCENT EXCEEDS	640		620		520	
90 PERCENT EXCEEDS	110		128		110	

* See REMARKS.

03422500 CANEY FORK NEAR ROCK ISLAND, TN

LOCATION.--Lat 35°48'26", long 85°37'44", White County, Hydrologic Unit 05130108, on right bank 180 ft downstream from powerhouse of Tennessee Valley Authority, 0.8 mi downstream from Great Falls Dam, 0.9 mi downstream from Collins River, 1.5 mi northwest of Rock Island, and at mile 90.3.
DRAINAGE AREA.--1,678 mi².
PERIOD OF RECORD.--November 1911 to April 1913, July 1913 to May 1914, August 1914 to current year. Monthly discharge only for some periods, published in WSP 1306.
REVISED RECORDS.--WSP 1276: 1934, 1937. WSP 1910: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 647.09 ft above National Geodetic Vertical Datum of 1929. Prior to Mar. 30, 1924, at sites from 80 ft to 0.5 mi upstream at different datums. Apr. 12, 1925, to Sept. 9, 1930, at present site at datum 5.00 ft higher and Sept. 10, 1930, to Sept. 18, 1964, 3.00 ft higher.
REMARKS.--Records good, except for periods of no gage height record, Dec. 23 to Sept. 30 which are fair. Maximum discharge and gage height from floodmarks, present datum, from rating curve extended above 110,000 ft³/s. Minimum daily also occurred several days August to October 1951. Flow regulated since Dec. 8, 1916, by Great Falls Lake (station 03422000) (see p. 89). Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1902 reached a stage about 10 ft lower than the flood of Mar. 23, 1929, at a point 8 mi downstream, from profile by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	300	559	52	15000	2900	4000	9780	3380	70	70	317	70
2	183	402	52	9500	2010	4500	7300	2450	70	840	276	70
3	186	402	1810	8000	1520	9500	5690	1800	1000	751	198	851
4	186	423	3920	5000	1620	16800	4910	1510	900	693	70	1000
5	185	720	6100	5000	1960	12100	4440	1560	1000	358	70	957
6	60	298	4090	4500	1960	9350	3960	2390	800	683	70	1090
7	60	482	3240	6500	1940	7620	3650	3500	1000	627	70	70
8	784	481	2740	8900	1900	5710	3580	3190	70	641	70	70
9	771	437	2370	6950	1870	4750	3570	2800	70	234	1100	256
10	885	404	2260	6180	1890	4190	3550	2960	783	240	2050	152
11	1330	613	2270	8810	3730	4040	3530	2320	691	239	1700	70
12	714	1630	2280	8070	2770	4000	3520	1940	637	282	365	70
13	58	2050	2270	7780	3780	3940	3500	1250	718	203	369	70
14	58	1730	2430	6050	3430	3970	3920	1840	858	198	363	70
15	825	1520	2340	5490	3950	3930	14900	1430	70	237	277	70
16	911	678	2330	5000	5030	3880	12300	1390	70	236	389	70
17	891	58	2510	4500	7970	3830	7550	1370	644	238	238	70
18	983	58	3350	4000	57300	3800	5800	902	648	245	70	70
19	1480	590	4160	4000	66700	3800	5050	1380	1100	238	148	70
20	56	607	8690	4000	69100	3770	5070	1180	1220	154	195	70
21	56	1080	20200	4000	35000	3720	4910	721	1510	156	199	70
22	569	53	48600	4000	15000	3690	3920	2250	70	155	206	70
23	471	51	126000	4000	11000	19900	3860	2400	70	235	198	70
24	597	676	68200	4000	8000	15600	3820	2400	654	158	70	264
25	1330	52	28000	3500	6500	7970	3800	2400	1550	677	70	630
26	1340	287	14000	3450	5500	6330	3790	2400	1460	466	147	473
27	56	52	10000	1580	5000	5280	3750	700	2130	238	154	275
28	56	52	28000	2960	4500	4820	3680	650	937	349	160	629
29	1120	497	20000	2470	---	35600	3420	2000	70	360	116	186
30	1530	530	15000	2690	---	34600	3410	1300	70	393	114	617
31	556	---	23500	2980	---	15100	---	1500	---	361	70	---
TOTAL	18587	17472	460764	168860	333830	270090	153930	59263	20940	10955	9909	8570
MEAN	600	582	14860	5447	11920	8713	5131	1912	698	353	320	286
MAX	1530	2050	126000	15000	69100	35600	14900	3500	2130	840	2050	1090
MIN	56	51	52	1580	1520	3690	3410	650	70	70	70	70
(†)	-6600	+3700	+14400	-11900	+11300	+1100	-10400	-3200	+4000	-800	0	-3700
MEAN‡	387	706	15328	5063	12326	8748	4784	1808	831	328	320	162
CFSM‡	.23	.42	9.13	3.02	7.35	5.21	2.85	1.08	.50	.20	.19	.10
IN‡	.27	.47	10.53	3.48	7.65	6.01	3.18	1.24	.55	.23	.22	.11

CAL YR 1990 MEAN‡ 3844 CFSM‡ 2.29 IN.‡ 31.10
WTR YR 1991 MEAN‡ 4194 CFSM‡ 2.50 IN.‡ 33.93

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1912 - 1991, BY WATER YEAR (WY)

MEAN	876	1779	4045	5824	6344	6962	5018	2960	1601	1160	982	760
MAX	5017	9575	14860	16700	17030	18730	14920	12020	9810	6799	8810	2901
(WY)	1976	1958	1991	1937	1939	1929	1912	1984	1928	1916	1920	1950
MIN	37.2	40.6	325	359	1055	1229	991	638	83.6	115	79.8	125
(WY)	1954	1954	1964	1981	1934	1988	1986	1988	1988	1968	1976	1968

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1912 - 1991	
ANNUAL TOTAL	1395275		1533170			
ANNUAL MEAN	3823		4200		3123	
HIGHEST ANNUAL MEAN					5451	1973
LOWEST ANNUAL MEAN					1112	1981
HIGHEST DAILY MEAN	126000	Dec 23	126000	Dec 23	154000	Mar 23 1929
LOWEST DAILY MEAN	51	Nov 23	51	Nov 23	*25	Aug 25 1951
ANNUAL SEVEN-DAY MINIMUM	59	Jun 29	70	Sep 11	32	Oct 19 1971
INSTANTANEOUS PEAK FLOW			140000	Dec 23	210000	Mar 23 1929
INSTANTANEOUS PEAK STAGE			33.88	Dec 23	*43.60	Mar 23 1929
10 PERCENT EXCEEDS	8270		8000		6760	
50 PERCENT EXCEEDS	1350		1390		1770	
90 PERCENT EXCEEDS	62		70		133	

† Change in contents, in cfs-days, in Great Falls Lake.
‡ Adjusted for change in contents.
NOTE.--Contents (cfs-days) for adjustment furnished by Tennessee Valley Authority.
* See REMARKS.

03423152 FALLING WATER RIVER BELOW BURGESS FALLS DAM, TN

LOCATION.--Lat 36°02′42", long 85°35′43", Putnam County, Hydrologic Unit 05130108, on left bank 800 ft below Burgess Falls Dam, 0.3 mi above Burgess Falls, and at mile 10.7.
DRAINAGE AREA.--124 mi².
PERIOD OF RECORD.--October 1990 to September 1991.
GAGE.--Water-stage encoder and satellite telemeter at station. Datum of gage is 847.89 above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharges. Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	23	62	729	186	250	638	102	138	31	25	78
2	18	21	55	476	168	336	467	92	197	31	24	42
3	18	22	264	356	162	358	386	85	100	31	21	32
4	54	21	618	290	159	706	331	84	79	31	21	28
5	68	23	227	246	157	506	294	90	109	31	21	27
6	38	42	142	217	182	407	254	104	66	25	21	26
7	25	34	113	718	204	358	234	98	59	25	21	25
8	25	27	95	815	198	306	227	84	54	25	26	23
9	27	41	79	494	193	261	203	82	52	53	55	24
10	26	197	72	401	181	242	193	82	48	47	63	41
11	26	156	70	607	169	227	179	79	46	40	36	35
12	25	91	65	544	164	217	174	106	48	33	26	30
13	29	67	64	430	214	285	188	104	56	29	25	30
14	30	56	69	340	755	279	197	94	82	31	25	27
15	24	50	73	280	533	249	624	83	108	29	25	23
16	21	46	88	251	364	227	569	74	74	26	24	20
17	21	44	97	219	488	221	334	72	58	25	21	20
18	29	43	234	193	2110	441	247	102	52	56	20	27
19	43	37	559	181	2720	440	214	176	47	51	25	27
20	31	38	388	180	2470	348	204	97	45	32	26	27
21	24	36	1090	172	1290	310	174	84	53	27	24	27
22	34	35	1930	165	794	404	158	72	46	25	22	23
23	100	36	3900	160	588	1720	147	69	43	25	18	20
24	69	44	2410	157	457	1160	136	69	43	39	18	47
25	48	40	1040	153	387	628	129	70	43	42	18	153
26	38	39	659	149	340	442	123	70	39	32	18	92
27	30	39	518	146	298	368	114	71	39	29	30	58
28	25	56	1210	148	266	339	108	67	39	29	25	40
29	22	109	858	147	---	1350	110	59	38	29	41	32
30	22	86	629	158	---	1750	116	55	33	27	76	26
31	24	---	1100	205	---	985	---	59	---	27	118	---
TOTAL	1031	1599	18778	9727	16197	16120	7472	2635	1934	1013	959	1130
MEAN	33.3	53.3	606	314	578	520	249	85.0	64.5	32.7	30.9	37.7
MAX	100	197	3900	815	2720	1750	638	176	197	56	118	153
MIN	17	21	55	146	157	217	108	55	33	25	18	20
CFSM	.27	.43	4.89	2.53	4.67	4.19	2.01	.69	.52	.26	.25	.30
IN.	.31	.48	5.63	2.92	4.86	4.84	2.24	.79	.58	.30	.29	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1991 - 1991, BY WATER YEAR (WY)

SUMMARY STATISTICS	FOR 1991 WATER YEAR	
ANNUAL TOTAL	78595	
ANNUAL MEAN	215	
HIGHEST DAILY MEAN	3900	Dec 23
LOWEST DAILY MEAN	17	Oct 1
ANNUAL SEVEN-DAY MINIMUM	21	Aug 20
INSTANTANEOUS PEAK FLOW	4230	Dec 23
INSTANTANEOUS PEAK STAGE	4.86	Dec 23
ANNUAL RUNOFF (CFSM)	1.74	
ANNUAL RUNOFF (INCHES)	23.58	
10 PERCENT EXCEEDS	511	
50 PERCENT EXCEEDS	73	
90 PERCENT EXCEEDS	24	

03423400 TAYLOR CREEK NEAR CASSVILLE, TN

LOCATION.--Lat 35°59'50", long 85°36'56", White County, Hydrologic Unit 05130108, on right bank at downstream end of county road bridge at Franchers Mill, 3.0 mi north of Cassville, and at mile 2.2.
DRAINAGE AREA.--34.2 mi².
PERIOD OF RECORD.--June 1989 to September 1991.
GAGE.--Water-stage encoder, crest-stage gage and satellite telemeter at station.
REMARKS.--Records good. Minimum discharge also occurred Aug. 30, 1990, Aug. 7, 8, 15, 16, 1991. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR JUNE 1990 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	10	3.4	2.7	1.6
2	---	---	---	---	---	---	---	---	10	3.6	2.5	1.6
3	---	---	---	---	---	---	---	---	20	3.1	2.5	1.6
4	---	---	---	---	---	---	---	---	15	2.8	2.5	1.6
5	---	---	---	---	---	---	---	---	12	2.8	3.3	1.6
6	---	---	---	---	---	---	---	---	10	2.8	2.8	1.6
7	---	---	---	---	---	---	---	---	9.0	2.5	2.3	1.6
8	---	---	---	---	---	---	---	---	8.0	2.5	1.9	2.1
9	---	---	---	---	---	---	---	---	7.5	2.5	1.8	2.1
10	---	---	---	---	---	---	---	---	7.0	2.5	1.8	1.9
11	---	---	---	---	---	---	---	---	6.2	5.6	1.9	2.2
12	---	---	---	---	---	---	---	---	6.1	16	1.8	42
13	---	---	---	---	---	---	---	---	5.7	17	1.9	4.5
14	---	---	---	---	---	---	---	---	5.7	20	1.9	4.4
15	---	---	---	---	---	---	---	---	5.7	11	1.9	8.7
16	---	---	---	---	---	---	---	---	5.6	7.8	1.9	3.5
17	---	---	---	---	---	---	---	---	5.3	6.3	2.0	2.8
18	---	---	---	---	---	---	---	---	5.2	5.3	2.1	2.7
19	---	---	---	---	---	---	---	---	4.8	4.5	1.9	2.5
20	---	---	---	---	---	---	---	---	4.4	4.3	1.9	2.5
21	---	---	---	---	---	---	---	---	5.1	3.7	1.9	3.6
22	---	---	---	---	---	---	---	---	5.3	4.6	1.9	4.1
23	---	---	---	---	---	---	---	---	4.7	5.0	1.9	2.8
24	---	---	---	---	---	---	---	---	4.1	4.0	2.2	2.5
25	---	---	---	---	---	---	---	---	4.1	3.4	2.0	2.4
26	---	---	---	---	---	---	---	---	4.0	3.1	1.6	2.2
27	---	---	---	---	---	---	---	---	3.7	3.1	1.6	2.2
28	---	---	---	---	---	---	---	---	3.4	3.1	1.6	2.2
29	---	---	---	---	---	---	---	---	3.4	3.0	1.5	2.0
30	---	---	---	---	---	---	---	---	3.4	2.5	1.5	1.9
31	---	---	---	---	---	---	---	---	---	2.8	1.6	---
TOTAL	---	---	---	---	---	---	---	---	204.4	164.6	62.6	119.0
MEAN	---	---	---	---	---	---	---	---	6.81	5.31	2.02	3.97
MAX	---	---	---	---	---	---	---	---	20	20	3.3	42
MIN	---	---	---	---	---	---	---	---	3.4	2.5	1.5	1.6
CFSM	---	---	---	---	---	---	---	---	.20	.15	.06	.12
IN.	---	---	---	---	---	---	---	---	.22	.18	.07	.13

SUMMARY STATISTICS FOR JUNE TO SEPTEMBER 1990

HIGHEST DAILY MEAN	42	Sept 12
LOWEST DAILY MEAN	1.5	Aug 29
INSTANTANEOUS PEAK FLOW	260	Sept 12
INSTANTANEOUS PEAK STAGE	2.65	Sept 12
INSTANTANEOUS LOW FLOW	*1.2	Aug 29

* See REMARKS.

03423400 TAYLOR CREEK NEAR CASSVILLE, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.9	4.7	12	97	34	54	96	19	15	4.3	2.1	2.8
2	1.9	4.5	12	84	31	64	75	17	49	4.5	1.9	1.9
3	1.9	4.5	109	74	29	79	62	15	25	4.5	1.8	1.9
4	15	4.7	68	62	29	85	54	15	20	4.5	1.7	1.9
5	5.6	7.2	46	56	29	66	49	20	15	4.7	1.7	1.9
6	3.8	8.6	37	58	47	64	44	20	12	4.5	1.6	1.9
7	3.3	7.5	32	220	40	70	42	17	10	4.3	1.4	1.9
8	3.7	7.3	27	118	35	54	43	14	9.6	4.0	1.7	1.5
9	3.7	27	24	90	34	48	40	14	8.8	5.3	2.5	1.6
10	3.7	50	21	116	32	44	37	13	8.2	4.8	4.1	2.2
11	3.7	31	18	141	29	41	32	12	7.5	5.5	2.3	2.4
12	5.9	24	17	103	27	42	31	14	7.5	4.7	1.9	2.2
13	4.9	20	17	79	66	61	46	19	7.4	4.3	1.9	2.1
14	4.1	17	24	67	89	46	43	16	8.1	3.7	1.9	1.9
15	4.0	15	23	59	60	39	159	13	9.7	3.7	1.6	1.8
16	3.5	13	26	56	49	35	64	12	8.3	3.4	1.6	1.6
17	3.1	12	29	48	264	41	50	10	7.6	3.4	1.6	1.9
18	6.6	11	75	43	1130	70	44	35	6.8	4.5	1.7	2.0
19	5.2	10	80	40	1320	48	46	69	6.1	4.2	2.0	2.1
20	4.2	9.7	195	42	436	43	40	88	5.8	3.6	2.4	2.2
21	4.0	9.1	312	40	235	40	34	53	6.3	3.1	1.9	2.2
22	18	8.5	2410	35	133	170	31	35	5.9	3.0	1.9	2.2
23	16	8.7	2050	32	96	387	28	27	5.2	3.1	1.8	2.2
24	11	8.7	302	30	78	108	25	21	5.5	6.5	1.6	6.2
25	9.5	8.2	195	28	68	75	22	18	5.3	4.8	1.6	6.3
26	8.3	7.8	152	26	60	60	20	15	5.6	3.5	2.0	3.6
27	7.3	7.4	226	25	51	56	19	17	5.5	3.4	1.8	2.8
28	6.4	16	294	27	46	67	20	27	5.7	3.4	1.8	2.5
29	5.5	18	144	26	---	634	25	18	5.5	3.2	1.9	2.3
30	5.2	14	161	42	---	305	24	14	4.8	2.7	3.4	2.1
31	4.9	---	167	44	---	132	---	12	---	2.4	3.9	---
TOTAL	185.8	395.1	7305	2008	4577	3128	1345	709	302.7	125.5	63.0	72.1
MEAN	5.99	13.2	236	64.8	163	101	44.8	22.9	10.1	4.05	2.03	2.40
MAX	18	50	2410	220	1320	634	159	88	49	6.5	4.1	6.3
MIN	1.9	4.5	12	25	27	35	19	10	4.8	2.4	1.4	1.5
CFSM	.17	.38	6.87	1.89	4.77	2.94	1.31	.67	.29	.12	.06	.07
IN.	.20	.43	7.92	2.18	4.96	3.39	1.46	.77	.33	.14	.07	.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1991, BY WATER YEAR (WY)

MEAN	5.99	13.2	236	64.8	163	101	44.8	22.9	8.45	4.68	2.03	3.18
MAX	5.99	13.2	236	64.8	163	101	44.8	22.9	10.1	5.31	2.03	3.97
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1991	1990	1991	1990
MIN	5.99	13.2	236	64.8	163	101	44.8	22.9	6.81	4.05	2.02	2.40
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1990	1991	1990	1991

SUMMARY STATISTICS	FOR 1991 WATER YEAR		WATER YEARS 1990 - 1991	
ANNUAL TOTAL	20216.2			
ANNUAL MEAN	55.4		55.4	
HIGHEST ANNUAL MEAN			55.4	1991
LOWEST ANNUAL MEAN			55.4	1991
HIGHEST DAILY MEAN	2410	Dec 22	2410	Dec 22 1990
LOWEST DAILY MEAN	1.4	Aug 7	1.4	Aug 7 1991
ANNUAL SEVEN-DAY MINIMUM	1.7	Aug 2	1.6	Aug 26 1990
INSTANTANEOUS PEAK FLOW	5160	Dec 23	5160	Dec 23 1990
INSTANTANEOUS PEAK STAGE	5.95	Dec 23	5.95	Dec 23 1991
INSTANTANEOUS LOW FLOW	*1.4	Aug 6	*1.2	Aug 29 1990
ANNUAL RUNOFF (CFSM)	1.61		1.61	
ANNUAL RUNOFF (INCHES)	21.93		21.94	
10 PERCENT EXCEEDS	88		70	
50 PERCENT EXCEEDS	15		7.4	
90 PERCENT EXCEEDS	1.9		1.9	

* See REMARKS.

03425000 CUMBERLAND RIVER AT CARTHAGE, TN
(National stream-quality accounting network station)

LOCATION.--Lat 36°14'53", long 85°57'19", Smith County, Hydrologic Unit 05130201, on left bank of Cordell Hull Bridge on State Highway 25, at Carthage, 1.0 mi downstream from Caney Fork River, and at mile 308.2.
DRAINAGE AREA.--10,690 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1922 to current year. Gage-height records collected in this vicinity since 1885 are in reports of U.S. Weather Bureau.
REVISED RECORDS.--WSP 893: 1923-39. WSP 1276: 1927, 1929(M), 1937(M). WSP 1306: 1943 (monthly runoff). WSP 2110: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 437.53 ft above National Geodetic Vertical Datum of 1929. Prior to May 12, 1936 nonrecording gage at site 1,000 ft downstream at same datum. May 12 to July 17, 1936, nonrecording gage at present site and datum. Since Oct. 1, 1957, auxiliary water-stage recorder 15.8 mi downstream from base gage at same datum.
REMARKS.--Records good. Flow regulated by five upstream lakes or reservoirs starting January 1917 and increasing in number until closure of Cordell Hull Reservoir (03418400) Oct. 4, 1967, (see p. 89). Maximum discharge prior to regulation, 210,000 ft³/s, Dec. 30, 1926; maximum gage height, 59.8 ft, Dec. 30, 1926; minimum daily discharge, 366 ft³/s, Oct. 29, 1940; minimum gage height since filling of Old Hickory Lake on Dec. 30, 1956, 4.3 ft, Oct. 28, 1969. Corps of Engineers satellite telemeter at station.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1793, 59.8 ft, Dec. 30, 1926.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4390	7580	7020	71700	35700	60800	54500	8120	23800	9060	6900	9780
2	5270	8430	4780	68900	26100	63700	51300	13900	20300	12500	6050	10000
3	6480	6850	12500	62500	17300	63700	51300	11900	17700	16900	6160	12200
4	7000	5360	20100	58600	17300	70100	46600	10300	14700	18200	5770	8340
5	7060	5520	21300	55100	19100	68900	47600	8090	15400	17000	7590	7940
6	6800	7050	16800	51000	21200	63500	47600	6690	15100	10200	12900	8390
7	4000	10100	12700	59600	28100	60900	47100	5600	5950	6190	19600	8790
8	4040	12600	6310	66400	27200	62800	44800	6890	4070	5730	23600	8310
9	6810	14700	4250	59300	25800	61800	43100	7460	4940	11300	15400	9380
10	7310	17800	7210	57300	22500	60800	45400	9610	4530	11200	11300	9580
11	6740	11400	12000	57000	14400	57900	39400	6590	6330	6400	6840	7780
12	6690	9170	17700	54900	11800	52100	35700	15300	7780	6660	4910	8370
13	8330	8730	16800	53200	15700	52900	38400	8680	9640	10200	7510	7440
14	3780	8060	13800	48600	35500	52700	36600	9290	9600	10700	9830	8230
15	4930	7520	5910	46400	35400	53300	39200	14700	10600	8070	8710	8560
16	10900	7510	7710	47000	30800	50800	45700	14100	6920	12200	8910	8330
17	13200	5910	14300	46700	35500	44400	34700	13900	3960	17000	10400	9350
18	13600	4670	27700	46000	67600	42000	39400	11600	3410	16200	9380	9450
19	13900	6700	39300	44700	79700	46600	44000	6420	6550	14100	10800	9480
20	10200	8620	22400	43200	72900	43200	39000	6590	15200	13200	9650	8890
21	6340	10400	37300	38500	57300	36600	25300	9660	20400	11400	11700	8640
22	6610	6340	52100	38700	63300	42700	19000	14100	17800	11300	10200	6990
23	7540	4040	66800	30600	61400	57700	15900	18800	13500	10800	10400	8370
24	8460	4480	45000	28000	62600	56600	16000	19200	8440	14000	11400	9490
25	10100	4500	31400	e29200	62800	53400	16800	21200	6450	16500	10300	8910
26	13700	5440	49900	e32400	61500	45800	17400	15200	9690	8940	11300	10800
27	12400	6280	56400	e32600	59500	47600	15500	15900	17100	5870	11500	9220
28	6580	5740	68600	e34800	61500	49700	12700	16000	23700	4300	11000	7780
29	5940	8260	74700	e33400	---	61400	10600	15900	21200	5060	10400	6550
30	7070	7480	73900	33100	---	69500	10500	22100	14100	5070	11100	6610
31	7480	---	76700	31900	---	61700	---	24100	---	6240	9770	---
TOTAL	243650	237240	923390	1461300	1129500	1715600	1031100	387890	358860	332490	321280	261950
MEAN	7860	7908	29790	47140	40340	55340	34370	12510	11960	10730	10360	8732
MAX	13900	17800	76700	71700	79700	70100	54500	24100	23800	18200	23600	12200
MIN	3780	4040	4250	28000	11800	36600	10500	5600	3410	4300	4910	6550

CAL YR 1990 MEAN‡ 17980 CFSM‡ 1.68 IN.‡ 22.84
WTR YR 1991 MEAN‡ 21790 CFSM‡ 2.04 IN.‡ 27.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1991, BY WATER YEAR (WY)

MEAN	10180	13070	22020	29600	26110	26350	23780	16920	15860	12010	11160	9964
MAX	27890	27020	35390	72520	56080	64560	64800	58750	34510	28360	19050	20590
(WY)	1990	1990	1987	1974	1974	1975	1975	1984	1983	1989	1982	1979
MIN	3700	3739	3930	4365	6226	5401	6155	5363	7362	3918	4330	5169
(WY)	1989	1981	1981	1981	1981	1981	1981	1976	1985	1974	1975	1976

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		*WATER YEARS 1974 - 1991	
ANNUAL TOTAL	5903570		8404250			
ANNUAL MEAN	16170		23030		18050	
HIGHEST ANNUAL MEAN					26090	1974
LOWEST ANNUAL MEAN					8309	1988
HIGHEST DAILY MEAN	76700	Dec 31	79700	Feb 19	132000	Mar 13 1975
LOWEST DAILY MEAN	3780	Oct 14	3410	Jun 18	800	Dec 19 1976
ANNUAL SEVEN-DAY MINIMUM	5260	Nov 22	5260	Nov 22	2140	Jul 24 1974
INSTANTANEOUS PEAK FLOW			82500	Feb 19	*143000	Mar 13 1975
INSTANTANEOUS PEAK STAGE			33.04	Feb 19	*46.95	Mar 14 1975
10 PERCENT EXCEEDS	34200		57800		38700	
50 PERCENT EXCEEDS	11600		13200		13000	
90 PERCENT EXCEEDS	5910		6220		4880	

e Estimated.
‡ Adjusted for changes in contents in Lake Cumberland, Dale Hollow Lake, Cordell Hull Reservoir, Great Falls, and Center Hill Lakes.
NOTE.--Contents (cfs-days) for adjustments furnished by U.S. Army Corps of Engineers.
* Regulated period only. See REMARKS.

03425000 CUMBERLAND RIVER AT CARTHAGE, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: October 1975 to September 1981.
WATER TEMPERATURE: October 1975 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 338 microsiemens, Sept. 5, 1981; minimum, 89 microsiemens, July 2, 1980.
WATER TEMPERATURES: Maximum, 29.5°C, Oct. 10, 1977; minimum, 2.0°C, Jan 20, 22, 23, 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
17...	1130	17700	195	7.5	18.0	755	5.0	8.1	87	36	34
DEC											
04...	1030	15600	216	7.9	11.5	758	13	9.5	88	K1400	K1700
FEB											
12...	0940	12900	169	7.5	9.5	755	13	10.3	91	30	27
APR											
08...	1000	46600	153	7.3	13.0	752	10	10.2	98	28	K10
JUN											
11...	1000	6410	172	7.1	17.5	755	4.0	--	--	240	33
JUL											
24...	1000	15200	167	7.2	17.5	751	2.8	8.8	93	K7	21

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT											
17...	81	25	22	6.2	5.0	12	0.2	1.5	56	35	3.4
DEC											
04...	99	27	30	5.8	4.5	9	0.2	1.7	72	32	4.8
FEB											
12...	78	27	22	5.5	3.9	10	0.2	1.6	51	29	2.3
APR											
08...	70	22	20	4.8	3.2	9	0.2	1.4	48	18	1.8
JUN											
11...	76	27	21	5.7	3.9	10	0.2	1.5	49	30	3.5
JUL											
24...	72	28	20	5.4	3.8	10	0.2	1.2	44	33	3.9

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
OCT											
17...	<0.10	3.6	110	111	0.15	5260	--	<0.010	--	0.200	0.020
DEC											
04...	<0.10	4.2	134	129	0.18	5640	--	<0.010	--	0.400	0.060
FEB											
12...	<0.10	4.4	104	102	0.14	3620	0.320	0.020	0.07	0.340	0.020
APR											
08...	<0.10	4.4	91	85	0.12	11400	--	<0.010	--	0.420	0.020
JUN											
11...	0.10	4.1	113	102	0.15	1960	--	<0.010	--	0.340	0.030
JUL											
24...	0.20	4.3	98	101	0.13	4020	0.270	0.010	0.03	0.280	0.010

K--Results based on non-ideal colony counts.

03425000 CUMBERLAND RIVER AT CARTHAGE, TN--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
OCT 17...	0.04	--	0.030	0.50	0.050	0.010	0.020	10	<1	21
DEC 04...	0.09	--	0.070	0.40	0.120	0.060	0.040	--	--	--
FEB 12...	0.05	--	0.040	<0.20	0.020	<0.010	<0.010	30	<1	19
APR 08...	0.04	--	0.030	0.30	0.040	0.030	<0.010	50	<1	19
JUN 11...	0.04	--	0.030	0.60	0.040	0.050	<0.010	--	--	--
JUL 24...	0.04	0.27	0.030	0.30	0.050	0.010	<0.010	10	<1	20

DATE	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)
OCT 17...	<0.5	<1.0	1	<3	3	6	1	4	12	<0.1
FEB 12...	<0.5	<1.0	1	<3	2	33	1	<4	16	<0.1
APR 08...	<0.5	3.0	<1	<3	3	47	<1	<4	14	<0.1
JUL 24...	<0.5	<1.0	<1	<3	4	19	<1	<4	4	<0.1

DATE	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 17...	<10	3	<1	<1.0	94	<6	14	7	317	76
DEC 04...	--	--	--	--	--	--	--	23	948	99
FEB 12...	<10	1	<1	<1.0	84	<6	7	21	742	61
APR 08...	<10	2	<1	<1.0	82	<6	9	26	3270	54
JUN 11...	--	--	--	--	--	--	--	7	121	87
JUL 24...	<10	<1	<1	<1.0	82	<6	5	12	503	91

03425400 CUMBERLAND RIVER AT HUNTERS POINT, TN

LOCATION.--Lat 36°17'57", long 86°15'49", Wilson County, Hydrologic Unit 05130201, on left bank, 200 ft below U.S. Highway 231 bridge, at Hunters Point, 2.1 mi upstream from Rocky Creek, 6.5 mi northeast of Lebanon, and at mile 262.9.
DRAINAGE AREA.--11,107 mi².
PERIOD OF RECORD.--October 1986 to current year.
GAGE.--Water-stage encoder and satellite telemeter at station. Datum of gage is 400.00 ft above National Geodetic Vertical Datum of 1929.
REMARKS.-Records good. Site located in Old Hickory Lake.
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 53.66 ft, Mar. 6, 1989; minimum, 41.90 ft, Oct. 7, 1990.
EXTREMES FOR CURRENT YEAR.--Maximum gage height, 52.51 ft, Feb. 19; minimum, 41.90 ft, Oct. 7.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	44.35	44.07	44.74	44.47	44.99	44.60	50.96	50.31	45.68	45.44	47.96	47.78
2	44.34	43.87	44.95	44.54	44.99	44.49	50.28	49.65	45.69	45.24	48.03	47.76
3	44.18	43.12	44.82	44.49	45.79	44.88	49.60	48.52	45.23	44.55	48.63	48.01
4	43.62	42.72	44.65	44.43	45.72	45.09	48.51	47.70	44.60	44.27	49.05	48.63
5	43.02	42.22	44.86	44.49	45.59	45.12	47.95	47.28	45.11	44.65	49.07	48.70
6	42.56	42.22	44.79	44.50	45.31	44.95	47.40	46.86	45.45	45.10	48.68	47.91
7	42.68	41.90	44.92	44.58	44.99	44.51	48.36	47.05	45.72	45.33	47.88	47.46
8	42.80	42.03	44.92	44.60	44.64	44.19	48.84	48.39	45.79	45.53	47.79	47.59
9	43.28	42.08	45.12	44.61	44.55	44.11	48.57	47.63	45.75	45.44	47.85	47.72
10	43.32	42.93	44.97	44.25	44.66	44.21	48.23	47.36	45.60	44.96	47.80	47.67
11	42.98	42.82	45.09	44.40	44.91	44.47	48.30	48.07	45.03	44.59	47.70	47.27
12	43.05	42.80	44.81	44.21	45.11	44.79	48.08	47.46	44.85	44.41	47.20	46.67
13	43.41	43.07	44.55	44.13	45.08	44.94	47.45	47.11	46.43	44.54	47.01	46.73
14	43.47	43.05	44.73	44.16	45.02	44.59	47.16	46.76	46.99	46.28	47.22	47.01
15	43.38	43.01	44.72	44.21	44.88	44.47	47.21	46.71	46.46	45.71	47.20	47.08
16	43.89	43.20	44.66	44.26	45.01	44.64	46.92	46.52	46.40	45.58	47.14	46.84
17	44.73	43.81	44.65	44.25	45.75	44.87	47.02	46.67	48.35	45.48	46.91	46.44
18	44.97	44.64	44.73	44.26	47.20	45.17	46.79	46.43	50.54	48.47	46.63	46.22
19	44.94	44.64	44.74	44.26	47.20	46.08	46.75	46.19	52.51	50.55	46.70	46.19
20	45.54	44.64	45.01	44.55	46.04	45.11	46.59	46.12	52.47	51.26	---	---
21	45.62	45.23	45.09	44.70	46.91	45.14	46.65	46.26	51.27	48.97	46.56	45.77
22	45.74	45.23	44.92	44.55	48.92	47.00	46.39	45.59	48.95	48.29	47.06	46.18
23	45.70	44.61	44.79	44.40	49.55	48.93	46.77	46.26	48.29	47.73	48.83	47.11
24	45.01	44.55	44.83	44.35	49.21	46.60	46.80	46.31	47.93	47.72	48.80	48.00
25	44.88	44.51	44.80	44.38	46.48	45.28	46.26	45.44	48.15	47.92	47.96	47.56
26	44.90	44.65	44.72	44.33	47.21	45.47	45.77	45.48	48.12	47.79	47.61	46.67
27	44.90	44.61	44.84	44.36	48.09	47.07	46.14	45.76	47.76	47.44	47.19	46.79
28	45.02	44.36	45.12	44.60	49.04	48.12	46.23	45.40	47.77	47.43	47.08	46.93
29	44.69	44.17	45.19	44.79	49.27	49.08	46.28	45.97	---	---	49.27	47.08
30	44.61	44.15	45.25	44.73	51.23	49.20	46.11	45.76	---	---	49.67	49.30
31	44.69	44.32	---	---	51.31	50.94	45.95	45.31	---	---	49.35	48.31
MONTH	45.74	41.90	45.25	44.13	51.31	44.11	50.96	45.31	52.51	44.27	49.67	45.77

03425400 CUMBERLAND RIVER AT HUNTERS POINT, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	48.27	47.43	45.64	44.99	---	---	44.79	44.46	44.75	44.43	44.68	44.38
2	48.16	47.19	45.49	44.92	---	---	44.89	44.12	44.83	44.47	44.57	44.27
3	48.13	47.54	45.57	45.17	---	---	45.27	44.80	44.75	44.35	44.74	44.40
4	47.73	47.28	45.26	44.90	---	---	45.41	45.15	44.69	44.35	44.84	44.62
5	47.61	47.35	45.39	45.08	---	---	45.42	45.05	44.69	44.41	44.79	44.55
6	47.60	47.36	45.32	45.08	---	---	45.02	44.57	44.95	44.55	44.87	44.65
7	47.53	47.25	45.41	45.15	---	---	44.87	44.40	45.31	44.73	44.82	44.56
8	47.45	46.99	45.28	45.14	---	---	44.62	44.35	45.65	45.11	44.80	44.49
9	47.37	46.68	---	---	---	---	45.21	44.49	45.61	44.79	44.93	44.55
10	47.40	46.99	---	---	---	---	45.28	45.03	45.03	44.75	45.05	44.73
11	47.37	46.73	---	---	---	---	45.33	44.59	44.75	44.49	44.84	44.55
12	47.21	46.68	---	---	---	---	44.77	44.47	44.60	44.44	44.91	44.60
13	46.98	46.70	---	---	---	---	44.91	44.43	44.67	44.38	44.88	44.48
14	47.23	46.90	---	---	---	---	45.24	44.75	44.89	44.47	44.79	44.40
15	47.78	47.25	---	---	---	---	44.86	44.55	44.87	44.68	44.75	44.37
16	47.92	47.69	---	---	---	---	44.87	44.57	44.81	44.49	44.63	44.36
17	47.97	46.39	---	---	---	---	45.00	44.71	44.77	44.49	44.76	44.41
18	47.54	46.61	---	---	44.54	44.24	45.07	44.85	44.75	44.45	44.81	44.36
19	47.61	47.13	---	---	44.59	44.20	44.99	44.61	44.85	44.49	44.75	44.51
20	47.51	46.94	---	---	---	---	44.70	44.54	44.81	44.49	44.88	44.63
21	47.07	45.85	---	---	---	---	44.78	44.41	44.93	44.59	44.97	44.52
22	46.14	45.62	---	---	---	---	44.63	44.41	44.91	44.70	45.03	44.51
23	45.69	45.33	---	---	---	---	44.77	44.47	44.96	44.66	44.75	44.51
24	45.58	45.29	---	---	---	---	44.96	44.59	45.07	44.75	44.89	44.53
25	45.58	45.38	---	---	---	---	45.32	44.88	44.90	44.73	45.09	44.75
26	45.58	45.24	---	---	---	---	45.24	44.69	45.00	44.73	45.18	44.87
27	45.57	45.34	---	---	45.09	44.72	44.72	44.39	44.98	44.76	45.23	44.75
28	45.64	45.41	---	---	45.41	44.95	44.49	44.29	44.87	44.67	44.95	44.65
29	45.74	45.42	---	---	45.37	44.99	44.47	44.23	44.93	44.61	44.89	44.57
30	45.85	45.37	---	---	45.08	44.60	44.47	44.21	44.89	44.69	44.80	44.44
31	---	---	---	---	---	---	44.59	44.29	44.79	44.48	---	---
MONTH	48.27	45.24	45.64	44.90	45.41	44.20	45.42	44.12	45.65	44.35	45.23	44.27

03426310 CUMBERLAND RIVER AT OLD HICKORY DAM (TAILWATER), TN

LOCATION.--Lat 36°17'47", long 86°39'28", Davidson County, Hydrologic Unit 05130202, at right bank in powerhouse, at Old Hickory Dam, 2.0 mi west of Hendersonville, and at mile 216.2.
DRAINAGE AREA.--11,673 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1931 to September 1942, October 1947 to current year. Prior to July 1953, published as "at dam 3, near Old Hickory". July 1953 to September 1986 published as "below Old Hickory".
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.
REMARKS.--Flow regulated by six lakes or reservoirs (see p. 89).
COOPERATION.--Records provided by U.S. Army Corps of Engineers.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 173,000 ft³/s, Jan. 29, 1937; maximum gage height, 48.13 ft, Mar. 14, 1975; minimum daily discharge, 86 ft³/s, Aug. 15, 1936; minimum gage height since filling of Cheatham Lake on Oct. 1, 1956, 3.49 ft, Sept. 10, 1962, site and datum then in use.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1793, 57.4 ft Dec. 31, 1926, previous site and datum, from profile by U.S. Army Corps of Engineers, discharge, 200,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4310	6680	9250	83100	31400	59000	60000	10300	25200	12000	5070	10500
2	6950	7740	6280	80800	28100	60700	51300	11500	22100	11100	6540	9970
3	10400	7040	25300	77200	23000	61200	47100	16800	15500	13000	6070	9090
4	10600	4080	24200	64300	16200	68300	45400	12000	13300	19700	4970	7350
5	11100	4740	22200	59900	15300	72400	45400	9620	12500	19600	6020	7580
6	6870	6250	21500	54700	21600	69400	45200	7700	16400	12900	11100	7850
7	4700	9670	17800	60700	27500	59600	43200	7210	12900	7330	15800	8440
8	3440	12400	9310	71500	26800	57900	42800	8150	4360	6030	19700	8560
9	4430	18200	3890	69900	27600	57900	40000	10900	4620	8200	20800	8490
10	8110	18000	6900	63900	27700	57900	43300	10900	3720	12700	12100	9020
11	7270	13200	10100	66600	16100	57900	38700	11400	3580	12900	7600	8780
12	5750	8840	16900	66200	13800	51500	34800	31600	5320	8380	4800	7470
13	4540	6960	18700	56000	18700	46100	34800	15800	8560	7040	5800	7560
14	4490	7270	16600	49100	45700	47400	31800	9630	10800	10600	6810	8420
15	4460	8680	9040	49300	35500	50700	40200	15700	9770	9900	8810	7610
16	4390	8650	9690	44900	36300	48900	41500	18900	9320	11200	9730	7650
17	4350	5910	18300	47000	37100	46600	36200	17700	4660	15000	10000	8220
18	13100	4840	48100	46800	80400	46100	34300	11500	4820	15900	9220	8130
19	13000	4870	54200	45600	92600	41000	44500	8520	3840	16600	9420	7720
20	10800	8060	33300	41600	95800	42900	42400	6880	10000	13300	9510	7870
21	6470	10600	35800	41600	87300	39100	30400	8040	19700	12500	9150	8670
22	6270	10100	74300	34500	73500	37100	23600	13700	20500	10600	9550	8600
23	8590	5670	80300	36600	66200	52400	18400	18600	14900	9320	10000	7980
24	9210	5610	71100	42200	60300	62100	15100	20200	10600	12100	10000	8020
25	8870	6400	39900	34200	61400	54200	18000	18700	6550	14100	10300	9150
26	13300	6130	39500	30100	64100	48300	18200	17300	7420	12700	9760	9470
27	11900	4900	57900	33900	60900	45000	16900	18800	15500	7690	11900	10700
28	9250	8120	71800	29200	55700	46900	13400	17000	21100	4120	11200	8740
29	6640	9700	79700	34800	---	56700	13600	17600	21200	4500	9150	7680
30	4760	9720	81800	33000	---	75900	10800	20900	15900	4680	11100	7700
31	5950	---	89000	33600	---	72400	---	25100	---	3800	11100	---
TOTAL	234270	249030	1102660	1582800	1246600	1693500	1021300	448650	354640	339490	303080	252990
MEAN	7557	8301	35570	51060	44520	54630	34040	14470	11820	10950	9777	8433
MAX	13300	18200	89000	83100	95800	75900	60000	31600	25200	19700	20800	10700
MIN	3440	4080	3890	29200	13800	37100	10800	6880	3580	3800	4800	7350

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1957 - 1991, BY WATER YEAR (WY)

MEAN	9412	12960	22850	29200	28260	31560	28970	20900	15320	12740	11870	9953
MAX	29430	29530	43590	79580	61700	73880	68070	65100	37840	28410	21400	27600
(WY)	1990	1980	1979	1974	1957	1975	1962	1984	1973	1967	1982	1979
MIN	2660	3449	3974	4656	8524	6778	6963	5465	6048	4211	4991	2723
(WY)	1969	1981	1981	1981	1981	1981	1986	1988	1988	1974	1975	1968

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		*WATER YEARS 1957 - 1991	
ANNUAL TOTAL	6231010		8829010			
ANNUAL MEAN	17070		24190		19460	
HIGHEST ANNUAL MEAN					28560	1974
LOWEST ANNUAL MEAN					8780	1988
HIGHEST DAILY MEAN	89000	Dec 31	95800	Feb 20	146000	Mar 14 1975
LOWEST DAILY MEAN	3440	Oct 8	3440	Oct 8	200	Nov 3 1957
ANNUAL SEVEN-DAY MINIMUM	5040	Oct 11	4970	Jul 28	1070	Oct 28 1969
10 PERCENT EXCEEDS	36400		59900		41600	
50 PERCENT EXCEEDS	11100		13300		14000	
90 PERCENT EXCEEDS	5710		5930		5120	

* Regulated period only.

03426310 CUMBERLAND RIVER AT OLD HICKORY DAM (TAILWATER), TN--Continued

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1979 to current year.
pH: April 1979 to current year.
WATER TEMPERATURE: April 1979 to current year.
DISSOLVED OXYGEN: April 1979 to current year.

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

REMARKS.--Flow regulated by Old Hickory Dam and other reservoirs above station. Periods of missing record were due to instrument malfunctions. Supersaturation of dissolved oxygen may occur due to local hydraulic conditions.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 262 microsiemens, Apr. 15, Dec. 2, 1988; minimum, 146 microsiemens, May 6, 1979.
pH: Maximum, 9.8 units, Mar. 26, 1988; minimum, 6.4 units, July 28.
WATER TEMPERATURE: Maximum, 27.6°C, Aug. 8, 1988; minimum, 2.1°C, Dec. 24, 1989.
DISSOLVED OXYGEN: Maximum, 15.9 mg/L, Dec. 24, 1990; minimum, 2.9 mg/L, Sept. 5, 1988.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 235 microsiemens, Dec. 13; minimum, 152 microsiemens, Mar. 3, 4, Apr. 13, 14.
pH: Maximum, 8.5 units, Aug. 24; minimum, 6.4 units, July 28.
WATER TEMPERATURE: Maximum, 25.9°C, Aug. 29; minimum, 6.5°C, Jan. 26.
DISSOLVED OXYGEN: Maximum, 12.9 mg/L, Dec. 26; minimum, 4.2 mg/L, Aug. 4, 5, 6.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	200	196	198	192	184	186	205	200	203	199	186	193
2	200	196	198	192	184	187	205	197	202	---	---	---
3	200	196	197	188	184	186	206	198	201	---	---	---
4	200	196	198	192	184	187	203	198	200	---	---	---
5	223	192	200	192	183	186	227	199	213	---	---	---
6	220	192	201	191	183	188	234	224	228	---	---	---
7	200	192	196	191	187	189	234	223	229	---	---	---
8	200	192	195	191	187	190	230	222	227	---	---	---
9	205	192	198	191	183	189	229	224	227	---	---	---
10	205	196	202	191	183	188	228	224	226	---	---	---
11	204	200	201	191	187	189	231	223	227	206	190	198
12	204	195	201	191	183	190	231	223	227	199	194	196
13	203	199	201	191	183	189	235	226	231	204	192	198
14	203	194	199	191	183	188	234	226	228	209	201	205
15	202	194	199	191	182	187	230	221	226	210	198	205
16	202	197	199	190	182	188	229	221	225	207	195	201
17	201	197	199	190	186	188	228	220	223	203	195	197
18	201	196	199	194	186	189	224	212	219	203	195	200
19	208	196	202	194	186	189	224	212	216	203	195	199
20	207	199	205	194	186	191	225	214	219	203	195	200
21	206	198	203	195	187	192	221	212	217	203	195	197
22	206	197	202	195	187	192	226	211	220	199	191	195
23	205	196	200	196	192	194	229	202	220	195	187	192
24	204	195	198	197	192	194	202	189	193	196	188	191
25	203	194	197	201	193	196	193	184	190	196	188	191
26	201	193	196	202	193	197	203	188	196	192	184	189
27	200	192	195	203	198	200	203	190	197	192	184	188
28	196	191	194	207	199	202	186	167	174	192	184	188
29	195	190	192	208	199	204	185	169	176	188	180	184
30	194	189	191	208	200	203	192	181	187	192	184	188
31	193	184	188	---	---	---	199	188	194	192	184	188
MONTH	223	184	198	208	182	191	235	167	212	210	180	195

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	192	180	187	166	157	160	181	173	177	178	170	174
2	188	180	182	161	157	158	177	173	176	179	171	174
3	188	180	183	161	152	157	177	165	171	179	160	167
4	185	181	183	163	152	157	172	165	169	165	156	161
5	185	181	183	166	155	162	169	165	166	165	157	161
6	185	181	183	169	162	166	169	165	167	166	157	162
7	189	181	184	169	165	166	169	161	165	166	162	163
8	185	181	183	169	161	166	169	161	166	167	162	164
9	185	177	183	168	157	162	169	160	163	171	163	166
10	181	170	176	163	156	160	164	156	161	171	163	167
11	177	170	175	163	155	159	168	156	161	176	167	169
12	177	173	175	164	155	160	164	156	158	172	168	170
13	181	173	177	164	160	163	160	152	157	177	168	173
14	185	177	181	172	164	166	160	152	158	177	173	174
15	194	182	188	172	164	167	164	156	158	185	173	178
16	194	190	192	172	164	166	163	155	159	194	181	186
17	194	186	192	168	164	166	167	159	163	200	190	195
18	194	190	193	168	160	165	170	163	167	202	192	197
19	194	171	182	174	163	169	174	167	170	204	198	201
20	194	178	187	182	167	175	170	163	167	208	201	204
21	190	173	181	182	174	177	170	159	164	213	204	208
22	177	170	174	178	174	177	167	162	163	212	207	209
23	180	165	174	182	174	180	166	162	163	215	203	208
24	169	160	163	182	174	179	173	162	166	211	198	204
25	168	160	164	182	174	179	173	166	170	206	190	198
26	168	159	164	186	178	183	173	166	168	194	189	192
27	167	159	163	186	174	180	174	166	171	193	185	190
28	166	158	162	178	170	173	178	170	173	192	188	190
29	---	---	---	173	166	169	178	170	173	192	187	189
30	---	---	---	170	166	166	178	170	174	191	187	190
31	---	---	---	177	170	173	---	---	---	191	182	188
MONTH	194	158	179	186	152	168	181	152	166	215	156	183

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	190	185	188	178	170	173	184	179	181	186	181	184
2	197	185	188	174	170	172	188	181	183	188	180	183
3	193	180	185	174	166	171	189	182	185	183	179	181
4	188	172	178	173	166	170	188	180	185	186	178	180
5	185	176	180	172	165	168	196	182	187	181	176	180
6	185	174	179	168	161	166	192	184	187	180	176	178
7	182	175	179	167	160	163	188	184	187	183	174	178
8	182	171	175	167	156	162	188	183	185	182	173	177
9	179	171	175	161	157	159	187	183	185	177	172	175
10	179	172	175	162	155	160	187	179	182	196	172	176
11	184	172	176	164	155	160	199	175	182	187	170	175
12	180	173	177	165	156	161	203	175	181	202	169	174
13	181	173	177	166	161	163	203	175	196	189	166	171
14	181	174	177	167	162	164	202	174	193	193	166	184
15	179	171	176	168	163	165	202	174	188	197	189	191
16	179	168	174	173	164	170	206	174	195	198	189	192
17	179	172	174	174	166	172	206	198	202	198	167	189
18	180	172	176	175	170	172	206	197	201	198	170	192
19	180	176	179	180	169	172	209	197	202	174	167	171
20	184	175	179	180	172	175	205	177	183	178	171	174
21	183	175	179	179	172	175	185	177	182	175	172	173
22	183	174	178	175	172	174	186	178	181	176	172	174
23	182	174	177	174	171	172	187	178	181	176	173	175
24	182	173	176	174	167	172	188	179	183	181	173	176
25	177	173	175	174	166	170	189	181	185	181	174	176
26	177	173	175	174	166	169	190	181	187	182	174	177
27	180	172	177	175	167	171	191	182	186	182	175	177
28	180	171	175	177	169	175	188	183	185	179	176	177
29	179	171	174	179	170	175	188	184	187	179	176	177
30	179	171	175	180	172	177	191	183	186	180	177	178
31	---	---	---	182	177	179	190	182	185	---	---	---
MONTH	197	168	178	182	155	169	209	174	187	202	166	179

03426310 CUMBERLAND RIVER AT OLD HICKORY DAM (TAILWATER), TN--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.5	7.3	8.0	7.6	8.1	7.7	---	---	7.4	7.3	8.0	7.9
2	7.6	7.1	8.2	7.5	7.9	7.5	---	---	7.3	7.3	8.0	7.9
3	8.3	7.3	8.2	7.9	8.0	7.5	---	---	7.3	7.2	7.9	7.8
4	8.1	7.6	8.3	7.7	7.8	7.6	---	---	7.3	7.2	8.0	7.7
5	7.9	7.5	8.2	7.9	7.8	7.6	---	---	7.7	7.2	8.1	7.8
6	8.1	7.5	8.0	7.8	7.8	7.7	---	---	7.7	7.2	7.9	7.8
7	7.9	7.6	8.0	7.8	7.8	7.6	---	---	7.3	7.2	7.8	7.6
8	7.9	7.6	8.1	7.8	7.8	7.6	---	---	7.2	7.2	7.8	7.6
9	7.7	7.5	8.0	7.7	7.9	7.5	---	---	7.2	7.1	7.8	7.6
10	7.5	7.4	8.0	7.8	7.7	7.5	---	---	7.2	7.1	7.8	7.6
11	7.6	7.4	8.1	7.7	7.7	7.5	7.9	7.8	7.1	7.0	7.9	7.7
12	7.6	7.4	7.9	7.6	7.7	7.5	7.9	7.8	7.0	6.9	8.2	7.9
13	7.6	7.4	8.0	7.6	7.6	7.5	7.9	7.7	7.7	6.8	8.1	8.0
14	7.8	7.3	8.1	7.6	7.6	7.5	7.8	7.7	7.4	7.1	8.1	8.0
15	7.7	7.5	8.2	7.7	7.6	7.5	7.8	7.7	7.1	7.0	---	---
16	8.0	7.5	8.1	7.7	7.7	7.4	7.9	7.7	7.1	6.9	---	---
17	8.2	7.5	8.0	7.6	7.7	7.4	7.9	7.7	7.8	6.9	---	---
18	8.1	7.6	8.1	7.7	7.8	7.6	7.8	7.8	7.9	7.8	---	---
19	7.9	7.5	8.2	7.9	7.8	7.6	7.8	7.7	7.9	7.8	---	---
20	7.8	7.5	8.2	7.8	7.7	7.6	7.8	7.8	8.0	7.8	7.9	7.8
21	7.9	7.7	8.3	7.8	7.8	7.6	7.8	7.8	8.0	7.9	7.9	7.8
22	7.8	7.5	8.4	7.9	7.8	7.7	7.8	7.7	8.0	7.8	7.9	7.8
23	7.7	7.5	7.9	7.5	7.9	7.7	7.8	7.6	8.0	8.0	7.9	7.8
24	7.8	7.6	8.0	7.7	7.8	7.7	7.8	7.7	8.0	7.9	---	---
25	7.9	7.5	8.1	7.6	7.9	7.7	7.8	7.6	8.0	7.9	7.8	7.8
26	8.1	7.7	8.0	7.7	8.0	7.8	7.7	7.5	8.0	8.0	7.9	7.8
27	8.0	7.7	8.0	7.6	8.0	7.9	7.5	7.3	8.0	8.0	7.9	7.8
28	7.9	7.6	8.0	7.6	8.0	7.9	7.6	7.4	8.0	7.9	7.9	7.8
29	8.0	7.5	8.0	7.4	8.1	7.9	7.8	7.5	---	---	7.9	7.8
30	7.9	7.5	8.1	7.4	8.2	8.0	7.6	7.4	---	---	7.9	7.8
31	8.0	7.4	---	---	---	---	7.5	7.4	---	---	7.8	7.8
MONTH	8.3	7.1	8.4	7.4	8.2	7.4	7.9	7.3	8.0	6.8	8.2	7.6

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.9	7.8	7.9	7.5	8.0	7.6	7.7	7.3	7.4	6.6	7.5	7.0
2	7.9	7.8	8.1	7.2	7.8	7.4	7.4	7.1	7.8	6.7	8.0	6.9
3	7.9	7.8	7.9	7.4	7.6	7.3	7.5	7.1	7.5	6.8	7.5	6.9
4	7.8	7.8	7.9	7.2	7.4	7.0	8.0	7.2	7.3	6.7	7.2	6.9
5	7.9	7.8	8.3	7.6	7.5	6.8	7.7	7.2	7.5	6.9	7.2	6.9
6	7.9	7.8	7.9	7.4	7.6	6.9	7.6	7.2	8.2	6.9	7.3	7.0
7	8.0	7.8	7.9	7.4	7.5	7.1	7.6	7.0	8.4	7.3	7.6	6.9
8	7.9	7.8	7.9	7.6	7.4	7.0	7.5	6.8	8.4	7.7	8.1	6.8
9	7.9	7.4	7.9	7.7	7.3	6.9	7.4	6.9	8.1	7.6	7.8	6.9
10	8.1	7.5	7.8	7.7	7.2	6.8	7.4	7.0	7.8	7.2	7.6	7.0
11	8.1	7.8	7.9	7.6	7.4	6.6	7.7	7.1	7.6	7.1	7.4	6.8
12	8.0	7.5	7.8	7.5	7.7	6.9	7.6	7.1	7.2	7.0	7.3	6.7
13	7.9	7.5	7.7	7.4	7.5	7.1	7.5	6.9	7.3	7.0	7.4	6.6
14	7.9	7.4	8.0	7.5	7.4	7.0	7.5	7.2	7.5	6.9	7.5	6.9
15	7.9	7.4	7.9	7.6	7.6	6.9	8.0	7.4	7.8	7.0	7.5	6.9
16	8.0	7.4	7.7	7.3	7.3	7.0	7.7	7.4	8.0	7.0	7.4	6.5
17	8.0	7.5	7.6	7.0	7.4	7.0	7.7	7.2	8.2	6.9	7.3	6.5
18	7.9	7.4	7.5	7.2	7.6	7.1	7.4	7.2	7.6	7.1	7.3	6.5
19	7.9	7.3	7.4	7.2	7.6	7.2	8.0	7.3	7.5	7.2	7.3	6.9
20	7.7	7.1	7.4	7.0	7.7	7.4	7.8	7.1	7.8	7.2	7.6	6.8
21	7.9	7.0	7.1	6.9	7.7	7.4	7.3	6.9	8.1	7.2	7.6	7.0
22	7.6	7.0	7.4	6.8	7.8	7.3	7.4	6.9	8.2	7.0	7.8	6.8
23	7.7	7.0	7.6	7.0	7.6	7.1	7.2	7.0	8.3	6.9	7.1	6.8
24	7.9	7.0	7.6	7.1	7.7	7.2	7.3	6.9	8.5	6.8	7.2	6.7
25	7.9	7.6	7.7	7.3	7.5	7.1	7.5	6.9	8.4	7.0	7.1	6.8
26	8.0	7.7	7.9	7.4	7.6	7.0	7.7	7.0	8.2	6.9	7.1	6.7
27	8.0	7.7	7.7	7.4	7.8	7.3	7.2	6.8	8.1	7.0	7.2	6.7
28	8.3	7.7	7.8	7.5	7.8	7.4	6.9	6.4	7.9	7.0	7.3	6.8
29	8.3	7.8	7.8	7.4	7.8	7.4	6.9	6.6	7.7	7.1	7.3	6.8
30	8.2	7.7	7.9	7.4	7.6	7.3	6.9	6.5	7.8	6.9	7.1	6.7
31	---	---	7.8	7.6	---	---	7.1	6.5	8.2	7.2	---	---
MONTH	8.3	7.0	8.3	6.8	8.0	6.6	8.0	6.4	8.5	6.6	8.1	6.5

TEMPERATURE WATER (DEG. C), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	21.8	20.8	21.2	15.9	15.1	15.6	12.6	12.1	12.3	10.1	9.7	9.9
2	21.7	20.8	21.3	16.1	15.3	15.6	12.6	12.3	12.4	---	---	---
3	22.6	20.9	21.8	16.0	15.3	15.7	12.6	12.1	12.6	---	---	---
4	22.3	21.3	22.0	16.4	15.4	15.8	12.3	11.5	11.9	---	---	---
5	21.9	21.1	21.5	16.2	15.6	15.9	11.9	11.3	11.5	---	---	---
6	22.1	21.1	21.6	15.6	15.0	15.3	11.5	10.9	11.3	---	---	---
7	21.7	20.9	21.3	15.0	14.4	14.7	11.1	10.4	10.7	---	---	---
8	21.9	21.1	21.5	14.6	13.8	14.2	10.6	10.0	10.4	---	---	---
9	22.0	21.5	21.7	14.0	13.0	13.6	10.2	9.8	10.1	---	---	---
10	21.4	20.6	21.1	13.3	12.7	13.0	10.2	9.8	10.0	---	---	---
11	20.8	19.8	20.3	13.1	12.5	12.8	10.2	9.6	10.0	9.9	8.5	9.5
12	20.0	19.4	19.7	13.1	12.7	12.9	10.2	9.6	10.0	9.7	8.1	9.1
13	19.6	19.0	19.5	12.9	12.4	12.7	10.1	9.9	10.0	9.3	8.6	8.9
14	19.6	19.0	19.3	13.1	12.5	12.9	10.5	9.7	10.1	9.2	8.6	8.9
15	19.6	19.0	19.2	13.3	12.7	12.9	10.7	10.1	10.5	9.2	8.6	8.9
16	19.6	18.8	19.2	13.3	12.7	13.1	10.7	10.3	10.4	9.0	8.6	8.9
17	20.0	19.0	19.5	12.9	12.5	12.7	10.4	10.0	10.2	9.0	8.5	8.8
18	20.0	18.6	19.3	12.8	12.3	12.6	11.0	10.2	10.5	9.2	8.5	8.9
19	18.8	18.4	18.5	12.8	12.3	12.5	11.2	10.6	10.8	9.2	8.8	9.1
20	18.6	18.2	18.4	12.7	12.3	12.6	11.0	10.5	10.7	9.4	9.0	9.1
21	18.6	17.8	18.2	12.9	12.3	12.6	11.5	10.9	11.1	9.0	8.0	8.6
22	18.4	17.7	18.1	13.1	12.7	12.9	12.2	11.5	11.9	8.2	7.5	7.9
23	17.9	17.4	17.7	12.9	12.5	12.8	11.7	11.3	11.5	7.8	7.1	7.3
24	17.7	17.2	17.5	12.7	12.3	12.6	11.5	10.6	11.0	7.3	7.1	7.1
25	17.4	16.6	17.1	13.1	12.3	12.8	10.8	9.8	10.3	7.1	6.7	6.9
26	16.8	16.2	16.4	13.1	12.7	12.9	10.0	9.2	9.8	7.1	6.5	6.8
27	16.4	15.8	16.1	13.9	12.9	13.3	9.6	9.0	9.3	7.8	6.7	6.9
28	16.2	15.5	15.9	14.2	13.2	13.8	9.6	9.0	9.3	7.8	7.5	7.5
29	15.9	15.3	15.6	13.2	12.6	13.0	9.6	9.0	9.3	7.8	7.5	7.7
30	15.9	15.3	15.5	12.8	12.3	12.7	10.5	9.4	10.0	8.0	7.6	7.8
31	15.9	15.1	15.5	---	---	---	10.3	9.7	10.0	8.0	7.5	7.7
MONTH	22.6	15.1	19.1	16.4	12.3	13.5	12.6	9.0	10.6	10.1	6.5	8.3

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.2	7.5	7.8	9.6	9.0	9.3	11.0	10.6	10.8	15.7	14.8	15.3
2	8.2	7.6	8.0	10.0	9.4	9.7	11.3	10.5	11.0	16.5	14.6	15.6
3	8.2	7.8	8.1	10.0	9.2	9.7	11.7	10.9	11.2	17.7	15.4	16.5
4	8.6	8.0	8.4	9.4	9.0	9.2	11.3	11.1	11.1	17.4	16.4	16.9
5	8.8	8.4	8.6	9.5	9.1	9.4	11.9	11.1	11.4	17.7	16.8	17.2
6	9.0	8.6	8.8	9.9	9.3	9.6	12.4	11.5	11.9	17.4	16.2	16.6
7	9.0	8.6	8.8	9.7	9.3	9.5	12.9	12.0	12.4	17.7	16.0	17.0
8	9.0	8.4	8.7	9.7	9.1	9.4	13.1	12.3	12.7	18.1	17.0	17.5
9	8.8	8.2	8.6	9.7	9.0	9.4	13.3	12.7	13.0	18.3	17.6	17.9
10	8.8	8.4	8.6	9.4	9.0	9.2	13.5	12.9	13.3	18.8	17.8	18.4
11	9.0	8.4	8.8	9.4	9.0	9.3	13.9	12.9	13.4	19.0	17.7	18.0
12	9.2	8.6	8.9	---	---	---	13.5	13.0	13.3	19.8	19.0	19.4
13	9.0	8.6	8.9	---	---	---	13.4	13.0	13.2	19.4	18.2	18.8
14	8.6	8.2	8.5	9.2	8.8	9.1	13.6	13.0	13.3	19.6	18.4	19.0
15	8.4	8.0	8.1	9.5	8.6	9.1	13.8	13.2	13.5	20.4	18.6	19.6
16	---	---	---	10.1	9.1	9.6	14.4	13.6	13.9	21.0	19.4	20.3
17	---	---	---	9.9	9.5	9.7	14.5	13.6	14.0	20.8	19.0	20.0
18	---	---	---	9.9	9.5	9.7	14.3	13.7	14.1	21.1	19.6	20.4
19	---	---	---	10.2	9.6	9.9	14.5	13.9	14.2	20.9	20.3	20.5
20	9.6	8.0	8.4	10.6	10.0	10.2	14.1	13.5	13.9	21.5	20.5	20.9
21	---	---	---	11.0	10.2	10.5	13.7	13.3	13.5	21.4	20.1	20.7
22	10.6	10.2	10.3	11.6	10.8	11.1	13.6	13.1	13.3	22.0	20.4	21.1
23	10.5	9.9	10.2	12.2	11.2	11.7	14.0	13.2	13.6	22.6	20.6	21.4
24	10.3	9.9	10.1	12.4	11.6	12.0	14.2	13.4	13.8	22.6	20.5	21.6
25	10.1	9.3	9.7	12.4	11.8	12.2	15.0	14.2	14.5	22.6	20.9	21.8
26	9.3	8.9	9.2	12.6	12.2	12.4	15.4	14.6	15.0	22.0	21.4	21.7
27	9.7	9.1	9.3	12.8	12.2	12.5	15.4	14.7	15.0	22.4	21.6	21.9
28	9.4	9.0	9.2	12.9	12.3	12.6	15.3	14.5	14.8	22.8	21.9	22.3
29	---	---	---	12.7	11.4	12.1	15.3	14.9	15.1	23.0	22.3	22.7
30	---	---	---	11.4	10.6	10.9	15.7	14.9	15.3	23.9	22.4	23.1
31	---	---	---	11.0	10.4	10.7	---	---	---	23.9	22.9	23.4
MONTH	10.6	7.5	8.9	12.9	8.6	10.3	15.7	10.5	13.3	23.9	14.6	19.6

03426310 CUMBERLAND RIVER AT OLD HICKORY DAM (TAILWATER), TN--Continued

TEMPERATURE WATER (DEG. C), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	24.2	23.1	23.7	24.7	24.1	24.4	24.3	22.8	23.5	24.3	22.5	23.3
2	24.2	23.4	23.9	24.3	23.3	23.8	24.5	23.1	23.7	24.8	23.0	23.7
3	23.9	22.8	23.4	24.7	23.1	23.8	23.9	22.5	23.3	23.8	22.8	23.3
4	22.8	22.0	22.4	24.9	23.1	24.2	23.0	22.3	22.7	23.4	22.6	23.0
5	23.5	22.0	22.7	25.2	24.3	24.8	24.3	22.5	23.2	23.4	22.4	22.9
6	23.9	22.2	23.0	25.4	23.6	24.5	25.5	22.9	24.3	23.2	22.6	22.9
7	23.0	22.2	22.7	25.0	23.0	23.9	25.9	23.3	24.8	23.8	22.4	23.1
8	22.2	21.3	21.8	24.2	22.4	23.3	25.7	24.5	25.2	24.8	22.6	23.6
9	21.9	21.3	21.5	24.2	21.7	22.8	25.9	24.7	25.5	24.1	22.4	23.3
10	22.6	20.9	21.6	23.7	22.2	23.0	25.1	24.1	24.6	23.7	22.5	23.0
11	22.2	20.7	21.5	23.7	21.8	22.8	24.1	23.1	23.7	23.5	22.3	22.9
12	22.1	20.6	21.2	22.9	21.9	22.5	23.1	22.5	22.8	23.3	22.2	22.8
13	22.1	20.2	21.3	23.0	21.7	22.2	22.8	21.8	22.3	23.5	22.0	22.7
14	22.7	20.8	21.9	23.2	21.6	22.5	22.8	21.7	22.2	23.7	22.2	22.7
15	22.6	21.1	21.9	24.5	22.8	23.6	23.6	21.5	22.4	23.7	21.8	22.6
16	22.3	21.1	21.6	25.0	23.1	24.0	24.0	21.7	22.6	23.1	21.8	22.4
17	22.3	21.0	21.6	25.5	23.8	24.5	23.8	22.1	22.9	---	---	---
18	22.5	21.2	22.1	24.8	23.6	24.2	23.2	22.1	22.6	22.9	22.2	22.4
19	23.1	21.9	22.6	25.2	23.9	24.4	23.4	22.3	22.9	23.2	22.0	22.7
20	23.7	22.2	23.1	25.2	23.4	24.2	23.8	22.4	23.1	23.0	22.4	22.8
21	24.9	22.9	24.0	24.3	22.5	23.5	24.2	23.2	23.7	22.8	22.3	22.6
22	24.6	23.8	24.4	24.3	22.7	23.3	24.4	23.0	23.7	22.4	21.9	22.2
23	24.8	23.4	24.0	23.7	22.4	22.8	24.6	23.2	23.8	22.1	21.5	21.7
24	25.2	24.0	24.7	24.8	22.5	23.5	24.8	23.4	24.0	21.9	21.5	21.6
25	24.6	23.6	23.9	24.6	23.6	24.2	24.7	23.2	23.9	21.5	20.9	21.1
26	24.8	23.4	24.1	24.8	23.8	24.1	24.5	23.1	23.7	20.9	20.3	20.6
27	25.2	24.0	24.6	24.3	23.4	23.8	24.3	22.9	23.7	20.6	20.0	20.2
28	25.2	24.2	24.7	24.1	23.1	23.6	23.9	22.5	23.2	20.4	19.8	20.0
29	25.1	24.5	24.8	23.9	22.9	23.5	23.5	22.2	22.8	20.2	19.6	19.9
30	25.1	24.5	24.8	23.8	22.9	23.3	24.1	22.2	23.1	20.0	19.4	19.6
31	---	---	---	23.8	22.8	23.3	24.7	22.9	23.6	---	---	---
MONTH	25.2	20.2	23.0	25.5	21.6	23.6	25.9	21.5	23.5	24.8	19.4	22.3

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	5.5	4.3	5.0	8.6	7.8	8.1	10.2	9.6	9.8	---	---	---
2	6.3	4.5	5.6	8.9	7.7	8.3	10.1	9.4	9.7	---	---	---
3	8.4	5.4	6.8	8.8	7.9	8.4	9.6	9.2	9.4	---	---	---
4	7.6	6.2	6.8	9.4	7.8	8.5	9.8	9.3	9.5	---	---	---
5	7.5	5.7	6.7	9.0	8.1	8.7	9.5	9.3	9.4	---	---	---
6	8.2	5.7	7.0	8.4	7.5	8.0	9.3	9.1	9.2	---	---	---
7	7.3	5.8	6.7	8.2	7.7	8.0	9.3	9.0	9.2	---	---	---
8	7.4	5.7	6.6	8.7	8.1	8.4	9.5	9.0	9.3	---	---	---
9	7.1	6.1	6.6	8.4	8.2	8.3	9.6	8.4	9.2	---	---	---
10	6.9	5.3	5.6	8.6	8.2	8.4	9.3	8.5	9.1	---	---	---
11	---	---	---	8.8	8.4	8.6	9.1	8.7	8.9	11.6	11.3	11.4
12	---	---	---	8.7	8.2	8.6	9.0	8.5	8.7	11.7	11.3	11.5
13	---	---	---	9.1	8.1	8.7	8.5	8.3	8.4	12.3	11.5	12.0
14	---	---	---	9.2	8.2	8.9	8.8	8.5	8.6	12.4	12.1	12.3
15	---	---	---	9.5	8.5	9.1	9.1	8.5	8.8	12.3	11.9	12.2
16	---	---	---	9.6	8.8	9.2	9.1	8.2	8.9	12.6	10.5	11.4
17	---	---	---	9.0	8.2	8.7	9.3	7.8	9.0	12.6	12.1	12.5
18	---	---	---	9.6	8.9	9.2	9.5	7.5	9.0	12.6	11.6	12.1
19	---	---	---	9.7	9.1	9.4	9.5	8.2	9.1	12.0	10.2	11.5
20	7.3	6.7	7.1	9.6	8.9	9.4	---	---	---	10.8	10.1	10.6
21	7.5	6.9	7.2	10.0	9.0	9.5	---	---	---	11.1	10.3	10.7
22	7.2	6.5	6.8	10.1	8.9	9.4	11.5	11.0	11.2	11.2	9.2	9.8
23	7.0	6.5	6.8	9.0	8.5	8.8	11.3	11.0	11.1	10.9	9.1	9.3
24	7.7	6.7	7.2	9.2	8.3	8.8	11.3	10.1	11.0	11.0	10.5	10.8
25	8.0	7.2	7.6	9.7	8.6	9.3	11.8	9.0	9.8	11.0	9.4	9.9
26	8.7	7.8	8.2	9.4	9.0	9.2	12.9	9.0	10.4	9.5	9.4	9.5
27	8.6	7.9	8.2	9.5	8.8	9.1	12.3	11.4	12.0	9.6	9.5	9.5
28	8.5	7.9	8.3	9.5	8.8	9.3	11.7	11.1	11.4	9.7	9.5	9.6
29	9.0	8.0	8.4	9.5	8.3	9.1	11.6	11.4	11.5	9.6	9.5	9.6
30	8.7	8.1	8.5	10.0	8.8	9.5	11.6	11.3	11.5	9.7	9.5	9.6
31	8.8	8.0	8.5	---	---	---	---	---	---	9.8	9.5	9.7
MONTH	9.0	4.3	7.1	10.1	7.5	8.8	12.9	7.5	9.8	12.6	9.1	10.7

03426310 CUMBERLAND RIVER AT OLD HICKORY DAM (TAILWATER), TN--Continued

OXYGEN DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	9.8	9.6	9.7	11.8	11.4	11.7	10.7	10.1	10.3	9.6	7.0	8.5
2	9.7	9.5	9.7	11.7	11.2	11.5	10.8	10.5	10.6	10.3	7.5	9.0
3	9.8	9.5	9.6	11.9	11.4	11.7	10.7	10.2	10.5	10.8	8.4	9.8
4	9.7	9.5	9.6	11.9	11.4	11.7	10.8	10.5	10.6	11.4	9.6	10.4
5	9.8	9.5	9.7	11.9	11.2	11.6	10.7	10.4	10.6	11.4	9.9	10.7
6	9.8	9.5	9.7	11.9	11.3	11.6	10.7	10.0	10.4	11.2	9.7	10.6
7	9.8	9.6	9.7	12.0	11.3	11.7	10.5	10.2	10.4	11.6	9.4	11.0
8	9.8	9.6	9.7	12.1	11.8	11.9	10.5	8.1	9.6	11.4	10.8	11.1
9	9.8	9.6	9.7	12.3	11.7	12.1	9.3	7.6	8.7	11.6	9.0	10.3
10	9.7	9.5	9.6	12.4	11.9	12.1	10.3	7.7	9.3	11.0	9.2	10.2
11	9.8	9.5	9.7	12.5	11.7	12.2	10.1	7.7	8.7	11.9	8.2	9.4
12	9.9	9.6	9.8	12.4	11.7	12.0	8.6	7.3	8.2	---	---	---
13	9.9	9.7	9.8	12.4	11.9	12.1	8.6	7.4	8.1	11.7	7.5	9.1
14	12.5	9.6	11.9	12.3	11.9	12.1	8.2	7.2	7.8	9.5	7.5	8.6
15	10.8	9.9	10.2	12.2	11.8	12.1	9.8	7.7	8.7	9.4	7.7	8.6
16	10.1	9.9	10.0	12.1	11.4	11.9	9.9	7.5	8.6	8.6	7.3	8.2
17	12.6	9.8	10.3	11.9	11.1	11.7	10.0	7.8	9.1	8.1	6.1	7.1
18	12.4	11.9	12.1	11.7	10.4	11.3	10.0	7.2	8.3	7.0	6.1	6.5
19	---	---	---	10.5	9.5	10.2	9.7	7.7	8.8	6.3	5.4	6.0
20	---	---	---	11.5	9.6	10.5	8.5	7.5	8.0	6.5	4.8	6.0
21	---	---	---	10.3	9.0	9.9	8.2	7.0	7.6	6.2	4.3	5.5
22	---	---	---	10.0	8.8	9.4	7.8	6.9	7.3	6.6	4.6	5.7
23	11.0	10.4	10.7	11.3	9.5	10.7	7.8	7.0	7.3	7.6	5.0	6.3
24	10.9	10.4	10.7	10.9	10.6	10.7	8.5	7.0	7.9	7.6	5.5	6.5
25	11.4	10.5	10.9	10.9	10.1	10.6	9.1	7.8	8.5	7.6	5.7	6.8
26	11.3	10.8	11.1	10.7	9.3	10.5	9.5	8.1	9.0	7.0	6.1	6.6
27	11.3	10.9	11.0	10.7	8.8	9.9	9.3	8.4	8.9	7.0	6.1	6.4
28	11.8	10.6	11.1	10.4	9.8	10.3	9.5	7.6	8.7	7.7	5.9	6.6
29	---	---	---	10.6	10.1	10.4	9.3	7.2	8.6	7.5	6.4	7.0
30	---	---	---	10.6	10.4	10.5	9.4	6.8	8.5	7.9	6.1	6.8
31	---	---	---	10.5	10.1	10.3	---	---	---	7.6	6.4	6.9
MONTH	12.6	9.5	10.2	12.5	8.8	11.2	10.8	6.8	8.9	11.9	4.3	8.1
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.9	6.2	7.0	9.1	5.8	7.2	6.4	5.0	5.5	6.7	5.6	6.0
2	8.4	5.2	7.2	7.9	6.4	7.5	6.3	5.0	5.6	7.1	5.4	6.2
3	7.8	6.0	7.2	8.1	5.9	7.2	5.5	4.5	5.1	6.6	5.6	6.1
4	8.0	6.5	7.4	8.3	6.0	7.7	5.0	4.2	4.6	6.0	5.5	5.8
5	7.9	6.7	7.5	8.4	7.3	7.9	5.3	4.2	4.6	5.9	5.5	5.7
6	7.8	6.4	7.3	8.4	5.4	7.3	6.0	4.2	5.1	5.7	5.3	5.5
7	7.9	6.9	7.5	8.1	5.1	6.6	6.4	4.3	5.4	6.6	5.0	5.7
8	7.8	6.9	7.4	7.1	4.3	5.8	7.1	5.6	6.2	7.5	5.0	6.0
9	7.6	6.6	7.3	6.7	4.6	5.8	7.1	6.2	6.5	6.6	5.0	5.9
10	7.3	5.2	6.7	7.3	5.3	6.4	7.1	6.7	6.8	6.2	5.4	5.8
11	7.4	5.8	6.8	7.4	4.5	6.5	7.4	6.2	6.8	6.0	5.4	5.6
12	6.9	5.8	6.4	---	---	---	6.4	5.9	6.3	5.8	4.9	5.4
13	6.9	5.5	6.2	---	---	---	6.0	5.3	5.8	6.4	4.7	5.6
14	7.2	5.3	6.3	6.2	4.4	5.1	5.9	5.1	5.5	6.3	4.9	5.5
15	7.2	5.0	6.2	6.4	4.5	5.3	6.4	4.9	5.6	6.4	4.9	5.5
16	6.5	5.2	5.9	6.3	4.8	5.4	6.7	4.9	5.6	6.1	4.6	5.4
17	6.4	4.9	5.8	6.9	4.9	5.6	6.6	4.7	5.7	5.7	4.6	5.1
18	6.6	4.9	6.0	6.3	5.1	5.6	5.4	4.8	5.2	5.4	4.8	5.0
19	7.5	4.5	6.4	7.5	5.3	6.4	5.5	4.6	5.1	5.6	4.8	5.2
20	7.8	6.0	7.2	7.0	5.7	6.2	5.8	4.8	5.3	6.6	5.1	5.8
21	8.1	6.0	7.1	6.7	5.6	6.1	7.0	5.2	6.0	7.2	6.2	6.7
22	7.7	6.7	7.2	6.8	5.8	6.3	7.4	5.2	6.1	7.8	5.9	6.9
23	7.5	6.3	6.9	6.3	5.8	6.1	7.2	5.3	6.1	7.2	6.2	6.5
24	8.1	6.1	7.3	6.4	5.6	6.0	7.4	4.8	6.0	6.8	5.8	6.3
25	7.3	6.1	6.6	6.2	5.3	5.8	7.4	5.2	6.2	6.9	6.2	6.5
26	8.6	6.1	7.1	6.4	5.5	5.9	7.2	5.5	6.1	7.3	6.3	6.9
27	8.5	6.9	7.6	6.4	5.3	5.8	7.3	5.5	6.4	7.9	7.1	7.5
28	9.4	7.7	8.3	6.0	5.3	5.7	6.8	5.7	6.3	8.5	7.4	7.8
29	9.2	7.5	8.2	5.6	5.0	5.3	6.8	5.7	6.2	8.3	7.0	7.6
30	8.5	6.8	7.8	5.5	4.9	5.2	6.9	5.5	6.2	8.3	6.7	7.5
31	---	---	---	5.9	4.9	5.4	7.3	5.8	6.4	---	---	---
MONTH	9.4	4.5	7.0	9.1	4.3	6.2	7.4	4.2	5.8	8.5	4.6	6.1

03427500 EAST FORK STONES RIVER NEAR LASCASSAS, TN

LOCATION.--Lat 35°55'06", long 86°20'02", Rutherford County, Hydrologic Unit 05130203, on left bank 50 (revised) ft upstream from highway bridge, 2.5 mi southwest of Lascassas, 3.7 mi downstream from Bradley Creek, 6.0 mi northeast of the courthouse in Murfreesboro, and at mile 15.4.
DRAINAGE AREA.--262 mi².
PERIOD OF RECORD.--October 1950 to November 1958, May 1963 to current year. Prior to February 1951 monthly discharge only, published in WSP 1726.
REVISED RECORDS.--WSP 1910: Drainage Area. WDR-TN-75-1: 1955(M), 1963(M), 1970(M), 1973 (M)(P).
GAGE.--Water-stage encoder and satellite telemeter at station. Datum of gage is 507.88 ft, Sandy Hook datum (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1973, water-stage recorder 100 ft downstream at same datum.
REMARKS.--Records good except those for estimated discharges, which are fair. Frequent diurnal fluctuation at low flow caused by small mills above station.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1902, 39.48 ft, Mar. 13, 1975.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	14	131	1480	303	462	871	465	72	35	12	21
2	11	13	106	885	250	1330	596	317	69	126	11	20
3	11	13	3570	589	219	2390	455	237	57	121	11	18
4	26	13	1480	436	199	2270	372	388	54	88	11	16
5	56	12	538	357	187	1170	325	1340	474	195	10	15
6	32	13	321	315	230	795	282	963	160	76	10	14
7	21	14	225	2320	322	599	249	513	94	46	e10	13
8	21	18	172	1560	290	468	240	361	70	35	e10	13
9	18	212	136	900	261	393	235	926	57	40	e12	15
10	17	1160	113	1410	236	340	301	486	49	43	e25	15
11	17	389	96	3080	212	299	247	359	44	155	e20	17
12	17	192	83	1580	189	277	237	554	42	205	e14	53
13	17	120	77	1050	584	293	349	394	49	91	e16	39
14	15	83	141	707	2290	274	593	287	70	55	e21	24
15	15	64	187	528	1040	241	3400	228	148	40	e19	19
16	14	51	276	446	591	218	1200	190	168	33	e17	16
17	13	45	313	366	2000	210	661	162	68	28	e16	15
18	13	40	1580	304	13300	566	462	141	45	25	e15	14
19	13	37	1890	267	14600	447	377	154	37	24	e14	13
20	12	35	1710	260	6230	360	308	836	34	22	e13	12
21	12	32	9300	254	2130	314	253	626	91	21	13	12
22	17	32	12400	234	1270	637	221	265	66	19	13	12
23	85	34	10200	218	879	6420	197	186	55	17	12	13
24	65	34	2210	203	647	1370	176	149	121	16	12	18
25	37	35	1200	186	516	730	156	119	253	15	12	263
26	26	32	743	171	439	499	140	179	103	14	13	219
27	22	31	925	161	379	401	128	171	68	16	14	93
28	19	271	4100	159	336	467	141	151	50	15	13	51
29	18	396	1660	153	---	8330	2040	123	43	15	13	36
30	16	201	2720	180	---	4180	1020	102	42	13	16	28
31	15	---	4240	417	---	1500	---	83	---	12	23	---
TOTAL	702	3636	62843	21176	50129	38250	16232	11455	2753	1656	441	1127
MEAN	22.6	121	2027	683	1790	1234	541	370	91.8	53.4	14.2	37.6
MAX	85	1160	12400	3080	14600	8330	3400	1340	474	205	25	263
MIN	11	12	77	153	187	210	128	83	34	12	10	12
CFSM	.09	.46	7.74	2.61	6.83	4.71	2.07	1.41	.35	.20	.05	.14
IN.	.10	.52	8.92	3.01	7.12	5.43	2.30	1.63	.39	.24	.06	.16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1991, BY WATER YEAR (WY)

MEAN	162	415	717	810	893	911	634	474	184	125	86.1	156
MAX	1211	1466	2027	2184	2136	3201	1605	2214	1261	898	448	1078
(WY)	1976	1987	1991	1974	1956	1975	1973	1984	1989	1989	1966	1986
MIN	7.13	9.56	19.6	55.4	205	205	69.5	34.6	9.62	16.8	13.3	10.9
(WY)	1954	1954	1966	1981	1968	1966	1986	1988	1988	1988	1957	1968

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1951 - 1991	
ANNUAL TOTAL	172929.9		210400			
ANNUAL MEAN	474		576		461	
HIGHEST ANNUAL MEAN					921	1973
LOWEST ANNUAL MEAN					141	1981
HIGHEST DAILY MEAN	12900	Feb 3	14600	Feb 19	34900	Mar 13 1975
LOWEST DAILY MEAN	9.9	Sep 4	10	Aug 5	.40	Aug 31 1953
ANNUAL SEVEN-DAY MINIMUM	10	Aug 29	10	Aug 2	2.9	Sep 22 1954
INSTANTANEOUS PEAK FLOW			16500	Feb 19	41200	Mar 13 1975
INSTANTANEOUS PEAK STAGE			27.97	Feb 19	39.48	Mar 13 1975
INSTANTANEOUS LOW FLOW			9.9	Aug 6	.20	Oct 23 1953
ANNUAL RUNOFF (CFSM)	1.81		2.20		1.76	
ANNUAL RUNOFF (INCHES)	24.55		29.87		23.92	
10 PERCENT EXCEEDS	946		1290		975	
50 PERCENT EXCEEDS	113		148		118	
90 PERCENT EXCEEDS	13		13		16	

e Estimated.

03427690 BUSHMAN CREEK AT PITTS LANE FORD NEAR COMPTON, TN

LOCATION.--Lat 35°53'08", long 86°20'47", Rutherford County, Hydrologic Unit 05130203, on right bank 75 ft upstream of bridge on De Jarnett Lane, 0.1 mi west of intersection of De Jarnett Lane and State Highway 96, 1.6 mi southwest of Compton.
DRAINAGE AREA.--9.67 mi².
PERIOD OF RECORD.--April 1989 to September 1991.
GAGE.--Water-stage recorder. Datum of gage is 569.74 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair. Periods of regulation caused by construction in area. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR APRIL 1989 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	48	9.6	15	561	69	1.6
2	---	---	---	---	---	---	33	10	229	409	192	1.2
3	---	---	---	---	---	---	46	9.6	184	245	50	.77
4	---	---	---	---	---	---	340	8.2	79	181	25	.62
5	---	---	---	---	---	---	205	17	56	130	17	.54
6	---	---	---	---	---	---	86	34	42	92	13	.48
7	---	---	---	---	---	---	119	20	32	80	11	.50
8	---	---	---	---	---	---	100	15	42	61	8.9	.50
9	---	---	---	---	---	---	79	16	242	42	7.5	.48
10	---	---	---	---	---	---	51	26	85	30	7.1	.71
11	---	---	---	---	---	---	38	18	44	149	7.0	.74
12	---	---	---	---	---	---	30	14	99	135	6.6	.61
13	---	---	---	---	---	---	25	12	376	117	6.0	.51
14	---	---	---	---	---	---	22	10	211	50	6.0	.52
15	---	---	---	---	---	---	30	9.1	362	31	5.5	11
16	---	---	---	---	---	---	27	8.0	259	24	5.0	15
17	---	---	---	---	---	---	23	7.5	111	20	4.6	7.1
18	---	---	---	---	---	---	20	7.4	66	16	4.6	5.5
19	---	---	---	---	---	---	18	7.4	389	14	3.8	5.1
20	---	---	---	---	---	---	16	203	233	16	3.1	4.6
21	---	---	---	---	---	---	15	73	123	13	2.5	4.2
22	---	---	---	---	---	---	14	30	68	72	1.9	65
23	---	---	---	---	---	---	13	21	47	27	1.6	249
24	---	---	---	---	---	---	12	16	33	17	2.4	60
25	---	---	---	---	---	---	11	13	26	13	2.8	36
26	---	---	---	---	---	---	11	14	21	9.6	2.2	61
27	---	---	---	---	---	---	10	264	18	7.9	2.5	30
28	---	---	---	---	---	---	9.6	81	17	6.8	2.4	20
29	---	---	---	---	---	---	8.6	38	15	5.6	1.6	50
30	---	---	---	---	---	---	8.0	23	22	5.3	1.5	334
31	---	---	---	---	---	---	---	18	---	5.0	1.6	---
TOTAL	---	---	---	---	---	---	1468.2	1052.8	3546	2585.2	475.7	967.28
MEAN	---	---	---	---	---	---	48.9	34.0	118	83.4	15.3	32.2
MAX	---	---	---	---	---	---	340	264	389	561	192	334
MIN	---	---	---	---	---	---	8.0	7.4	15	5.0	1.5	.48
CFSM	---	---	---	---	---	---	5.06	3.51	12.2	8.62	1.59	3.33
IN.	---	---	---	---	---	---	5.65	4.05	13.64	9.95	1.83	3.72

SUMMARY STATISTICS APRIL TO SEPTEMBER 1989

HIGHEST DAILY MEAN	561	July 1
LOWEST DAILY MEAN	.48	Sep 6
INSTANTANEOUS PEAK FLOW	1370	July 1
INSTANTANEOUS PEAK STAGE	5.92	July 1

03427690 BUSHMAN CREEK AT PITTS LANE FORD NEAR COMPTON, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	605	8.0	16	113	9.6	10	10	9.1	10	.48	3.5	.34
2	419	6.5	13	44	25	15	9.5	9.7	8.6	.48	2.0	.34
3	166	6.8	12	24	740	26	9.0	9.7	9.1	.48	1.2	.33
4	83	6.7	8.9	81	573	20	8.2	32	11	.48	1.1	.29
5	56	5.6	9.5	54	247	17	8.0	98	10	.45	1.0	.27
6	40	13	8.3	35	93	15	9.8	35	9.1	.42	1.3	.27
7	32	33	7.1	22	61	13	15	23	8.5	.42	1.0	.27
8	25	181	14	26	44	18	13	17	8.5	.45	.88	1.8
9	20	96	22	24	38	43	11	13	6.5	.42	.76	2.9
10	14	45	20	21	279	62	10	14	5.5	.42	.68	1.7
11	13	32	18	14	100	37	11	12	4.6	.90	.72	.79
12	12	25	19	12	57	27	9.6	9.8	4.2	32	.65	.65
13	12	18	23	11	44	22	8.9	9.1	3.8	30	.60	.97
14	12	51	14	8.4	33	19	8.5	8.0	3.2	25	.58	1.2
15	12	88	17	6.4	42	18	8.5	7.2	3.2	14	.55	1.0
16	11	120	11	9.9	120	245	8.0	7.0	3.2	9.7	.52	.80
17	87	50	8.9	5.3	62	190	8.2	13	2.9	8.5	.49	.65
18	44	33	8.9	46	42	79	12	11	3.5	7.0	.47	.51
19	30	27	14	23	34	47	11	7.9	3.2	6.5	.45	.47
20	25	22	15	88	27	35	9.8	20	2.0	5.5	.44	.42
21	20	17	11	130	23	27	23	36	1.4	12	.43	6.6
22	18	36	8.5	52	21	23	62	52	2.0	25	.48	45
23	13	68	6.5	27	18	20	27	28	2.3	40	.40	8.5
24	13	37	6.3	20	16	17	19	19	1.4	25	.35	3.2
25	12	26	5.5	19	14	16	15	15	1.1	13	.32	3.1
26	11	22	4.9	22	13	15	12	11	.76	9.1	.31	3.4
27	9.9	18	4.2	14	13	13	11	25	.76	8.5	.30	3.5
28	9.5	24	3.7	9.9	12	13	11	34	.55	7.4	.30	3.4
29	8.6	20	3.4	187	---	12	14	18	.51	6.5	.29	3.0
30	7.3	17	13	88	---	12	11	13	.51	6.5	.32	2.2
31	6.9	---	287	35	---	12	---	12	---	5.6	.34	---
TOTAL	1847.2	1152.6	633.6	1271.9	2800.6	1138	404.0	628.5	131.89	302.20	22.73	97.87
MEAN	59.6	38.4	20.4	41.0	100	36.7	13.5	20.3	4.40	9.75	.73	3.26
MAX	605	181	287	187	740	245	62	98	11	40	3.5	45
MIN	6.9	5.6	3.4	5.3	9.6	10	8.0	7.0	.51	.42	.29	.27
CFSM	6.16	3.97	2.11	4.24	10.3	3.80	1.39	2.10	.45	1.01	.08	.34
IN.	7.11	4.43	2.44	4.89	10.77	4.38	1.55	2.42	.51	1.16	.09	.38

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1990, BY WATER YEAR (WY)

MEAN	59.6	38.4	20.4	41.0	100	36.7	31.2	27.1	61.3	46.6	8.04	17.8
MAX	59.6	38.4	20.4	41.0	100	36.7	48.9	34.0	118	83.4	15.3	32.2
(WY)	1990	1990	1990	1990	1990	1990	1989	1989	1989	1989	1989	1989
MIN	59.6	38.4	20.4	41.0	100	36.7	13.5	20.3	4.40	9.75	.73	3.26
(WY)	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1990 WATER YEAR		WATER YEARS 1989 - 1990	
ANNUAL TOTAL	10431.09			
ANNUAL MEAN	28.6		28.6	
HIGHEST ANNUAL MEAN			28.6	1990
LOWEST ANNUAL MEAN			28.6	1990
HIGHEST DAILY MEAN	740	Feb 3	740	Feb 3 1990
LOWEST DAILY MEAN	.27	Sep 5	.27	Sep 5 1990
ANNUAL SEVEN-DAY MINIMUM	.30	Sep 1	.30	Sep 1 1990
INSTANTANEOUS PEAK FLOW	1610	Feb 3	1610	Feb 3 1990
INSTANTANEOUS PEAK STAGE	6.43	Feb 3	6.43	Feb 3 1990
ANNUAL RUNOFF (CFSM)	2.96		2.96	
ANNUAL RUNOFF (INCHES)	40.13		40.15	
10 PERCENT EXCEEDS	52		86	
50 PERCENT EXCEEDS	12		13	
90 PERCENT EXCEEDS	.51		.68	

03427690 BUSHMAN CREEK AT PITTS LANE FORD NEAR COMPTON, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.3	3.3	15	90	16	44	61	43	9.7	2.4	.38	.31
2	e3.2	3.2	18	51	14	93	45	26	9.4	1.9	.34	.31
3	e3.1	3.0	248	40	13	350	32	19	9.4	2.6	.34	.29
4	e21	2.8	36	33	12	155	26	81	25	4.3	.33	.27
5	e14	3.1	39	24	12	137	22	205	52	4.5	.31	.27
6	7.2	2.5	41	19	17	63	18	111	17	4.5	.31	.27
7	5.4	2.5	28	18	18	50	17	54	11	3.7	3.1	.25
8	4.7	2.3	21	17	12	40	16	42	8.0	2.6	3.9	.31
9	4.3	2.2	17	16	14	31	16	172	7.0	2.1	3.5	1.0
10	4.1	111	15	15	14	28	15	60	7.0	4.4	4.6	1.2
11	3.2	48	12	110	13	27	14	37	6.5	20	5.0	1.4
12	3.7	26	11	60	12	26	23	70	5.9	14	3.8	2.3
13	3.8	17	8.9	45	40	28	31	50	5.1	7.8	3.1	2.2
14	4.2	12	21	39	22	23	75	32	6.3	6.5	2.8	1.2
15	4.0	9.7	20	30	17	19	294	24	7.0	5.2	2.3	.65
16	3.5	7.6	25	23	32	11	75	18	6.4	4.5	1.2	.48
17	3.5	6.5	37	22	22	12	45	16	5.5	4.1	.68	.42
18	3.0	6.0	43	24	297	34	27	14	5.4	3.5	.52	.41
19	2.8	5.0	55	21	280	23	28	15	5.1	2.6	.44	.38
20	2.8	4.8	50	20	116	19	22	37	5.2	1.4	.40	.36
21	2.7	4.0	240	19	159	17	15	21	4.4	.98	.36	.36
22	10	4.2	452	17	82	105	17	15	4.5	.63	.34	.34
23	25	4.4	150	16	54	398	14	13	5.5	.55	.33	.32
24	14	4.9	70	15	47	92	12	11	5.5	.54	.29	1.5
25	9.7	4.3	34	14	38	47	10	9.6	6.6	.51	.28	30
26	8.0	3.8	25	15	32	44	9.2	16	6.8	.49	.37	11
27	5.5	3.8	19	13	27	33	9.0	15	6.0	.44	.43	5.1
28	4.7	46	30	12	23	36	17	13	5.5	.42	.36	4.1
29	4.0	37	83	12	---	63	194	14	5.0	.39	.33	3.6
30	3.8	21	48	12	---	166	116	12	4.0	.36	.30	3.0
31	3.7	---	200	18	---	99	---	9.8	---	.38	.29	---
TOTAL	195.9	411.9	2111.9	880	1455	2313	1315.2	1275.4	267.7	108.29	41.03	73.60
MEAN	6.32	13.7	68.1	28.4	52.0	74.6	43.8	41.1	8.92	3.49	1.32	2.45
MAX	25	111	452	110	297	398	294	205	52	20	5.0	30
MIN	2.7	2.2	8.9	12	12	11	9.0	9.6	4.0	.36	.28	.25
CFSM	.65	1.42	7.05	2.94	5.37	7.72	4.53	4.25	.92	.36	.14	.25
IN.	.75	1.58	8.12	3.39	5.60	8.90	5.06	4.91	1.03	.42	.16	.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1991, BY WATER YEAR (WY)

MEAN	33.0	26.1	44.3	34.7	76.0	55.7	35.4	31.8	43.8	32.2	5.80	12.7
MAX	59.6	38.4	68.1	41.0	100	74.6	48.9	41.1	118	83.4	15.3	32.2
(WY)	1990	1990	1991	1990	1990	1991	1989	1991	1989	1989	1989	1989
MIN	6.32	13.7	20.4	28.4	52.0	36.7	13.5	20.3	4.40	3.49	.73	2.45
(WY)	1991	1991	1990	1991	1991	1990	1990	1990	1990	1991	1990	1991

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1989 - 1991	
ANNUAL TOTAL	9517.39		10448.92			
ANNUAL MEAN	26.1		28.6		28.6	
HIGHEST ANNUAL MEAN					28.6	1991
LOWEST ANNUAL MEAN					28.6	1990
HIGHEST DAILY MEAN	740	Feb 3	452	Dec 22	740	Feb 3 1990
LOWEST DAILY MEAN	.27	Sep 5	.25	Sep 7	.25	Sep 7 1991
ANNUAL SEVEN-DAY MINIMUM	.30	Sep 1	.28	Sep 1	.28	Sep 1 1991
INSTANTANEOUS PEAK FLOW			876	Mar 22	1610	Feb 3 1990
INSTANTANEOUS PEAK STAGE			4.76	Mar 22	6.43	Feb 3 1990
ANNUAL RUNOFF (CFSM)	2.70		2.96		2.96	
ANNUAL RUNOFF (INCHES)	36.61		40.20		40.19	
10 PERCENT EXCEEDS	48		62		79	
50 PERCENT EXCEEDS	9.8		12		13	
90 PERCENT EXCEEDS	.51		.43		.55	

e Estimated.

03428043 LYTLE CREEK AT SANBYRNE DRIVE AT MURFREESBORO, TN

LOCATION.--Lat 35°49'38", long 86°23'28", Rutherford County, Hydrologic Unit 05130203, on left bank 100 ft upstream of culvert, 0.1 mi east of intersection of Highway 231 and Sanbyrne Drive.
DRAINAGE AREA.--17.6 mi².
PERIOD OF RECORD.--April 1990 to September 1991.
GAGE.--Water-stage recorder. Datum of gage is 586.17 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair except for periods of estimated daily discharges, which are poor. Minimum discharge, no flow many days each year. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR APRIL 1990 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	2.5	3.8	2.7	.20	.01	.00
2	---	---	---	---	---	---	2.2	4.4	2.1	.08	.05	.00
3	---	---	---	---	---	---	2.3	3.5	2.2	.02	.01	.00
4	---	---	---	---	---	---	2.7	8.9	2.0	.00	.01	.00
5	---	---	---	---	---	---	2.7	68	1.3	.00	.01	.00
6	---	---	---	---	---	---	2.3	12	1.2	.00	.00	.00
7	---	---	---	---	---	---	2.7	8.6	.81	.00	.00	.29
8	---	---	---	---	---	---	2.8	7.0	.49	.00	.00	.14
9	---	---	---	---	---	---	2.9	5.8	.40	.00	.00	.00
10	---	---	---	---	---	---	2.6	5.8	.30	.00	.00	.00
11	---	---	---	---	---	---	2.5	5.3	.37	1.2	.00	.00
12	---	---	---	---	---	---	3.3	4.2	.28	2.1	.00	.00
13	---	---	---	---	---	---	4.0	3.3	.25	1.1	.00	.00
14	---	---	---	---	---	---	3.5	2.6	.10	.33	.00	.00
15	---	---	---	---	---	---	3.5	2.4	.09	.00	.00	.01
16	---	---	---	---	---	---	2.0	2.0	.05	.00	.00	.00
17	---	---	---	---	---	---	2.9	3.7	.01	.00	.00	.00
18	---	---	---	---	---	---	2.6	2.3	.12	.08	.00	.00
19	---	---	---	---	---	---	3.0	2.7	.18	.04	.00	.00
20	---	---	---	---	---	---	2.4	4.6	.07	.02	.00	.00
21	---	---	---	---	---	---	2.8	8.1	.01	.68	.00	1.2
22	---	---	---	---	---	---	15	5.9	.06	.31	.00	.46
23	---	---	---	---	---	---	7.2	5.5	.02	.61	.00	.03
24	---	---	---	---	---	---	4.9	4.2	.05	.20	.00	.04
25	---	---	---	---	---	---	4.0	4.9	.04	.14	1.7	.03
26	---	---	---	---	---	---	3.5	3.9	.02	.60	1.5	.00
27	---	---	---	---	---	---	3.7	4.3	.00	.38	1.1	.00
28	---	---	---	---	---	---	4.3	6.9	.00	.17	.00	.00
29	---	---	---	---	---	---	5.0	3.8	.00	.09	.00	.00
30	---	---	---	---	---	---	4.1	3.1	.00	.05	.00	.00
31	---	---	---	---	---	---	---	3.0	---	.01	.00	---
TOTAL	---	---	---	---	---	---	109.9	214.5	15.22	8.41	4.39	2.20
MEAN	---	---	---	---	---	---	3.66	6.92	.51	.27	.14	.073
MAX	---	---	---	---	---	---	15	68	2.7	2.1	1.7	1.2
MIN	---	---	---	---	---	---	2.0	2.0	.00	.00	.00	.00
CFSM	---	---	---	---	---	---	.21	.39	.03	.02	.01	.00
IN.	---	---	---	---	---	---	.23	.45	.03	.02	.01	.00

SUMMARY STATISTICS FOR APRIL TO SEPTEMBER 1990

HIGHEST DAILY MEAN	68	May 5
LOWEST DAILY MEAN	0	
INSTANTANEOUS PEAK FLOW	189	May 5
INSTANTANEOUS PEAK STAGE	3.62	May 5
INSTANTANEOUS LOW FLOW	*.00	Jun 27

* See REMARKS.

03428043 LYTLE CREEK AT SANBYRNE DRIVE AT MURFREESBORO, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	2.7	2.0	e16	13	e39	44	25	5.9	.73	.00	.03
2	.00	2.9	.19	e13	10	e89	30	17	5.7	1.5	.00	.01
3	.00	3.0	1.1	e11	8.7	e148	24	13	5.5	2.3	.00	.00
4	.57	3.2	.00	e10	7.3	e100	18	29	25	3.0	.00	.00
5	.03	3.8	.13	e9.6	6.1	45	17	87	87	2.2	.00	.00
6	.03	3.6	.73	e12	e4.6	28	14	58	11	1.5	.00	.00
7	.01	3.4	.00	e39	e10	24	11	34	7.3	1.1	.00	.00
8	.01	3.2	.34	e16	e9.0	20	9.7	26	5.9	.91	.00	.22
9	.00	2.7	1.8	44	e8.2	16	9.8	110	4.9	2.3	.74	.52
10	.00	1.6	2.6	80	e8.1	14	10	40	4.3	4.6	1.2	.35
11	.01	.96	2.1	171	e7.6	12	8.2	28	3.7	18	.33	.25
12	.28	5.8	2.3	79	e7.0	9.4	11	65	3.6	6.9	.06	.24
13	.40	3.1	.10	57	e23	10	14	43	3.6	3.9	.02	.05
14	.64	2.4	.17	41	e13	9.9	35	26	11	3.1	.00	.01
15	.62	e2.1	1.1	35	e11	8.2	176	19	5.0	2.7	.00	.00
16	.53	e1.9	.00	30	e20	6.1	47	15	3.5	2.1	.00	.00
17	1.2	e1.7	2.4	25	e14	6.5	28	9.2	2.9	1.7	.00	.00
18	1.5	e1.5	e45	22	e190	15	22	7.7	2.4	1.6	.00	.00
19	.86	e1.3	e32	19	e176	10	23	7.5	1.9	1.7	.00	.00
20	.88	e1.1	e90	19	e72	7.3	19	35	1.6	1.8	.00	.00
21	.91	1.0	e150	21	e100	5.5	15	11	1.2	1.6	.00	.00
22	1.3	.76	e300	18	e50	21	12	9.6	5.2	1.1	.00	.00
23	.43	1.3	e100	15	e32	330	10	10	4.0	.68	.00	.00
24	1.5	2.1	e30	14	e27	50	8.8	9.3	3.2	.50	.00	1.2
25	1.5	2.3	e15	13	e22	27	7.9	8.6	2.7	.58	.00	1.9
26	.81	4.5	e12	11	e18	19	6.3	11	2.3	.65	.00	1.2
27	1.7	6.2	e38	10	e16	17	6.2	12	2.3	.57	.00	.70
28	2.4	3.0	e54	9.5	e13	22	12	9.7	2.0	.40	.00	.50
29	2.3	.37	e19	8.4	---	422	124	8.4	1.5	.31	.00	.35
30	2.6	.91	e70	9.8	---	180	58	7.9	1.1	.24	.00	.10
31	2.7	---	e40	19	---	71	---	7.2	---	.04	.14	---
TOTAL	25.72	74.40	1012.06	897.3	896.6	1781.9	830.9	799.1	227.2	70.31	2.49	7.63
MEAN	.83	2.48	32.6	28.9	32.0	57.5	27.7	25.8	7.57	2.27	.080	.25
MAX	2.7	6.2	300	171	190	422	176	110	87	18	1.2	1.9
MIN	.00	.37	.00	8.4	4.6	5.5	6.2	7.2	1.1	.04	.00	.00
CFSM	.05	.14	1.85	1.64	1.82	3.27	1.57	1.46	.43	.13	.00	.01
IN.	.05	.16	2.14	1.90	1.90	3.77	1.76	1.69	.48	.15	.01	.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1991, BY WATER YEAR (WY)

MEAN	.83	2.48	32.6	28.9	32.0	57.5	15.7	16.3	4.04	1.27	.11	.16
MAX	.83	2.48	32.6	28.9	32.0	57.5	27.7	25.8	7.57	2.27	.14	.25
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1991	1991	1990	1991
MIN	.83	2.48	32.6	28.9	32.0	57.5	3.66	6.92	.51	.27	.080	.073
(WY)	1991	1991	1991	1991	1991	1991	1990	1990	1990	1990	1991	1990

SUMMARY STATISTICS	FOR 1991 WATER YEAR		WATER YEARS 1990 - 1991		
ANNUAL TOTAL	6625.61				
ANNUAL MEAN	18.2		18.2		
HIGHEST ANNUAL MEAN			18.2		1991
LOWEST ANNUAL MEAN			18.2		1991
HIGHEST DAILY MEAN	422	Mar 29	422	Mar 29	1991
LOWEST DAILY MEAN	.00	Oct 1	.00	Jun 27	1990
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 1	.00	Jul 4	1990
INSTANTANEOUS PEAK FLOW	NOT DETERMINED		NOT DETERMINED		
INSTANTANEOUS PEAK STAGE	NOT DETERMINED		NOT DETERMINED		
INSTANTANEOUS LOW FLOW	*.00	Oct 1	*.00	Jun 27	1990
ANNUAL RUNOFF (CFSM)	1.03		1.03		
ANNUAL RUNOFF (INCHES)	14.00		14.01		
10 PERCENT EXCEEDS	43		28		
50 PERCENT EXCEEDS	4.5		2.3		
90 PERCENT EXCEEDS	.00		.00		

e Estimated.
* See REMARKS.

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN

LOCATION.--Lat 35°54'10", long 86°25'48", Rutherford County, Hydrologic Unit 05130203, on left bank at Murfreesboro waste treatment plant outfall, 3,000 ft downstream from Sinking Creek, 4.5 mi northwest of the courthouse in Murfreesboro, and at mile 10.7.
DRAINAGE AREA.--177 mi², includes 17 mi² without surface drainage.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1972 to January 1982, January 1986 to current year.
GAGE.--Water-stage encoder, crest-stage gage and satellite telemeter at station. Datum of gage is 514.95 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records good except for periods of estimated daily discharge, which are fair. Flow is affected by Murfreesboro sewage treatment plant outflow. An annual average of 11.6 ft³/s, with a maximum of 15.5 ft³/s is discharged to the West Fork Stones River 25 ft above the control. Prior to July 1987 an annual average of 7.7 ft³/s was discharged. Natural flow of stream affected by transbasin diversion of water from East Fork Stones River basin into the West Fork Stones River basin.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	26	97	952	232	331	588	436	105	39	19	23
2	17	24	99	670	183	981	456	308	94	53	18	18
3	15	22	2060	517	158	1280	380	232	84	213	18	16
4	48	20	1130	424	142	1240	323	298	177	185	17	15
5	46	21	482	374	132	648	292	887	400	105	17	14
6	32	23	352	350	151	495	251	682	166	72	16	14
7	27	23	273	1210	182	398	207	412	121	57	15	13
8	28	20	221	815	164	337	190	324	105	50	16	20
9	25	76	184	549	149	289	195	1080	94	182	18	28
10	23	712	158	728	135	252	202	537	82	549	47	31
11	21	300	138	2080	122	227	177	379	73	645	28	30
12	22	161	127	941	112	213	193	859	65	287	21	27
13	24	113	121	652	314	217	229	663	65	189	35	23
14	21	93	130	502	1400	190	397	411	147	136	31	19
15	20	83	139	420	572	168	1980	314	97	105	22	16
16	20	76	153	392	389	153	724	250	67	83	17	16
17	19	69	168	341	791	152	465	213	55	68	15	14
18	24	61	633	298	8800	280	354	210	52	62	14	14
19	25	58	1160	269	9520	263	314	181	52	57	14	e14
20	22	55	790	256	3740	204	264	1210	45	49	14	e13
21	19	50	5640	235	1380	179	217	353	37	44	13	e13
22	36	46	7540	210	884	305	188	240	27	41	14	e13
23	49	48	5940	193	668	2860	164	191	53	35	13	e13
24	45	43	1640	179	534	723	147	160	72	33	11	e20
25	49	40	917	163	451	475	133	136	162	33	11	e45
26	45	38	664	151	402	375	122	251	87	33	12	e30
27	41	37	671	139	353	326	113	217	67	30	18	e25
28	36	75	2410	135	313	350	145	184	55	26	19	e23
29	34	180	1050	128	---	3980	1400	153	49	24	17	e22
30	30	126	1310	170	---	2210	888	133	45	23	15	e20
31	29	---	2640	368	---	874	---	119	---	20	32	---
TOTAL	912	2719	39037	14811	32373	20975	11698	12023	2800	3528	587	602
MEAN	29.4	90.6	1259	478	1156	677	390	388	93.3	114	18.9	20.1
MAX	49	712	7540	2080	9520	3980	1980	1210	400	645	47	45
MIN	15	20	97	128	112	152	113	119	27	20	11	13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1991, BY WATER YEAR (WY)

MEAN	140	222	546	606	838	561	289	168	225	209	37.2	85.2
MAX	493	422	1259	881	1156	926	395	388	765	658	93.9	235
(WY)	1990	1989	1991	1989	1991	1989	1989	1991	1989	1989	1989	1989
MIN	10.6	44.8	168	478	289	303	101	32.1	11.0	13.9	14.6	20.1
(WY)	1988	1988	1990	1991	1988	1988	1990	1988	1988	1988	1990	1991

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1988 - 1991	
ANNUAL TOTAL	109474.0		142065			
ANNUAL MEAN	300		389		325	
HIGHEST ANNUAL MEAN					479	1989
LOWEST ANNUAL MEAN					164	1988
HIGHEST DAILY MEAN	7540	Dec 22	9520	Feb 19	9520	Feb 19 1991
LOWEST DAILY MEAN	9.4	Sep 3	11	Aug 24	7.7	Jul 3 1988
ANNUAL SEVEN-DAY MINIMUM	10	Sep 1	13	Aug 20	8.9	Jul 3 1988
INSTANTANEOUS PEAK FLOW			13000	Feb 19	31000	Mar 13 1975
INSTANTANEOUS PEAK STAGE			18.84	Feb 19	23.80	Mar 13 1975
INSTANTANEOUS LOW FLOW			9.1	Aug 24	2.9	Jul 7 1988
10 PERCENT EXCEEDS	666		833		722	
50 PERCENT EXCEEDS	76		136		111	
90 PERCENT EXCEEDS	14		18		13	

e Estimated.

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN--Continued

WATER-QUALITY RECORDS

LOCATION.--At bridge on Blanton Drive, 900 ft upstream from Sinking Creek, 0.7 mi upstream from discharge station.

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

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1986 to current year.
pH: February 1986 to current year.
WATER TEMPERATURE: February 1986 to current year.
DISSOLVED OXYGEN: February 1986 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Records good. Interruptions in the record were due to equipment malfunctions.

EXTREMES FOR PERIOD OF RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 502 microsiemens, Dec. 20, 1990; minimum 63 microsiemens, Dec. 25, 1987.
pH: Maximum, 9.0 units, Mar. 24, 1986; minimum, 6.3 units, July 29, 1989.
WATER TEMPERATURES: Maximum, 33.2°C, June 24, 1988; minimum, 0.9°C, Dec. 26, 27, 1989.
DISSOLVED OXYGEN: Maximum, 18.2 mg/L, March 20, 1988; minimum, 1.6 mg/L, Sept. 12, 1990.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE: Maximum, 458 microsiemens, Dec. 12; minimum 86 microsiemens, Feb. 18.
pH: Maximum, 8.6 units, Mar. 15-16; minimum, 6.9 units, Aug. 7.
WATER TEMPERATURES: Maximum, 30.4°C, Aug. 6; minimum, 5.0°C, Feb. 16.
DISSOLVED OXYGEN: Maximum, 14.4 mg/L, Mar. 16; minimum, 3.0 mg/L, June 4-5.

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	398	382	388	---	---	---	---	---	---	339	292	319
2	396	382	391	---	---	---	---	---	---	358	340	349
3	414	392	396	---	---	---	---	---	---	367	357	362
4	426	306	370	---	---	---	---	---	---	372	367	370
5	420	386	395	---	---	---	---	---	---	378	373	375
6	390	375	385	---	---	---	419	395	409	384	376	379
7	398	368	387	---	---	---	429	419	424	---	---	---
8	403	372	396	---	---	---	436	429	432	---	---	---
9	424	402	406	---	---	---	441	434	438	380	301	329
10	409	402	406	---	---	---	446	438	441	388	296	358
11	414	408	410	---	---	---	453	439	447	315	197	233
12	419	414	416	---	---	---	458	445	450	332	291	311
13	422	417	419	---	---	---	452	440	444	325	303	315
14	424	419	421	---	---	---	449	436	443	375	324	347
15	432	424	427	---	---	---	445	400	429	383	376	378
16	438	433	435	---	---	---	---	---	---	384	381	382
17	435	411	428	---	---	---	---	---	---	387	383	385
18	424	395	417	---	---	---	---	---	---	390	384	386
19	426	414	417	---	---	---	330	314	321	390	386	388
20	428	423	426	440	426	434	366	334	353	390	385	388
21	426	421	424	439	422	432	293	150	194	389	381	386
22	426	331	409	438	426	433	250	144	192	389	382	386
23	423	409	416	440	419	432	245	151	197	391	382	387
24	423	410	416	436	421	431	309	249	283	392	387	389
25	421	410	416	439	428	432	340	311	327	398	381	390
26	427	415	419	---	---	---	357	342	349	397	381	390
27	435	427	431	---	---	---	386	343	365	396	382	389
28	435	428	432	---	---	---	339	211	253	400	386	393
29	432	428	429	---	---	---	331	274	309	401	381	393
30	---	---	---	---	---	---	344	293	332	400	388	395
31	---	---	---	---	---	---	288	196	235	392	363	385
MONTH	438	306	411	440	419	432	458	144	351	401	197	367

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM @ 25 DEG. C), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	357	316	327	346	332	341	342	324	334	360	302	335
2	351	323	332	343	216	254	347	338	342	380	365	373
3	371	352	361	294	205	258	351	338	346	391	377	384
4	381	364	373	279	187	226	354	344	350	393	342	375
5	391	376	384	330	283	310	353	331	345	356	283	315
6	396	386	390	346	331	339	346	313	335	317	279	296
7	399	393	396	354	345	350	343	304	326	356	318	336
8	403	399	401	358	347	354	339	314	328	378	346	369
9	407	382	397	357	343	351	338	322	332	351	270	308
10	406	370	391	357	335	349	338	320	331	335	275	303
11	403	364	386	355	332	346	337	316	328	367	337	353
12	402	361	384	355	340	348	340	329	336	372	255	343
13	397	358	378	360	341	351	350	338	344	289	237	256
14	372	222	262	359	344	351	359	340	347	352	292	323
15	338	252	296	359	325	346	341	180	247	375	354	366
16	369	339	355	360	308	338	341	240	297	387	376	378
17	404	269	370	355	324	340	371	343	358	388	377	383
18	211	86	109	357	345	351	381	373	376	384	370	378
19	151	87	114	354	334	348	385	372	378	377	359	368
20	240	123	189	355	332	344	384	378	381	360	160	204
21	289	242	267	357	333	345	384	374	380	280	209	246
22	314	291	303	352	225	323	384	367	377	322	282	303
23	327	316	321	232	112	165	382	360	373	352	324	335
24	335	328	330	312	220	272	378	343	363	362	351	354
25	340	336	337	343	314	329	375	338	359	367	361	364
26	343	340	341	350	344	347	376	341	360	367	321	340
27	345	342	344	356	343	353	374	351	364	351	330	339
28	346	339	344	356	336	349	371	337	357	349	331	336
29	---	---	---	332	106	197	354	167	280	356	346	351
30	---	---	---	273	173	221	298	172	230	368	354	360
31	---	---	---	324	276	302	---	---	---	374	360	368
MONTH	407	86	328	360	106	316	385	167	340	393	160	337

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	373	359	367	272	264	268	361	351	355	390	380	386
2	371	358	365	281	210	262	360	353	355	379	370	372
3	368	363	365	299	229	257	358	353	355	375	372	373
4	368	238	338	289	211	262	361	357	359	383	375	379
5	302	237	286	297	255	266	364	359	362	390	381	386
6	294	265	277	320	267	293	366	361	364	395	389	393
7	280	265	271	361	311	322	369	327	361	397	394	395
8	307	281	299	360	277	335	363	353	356	396	312	383
9	328	307	317	359	255	316	356	321	350	450	292	375
10	335	325	330	366	180	273	360	344	354	451	399	428
11	343	333	338	343	200	271	358	344	352	429	370	405
12	356	345	352	387	306	340	346	339	344	409	385	394
13	361	352	357	420	359	396	361	339	349	384	379	381
14	368	359	364	393	384	389	363	349	354	398	383	389
15	381	370	376	395	387	392	369	346	356	403	395	399
16	385	357	377	400	386	394	381	371	376	407	399	403
17	356	309	336	395	388	391	382	360	373	410	405	408
18	309	272	302	397	387	393	368	356	360	412	408	410
19	293	266	281	397	383	391	359	351	355	408	402	405
20	309	291	303	391	375	386	353	344	347	406	399	403
21	310	303	305	384	373	379	347	345	346	406	400	404
22	314	303	308	377	372	374	349	346	347	407	401	405
23	321	306	311	372	362	368	351	347	349	410	406	409
24	332	306	322	366	355	362	353	350	351	410	372	393
25	353	315	335	364	355	360	364	353	360	363	317	332
26	359	330	346	365	359	361	369	353	366	384	328	361
27	347	317	330	365	358	361	380	356	366	410	384	396
28	337	300	318	374	364	368	382	377	380	430	409	420
29	312	273	295	372	369	371	384	380	382	432	428	430
30	272	265	269	369	363	365	388	344	384	435	424	429
31	---	---	---	361	354	357	383	348	375	---	---	---
MONTH	385	237	325	420	180	343	388	321	359	451	292	395

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	7.9	7.8	---	---	---	---	8.0	7.9	8.1	7.8	8.3	7.9
2	8.0	7.8	---	---	---	---	8.0	7.9	8.1	7.7	8.1	7.7
3	7.9	7.4	---	---	---	---	8.0	7.9	7.9	7.6	8.0	7.8
4	7.8	7.7	---	---	---	---	8.1	7.9	7.9	7.6	7.9	7.7
5	7.7	7.6	---	---	---	---	8.0	8.0	7.9	7.6	8.1	7.9
6	7.7	7.6	---	---	7.7	7.6	8.0	7.9	7.8	7.6	8.1	7.7
7	7.8	7.7	---	---	7.8	7.7	---	---	7.8	7.6	8.3	8.0
8	7.7	7.6	---	---	7.9	7.8	---	---	7.8	7.7	8.3	8.1
9	7.7	7.6	---	---	7.9	7.8	7.2	7.1	8.0	7.7	8.4	8.1
10	7.8	7.6	---	---	8.0	7.7	7.3	7.2	8.1	7.8	8.5	8.1
11	7.9	7.7	---	---	7.9	7.8	7.5	7.1	8.0	7.8	8.5	8.0
12	7.9	7.7	---	---	7.9	7.7	7.5	7.1	8.0	7.7	8.3	8.0
13	7.8	7.7	---	---	8.0	7.8	7.4	7.2	8.0	7.6	8.4	7.9
14	7.9	7.7	---	---	8.0	7.1	7.4	7.3	7.9	7.7	8.5	8.0
15	7.9	7.8	---	---	7.8	7.6	7.4	7.3	7.9	7.7	8.6	8.1
16	7.9	7.8	---	---	---	---	7.5	7.3	8.1	7.9	8.6	8.1
17	7.9	7.7	---	---	---	---	7.5	7.4	8.0	7.9	8.4	8.1
18	7.8	7.6	---	---	---	---	7.7	7.3	7.8	7.4	8.3	7.9
19	7.8	7.7	---	---	---	---	7.7	7.3	7.5	7.4	8.5	8.1
20	7.9	7.7	8.5	8.3	8.0	7.8	7.6	7.5	7.8	7.5	8.5	8.1
21	7.8	7.6	8.5	8.3	7.9	7.6	7.7	7.5	7.9	7.8	8.5	8.1
22	7.8	7.4	8.5	8.3	7.7	7.6	7.7	7.4	7.9	7.9	8.4	7.9
23	7.5	7.4	8.4	8.2	7.7	7.3	7.9	7.6	8.0	7.9	8.0	7.6
24	7.5	7.3	8.4	8.2	7.8	7.7	7.9	7.7	8.1	7.9	8.0	7.8
25	7.5	7.3	---	---	7.8	7.7	8.0	7.6	8.2	8.0	8.2	8.0
26	7.5	7.4	---	---	7.9	7.8	8.0	7.7	8.3	8.2	7.8	7.5
27	7.4	7.3	---	---	7.9	7.8	8.0	7.8	8.3	8.2	7.9	7.6
28	7.4	7.2	---	---	7.8	7.6	7.9	7.6	8.4	8.2	7.9	7.5
29	7.9	7.2	---	---	7.9	7.7	8.0	7.6	---	---	7.7	7.3
30	---	---	---	---	8.0	7.9	8.0	7.6	---	---	7.5	7.4
31	---	---	---	---	7.9	7.7	8.1	8.0	---	---	7.6	7.5
MONTH	8.0	7.2	8.5	8.2	8.0	7.1	8.1	7.1	8.4	7.4	8.6	7.3
DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.7	7.6	7.6	7.5	8.0	7.7	7.9	7.6	7.8	7.6	7.5	7.2
2	7.8	7.6	7.6	7.4	7.9	7.6	7.9	7.6	7.9	7.6	7.5	7.3
3	---	---	7.6	7.4	7.8	7.5	7.8	7.6	7.8	7.3	7.5	7.3
4	---	---	7.5	7.3	7.7	7.3	7.6	7.4	7.7	7.2	7.5	7.3
5	---	---	7.5	7.4	7.7	7.3	7.5	7.3	7.5	7.2	7.5	7.3
6	8.1	7.6	7.5	7.4	7.7	7.5	7.7	7.3	7.5	7.2	7.5	7.2
7	8.2	7.6	7.6	7.5	7.8	7.5	7.9	7.6	7.5	6.9	7.6	7.2
8	8.1	7.7	7.5	7.4	7.9	7.6	8.1	7.7	7.7	7.3	7.6	7.1
9	8.1	7.6	7.5	7.3	8.0	7.7	7.8	7.4	7.8	7.3	7.4	7.3
10	8.2	7.7	7.4	7.2	8.3	7.7	7.6	7.2	7.9	7.5	7.4	7.3
11	8.2	7.7	7.6	7.4	8.1	7.7	7.3	7.0	7.6	7.3	7.4	7.0
12	7.9	7.7	7.5	7.3	7.9	7.6	7.5	7.3	7.5	7.3	7.7	7.1
13	8.0	7.6	7.3	7.2	7.7	7.5	7.7	7.5	7.8	7.3	7.7	7.5
14	7.9	7.8	7.7	7.3	8.1	7.6	7.7	7.5	7.7	7.3	7.7	7.4
15	7.9	7.5	---	---	7.8	7.7	7.9	7.5	7.7	7.3	7.7	7.3
16	7.8	7.6	---	---	7.9	7.6	7.9	7.7	7.6	7.3	7.7	7.3
17	7.9	7.7	---	---	8.0	7.7	7.9	7.7	7.7	7.3	7.7	7.4
18	8.1	7.8	7.9	7.6	8.0	7.8	8.0	7.7	7.7	7.4	7.6	7.0
19	8.1	7.8	7.9	7.6	8.0	7.6	8.1	7.7	7.9	7.4	7.6	7.5
20	8.0	7.9	7.7	7.3	7.7	7.5	8.0	7.7	7.9	7.7	7.7	7.4
21	8.2	7.9	7.6	7.4	7.5	7.3	7.9	7.7	7.8	7.4	7.6	7.5
22	8.2	7.9	7.7	7.5	7.6	7.3	7.8	7.5	7.8	7.3	7.5	7.3
23	8.2	7.9	7.8	7.6	7.9	7.4	7.8	7.4	7.7	7.3	7.5	7.3
24	8.2	7.9	7.8	7.6	8.0	7.6	7.7	7.4	7.5	7.2	7.8	7.4
25	8.2	7.8	7.7	7.5	8.0	7.8	7.7	7.3	7.4	7.2	7.7	7.5
26	8.1	7.8	7.7	7.5	8.1	7.9	7.8	7.4	7.6	7.2	7.7	7.5
27	7.8	7.7	7.7	7.6	8.0	7.8	7.9	7.6	7.6	7.3	7.7	7.6
28	7.7	7.5	7.8	7.5	8.0	7.8	7.9	7.7	7.9	7.4	7.8	7.7
29	7.6	7.3	7.9	7.6	7.9	7.7	7.8	7.6	7.6	7.2	7.8	7.7
30	7.5	7.3	7.9	7.6	7.9	7.6	7.7	7.5	7.5	7.2	7.8	7.7
31	---	---	8.0	7.6	---	---	7.7	7.5	7.6	7.3	---	---
MONTH	8.2	7.3	8.0	7.2	8.3	7.3	8.1	7.0	7.9	6.9	7.8	7.0

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	22.8	20.4	21.4	---	---	---	---	---	---	---	---	---
2	22.0	18.8	20.3	---	---	---	---	---	---	---	---	---
3	21.9	19.0	20.6	---	---	---	---	---	---	---	---	---
4	22.4	20.7	21.5	---	---	---	---	---	---	---	---	---
5	21.2	19.4	20.5	---	---	---	---	---	---	---	---	---
6	21.2	19.5	20.4	---	---	---	9.7	8.6	9.2	---	---	---
7	21.7	19.8	20.7	---	---	---	10.0	7.7	9.0	---	---	---
8	21.4	20.8	21.1	---	---	---	9.4	7.3	8.2	---	---	---
9	23.0	20.9	21.8	---	---	---	9.3	7.3	8.2	10.6	10.2	10.4
10	21.8	17.9	20.2	---	---	---	10.2	7.6	9.1	10.5	10.2	10.4
11	17.7	15.9	16.7	---	---	---	10.3	9.6	10.0	11.5	10.1	10.7
12	16.8	15.5	16.1	---	---	---	11.1	9.8	10.7	11.4	9.7	10.8
13	18.2	16.1	16.8	---	---	---	12.3	11.0	11.6	9.6	8.4	9.0
14	18.6	15.5	16.8	---	---	---	12.6	10.8	11.6	9.2	7.9	8.6
15	18.7	15.9	17.1	---	---	---	13.6	12.7	13.3	9.3	8.2	8.7
16	19.3	15.8	17.4	---	---	---	---	---	---	9.8	9.3	9.6
17	19.6	17.3	18.5	---	---	---	---	---	---	10.5	9.4	9.8
18	19.5	17.1	18.4	---	---	---	---	---	---	10.4	8.8	9.5
19	17.2	14.6	16.1	---	---	---	---	---	---	10.0	9.4	9.7
20	16.4	13.4	14.7	12.7	10.7	11.7	16.4	12.1	13.7	10.4	9.3	10.0
21	16.8	13.8	15.3	13.4	10.7	12.1	13.5	12.2	12.6	9.1	6.7	8.0
22	16.3	15.5	16.1	12.7	11.7	12.3	17.1	13.7	14.4	6.9	5.5	6.3
23	16.3	15.3	15.8	12.8	11.1	12.1	---	---	---	7.1	5.2	6.0
24	15.7	14.4	15.0	13.9	12.3	12.9	---	---	---	6.8	5.9	6.3
25	15.3	13.6	14.2	---	---	---	---	---	---	7.1	5.1	6.0
26	13.4	11.8	12.6	---	---	---	---	---	---	7.4	5.1	6.1
27	12.8	11.2	12.1	---	---	---	---	---	---	7.2	5.3	6.4
28	12.9	12.0	12.5	---	---	---	---	---	---	7.9	6.9	7.4
29	12.4	11.1	11.8	---	---	---	---	---	---	9.4	7.6	8.5
30	---	---	---	---	---	---	---	---	---	9.4	8.5	9.0
31	---	---	---	---	---	---	---	---	---	8.8	7.2	8.0
MONTH	23.0	11.1	17.3	13.9	10.7	12.2	17.1	7.3	10.9	11.5	5.1	8.5

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	8.5	6.3	7.2	12.7	11.5	12.1	15.8	13.3	14.6	20.3	18.6	19.3
2	8.8	6.2	7.3	14.5	12.6	13.7	17.4	14.4	16.0	21.2	18.2	19.5
3	9.4	6.1	7.6	14.3	9.4	12.7	17.6	15.7	16.6	20.8	18.8	19.7
4	10.9	7.5	9.2	9.9	8.8	9.4	16.8	16.0	16.4	19.8	19.0	19.4
5	11.1	9.5	10.3	11.5	9.6	10.5	19.3	15.9	17.4	19.6	18.6	19.1
6	12.3	10.9	11.7	13.6	11.6	12.7	20.7	17.5	18.9	19.6	18.4	19.0
7	11.7	10.4	11.3	13.9	12.5	13.1	21.9	18.8	20.1	20.0	17.4	18.7
8	10.3	9.1	9.8	13.7	11.8	12.5	21.7	20.1	20.8	19.5	18.2	18.8
9	10.8	8.5	9.5	13.6	11.1	12.1	21.6	20.1	20.8	19.0	17.6	18.4
10	11.3	8.2	9.7	13.4	10.6	11.8	21.9	18.6	19.9	20.0	18.9	19.4
11	10.8	7.9	9.4	13.1	11.0	12.0	21.3	17.7	19.3	21.2	19.4	20.2
12	11.2	7.6	9.5	13.2	12.2	12.8	19.4	18.6	19.0	21.6	20.5	21.0
13	10.7	9.4	10.1	14.5	13.2	13.7	19.1	18.3	18.7	21.3	20.4	20.8
14	10.3	9.2	10.1	13.2	11.8	12.7	19.3	18.4	18.7	22.1	20.5	21.2
15	9.0	6.2	7.7	14.2	11.3	12.5	19.0	17.5	18.4	23.3	20.8	21.9
16	6.8	5.0	5.9	15.6	11.5	13.5	19.7	17.7	18.8	24.1	21.8	22.8
17	7.4	6.1	6.5	13.9	12.9	13.5	20.6	17.9	19.2	24.9	22.3	23.4
18	11.7	7.2	9.3	13.9	13.1	13.6	19.6	18.3	19.0	24.9	23.0	23.8
19	12.3	11.6	11.9	15.6	12.3	13.7	20.4	18.6	19.3	24.9	22.7	23.7
20	12.2	11.5	11.7	15.9	13.3	14.6	18.9	16.8	18.1	23.3	21.5	22.2
21	11.5	11.0	11.3	17.0	14.4	15.7	17.2	15.8	16.5	22.8	21.4	22.1
22	12.1	11.4	11.8	18.8	16.5	17.5	17.9	14.9	16.2	23.0	21.7	22.3
23	12.4	11.1	11.8	18.1	17.4	17.8	18.6	15.7	17.0	24.2	21.8	22.8
24	12.9	11.4	12.2	18.0	16.5	17.3	20.2	16.2	17.9	25.9	22.0	23.8
25	12.3	10.8	11.6	18.3	15.7	17.0	20.2	16.4	18.2	24.7	23.3	24.1
26	11.4	9.6	10.5	18.6	16.3	17.5	21.2	17.7	19.5	24.8	23.1	23.9
27	12.0	9.8	10.8	18.9	17.8	18.3	20.5	19.3	20.0	23.8	22.9	23.4
28	12.9	10.2	11.4	18.1	16.7	17.6	20.1	19.2	19.7	24.6	22.8	23.6
29	---	---	---	16.6	13.2	14.5	19.5	18.1	18.9	26.3	22.8	24.4
30	---	---	---	13.0	11.2	12.1	19.6	17.7	18.6	27.9	23.8	25.7
31	---	---	---	14.2	11.9	13.1	---	---	---	28.4	24.9	26.6
MONTH	12.9	5.0	9.9	18.9	8.8	13.9	21.9	13.3	18.4	28.4	17.4	21.8

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	28.3	25.5	26.9	29.9	26.3	28.2	---	---	---	27.4	24.8	26.0
2	28.6	25.5	27.0	30.0	26.9	28.7	---	---	---	28.1	25.6	26.7
3	29.4	26.1	27.6	28.3	25.8	27.0	29.0	25.5	27.0	26.8	25.1	25.9
4	28.4	24.7	27.1	27.0	24.9	26.1	28.6	26.0	27.2	26.6	24.4	25.4
5	25.9	23.6	24.6	28.2	24.8	26.4	29.5	26.0	27.6	25.3	24.5	24.9
6	25.0	22.5	23.6	29.4	25.9	27.6	30.4	26.7	28.3	26.6	24.1	25.2
7	25.4	21.7	23.5	29.4	27.0	28.3	30.1	26.7	28.2	27.1	24.3	25.6
8	25.2	22.3	23.9	29.8	26.5	28.4	30.1	26.9	28.3	27.6	23.3	25.2
9	25.8	22.9	24.3	27.8	25.1	26.2	29.0	27.2	27.9	23.8	23.3	23.6
10	26.3	23.4	24.8	---	---	---	27.3	26.1	26.6	25.0	22.9	23.8
11	25.1	23.6	24.3	---	---	---	27.4	24.8	26.1	25.8	24.0	25.0
12	24.3	23.3	23.9	---	---	---	27.5	25.0	26.1	26.7	24.9	25.8
13	25.4	23.4	24.4	---	---	---	26.1	24.7	25.4	27.6	25.6	26.6
14	26.8	23.6	25.2	---	---	---	26.3	24.4	25.4	28.5	25.8	27.0
15	27.6	24.5	26.0	---	---	---	26.9	24.5	25.7	28.8	25.9	27.2
16	28.8	26.0	27.3	---	---	---	27.4	24.7	25.9	28.4	25.9	27.1
17	29.3	26.3	27.8	---	---	---	27.0	25.0	26.0	28.1	25.4	26.6
18	27.5	25.2	26.6	---	---	---	27.9	25.3	26.5	27.5	24.7	25.8
19	27.9	25.0	26.6	---	---	---	26.6	24.9	25.8	24.3	20.6	22.5
20	29.1	26.2	27.6	---	---	---	25.0	23.1	24.2	20.8	18.4	19.7
21	28.2	26.6	27.3	---	---	---	24.6	21.6	23.1	19.9	16.9	18.7
22	27.4	25.4	26.4	---	---	---	25.7	21.8	23.6	20.2	17.5	18.9
23	28.2	25.3	26.6	---	---	---	26.3	22.4	24.2	19.6	18.9	19.3
24	27.4	26.0	26.8	---	---	---	26.1	22.8	24.4	19.2	18.6	19.0
25	26.7	25.1	25.8	---	---	---	25.2	23.3	24.3	19.3	17.9	18.8
26	26.0	24.0	25.0	---	---	---	25.0	23.8	24.4	18.9	17.0	18.2
27	24.9	23.7	24.3	---	---	---	26.5	23.6	25.0	18.8	16.3	17.6
28	25.5	23.5	24.4	---	---	---	26.8	25.0	25.8	17.5	16.1	17.2
29	27.3	24.2	25.8	---	---	---	26.4	25.3	25.8	18.5	17.0	17.9
30	27.7	25.3	26.5	---	---	---	26.3	24.6	25.3	19.5	17.8	18.8
31	---	---	---	---	---	---	26.0	24.6	25.2	---	---	---
MONTH	29.4	21.7	25.7	30.0	24.8	27.4	30.4	21.6	25.8	28.8	16.1	23.0

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.4	6.2	6.9	---	---	---	---	---	---	11.2	10.7	11.0
2	8.7	6.2	7.0	---	---	---	---	---	---	10.9	10.5	10.7
3	8.6	6.0	6.9	---	---	---	---	---	---	10.7	10.4	10.6
4	7.3	5.5	6.7	---	---	---	---	---	---	11.4	10.7	11.0
5	7.8	5.9	6.8	---	---	---	---	---	---	11.7	10.9	11.2
6	7.3	5.4	6.4	---	---	---	11.5	10.6	10.9	11.1	10.4	10.8
7	8.1	6.0	6.8	---	---	---	11.5	10.7	11.0	---	---	---
8	6.8	5.8	6.3	---	---	---	12.0	11.0	11.3	---	---	---
9	8.1	5.6	6.5	---	---	---	12.4	11.0	11.5	8.8	8.5	8.7
10	6.3	5.1	5.8	---	---	---	13.1	11.4	12.3	9.2	8.3	8.6
11	7.8	5.1	6.3	---	---	---	12.7	10.3	11.0	9.2	8.4	8.8
12	8.6	6.5	7.3	---	---	---	12.9	9.8	11.0	9.3	8.7	9.0
13	8.7	6.6	7.3	---	---	---	13.0	10.2	11.3	9.5	8.8	9.1
14	9.0	6.8	7.6	---	---	---	11.5	9.0	10.2	9.8	9.0	9.2
15	9.5	6.9	7.9	---	---	---	9.7	8.8	9.3	9.9	9.1	9.6
16	9.6	6.7	7.8	---	---	---	---	---	---	10.1	9.2	9.6
17	9.7	6.9	8.0	---	---	---	---	---	---	10.0	9.1	9.5
18	9.2	6.4	7.5	---	---	---	---	---	---	10.3	8.3	9.6
19	9.2	6.7	7.6	---	---	---	---	---	---	10.2	8.2	9.4
20	10.1	7.2	8.3	12.5	9.1	10.6	8.6	8.3	8.3	10.6	9.6	9.9
21	9.8	7.5	8.3	12.7	8.9	10.6	8.4	7.8	8.1	12.0	9.9	10.6
22	7.8	6.8	7.3	12.3	8.4	10.2	8.1	7.4	7.7	12.5	10.3	11.1
23	8.2	6.5	7.3	12.0	8.4	10.4	9.4	7.5	8.4	12.9	10.3	11.3
24	8.4	6.7	7.6	10.8	8.3	9.6	10.1	9.4	9.9	11.4	10.2	10.9
25	8.6	7.1	7.9	---	---	---	10.5	10.0	10.2	11.9	8.7	10.4
26	9.2	7.8	8.5	---	---	---	10.6	10.1	10.3	11.7	8.7	10.0
27	9.4	8.2	8.9	---	---	---	10.2	10.0	10.1	11.3	9.2	10.0
28	9.4	8.4	8.9	---	---	---	10.5	9.9	10.3	10.7	7.7	9.5
29	9.6	8.7	9.1	---	---	---	10.0	9.3	9.6	11.2	7.6	9.1
30	---	---	---	---	---	---	9.4	8.7	9.1	9.1	7.2	8.1
31	---	---	---	---	---	---	10.8	9.4	10.3	10.9	8.7	9.5
MONTH	10.1	5.1	7.4	12.7	8.3	10.3	13.1	7.4	10.1	12.9	7.2	9.9

03428200 WEST FORK STONES RIVER AT MURFREESBORO, TN--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	10.2	8.8	9.3	10.7	9.0	9.8	10.2	8.5	9.2	7.9	7.0	7.4
2	11.1	8.5	9.5	9.7	9.0	9.3	10.7	8.1	9.1	8.7	6.5	7.5
3	11.1	8.2	9.3	10.2	8.7	9.3	11.2	8.1	9.1	7.1	6.1	6.7
4	11.3	8.0	9.2	10.5	10.1	10.3	10.4	8.0	8.9	6.8	5.5	6.3
5	10.1	7.9	8.8	10.8	9.6	10.2	13.0	7.9	9.7	8.1	7.0	7.7
6	10.0	7.7	8.6	10.4	9.2	9.7	13.6	7.6	9.8	8.7	7.9	8.2
7	9.6	7.9	8.6	11.5	9.1	9.9	13.2	7.2	9.6	9.1	7.7	8.2
8	10.1	8.5	9.1	12.3	9.4	10.4	11.8	6.8	8.8	8.3	7.3	7.9
9	13.0	8.7	10.4	13.0	9.5	10.8	10.3	6.6	8.1	8.4	6.7	8.0
10	13.5	8.9	10.7	14.2	9.7	11.4	11.9	6.6	8.7	8.0	7.3	7.6
11	13.7	9.0	10.8	14.3	9.8	11.5	11.7	6.9	8.7	8.4	7.1	7.6
12	14.0	9.2	11.0	12.3	9.1	10.4	8.5	6.9	7.5	7.5	7.0	7.2
13	9.9	8.7	9.3	12.9	9.0	10.3	8.9	6.8	7.8	7.4	6.7	7.2
14	9.5	9.1	9.4	11.4	8.5	9.7	9.0	7.3	7.9	7.4	6.4	6.8
15	10.3	9.4	9.9	14.3	8.3	10.6	8.2	7.7	8.1	8.2	6.5	7.1
16	11.7	10.1	10.8	14.4	8.4	10.8	8.9	7.9	8.3	8.1	6.2	7.0
17	10.7	10.3	10.5	10.4	8.1	9.2	9.7	7.7	8.4	8.4	6.1	7.0
18	10.2	9.1	9.7	9.9	7.8	8.8	9.2	6.8	7.8	9.1	6.4	7.3
19	9.2	9.1	9.2	13.0	8.4	10.0	9.6	6.0	7.3	9.4	6.3	7.4
20	9.7	9.1	9.5	12.7	8.2	9.7	7.5	6.3	6.9	7.6	7.1	7.4
21	9.9	9.5	9.7	11.9	8.0	9.6	10.0	6.8	8.1	7.9	7.1	7.4
22	9.9	9.6	9.7	11.1	7.4	8.6	11.0	7.2	8.6	8.3	7.0	7.6
23	10.3	9.3	9.8	8.1	7.7	8.0	11.0	7.1	8.6	9.1	6.3	7.5
24	10.2	9.3	9.8	8.8	8.1	8.4	12.0	6.9	8.8	9.3	6.2	7.5
25	9.9	9.7	9.8	9.9	8.2	8.8	11.4	6.8	8.6	8.4	6.3	7.2
26	11.1	9.7	10.3	10.6	8.1	9.0	10.6	6.4	8.1	8.6	6.4	7.3
27	11.4	9.8	10.4	10.0	7.7	8.5	7.9	6.1	7.0	8.3	6.8	7.5
28	11.8	9.6	10.4	9.6	6.9	8.1	7.6	5.8	6.6	9.2	6.6	7.6
29	---	---	---	8.9	7.9	8.4	7.7	5.8	6.9	10.0	6.5	7.8
30	---	---	---	9.7	8.9	9.4	8.1	7.5	7.8	10.3	6.2	7.8
31	---	---	---	9.9	8.8	9.3	---	---	---	9.2	6.1	7.2
MONTH	14.0	7.7	9.8	14.4	6.9	9.6	13.6	5.8	8.3	10.3	5.5	7.4
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	8.7	5.2	6.7	8.3	4.9	6.5	8.4	5.4	6.6	6.3	4.4	5.3
2	9.1	5.0	6.6	7.4	4.5	5.8	7.9	5.4	6.3	7.1	4.4	5.5
3	8.6	4.7	6.3	6.7	5.0	5.7	8.3	4.9	6.3	7.1	4.1	5.5
4	6.9	3.0	5.4	6.3	4.9	5.5	8.3	4.9	6.4	7.6	4.3	5.7
5	6.2	3.0	5.5	6.8	4.7	5.6	8.9	4.8	6.6	6.6	4.2	5.4
6	7.1	5.4	6.0	7.6	4.8	5.9	8.9	5.0	6.6	6.7	4.0	5.2
7	7.6	5.4	6.3	8.7	4.8	6.5	8.8	4.7	6.4	7.7	4.0	5.5
8	7.8	5.3	6.4	10.1	5.1	7.2	8.2	4.6	6.0	8.2	4.1	5.9
9	8.9	5.4	6.8	7.3	5.1	6.2	7.4	4.4	5.7	6.1	5.2	5.6
10	11.4	5.5	7.8	6.3	5.0	5.9	6.4	4.6	5.5	6.7	4.8	5.7
11	9.4	5.6	7.1	6.4	5.9	6.2	6.8	4.7	5.7	6.7	4.9	5.8
12	8.6	5.4	6.8	7.0	5.8	6.2	7.6	5.2	6.2	6.9	5.1	6.0
13	8.1	5.2	6.4	7.5	5.6	6.2	8.4	5.5	6.9	7.6	4.9	6.1
14	8.2	5.1	6.5	8.0	5.4	6.4	8.8	5.7	7.2	9.6	5.2	7.0
15	7.6	5.4	6.3	8.7	5.4	6.7	8.1	5.9	6.9	10.4	5.1	7.3
16	7.7	4.9	6.1	9.3	5.3	7.0	8.5	5.7	6.8	9.8	4.8	6.9
17	7.9	4.7	6.0	8.3	5.3	6.6	7.5	5.2	6.4	9.0	4.4	6.2
18	7.2	4.7	5.8	8.3	5.2	6.6	8.0	5.0	6.3	7.5	4.1	5.4
19	7.5	4.0	5.6	9.3	5.2	7.0	8.0	5.2	6.5	7.3	4.2	5.5
20	8.1	4.2	6.0	9.6	5.1	7.1	7.8	5.4	6.3	8.5	5.0	6.4
21	6.5	4.1	5.3	8.5	4.8	6.5	8.1	4.5	6.0	8.8	5.7	6.9
22	7.3	4.2	5.5	8.1	4.5	6.2	9.0	5.0	6.5	9.1	5.9	7.1
23	8.9	4.4	6.2	7.9	4.5	6.1	8.9	4.9	6.5	7.4	5.4	6.2
24	8.0	4.7	6.0	7.3	4.4	5.7	8.3	4.2	5.9	6.7	5.1	6.0
25	6.7	5.2	5.9	7.1	4.5	5.8	7.6	3.9	5.4	7.6	6.4	6.9
26	7.4	5.3	6.3	7.7	4.8	6.1	6.8	3.4	4.9	7.8	6.1	6.9
27	7.2	5.3	6.2	7.8	5.1	6.3	7.3	3.5	5.4	8.0	6.7	7.4
28	7.6	5.4	6.4	7.9	5.2	6.4	8.9	4.7	6.4	8.5	7.5	8.0
29	7.8	5.3	6.4	7.8	5.4	6.5	7.0	4.6	5.6	8.6	7.6	8.1
30	7.9	4.9	6.2	8.1	5.2	6.5	6.6	3.7	5.0	8.8	7.7	8.2
31	---	---	---	8.1	5.5	6.5	6.1	4.4	5.2	---	---	---
MONTH	11.4	3.0	6.2	10.1	4.4	6.3	9.0	3.4	6.1	10.4	4.0	6.3

03428500 WEST FORK STONES RIVER NEAR SMYRNA, TN

LOCATION.--Lat 35°56'25", long 86°27'54", Rutherford County, Hydrologic Unit 05130203, near left bank at county bridge on Sulphur Springs Road, 400 ft upstream from Nice's Mill dam, 1.6 mi downstream from Overall Creek, 4.2 mi southeast of Smyrna, and at mile 6.4.
DRAINAGE AREA.--237 mi², includes 43 mi² without surface drainage.
PERIOD OF RECORD.--October 1965 to current year.
GAGE.--Water-stage encoder, crest-stage gage and satellite telemeter at station. Datum of gage is 500.00 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 21, 1986, at site on right bank, 40 ft downstream at same datum.
REMARKS.--No estimated daily discharges. Records good. Maximum discharge from rating curve extended above 14,000 ft³/s on basis of area-velocity study at gage height 17.11 ft and flood routing from Murfreesboro gage and Overall Creek at gage height, 16.65 ft and 17.39 ft; minimum, no flow Aug. 9, 10, Sept. 12, 13, 1983, result of upstream regulation and diversions; minimum natural discharge also occurred Nov. 7, 8, 1965. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	47	55	213	1640	299	560	1220	783	157	46	29	36
2	44	53	199	1180	256	1540	901	572	135	67	28	31
3	41	51	3030	874	232	1860	705	469	122	367	27	30
4	68	48	1810	692	216	2030	579	679	188	342	26	28
5	81	47	783	592	204	1280	507	1590	572	269	25	26
6	62	51	538	539	221	961	443	1330	280	173	25	25
7	57	62	414	1570	264	731	388	825	199	121	23	24
8	56	49	336	1280	251	589	367	637	156	94	24	84
9	67	128	290	860	233	502	380	1830	129	445	24	224
10	52	990	258	1020	217	438	371	1070	110	1010	42	77
11	49	477	233	3050	202	395	332	757	100	1390	36	60
12	48	296	215	1570	186	367	346	1260	88	590	27	51
13	50	232	200	1090	379	368	450	1220	102	394	33	45
14	47	192	205	810	2040	339	843	766	192	287	34	35
15	45	168	214	658	884	309	3090	602	138	212	28	30
16	45	147	235	625	570	289	1470	508	94	157	23	28
17	44	131	255	550	1000	281	939	440	74	121	22	26
18	47	112	949	479	11700	440	672	420	64	101	22	25
19	53	103	1770	433	13600	436	592	369	69	89	21	23
20	50	95	1100	405	6140	354	525	1300	60	77	22	22
21	47	79	7650	369	2360	317	426	540	60	66	22	20
22	56	80	9880	334	1740	501	368	415	46	59	21	20
23	137	80	8850	312	1400	4600	328	355	52	53	21	19
24	110	75	2650	295	1140	1540	295	309	90	50	21	35
25	97	73	1650	275	920	1030	268	258	188	49	20	103
26	84	78	1210	258	777	748	247	361	107	47	22	88
27	74	78	1120	246	662	603	230	347	81	44	26	66
28	65	161	3400	236	576	614	267	298	66	40	30	56
29	62	359	1740	225	---	5450	1850	258	58	36	27	49
30	59	274	2160	232	---	3330	1490	219	53	34	27	47
31	57	---	3940	426	---	1660	---	187	---	32	38	---
TOTAL	1901	4824	57497	23125	48669	34462	20889	20974	3830	6862	816	1433
MEAN	61.3	161	1855	746	1738	1112	696	677	128	221	26.3	47.8
MAX	137	990	9880	3050	13600	5450	3090	1830	572	1390	42	224
MIN	41	47	199	225	186	281	230	187	46	32	20	19
CFSM	.26	.68	7.83	3.15	7.33	4.69	2.94	2.85	.54	.93	.11	.20
IN.	.30	.76	9.02	3.63	7.64	5.41	3.28	3.29	.60	1.08	.13	.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 1991, BY WATER YEAR (WY)

MEAN	173	395	706	778	762	866	532	483	206	133	84.7	162
MAX	1124	1283	1855	2120	1738	3299	1353	1800	1122	1051	330	1220
(WY)	1976	1987	1991	1974	1991	1975	1970	1984	1989	1989	1967	1979
MIN	14.5	11.4	13.3	47.6	220	228	90.0	47.3	20.6	12.0	15.4	12.0
(WY)	1981	1966	1966	1981	1978	1966	1967	1981	1988	1988	1968	1968

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1966 - 1991	
ANNUAL TOTAL	168604		225282			
ANNUAL MEAN	462		617		439	
HIGHEST ANNUAL MEAN					831	1973
LOWEST ANNUAL MEAN					127	1981
HIGHEST DAILY MEAN	10800	Feb 4	13600	Feb 19	43900	Mar 13 1975
LOWEST DAILY MEAN	16	Aug 28	19	Sep 23	.00	Aug 9 1983
ANNUAL SEVEN-DAY MINIMUM	17	Aug 28	21	Aug 19	3.6	Nov 6 1965
INSTANTANEOUS PEAK FLOW			16700	Feb 19	*63800	Mar 13 1975
INSTANTANEOUS PEAK STAGE			14.74	Feb 19	19.18	Mar 13 1975
INSTANTANEOUS LOW FLOW			NOT DETERMINED		*2.2	Nov 6 1965
ANNUAL RUNOFF (CFSM)	1.95		2.60		1.85	
ANNUAL RUNOFF (INCHES)	26.46		35.36		25.17	
10 PERCENT EXCEEDS	1030		1430		995	
50 PERCENT EXCEEDS	131		232		156	
90 PERCENT EXCEEDS	31		29		23	

* See REMARKS.

03431000 MILL CREEK NEAR ANTIOCH, TN

LOCATION.--Lat 36°04'54", long 86°40'50", Davidson County, Hydrologic Unit 05130202, at downstream end of left bridge pier on Franklin Limestone Road, 900 ft upstream from Louisville and Nashville spur track bridge, 1.6 mi north of Antioch, 2.1 mi downstream from Whittemore Branch, 8.2 mi southeast of the State Capitol in Nashville, and at mile 11.0.
DRAINAGE AREA.--64.0 mi².
PERIOD OF RECORD.--October 1987 to September 1991 (gage height only). October 1953 to September 1961, October 1963 to September 1975 (discharge).
GAGE.--Water-stage encoder, crest-stage gage and satellite telemeter at station. Datum of gage is 472.57 ft above National Geodetic Vertical Datum of 1929. Dec. 5, 1961, to Nov. 29, 1963, Oct. 1976 to Sept. 1991, crest-stage gage at same site and datum.
REMARKS.--Records good. Minor diversion from gage pool for industrial use.
EXTREMES FOR PERIOD OF RECORD.--Maximum gage-height, 23.78 ft, (revised) May 4, 1979. Minimum gage-height since Oct. 1987, 1.55 ft observed July 7, 1988. Maximum stage since at least 1920, that of Mar. 21, 1955.
EXTREMES FOR CURRENT YEAR.--Maximum gage-height, 12.31 ft, Dec. 22; minimum gage-height, 1.77 ft Aug. 7-10, 26, Sept. 7, 8.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2.32	2.16	2.69	2.59	2.80	2.75	4.43	3.92	2.83	2.82	3.70	3.06
2	2.31	2.14	2.72	2.58	4.05	2.73	3.91	3.60	2.83	2.81	3.70	3.30
3	2.30	2.17	2.76	2.59	9.36	4.06	3.60	3.39	2.81	2.80	5.09	3.27
4	4.27	2.17	2.66	2.61	4.43	3.52	3.39	3.27	2.81	2.79	4.26	3.68
5	2.65	2.55	2.92	2.59	3.51	3.22	3.27	3.18	2.92	2.80	3.68	3.49
6	2.57	2.47	2.85	2.69	3.22	3.06	4.18	3.15	3.05	2.93	3.48	3.37
7	2.47	2.40	2.75	2.67	3.06	2.96	6.88	4.22	2.99	2.95	3.35	3.24
8	2.51	2.39	2.71	2.63	2.95	2.86	4.39	3.86	2.95	2.93	3.24	3.16
9	2.54	2.41	5.51	2.65	2.86	2.81	3.84	3.58	2.93	2.91	3.15	3.10
10	2.52	2.46	5.14	3.27	2.81	2.78	7.88	3.49	2.91	2.88	3.10	3.06
11	2.55	2.46	3.26	2.96	2.78	2.74	5.86	4.53	2.88	2.85	3.06	3.03
12	2.56	2.47	2.96	2.80	2.75	2.73	4.48	3.93	2.85	2.84	3.15	3.02
13	2.56	2.48	2.80	2.74	2.96	2.72	3.92	3.64	6.01	2.85	3.26	3.10
14	2.47	2.45	2.74	2.69	2.96	2.89	3.63	3.44	4.91	3.85	3.10	3.03
15	2.57	2.45	2.69	2.65	4.02	2.91	3.51	3.36	3.84	3.46	3.03	3.00
16	2.55	2.46	2.72	2.64	3.94	3.30	3.61	3.42	3.46	3.34	3.00	2.98
17	2.70	2.45	2.72	2.62	4.89	3.28	3.42	3.29	8.19	3.31	3.33	2.96
18	3.20	2.55	2.62	2.59	8.71	4.33	3.30	3.21	9.38	5.98	3.35	3.15
19	2.56	2.50	2.63	2.59	5.65	4.03	3.20	3.17	10.35	6.44	3.15	3.10
20	2.59	2.48	2.63	2.58	4.34	3.77	3.17	3.10	6.41	4.71	3.10	3.06
21	2.54	2.52	2.60	2.57	9.62	4.30	3.10	3.04	4.69	4.10	3.06	3.02
22	3.74	2.54	2.65	2.57	12.31	6.91	3.04	3.00	4.10	3.77	8.37	3.05
23	3.09	2.78	2.75	2.65	6.86	4.70	3.00	2.98	3.77	3.53	8.19	4.00
24	2.77	2.64	2.71	2.65	4.67	3.98	2.98	2.94	3.52	3.38	3.99	3.56
25	2.67	2.57	2.65	2.61	3.97	3.65	2.94	2.91	3.38	3.28	3.56	3.35
26	2.65	2.57	2.67	2.61	3.64	3.41	2.90	2.89	3.28	3.19	3.35	3.24
27	2.65	2.58	2.68	2.59	8.12	3.39	2.89	2.87	3.19	3.12	3.46	3.19
28	2.59	2.57	3.90	2.59	6.64	4.37	2.87	2.87	3.12	3.07	3.53	3.22
29	2.63	2.55	3.21	2.92	4.35	3.90	2.87	2.84	---	---	7.91	3.82
30	2.64	2.55	2.91	2.80	10.83	4.38	2.94	2.84	---	---	6.39	4.49
31	2.68	2.58	---	---	6.62	4.45	2.89	2.83	---	---	4.46	3.94
MONTH	4.27	2.14	5.51	2.57	12.31	2.72	7.88	2.83	10.35	2.79	8.37	2.96

03431000 MILL CREEK NEAR ANTIOCH, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	3.93	3.64	3.30	3.14	2.76	2.71	2.51	2.43	2.08	1.99	2.26	2.19
2	3.64	3.45	3.14	3.03	2.71	2.67	2.45	2.33	1.99	1.87	2.44	2.17
3	3.45	3.32	3.03	2.99	2.67	2.65	2.49	2.38	2.07	1.81	2.41	2.30
4	3.31	3.25	3.02	2.97	2.90	2.60	3.26	2.44	2.08	1.95	2.30	2.11
5	3.24	3.17	4.64	2.99	2.73	2.62	2.62	2.56	2.06	1.98	2.10	1.94
6	3.17	3.10	3.45	3.14	2.66	2.59	2.57	2.46	1.98	1.84	1.93	1.77
7	3.10	3.06	3.14	3.02	2.61	2.55	2.45	2.39	1.84	1.77	1.89	1.77
8	3.19	3.06	4.33	2.97	2.58	2.53	3.81	2.28	1.77	1.77	2.47	1.77
9	3.14	3.03	5.36	3.56	2.56	2.54	4.10	2.73	1.77	1.77	4.66	2.61
10	3.06	2.98	3.55	3.29	2.54	2.48	4.18	2.70	2.39	1.77	2.97	2.69
11	2.98	2.95	3.44	3.21	2.74	2.49	2.96	2.70	2.39	2.35	2.69	2.54
12	3.25	2.95	8.52	3.21	2.74	2.57	2.70	2.60	2.39	2.35	2.54	2.47
13	3.23	3.07	3.81	3.38	2.66	2.61	2.79	2.62	2.35	2.24	2.54	2.42
14	6.10	3.06	3.37	3.19	2.61	2.58	2.62	2.53	2.47	2.21	2.46	2.36
15	9.01	4.32	3.19	3.07	2.58	2.54	2.55	2.48	2.48	2.37	2.35	2.31
16	4.30	3.73	3.09	3.00	2.54	2.51	2.48	2.39	2.47	2.33	2.44	2.32
17	3.73	3.47	3.00	2.93	2.52	2.48	2.42	2.31	2.45	2.31	2.33	2.26
18	3.61	3.35	3.23	2.89	2.67	2.47	2.38	2.30	2.63	2.49	2.46	2.26
19	3.75	3.39	3.22	2.96	2.66	2.55	2.49	2.36	2.58	2.49	2.57	2.44
20	3.39	3.25	2.96	2.87	2.97	2.51	2.46	2.35	2.53	2.41	2.47	2.31
21	3.25	3.17	2.87	2.83	4.23	2.55	2.35	2.32	2.41	2.21	2.38	2.28
22	3.17	3.10	2.82	2.78	3.05	2.66	2.42	2.31	2.20	2.10	2.28	2.24
23	3.10	3.05	2.78	2.75	2.80	2.60	2.31	2.13	2.15	1.88	2.42	2.24
24	3.05	2.99	2.77	2.73	2.60	2.58	2.24	2.18	1.98	1.79	3.08	2.27
25	2.99	2.95	2.75	2.70	2.58	2.53	2.27	2.24	1.96	1.81	3.01	2.68
26	2.95	2.92	3.48	2.82	2.52	2.47	2.40	2.27	2.69	1.77	2.82	2.60
27	2.92	2.90	3.35	3.01	2.49	2.43	2.43	2.34	2.64	2.50	2.60	2.51
28	3.73	2.90	3.35	3.05	2.46	2.40	2.34	2.29	2.51	2.43	2.56	2.44
29	5.11	3.31	3.05	2.90	2.54	2.44	2.47	2.27	3.00	2.41	2.44	2.37
30	3.76	3.31	2.90	2.82	2.44	2.43	2.35	2.26	2.63	2.43	2.46	2.34
31	---	---	2.82	2.77	---	---	2.25	2.08	2.43	2.26	---	---
MONTH	9.01	2.90	8.52	2.70	4.23	2.40	4.18	2.08	3.00	1.77	4.66	1.77

03431500 CUMBERLAND RIVER AT NASHVILLE, TN

LOCATION.--Lat 36°09'45", long 85°46'17", Davidson County, Hydrologic Unit 05130202, at left bank pier of Shelby Avenue (formerly Sparkman Street) Bridge, at Nashville, 3.3 mi downstream from Mill Creek, and at mile 191.1.
DRAINAGE AREA.--12,860 mi², approximately.
PERIOD OF RECORDS.--October 1986 to current year (gage height only). October 1892 to September 1954 (discharge), published in WSP 1726. Gage heights for some periods since 1873 are in reports of the Tennessee Division of Geology or the U.S. Weather Bureau.
GAGE.--Water-stage encoder and satellite telemeter at station. Datum of gage is 368.17 ft above National Geodetic Vertical Datum of 1929. Prior to fall of 1922 inclined and vertical staff gage at site 350 ft downstream and from fall of 1922 to April 9, 1940, staff gage at site 400 ft downstream, both gages at same datum. November 1, 1930, to September 30, 1954, upper staff gage at former lock 1, 2.7 miles downstream was used as auxiliary gage.
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 56.2 ft, Jan. 1, 1927; minimum gage height observed after first filling of pool at dam 1, 6.1 ft Oct. 19, 1935.
EXTREMES FOR CURRENT YEAR.--Maximum gage height, 37.85 ft, Feb. 20; minimum, 16.01 ft, July 28.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.44	16.75	18.00	16.98	18.33	17.64	35.40	35.04	23.35	22.17	30.36	29.36
2	17.86	16.98	17.87	17.16	17.89	17.58	35.27	34.92	22.15	21.28	30.76	30.20
3	18.52	16.52	18.09	16.89	24.12	17.87	35.00	33.92	21.31	19.55	31.04	30.07
4	19.23	17.29	17.70	16.92	24.18	20.97	33.82	30.90	19.99	18.68	31.85	31.10
5	18.81	16.90	17.64	16.82	20.83	19.34	31.05	30.28	19.36	17.75	32.66	31.90
6	18.12	16.87	17.90	17.20	20.50	19.84	30.31	29.55	21.48	17.96	32.64	31.72
7	18.04	16.91	18.50	17.50	20.48	19.24	32.15	29.53	21.71	20.58	31.78	29.80
8	17.48	16.73	18.84	17.42	19.81	17.54	33.49	32.18	21.69	20.74	29.96	29.78
9	17.60	16.91	21.04	17.38	17.40	16.48	33.72	32.42	21.46	21.10	29.90	29.33
10	18.22	17.04	21.08	18.58	17.36	16.54	32.31	31.09	21.09	20.90	29.80	29.02
11	18.14	16.89	18.85	17.59	18.31	17.21	32.30	32.03	20.88	17.96	29.69	29.11
12	17.36	16.96	17.63	17.12	19.65	17.74	32.34	31.07	18.51	17.08	29.28	27.63
13	17.87	17.15	17.75	17.03	20.00	18.99	31.03	27.98	21.79	17.82	27.57	26.38
14	17.97	17.26	17.80	16.95	19.86	18.34	27.94	27.32	27.17	22.00	27.10	25.88
15	17.96	17.16	17.96	17.08	19.05	17.64	27.80	27.05	27.08	23.86	27.80	26.70
16	17.78	17.33	17.83	17.26	17.53	16.91	28.07	26.15	24.24	23.74	27.90	26.98
17	18.03	17.24	17.75	16.63	20.24	16.05	26.80	26.17	26.42	23.42	26.92	25.93
18	19.24	17.24	17.32	16.54	30.31	20.44	26.99	26.71	34.50	26.92	26.07	25.76
19	18.94	17.72	17.47	16.44	30.11	27.96	26.91	26.24	37.82	34.54	25.82	24.52
20	18.00	17.12	18.15	17.22	27.80	22.96	26.10	24.42	37.85	37.54	25.52	24.52
21	17.08	16.50	18.07	17.10	28.05	20.21	24.97	24.44	37.63	36.56	25.02	24.00
22	17.92	16.24	17.96	17.46	34.26	28.55	24.70	22.32	36.59	34.43	24.17	23.21
23	18.69	17.44	18.26	16.97	34.69	34.27	23.61	22.18	34.48	32.56	28.54	24.20
24	18.23	17.38	17.68	17.24	34.47	31.31	25.30	23.61	32.55	31.16	30.80	28.68
25	17.99	16.90	17.74	17.15	31.16	24.10	25.12	21.95	31.66	30.95	30.31	27.84
26	19.08	17.33	18.08	16.96	27.12	22.89	21.86	20.79	32.26	31.62	27.72	26.60
27	18.67	17.55	17.84	16.96	31.68	27.34	22.85	20.86	32.28	31.47	26.91	25.10
28	17.98	17.24	19.01	16.97	33.02	31.79	23.50	21.07	31.48	29.78	27.08	26.66
29	17.47	16.87	18.60	17.20	34.37	33.10	22.80	21.00	---	---	31.32	26.62
30	17.08	16.42	18.44	16.96	36.03	34.32	22.69	22.19	---	---	33.71	31.43
31	17.80	16.69	---	---	35.96	35.27	22.88	22.40	---	---	33.68	31.98
MONTH	19.24	16.24	21.08	16.44	36.03	16.05	35.40	20.79	37.85	17.08	33.71	23.21

CUMBERLAND RIVER BASIN

03431500 CUMBERLAND RIVER AT NASHVILLE, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	31.90	29.24	19.17	17.60	21.01	19.88	18.58	17.01	17.84	17.00	18.16	17.58
2	29.15	27.99	18.44	16.59	21.00	18.16	18.70	17.24	17.60	16.98	18.27	17.64
3	28.11	26.97	19.15	16.71	20.98	18.29	18.82	17.74	17.83	17.18	17.96	17.43
4	26.88	25.80	19.19	17.94	18.93	17.42	20.03	18.03	17.94	17.10	17.90	17.05
5	26.01	25.22	18.79	17.54	18.46	17.47	19.80	19.32	17.70	17.04	17.48	16.91
6	26.47	25.56	18.58	17.04	18.90	17.13	19.55	17.49	18.32	17.14	17.80	17.18
7	26.10	25.76	17.60	16.80	18.74	17.35	17.88	16.70	19.01	17.80	17.82	17.22
8	25.82	25.04	18.08	17.10	17.34	16.64	17.34	16.34	19.46	18.60	18.34	16.89
9	25.00	24.18	19.12	17.72	17.44	16.28	18.59	16.84	19.52	19.13	18.40	16.18
10	25.38	24.24	18.79	17.84	17.41	16.65	19.43	17.92	19.12	17.20	18.40	16.99
11	25.31	23.50	19.24	17.80	17.76	16.91	19.42	17.19	17.17	16.09	18.12	17.26
12	24.14	23.31	24.04	19.47	17.70	17.04	19.14	17.48	16.67	16.14	17.94	17.06
13	23.39	23.00	23.24	18.55	18.10	17.12	17.94	16.96	16.81	16.30	18.35	16.84
14	23.12	21.94	20.71	17.28	18.65	17.15	18.86	17.02	17.50	16.58	18.23	17.03
15	26.67	21.98	20.36	17.52	17.99	17.27	18.41	17.35	18.44	17.32	17.87	17.08
16	27.04	25.93	21.24	17.75	17.73	17.06	18.60	17.20	18.07	17.60	18.10	17.34
17	25.94	23.17	20.57	17.32	18.02	16.75	19.17	18.16	18.15	17.32	17.98	17.08
18	23.23	21.90	19.84	17.78	17.52	16.29	18.83	18.49	18.22	17.42	18.16	17.38
19	25.94	23.38	18.52	16.97	17.97	17.28	18.75	18.12	17.62	17.11	18.05	17.59
20	25.32	24.90	17.81	16.99	18.65	17.15	18.60	17.84	17.76	17.16	17.58	17.12
21	25.00	20.56	18.22	16.71	19.90	17.64	18.48	17.56	17.80	17.38	17.71	17.11
22	20.46	19.38	19.72	16.74	19.75	18.20	18.32	17.18	17.86	17.29	18.21	17.30
23	20.14	18.82	20.27	17.36	19.04	17.75	17.97	16.96	17.80	17.23	18.13	17.74
24	19.27	18.32	20.51	17.92	17.90	17.22	17.90	17.27	17.92	17.42	18.08	17.44
25	18.79	18.07	20.35	18.02	18.08	17.00	18.59	17.47	17.76	17.42	18.50	17.55
26	18.91	17.51	19.87	18.44	18.05	16.73	18.66	17.72	18.38	17.36	18.12	17.39
27	18.78	17.87	20.20	18.98	18.72	17.34	18.23	16.42	18.52	17.43	18.48	17.36
28	18.61	17.40	19.78	18.11	19.82	18.63	16.41	16.01	18.38	17.46	18.12	17.30
29	18.99	17.32	19.97	18.66	19.82	19.24	16.56	16.11	17.92	17.11	17.86	17.33
30	19.14	17.15	20.50	18.43	19.44	17.74	17.08	16.18	17.94	17.03	17.95	17.31
31	---	---	21.18	19.62	---	---	17.75	16.99	18.35	17.84	---	---
MONTH	31.90	17.15	24.04	16.59	21.01	16.28	20.03	16.01	19.52	16.09	18.50	16.18

03431800 SYCAMORE CREEK NEAR ASHLAND CITY, TN

LOCATION.--Lat 36°19'12", long 87°03'04", Cheatham County, Hydrologic Unit 05130202, near right bank on downstream end of pier of bridge on State Highway 49, at Sycamore, 3.2 mi north of Ashland City, 4.4 mi upstream from Spring Creek, and at mile 8.6.
DRAINAGE AREA.--97.2 mi².
PERIOD OF RECORD.--October 1961 to December 1987, July 1988 to current year.
GAGE.--Water-stage recorder and satellite telemeter at station. Elevation of gage is 400 ft above National Geodetic Vertical Datum of 1929, from topographic map.
REMARKS.--Records good. Minimum discharge for period of record also occurred Sept. 16, 1983. Minimum for current year also occurred Aug. 2.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	29	51	e780	61	160	334	82	139	41	16	27
2	17	29	72	e490	59	252	248	69	121	28	16	24
3	16	28	1660	e350	58	248	196	60	95	27	e17	21
4	331	28	334	227	58	281	180	58	e91	30	e17	20
5	83	30	156	191	185	217	180	188	e115	30	e17	24
6	47	31	112	258	581	193	157	147	e80	25	e16	26
7	37	31	92	1100	391	160	142	94	e63	22	e16	24
8	33	30	77	568	271	136	198	74	48	21	e20	21
9	32	169	67	380	205	119	212	118	45	37	44	25
10	32	259	61	351	169	106	201	99	41	36	92	33
11	31	80	58	615	142	100	162	331	54	54	e40	26
12	29	52	55	462	123	103	151	1190	70	43	e33	23
13	29	42	52	335	954	144	157	436	51	36	e31	22
14	28	37	51	264	1090	129	262	251	45	27	e29	20
15	27	33	206	217	471	108	420	169	41	e19	e27	19
16	27	31	282	211	291	95	296	134	42	e19	e26	18
17	26	31	362	168	930	139	209	111	37	e19	e24	17
18	31	30	4380	144	2590	299	176	89	33	e20	e23	17
19	33	30	1070	133	2830	204	267	82	33	23	e22	24
20	30	30	461	132	895	167	184	75	30	21	22	22
21	29	29	1210	113	535	150	153	89	90	19	20	18
22	80	30	4350	98	394	208	135	68	59	18	19	18
23	91	67	825	92	298	331	121	60	69	18	e19	19
24	51	65	511	89	240	236	107	e80	46	18	e18	23
25	40	46	e410	82	199	184	91	e1500	39	18	e19	36
26	35	39	e560	78	171	157	84	e2000	34	18	e22	29
27	32	35	e800	76	154	203	81	e3800	29	18	e28	21
28	32	157	e1100	77	137	324	93	665	28	17	e26	20
29	30	111	e650	73	---	931	117	384	27	18	24	20
30	29	65	e1300	71	---	743	104	e230	27	18	24	21
31	29	---	e1900	67	---	462	---	e160	---	17	25	---
TOTAL	1414	1704	23275	8292	14482	7289	5418	12893	1722	775	792	678
MEAN	45.6	56.8	751	267	517	235	181	416	57.4	25.0	25.5	22.6
MAX	331	259	4380	1100	2830	931	420	3800	139	54	92	36
MIN	16	28	51	67	58	95	81	58	27	17	16	17
CFSM	.47	.58	7.72	2.75	5.32	2.42	1.86	4.28	.59	.26	.26	.23
IN.	.54	.65	8.91	3.17	5.54	2.79	2.07	4.93	.66	.30	.30	.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1962 - 1991, BY WATER YEAR (WY)

MEAN	42.5	112	216	207	278	306	208	175	94.4	55.1	37.9	49.4
MAX	180	439	751	671	931	1011	536	699	395	305	99.9	313
(WY)	1976	1974	1991	1974	1989	1975	1979	1983	1974	1989	1971	1974
MIN	14.0	24.5	22.6	30.4	77.8	73.3	45.9	32.8	25.6	19.6	13.3	12.6
(WY)	1964	1964	1964	1981	1964	1966	1986	1987	1963	1988	1988	1983

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1962 - 1991	
ANNUAL TOTAL	73743		78734			
ANNUAL MEAN	202		216		148	
HIGHEST ANNUAL MEAN					278	1989
LOWEST ANNUAL MEAN					70.8	1963
HIGHEST DAILY MEAN	7080	Feb 3	4380	Dec 18	8680	Mar 12 1975
LOWEST DAILY MEAN	14	Sep 5	16	Oct 3	8.0	Aug 25 1987
ANNUAL SEVEN-DAY MINIMUM	15	Sep 2	16	Aug 1	8.8	Sep 10 1983
INSTANTANEOUS PEAK FLOW			9470	Dec 22	18500	Feb 21 1989
INSTANTANEOUS PEAK STAGE			11.60	Dec 22	13.50	Feb 21 1989
INSTANTANEOUS LOW FLOW			*15	Aug 1	*7.5	Sep 15 1983
ANNUAL RUNOFF (CFSM)	2.08		2.22		1.52	
ANNUAL RUNOFF (INCHES)	28.22		30.13		20.72	
10 PERCENT EXCEEDS	374		461		278	
50 PERCENT EXCEEDS	68		70		54	
90 PERCENT EXCEEDS	19		20		18	

e Estimated.
* See REMARKS.

03432350 HARPETH RIVER AT FRANKLIN, TN

LOCATION.--Lat 35°55'14", long 86°51'56", Williamson County, Hydrologic Unit 05130204, on left bank 15 ft downstream from State Highway 96 bridge, 0.4 mi southeast of the courthouse in Franklin, and at mile 88.1.
DRAINAGE AREA.--191 mi², includes 15 mi² without surface drainage.
PERIOD OF RECORD.--October 1974 to current year.
GAGE.--Water-stage encoder, crest-stage gage and satellite telemeter at station. Datum of gage is 604.42 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair except those for estimated daily discharges and those below 5.0 ft³/s, which are poor. Minimum discharge for period of record also occurred Oct. 22, 23, 26, 1980. The Franklin Utility District diverts part of its municipal water supply from the river above the gage. This water along with other water is returned to the river through the sewage treatment plant below the gage. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	9.8	81	1070	148	364	687	413	81	25	17	1.9
2	1.1	8.5	72	788	145	684	533	312	75	22	8.8	1.5
3	1.1	6.6	2550	615	143	807	431	246	63	14	8.3	1.7
4	8.2	5.6	1540	496	138	997	367	207	86	10	8.4	1.4
5	10	4.2	500	424	136	649	328	657	213	71	11	2.2
6	11	8.8	332	412	149	526	293	502	98	45	9.7	1.5
7	8.3	9.8	250	900	168	454	268	335	69	32	9.0	1.4
8	5.6	5.5	196	696	160	383	260	266	62	26	8.8	1.6
9	4.3	114	166	557	154	337	259	707	55	54	9.8	198
10	3.3	616	140	926	149	307	242	448	47	146	134	43
11	3.2	240	109	1510	144	289	210	343	43	372	44	19
12	2.1	126	86	940	136	286	246	339	39	118	28	8.6
13	1.6	83	83	699	496	332	327	329	37	64	23	4.5
14	1.9	64	87	559	1540	283	745	273	38	52	19	7.2
15	1.7	52	115	480	774	252	2540	227	40	41	16	5.5
16	1.4	44	160	508	532	233	1010	179	38	35	e8.0	3.9
17	1.4	42	181	428	1000	231	635	150	36	28	e5.7	2.7
18	3.8	39	1080	375	5570	384	478	127	30	16	e4.9	2.8
19	7.1	36	1280	353	8260	328	611	141	20	15	e4.5	8.3
20	13	33	690	338	6480	289	553	227	18	16	e3.0	5.5
21	11	30	3110	310	1480	264	413	164	44	8.9	e2.0	4.0
22	28	28	5950	275	1030	621	350	131	43	6.5	e1.6	3.9
23	123	29	5560	272	778	3810	283	110	51	19	e1.1	3.9
24	60	30	1480	233	612	1060	223	102	40	103	.95	3.8
25	34	28	865	217	509	670	189	84	35	82	1.0	95
26	25	28	635	197	436	506	167	192	30	44	1.1	58
27	19	28	708	183	384	418	151	215	19	35	1.4	35
28	15	63	1790	170	347	394	235	256	15	29	1.6	26
29	13	202	954	156	---	1970	782	172	14	24	1.8	19
30	13	108	2580	153	---	2050	696	126	22	21	1.9	14
31	13	---	3010	153	---	953	---	97	---	17	2.0	---
TOTAL	445.3	2121.8	36340	15393	31998	21131	14512	8077	1501	1591.4	397.35	584.8
MEAN	14.4	70.7	1172	497	1143	682	484	261	50.0	51.3	12.8	19.5
MAX	123	616	5950	1510	8260	3810	2540	707	213	372	134	198
MIN	1.1	4.2	72	153	136	231	151	84	14	6.5	.95	1.4
CFSM	.08	.37	6.14	2.60	5.98	3.57	2.53	1.36	.26	.27	.07	.10
IN.	.09	.41	7.08	3.00	6.23	4.12	2.83	1.57	.29	.31	.08	.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1991, BY WATER YEAR (WY)

MEAN	108	312	470	511	559	629	383	359	92.9	57.3	26.9	91.7
MAX	610	778	1172	1472	1358	1945	1066	1489	530	431	104	971
(WY)	1976	1980	1991	1979	1990	1975	1979	1984	1989	1989	1984	1979
MIN	.52	4.08	16.2	14.4	139	159	62.2	21.8	1.25	1.44	1.58	1.17
(WY)	1981	1981	1981	1986	1978	1985	1986	1988	1988	1988	1988	1980

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1975 - 1991	
ANNUAL TOTAL	114149.8		134092.65			
ANNUAL MEAN	313		367		299	
HIGHEST ANNUAL MEAN					522	1979
LOWEST ANNUAL MEAN					68.7	1981
HIGHEST DAILY MEAN	12100	Feb 4	8260	Feb 19	18500	Mar 13 1975
LOWEST DAILY MEAN	1.1	Sep 3	.95	Aug 24	.30	Oct 14 1980
ANNUAL SEVEN-DAY MINIMUM	1.2	Sep 1	1.2	Aug 22	.32	Oct 20 1980
INSTANTANEOUS PEAK FLOW			9810	Feb 19	20200	Mar 13 1975
INSTANTANEOUS PEAK STAGE			26.17	Feb 19	33.65	Mar 13 1975
INSTANTANEOUS LOW FLOW			NOT DETERMINED		*.30	Oct 14 1980
ANNUAL RUNOFF (CFSM)	1.64		1.92		1.57	
ANNUAL RUNOFF (INCHES)	22.23		26.12		21.27	
10 PERCENT EXCEEDS	669		780		650	
50 PERCENT EXCEEDS	79		115		90	
90 PERCENT EXCEEDS	1.6		3.9		2.5	

e Estimated.
* See REMARKS.

03432400 HARPETH RIVER BELOW FRANKLIN, TN

LOCATION.--Lat 35°56'53", long 86°52'54", Williamson County, Hydrologic Unit 05130204, on right bank 0.1 mi below bridge on U.S. Highway 431, 1.2 mi downstream from Spence Creek, 1.8 mi northwest of the courthouse in Franklin, and at mile 84.3.
DRAINAGE AREA.--210 mi², includes 15 mi² without surface drainage.
PERIOD OF RECORD.--August 1988 to current year, discharge for stage of 5.00 ft and below only.
GAGE.--Water-stage encoder.
REMARKS.--Records good. Flow is affected by Franklin sewage treatment plant outflow 1.1 mi upstream. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, not determined. Maximum stage, 28.97 ft, Feb. 4, 1990. Minimum, 3.0 ft³/s, Aug. 19, 1990.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, not determined. Maximum stage, 25.79 ft, Feb. 20. Minimum daily discharge 6.1 ft³/s, Sept. 23.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.7	15	105	---	171	---	---	---	108	29	15	8.2
2	6.7	14	100	---	165	---	---	309	100	27	11	8.2
3	6.7	12	---	---	159	---	---	252	83	22	9.5	7.9
4	14	12	---	---	153	---	---	222	122	20	9.1	7.8
5	15	11	---	---	147	---	---	---	242	73	9.5	8.0
6	14	14	---	---	171	---	309	---	134	51	9.6	8.8
7	14	15	285	---	196	---	284	---	94	33	10	8.0
8	12	12	228	---	185	---	278	267	83	27	18	12
9	10	124	199	---	175	327	278	---	72	92	33	204
10	9.5	---	176	---	167	300	258	---	61	154	194	60
11	9.5	271	138	---	159	284	224	---	59	---	53	22
12	7.7	178	102	---	142	282	---	---	53	149	30	13
13	7.0	118	99	---	---	321	---	---	50	78	23	8.6
14	7.0	80	107	---	---	276	---	276	47	66	17	10
15	7.0	61	161	---	---	246	---	236	50	45	14	8.7
16	7.0	49	208	---	---	228	---	200	47	36	12	7.4
17	7.7	45	238	---	---	229	---	178	43	30	11	6.9
18	9.5	40	---	---	---	---	---	160	40	20	14	8.6
19	12	36	---	---	---	313	---	175	28	18	9.9	13
20	18	35	---	339	---	278	---	222	34	17	11	8.4
21	16	30	---	310	---	252	---	186	76	13	9.6	7.1
22	42	29	---	278	---	---	---	157	60	11	9.3	6.4
23	142	31	---	262	---	---	306	139	85	17	8.7	6.1
24	66	33	---	244	---	---	255	130	55	54	8.8	11
25	41	29	---	234	---	---	227	111	48	121	8.0	118
26	32	28	---	224	---	---	213	221	40	53	14	84
27	25	30	---	216	---	---	203	238	28	36	13	43
28	22	87	---	206	---	---	---	284	23	28	9.7	28
29	19	228	---	188	---	---	---	200	21	24	8.7	21
30	19	149	---	184	---	---	---	161	27	20	8.7	16
31	18	---	---	182	---	---	---	127	---	16	9.0	---
TOTAL	643.0	---	---	---	---	---	---	---	2013	---	621.1	780.1
MEAN	20.7	---	---	---	---	---	---	---	67.1	---	20.0	26.0
MAX	142	---	---	---	---	---	---	---	242	---	194	204
MIN	6.7	---	---	---	---	---	---	---	21	---	8.0	6.1

03433500 HARPETH RIVER AT BELLEVUE, TN

LOCATION.--Lat 36°03'16", long 86°55'42", Davidson County, Hydrologic Unit 05130204, on right bank 45 ft upstream from bridge on State Highway 100, 0.1 mi downstream from Little Harpeth River, 0.9 mi southeast of Bellevue, and at mile 62.1.
DRAINAGE AREA.--408 mi², includes 15 mi² without surface drainage.
PERIOD OF RECORD.--April 1920 to current year. Monthly discharge only November 1929 to December 1931, published in WSP 1306.
REVISED RECORDS.--WSP 953: 1920-30, 1932-35. WSP 1386: 1948. WSP 1556: Drainage area. WSP 1910: 1960.
GAGE.--Water-stage recorder. Datum of gage is 541.04 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers). Apr. 11, 1920, to Oct. 31, 1929, Jan. 1, 1932, to Sept. 30, 1933, nonrecording gage at site 2.8 mi downstream at datum 7.85 ft lower.
REMARKS.--No estimated daily discharges. Records good. Gage height for the period of record is from floodmarks. Minimum discharge for the period of record also occurred Oct. 6-10, 1922. Minimum discharge for the current year also occurred Oct. 4. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1897, that of Feb. 13, 1948.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.2	28	197	3060	258	726	1640	894	305	74	32	28
2	9.2	25	189	2020	240	1240	1260	663	263	73	28	24
3	6.5	22	3480	1500	231	1290	1030	521	229	66	26	20
4	39	21	3930	1210	223	2070	867	451	218	64	23	18
5	72	21	1230	1030	213	1370	774	813	485	61	20	17
6	43	23	805	982	269	1120	667	1070	307	103	19	16
7	30	25	590	2900	335	954	583	663	223	76	18	15
8	24	30	455	2110	324	795	625	507	186	60	18	14
9	18	365	372	1470	295	683	624	965	168	122	19	88
10	15	1340	322	1520	277	591	594	920	151	195	180	161
11	13	644	274	3630	256	537	497	693	138	409	151	66
12	13	325	222	2490	236	508	592	813	144	315	68	36
13	13	216	204	1730	603	615	915	1040	136	159	45	25
14	11	162	345	1340	3270	533	2160	719	126	124	37	18
15	10	130	268	1130	1830	458	5720	560	115	97	31	14
16	8.9	110	618	1110	1200	405	2920	438	110	76	27	14
17	9.2	98	630	963	1420	391	1670	370	106	65	25	12
18	26	92	3480	819	8910	626	1250	383	97	54	25	12
19	34	83	3770	738	13000	634	1540	342	88	47	24	16
20	33	77	1800	689	13700	543	1440	362	76	43	22	12
21	25	73	4070	610	4890	482	1060	357	632	39	19	14
22	101	66	10900	529	2380	652	884	279	212	35	19	12
23	206	70	11100	472	1750	4530	739	240	242	30	18	11
24	191	74	4220	429	1370	2570	584	221	171	40	16	11
25	105	72	2200	405	1130	1330	478	198	133	196	15	17
26	71	64	1580	381	971	1030	419	450	116	130	23	120
27	54	62	1920	357	834	845	374	1680	101	79	30	83
28	42	145	4260	343	736	866	412	1320	85	58	43	49
29	35	327	2560	306	---	2820	1070	748	76	48	35	33
30	31	277	4870	288	---	4780	1470	514	70	42	35	26
31	29	---	7450	283	---	2420	---	380	---	36	30	---
TOTAL	1327.0	5067	78311	36844	61151	38414	34858	19574	5509	3016	1121	1002
MEAN	42.8	169	2526	1189	2184	1239	1162	631	184	97.3	36.2	33.4
MAX	206	1340	11100	3630	13700	4780	5720	1680	632	409	180	161
MIN	6.5	21	189	283	213	391	374	198	70	30	15	11
CFSM	.10	.41	6.19	2.91	5.35	3.04	2.85	1.55	.45	.24	.09	.08
IN.	.12	.46	7.14	3.36	5.58	3.50	3.18	1.78	.50	.27	.10	.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1991, BY WATER YEAR (WY)

MEAN	108	365	812	1164	1309	1309	886	569	256	139	108	120
MAX	953	1678	3952	4305	3606	4263	2579	3232	1834	827	663	1685
(WY)	1976	1987	1927	1937	1950	1975	1927	1984	1928	1989	1926	1979
MIN	1.90	10.4	32.3	40.5	90.2	167	138	38.7	13.1	15.6	5.76	1.28
(WY)	1932	1940	1940	1940	1941	1941	1967	1941	1988	1954	1954	1948

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1920 - 1991	
ANNUAL TOTAL	253005.0		286194.0			
ANNUAL MEAN	693		784		592	
HIGHEST ANNUAL MEAN					1157	1973
LOWEST ANNUAL MEAN					137	1941
HIGHEST DAILY MEAN	18600	Feb 4	13700	Feb 20	32400	Mar 13 1975
LOWEST DAILY MEAN	6.5	Oct 3	6.5	Oct 3	.00	Oct 5 1922
ANNUAL SEVEN-DAY MINIMUM	10	Sep 27	11	Oct 11	.07	Oct 4 1922
INSTANTANEOUS PEAK FLOW			14600	Feb 20	40000	Feb 13 1948
INSTANTANEOUS PEAK STAGE			17.60	Feb 20	*24.34	Feb 13 1948
INSTANTANEOUS LOW FLOW			*4.4	Oct 3	*.00	Oct 5 1922
ANNUAL RUNOFF (CFSM)	1.70		1.92		1.45	
ANNUAL RUNOFF (INCHES)	23.07		26.09		19.71	
10 PERCENT EXCEEDS	1570		1810		1380	
50 PERCENT EXCEEDS	202		256		179	
90 PERCENT EXCEEDS	19		19		16	

* See REMARKS.

03434500 HARPETH RIVER NEAR KINGSTON SPRINGS, TN

LOCATION.--Lat 36°07'19", long 87°05'56", Cheatham County, Hydrologic Unit 05130204, on right bank 400 ft upstream from bridge on U.S. Highway 70, 1.7 mi northeast of Kingston Springs, 3.0 mi downstream from Turnbull Creek, and at mile 32.4.
DRAINAGE AREA.--681 mi², includes 15 mi² without surface drainage.
PERIOD OF RECORD.--October 1924 to current year. Prior to July 1925 monthly discharge only, published in WSP 1306.
REVISED RECORDS.--WSP 953: 1927, 1933, 1935-36. WSP 1033: 1927(M), 1932-33(M), 1935(M), 1937(M). WSP 1706: 1945(P). WSP 2110: Drainage area.
GAGE.--Water-stage encoder and satellite telemeter at station. Datum of gage is 447.04 ft above National Geodetic Vertical Datum of 1929. July 8, 1925, to Jan. 22, 1939, nonrecording gage at site 150 ft downstream, and Jan. 22, 1939, to July 26, 1988, water-stage recorder at present site at datum 1.0 ft higher.
REMARKS.--No estimated daily discharges. Records good. Minimum discharge for current year also occurred on Oct. 4. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1897, that of Jan. 7, 1946. Flood of March 1902 reached a stage about 3 ft lower than that of Jan. 7, 1946.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62	96	363	4520	480	1210	2630	1410	862	204	104	113
2	59	93	325	2980	449	1780	2000	1070	726	186	99	101
3	56	93	3760	2240	432	1910	1640	870	618	175	93	90
4	169	89	5450	1780	420	2770	1410	770	532	207	89	85
5	227	92	2110	1510	460	2190	1300	942	648	202	86	83
6	149	102	1220	1390	734	1800	1140	1570	689	167	81	88
7	119	98	903	4240	746	1530	1020	1090	500	197	83	86
8	98	89	705	3540	714	1290	1060	844	419	175	81	80
9	90	577	578	2410	649	1120	1120	1120	373	266	96	106
10	87	2060	494	2080	601	1000	1100	1480	340	319	145	164
11	87	1250	431	4540	555	910	958	1380	328	383	263	205
12	77	638	376	3690	512	871	930	2610	345	560	202	138
13	73	420	330	2620	1140	963	1340	2930	375	347	142	108
14	72	318	356	2040	4200	937	2460	1650	340	256	118	91
15	71	261	518	1700	3070	812	6520	1230	292	216	105	81
16	66	220	887	1590	1920	734	4950	965	273	189	97	75
17	65	198	1040	1460	1890	705	2690	787	259	170	93	71
18	97	179	6720	1260	10700	892	1970	1140	243	158	96	69
19	129	168	6460	1140	17800	1030	2050	894	235	152	97	79
20	101	160	3080	1080	16300	905	2270	816	217	139	87	74
21	105	151	3320	983	8740	832	1680	745	675	131	84	71
22	214	150	15200	874	3720	820	1400	630	560	125	81	68
23	373	178	7730	794	2720	3170	1210	543	543	118	79	71
24	347	170	5050	744	2140	3990	1020	479	423	109	75	77
25	269	158	3250	684	1790	1860	860	441	322	118	72	125
26	184	151	2320	644	1540	1440	764	1650	283	271	81	105
27	146	143	2360	613	1340	1230	699	17500	254	197	104	158
28	126	293	5780	598	1190	1280	741	4670	228	154	108	144
29	111	444	4080	564	---	3450	1240	2220	208	137	132	118
30	103	492	5280	534	---	6920	1950	1490	193	124	202	100
31	100	---	6360	511	---	3960	---	1100	---	113	130	---
TOTAL	4032	9531	96836	55353	86952	54311	52122	57036	12303	6265	3405	3024
MEAN	130	318	3124	1786	3105	1752	1737	1840	410	202	110	101
MAX	373	2060	15200	4540	17800	6920	6520	17500	862	560	263	205
MIN	56	89	325	511	420	705	699	441	193	109	72	68
CFSM	.19	.47	4.59	2.62	4.56	2.57	2.55	2.70	.60	.30	.16	.15
IN.	.22	.52	5.29	3.02	4.75	2.97	2.85	3.12	.67	.34	.19	.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1991, BY WATER YEAR (WY)

MEAN	221	618	1280	1886	2109	2125	1506	1021	475	261	203	213
MAX	1516	2761	6274	6975	6077	6806	3941	5107	2849	1071	1099	2530
(WY)	1976	1980	1927	1937	1950	1975	1927	1984	1928	1989	1926	1979
MIN	28.9	63.2	94.9	116	187	279	269	99.3	59.0	62.7	38.5	25.0
(WY)	1932	1955	1936	1940	1941	1941	1967	1941	1988	1954	1954	1939

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1925 - 1991	
ANNUAL TOTAL	381877		441170			
ANNUAL MEAN	1046		1209		989	
HIGHEST ANNUAL MEAN					2000	1973
LOWEST ANNUAL MEAN					249	1941
HIGHEST DAILY MEAN	20400	Feb 4	17800	Feb 19	43100	Feb 14 1948
LOWEST DAILY MEAN	45	Aug 28	56	Oct 3	16	Sep 28 1939
ANNUAL SEVEN-DAY MINIMUM	48	Sep 3	72	Sep 17	18	Sep 22 1939
INSTANTANEOUS PEAK FLOW			26100	May 27	60000	Jan 7 1946
INSTANTANEOUS PEAK STAGE			24.37	May 27	32.20	Jan 7 1946
INSTANTANEOUS LOW FLOW			*56	Oct 3	12	Sep 18 1939
ANNUAL RUNOFF (CFSM)	1.54		1.77		1.45	
ANNUAL RUNOFF (INCHES)	20.86		24.10		19.72	
10 PERCENT EXCEEDS	2360		2950		2240	
50 PERCENT EXCEEDS	404		500		334	
90 PERCENT EXCEEDS	66		88		68	

* See REMARKS.

03435000 CUMBERLAND RIVER BELOW CHEATHAM DAM, TN

LOCATION.--Lat 36°19'26", long 87°13'32", Cheatham County, Hydrologic Unit 05130205, on downstream end of lower lock wall at Cheatham Dam, 2.0 mi southwest of Neptune, 3.0 mi upstream from Half Pone Creek, 9.7 mi west of Ashland City, and at mile 148.4.
DRAINAGE AREA.--14,163 mi².
PERIOD OF RECORD.--October 1954 to current year.
REVISED RECORDS.--WSP 1726: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 350.00 ft above National Geodetic Vertical Datum of 1929. Prior to May 5, 1966, at National Geodetic Vertical Datum. Auxiliary water-stage recorder 15.3 mi downstream from base gage at same datum. Prior to June 3, 1966, auxiliary water-stage recorder and nonrecording gage on upper lock wall at former dam B, at site 8.1 mi downstream from base gage at datum 1.76 ft lower.
REMARKS.--Records good except those for estimated daily discharges, which are fair. Flow regulated by eight lakes or reservoirs above station (see p. 89). Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1793, 53.5 ft, Jan. 25, 1937, from profile by U.S. Army Corps of Engineers, discharge, about 200,000 ft³/s on Jan. 24, 1937. Flood of Jan. 1, 1927, reached a stage of 51.7 ft, from profile, discharge about 205,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2880	4810	9530	111000	40700	71300	81200	16000	e27000	e10000	6130	10500
2	5720	8800	4110	103000	37600	73100	65800	16500	e24000	e14500	5950	9340
3	7220	7440	33900	98200	33200	74900	62600	19100	e21500	e14000	6110	9620
4	12900	2230	47100	86000	24900	80300	58800	17500	e16000	e20000	6130	8050
5	14200	1710	33900	76900	17300	84400	54500	14700	e15500	e24000	5830	7030
6	8780	3770	29800	72400	16300	84700	52300	16400	e16500	e20000	9480	7610
7	6610	7660	27300	76400	34600	76200	53300	11100	e19000	e12000	14100	8280
8	3320	12500	21700	87800	35000	70600	53500	9490	e8000	e6000	20100	8910
9	3910	20400	9830	89000	34800	70900	50200	15500	e5700	e8000	22200	7710
10	6180	32800	8790	83400	34700	69100	52200	17900	e4500	e16000	18600	8560
11	10100	21100	9910	83400	33500	68900	48800	17000	e4600	e14500	9590	10500
12	4910	13100	18000	84600	15100	68100	44800	38900	e5300	e14000	4280	8730
13	4270	10700	23300	76700	6260	61200	44500	32700	e10000	e9500	4820	7640
14	4310	10200	24100	60000	40500	58800	43700	22200	e14000	e11000	4640	8870
15	3610	11200	20300	61100	64300	59500	49700	20600	e11900	e14500	7040	7240
16	4330	12300	16300	61700	54200	61300	63600	18600	e10000	9730	10300	7740
17	5060	7560	17300	58800	30100	58900	52800	24900	e9000	14100	9390	7300
18	11500	3410	65100	58100	64300	55800	44100	19200	e5000	17800	9440	8120
19	19800	3670	83300	59600	113000	52900	49300	14100	e5100	16600	9500	8910
20	13500	5950	54900	56300	137000	50300	52300	10500	e11000	15700	8660	7860
21	8070	11200	44200	51500	141000	51600	48200	9050	e25000	11500	8820	7340
22	6340	10600	105000	50100	127000	46900	29000	9520	e22000	12500	9270	6450
23	10600	5840	113000	44600	106000	52800	23700	17400	e21000	9740	9140	6930
24	12400	2670	108000	43600	90900	74700	20700	21700	e12000	11900	10000	6510
25	11500	2850	71300	50600	e79000	73700	21100	21300	e10000	11500	10500	9550
26	11900	3830	48800	42200	78900	59300	20600	12200	e9400	13100	9020	10700
27	13400	3070	69500	36000	80600	55200	20700	63000	e14000	13000	10300	10100
28	10500	7480	92400	39800	78300	59500	16900	59800	e21000	4220	12000	10100
29	7380	13900	93100	40000	---	67700	15000	29800	e24000	4350	12300	5410
30	2070	11400	105000	42200	---	93500	14400	e26000	e22000	2890	9080	5190
31	3930	---	119000	39600	---	94800	---	e28000	---	2430	12000	---
TOTAL	251200	274150	1527770	2024600	1649060	2080900	1308300	670660	424000	379060	304720	246800
MEAN	8103	9138	49280	65310	58890	67130	43610	21630	14130	12230	9830	8227
MAX	19800	32800	119000	111000	141000	94800	81200	63000	27000	24000	22200	10700
MIN	2070	1710	4110	36000	6260	46900	14400	9050	4500	2430	4280	5190

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1991, BY WATER YEAR (WY)

MEAN	10580	15990	28510	35610	38100	41240	35360	24490	16810	13050	12000	10570
MAX	38650	39250	62450	101800	80510	102500	82120	86400	45960	37350	23440	33630
(WY)	1990	1958	1973	1974	1957	1975	1962	1984	1983	1989	1971	1979
MIN	3796	3794	3946	4021	10780	8088	7999	5258	5405	4504	5277	3957
(WY)	1969	1981	1981	1981	1981	1981	1986	1988	1988	1968	1975	1968

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1955 - 1991	
ANNUAL TOTAL	7946440		11141220			
ANNUAL MEAN	21770		30520		23460	
HIGHEST ANNUAL MEAN					37080	1973
LOWEST ANNUAL MEAN					10890	1988
HIGHEST DAILY MEAN	123000	Feb 4	141000	Feb 21	202000	Mar 15 1975
LOWEST DAILY MEAN	1710	Nov 5	1710	Nov 5	700	Oct 29 1969
ANNUAL SEVEN-DAY MINIMUM	4430	Oct 30	4430	Oct 30	1030	Jan 17 1956
INSTANTANEOUS PEAK FLOW			143000	Feb 20	204000	Mar 15 1975
INSTANTANEOUS PEAK STAGE			37.89	Feb 20	48.39	Mar 1 1962
10 PERCENT EXCEEDS	51600		76300		51500	
50 PERCENT EXCEEDS	12400		16500		15800	
90 PERCENT EXCEEDS	5240		5580		5090	

e Estimated.

03436000 SULPHUR FORK RED RIVER NEAR ADAMS, TN

LOCATION.--Lat 36°30'55", long 85°03'32", Robertson County, Hydrologic Unit 05130206, on left bank 600 ft downstream from county highway bridge, 2.8 mi downstream from Millers Creek, 4.1 mi southwest of Cedar Hill, 4.6 mi south of Adams, and at mile 10.2.
DRAINAGE AREA.--186 mi², includes 21 mi² without surface drainage.
PERIOD OF RECORD.--October 1938 to September 1991 (discontinued). Prior to January 1939, monthly discharge only, published in WSP 1306.
REVISED RECORDS.--WSP 1910: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 424.36 ft, Sandy Hook datum. Jan. 20, 1939, to Nov. 25, 1940, nonrecording gage at site 600 ft upstream at same datum.
REMARKS.--Records good except those for estimated daily discharges, which are fair. Maximum gage height 30.86 ft from floodmarks. Minimum discharge for current year also occurred on Aug. 23-26, Sept. 15, 16-19, 21-23. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in June 1934 reached a stage of 25.1 ft, from floodmarks, discharge not determined. Flood in January 1937 reached a stage of about 22.6 ft, discharge not determined.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21	25	53	e1700	167	279	504	159	352	79	29	29
2	21	24	49	e1000	198	385	418	150	381	75	27	27
3	20	23	1740	e840	197	338	364	136	282	72	26	25
4	183	23	501	e470	195	364	334	133	245	70	24	23
5	102	25	295	304	433	316	326	163	220	70	23	54
6	51	28	222	436	1240	303	290	200	187	64	23	46
7	38	27	e180	2340	794	271	265	151	165	e62	23	31
8	33	27	e145	1050	523	238	360	134	151	e59	27	25
9	32	35	e132	622	411	219	378	189	141	e130	34	27
10	38	295	e121	482	347	202	369	182	130	e110	30	36
11	32	103	e112	855	291	190	317	196	150	e94	28	30
12	30	65	e103	630	251	192	287	465	216	e75	26	28
13	29	51	e97	465	1090	223	284	398	157	e69	23	23
14	27	43	e92	384	1860	207	311	311	136	e64	22	20
15	25	39	e89	331	766	184	420	256	130	e60	22	18
16	24	36	e93	326	480	168	373	222	122	e57	21	17
17	23	34	e130	269	1070	178	324	207	112	e53	20	17
18	38	32	e3500	235	4370	346	297	178	107	50	19	17
19	36	31	e1800	218	4530	291	428	224	102	52	21	17
20	31	31	e740	215	2050	257	342	390	99	55	23	19
21	26	29	e1600	193	1030	241	295	375	533	45	20	17
22	44	30	e4200	171	701	320	268	279	224	41	20	17
23	92	37	e1500	180	538	522	244	231	150	39	18	17
24	54	47	e900	198	444	404	222	201	127	39	17	18
25	41	40	e650	185	378	337	200	179	124	38	17	30
26	34	35	e505	174	334	298	188	207	106	36	19	31
27	31	34	e460	169	300	288	179	5330	95	34	31	28
28	28	58	e1100	169	272	407	181	1830	87	33	26	25
29	26	107	e890	158	---	953	191	837	82	32	23	24
30	26	67	e2100	156	---	1130	178	548	80	31	21	24
31	26	---	e1800	150	---	656	---	419	---	30	21	---
TOTAL	1262	1481	25899	15075	25260	10707	9137	14880	5193	1818	724	760
MEAN	40.7	49.4	835	486	902	345	305	480	173	58.6	23.4	25.3
MAX	183	295	4200	2340	4530	1130	504	5330	533	130	34	54
MIN	20	23	49	150	167	168	178	133	80	30	17	17
CFSM	.22	.27	4.49	2.61	4.85	1.86	1.64	2.58	.93	.32	.13	.14
IN.	.25	.30	5.18	3.01	5.05	2.14	1.83	2.98	1.04	.36	.14	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1991, BY WATER YEAR (WY)

MEAN	47.0	137	326	431	566	567	378	256	152	83.8	52.4	62.9
MAX	221	773	1232	1742	1474	2306	1340	1431	995	700	237	656
(WY)	1990	1980	1952	1950	1989	1975	1979	1983	1974	1989	1950	1979
MIN	7.84	12.9	12.5	22.7	76.2	82.9	78.2	25.0	25.3	14.8	8.41	6.11
(WY)	1954	1964	1964	1981	1941	1941	1986	1941	1948	1948	1948	1953

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1939 - 1991	
ANNUAL TOTAL	105295		112196			
ANNUAL MEAN	288		307		252	
HIGHEST ANNUAL MEAN					525	1979
LOWEST ANNUAL MEAN					73.3	1941
HIGHEST DAILY MEAN	7980	Feb 3	5330	May 27	20800	Mar 12 1975
LOWEST DAILY MEAN	17	Aug 26	17	Aug 24	1.9	Sep 24 1948
ANNUAL SEVEN-DAY MINIMUM	17	Sep 1	17	Sep 16	2.1	Sep 22 1948
INSTANTANEOUS PEAK FLOW			8890	May 27	35400	Mar 12 1975
INSTANTANEOUS PEAK STAGE			17.67	May 27	*30.86	Mar 12 1975
INSTANTANEOUS LOW FLOW			*17	Aug 23	1.8	Sep 27 1948
ANNUAL RUNOFF (CFSM)	1.55		1.65		1.35	
ANNUAL RUNOFF (INCHES)	21.06		22.44		18.38	
10 PERCENT EXCEEDS	579		638		584	
50 PERCENT EXCEEDS	107		150		85	
90 PERCENT EXCEEDS	24		23		17	

e Estimated.
* See REMARKS.

03436100 RED RIVER AT PORT ROYAL, TN

LOCATION.--Lat 36°33'17", long 87°08'31", Montgomery County, Hydrologic Unit 05130206, on left bank at county road bridge at Port Royal, 250 ft downstream from Sulphur Fork, and at mile 25.5.
DRAINAGE AREA.--935 mi² includes 437 mi² without surface drainage.
PERIOD OF RECORD.--July 1961 to current year.
GAGE.--Water-stage encoder, crest-stage gage and satellite telemeter at station. Datum of gage is 376.25 ft above National Geodetic Vertical Datum of 1929. July 13, 1961, to Oct. 9, 1963, nonrecording gage and crest-stage gage at same site and datum.
REMARKS.--Records fair. Minimum discharge also occurred Sept. 18. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 23, 1937, reached a stage of 44.4 ft; from flood profile of U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	98	e139	436	9250	1090	2200	2940	1000	2840	476	252	198
2	90	127	388	5150	1010	2530	2490	948	2660	458	233	183
3	87	120	2740	4040	966	2380	2170	898	2310	439	229	183
4	282	112	4360	3360	928	2320	1960	847	2060	473	218	166
5	729	112	1970	2920	1370	2110	1830	862	1820	406	215	184
6	416	115	1330	3110	5450	1980	1680	1120	1610	376	203	203
7	232	112	1020	9480	6270	1830	1560	1030	1460	372	195	194
8	178	110	796	9270	4140	1600	1660	861	1330	349	205	175
9	151	131	632	5410	3350	1480	2110	904	1220	480	339	156
10	169	527	510	4220	2880	1380	2770	966	1130	1090	226	222
11	222	784	438	4640	2490	1290	2290	1170	1170	1020	204	272
12	232	453	430	4620	2170	1250	1870	7710	1400	798	190	486
13	191	323	413	3880	2800	1310	1750	11400	1130	650	195	374
14	159	271	325	3360	7350	1320	1760	5320	1000	657	185	292
15	143	240	385	3000	4950	1210	2050	3840	908	570	172	214
16	130	224	1570	2840	3470	1120	2170	3050	832	520	175	176
17	110	216	1360	2580	3510	1110	1770	2530	774	491	185	156
18	124	205	9770	2300	14800	1770	1600	2120	737	452	170	141
19	144	195	17400	2130	18900	1950	2470	2190	684	430	162	132
20	150	189	7230	2060	14900	1590	2570	2260	650	436	163	125
21	151	184	4900	1920	7590	1480	1940	2270	1870	411	158	120
22	179	190	21600	1720	5360	2310	1680	2060	1320	378	154	118
23	320	214	21300	1620	4300	4980	1550	1820	969	355	150	117
24	478	244	8640	1570	3610	3640	1430	1660	866	316	146	115
25	296	276	5060	1480	3130	2620	1300	1580	845	303	141	134
26	234	257	3970	1400	2760	2220	1200	1570	763	273	149	145
27	211	236	3520	1340	2510	2030	1140	13200	665	274	170	134
28	e195	272	6050	1300	2320	2720	1100	14000	596	267	173	123
29	e175	553	5580	1200	---	3430	1100	6260	536	264	175	115
30	e155	624	6150	1150	---	4680	1060	4260	487	259	265	107
31	e147	---	16400	1150	---	3670	---	3360	---	257	177	---
TOTAL	6578	7755	156673	103470	134374	67510	54970	103066	36642	14300	5974	5460
MEAN	212	258	5054	3338	4799	2178	1832	3325	1221	461	193	182
MAX	729	784	21600	9480	18900	4980	2940	14000	2840	1090	339	486
MIN	87	110	325	1150	928	1110	1060	847	487	257	141	107
CFSM	.23	.28	5.41	3.57	5.13	2.33	1.96	3.56	1.31	.49	.21	.19
IN.	.26	.31	6.23	4.12	5.35	2.69	2.19	4.10	1.46	.57	.24	.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1961 - 1991, BY WATER YEAR (WY)

MEAN	268	709	1793	2040	2609	2807	2134	1602	999	598	303	398
MAX	855	3610	5054	5984	7429	9874	6482	7183	3990	2858	669	3939
(WY)	1980	1980	1991	1974	1989	1975	1979	1983	1981	1989	1979	1979
MIN	68.2	74.4	73.4	91.7	562	795	490	270	140	143	130	89.1
(WY)	1964	1964	1964	1981	1964	1966	1986	1988	1988	1988	1988	1970

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1961 - 1991	
ANNUAL TOTAL	528337		696772			
ANNUAL MEAN	1447		1909		1349	
HIGHEST ANNUAL MEAN					2594	1979
LOWEST ANNUAL MEAN					632	1963
HIGHEST DAILY MEAN	29900	Feb 4	21600	Dec 22	56600	Mar 13 1975
LOWEST DAILY MEAN	87	Oct 3	87	Oct 3	55	Sep 17 1964
ANNUAL SEVEN-DAY MINIMUM	111	Sep 27	115	Nov 2	58	Sep 12 1964
INSTANTANEOUS PEAK FLOW			26500	Dec 22	60300	Mar 13 1975
INSTANTANEOUS PEAK STAGE			35.45	Dec 22	48.26	Mar 13 1975
INSTANTANEOUS LOW FLOW			NOT DETERMINED		*54	Sep 17 1964
ANNUAL RUNOFF (CFSM)	1.55		2.04		1.44	
ANNUAL RUNOFF (INCHES)	21.02		27.72		19.61	
10 PERCENT EXCEEDS	3490		4460		3020	
50 PERCENT EXCEEDS	484		966		599	
90 PERCENT EXCEEDS	153		151		124	

e Estimated.
* See REMARKS.

03436500 CUMBERLAND RIVER AT CLARKSVILLE, TN

LOCATION.--Lat 36°32'28", long 87°22'04", Montgomery County, Hydrologic Unit 05130205, on left bank 30 ft below U.S. Highways 41A, 79 bridge, at Clarksville, 0.3 mile up Red River, and at mile 125.5.
DRAINAGE AREA.--16,000 mi², approximately.
PERIOD OF RECORDS.--October 1986 to current year (gage height only). October 1924 to September 1944 (discharge), published in WSP 1306. Gage height for some periods since 1900 are in reports of U.S. Weather Bureau.
GAGE.--Water-stage encoder and satellite telemeter at station. Datum of gage 300.00 ft above National Geodetic Vertical Datum of 1929. Oct. 1924 to Sept. 1944 at site 1.0 mi upstream at datum 30.86 ft higher.
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 65.7 ft, Jan. 25, 1937, from floodmarks; minimum observed, 12.3 ft, Oct. 7, 24, 1935, site and datum then in use.
EXTREMES FOR CURRENT YEAR.--Maximum gage height, 77.82 ft, Feb. 5; minimum, 54.24 ft, Mar. 15.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	55.97	55.07	55.74	54.38	55.74	54.81	76.44	75.40	59.08	58.73	67.35	66.03
2	56.27	55.01	55.82	54.71	55.59	54.84	75.36	73.99	58.88	58.01	66.25	66.08
3	56.27	55.16	55.76	54.59	60.32	54.80	73.96	73.03	58.01	56.86	66.62	66.14
4	56.87	55.60	55.68	54.60	61.55	59.27	73.00	70.88	56.84	55.96	67.25	66.65
5	57.19	55.94	55.63	54.46	59.23	57.58	70.86	68.96	56.99	55.56	67.90	67.26
6	56.67	55.63	55.64	54.52	57.92	57.10	69.18	68.64	60.02	56.70	68.02	67.90
7	56.92	55.60	55.98	54.49	57.69	56.86	72.07	69.26	60.83	60.14	67.91	65.82
8	56.25	55.40	56.04	54.74	56.85	56.20	72.68	72.09	60.24	59.72	65.80	65.20
9	56.62	55.40	57.22	54.99	56.32	54.90	72.63	71.74	59.72	59.42	65.20	65.10
10	56.41	55.70	58.25	56.82	56.35	54.36	71.73	70.42	59.42	59.15	65.10	64.49
11	56.36	55.09	57.01	56.22	55.48	54.02	70.47	70.31	59.13	57.61	64.48	64.38
12	56.40	55.00	56.84	55.22	55.71	54.22	70.54	70.34	57.59	55.76	64.40	64.04
13	56.24	54.92	56.78	54.92	56.18	55.44	70.32	68.18	59.00	55.45	64.04	62.66
14	56.00	55.19	56.81	54.84	56.26	55.93	68.12	65.24	65.06	59.29	62.64	62.32
15	55.76	55.10	56.70	54.74	56.56	55.68	65.35	64.74	65.48	63.74	62.52	62.30
16	55.83	54.89	56.76	54.72	56.47	54.96	64.73	64.37	63.68	62.11	62.83	62.51
17	56.03	54.80	56.49	54.54	57.12	55.22	64.36	63.03	64.10	61.94	62.83	62.21
18	56.53	54.98	55.80	54.25	70.11	57.22	63.02	62.82	74.32	64.42	62.24	61.99
19	56.67	55.35	55.90	54.12	71.80	70.53	62.83	62.60	77.56	74.38	61.99	61.06
20	56.76	55.03	55.68	54.31	70.60	64.71	62.58	61.52	78.33	77.55	61.04	60.76
21	56.20	55.54	55.89	54.70	66.70	62.46	61.52	61.04	78.22	77.20	61.05	60.96
22	56.09	55.13	56.03	54.66	75.95	67.19	61.02	60.20	77.15	74.89	61.38	60.76
23	56.48	55.04	55.64	54.48	76.55	75.96	60.20	59.32	74.85	72.12	64.18	61.40
24	56.81	55.40	55.48	54.34	76.36	74.53	60.47	59.29	72.05	69.89	67.38	64.27
25	56.49	54.86	55.42	54.38	74.45	67.01	60.73	60.31	69.87	68.52	67.40	66.05
26	56.56	54.63	55.12	54.26	66.80	62.80	60.28	58.71	68.50	68.38	66.00	63.58
27	56.54	55.14	55.38	53.95	67.28	63.01	58.71	58.60	68.44	68.23	63.57	62.49
28	55.84	55.18	55.78	54.11	71.04	67.45	59.19	58.61	68.21	67.36	63.72	62.70
29	55.81	54.80	55.64	54.92	71.49	71.01	59.16	58.42	---	---	66.61	63.72
30	55.48	54.52	56.02	54.41	74.83	71.49	59.07	58.85	---	---	70.47	66.90
31	55.78	54.34	---	---	76.48	74.92	58.86	58.68	---	---	70.77	70.20
MONTH	57.19	54.34	58.25	53.95	76.55	54.02	76.44	58.42	78.33	55.45	70.77	60.76

03436500 CUMBERLAND RIVER AT CLARKSVILLE, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	70.14	68.44	59.94	59.29	61.13	60.97	60.44	59.02	58.70	57.57	58.20	56.66
2	68.43	65.90	59.94	59.30	61.06	60.39	60.51	59.11	59.00	57.48	58.12	56.68
3	65.98	65.54	59.88	59.18	60.38	59.82	60.30	58.66	58.86	57.40	58.42	56.94
4	65.54	65.16	60.05	58.98	60.16	59.33	60.35	59.08	58.95	57.50	58.37	56.75
5	65.19	64.48	60.02	59.06	60.11	58.80	60.47	60.13	58.93	57.50	58.03	56.75
6	64.48	64.32	60.26	59.23	60.20	59.56	60.42	59.10	59.07	57.52	58.26	56.82
7	64.32	64.03	59.77	58.56	60.42	59.12	60.20	58.86	59.23	57.78	58.05	56.66
8	64.02	63.78	59.53	58.47	59.72	59.06	59.89	58.70	59.33	58.26	57.89	56.70
9	63.76	63.17	60.12	58.87	60.16	58.63	60.22	58.71	59.33	58.66	57.75	57.03
10	63.84	62.99	60.20	59.09	59.82	58.58	60.40	59.03	59.24	58.54	57.81	56.97
11	63.86	62.06	60.53	59.27	59.77	58.61	60.33	58.75	58.89	57.71	57.95	57.05
12	62.53	62.20	65.52	60.53	59.70	58.74	60.05	59.20	58.68	57.70	57.71	56.72
13	62.27	62.20	65.98	62.76	60.34	59.19	59.92	58.62	58.65	57.63	57.55	56.59
14	62.35	62.05	63.42	61.06	60.69	59.43	60.13	58.49	58.62	57.62	57.47	56.50
15	64.18	61.79	61.35	60.73	61.02	59.25	59.79	58.52	58.58	57.56	57.38	56.33
16	65.50	64.24	61.62	59.96	60.98	59.29	59.51	58.22	59.17	57.97	57.29	56.26
17	65.42	63.11	61.78	60.37	60.58	59.22	59.33	58.27	59.35	57.72	57.02	56.06
18	63.32	62.52	60.81	60.07	60.14	58.89	59.49	58.62	59.18	57.67	57.49	55.92
19	64.36	62.55	60.43	59.66	59.60	58.56	59.44	58.57	59.36	57.56	57.18	56.11
20	64.48	64.00	60.47	59.37	59.94	58.66	59.38	58.49	58.93	57.49	57.12	56.37
21	64.00	63.04	59.81	59.17	61.57	58.98	59.50	58.30	58.76	57.36	57.10	56.34
22	62.98	61.27	60.21	59.10	61.42	60.08	59.81	58.51	58.84	57.36	56.78	56.30
23	61.27	60.72	60.29	59.22	60.98	59.96	59.89	58.06	58.59	57.19	56.79	56.02
24	60.74	60.11	60.31	59.92	60.86	59.58	59.53	57.94	58.64	57.06	56.78	55.94
25	60.14	59.62	60.44	60.10	60.61	59.52	59.57	57.96	58.58	56.95	56.78	56.02
26	60.28	59.25	60.71	60.37	60.54	59.13	59.54	58.28	58.19	56.83	56.95	56.12
27	60.30	59.10	71.18	60.68	60.14	59.09	59.40	58.41	58.18	57.07	56.97	56.10
28	60.44	59.05	70.40	64.36	60.29	59.25	59.08	58.06	58.21	57.01	56.84	56.24
29	60.13	59.06	64.30	62.11	60.46	60.23	59.22	58.10	58.24	56.62	56.55	55.69
30	59.70	59.40	62.43	61.12	60.54	59.89	58.97	57.80	58.09	56.57	56.32	55.38
31	---	---	61.44	61.08	---	---	58.74	57.60	58.38	56.56	---	---
MONTH	70.14	59.05	71.18	58.47	61.57	58.56	60.51	57.60	59.36	56.56	58.42	55.38

03436690 YELLOW CREEK AT ELLIS MILLS, TN

LOCATION.--Lat 36°18'39", long 87°33'15", Houston County, Hydrologic Unit 05130205, on right bank at downstream end of bridge on county road, 0.3 mi northeast of Ellis Mills, 1.0 mi upstream from Leatherwood Creek, 1.0 mi downstream from Williamson Branch.
DRAINAGE AREA.--103 mi².
PERIOD OF RECORD.--October 1980 to current year.
GAGE.--Water-stage encoder, crest-stage gage and satellite telemeter at station. Elevation of gage is 417 ft above National Geodetic Vertical Datum of 1929, from topographic map.
REMARKS.--No estimated daily discharges. Records good. Maximum discharge, 14,400 ft³/s May 6, 1984, gage height, 18.47 ft recorded, 18.95 ft, from floodmarks, from rating curve extended above 9,500 ft³/s on basis of regression formula and peak discharge at Station No. 03436700 Yellow Creek near Shiloh, TN. Minimum, 7.2 ft³/s Oct. 14, 1986, result of upstream regulation. Minimum discharge occurred many days during the year. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	26	48	596	100	183	368	151	274	68	38	30
2	33	26	46	410	97	225	305	140	241	68	37	29
3	32	25	225	322	96	215	261	132	215	65	36	28
4	51	26	224	268	95	199	233	126	214	70	35	27
5	43	28	150	232	131	183	212	179	316	67	36	31
6	31	28	119	243	355	180	189	213	217	62	35	31
7	28	28	99	1150	364	166	177	179	185	58	34	29
8	28	26	88	677	302	152	176	161	170	56	34	29
9	35	32	79	443	259	141	174	167	161	115	35	31
10	36	51	72	354	230	132	177	162	154	86	37	30
11	31	48	67	353	198	126	171	159	198	76	38	30
12	29	42	62	350	176	125	169	239	340	69	35	29
13	28	38	60	316	399	128	169	293	516	65	35	29
14	27	36	57	286	741	124	188	254	351	61	33	27
15	26	34	60	259	449	117	263	213	250	56	32	27
16	25	32	91	238	331	110	266	179	190	54	32	26
17	25	32	130	207	447	111	240	163	158	53	32	26
18	30	30	2270	183	2280	125	219	148	137	52	34	25
19	30	30	1000	171	3060	130	236	136	123	50	34	26
20	29	29	461	167	1370	132	216	126	109	49	32	26
21	28	29	970	155	673	133	196	118	104	47	31	25
22	34	29	2770	145	467	140	182	111	111	47	31	25
23	39	33	875	138	365	154	171	105	100	45	30	25
24	37	36	507	131	307	158	157	100	93	44	29	27
25	33	36	382	124	264	154	145	101	96	44	29	31
26	30	34	321	120	228	150	137	118	90	43	30	30
27	29	34	340	116	202	152	132	4940	84	42	29	27
28	29	49	714	115	180	163	133	1050	79	41	27	26
29	28	59	541	111	---	512	143	519	75	40	29	26
30	28	53	1370	108	---	673	159	382	71	40	32	25
31	27	---	1270	104	---	474	---	317	---	39	31	---
TOTAL	973	1039	15468	8592	14166	5867	5964	11381	5422	1772	1022	833
MEAN	31.4	34.6	499	277	506	189	199	367	181	57.2	33.0	27.8
MAX	51	59	2770	1150	3060	673	368	4940	516	115	38	31
MIN	25	25	46	104	95	110	132	100	71	39	27	25
CFSM	.30	.34	4.84	2.69	4.91	1.84	1.93	3.56	1.75	.55	.32	.27
IN.	.35	.38	5.59	3.10	5.12	2.12	2.15	4.11	1.96	.64	.37	.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1991, BY WATER YEAR (WY)

MEAN	36.4	87.0	227	193	360	244	250	246	136	61.0	33.6	33.0
MAX	83.8	253	499	490	845	477	609	795	437	173	47.8	82.0
(WY)	1990	1985	1991	1989	1989	1989	1983	1984	1981	1989	1989	1982
MIN	16.2	27.2	34.1	22.9	101	124	78.5	46.8	30.0	26.1	19.2	16.4
(WY)	1988	1988	1981	1981	1984	1981	1986	1986	1988	1988	1987	1987

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1981 - 1991	
ANNUAL TOTAL	65809		72499			
ANNUAL MEAN	180		199		158	
HIGHEST ANNUAL MEAN					270	1989
LOWEST ANNUAL MEAN					99.7	1987
HIGHEST DAILY MEAN	5530	Feb 3	4940	May 27	5530	Feb 3 1990
LOWEST DAILY MEAN	20	Sep 8	25	Oct 16	14	Aug 24 1987
ANNUAL SEVEN-DAY MINIMUM	21	Sep 2	25	Sep 17	14	Oct 2 1987
INSTANTANEOUS PEAK FLOW			11200	May 27	*14400	May 6 1984
INSTANTANEOUS PEAK STAGE			16.82	May 27	*18.47	May 6 1984
INSTANTANEOUS LOW FLOW			*25	Oct 16	7.2	Oct 14 1986
ANNUAL RUNOFF (CFSM)	1.75		1.93		1.53	
ANNUAL RUNOFF (INCHES)	23.77		26.18		20.81	
10 PERCENT EXCEEDS	327		364		314	
50 PERCENT EXCEEDS	75		109		70	
90 PERCENT EXCEEDS	27		28		23	

* See REMARKS.

03437000 CUMBERLAND RIVER AT DOVER, TN

LOCATION.--Lat 36°29'26", long 87°50'20", Stewart County, Hydrologic Unit 05130205, on left bank, 50 ft downstream from bridge on U.S. Highway 79, at Dover, 0.1 mile upstream from Dyer Creek, 0.6 mile upstream from Indian Creek, 0.8 mile upstream from former lock and dam D, and at mile 88.8.
DRAINAGE AREA.--16,530 mi², approximately.
PERIOD OF RECORD.--October 1986 to current year (gage height only). Prior to September 1965 (discharge), published in WSP 1910. Gage-height records collected in this vicinity 1917-22 are contained in reports of U.S. Weather Bureau.
REVISED RECORDS.--WSP 1276: 1942. WSP 1706: Drainage area.
GAGE.--Water-stage encoder and satellite telemeter at station. Datum of gage is 300.00 ft, Sandy Hook datum. Oct. 1937 to Sept. 1965 at datum 24.25 ft higher. Staff gage above spillway at lock and dam D, at datum 24.25 ft higher, used during periods of crest-wicket manipulation.
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height since October 1987, 66.15 ft Feb. 16, 1989; minimum 53.58 ft Mar. 17, 1987. Maximum gage height observed, 56.8 ft, Jan. 25, 1937, at lock D; minimum observed, 6.8 ft in Sept. 1925, at lock D. Both extremes from unpublished records of U.S. Army Corps of Engineers and prior to closure of Barkley Dam.
EXTREMES FOR CURRENT YEAR.--Maximum gage height, 64.87 ft Feb. 5; minimum gage height 53.82 ft, Dec. 11.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	55.54	55.11	55.04	54.42	54.98	54.60	64.87	64.63	55.73	55.56	59.64	58.88
2	55.60	55.03	55.02	54.58	54.88	54.54	64.76	64.38	55.73	55.46	58.88	58.28
3	55.50	55.06	55.07	54.59	56.29	54.41	64.38	63.97	55.45	54.99	58.75	58.59
4	56.10	55.24	55.02	54.60	56.82	56.22	63.96	63.16	55.05	54.73	58.85	58.68
5	56.04	55.59	55.06	54.52	56.20	55.66	63.14	62.20	55.35	54.73	59.05	58.84
6	56.01	55.56	54.99	54.52	55.80	55.65	62.16	61.80	56.47	55.39	59.21	58.86
7	56.14	55.48	54.96	54.53	55.72	55.43	62.71	62.08	57.07	56.49	59.22	58.60
8	55.86	55.39	54.98	54.54	55.45	55.34	63.05	62.69	56.81	56.58	58.58	58.01
9	56.16	55.40	55.32	54.71	55.36	54.76	63.08	62.86	56.61	56.45	58.17	57.92
10	55.78	55.37	55.88	55.36	54.98	54.28	62.88	62.32	56.50	56.25	58.04	57.65
11	55.69	55.04	55.76	55.54	54.45	53.82	62.29	62.00	56.25	55.75	57.64	57.48
12	55.71	55.00	55.82	55.26	54.54	53.98	62.02	61.89	55.74	55.01	57.64	57.42
13	55.58	54.88	55.56	54.91	54.98	54.51	61.88	61.14	55.86	54.80	57.44	57.00
14	55.44	55.07	55.52	54.80	55.04	54.70	61.10	59.56	58.02	55.93	56.98	56.80
15	55.37	54.99	55.45	54.72	55.40	54.89	59.52	58.74	58.56	58.08	56.88	56.79
16	55.29	54.92	55.49	54.76	55.30	54.79	58.73	58.12	58.16	57.60	57.05	56.88
17	55.35	54.87	55.32	54.66	55.86	54.93	58.26	57.41	58.48	57.60	57.08	56.87
18	55.56	55.06	54.96	54.32	60.32	55.87	57.39	56.99	62.44	58.56	57.00	56.80
19	55.56	55.10	54.88	54.20	61.48	60.40	57.07	56.91	64.19	62.47	56.80	56.53
20	55.66	55.03	54.93	54.26	61.47	59.56	57.04	56.83	64.73	64.22	56.53	56.24
21	55.68	55.24	54.96	54.44	60.13	58.61	56.81	56.34	64.75	64.54	56.44	56.34
22	55.46	55.12	55.04	54.49	63.14	60.22	56.32	55.94	64.54	63.95	57.00	56.39
23	55.45	54.98	54.90	54.46	63.72	63.19	55.98	55.77	63.94	62.82	57.98	56.99
24	55.66	55.14	54.76	54.40	63.72	63.25	56.07	55.73	62.78	61.83	59.19	58.00
25	55.54	54.88	54.67	54.32	63.22	60.72	56.23	55.99	61.81	61.00	59.38	59.08
26	55.42	54.65	54.50	53.96	60.64	57.80	56.21	55.90	60.99	60.60	59.08	57.99
27	55.32	54.88	54.63	53.92	58.80	57.73	55.90	55.82	60.59	60.28	57.98	57.47
28	55.18	54.85	54.93	54.39	61.14	58.85	55.90	55.66	60.83	59.36	57.66	57.55
29	55.03	54.48	54.80	54.52	62.01	61.18	55.68	55.40	---	---	58.44	57.66
30	54.77	54.37	55.05	54.46	63.65	62.02	55.66	55.44	---	---	60.29	58.51
31	54.93	54.40	---	---	64.70	63.68	55.58	55.46	---	---	61.03	60.32
MONTH	56.16	54.37	55.88	53.92	64.70	53.82	64.87	55.40	64.75	54.73	61.03	56.24

03437000 CUMBERLAND RIVER AT DOVER, TN--Continued

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	61.04	60.80	58.92	58.69	59.41	59.12	59.58	58.99	58.16	57.64	57.24	56.82
2	60.82	60.30	58.81	58.63	59.23	58.98	59.49	58.98	58.12	57.60	57.23	56.80
3	60.52	60.30	58.80	58.52	59.00	58.87	59.39	58.67	58.10	57.46	57.36	56.80
4	60.68	60.51	58.90	58.60	58.90	58.62	59.35	58.92	58.18	57.57	57.36	56.80
5	60.71	60.51	59.08	58.68	59.08	58.52	59.44	59.17	58.23	57.68	57.42	56.87
6	60.50	60.20	59.13	58.72	59.23	58.97	59.46	59.21	58.24	57.59	57.35	56.84
7	60.20	59.80	58.88	58.46	59.28	58.80	59.16	58.77	58.27	57.66	57.32	56.75
8	59.79	59.40	58.82	58.36	59.15	58.77	59.17	58.59	58.28	57.68	57.27	56.89
9	59.39	59.07	58.97	58.57	59.20	58.64	59.22	58.61	58.29	57.85	57.26	56.75
10	59.07	58.85	59.12	58.70	59.18	58.48	59.33	58.84	58.17	57.87	57.19	56.78
11	59.16	58.86	59.34	58.89	59.08	58.48	59.20	58.67	58.25	57.68	57.28	56.78
12	58.87	58.80	60.74	59.36	59.33	58.67	59.10	58.84	58.20	57.64	57.03	56.71
13	58.97	58.83	61.12	60.35	59.72	59.18	59.05	58.60	58.20	57.70	56.88	56.56
14	59.06	58.89	60.47	59.91	59.78	59.34	59.02	58.51	58.17	57.68	56.76	56.42
15	59.36	58.83	59.94	59.79	59.84	59.33	58.76	58.28	58.08	57.60	56.72	56.37
16	60.04	59.38	59.98	59.50	59.88	59.24	58.80	58.18	58.14	57.88	56.65	56.16
17	60.12	59.71	59.92	59.50	59.75	59.19	58.58	58.10	58.36	57.88	56.56	56.13
18	59.75	59.60	59.65	59.31	59.55	59.00	58.46	58.10	58.27	57.79	56.74	55.99
19	59.98	59.56	59.55	59.18	59.01	58.56	58.40	58.04	58.38	57.77	56.50	56.08
20	60.08	59.98	---	---	59.20	58.51	58.32	57.98	58.12	57.56	56.43	56.14
21	60.22	60.04	59.17	58.84	59.56	58.72	58.55	58.04	58.04	57.50	56.48	56.08
22	60.06	59.63	59.08	58.78	59.70	59.39	58.77	58.31	57.93	57.48	56.29	55.97
23	59.66	59.44	59.15	58.85	59.89	59.40	58.80	58.12	57.80	57.25	56.03	55.70
24	59.51	59.04	59.20	59.09	60.04	59.60	58.58	58.00	57.68	57.13	56.12	55.72
25	59.04	58.82	59.38	59.08	59.84	59.42	58.54	58.16	57.53	56.99	56.06	55.80
26	59.08	58.76	59.48	59.14	59.61	59.19	58.54	58.14	57.40	56.85	56.25	55.93
27	59.13	58.72	62.46	59.13	59.36	58.96	58.62	58.28	57.28	56.92	56.30	55.87
28	59.36	58.82	62.45	61.30	59.23	58.94	58.60	58.08	57.33	56.87	56.17	55.96
29	59.13	58.52	61.27	60.34	59.43	59.22	58.59	58.08	57.24	56.72	56.00	55.70
30	58.95	58.75	60.32	59.58	59.54	59.29	58.49	57.66	57.20	56.76	55.86	55.50
31	---	---	59.56	59.21	---	---	58.21	57.63	57.27	56.60	---	---
MONTH	61.04	58.52	62.46	58.36	60.04	58.48	59.58	57.63	58.38	56.60	57.42	55.50

RESERVOIRS IN CUMBERLAND RIVER BASIN

03413500 LAKE CUMBERLAND.--Lat 36°52'09", long 85°08'45", Russell County, KY, Hydrologic Unit 05130103, in pylon of Wolf Creek Dam on Cumberland River and 10 mi southwest of Jamestown, Ky. DRAINAGE AREA, 5,789 mi². PERIOD OF RECORD, April 1950 to current year. Prior to October 1954, published as Wolf Creek Reservoir. April to June 1950, published in WSP 1726. GAGE, water-stage recorder. Datum of gage is Sandy Hook datum. Prior to Dec. 6, 1950, nonrecording gage at same site at datum 545.0 ft higher.

REVISIONS.--WSP 1556: Drainage area.

REMARKS.--Reservoir is formed by earth embankment and concrete gravity dam surmounted by 10 taintor gates, each 37 ft high by 50 ft wide. Final closure of dam made Aug. 7, 1950. Total capacity at elevation 760.00 ft top of gates, is 3,070,000 cfs-days, of which 1,056,000 cfs-days above elevation 723.00 ft, crest of spillway, are reserved for flood control and 1,080,000 cfs-days between elevation 673.00 ft, minimum power pool, and 723.00 ft are used for power production. Figures given herein represent total contents, of which 934,000 cfs-days below elevation 673.00 ft is dead storage. Reservoir is used for flood control, power, navigation, and recreation.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 2,811,000 cfs-days, May 13, 1984, elevation, 751.70 ft; minimum, after first filling, 934,400 cfs-days, Jan. 1, 1956, elevation, 673.01 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 2,477,400 cfs-days, Feb. 24, elevation, 740.32 ft; minimum, 1,316,500 cfs-days, Dec. 1, elevation, 692.71 ft.

03416500 DALE HOLLOW LAKE.--Lat 36°32'19", long 85°27'05", Clay County, Hydrologic Unit 05130105, at Dale Hollow Dam on Obey River, 3.0 mi east of Celina, and 7.3 mi upstream from mouth. DRAINAGE AREA, 936 mi². PERIOD OF RECORD, August 1943 to current year. Prior to October 1965, published as Dale Hollow Reservoir. GAGE, water-stage recorder. Datum of gage is Sandy Hook datum. Prior to June 25, 1946, nonrecording gage at same site and datum.

REVISIONS.--WSP 1306: 1944. WSP 2110: Drainage area.

REMARKS.--Reservoir is formed by concrete gravity dam. Spillway is equipped with six taintor gates, each 12 ft high by 60 ft wide. Closure of dam was made Aug. 30, 1943; water in reservoir first reached minimum pool elevation May 7, 1944. Revised capacity table used after Sept. 30, 1970. Total capacity at elevation 663.0 ft, top of gates, is 859,800 cfs-days of which 177,500 cfs-days between elevations 663.00 ft and 651.00 ft, crest of spillway, are reserved for flood control, and 250,200 cfs-days between elevations 651.00 ft and 631.00 ft, ordinary minimum pool, are used for power production. Contents of 432,100 cfs-days below elevation 631.00 ft is dead storage. Reservoir is used for flood control, navigation, and power.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 828,600 cfs-days, Mar. 15, 1975, elevation, 660.98 ft; minimum, after first filling, 428,000 cfs-days, Sept. 11, 1944, elevation, 630.63 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 763,300 cfs-days, Feb. 21, elevation, 656.64 ft; minimum, 507,700 cfs-days, Sept. 30, elevation, 637.56 ft.

03418400 CORDELL HULL RESERVOIR.--Lat 36°17'23", long 85°56'39", Smith County, Hydrologic Unit 05130108, at Cordell Hull Dam on Cumberland River, 2.7 mi north of Carthage, and at mile 313.5. DRAINAGE AREA, 8,095 mi². PERIOD OF RECORD, October 1972 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity dam with earth embankment. Spillway is equipped with five taintor gates, each 41 ft high and 45 ft wide. Closure of dam was made Oct. 4, 1967; water in reservoir first reached ordinary minimum pool Mar. 13, 1973. Total capacity at elevation 508.0 ft, maximum surcharge pool, is 156,700 cfs-days, of which 53,400 cfs-days is controlled storage between elevations 508.0 ft and 499.0 ft, ordinary minimum pool. Contents of 5,000 cfs-days between elevation of 499.0 ft and 500.0 ft full winter pool, is available for power production. Contents of 48,400 cfs-days above 500.0 ft is available for flood control during the winter, and 26,100 cfs-days above 504.0 ft, full pool during spring to fall season, is available for flood control the rest of the year. Contents of 103,300 cfs-days below elevation 499.0 ft is dead storage. Reservoir is used for navigation, power, and flood control.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 156,700 cfs-days, Mar. 13, 1975, May 8, 1984, elevation, 508.00 ft; minimum, after first filling to ordinary minimum pool, 96,700 cfs-days, Apr. 18, 1974, elevation, 497.65 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 137,300 cfs-days, May 2, elevation, 505.08 ft; minimum, 102,800 cfs-days, Dec. 25, elevation, 498.90 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03413500	LAKE CUMBERLAND		03416500	DALE HOLLOW LAKE		03418400	CORDELL HULL RESERVOIR	
Sept. 30...	696.30	1,392,000	-	639.59	532,400	-	502.09	119,500	-
Oct. 31...	696.30	1,392,000	0	638.64	520,800	-11,600	502.09	119,500	0
Nov. 30...	692.82	1,318,800	-73,200	637.86	511,300	-9,500	500.37	110,200	-9,300
Dec. 31...	733.39	2,285,800	+967,000	651.59	690,600	+179,300	503.11	125,400	+15,200
CAL YR 1990	-	-	+813,300	-	-	+146,100	-	-	+5,900
Jan. 31...	723.70	2,031,700	-254,100	649.13	656,400	-34,200	500.44	110,600	-14,800
Feb. 28...	737.04	2,385,600	+353,900	654.97	738,900	+82,500	500.91	113,100	+2,500
Mar. 31...	733.00	2,275,200	-110,400	652.54	704,000	-34,900	500.69	111,900	-1,200
Apr. 30...	723.07	2,015,700	-259,500	650.12	670,100	-33,900	503.47	127,500	+15,600
May 31...	722.77	2,008,100	-7,600	650.10	669,800	-300	504.15	131,600	+4,100
June 30...	717.40	1,874,500	-133,600	647.52	634,600	-35,200	503.92	130,200	-1,400
July 31...	711.05	1,722,300	-152,200	644.23	591,100	-43,500	504.31	132,500	+2,300
Aug. 31...	702.66	1,530,500	-191,800	640.61	545,000	-46,100	504.34	132,700	+200
Sept. 30...	696.03	1,386,300	-144,200	637.56	507,700	-37,300	504.05	131,000	-1,700
WTR YR 1991	-	-	-5,700	-	-	-24,700	-	-	+11,500

RESERVOIRS IN CUMBERLAND RIVER BASIN--Continued

03422000 GREAT FALLS LAKE.--Lat 35°48'21", long 85°38'09", Warren County, Hydrologic Unit 05130108, at pen- stock inlet on Collins River, 700 ft southwest of powerhouse of Tennessee Valley Authority, 1.5 mi northwest of Rock Island, 1.8 mi upstream from mouth of Collins River, and 2.0 mi upstream from Great Falls Dam on Caney Fork. DRAINAGE AREA, 1,677 mi². PERIOD OF RECORD, January 1917 to current year. GAGE, remote indicator gage. Datum of gage is National Geodetic Vertical Datum of 1929.

REVISIONS.--WSP 2110: Drainage area.

REMARKS.--Reservoir is formed by concrete gravity dam. Spillway is equipped with 18 taintor gates, each 14 ft high by 25 ft wide. Closure of dam was made in 1916; dam redesigned and crest raised 35 ft in 1925. Revised capacity table used after Sept. 30, 1970. Total capacity at elevation 805.3 ft top of gates, is 25,900 cfs-days, of which 18,700 cfs-days are controlled storage above elevation 780.0 ft, normal minimum pool. Contents of 1,500 cfs-days below elevation 762.0 ft is dead storage. Reservoir is used primarily for power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum midnight elevation, 817.48 ft, Mar. 23, 1929, contents not determined; minimum midnight contents, 1,700 cfs-days, Aug. 19, 1918, elevation, 756.3 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 33,000 cfs-days, Dec. 23, elevation, 811.26 ft; minimum, 7,200 cfs-days, Nov. 9, elevation, 779.83 ft.

03424000 CENTER HILL LAKE.--Lat 36°05'48", long 85°49'38", DeKalb County, Hydrologic Unit 05130108, at Center Hill Dam on Caney Fork, 10 mi north of Smithville, 14 mi southeast of Carthage, and at mile 26.6. DRAINAGE AREA, 2,174 mi². PERIOD OF RECORD, October 1948 to current year. Prior to October 1965, published as Center Hill Reservoir. GAGE, water-stage recorder. Datum of gage is Sandy Hook datum. Prior to Mar. 14, 1949, nonrecording gage at site 1,320 ft upstream at same datum.

REVISIONS.--WSP 1910: Drainage area.

REMARKS.--Reservoir is formed by earth embankment and concrete gravity dam. Spillway is equipped with eight taintor gates, each 37 ft high by 50 ft wide. Closure of dam was made Nov. 27, 1948; water in reservoir first reached minimum pool elevation Jan. 11, 1949. Revised capacity table used after Sept. 30, 1970. Total capacity at elevation 685.0 ft, top of gates, is 1,054,800 cfs-days, of which 384,500 cfs-days between 685.0 ft and 648.0 ft, crest of spillway, are reserved for flood control, and 248,000 cfs-days between elevations 648.0 ft and 618.0 ft, ordinary minimum pool, are used for power production. Contents of 422,300 cfs-days below 618.0 ft is dead storage. Reservoir is used for flood control, navigation, and power.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,014,600 cfs-days, May 10, 1984, elevation, 681.52 ft; minimum, after first filling, 171,000 cfs-days, Dec. 1, 2, 1949, elevation, 576.1 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 917,800 cfs-days, Feb. 27, elevation, 672.76 ft; minimum, 487,400 cfs-days, Nov. 30, elevation, 626.54 ft.

03426300 OLD HICKORY LAKE.--Lat 36°17'50", long 86°39'20", Sumner County, Hydrologic Unit 05130201, at Old Hickory Dam on Cumberland River, 2.0 mi west of Hendersonville, 10 mi northeast of the State Capitol in Nashville, and at mile 216.2. DRAINAGE AREA, 11,673 mi². PERIOD OF RECORD, June 1954 to current year. GAGE, water-stage recorder. Datum of gage is 408.5 ft National Geodetic Vertical Datum of 1929; gage readings have been reduced to elevations NGVD. Prior to Apr. 4, 1957, nonrecording gage at same site and datum.

REVISIONS.--WSP 2110: Drainage area.

REMARKS.--Reservoir is formed by concrete gravity dam with earth embankment. Spillway is equipped with six taintor gates, each 41 ft high and 45 ft wide. Closure of dam was made in June 1954 and water in reservoir was raised sufficiently to maintain navigation through the lock. Water in reservoir first reached ordinary minimum pool elevation Dec. 30, 1956. Revised capacity table used after Sept. 30, 1970. Total capacity at elevation 450.0 ft, maximum surcharge pool, 274,600 cfs-days of which 63,000 cfs-days between elevations 450.0 ft and 445.0 ft, normal pool, are induced surcharge storage provided to compensate for loss of natural valley storage incurred by construction of the project, and 31,800 cfs-days between elevations 445.0 ft and 442.0 ft, ordinary minimum pool, are used for power production. Contents of 179,800 cfs-days below elevation 442.0 ft, is dead storage. Reservoir is used for navigation and power.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 277,200 cfs-days, May 9, 1984, elevation, 450.18 ft; minimum, after first filling to ordinary minimum pool, 179,400 cfs-days, Oct. 22, 1957, Oct. 28, 1969, elevation, 441.96 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 241,700 cfs-days, Feb. 20, elevation, 447.51 ft; minimum, 186,000 cfs-days, Oct. 8, elevation, 442.62 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03422000 GREAT FALLS LAKE			03424000 CENTER HILL LAKE			03426300 OLD HICKORY LAKE		
Sept. 30...	791.86	14,200	-	629.80	513,300	-	444.60	207,100	-
Oct. 31...	780.52	7,600	-6,600	629.80	513,300	0	444.60	207,100	0
Nov. 30...	787.28	11,300	+3,700	626.54	487,400	-25,900	444.69	208,100	+1,000
Dec. 31...	805.66	25,700	+14,400	666.40	850,400	+363,000	446.69	231,500	+23,400
CAL YR 1990	-	-	+7,800	-	-	+354,600	-	-	+18,400
Jan. 31...	791.30	13,800	-11,900	645.57	648,100	-202,300	444.24	203,100	-28,400
Feb. 28...	805.10	25,100	+11,300	664.43	830,100	+182,000	444.84	209,800	+6,700
Mar. 31...	806.15	26,200	+1,100	656.26	748,400	-81,700	444.74	208,700	-1,100
Apr. 30...	794.10	15,800	-10,400	646.46	656,200	-92,200	444.70	208,200	-400
May 31...	789.47	12,600	-3,200	644.36	637,200	-19,000	444.38	204,700	-3,600
June 30...	795.19	16,600	+4,000	643.57	630,200	-7,000	444.63	207,400	+2,800
July 31...	794.08	15,800	-800	640.69	604,800	-25,400	444.59	207,000	-400
Aug. 31...	794.13	15,800	0	635.11	557,000	-47,800	444.49	205,900	-1,100
Sept. 30...	788.57	12,000	-3,700	630.28	517,200	-39,800	444.56	206,700	+800
WTR YR 1991	-	-	-2,200	-	-	+3,900	-	-	-400

RESERVOIRS IN CUMBERLAND RIVER BASIN--Continued

03430050 J. PERCY PRIEST RESERVOIR.--Lat 36°09'23", long 86°37'07", Davidson County, Hydrologic Unit 05130203, on upstream face of J. Percy Priest Dam on Stones River, 2.6 mi east of Donelson, and 6.8 mi above mouth. DRAINAGE AREA, 892 mi². PERIOD OF RECORD, September 1967 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to Dec. 15, 1967, nonrecording gage at same site and datum.

REMARKS.--Reservoir is formed by concrete gravity dam with earth embankments. Spillway is equipped with four taintor gates, each 41 ft high by 45 ft wide. Closure of dam was made Sept. 18, 1967; water in reservoir first reached ordinary minimum pool May 15, 1968. Revised capacity table used after Sept. 30, 1970. Total capacity at elevation 504.5 ft, maximum controlled pool, is 328,700 cfs-days of which 193,600 cfs-days is controlled storage between elevations 504.5 ft and 480.0 ft, ordinary minimum pool. Contents of 17,200 cfs-days between elevations 480.0 ft and 483.0 ft, full winter pool, is available for power production. Contents of 176,400 cfs-days above 483.0 ft is available for flood control during the winter, and 131,100 cfs-days above 490.0 ft, full pool during spring-to-fall season, is available for flood control the rest of the year. Contents of 135,100 cfs-days below elevation 480.0 ft is dead storage. Reservoir is used for flood control, power, recreation, and wildlife.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 336,600 cfs-days, May 9, 1984, elevation, 505.18 ft; minimum, after first filling to ordinary minimum pool, 109,500 cfs-days, Dec. 5, 1968, elevation, 474.75 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 252,000 cfs-days, Feb. 21, elevation, 496.90 ft; minimum, 148,000 cfs-days, Jan. 25, elevation, 482.27 ft.

03434900 CHEATHAM LAKE.--Lat 36°18'56", long 87°13'10", Cheatham County, Hydrologic Unit 05130202, at Cheatham Dam on Cumberland River, 9.4 mi west of Ashland City, 16 mi southeast of the courthouse in Clarksville, and at mile 148.7. DRAINAGE AREA, 14,159 mi².

REMARKS.--Reservoir is formed by concrete gravity dam. Spillway is equipped with seven semi-submersible taintor gates, each 27 ft high by 60 ft wide. Total capacity at elevation 385.0 ft, normal pool, is 52,200 cfs-days, of which 9,800 cfs-days are controlled storage. Records of contents not published herein.

03438210 LAKE BARKLEY.--Lat 37°01'17", long 88°13'16", Lyon County, KY, Hydrologic Unit 05130205, in powerhouse of Barkley Dam on Cumberland River, 1.4 mi northeast of Grand Rivers, KY, and at mile 30.6. DRAINAGE AREA, 17,598 mi². PERIOD OF RECORD, July 1964 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929, (levels by U.S. Army Corps of Engineers). Prior to Jan. 1, 1966, nonrecording gage, 1,200 ft upstream from Barkley Dam at same datum.

REMARKS.--Reservoir is formed by concrete gravity dam with earth embankments. Spillway is equipped with 12 taintor gates, each 50 ft high by 55 ft wide. Construction cofferdam was closed and limited storage began July 1, 1964; reservoir reached ordinary minimum pool elevation of 354.0 ft Feb. 16, 1966. Total level pool capacity at elevation 375.0 ft, top of gates, is 1,049,600 cfs-days, of which 742,000 cfs-days is controlled storage above 354.0 ft, ordinary minimum pool. Contents of 130,500 cfs-days between ordinary minimum pool elevation, 354.0 ft, and full pool elevation, 359.0 ft, is available for power during the spring-to-fall season. Minimum pool elevation in advance of floods is 346.0 ft, contents 171,000 cfs-days. Reservoir is used for navigation, flood control, power, and recreation. Barkley-Kentucky Canal opened June 13, 1966, for navigation and power use. Canal is 1.75 mi long and interconnects Lake Barkley and Kentucky Lake at a point 2.2 mi upstream from Barkley Dam. For daily discharges through the canal, see station 03438190, Kentucky reports.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 370.04 ft, May 13, 1984; minimum after reaching permanent pool elevation, 353.20 ft, Dec. 20, 1976.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 583,400 cfs-days, Jan. 1, elevation, 360.14 ft; minimum contents, 311,000 cfs-days, Dec. 11, minimum elevation, 353.88 ft. Contents based on backwater profile.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03430050 J. PERCY PRIEST LAKE			*03438210 LAKE BARKLEY		
Sept. 30.....	487.38	179,500	-	354.69	323,700	-
Oct. 31.....	487.38	179,500	0	354.69	323,700	0
Nov. 30.....	484.28	159,700	-19,800	354.55	325,500	+1,800
Dec. 31.....	496.68	250,200	+90,400	359.72	582,400	+256,900
CAL YR 1990	-	-	+92,400	-	-	+249,500
Jan. 31.....	482.53	149,300	-100,800	354.71	343,700	-238,700
Feb. 28.....	487.01	177,100	+27,800	355.90	413,700	+70,000
Mar. 31.....	488.94	190,200	+13,100	356.63	452,300	+38,600
Apr. 30.....	491.19	206,300	+16,100	358.64	430,500	-21,800
May 31.....	490.06	198,000	-8,300	358.70	439,400	+8,900
June 30.....	490.27	199,600	+1,600	359.25	447,500	+8,100
July 31.....	490.31	199,800	+200	358.00	406,100	-41,400
Aug. 31.....	490.19	199,000	-800	357.12	385,200	-20,900
Sept. 30.....	490.41	200,600	+1,600	355.72	349,600	-35,600
WTR YR 1991	-	-	+21,100	-	-	+25,900

* Contents based on backwater profile.

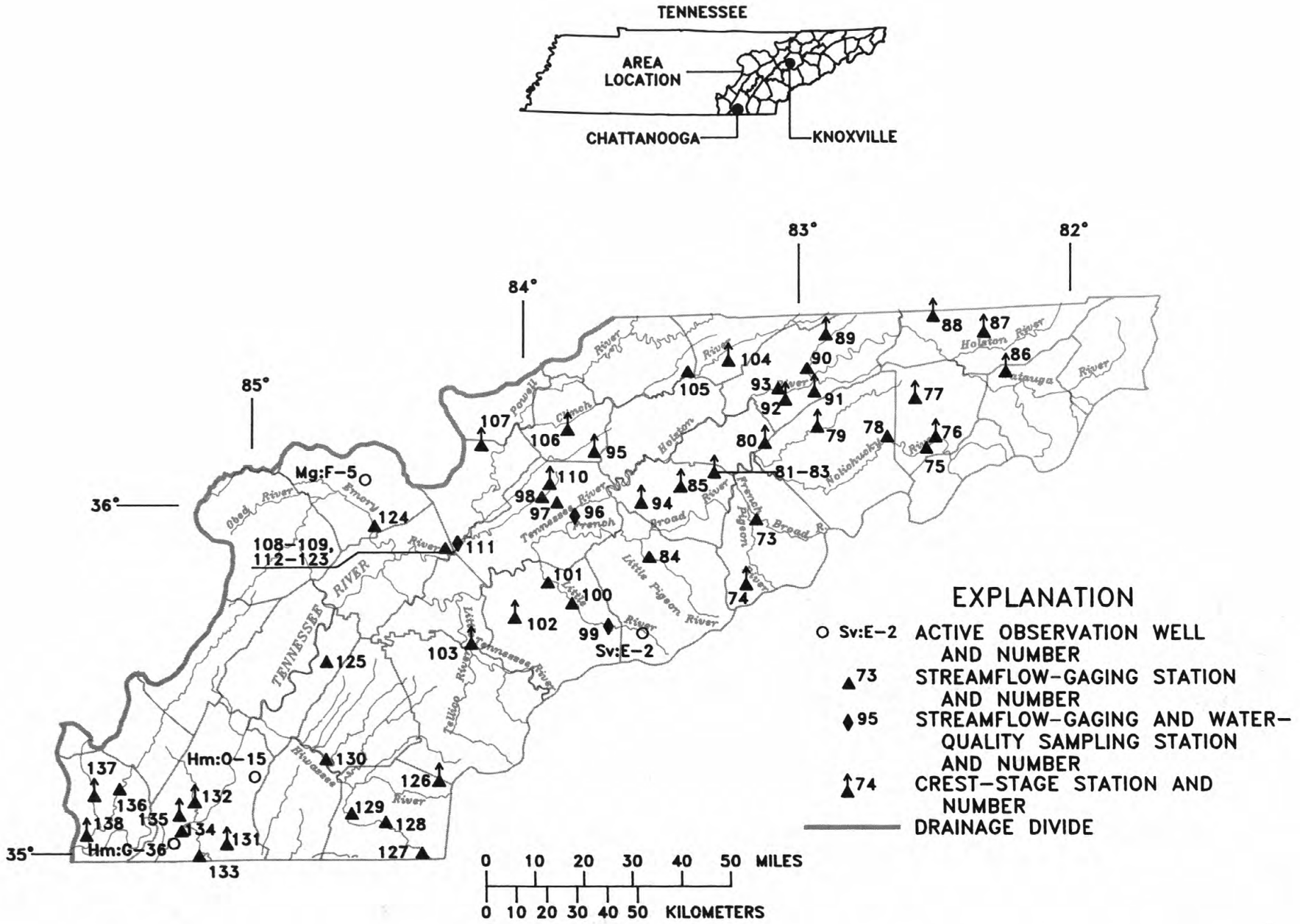

Figure 6.--Location of gaging sites in the upper Tennessee River basin.

03455000 FRENCH BROAD RIVER NEAR NEWPORT, TN

LOCATION.--Lat 35°58'54", long 83°09'40", Cocke County, Hydrologic Unit 06010105, on left bank, 200 ft upstream from bridge on U.S. Highway 321, 1.0 mi northeast of Newport city limits, 3.7 mi upstream from Pigeon River, and at mile 77.5.
DRAINAGE AREA.--1,858 mi².
PERIOD OF RECORD.--September to December 1900, February to August 1901, October to November 1901, November 1902 to December 1905, September to December 1907, October 1920 to current year. Monthly discharge only October to November 1920, published in WSP 1306.
REVISED RECORDS.--WSP 783: 1933-34. WSP 823: Drainage area. WSP 893: 1928(M). WSP 1306: 1900-1908. WSP 1336: 1903(M), 1921-22(M), 1923, 1925(M), 1927(M), 1928, 1932. WSP 1706: 1901(M).
GAGE.--Water-stage recorder. Datum of gage is 1,011.61 ft above National Geodetic Vertical Datum of 1929. See WSP 1910 for history of changes prior to Mar. 31, 1934.
REMARKS.--Records good. Diurnal fluctuation during low flow caused by powerplants above station. Minimum for current year also occurred on Oct. 4. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--From reports of Tennessee Valley Authority, the flood of Mar. 7, 1867, gage height, 24 ft, present datum, discharge, estimated, 110,000 ft³/s, has not been exceeded since that date. From the same reports, other outstanding floods occurred Feb. 28, 1902, gage height, 23.0 ft present datum, discharge, estimated, 101,000 ft³/s; and July 17, 1916, gage height, 22.5 ft, present datum, discharge, estimated, 97,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	849	1900	1420	4620	2820	2590	12700	4650	3650	2600	5020	3120
2	869	1810	1310	3870	2540	7210	8710	4150	3510	2470	3560	2910
3	861	1730	1350	3360	2410	6830	5620	3700	3120	2830	3180	2670
4	875	1660	1540	3150	2320	6770	4660	3480	3280	2650	2720	2500
5	898	1550	2350	3030	2270	5830	4480	3470	2910	2270	2410	2310
6	1060	1660	2190	2780	2230	4930	5230	3510	2580	2160	2180	2250
7	1020	1650	1810	2660	2220	4570	4690	3680	2430	2110	2300	2610
8	900	1610	1640	2690	2250	4260	4190	3310	2330	1920	2450	2310
9	958	1480	1590	2790	2180	4220	4100	3140	2250	1930	2980	2210
10	1070	2300	1520	2640	2050	3950	4260	3160	2200	1850	3070	2290
11	1130	3660	1410	2700	1990	3580	3860	3140	2110	1940	2740	2030
12	2150	2760	1400	6020	1930	3340	3610	3220	2070	e1950	2970	1940
13	7490	2230	1400	6330	1920	3230	3450	3990	2140	e1850	3690	1850
14	5770	2030	1520	5010	2450	4340	3700	3580	2160	e1750	3740	1820
15	3280	1870	1550	3840	3260	4410	4330	3510	2200	e1650	4310	1720
16	2150	1820	1460	4250	2790	3760	4510	3740	2290	e1540	3530	1770
17	1820	1730	1480	5850	2360	3390	4440	3890	2600	1430	2840	1950
18	2660	1680	1470	4940	9870	3450	3880	4100	3170	1560	2450	1760
19	5520	1570	1920	4020	9830	3930	4740	4390	2900	1890	2330	1830
20	4060	1510	2220	3860	9260	3680	7960	4840	3780	1910	2300	1900
21	2790	1500	2070	3930	7710	3310	9090	4250	4050	2030	2120	2050
22	2300	1500	1970	3660	5500	3090	8080	3840	3720	1760	1970	1720
23	5610	1480	3580	3260	4360	3130	5820	3590	3650	1670	1810	1670
24	6630	1440	13900	3060	3850	3400	4880	3350	3480	2100	1760	1650
25	4440	1380	8520	2890	3400	2960	4340	3150	3010	2710	1690	1750
26	4260	1380	6280	2710	3190	2820	3960	2960	3210	2920	1710	1840
27	3370	1370	4290	2600	2950	2720	3770	2870	3570	2880	3770	1770
28	2770	1270	3660	2500	2750	2810	4120	3110	3160	3360	4370	1670
29	2420	1420	3570	2450	---	16000	4410	3240	2840	7420	3550	1550
30	2230	1490	3470	2410	---	28100	4500	3600	2860	5380	3760	1530
31	2050	---	4780	2560	---	16200	---	3870	---	4930	3830	---
TOTAL	84260	52440	88640	110440	102660	172810	156090	112480	87230	77420	91110	60950
MEAN	2718	1748	2859	3563	3666	5575	5203	3628	2908	2497	2939	2032
MAX	7490	3660	13900	6330	9870	28100	12700	4840	4050	7420	5020	3120
MIN	849	1270	1310	2410	1920	2590	3450	2870	2070	1430	1690	1530
CFSM	1.46	.94	1.54	1.92	1.97	3.00	2.80	1.95	1.56	1.34	1.58	1.09
IN.	1.69	1.05	1.77	2.21	2.06	3.46	3.13	2.25	1.75	1.55	1.82	1.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1901 - 1991, BY WATER YEAR (WY)

MEAN	1922	2141	2860	3534	4245	4821	4334	3367	2602	2259	2323	1767
MAX	9875	7249	7478	9533	8814	12710	11650	9448	6148	7620	14640	6358
(WY)	1965	1980	1962	1937	1990	1903	1903	1901	1901	1905	1901	1928
MIN	508	713	819	968	1450	1399	1362	1252	722	711	380	421
(WY)	1955	1932	1940	1956	1941	1988	1986	1941	1988	1986	1925	1925

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1901 - 1991	
ANNUAL TOTAL	1258465		1196530			
ANNUAL MEAN	3448		3278		2947	
HIGHEST ANNUAL MEAN					4641	1973
LOWEST ANNUAL MEAN					1348	1988
HIGHEST DAILY MEAN	39100	Mar 17	28100	Mar 30	62200	Apr 8 1903
LOWEST DAILY MEAN	830	Sep 26	849	Oct 1	240	Sep 9 1925
ANNUAL SEVEN-DAY MINIMUM	876	Sep 29	919	Oct 1	276	Aug 25 1925
INSTANTANEOUS PEAK FLOW			44000	Mar 29	76300	Aug 30 1940
INSTANTANEOUS PEAK STAGE			14.78	Mar 29	19.25	Aug 30 1940
INSTANTANEOUS LOW FLOW			*698	Oct 3	208	Oct 23 1952
ANNUAL RUNOFF (CFSM)	1.86		1.76		1.59	
ANNUAL RUNOFF (INCHES)	25.20		23.96		21.55	
10 PERCENT EXCEEDS	6130		4930		5460	
50 PERCENT EXCEEDS	2470		2820		2280	
90 PERCENT EXCEEDS	1110		1540		974	

e Estimated.
* See REMARKS.

03465500 NOLICHUCKY RIVER AT EMBREEVILLE, TN

LOCATION.--Lat 36°10'35", long 82°27'27", Washington County, Hydrologic Unit 06010108, on left bank, at Embreeville, 1,000 ft upstream from bridge on State Highway 81, 3 mi northwest of Erwin, 5.2 mi downstream from North Indian Creek, and at mile 89.0.
DRAINAGE AREA.--805 mi².
PERIOD OF RECORD.--September 1900 to May 1901 (published as "near Chucky Valley"), October 1919 to current year. Monthly discharge only October 1919 to June 1920, published in WSP 1306.
REVISED RECORDS.--WSP 803: 1935(M). WSP 823: Drainage area. WSP 1336: 1921-24, 1931(M).
GAGE.--Water-stage recorder. Datum of gage is 1,519.30 ft above National Geodetic Vertical Datum of 1929. Sept. 1, 1900, to May 21, 1901, nonrecording gage at site 3 mi downstream at different datum, destroyed by flood of May 21, 1901. July 1, 1920, to Sept. 30, 1931, nonrecording gage at bridge 2,000 ft downstream at datum 6.33 ft lower.
REMARKS.--No estimated daily discharges. Records good. Maximum discharge from rating curve extended above 48,000 ft³/s on basis of contracted-opening and slop-area measurements of peak flow. Minimum discharge also occurred on Sept. 9, 1925. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of May 21, 1901, reached a stage of 24 ft, discharge, 120,000 ft³/s, present site and datum, from reports of Tennessee Valley Authority.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	449	1170	708	2640	1210	1580	4290	2250	1130	982	1170	713
2	540	1100	700	2110	1100	6330	3350	2000	1060	932	1020	828
3	478	1040	741	1830	1080	4670	2800	1820	1610	1030	860	819
4	434	991	1130	1660	1060	4550	2440	1710	1490	867	757	697
5	510	962	1010	1490	1030	3500	2440	1680	1180	839	683	651
6	494	1170	838	1370	1040	2960	2440	1650	1010	793	632	669
7	422	1070	806	1330	1070	3310	2110	1560	936	723	645	846
8	422	942	789	1410	1040	2900	1970	1390	880	702	706	735
9	418	904	762	1320	983	2520	2080	1450	846	721	857	683
10	419	2070	734	1230	947	2240	2960	1440	810	663	957	599
11	664	1760	715	1470	920	2010	2370	1390	775	759	906	612
12	3740	1390	704	2710	883	1880	2040	1400	771	718	847	595
13	7340	1240	706	2150	917	1910	1950	1340	784	720	1400	555
14	2670	1140	851	1820	2070	3750	1980	1430	746	674	1650	631
15	1720	1070	836	1640	2080	3320	1830	1410	1200	607	2070	629
16	1320	1020	798	2180	1510	2620	1780	1480	1030	580	1450	533
17	1120	1020	794	2270	1360	2290	1620	1430	1020	567	1080	493
18	3480	978	875	1880	7360	2500	1520	1260	1180	572	911	511
19	4190	922	1280	1710	9810	2550	3500	1420	1300	616	828	504
20	2230	884	1290	2090	8650	2210	5720	1360	1610	620	771	486
21	1690	856	1180	2200	6480	2030	4390	1300	1920	730	695	453
22	1500	833	1190	1950	4220	1920	3580	1340	1990	608	645	428
23	3990	843	3000	1730	3240	2060	2930	1230	1620	549	607	415
24	2980	855	9120	1620	2680	2270	2520	1150	1350	583	594	426
25	2260	799	3940	1480	2270	1930	2190	1080	1210	1650	588	491
26	2650	767	2640	1360	2090	1760	2000	1030	1300	1520	807	586
27	2100	743	2100	1290	1840	1660	1900	982	1420	1360	1630	514
28	1780	736	1980	1250	1680	1850	2050	1080	1210	1430	1080	435
29	1550	782	2030	1210	---	14900	2890	1080	1080	2800	1020	408
30	1380	756	1860	1170	---	14400	2510	1360	1070	1680	1010	400
31	1260	---	2830	1310	---	6300	---	1270	---	1310	843	---
TOTAL	56200	30813	48937	52880	70620	110680	78150	43772	35538	28905	29719	17345
MEAN	1813	1027	1579	1706	2522	3570	2605	1412	1185	932	959	578
MAX	7340	2070	9120	2710	9810	14900	5720	2250	1990	2800	2070	846
MIN	418	736	700	1170	883	1580	1520	982	746	549	588	400
CFSM	2.25	1.28	1.96	2.12	3.13	4.44	3.24	1.75	1.47	1.16	1.19	.72
IN.	2.60	1.42	2.26	2.44	3.26	5.11	3.61	2.02	1.64	1.34	1.37	.80

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1991, BY WATER YEAR (WY)

MEAN	827	1024	1288	1637	2030	2310	1993	1557	1089	943	908	779
MAX	2630	4720	3073	3765	4494	5102	4169	3171	2289	2525	4876	2648
(WY)	1930	1978	1962	1937	1957	1963	1983	1984	1972	1949	1940	1928
MIN	246	294	353	382	635	649	699	597	376	351	182	187
(WY)	1954	1940	1940	1940	1941	1988	1986	1941	1988	1988	1925	1925

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1920 - 1991	
ANNUAL TOTAL	661691		603559			
ANNUAL MEAN	1813		1654		1361	
HIGHEST ANNUAL MEAN					1948	1974
LOWEST ANNUAL MEAN					694	1988
HIGHEST DAILY MEAN	22100	Mar 17	14900	Mar 29	50800	Nov 6 1977
LOWEST DAILY MEAN	418	Oct 9	400	Sep 30	88	Sep 8 1925
ANNUAL SEVEN-DAY MINIMUM	446	Oct 4	446	Oct 4	121	Sep 3 1925
INSTANTANEOUS PEAK FLOW			30200	Mar 29	*110000	Nov 6 1977
INSTANTANEOUS PEAK STAGE			9.51	Mar 29	21.52	Nov 6 1977
INSTANTANEOUS LOW FLOW			395	Sep 30	*85	Sep 8 1925
ANNUAL RUNOFF (CFSM)	2.25		2.05		1.69	
ANNUAL RUNOFF (INCHES)	30.58		27.89		22.97	
10 PERCENT EXCEEDS	3280		2850		2540	
50 PERCENT EXCEEDS	1370		1250		998	
90 PERCENT EXCEEDS	557		607		404	

* See REMARKS.

03466228 SINKING CREEK AT AFTON, TN

LOCATION.--Lat 36°11'55", long 82°44'31", Greene County, Hydrologic Unit 06010108, on left bank 300 ft upstream from bridge on county road, 0.4 mi northwest of Afton, and at mile 3.1.
DRAINAGE AREA.--13.7 mi².
PERIOD OF RECORD.--July 1977 to current year.
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,459.36 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharge. Records good. Maximum discharge from rating curve extended above 100 ft³/s on basis of area-velocity study. Minimum discharge for current year also occurred Oct. 18. Periodic observations of water temperature are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.7	4.3	3.9	23	11	22	39	16	27	9.0	7.7	5.8
2	3.7	4.3	3.9	18	10	77	34	15	19	9.6	7.3	5.7
3	3.7	4.1	4.2	16	10	34	31	14	20	9.6	7.0	5.6
4	3.8	4.1	4.3	15	10	48	29	14	29	8.6	6.8	5.6
5	3.9	4.1	4.3	14	9.8	36	28	14	16	8.4	6.7	5.6
6	3.6	4.1	4.3	13	9.7	32	26	14	14	8.3	6.4	7.1
7	3.4	4.3	4.1	12	9.7	42	25	13	13	7.9	7.0	7.8
8	3.4	4.3	4.1	12	9.7	31	24	13	12	7.7	6.8	5.9
9	3.4	4.4	3.9	13	9.0	27	24	14	11	7.6	11	5.6
10	3.4	4.7	3.9	12	8.7	25	23	13	11	7.4	15	5.6
11	3.4	4.8	3.7	25	8.5	24	21	12	11	7.5	9.5	5.7
12	5.2	4.6	3.7	24	8.4	23	20	12	11	8.9	9.0	5.9
13	4.6	4.4	3.7	18	10	23	20	12	10	15	11	7.4
14	4.0	4.1	3.7	16	52	33	20	12	9.7	8.7	10	6.7
15	3.7	3.9	3.7	15	23	26	19	12	9.7	7.9	12	5.8
16	3.7	3.9	3.7	14	18	23	18	11	9.7	7.6	9.3	5.5
17	3.6	4.0	3.7	13	15	21	18	11	11	7.3	8.5	5.4
18	24	4.1	4.4	12	95	23	17	11	9.6	7.1	8.0	5.5
19	9.5	4.1	8.6	12	55	22	32	11	9.5	7.0	8.2	5.9
20	6.2	4.1	6.1	12	106	20	39	11	10	6.7	7.9	5.9
21	5.4	4.1	5.9	12	46	20	24	11	14	6.6	7.4	5.6
22	5.3	4.1	5.5	12	35	22	21	10	12	6.4	7.1	5.4
23	8.6	4.2	59	12	30	48	20	10	11	6.2	6.9	5.4
24	7.5	4.1	50	12	27	30	18	9.7	10	11	6.7	5.6
25	6.2	3.9	20	11	25	24	17	9.7	9.9	14	6.5	6.3
26	5.7	3.7	15	11	25	22	17	9.6	12	8.2	6.5	6.1
27	5.1	3.7	13	10	24	21	17	9.4	11	7.9	6.4	5.6
28	4.8	3.9	17	10	22	25	18	20	10	9.5	6.2	5.4
29	4.6	3.9	18	9.8	---	210	16	12	9.6	15	6.1	5.3
30	4.4	3.9	17	10	---	94	17	14	9.0	9.4	5.9	5.1
31	4.3	---	58	13	---	48	---	11	---	8.4	5.9	---
TOTAL	165.8	124.2	364.3	431.8	722.5	1176	692	381.4	381.7	270.4	246.7	175.8
MEAN	5.35	4.14	11.8	13.9	25.8	37.9	23.1	12.3	12.7	8.72	7.96	5.86
MAX	24	4.8	59	25	106	210	39	20	29	15	15	7.8
MIN	3.4	3.7	3.7	9.8	8.4	20	16	9.4	9.0	6.2	5.9	5.1
CFSM	.39	.30	.86	1.02	1.88	2.77	1.68	.90	.93	.64	.58	.43
IN.	.45	.34	.99	1.17	1.96	3.19	1.88	1.04	1.04	.73	.67	.48

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1991, BY WATER YEAR (WY)

MEAN	4.89	7.19	9.49	16.2	23.2	21.6	15.6	14.5	10.5	11.3	6.78	5.84
MAX	10.5	26.0	22.8	34.3	45.9	39.2	29.6	50.6	20.9	32.5	14.6	18.5
(WY)	1990	1978	1983	1978	1990	1980	1987	1984	1989	1979	1984	1982
MIN	1.28	2.16	3.04	3.23	10.7	5.96	4.13	3.49	2.11	1.86	1.68	1.49
(WY)	1989	1987	1988	1981	1981	1988	1988	1988	1988	1988	1988	1988

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1977 - 1991	
ANNUAL TOTAL	6148.3		5132.6			
ANNUAL MEAN	16.8		14.1		12.2	
HIGHEST ANNUAL MEAN					18.5	1990
LOWEST ANNUAL MEAN					3.62	1988
HIGHEST DAILY MEAN	185	Feb 16	210	Mar 29	561	May 7 1984
LOWEST DAILY MEAN	3.4	Oct 7	3.4	Oct 7	1.1	Sep 22 1988
ANNUAL SEVEN-DAY MINIMUM	3.5	Oct 5	3.5	Oct 5	1.1	Oct 20 1988
INSTANTANEOUS PEAK FLOW			389	Mar 29	*1510	Jul 21 1979
INSTANTANEOUS PEAK STAGE			4.27	Mar 29	7.79	Jul 21 1979
INSTANTANEOUS LOW FLOW			*3.2	Oct 6	.90	Jul 9 1988
ANNUAL RUNOFF (CFSM)	1.23		1.03		.89	
ANNUAL RUNOFF (INCHES)	16.69		13.94		12.09	
10 PERCENT EXCEEDS	34		25		23	
50 PERCENT EXCEEDS	10		9.7		7.9	
90 PERCENT EXCEEDS	3.9		4.1		2.7	

* See REMARKS.

03469175 LITTLE PIGEON RIVER ABOVE SEVIERVILLE, TN

LOCATION.--Lat 35°51'55", long 83°32'01", Sevier County, Hydrologic Unit 06010107, on left bank of county road, 1.2 mi downstream from East Fork, 1.2 mi upstream from West Prong, 0.8 mi east of Sevierville, and at mi 7.5.
DRAINAGE AREA.-- 184 mi².
PERIOD OF RECORD.--August 1988 to current year.
GAGE.--Water-stage recorder and encoder. Datum of gage is 898.08 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharges. Records good. The town of Sevierville diverts an average of about 1.5 ft³/s (1.0 MGD) for municipal supply. Maximum discharge from rating extended above 3,800 ft³/s. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	123	87	838	251	293	916	419	1660	255	300	211
2	58	120	82	523	212	1370	651	323	580	221	266	168
3	51	104	278	396	191	1000	521	266	308	268	209	147
4	59	95	460	323	175	1890	436	236	374	342	174	135
5	71	89	222	272	164	1190	561	368	255	250	153	122
6	57	103	167	240	159	900	528	334	193	184	135	124
7	50	96	143	246	157	782	439	276	161	153	120	111
8	70	87	126	283	162	642	390	237	138	150	125	103
9	112	82	112	262	148	535	390	237	123	131	685	108
10	83	133	102	241	137	457	514	213	111	129	445	93
11	130	155	95	688	131	388	427	205	102	139	337	91
12	410	124	89	612	125	347	362	270	149	112	409	93
13	296	111	85	447	128	384	337	369	347	109	580	85
14	164	100	268	355	313	627	332	318	205	103	585	79
15	119	94	230	306	258	551	295	286	338	97	493	75
16	96	89	197	377	185	478	268	380	251	93	317	72
17	83	113	175	336	210	433	243	290	325	86	236	69
18	1130	118	249	286	2500	904	223	240	603	87	200	82
19	562	102	910	260	2160	720	286	262	407	82	355	277
20	284	96	429	292	2490	514	309	241	361	191	264	193
21	200	91	307	274	1610	421	305	214	533	117	206	134
22	178	87	277	247	980	379	306	198	500	93	174	111
23	491	83	2090	220	717	601	286	188	373	82	151	97
24	362	89	2040	205	538	477	266	172	361	979	135	113
25	274	87	906	184	449	369	236	151	424	576	122	195
26	284	80	523	166	436	317	216	143	1080	332	155	171
27	229	76	405	158	355	286	205	135	1080	294	180	131
28	201	79	715	153	315	392	232	165	592	1180	131	111
29	175	119	548	147	---	2700	264	198	399	1240	144	101
30	152	100	542	153	---	2290	417	168	317	565	330	91
31	135	---	1650	347	---	1400	---	147	---	403	382	---
TOTAL	6624	3025	14509	9837	15656	24037	11161	7649	12650	9043	8498	3693
MEAN	214	101	468	317	559	775	372	247	422	292	274	123
MAX	1130	155	2090	838	2500	2700	916	419	1660	1240	685	277
MIN	50	76	82	147	125	286	205	135	102	82	120	69
CFSM	1.16	.55	2.54	1.72	3.04	4.21	2.02	1.34	2.29	1.59	1.49	.67
IN.	1.34	.61	2.93	1.99	3.17	4.86	2.26	1.55	2.56	1.83	1.72	.75

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1991, BY WATER YEAR (WY)

MEAN	206	224	308	485	750	694	339	398	365	283	168	219
MAX	335	374	468	688	918	775	413	576	552	412	274	530
(WY)	1990	1990	1991	1990	1990	1991	1989	1989	1989	1989	1991	1989
MIN	69.4	101	135	317	559	608	232	247	121	145	89.4	86.0
(WY)	1989	1991	1989	1991	1991	1989	1990	1991	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1988 - 1991	
ANNUAL TOTAL	124749		126382			
ANNUAL MEAN	342		346		372	
HIGHEST ANNUAL MEAN					406	1989
LOWEST ANNUAL MEAN					346	1991
HIGHEST DAILY MEAN	4030	Mar 17	2700	Mar 29	4030	Mar 17 1990
LOWEST DAILY MEAN	35	Sep 7	50	Oct 7	35	Sep 7 1990
ANNUAL SEVEN-DAY MINIMUM	40	Sep 2	58	Oct 1	40	Sep 2 1990
INSTANTANEOUS PEAK FLOW			3930	Mar 29	*7040	Sep 22 1989
INSTANTANEOUS PEAK STAGE			10.13	Mar 29	15.22	Sep 22 1989
INSTANTANEOUS LOW FLOW			46	Oct 4	33	Sep 7 1990
ANNUAL RUNOFF (CFSM)	1.86		1.88		2.02	
ANNUAL RUNOFF (INCHES)	25.22		25.55		27.44	
10 PERCENT EXCEEDS	779		633		805	
50 PERCENT EXCEEDS	200		240		227	
90 PERCENT EXCEEDS	57		91		70	

* See REMARKS.

03491000 BIG CREEK NEAR ROGERSVILLE, TN

LOCATION.--Lat 36°25'34", long 82°57'07", Hawkins County, Hydrologic Unit 06010104, on left bank 300 ft upstream from county road bridge, 3 mi northeast of Rogersville, and at mile 2.0.
DRAINAGE AREA.--47.3 mi².
PERIOD OF RECORD.--April 1941 to June 1949; occasional low-flow measurements, water years 1950-55, 1957; annual maximum, water years 1955-57; October 1957 to current year.
REVISED RECORDS.--WSP 1436: 1945.
GAGE.--Water-stage recorder and encoder. Datum of gage is 1,128.9 ft above National Geodetic Vertical Datum of 1929 (levels based on City of Rogersville construction plans for pumping station). Dec. 7, 1954, to Sept. 30, 1957, crest-stage gage at same site and datum.
REMARKS.--No estimated daily discharges. Records good. Maximum discharge from rating curve extended above 300 ft³/s on basis of contracted-opening measurement of peak flow. Maximum stage due to backwater from log jam. Minimum discharge for current year also occurred Oct. 2-4. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	8.2	7.2	181	28	69	166	41	264	26	35	11
2	5.1	7.8	6.9	124	26	334	131	39	301	25	27	11
3	5.1	7.4	12	95	25	181	107	35	167	26	23	32
4	6.5	7.1	59	77	25	148	93	32	375	23	24	27
5	11	7.0	35	65	25	118	86	31	134	21	24	17
6	11	7.4	24	56	26	105	78	30	85	20	18	38
7	8.0	8.1	19	67	28	105	68	27	64	18	16	44
8	7.5	7.7	17	84	26	88	62	24	52	17	23	25
9	13	7.8	14	74	24	78	62	25	44	17	27	19
10	12	14	13	64	24	70	61	27	37	16	59	17
11	9.5	16	12	151	23	62	53	24	34	19	36	18
12	11	12	12	175	22	58	49	23	50	20	24	19
13	19	9.9	11	116	29	63	59	23	68	34	21	28
14	14	8.8	11	90	932	153	68	22	41	24	66	51
15	11	8.1	11	75	229	110	61	22	33	19	57	27
16	9.0	7.7	13	80	131	85	54	19	37	15	34	20
17	8.1	7.6	15	71	103	73	48	18	45	13	26	17
18	52	7.3	25	63	804	174	44	19	45	13	22	15
19	54	7.0	69	56	673	154	61	22	35	13	21	18
20	22	6.9	47	56	1060	112	174	23	140	13	57	27
21	15	6.7	37	53	367	92	113	38	285	12	35	19
22	14	6.6	34	47	230	86	84	30	108	11	25	16
23	31	7.8	700	44	173	347	68	23	102	10	21	14
24	36	11	360	42	137	263	56	20	66	18	18	15
25	22	9.4	141	39	116	152	48	18	52	29	16	20
26	17	8.0	92	35	103	110	43	16	53	19	15	21
27	14	7.3	74	34	86	94	40	15	46	22	15	17
28	12	7.5	383	33	75	89	45	105	37	15	14	14
29	11	7.9	225	32	---	566	40	129	33	909	13	13
30	9.7	8.0	162	30	---	469	48	175	29	91	13	12
31	9.0	---	403	32	---	228	---	192	---	50	12	---
TOTAL	484.8	254.0	3044.1	2241	5550	4836	2170	1287	2862	1578	837	642
MEAN	15.6	8.47	98.2	72.3	198	156	72.3	41.5	95.4	50.9	27.0	21.4
MAX	54	16	700	181	1060	566	174	192	375	909	66	51
MIN	5.1	6.6	6.9	30	22	58	40	15	29	10	12	11
CFSM	.33	.18	2.08	1.53	4.19	3.30	1.53	.88	2.02	1.08	.57	.45
IN.	.38	.20	2.39	1.76	4.36	3.80	1.71	1.01	2.25	1.24	.66	.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1991, BY WATER YEAR (WY)

MEAN	15.9	31.3	68.6	103	129	127	86.8	58.2	30.7	23.3	16.3	12.6
MAX	109	124	235	331	248	366	220	206	150	96.5	67.1	58.7
(WY)	1972	1974	1973	1974	1962	1963	1977	1958	1989	1960	1942	1989
MIN	3.53	4.43	5.06	9.33	34.4	27.4	15.4	10.7	7.61	4.35	2.45	3.38
(WY)	1989	1988	1966	1981	1968	1983	1986	1985	1941	1988	1988	1984

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1941 - 1991	
ANNUAL TOTAL	24869.5		25785.9			
ANNUAL MEAN	68.1		70.6		58.1	
HIGHEST ANNUAL MEAN					105	1974
LOWEST ANNUAL MEAN					20.9	1988
HIGHEST DAILY MEAN	917	Feb 10	1060	Feb 20	3280	Mar 12 1963
LOWEST DAILY MEAN	5.0	Sep 7	5.1	Oct 2	1.4	Aug 18 1988
ANNUAL SEVEN-DAY MINIMUM	5.4	Sep 27	7.1	Nov 16	1.8	Aug 14 1988
INSTANTANEOUS PEAK FLOW			3130	Jul 29	*5760	Mar 12 1963
INSTANTANEOUS PEAK STAGE			6.79	Jul 29	*10.68	Dec 30 1969
INSTANTANEOUS LOW FLOW			*5.1	Oct 1	1.3	Sep 23 1955
ANNUAL RUNOFF (CFSM)	1.44		1.49		1.23	
ANNUAL RUNOFF (INCHES)	19.56		20.28		16.68	
10 PERCENT EXCEEDS	153		152		125	
50 PERCENT EXCEEDS	27		30		23	
90 PERCENT EXCEEDS	7.1		9.5		5.4	

* See REMARKS.

03491544 CROCKETT CREEK BELOW ROGERSVILLE, TN

LOCATION.--Lat 36°22'47", long 83°02'48", Hawkins County, Hydrologic Unit 06010104, on right bank at Rogersville sewage treatment plant, 3.0 mi southwest of Rogersville, and at mile 1.2.
DRAINAGE AREA.--4.67 mi².
PERIOD OF RECORD.--October 1988 to current year.
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1092.53 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharges. Records good. Minimum discharge for current year also occurred Sept. 1-3. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.99	1.4	1.1	15	2.5	17	15	3.5	65	3.1	2.2	.88
2	.94	1.3	1.1	11	2.3	21	12	3.0	15	4.5	1.8	.98
3	.87	1.3	4.8	9.2	2.2	16	10	2.7	19	4.2	1.5	6.2
4	5.5	1.3	3.1	7.8	2.2	17	9.0	2.6	15	2.7	3.3	1.7
5	1.7	1.4	2.3	6.8	2.1	11	11	2.6	9.4	2.4	1.8	1.7
6	1.3	1.3	2.0	6.2	2.4	9.5	9.1	2.2	7.2	2.2	1.5	10
7	1.2	1.1	1.8	12	2.2	8.0	8.2	2.1	5.8	2.0	1.5	2.9
8	3.1	1.0	1.6	8.6	2.0	6.7	8.8	2.1	5.1	1.9	1.5	2.2
9	1.8	2.7	1.4	7.6	2.0	5.9	7.8	2.9	4.4	1.8	7.8	1.9
10	1.7	3.3	1.4	7.6	2.0	5.4	6.9	2.0	3.9	3.9	2.7	4.1
11	1.7	1.9	1.3	20	1.9	4.8	6.2	1.9	3.5	2.3	2.0	1.9
12	4.2	1.6	1.3	15	1.9	4.5	6.0	2.3	5.8	12	1.9	1.5
13	2.5	1.4	1.3	12	25	7.0	7.2	2.0	3.5	4.2	1.7	2.2
14	2.0	1.4	1.3	9.8	94	6.2	5.7	1.9	3.0	3.0	2.0	1.6
15	1.8	1.3	1.9	9.3	17	4.9	5.3	1.7	3.7	2.9	1.7	1.4
16	1.6	1.3	2.0	8.8	11	4.4	4.9	1.6	11	2.3	1.5	1.4
17	1.2	1.1	3.6	7.6	11	4.3	4.5	1.5	4.9	2.3	1.4	1.2
18	20	1.1	6.5	6.5	118	13	4.2	25	3.6	2.8	1.4	1.6
19	5.3	1.0	5.5	6.0	88	7.7	13	8.0	3.0	2.6	1.9	5.8
20	3.7	1.0	4.1	5.7	87	6.5	9.9	7.6	16	2.5	2.6	2.1
21	2.9	1.0	3.3	4.4	31	5.7	5.8	5.7	11	2.4	1.4	1.6
22	4.8	.99	3.3	3.9	20	6.4	5.1	4.4	17	2.1	1.3	1.4
23	4.6	1.4	95	3.3	15	31	4.8	3.7	10	2.8	1.2	1.3
24	3.4	1.1	24	3.1	12	14	4.5	3.3	6.9	7.5	1.1	3.4
25	2.9	1.1	13	2.8	11	10	4.2	2.9	6.6	2.3	.98	2.6
26	2.4	1.0	9.3	2.7	9.4	8.5	3.8	2.5	6.5	2.9	1.6	1.9
27	2.2	.99	12	2.5	8.0	7.9	5.3	2.8	5.1	3.4	1.2	1.5
28	2.0	1.6	35	2.5	7.0	15	3.8	9.0	4.4	7.8	1.1	1.4
29	1.8	1.4	16	2.4	---	100	5.7	6.0	3.8	3.9	1.0	1.3
30	1.7	1.2	28	3.4	---	39	4.2	5.2	3.4	2.4	.94	1.2
31	1.6	---	29	2.8	---	20	---	4.3	---	2.1	.97	---
TOTAL	93.40	40.98	317.3	226.3	590.1	438.3	211.9	129.0	282.5	105.2	56.49	70.86
MEAN	3.01	1.37	10.2	7.30	21.1	14.1	7.06	4.16	9.42	3.39	1.82	2.36
MAX	20	3.3	95	20	118	100	15	25	65	12	7.8	10
MIN	.87	.99	1.1	2.4	1.9	4.3	3.8	1.5	3.0	1.8	.94	.88
CFSM	.65	.29	2.19	1.56	4.51	3.03	1.51	.89	2.02	.73	.39	.51
IN.	.74	.33	2.53	1.80	4.70	3.49	1.69	1.03	2.25	.84	.45	.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1991, BY WATER YEAR (WY)

MEAN	2.43	2.95	5.74	9.52	15.8	10.2	5.27	5.83	7.12	3.08	2.69	4.25
MAX	3.75	4.69	10.2	11.6	21.1	14.1	7.06	6.89	9.95	3.39	3.98	7.63
(WY)	1990	1990	1991	1990	1991	1991	1991	1989	1989	1991	1990	1989
MIN	.53	1.37	2.70	7.30	9.22	6.95	3.20	4.16	2.00	2.75	1.82	2.36
(WY)	1989	1991	1989	1991	1989	1989	1990	1991	1990	1989	1991	1991

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1989 - 1991	
ANNUAL TOTAL	2243.92		2562.33			
ANNUAL MEAN	6.15		7.02		6.18	
HIGHEST ANNUAL MEAN					7.02	1991
LOWEST ANNUAL MEAN					5.53	1989
HIGHEST DAILY MEAN	95	Dec 23	118	Feb 18	118	Feb 18 1991
LOWEST DAILY MEAN	.64	Jul 9	.87	Oct 3	.31	Oct 20 1988
ANNUAL SEVEN-DAY MINIMUM	.70	Jul 5	1.0	Aug 27	.34	Oct 14 1988
INSTANTANEOUS PEAK FLOW			497	Feb 14	NOT DETERMINED	Sep 15 1989
INSTANTANEOUS PEAK STAGE			3.99	Feb 14	5.10	Sep 15 1989
INSTANTANEOUS LOW FLOW			*.81	Aug 31	.31	Oct 20 1988
ANNUAL RUNOFF (CFSM)	1.32		1.50		1.32	
ANNUAL RUNOFF (INCHES)	17.87		20.41		17.97	
10 PERCENT EXCEEDS	14		14		13	
50 PERCENT EXCEEDS	3.1		3.1		3.4	
90 PERCENT EXCEEDS	1.1		1.3		1.1	

* See REMARKS.

03495500 HOLSTON RIVER NEAR KNOXVILLE, TN
(National stream-quality accounting network station)

LOCATION.--Lat 36°00'56", long 83°49'54", Knox County, Hydrologic Unit 06010104, on right bank at bridge on U.S. Highway 70, at Knoxville city limits, and 5.5 mi upstream from confluence with French Broad River.
DRAINAGE AREA.--3,747 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1930 to June 1976, January 1978 to current year. Published as "at Strawberry Plains" 1930-48. Records published for both sites June 1945 to September 1948. Gage-height records collected at Strawberry Plains from December to March 1885-97 are contained in reports of the U.S. Weather Bureau.
REVISED RECORDS.--WSP 893: 1935(M). WSP 1336: 1939.
GAGE.--Water-stage recorder. Datum of gage is 815.84 ft above National Geodetic Vertical Datum of 1929. Oct. 1, 1930, to June 8, 1931, nonrecording gage, and June 9, 1931, to Sept. 30, 1948, water-stage recorder, at site 12 mi upstream at datum 22.55 ft higher. June 19, 1945, to Oct. 4, 1960, 300 ft upstream at present datum.
REMARKS.--No estimated discharges. Records good. Flow regulated by five reservoirs (see p. 169). Minimum discharge since closure of Cherokee Dam on December 5, 1941, 44 ft³/s, December 12, 21, and 27, 1941.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1791, about 41 ft in March 1867, from profile by Tennessee Valley Authority. Flood in 1901 reached a stage of about 32 ft, from reports of Tennessee Valley Authority.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1380	3420	2060	12600	7180	12100	8600	974	7450	1180	4440	5520
2	1380	4780	1460	10900	4260	12200	6900	879	1550	6790	5280	5980
3	1090	3270	2030	15300	2670	12500	5630	861	2160	6880	7210	8110
4	1380	1360	3850	15300	1750	13100	3310	898	8720	6480	6890	7400
5	1520	1910	6630	10700	1260	12600	3060	867	8040	2480	7200	8850
6	1390	6570	4980	5820	1360	12400	4760	859	1330	4250	7630	8910
7	1410	7930	1880	8680	2190	12200	1690	852	1070	6850	7920	8780
8	1580	10100	1190	10700	2920	12100	2000	857	843	6910	8160	8040
9	4670	10500	1280	10500	4980	9610	2200	867	760	7710	8970	6370
10	4230	7710	1500	10400	1330	6680	1150	894	759	8520	7310	8670
11	3440	1530	1420	10300	1740	6960	1020	843	2700	8580	5320	8760
12	4890	2560	1550	7250	1720	8630	973	1060	2740	8590	5420	8850
13	2770	4680	1610	5510	1030	10100	947	1050	3020	7890	8050	8340
14	1400	4840	1610	7990	1550	10500	965	5030	2500	6970	8200	7380
15	3510	4580	1610	8320	3230	10400	929	8640	2540	6520	8020	7460
16	10100	4600	1630	8380	7700	8890	900	8620	839	5990	8140	7870
17	9400	3150	2260	8290	5410	3980	836	8550	895	6020	7070	8110
18	9780	2750	2340	8240	5960	4440	826	7190	4040	6150	5640	7560
19	9500	5400	3110	6510	6080	5030	1000	1810	7430	5980	5970	6470
20	8970	5360	2650	3150	6590	4380	1820	1690	8960	6140	9320	3430
21	2830	2910	2810	6160	8250	4320	1540	1600	8910	5880	8150	2530
22	2150	1200	2770	10200	12300	5210	1210	957	7260	6040	7290	1460
23	9050	1320	6400	10300	13000	7870	1030	2670	1830	6720	7760	2070
24	6160	1420	3400	8420	13700	4900	950	2590	818	7940	6710	3760
25	5310	1290	1700	6270	12600	4740	898	2680	5260	8440	5480	2950
26	7480	2020	2820	3660	11900	8010	864	1400	4060	5720	6670	2670
27	5970	2550	4970	2730	13700	8170	921	2450	3530	6600	7630	3010
28	1520	1320	9500	2570	13000	7750	1190	5140	8530	4390	7670	2830
29	4310	3070	6810	4150	---	10900	978	1950	6800	4970	7610	1800
30	5130	6070	5200	3530	---	10400	1010	6210	1050	7040	6180	2380
31	3400	---	9390	4860	---	9390	---	7010	---	7190	6450	---
TOTAL	137100	120170	102420	247690	169360	270460	60107	87948	116394	197810	219760	176320
MEAN	4423	4006	3304	7990	6049	8725	2004	2837	3880	6381	7089	5877
MAX	10100	10500	9500	15300	13700	13100	8600	8640	8960	8590	9320	8910
MIN	1090	1200	1190	2570	1030	3980	826	843	759	1180	4440	1460

CAL YR 1990 MEAN‡ 5844 CFSM‡ 1.56 IN.‡ 21.17
WTR YR 1991 MEAN‡ 5343 CFSM‡ 1.43 IN.‡ 19.36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1991, BY WATER YEAR (WY)

MEAN	4605	4850	6091	5995	5117	3773	2565	3179	4423	5208	6466	6012
MAX	8816	9099	15320	19100	18940	9763	8408	8612	7987	8792	10270	9986
(WY)	1990	1980	1973	1974	1957	1963	1975	1984	1973	1975	1983	1960
MIN	1672	1915	1724	1895	1659	793	644	516	1659	1374	2292	1735
(WY)	1965	1989	1989	1971	1966	1966	1988	1981	1959	1963	1959	1988

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		*WATER YEARS 1954 - 1991	
ANNUAL TOTAL	1970478		1905539			
ANNUAL MEAN	5399		5221		4881	
HIGHEST ANNUAL MEAN					7751	1974
LOWEST ANNUAL MEAN					2272	1988
HIGHEST DAILY MEAN	19500	Feb 19	15300	Jan 3	28400	Feb 12 1957
LOWEST DAILY MEAN	762	Sep 17	759	Jun 10	138	Oct 23 1975
ANNUAL SEVEN-DAY MINIMUM	1050	Mar 27	863	May 5	191	May 12 1981
INSTANTANEOUS PEAK FLOW			16400	Feb 21	31400	Mar 12 1963
INSTANTANEOUS PEAK STAGE			7.54	Feb 21	11.20	Mar 12 1963
INSTANTANEOUS LOW FLOW			NOT DETERMINED		NOT DETERMINED	
10 PERCENT EXCEEDS	10000		9540		9440	
50 PERCENT EXCEEDS	4910		5030		4340	
90 PERCENT EXCEEDS	1360		1050		645	

* Regulated period only.

03495500 HOLSTON RIVER NEAR KNOXVILLE, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1965, 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: February 1980 to September 1986.
WATER TEMPERATURE: February 1980 to September 1986.

INSTRUMENTATION.--Water-quality monitor from March 1981 to Sept. 1986.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 365 microsiemens, Mar. 1, 1981; minimum, 121 microsiemens, July 31, 1982.
WATER TEMPERATURE: Maximum, 27.0°C, Aug. 21, 1982, Sept. 2, 1985; minimum, 1.0°C, Jan. 27, 1986.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT											
17...	1120	6910	280	8.0	22.0	--	6.0	--	--	54	110
DEC											
07...	1000	1310	300	8.1	11.0	743	3.4	8.6	80	41	45
FEB											
06...	1110	1180	310	8.5	11.0	736	2.4	12.1	114	K18	K20
APR											
15...	1215	852	320	8.8	18.5	741	3.5	11.2	123	26	K2
25...	1400	918	295	--	19.0	--	--	--	--	--	--
JUN											
17...	1005	920	290	8.5	21.0	741	3.3	9.9	114	50	73
AUG											
19...	0955	5650	283	8.0	23.0	740	3.5	8.4	101	51	460

DATE	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLVED FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT											
17...	110	18	29	8.2	13	21	0.5	1.9	88	18	12
DEC											
07...	120	19	33	8.5	14	20	0.6	2.0	98	27	16
FEB											
06...	140	20	40	9.3	10	13	0.4	1.9	118	25	11
APR											
15...	160	18	43	12	5.9	7	0.2	2.2	139	20	11
JUN											
17...	140	21	42	9.2	7.4	10	0.3	1.8	122	15	9.9
AUG											
19...	120	11	34	7.6	11	17	0.4	1.9	105	16	12

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
OCT											
17...	<0.10	3.2	--	142	0.19	2660	--	<0.010	--	0.400	<0.010
DEC											
07...	0.10	3.3	157	167	0.21	555	--	<0.010	--	0.600	0.020
FEB											
06...	0.10	1.8	163	173	0.22	519	--	<0.010	--	0.600	<0.010
APR											
15...	<0.10	1.1	188	182	0.26	432	--	<0.010	--	0.680	0.030
JUN											
17...	0.10	4.0	161	166	0.22	400	0.660	0.010	0.03	0.670	<0.010
AUG											
19...	0.10	3.7	156	151	0.21	2380	0.110	0.030	0.10	0.140	0.090

K--Results based on non-ideal colony counts.

03495500 HOLSTON RIVER NEAR KNOXVILLE, TN--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, ORGANIC DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
OCT 17...	--	--	<0.010	0.40	0.030	0.020	<0.010	<10	1	34
DEC 07...	0.03	--	0.020	0.20	0.060	0.040	<0.010	--	--	--
FEB 06...	0.01	--	0.010	0.40	0.020	0.020	<0.010	20	<1	31
APR 15...	0.03	--	0.020	0.40	0.020	<0.010	<0.010	30	<1	31
JUN 17...	0.04	--	0.030	0.30	0.060	0.060	<0.010	10	<1	35
AUG 19...	0.12	0.21	0.090	0.40	0.060	0.030	0.040	--	--	--

DATE	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)
OCT 17...	<0.5	<1.0	1	<3	4	18	40	<4	1	<0.1
FEB 06...	<0.5	<1.0	<1	<3	3	5	3	<4	5	<0.1
APR 15...	<0.5	<1.0	<1	<3	1	5	1	<4	7	<0.1
JUN 17...	<0.5	<1.0	<1	<3	<1	9	<1	<4	21	<0.1

DATE	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 17...	<10	2	<1	<1.0	120	<6	7	17	317	81
DEC 07...	--	--	--	--	--	--	--	1	3.5	95
FEB 06...	<10	<1	<1	<1.0	130	<6	5	10	32	4
APR 15...	<10	3	<1	<1.0	100	<6	4	1	1.9	83
JUN 17...	<10	<1	<1	<1.0	120	<6	<3	8	21	86
AUG 19...	--	--	--	--	--	--	--	9	142	85

03495547 LOVE CREEK AT I-40 AT KNOXVILLE, TN

LOCATION.--Lat 36°00'39" long 83°50'36", Knox County, Hydrologic Unit 06010201, on left downstream wingwall of the culvert under I-40, at mile 1.2.
DRAINAGE AREA.--8.01 mi².
PERIOD OF RECORD.--June 1990 to current year.
GAGE.--Water-stage recorder. Datum of gage is 830.42 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharges. Records good. Minimum discharge for current year also occurred Nov. 28 and Dec. 2. Minimum discharge for the period of record also occurred July 10, 1990. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, JUNE 1990 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	21	5.5	7.6	4.9
2	---	---	---	---	---	---	---	---	19	4.3	6.9	4.9
3	---	---	---	---	---	---	---	---	18	3.7	6.4	4.8
4	---	---	---	---	---	---	---	---	16	3.3	6.5	4.7
5	---	---	---	---	---	---	---	---	14	3.1	15	4.5
6	---	---	---	---	---	---	---	---	13	3.0	41	4.6
7	---	---	---	---	---	---	---	---	13	2.8	14	4.7
8	---	---	---	---	---	---	---	---	12	2.6	11	17
9	---	---	---	---	---	---	---	---	11	2.5	9.9	7.5
10	---	---	---	---	---	---	---	---	14	2.4	8.7	7.2
11	---	---	---	---	---	---	---	---	10	4.1	7.7	5.7
12	---	---	---	---	---	---	---	---	9.0	25	6.6	38
13	---	---	---	---	---	---	---	---	8.2	45	6.0	24
14	---	---	---	---	---	---	---	---	7.9	63	17	21
15	---	---	---	---	---	---	---	---	7.7	44	12	59
16	---	---	---	---	---	---	---	---	7.0	27	8.6	17
17	---	---	---	---	---	---	---	---	6.6	22	7.4	14
18	---	---	---	---	---	---	---	---	10	21	6.6	12
19	---	---	---	---	---	---	---	---	8.7	18	6.1	11
20	---	---	---	---	---	---	---	---	6.3	15	5.7	11
21	---	---	---	---	---	---	---	---	6.7	15	5.6	9.8
22	---	---	---	---	---	---	---	---	7.4	26	17	12
23	---	---	---	---	---	---	---	---	5.9	18	7.6	9.1
24	---	---	---	---	---	---	---	---	5.2	14	6.7	8.4
25	---	---	---	---	---	---	---	---	4.9	12	6.2	7.8
26	---	---	---	---	---	---	---	---	4.4	11	5.8	7.4
27	---	---	---	---	---	---	---	---	4.1	11	5.5	6.7
28	---	---	---	---	---	---	---	---	3.7	9.8	5.3	6.3
29	---	---	---	---	---	---	---	---	3.5	9.0	6.1	6.1
30	---	---	---	---	---	---	---	---	3.4	9.0	5.7	6.1
31	---	---	---	---	---	---	---	---	---	8.3	5.1	---
TOTAL	---	---	---	---	---	---	---	---	281.6	460.4	287.3	357.2
MEAN	---	---	---	---	---	---	---	---	9.39	14.9	9.27	11.9
MAX	---	---	---	---	---	---	---	---	21	63	41	59
MIN	---	---	---	---	---	---	---	---	3.4	2.4	5.1	4.5
CFSM	---	---	---	---	---	---	---	---	1.17	1.85	1.16	1.49
IN.	---	---	---	---	---	---	---	---	1.31	2.14	1.33	1.66

SUMMARY STATISTICS FOR JUNE TO SEPTEMBER 1990

HIGHEST DAILY MEAN	63	Jul 14
LOWEST DAILY MEAN	2.4	Jul 10
INSTANTANEOUS PEAK FLOW	303	Sep 15
INSTANTANEOUS PEAK STAGE	5.17	Sep 15
INSTANTANEOUS LOW FLOW	*2.2	Jul 9

* See REMARKS.

03495547 LOVE CREEK AT I-40, AT KNOXVILLE, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	4.3	2.9	32	7.1	30	29	9.3	14	11	7.2	5.0
2	6.4	4.3	2.7	30	6.8	30	27	9.0	23	28	6.9	4.8
3	5.9	4.3	17	27	6.4	32	25	8.5	29	33	6.7	4.5
4	16	4.4	9.4	25	6.3	35	23	8.2	16	20	6.4	4.5
5	8.4	6.7	6.6	23	6.1	30	24	9.4	13	21	6.2	4.3
6	7.1	5.8	5.6	22	6.1	29	22	8.2	11	18	5.9	4.3
7	6.4	4.8	5.0	29	5.7	27	21	7.6	10	16	6.5	4.3
8	17	4.5	4.5	23	5.3	25	21	7.2	9.5	15	15	4.2
9	9.2	5.6	4.1	21	5.0	23	20	7.2	8.7	14	61	4.2
10	8.2	11	3.8	21	4.8	22	19	6.7	8.2	14	18	4.2
11	7.7	6.4	3.4	31	4.5	21	17	6.3	7.8	13	13	4.2
12	7.8	5.6	3.2	25	4.3	20	16	14	17	13	11	4.2
13	6.7	5.0	3.9	22	15	22	17	11	11	12	9.3	4.5
14	6.4	4.5	6.5	20	30	20	15	8.2	8.8	11	14	4.5
15	6.0	4.2	4.9	19	14	18	14	7.4	7.6	11	9.0	4.2
16	5.7	4.1	5.0	21	11	16	13	6.8	7.3	10	7.7	4.1
17	5.3	4.5	6.6	17	27	15	12	6.5	6.8	10	7.0	4.0
18	14	4.2	15	15	161	23	11	48	6.6	10	6.9	4.1
19	7.5	4.0	13	15	135	17	22	22	6.2	9.1	7.1	6.7
20	6.5	3.9	11	15	112	15	15	14	5.9	8.3	7.3	4.5
21	5.8	3.8	9.3	13	49	15	13	11	5.5	7.8	6.2	4.1
22	8.9	3.4	41	11	40	17	12	9.8	10	7.2	5.7	3.8
23	11	3.7	203	11	36	26	11	8.9	7.7	6.8	5.3	3.7
24	6.8	3.4	42	9.9	33	16	10	8.1	22	21	5.1	10
25	6.3	3.2	32	9.2	32	15	9.3	7.5	27	15	5.1	9.3
26	6.0	3.0	29	8.5	30	14	8.8	7.5	26	12	7.0	6.4
27	5.5	2.8	30	8.1	29	13	9.5	24	16	10	5.9	5.1
28	5.2	4.2	71	7.8	27	20	8.7	17	14	9.5	5.2	4.5
29	5.0	3.6	37	7.2	---	110	12	13	12	8.8	5.0	4.1
30	4.7	3.1	52	9.8	---	43	9.8	11	11	8.2	6.1	3.8
31	4.5	---	47	8.2	---	32	---	9.7	---	7.6	5.4	---
TOTAL	238.9	136.3	727.4	556.7	849.4	791	487.1	353.0	378.6	411.3	294.1	144.1
MEAN	7.71	4.54	23.5	18.0	30.3	25.5	16.2	11.4	12.6	13.3	9.49	4.80
MAX	17	11	203	32	161	110	29	48	29	33	61	10
MIN	4.5	2.8	2.7	7.2	4.3	13	8.7	6.3	5.5	6.8	5.0	3.7
CFSM	.96	.57	2.93	2.24	3.79	3.19	2.03	1.42	1.58	1.66	1.18	.60
IN.	1.11	.63	3.38	2.59	3.94	3.67	2.26	1.64	1.76	1.91	1.37	.67

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1991, BY WATER YEAR (WY)

MEAN	7.71	4.54	23.5	18.0	30.3	25.5	16.2	11.4	11.0	14.1	9.38	8.35
MAX	7.71	4.54	23.5	18.0	30.3	25.5	16.2	11.4	12.6	14.9	9.49	11.9
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1991	1990	1991	1990
MIN	7.71	4.54	23.5	18.0	30.3	25.5	16.2	11.4	9.39	13.3	9.27	4.80
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1990	1991	1990	1991

SUMMARY STATISTICS	FOR 1991 WATER YEAR		WATER YEARS 1990 - 1991	
ANNUAL TOTAL	5367.9			
ANNUAL MEAN	14.7		14.7	
HIGHEST ANNUAL MEAN			14.7	1991
LOWEST ANNUAL MEAN			14.7	1991
HIGHEST DAILY MEAN	203	Dec 23	203	Dec 23 1990
LOWEST DAILY MEAN	2.7	Dec 2	2.4	Jul 10 1990
ANNUAL SEVEN-DAY MINIMUM	3.2	Nov 26	2.8	Jul 4 1990
INSTANTANEOUS PEAK FLOW	692	Dec 23	692	Dec 23 1990
INSTANTANEOUS PEAK STAGE	7.98	Dec 23	7.98	Dec 23 1990
INSTANTANEOUS LOW FLOW	*2.7	Nov 27	*2.2	Jul 9 1990
ANNUAL RUNOFF (CFSM)	1.84		1.84	
ANNUAL RUNOFF (INCHES)	24.93		24.95	
10 PERCENT EXCEEDS	29		27	
50 PERCENT EXCEEDS	9.3		9.0	
90 PERCENT EXCEEDS	4.3		4.2	

* See REMARKS.

03495957 WHITES CREEK AT NORA ROAD, AT KNOXVILLE, TN

LOCATION.--Lat 36°01'21", long 83°54'52", Knox County, Hydrologic Unit 0601201, on left bank downstream wingwall of bridge on Nora Road, at mile 0.6.
DRAINAGE AREA.--9.51 mi².
PERIOD OF RECORD.--April 1990 to current year.
GAGE.--Water-stage recorder. Datum of gage is 948.46 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records good. Lowest daily mean for water year 1990 also occurred Sept. 30. Minimum low flow for water year 1990 also occurred Sept. 29 and 30. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, APRIL 1990 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	e16	20	17	6.9	5.0	3.9
2	---	---	---	---	---	---	e15	19	15	6.2	4.8	3.8
3	---	---	---	---	---	---	e15	11	15	5.7	4.8	3.8
4	---	---	---	---	---	---	e14	80	14	5.5	4.7	3.7
5	---	---	---	---	---	---	14	28	13	5.4	8.8	3.6
6	---	---	---	---	---	---	16	22	12	5.3	29	3.5
7	---	---	---	---	---	---	16	20	12	5.1	9.3	3.5
8	---	---	---	---	---	---	14	18	11	5.0	7.2	8.3
9	---	---	---	---	---	---	13	19	11	4.9	6.4	4.2
10	---	---	---	---	---	---	14	20	12	4.8	5.8	4.6
11	---	---	---	---	---	---	14	16	10	5.0	5.5	4.1
12	---	---	---	---	---	---	13	14	9.7	9.9	5.3	8.6
13	---	---	---	---	---	---	12	14	9.2	18	5.0	8.7
14	---	---	---	---	---	---	12	13	9.0	33	11	5.5
15	---	---	---	---	---	---	12	12	8.8	28	7.5	38
16	---	---	---	---	---	---	11	12	8.6	12	5.5	8.2
17	---	---	---	---	---	---	13	77	8.4	9.0	5.1	5.5
18	---	---	---	---	---	---	13	26	8.9	8.2	4.9	4.4
19	---	---	---	---	---	---	12	20	8.6	7.7	4.8	4.1
20	---	---	---	---	---	---	11	24	8.0	7.0	4.4	3.9
21	---	---	---	---	---	---	11	23	8.1	7.3	4.8	3.7
22	---	---	---	---	---	---	11	17	8.1	14	12	4.3
23	---	---	---	---	---	---	11	15	7.7	12	5.5	3.5
24	---	---	---	---	---	---	10	14	7.3	7.7	5.0	3.4
25	---	---	---	---	---	---	9.9	13	7.1	6.8	4.7	3.3
26	---	---	---	---	---	---	9.7	15	6.8	6.3	4.6	3.2
27	---	---	---	---	---	---	9.6	22	6.7	5.7	4.4	3.1
28	---	---	---	---	---	---	11	46	6.5	5.5	4.3	3.0
29	---	---	---	---	---	---	10	56	6.4	5.2	4.3	2.9
30	---	---	---	---	---	---	9.4	24	6.4	5.1	4.3	2.9
31	---	---	---	---	---	---	---	19	---	5.0	4.1	---
TOTAL	---	---	---	---	---	---	372.6	749	292.3	273.2	202.8	167.2
MEAN	---	---	---	---	---	---	12.4	24.2	9.74	8.81	6.54	5.57
MAX	---	---	---	---	---	---	16	80	17	33	29	38
MIN	---	---	---	---	---	---	9.4	11	6.4	4.8	4.1	2.9
CFSM	---	---	---	---	---	---	1.31	2.54	1.02	.93	.69	.59
IN.	---	---	---	---	---	---	1.46	2.93	1.14	1.07	.79	.65

SUMMARY STATISTICS FOR APRIL TO SEPTEMBER 1990

HIGHEST DAILY MEAN	80	May 4
LOWEST DAILY MEAN	*2.9	Sep 29
INSTANTANEOUS PEAK FLOW	135	May 17
INSTANTANEOUS PEAK STAGE	4.21	May 17
INSTANTANEOUS LOW FLOW	*2.9	Sep 28

* See REMARKS.

03495957 WHITES CREEK AT NORA ROAD, AT KNOXVILLE, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.6	3.1	2.9	31	9.8	25	28	9.7	8.6	9.1	3.6	3.7
2	2.9	3.0	2.9	26	9.3	30	25	9.3	8.7	15	3.6	3.6
3	2.8	3.1	18	24	9.1	32	23	9.1	24	15	3.5	3.5
4	6.5	3.2	11	22	9.1	39	21	8.9	12	7.9	3.5	3.4
5	3.7	4.0	6.4	20	8.9	28	22	9.3	8.6	11	3.5	3.4
6	3.2	4.0	5.4	19	9.0	26	20	8.9	7.7	7.3	3.3	3.4
7	3.0	3.7	5.0	28	8.8	23	19	8.7	7.1	6.5	4.5	3.4
8	7.5	3.5	4.4	22	8.5	22	17	8.7	6.7	6.1	7.6	3.3
9	4.1	4.5	4.1	18	8.3	20	16	8.7	6.4	5.7	58	3.2
10	3.6	9.8	4.0	17	8.2	19	15	8.4	6.1	5.7	26	3.3
11	3.5	5.5	3.8	30	7.7	17	14	8.2	5.9	5.4	10	3.4
12	3.6	4.5	3.7	23	7.5	16	14	16	12	5.2	8.2	3.3
13	3.2	4.1	3.8	20	17	18	14	11	9.5	5.0	7.2	3.4
14	3.0	3.9	5.5	18	36	17	13	8.9	7.2	4.9	7.6	3.5
15	3.0	3.7	4.6	17	16	15	13	8.4	6.6	4.8	6.7	3.2
16	2.9	3.6	5.1	19	13	15	12	8.2	6.4	4.6	5.8	3.2
17	2.9	3.7	6.9	16	23	14	12	8.1	6.0	4.8	5.4	3.2
18	4.9	3.5	17	15	177	23	12	24	8.0	4.6	5.4	3.1
19	3.4	3.4	19	15	125	16	21	20	6.0	4.4	5.4	3.9
20	3.0	3.3	11	15	147	15	14	11	5.7	4.2	5.6	3.2
21	2.9	3.2	9.6	14	62	14	12	9.5	5.6	4.0	4.7	3.0
22	4.6	3.2	46	13	52	15	12	8.8	7.3	3.9	4.6	2.9
23	7.7	3.5	234	13	46	25	11	8.4	5.8	3.8	4.4	3.0
24	4.1	3.2	50	12	39	17	11	8.1	12	7.2	4.1	6.6
25	3.7	3.0	31	12	32	15	11	7.5	16	5.7	4.1	5.9
26	3.5	3.0	24	11	28	14	10	7.4	25	4.5	4.8	4.1
27	3.3	3.0	25	11	24	14	10	15	12	4.4	4.3	3.5
28	3.2	3.4	85	11	22	19	10	13	9.7	4.1	4.0	3.3
29	3.2	3.1	38	10	---	107	11	9.7	8.6	4.0	4.1	3.2
30	3.2	2.9	40	12	---	58	10	8.8	7.9	3.9	4.3	3.1
31	3.2	---	60	11	---	33	---	8.2	---	3.7	3.9	---
TOTAL	116.9	112.6	787.1	545	963.2	761	453	317.9	279.1	186.4	231.7	106.2
MEAN	3.77	3.75	25.4	17.6	34.4	24.5	15.1	10.3	9.30	6.01	7.47	3.54
MAX	7.7	9.8	234	31	177	107	28	24	25	15	58	6.6
MIN	2.8	2.9	2.9	10	7.5	14	10	7.4	5.6	3.7	3.3	2.9
CFSM	.40	.39	2.67	1.85	3.62	2.58	1.59	1.08	.98	.63	.79	.37
IN.	.46	.44	3.08	2.13	3.77	2.98	1.77	1.24	1.09	.73	.91	.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1991, BY WATER YEAR (WY)

MEAN	3.77	3.75	25.4	17.6	34.4	24.5	13.8	17.2	9.52	7.41	7.01	4.56
MAX	3.77	3.75	25.4	17.6	34.4	24.5	15.1	24.2	9.74	8.81	7.47	5.57
(WY)	1991	1991	1991	1991	1991	1991	1991	1990	1990	1990	1991	1990
MIN	3.77	3.75	25.4	17.6	34.4	24.5	12.4	10.3	9.30	6.01	6.54	3.54
(WY)	1991	1991	1991	1991	1991	1991	1990	1991	1991	1991	1990	1991

SUMMARY STATISTICS	FOR 1991 WATER YEAR		WATER YEARS 1990 - 1991	
ANNUAL TOTAL	4860.1			
ANNUAL MEAN	13.3		13.3	
HIGHEST ANNUAL MEAN			13.3	1991
LOWEST ANNUAL MEAN			13.3	1991
HIGHEST DAILY MEAN	234	Dec 23	234	Dec 23 1990
LOWEST DAILY MEAN	2.8	Oct 3	2.8	Oct 3 1990
ANNUAL SEVEN-DAY MINIMUM	3.0	Nov 26	3.0	Sep 27 1990
INSTANTANEOUS PEAK FLOW	485	Dec 23	485	Dec 23 1990
INSTANTANEOUS PEAK STAGE	6.53	Dec 23	6.53	Dec 23 1990
INSTANTANEOUS LOW FLOW	2.7	Oct 3	2.7	Oct 3 1990
ANNUAL RUNOFF (CFSM)	1.40		1.40	
ANNUAL RUNOFF (INCHES)	19.01		19.02	
10 PERCENT EXCEEDS	25		24	
50 PERCENT EXCEEDS	8.2		8.3	
90 PERCENT EXCEEDS	3.2		3.4	

e Estimated.

03497300 LITTLE RIVER ABOVE TOWNSEND, TN
(Hydrologic bench-mark station)

LOCATION.--Lat 35°39'52", long 83°42'41", Blount County, Hydrologic Unit 06010201, in Great Smoky Mountains National Park, on left bank along U.S. Highway 321, 0.3 mi upstream from Rush Branch, 0.4 mi southeast of Park entrance, 2.2 mi southeast of Townsend, and at mile 35.3.
DRAINAGE AREA.--106 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1963 to current year.
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,106.92 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharges. Records good. Minimum discharge result of freezeup. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	168	128	844	212	314	677	459	259	235	179	192
2	62	154	124	626	201	911	532	373	164	241	164	166
3	57	144	327	491	191	727	442	320	178	345	142	152
4	64	135	433	400	183	900	380	286	206	246	133	143
5	79	135	315	342	178	715	472	297	148	215	135	132
6	60	159	268	301	185	631	406	284	128	182	116	126
7	59	128	233	317	189	544	368	241	116	165	120	121
8	153	119	205	320	187	488	356	218	105	197	217	112
9	232	121	179	296	172	416	381	213	100	152	1160	107
10	124	192	164	279	166	372	426	216	95	137	679	104
11	242	165	152	723	158	332	378	212	91	131	455	105
12	478	149	143	715	150	311	351	226	155	145	628	105
13	327	141	146	551	255	495	356	260	198	175	795	103
14	233	136	256	445	770	641	335	221	146	140	610	103
15	178	129	200	383	519	572	310	199	154	127	474	99
16	149	125	220	439	379	496	281	204	172	158	371	95
17	129	153	212	381	377	438	258	187	221	126	310	91
18	1370	129	339	347	1640	650	243	194	187	123	302	87
19	664	122	704	323	2110	528	278	209	279	126	315	149
20	399	120	465	322	2620	452	264	184	290	273	267	107
21	294	115	377	304	1390	396	267	170	385	208	232	89
22	335	112	387	267	893	380	250	157	520	153	204	82
23	576	117	3130	250	699	424	244	153	437	128	182	78
24	458	118	2190	234	534	357	234	143	445	182	167	112
25	394	106	985	215	447	324	217	133	391	241	159	180
26	351	100	658	199	391	300	205	127	564	161	230	143
27	301	99	523	192	339	282	201	123	505	149	195	111
28	267	124	662	189	308	348	242	141	391	296	160	97
29	233	192	582	179	---	1980	332	132	318	308	152	89
30	206	138	612	197	---	1530	489	118	272	251	247	83
31	184	---	1310	276	---	917	---	113	---	204	234	---
TOTAL	8724	4045	16629	11347	15843	18171	10175	6513	7620	5920	9734	3463
MEAN	281	135	536	366	566	586	339	210	254	191	314	115
MAX	1370	192	3130	844	2620	1980	677	459	564	345	1160	192
MIN	57	99	124	179	150	282	201	113	91	123	116	78
CFSM	2.65	1.27	5.06	3.45	5.34	5.53	3.20	1.98	2.40	1.80	2.96	1.09
IN.	3.06	1.42	5.84	3.98	5.56	6.38	3.57	2.29	2.67	2.08	3.42	1.22

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1991, BY WATER YEAR (WY)

MEAN	136	209	328	389	448	496	380	284	213	203	177	125
MAX	373	436	645	785	857	937	706	774	648	815	530	492
(WY)	1973	1967	1973	1974	1990	1975	1983	1984	1989	1971	1966	1989
MIN	28.9	36.0	58.8	72.7	191	185	141	124	50.4	69.3	40.5	43.2
(WY)	1988	1988	1966	1981	1978	1988	1986	1986	1988	1988	1987	1987

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1964 - 1991	
ANNUAL TOTAL	125978		118184			
ANNUAL MEAN	345		324		282	
HIGHEST ANNUAL MEAN					400	1973
LOWEST ANNUAL MEAN					141	1988
HIGHEST DAILY MEAN	5120	Mar 17	3130	Dec 23	8790	Mar 16 1973
LOWEST DAILY MEAN	37	Sep 7	57	Oct 3	23	Oct 18 1987
ANNUAL SEVEN-DAY MINIMUM	41	Sep 1	64	Oct 1	25	Oct 14 1987
INSTANTANEOUS PEAK FLOW			5900	Dec 23	16000	Mar 16 1973
INSTANTANEOUS PEAK STAGE			7.67	Dec 23	12.30	Mar 16 1973
INSTANTANEOUS LOW FLOW			54	Oct 4	*21	Jan 18 1981
ANNUAL RUNOFF (CFSM)	3.26		3.05		2.66	
ANNUAL RUNOFF (INCHES)	44.21		41.48		36.09	
10 PERCENT EXCEEDS	696		611		551	
50 PERCENT EXCEEDS	220		226		195	
90 PERCENT EXCEEDS	70		114		63	

* See REMARKS.

03497300 LITTLE RIVER ABOVE TOWNSEND, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to 1982, 1986 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: October 1963 to September 1981.

INSTRUMENTATION.--Temperature recorder from October 1963 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 26.0°C June 23, 1964, July 3, 1970; minimum, 0.0°C on several days during winter periods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT												
15...	1310	175	15	7.4	14.0	736	0.50	9.6	96	K7	63	5
DEC												
05...	1005	317	10	7.5	4.0	742	0.70	13.8	108	K7	K22	5
FEB												
05...	1020	178	16	7.7	6.0	741	4.0	13.1	108	K2	K8	5
APR												
16...	1000	282	19	6.8	14.0	736	1.1	10.6	106	K5	K5	5
JUN												
18...	0915	166	17	6.8	18.0	734	1.5	8.7	95	43	500	6
AUG												
20...	0900	274	14	7.0	17.5	732	1.1	10.0	109	--	270	7

DATE	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT												
15...	0	1.4	0.37	0.80	24	0.2	0.50	5	3.3	1.6	0.10	5.3
DEC												
05...	1	1.5	0.32	1.3	33	0.3	0.50	4	2.9	1.1	<0.10	5.1
FEB												
05...	0	1.3	0.42	1.0	28	0.2	0.40	5	1.4	0.30	<0.10	5.8
APR												
16...	1	1.2	0.37	1.1	32	0.2	0.50	4	1.7	0.50	0.10	5.7
JUN												
18...	0	1.6	0.44	1.0	25	0.2	0.60	7	1.8	0.70	0.10	6.8
AUG												
20...	1	1.9	0.45	1.0	23	0.2	0.50	6	1.8	0.30	<0.10	5.4

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)
OCT											
15...	9	17	0.01	4.25	<0.010	<0.100	<0.010	--	<0.010	0.30	<0.010
DEC											
05...	2	16	0.00	1.71	<0.010	0.200	0.020	0.03	0.020	<0.20	0.020
FEB											
05...	15	14	0.02	7.21	<0.010	0.200	0.010	0.01	0.010	0.50	<0.010
APR											
16...	33	15	0.05	25.1	<0.010	0.160	0.030	0.03	0.020	0.20	0.020
JUN											
18...	13	18	0.02	5.83	<0.010	0.180	<0.010	0.03	0.020	<0.20	0.030
AUG											
20...	13	15	0.02	9.62	<0.010	0.120	<0.010	--	<0.010	<0.20	0.020

K--Results based on non-ideal colony counts.

03497300 LITTLE RIVER ABOVE TOWNSEND, TN--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)
OCT 15...	<0.010	0.010	30	<1	10	<0.5	<1.0	<1	<3	1	11
DEC 05...	<0.010	<0.010	--	--	--	--	--	--	--	--	--
FEB 05...	0.020	<0.010	20	<1	11	<0.5	<1.0	<1	<3	2	7
APR 16...	0.010	<0.010	20	<1	12	<0.5	<1.0	<1	<3	<1	6
JUN 18...	0.020	<0.010	40	<1	13	<0.5	<1.0	<1	<3	4	22

DATE	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 15...	3	<4	1	<0.1	<10	<1	<1	<1.0	9	<6	13
FEB 05...	1	<4	<1	<0.1	<10	<1	<1	<1.0	9	<6	5
APR 16...	3	<4	<1	<0.1	<10	6	<1	<1.0	9	<6	<3
JUN 18...	1	<4	2	<0.1	<10	<1	<1	<1.0	11	<6	74

DATE	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DISSOLVED (UG/L AS U)
OCT 15...	3	1.6	57	--	--	--	--	--	--	--	--
DEC 05...	75	64	1	--	--	--	--	--	--	--	--
FEB 05...	3	1.2	56	<0.6	<0.6	0.6	<0.6	0.6	<0.6	0.07	<0.01
APR 16...	4	3.1	58	--	--	--	--	--	--	--	--
JUN 18...	7	3.2	39	--	--	--	--	--	--	--	--
AUG 20...	5	4.1	59	--	--	--	--	--	--	--	--

03498500 LITTLE RIVER NEAR MARYVILLE, TN

LOCATION.--Lat 35°47'10", long 83°53'04", Blount County, Hydrologic Unit 06010201, on left bank 200 ft above bridge on U.S. Highway 411, 0.8 mi downstream from Crooked Creek, 5.0 mi east of Maryville, and at mile 17.3.
DRAINAGE AREA.--269 mi².
PERIOD OF RECORD.--July 1951 to current year.
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 850.00 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharges. Records good. Diurnal fluctuations at low flow caused by small mills above station. The town of Maryville diverted an average of about 4.0 ft³/s (2.6 MGD) for municipal supply 300 ft upstream from gage. Maximum discharge from rating curve extended above 20,000 ft³/s on basis of area-velocity study and road over flow computations. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Feb. 25, 1875, reached a stage of 31 ft, discharge, 50,000 ft³/s, and flood of April 1, 1896, reached a stage of 26 ft, discharge, 36,000 ft³/s, from reports by Tennessee Valley Authority.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	99	223	184	1660	410	655	1330	757	724	323	231	270
2	95	200	170	1110	380	1170	1070	614	365	321	215	244
3	89	179	211	877	359	1150	916	513	345	578	194	294
4	101	167	658	742	343	2010	809	447	419	356	178	219
5	127	164	431	625	326	1470	1100	439	287	323	183	200
6	103	209	357	541	322	1210	981	463	241	280	164	187
7	91	170	309	653	338	1060	846	387	218	248	154	182
8	176	152	273	680	329	949	763	347	200	268	262	170
9	356	146	238	582	306	851	797	334	191	231	1200	162
10	193	242	214	531	294	776	909	318	181	211	1010	157
11	278	263	200	1060	281	708	796	335	176	210	664	155
12	491	204	188	1170	264	672	711	344	195	197	611	159
13	480	187	181	937	280	828	667	535	352	247	1070	146
14	326	177	420	788	997	984	638	364	229	213	784	138
15	248	168	338	684	785	944	574	320	241	190	650	133
16	203	161	323	702	593	867	510	314	216	206	471	128
17	183	185	308	637	591	794	470	302	289	193	371	123
18	1370	178	459	566	5240	1070	445	295	291	180	352	120
19	980	159	1170	525	4430	1010	473	431	313	181	370	150
20	582	151	754	578	6250	882	464	408	336	255	333	173
21	429	145	611	534	2830	784	443	316	491	295	291	138
22	398	139	741	471	1690	746	425	280	659	213	263	124
23	816	142	5470	441	1300	1200	404	259	593	184	239	117
24	672	161	4840	419	1050	1040	387	241	584	207	221	135
25	531	139	1650	388	924	826	360	225	677	307	210	267
26	501	132	1050	362	884	732	339	216	1020	286	263	230
27	411	129	850	344	776	671	330	228	843	265	302	177
28	360	138	1870	334	706	900	373	227	612	285	226	155
29	315	300	1370	316	---	4260	603	222	463	399	208	142
30	278	214	1170	331	---	3620	850	201	373	309	388	133
31	248	---	3440	556	---	1860	---	194	---	263	349	---
TOTAL	11530	5324	30448	20144	33278	36699	19783	10876	12124	8224	12427	5128
MEAN	372	177	982	650	1188	1184	659	351	404	265	401	171
MAX	1370	300	5470	1660	6250	4260	1330	757	1020	578	1200	294
MIN	89	129	170	316	264	655	330	194	176	180	154	117
CFSM	1.38	.66	3.65	2.42	4.42	4.40	2.45	1.30	1.50	.99	1.49	.64
IN.	1.59	.74	4.21	2.79	4.60	5.08	2.74	1.50	1.68	1.14	1.72	.71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1991, BY WATER YEAR (WY)

MEAN	209	350	616	786	956	990	739	494	361	325	259	185
MAX	830	1160	1679	1792	2254	2416	1314	1782	1261	1391	867	1019
(WY)	1973	1958	1962	1974	1957	1963	1964	1984	1989	1971	1971	1989
MIN	50.7	65.4	103	121	308	385	224	208	86.1	100	78.1	55.6
(WY)	1988	1988	1966	1981	1954	1988	1986	1986	1988	1952	1987	1954

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1951 - 1991	
ANNUAL TOTAL	233241		205985			
ANNUAL MEAN	639		564		521	
HIGHEST ANNUAL MEAN					784	1973
LOWEST ANNUAL MEAN					220	1988
HIGHEST DAILY MEAN	10800	Mar 17	6250	Feb 20	19100	Mar 12 1963
LOWEST DAILY MEAN	54	Sep 7	89	Oct 3	43	Oct 19 1987
ANNUAL SEVEN-DAY MINIMUM	59	Sep 2	101	Oct 1	45	Oct 14 1987
INSTANTANEOUS PEAK FLOW			11100	Dec 23	*32200	Mar 12 1963
INSTANTANEOUS PEAK STAGE			15.90	Dec 23	24.20	Mar 12 1963
INSTANTANEOUS LOW FLOW			82	Oct 4	32	Aug 27 1956
ANNUAL RUNOFF (CFSM)	2.38		2.10		1.94	
ANNUAL RUNOFF (INCHES)	32.25		28.49		26.29	
10 PERCENT EXCEEDS	1370		1050		1040	
50 PERCENT EXCEEDS	384		339		312	
90 PERCENT EXCEEDS	110		160		101	

* See REMARKS.

03498850 LITTLE RIVER NEAR ALCOA, TN

LOCATION.--Lat 35°48'32", long 83°55'36", Blount County, Hydrologic Unit 06010201, at Singleton Bend on left bank, 3.0 mi northeast of Alcoa, and at mile 9.7.
DRAINAGE AREA.--300 mi².
PERIOD OF RECORD.--October 1986 to current year.
GAGE.--Water-stage recorder. Datum of gage is 814.22 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharges. Records good. Diurnal fluctuations at low flow caused by small mills above station. The town of Maryville diverts an average of about 4.0 ft³/s (2.6 MGD) for municipal supply 7.6 mi upstream from gage and the town of Alcoa at the gage diverts about 13.8 ft³/s (8.9 MGD). Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	223	190	1850	429	615	1380	764	692	361	252	289
2	95	207	179	1180	390	1140	1050	628	469	359	232	252
3	91	192	193	901	373	1080	872	536	381	621	211	317
4	99	183	582	745	356	2220	753	483	508	425	189	232
5	126	176	406	641	341	1580	1030	462	343	383	190	207
6	108	206	336	569	335	1250	988	512	279	323	173	191
7	90	185	289	655	355	1060	801	433	250	277	157	187
8	144	166	260	709	342	902	722	395	227	291	255	173
9	319	160	232	610	322	794	742	376	213	259	1030	161
10	203	223	212	560	305	712	882	368	202	232	1040	152
11	239	269	198	1020	293	640	762	381	193	238	685	150
12	388	216	185	1250	280	602	689	383	203	215	555	152
13	474	197	180	964	287	735	651	574	392	265	998	143
14	310	185	359	789	894	908	633	424	264	243	750	133
15	239	177	331	689	780	872	577	376	260	209	661	129
16	200	171	301	696	573	787	531	365	239	212	508	121
17	180	179	294	651	545	719	488	359	313	217	413	116
18	1160	191	391	578	5230	1120	461	330	320	198	374	113
19	948	166	1110	540	5060	972	480	447	318	197	403	126
20	545	159	726	588	6640	816	505	474	367	225	362	182
21	406	157	585	545	3500	718	465	365	507	354	310	135
22	354	151	674	487	1950	664	450	330	636	239	275	122
23	691	154	4350	455	1430	1220	426	332	614	202	248	111
24	617	170	5570	434	1100	1030	408	336	567	202	229	124
25	495	151	1840	404	917	756	381	286	678	334	213	259
26	474	139	1100	377	869	658	367	273	976	282	242	246
27	390	138	842	365	744	599	361	276	839	323	340	186
28	336	137	1980	355	670	804	398	283	637	295	238	155
29	297	266	1530	340	---	4010	548	281	507	425	228	139
30	264	221	1210	344	---	4320	866	251	425	344	368	130
31	243	---	3650	551	---	2060	---	238	---	288	401	---
TOTAL	10622	5515	30285	20842	35310	36363	19667	12321	12819	9038	12530	5133
MEAN	343	184	977	672	1261	1173	656	397	427	292	404	171
MAX	1160	269	5570	1850	6640	4320	1380	764	976	621	1040	317
MIN	90	137	179	340	280	599	361	238	193	197	157	111

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1991, BY WATER YEAR (WY)

MEAN	273	323	506	831	1135	974	626	521	481	329	215	339
MAX	779	783	977	1391	1876	1539	883	989	1335	775	404	1123
(WY)	1990	1990	1991	1990	1990	1990	1987	1989	1989	1989	1991	1989
MIN	43.4	60.6	176	432	435	403	352	199	73.6	106	69.0	64.1
(WY)	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1987	1987

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1987 - 1991	
ANNUAL TOTAL	251071		210445			
ANNUAL MEAN	688		577		543	
HIGHEST ANNUAL MEAN					786	1989
LOWEST ANNUAL MEAN					220	1988
HIGHEST DAILY MEAN	10800	Mar 17	6640	Feb 20	10800	Mar 17 1990
LOWEST DAILY MEAN	68	Sep 7	90	Oct 7	28	Jul 10 1988
ANNUAL SEVEN-DAY MINIMUM	75	Sep 2	101	Oct 1	35	Oct 14 1987
INSTANTANEOUS PEAK FLOW			9330	Dec 24	NOT DETERMINED	Mar 17 1990
INSTANTANEOUS PEAK STAGE			14.20	Dec 24	18.00	Mar 17 1990
INSTANTANEOUS LOW FLOW			78	Oct 3	23	Jul 10 1988
10 PERCENT EXCEEDS	1530		1030		1180	
50 PERCENT EXCEEDS	394		365		328	
90 PERCENT EXCEEDS	121		164		74	

03528000 CLINCH RIVER ABOVE TAZEWELL, TN

LOCATION.--Lat 36°25'30", long 83°23'54", Claiborne County, Hydrologic Unit 06010205, on right bank 0.4 mi upstream from Grissom Island, 4.6 mi downstream from Big War Creek, 10 mi east of Tazewell, and at mile 159.8.
DRAINAGE AREA.--1,474 mi².
PERIOD OF RECORD.--October 1918 to current year. Published as "near Lone Mountain" October 1918 to September 1927; as "near Tazewell" August 1927 to December 1936; and as "above Tazewell" July 1935 to current year. Prior to April 1919, monthly discharge only, published in WSP 1306. Gage-height record "near Tazewell" January 1937 to July 1941.
REVISED RECORDS.--WSP 803: Drainage area at site "near Tazewell". WSP 1306: Drainage area at site "near Lone Mountain". WSP 1336: 1928.
GAGE.--Water-stage recorder. Datum of gage is 1,060.7 ft above National Geodetic Vertical Datum of 1929. April 1, 1919, to Sept. 30, 1927, nonrecording gage on railroad bridge 23.3 mi downstream at datum 102.7 ft lower. Aug. 8, 1927, to July 16, 1941, water-stage recorder at site 8.0 mi downstream at datum 47.2 ft lower. Water-stage recorder at present site and datum since July 29, 1935.
REMARKS.--No estimated daily discharges. Records good. Maximum stage from floodmarks. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in February 1862 reached a stage of about 24 ft, present site and datum, from information by local resident; discharge, about 66,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	270	559	365	9070	1360	2100	9570	1430	3110	928	1180	321
2	257	522	357	6500	1290	3310	6070	1330	2470	874	952	340
3	245	486	475	4320	1210	6380	4560	1240	1830	802	758	446
4	258	455	1030	3240	1140	6610	3690	1160	2580	724	637	428
5	309	436	1080	2570	1100	5470	3170	1080	2640	755	597	445
6	303	433	1030	2150	1090	5010	2820	1010	1740	779	530	492
7	298	418	866	2210	1470	4430	2510	955	1310	719	507	543
8	373	400	749	3990	2740	4380	2250	904	1070	666	874	490
9	479	400	644	4950	2790	4020	2090	890	926	661	1750	464
10	400	438	573	4020	2470	3450	2000	879	827	721	1700	414
11	444	513	536	3700	2200	2990	1910	899	753	788	2760	384
12	434	612	506	5360	1920	2640	1710	886	811	1010	1860	382
13	473	803	478	5980	1770	2490	1680	882	1050	1160	1290	349
14	1140	728	457	4880	9750	3970	1970	1160	1000	1050	1070	374
15	1350	629	437	3800	11000	7240	2200	1050	921	1120	885	387
16	1030	567	453	3200	5230	6020	2090	1230	886	1110	754	490
17	756	525	731	3320	4810	4430	1860	1380	1210	837	651	639
18	794	489	1200	3610	12500	4630	1690	1270	949	691	586	509
19	1630	464	2590	3040	18300	5750	1640	1700	1000	615	569	560
20	3140	450	4100	2660	19800	4950	2470	2070	1530	650	691	507
21	1950	431	3460	2440	12800	4090	2490	3660	2310	605	619	612
22	1300	415	3100	2240	7960	3570	2230	4720	2750	610	530	590
23	1140	426	7770	2030	5580	6210	1990	3370	3420	559	477	519
24	1260	454	13900	1840	4280	13200	1780	2290	3130	580	442	470
25	1330	418	11500	1690	3500	12000	1600	1740	2720	1190	408	467
26	1300	398	6230	1580	3020	6590	1440	1420	2170	1840	392	458
27	1080	384	3860	1450	2640	4670	1340	1200	1790	2230	381	410
28	904	381	6260	1370	2320	3860	1370	2500	1470	1330	363	379
29	782	401	10500	1330	---	5510	1420	2900	1210	2140	348	352
30	683	386	7470	1280	---	12200	1600	2290	1020	2090	344	331
31	610	---	7870	1290	---	14300	---	2730	---	1490	330	---
TOTAL	26722	14421	100577	101110	146040	176470	75210	52225	50603	31324	25235	13552
MEAN	862	481	3244	3262	5216	5693	2507	1685	1687	1010	814	452
MAX	3140	803	13900	9070	19800	14300	9570	4720	3420	2230	2760	639
MIN	245	381	357	1280	1090	2100	1340	879	753	559	330	321
CFSM	.58	.33	2.20	2.21	3.54	3.86	1.70	1.14	1.14	.69	.55	.31
IN.	.67	.36	2.54	2.55	3.69	4.45	1.90	1.32	1.28	.79	.64	.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1919 - 1991, BY WATER YEAR (WY)

MEAN	691	1130	2304	3459	4138	4212	3075	2299	1289	987	870	552
MAX	2871	4794	9107	9500	9426	11950	8860	6382	3865	3251	4411	2939
(WY)	1990	1978	1927	1937	1957	1963	1977	1929	1989	1938	1942	1989
MIN	145	159	217	285	571	990	711	547	301	239	169	136
(WY)	1964	1940	1940	1940	1941	1988	1986	1941	1988	1988	1925	1955

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1919 - 1991	
ANNUAL TOTAL	881076		813489			
ANNUAL MEAN	2414		2229		2075	
HIGHEST ANNUAL MEAN					3269	1927
LOWEST ANNUAL MEAN					850	1941
HIGHEST DAILY MEAN	20700	Feb 11	19800	Feb 20	83300	Apr 5 1977
LOWEST DAILY MEAN	245	Oct 3	245	Oct 3	108	Sep 11 1925
ANNUAL SEVEN-DAY MINIMUM	276	Sep 30	277	Oct 1	116	Sep 17 1955
INSTANTANEOUS PEAK FLOW			20900	Feb 19	98100	Apr 5 1977
INSTANTANEOUS PEAK STAGE			12.13	Feb 19	*29.32	Apr 5 1977
INSTANTANEOUS LOW FLOW			237	Oct 4	108	Sep 11 1925
ANNUAL RUNOFF (CFSM)	1.64		1.51		1.41	
ANNUAL RUNOFF (INCHES)	22.24		20.53		19.12	
10 PERCENT EXCEEDS	5990		5100		4660	
50 PERCENT EXCEEDS	1330		1210		1110	
90 PERCENT EXCEEDS	365		412		272	

* See REMARKS.

03535102 SCARBORO CREEK TRIBUTARY NEAR HAW RIDGE NEAR OAK RIDGE, TN

LOCATION.--Lat 35°58'45", long 84°14'16", Anderson County, Hydrologic Unit 06010207, on right bank, 2 mi southeast of Oak Ridge, and at mile 0.5.
DRAINAGE AREA.--0.41 mi².
PERIOD OF RECORD.--May 1989 to September 1991 (discontinued).
GAGE.--Water-stage recorder and concrete control. Datum of gage is 861.40 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair, except for periods of estimated discharge, which are poor. Minimum daily and minimum instantaneous discharges also occurred many days in 1989, 1990, and 1991. Maximum discharge from rating curve extended above 20 ft³/s. Maximum stage from floodmarks.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.54	.00	.02	.09	.00	.04	e.13	.00	.00
2	.00	.00	.00	.01	.00	.00	.00	.00	.00	e.20	.00	.01
3	.00	.00	.00	.00	.00	.60	.00	.00	.01	e.00	.00	.00
4	.00	.00	.00	.00	.00	.97	.00	.00	.00	e.00	.00	.00
5	.00	.00	.00	.00	.00	.30	.00	.00	.00	e.01	.00	.00
6	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
7	.00	.00	.00	.07	.00	.00	.00	.00	.00	e.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
9	.00	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.00	.00
10	.00	.00	.00	.01	.00	.00	.00	.00	.00	e.00	.00	.00
11	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.28	.01	.00	.00
13	.00	.00	.00	.00	.03	.01	.01	.00	.00	.02	.00	.00
14	.00	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
17	.00	.00	.00	.00	.47	.00	.00	.00	.01	.01	.00	.00
18	.00	.00	.00	.00	11	.00	.00	.00	.00	.00	.00	.00
19	.00	.00	.00	.00	14	.00	.34	.00	.00	.00	.01	.01
20	.00	.00	.00	.00	8.4	.00	.67	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	2.1	.00	.13	.00	.00	.00	.00	.00
22	.00	.00	4.5	.00	.90	.00	.00	.00	.00	.00	.00	.00
23	.00	.00	16	.00	.16	.03	.00	.01	.01	.00	.00	.00
24	.00	.00	1.9	.00	.00	.00	.00	.00	.02	.03	.00	.02
25	.00	.00	.36	.00	.00	.00	.00	.00	.01	.00	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.00	e.00	.03	.01	.00
27	.00	.00	.10	.00	.00	.00	.00	.00	e.00	.00	.00	.00
28	.00	.00	2.0	.00	.00	.00	.00	.00	e.00	.00	.00	.00
29	.00	.00	1.3	.00	---	2.9	.00	.00	e.00	.00	.04	.00
30	.00	.00	1.3	.00	---	2.2	.00	.00	e.00	.00	.00	.00
31	.00	---	1.6	.00	---	.81	---	.00	---	.00	.00	---
TOTAL	0.00	0.00	29.06	0.63	37.09	7.84	1.28	0.01	0.38	0.44	0.06	0.04
MEAN	.000	.000	.94	.020	1.32	.25	.043	.000	.013	.014	.002	.001
MAX	.00	.00	16	.54	14	2.9	.67	.01	.28	.20	.04	.02
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	.00	.00	2.29	.05	3.23	.62	.10	.00	.03	.03	.00	.00
IN.	.00	.00	2.64	.06	3.37	.71	.12	.00	.03	.04	.01	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1991, BY WATER YEAR (WY)

MEAN	.000	.042	.47	.038	1.03	.27	.021	.001	.052	.009	.009	.006
MAX	.000	.084	.94	.056	1.32	.28	.043	.002	.14	.014	.024	.017
(WY)	1990	1990	1991	1990	1991	1990	1991	1990	1989	1991	1989	1989
MIN	.000	.000	.011	.020	.73	.25	.000	.000	.000	.000	.002	.000
(WY)	1991	1991	1990	1991	1990	1991	1990	1989	1990	1990	1991	1990

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1989 - 1991	
ANNUAL TOTAL	60.19		76.83			
ANNUAL MEAN	.16		.21		.15	
HIGHEST ANNUAL MEAN					.21	1991
LOWEST ANNUAL MEAN					.093	1990
HIGHEST DAILY MEAN	16	Dec 23	16	Dec 23	16	Dec 23 1990
LOWEST DAILY MEAN	.00	Jan 2	.00	Oct 1	*.00	May 1 1989
ANNUAL SEVEN-DAY MINIMUM	.00	Jan 2	.00	Oct 1	.00	May 1 1989
INSTANTANEOUS PEAK FLOW			*82	Dec 23	*97	Aug 9 1990
INSTANTANEOUS PEAK STAGE			3.72	Dec 23	*3.91	Aug 9 1990
INSTANTANEOUS LOW FLOW			.00	Oct 1	*.00	May 1 1989
ANNUAL RUNOFF (CFSM)	.40		.51		.37	
ANNUAL RUNOFF (INCHES)	5.46		6.97		5.03	
10 PERCENT EXCEEDS	.02		.03		.01	
50 PERCENT EXCEEDS	.00		.00		.00	
90 PERCENT EXCEEDS	.00		.00		.00	

e Estimated.
* See REMARKS.

03535103 SCARBORO CREEK TRIBUTARY NEAR OAK RIDGE, TN

LOCATION.--Lat 35°58'44", long 84°14'15", Anderson County, Hydrologic Unit 06010207, on right bank, 2 mi southeast of Oak Ridge, and at mile 0.5.
DRAINAGE AREA.--0.41 mi².
PERIOD OF RECORD.--May 1989 to September 1991 (discontinued).
REVISED RECORD.--WDR TN-90-1: 1989 (M).
GAGE.--Water-stage recorder and concrete control. Datum of gage is 856.38 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair below 15 ft³/s, poor above. Maximum discharges from rating curve extended above 10 ft³/s. Minimum discharge also occurred Oct. 4 and Oct. 17, 1990. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.05	.04	.03	1.5	.14	.35	1.0	.19	.16	e.10	.07	.07
2	.04	.04	.03	.94	.13	.43	.68	.18	.15	e.20	.07	.06
3	.03	.05	.21	.67	.13	1.2	.50	.17	.13	e.15	.06	.06
4	.05	.04	.26	.53	.13	1.7	.40	.17	.14	e.11	.06	.05
5	.03	.04	.20	.43	.13	1.1	.35	.16	.11	e.10	.06	.05
6	.03	.03	.17	.36	.14	.83	.32	.15	.10	e.10	.06	.05
7	.03	.03	.15	.59	.13	.61	.28	.14	.09	e.09	.05	.04
8	.07	.03	.12	.70	.13	.47	.27	.13	.08	e.09	.06	.04
9	.04	.04	.10	.59	.13	.38	.26	.13	.08	e.09	.06	.04
10	.04	.09	.08	.52	.13	.33	.24	.12	.08	e.09	.06	.04
11	.04	.08	.07	.71	.13	.28	.22	.12	.07	.09	.05	.04
12	.04	.07	.06	.78	.12	.27	.21	.12	.58	.09	.05	.04
13	.04	.07	.06	.62	.25	.41	.24	.12	.40	.13	.05	.04
14	.04	.07	.08	.50	.99	.50	.25	.11	.25	.09	.05	.04
15	.04	.07	.08	.42	.85	.45	.60	.11	.20	.08	.05	.03
16	.03	.08	.07	.41	.56	.39	.62	.11	.17	.08	.05	.03
17	.04	.06	.18	.38	1.1	.36	.49	.11	.17	.08	.05	.03
18	.07	.06	.40	.34	12	.43	.40	.11	.17	.09	.04	.04
19	.05	.05	.60	.32	15	.42	.85	.10	.15	.08	.05	.06
20	.05	.03	.47	.33	9.5	.39	1.5	.11	.14	.08	.05	.03
21	.04	.03	.39	.29	3.0	.35	1.0	.10	.13	.07	.04	.03
22	.07	.03	5.7	.27	1.6	.32	.70	.10	.12	.07	.04	.03
23	.07	.03	17	.26	1.0	.53	.50	.10	e.11	.06	.04	.05
24	.06	.03	3.3	.24	.72	.58	.38	.11	e.32	.12	.04	.09
25	.06	.03	1.5	.22	.58	.50	.32	.10	e.80	.10	.04	.09
26	.06	.03	.86	.21	.48	.42	.27	.10	e.28	.15	.07	.08
27	.06	.03	.71	.20	.41	.37	.25	.10	e.19	.16	.05	.07
28	.05	.05	3.3	.19	.36	.35	.23	.10	e.16	.11	.05	.05
29	.07	.04	2.4	.17	---	4.3	.22	.10	e.14	.10	.09	.05
30	.04	.03	2.4	.17	---	3.3	.20	.10	e.12	.09	.13	.04
31	.04	---	3.0	.16	---	1.7	---	.09	---	.08	.08	---
TOTAL	1.47	1.40	43.98	14.02	49.97	24.02	13.75	3.76	5.79	3.12	1.77	1.46
MEAN	.047	.047	1.42	.45	1.78	.77	.46	.12	.19	.10	.057	.049
MAX	.07	.09	17	1.5	15	4.3	1.5	.19	.80	.20	.13	.09
MIN	.03	.03	.03	.16	.12	.27	.20	.09	.07	.06	.04	.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1991, BY WATER YEAR (WY)

MEAN	.23	.28	.83	.61	1.73	.79	.33	.24	.40	.23	.14	.092
MAX	.40	.51	1.42	.76	1.78	.80	.46	.33	.89	.49	.22	.18
(WY)	1990	1990	1991	1990	1991	1990	1991	1990	1989	1989	1989	1989
MIN	.047	.047	.24	.45	1.68	.77	.20	.12	.12	.099	.057	.045
(WY)	1991	1991	1990	1991	1990	1991	1990	1991	1990	1990	1991	1990

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1989 - 1991	
ANNUAL TOTAL	171.11		164.51			
ANNUAL MEAN	.47		.45		.44	
HIGHEST ANNUAL MEAN					.45	1991
LOWEST ANNUAL MEAN					.44	1990
HIGHEST DAILY MEAN	17	Dec 23	17	Dec 23	17	Dec 23 1990
LOWEST DAILY MEAN	.03	Sep 18	.03	Oct 3	.03	Sep 18 1990
ANNUAL SEVEN-DAY MINIMUM	.03	Nov 20	.03	Nov 20	.03	Nov 20 1990
INSTANTANEOUS PEAK FLOW			*76	Dec 23	*103	Aug 9 1990
INSTANTANEOUS PEAK STAGE			4.13	Dec 23	4.35	Aug 9 1990
INSTANTANEOUS LOW FLOW			*.02	Oct 3	*.02	Oct 3 1990
10 PERCENT EXCEEDS	.91		.70		.85	
50 PERCENT EXCEEDS	.15		.12		.17	
90 PERCENT EXCEEDS	.04		.04		.05	

e Estimated.
* See REMARKS.

03535912 CLINCH RIVER AT MELTON HILL DAM (TAILWATER), TN
(National stream-quality accounting network station)

LOCATION.--Lat 35°53'07", long 84°18'03", Loudon County, Hydrologic Unit 06010207, at downstream side of Melton Hill Dam, 1.9 mi downstream from Hope Creek, and at mile 23.1.
DRAINAGE AREA.--3,343 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1936 to January 1941 published as "near Wheat", February 1941 to September 1960 published as "near Scarboro", October 1960 to September 1964 published as "at Melton Hill Dam", October 1967 to September 1968 published as "near Oak Ridge", October 1978 to current year. Equivalent record for the period October 1964 to December 1978 published in annual reports of Tennessee Valley Authority entitled "Operation of TVA Reservoirs".
GAGE.--Water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to February 1941, at site 8.7 mi downstream at datum 717.36 ft higher. February 1941 to September 1962 at site 15.9 mi upstream at datum 753.35 ft higher. October 1962 to September 1964, headwater gage at upstream side of dam at present datum. October 1967 to September 1968, at site 8.6 mi downstream at datum 731.62 ft higher.
REMARKS.--Flow regulated by Melton Hill Lake (station 03535900) since August 1962, and Norris Lake (station 03532500) since March 1936 (see p. 169). Minimum daily discharge also occurred many other days since closure of Melton Hill Dam in August 1962.
COOPERATION.--Records furnished by Tennessee Valley Authority.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1870	4050	417	17500	5490	18200	16300	2350	3420	4470	7010	3520
2	1950	3770	460	16600	4650	12200	9410	1580	2290	4380	7850	3360
3	2330	1900	383	16300	3860	13400	8970	1800	4260	4370	4730	5640
4	2020	3880	3520	17900	5890	16200	10700	1190	6230	5690	4910	3980
5	2230	4680	5850	17600	6090	16000	10300	879	1880	4300	4580	1630
6	1970	4080	2550	18300	4640	14400	10100	1940	1130	4850	2600	3940
7	2040	4000	1250	17400	2130	15000	9910	800	2240	4940	4480	7080
8	4320	4530	1200	19500	2800	11600	8770	800	1120	6920	4300	4100
9	4270	3580	1320	16500	383	10400	5880	1240	1130	8230	5750	5850
10	6020	2630	4020	18800	379	9820	8170	1200	2890	6700	2210	5710
11	1630	3970	4280	15100	392	13000	8220	1140	1630	7190	2890	6080
12	2770	6400	2880	15900	2510	12800	5850	1240	1160	7400	6300	5880
13	400	6690	2330	13200	3180	7750	2490	1210	3960	4300	6200	5810
14	489	6850	400	11800	6210	9700	1850	1200	2480	3690	6110	4990
15	455	4500	417	9790	4160	9820	4600	1560	3000	6550	6420	5080
16	3720	4180	633	10100	4760	5560	2480	789	1520	6650	4990	6610
17	3200	400	417	10300	4290	5920	2410	1150	2320	5920	3610	5390
18	2550	400	417	10700	15100	8000	1920	1140	2820	6360	3910	4370
19	3670	4520	4320	9340	12500	8160	3490	400	3840	7270	5540	3060
20	2000	4640	3990	9480	20100	7660	4080	1640	2380	5240	5590	4050
21	1880	2570	4180	12600	18100	8070	2440	1990	3350	4860	6570	2320
22	4670	2570	6470	9310	15900	7830	1620	1660	2020	6190	5440	2440
23	6920	3430	17300	9350	17200	9220	1590	2600	3050	8680	5690	3290
24	7900	2420	5580	9380	17000	7750	1500	1360	3180	10100	4630	2330
25	3100	2600	7130	4270	16200	13900	1700	2050	11000	7340	4040	3400
26	2950	6350	9280	1640	16700	13000	1600	1920	6150	8650	4300	4220
27	400	3470	11300	850	19200	12900	1800	1970	7680	4660	4910	3280
28	400	3280	16600	6090	16900	9110	1680	2110	2820	4050	5120	2470
29	3300	2500	19200	4620	---	9280	2020	1910	3280	9240	5270	3160
30	1130	3460	17400	4670	---	14300	1600	5130	3210	5260	8000	7360
31	4100	---	15900	4090	---	11000	---	3120	---	7110	4720	---
TOTAL	86654	112300	171394	358980	246714	341950	153450	51068	97440	191560	158670	130400
MEAN	2795	3743	5529	11580	8811	11030	5115	1647	3248	6179	5118	4347
MAX	7900	6850	19200	19500	20100	18200	16300	5130	11000	10100	8000	7360
MIN	400	400	383	850	379	5560	1500	400	1120	3690	2210	1630

CAL YR 1990 MEAN‡ 5581 CFSM‡ 1.67 IN.‡ 22.66
WTR YR 1991 MEAN‡ 5810 CFSM‡ 1.74 IN.‡ 23.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1979 - 1991, BY WATER YEAR (WY)

MEAN	3751	3475	4335	6569	6962	5309	2928	3843	4734	5115	5409	4675
MAX	8130	9043	9041	11830	14920	13360	5879	14840	9728	7332	8208	6736
(WY)	1990	1990	1983	1979	1990	1979	1979	1984	1989	1979	1979	1989
MIN	1754	1363	1413	2203	1537	438	720	833	1945	2069	2259	1834
(WY)	1984	1989	1988	1981	1981	1981	1988	1988	1985	1988	1988	1988

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1979 - 1991	
ANNUAL TOTAL	1864001		2100580			
ANNUAL MEAN	‡5581		‡5810		4882 (UNADJUSTED)	
HIGHEST ANNUAL MEAN					7056	1979
LOWEST ANNUAL MEAN					2235	1988
HIGHEST DAILY MEAN	25900	Feb 17	20100	Feb 20	29900	May 10 1984
LOWEST DAILY MEAN	383	Dec 3	379	Feb 10	*.00	Dec 2 1978
ANNUAL SEVEN-DAY MINIMUM	1070	Dec 12	1060	May 13	3.1	Mar 6 1981
10 PERCENT EXCEEDS	9500		13300		9050	
50 PERCENT EXCEEDS	4300		4320		4170	
90 PERCENT EXCEEDS	1730		1210		767	

‡ Adjusted for change in contents in Norris and Melton Hill lakes.
NOTE.--CONTENTS (cfs-days) for adjustments furnished by Tennessee Valley Authority.
* See REMARKS.

03535912 CLINCH RIVER AT MELTON HILL DAM (TAILWATER), TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1973 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: March 1981 to September 1986.
WATER TEMPERATURES: March 1981 to September 1986.

INSTRUMENTATION.--Water-quality monitor from March 1981 to Sept. 1986.

REMARKS.--Flow regulated by Melton Hill and Norris Lakes.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 449 microsiemens, Oct. 28, 1981; minimum, 186 microsiemens, May 29, 1982.
WATER TEMPERATURES: Maximum, 23.5°C, May 17, 1982; minimum, 4.0°C, Jan. 27, 1983, Jan. 21, 22, 1984.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 16...	0835	10000	300	7.8	19.5	749	2.2	6.2	69	K4	99
DEC 06...	1135	10000	312	8.3	14.0	747	2.4	9.7	96	K9	K10
FEB 04...	1310	17900	250	8.3	9.0	753	3.3	11.2	98	<1	K4
APR 17...	0745	E100	250	8.3	13.0	745	3.0	10.8	105	13	40
JUN 19...	1050	E100	250	8.1	20.0	745	5.0	7.3	82	190	120
AUG 21...	1145	8300	258	8.0	19.0	747	2.1	9.3	102	--	160

DATE	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
OCT 16...	140	16	38	9.9	6.0	9	0.2	1.5	120	14	5.2
DEC 06...	130	19	35	11	5.6	8	0.2	1.6	114	26	4.4
FEB 04...	130	13	34	10	5.3	8	0.2	1.6	113	25	4.1
APR 17...	120	12	33	9.3	4.3	7	0.2	1.3	108	19	4.0
JUN 19...	120	20	34	9.4	4.3	7	0.2	1.5	104	16	3.8
AUG 21...	130	15	36	8.8	4.0	6	0.2	1.3	111	18	2.1

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)
OCT 16...	<0.10	5.7	159	158	0.22	4290	0.390	0.010	0.03	0.400
DEC 06...	<0.10	2.6	145	156	0.20	3920	--	<0.010	--	0.200
FEB 04...	0.10	3.3	146	153	0.20	7060	--	<0.010	--	0.400
APR 17...	0.10	4.2	160	143	0.22	--	--	<0.010	--	0.530
JUN 19...	0.10	4.7	146	140	0.20	--	0.460	0.020	0.07	0.480
AUG 21...	<0.10	4.9	146	144	0.20	3270	--	<0.010	--	0.530

K--Results based on non-ideal colony counts.

03535912 CLINCH RIVER AT MELTON HILL DAM (TAILWATER), TN--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)
OCT 16...	<0.010	--	<0.010	0.30	0.480	0.530	<0.010	<10	<1	36
DEC 06...	0.030	0.04	0.030	0.20	<0.010	<0.010	<0.010	--	--	--
FEB 04...	<0.010	--	<0.010	0.30	0.010	0.010	<0.010	30	<1	34
APR 17...	0.020	--	<0.010	0.30	0.010	<0.010	<0.010	<10	<1	31
JUN 19...	<0.010	0.01	0.010	0.40	0.040	0.040	<0.010	10	<1	35
AUG 21...	<0.010	--	<0.010	0.30	0.060	0.030	0.010	--	--	--

DATE	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)
OCT 16...	<0.5	<1.0	2	<3	2	7	5	6	2	<0.1
FEB 04...	0.5	<1.0	<1	<3	2	28	<1	5	4	<0.1
APR 17...	<0.5	<1.0	<1	<3	<1	<3	2	5	<1	<0.1
JUN 19...	<0.5	<1.0	<1	<3	1	7	<1	<4	<1	<0.1

DATE	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 16...	<10	1	<1	<1.0	93	<6	42	1	27	89
DEC 06...	--	--	--	--	--	--	--	3	81	93
FEB 04...	<10	<1	<1	<1.0	96	<6	<3	23	1090	59
APR 17...	<10	5	<1	<1.0	80	<6	3	0	--	60
JUN 19...	<10	1	<1	<1.0	82	<6	<3	13	--	94
AUG 21...	--	--	--	--	--	--	--	19	426	24

03536320 WHITEOAK CREEK NEAR MELTON HILL, TN

LOCATION.--Lat 35°55'56", long 84°18'20", Roane County, Hydrologic unit 06010207, on right bank 1.8 mi upstream from Melton Branch, 5.5 mi southwest of Oak Ridge, and at mile 3.4.
DRAINAGE AREA.--1.31 mi².
PERIOD OF RECORD.--April 1987 to current year.
REVISED RECORD.--WDR TN-90-1: 1988, 1989 (M).
GAGE.--Water-stage recorder. Datum of gage is 807.57 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharge. Records fair. Maximum discharges from rating curve extended above 80 ft³/s. Minimum discharge for current year also occurred on June 11. Minimum discharge for period of record also occurred July 9-11, 1988. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.08	.06	.09	5.4	.16	1.7	3.6	.36	.39	1.1	.06	.06
2	.04	.06	.13	3.4	.15	1.4	2.5	.28	.24	1.5	.05	.05
3	.04	.06	5.5	2.3	.14	9.6	1.9	.23	5.2	1.1	.06	.05
4	.78	.07	2.1	1.7	.13	7.6	1.6	.21	1.5	.71	.07	.05
5	.10	.34	1.3	1.4	.14	4.2	1.5	.43	1.1	.56	.06	.05
6	.06	.10	.96	1.1	.32	3.4	1.1	.24	.78	.36	.06	.08
7	.06	.08	.61	5.3	.19	2.3	.95	.17	.50	.24	.08	.05
8	1.2	.07	.34	3.1	.15	1.7	.90	.12	.31	.18	.05	.05
9	.15	.94	.16	2.3	.14	1.4	.92	.28	.17	.14	.48	.05
10	.27	1.8	.12	2.9	.12	1.1	.70	.11	.08	.10	.23	.04
11	.25	.38	.11	4.1	.12	.92	.58	.09	.06	.14	.09	.06
12	.14	.19	.11	3.3	.12	1.1	.55	.47	13	.67	.17	.04
13	.10	.14	.34	2.4	5.0	2.6	1.7	.19	4.3	2.2	.08	.04
14	.07	.11	.39	1.9	6.3	1.7	1.1	.11	2.1	.36	.10	.04
15	.07	.10	.22	1.6	3.2	1.5	4.0	.09	1.4	.20	.20	.04
16	.06	.09	.18	1.9	1.9	1.3	2.1	.76	1.0	.12	.07	.06
17	.06	.09	1.7	1.3	9.6	1.4	1.8	.19	1.3	.08	.06	.06
18	1.4	.08	4.3	1.1	56	2.5	1.5	4.6	1.0	.14	.07	.10
19	.15	.08	3.5	1.2	59	1.5	2.2	1.1	.86	.09	.41	.35
20	.10	.08	2.8	1.2	31	1.4	1.4	2.2	1.2	.08	.09	.05
21	.08	.07	2.1	1.0	11	1.2	1.0	.84	.73	.07	.06	.05
22	1.0	.08	49	.83	5.8	1.4	.84	.55	.98	.07	.06	.04
23	.30	.10	80	.73	3.6	5.9	.72	.39	.86	.06	.05	.04
24	.17	.09	12	.61	2.5	3.1	.57	.32	13	.46	.06	1.3
25	.12	.09	5.8	.47	2.0	2.3	.50	.18	19	.16	.06	.34
26	.10	.09	3.4	.37	1.6	1.8	.44	.10	13	.10	.64	.12
27	.08	.09	6.1	.31	1.3	1.7	.72	1.0	5.3	.09	.13	.08
28	.08	.66	21	.26	1.1	1.6	.48	2.3	2.9	.09	.09	.06
29	.06	.15	9.9	.17	---	25	.80	.76	1.9	.08	.36	.05
30	.06	.10	13	.54	---	14	.48	.58	1.4	.07	.18	.05
31	.06	---	12	.27	---	5.7	---	.39	---	.06	.08	---
TOTAL	7.29	6.44	239.26	54.46	202.78	114.02	39.15	19.64	95.56	11.38	4.31	3.50
MEAN	.24	.21	7.72	1.76	7.24	3.68	1.30	.63	3.19	.37	.14	.12
MAX	1.4	1.8	80	5.4	59	25	4.0	4.6	19	2.2	.64	1.3
MIN	.04	.06	.09	.17	.12	.92	.44	.09	.06	.06	.05	.04
CFSM	.18	.16	5.89	1.34	5.53	2.81	1.00	.48	2.43	.28	.11	.09
IN.	.21	.18	6.79	1.55	5.76	3.24	1.11	.56	2.71	.32	.12	.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1991, BY WATER YEAR (WY)

MEAN	.57	.92	2.45	2.88	4.28	2.76	1.01	.95	1.53	.56	.47	.63
MAX	1.87	2.63	7.72	4.67	7.24	3.68	1.58	2.27	3.93	1.13	1.77	2.36
(WY)	1990	1990	1991	1989	1991	1991	1989	1990	1989	1989	1990	1989
MIN	.058	.13	.22	1.44	.56	1.26	.36	.12	.034	.13	.047	.10
(WY)	1988	1988	1988	1988	1988	1988	1988	1988	1988	1987	1987	1990

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1987 - 1991	
ANNUAL TOTAL	835.26		797.79			
ANNUAL MEAN	2.29		2.19		1.64	
HIGHEST ANNUAL MEAN					2.19	1991
LOWEST ANNUAL MEAN					.42	1988
HIGHEST DAILY MEAN	80	Dec 23	80	Dec 23	80	Dec 23 1990
LOWEST DAILY MEAN	.04	Jun 30	.04	Oct 2	.01	Sep 5 1987
ANNUAL SEVEN-DAY MINIMUM	.04	Sep 23	.04	Sep 9	.02	Jun 16 1988
INSTANTANEOUS PEAK FLOW			*319	Dec 23	*327	Aug 9 1990
INSTANTANEOUS PEAK STAGE			4.03	Dec 23	4.12	Aug 9 1990
INSTANTANEOUS LOW FLOW			*.02	Jun 10	*.00	Jun 25 1988
ANNUAL RUNOFF (CFSM)	1.75		1.67		1.25	
ANNUAL RUNOFF (INCHES)	23.72		22.65		16.99	
10 PERCENT EXCEEDS	4.8		4.1		3.3	
50 PERCENT EXCEEDS	.57		.38		.23	
90 PERCENT EXCEEDS	.06		.06		.05	

* See REMARKS.

03536380 WHITEOAK CREEK NEAR WHEAT, TN

LOCATION.--Lat 35°55'30", long 84°18'52", Roane County, Hydrologic Unit 06010207, on left bank, 1.1 mi upstream from Melton Branch, 6.2 mi southwest of Oak Ridge, and at mile 2.7.
DRAINAGE AREA.--2.10 mi².
PERIOD OF RECORD.--December 1986 to current year.
REVISED RECORD.--WDR TN-90-1: 1988-89 (M).
GAGE.--Water-stage recorder and Parshall flume. Datum of gage is 775.44 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair. Flow regulated by Oak Ridge National Laboratory. Lowest daily mean also occurred Oct. 17-18, 1987. Maximum discharge from rating curve extended above 75 ft³/s based on theoretical Parshall flume rating. Maximum stage from floodmarks. Minimum discharge for current year also occurred on Nov. 1, 4-5. Minimum discharge period of record also occurred Oct. 10, 1987. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.6	2.2	2.5	14	3.5	7.7	11	3.6	3.8	e6.2	e2.3	2.4
2	2.3	2.2	2.6	10	3.4	6.8	8.4	3.4	3.5	e11	e2.3	2.4
3	2.2	2.2	17	8.4	3.3	25	6.9	3.2	11	e7.5	e2.3	2.4
4	5.4	2.1	7.6	6.9	3.3	19	6.1	3.1	6.0	e6.0	e2.4	2.2
5	2.6	3.3	5.3	6.1	3.3	12	6.2	4.2	4.9	e5.0	e2.4	2.2
6	2.3	2.6	4.4	5.5	4.1	11	5.2	3.3	4.2	e4.0	2.4	2.6
7	2.2	2.4	3.8	16	3.5	8.6	4.8	3.1	3.7	e3.5	2.4	2.4
8	7.3	2.2	3.3	9.9	3.3	7.0	5.1	3.0	3.4	e3.5	2.4	2.3
9	3.3	5.4	3.1	8.2	3.2	6.1	5.1	3.8	3.2	e3.5	4.9	2.3
10	3.4	8.3	2.9	9.9	3.1	5.5	4.3	3.1	3.0	e3.6	3.0	2.2
11	3.3	3.8	2.9	13	3.2	5.1	3.9	2.8	3.0	e3.7	2.5	2.3
12	2.9	3.3	2.8	10	3.2	5.9	4.1	4.3	e22	e3.9	2.4	2.2
13	2.8	3.1	3.6	8.3	15	10	7.7	3.3	e11	e6.0	2.3	2.2
14	2.5	3.0	3.8	7.0	17	7.3	5.0	3.1	e7.0	e4.5	2.7	2.2
15	2.5	2.9	3.1	6.7	10	6.3	12	2.9	e5.0	e3.5	3.3	2.2
16	2.4	2.7	2.9	7.7	7.3	5.7	7.5	4.8	e4.5	e3.5	2.6	2.2
17	2.4	2.7	7.5	5.7	23	6.2	6.6	3.4	e5.5	e3.4	2.4	2.2
18	7.3	2.5	13	5.3	90	9.4	5.9	9.7	e5.0	e3.5	2.5	2.4
19	3.0	2.5	10	5.6	93	6.5	8.3	5.1	e4.5	e3.3	3.9	3.7
20	2.9	2.4	9.0	5.8	53	6.0	5.8	8.7	e5.4	e3.3	2.6	2.2
21	2.6	2.3	7.2	5.3	22	5.5	4.9	4.4	e4.3	e3.2	2.4	2.2
22	6.0	2.3	80	4.9	15	6.2	4.6	3.9	e4.7	e3.1	2.4	2.2
23	3.8	2.4	106	4.7	11	17	4.3	3.4	e5.5	e3.0	2.4	2.2
24	3.0	2.3	24	4.5	8.8	9.8	4.0	3.2	e17	e5.0	2.2	7.2
25	2.8	2.3	15	4.3	7.9	7.9	3.9	3.1	e27	e3.2	2.2	3.5
26	2.5	2.2	11	4.0	6.8	6.7	3.9	2.9	e20	e2.8	4.6	2.5
27	2.4	2.2	18	3.8	6.1	6.7	4.5	e6.0	e12	e2.6	2.7	2.3
28	2.3	4.7	40	3.9	5.5	6.5	3.6	e9.5	e7.5	e2.7	2.6	2.2
29	2.2	2.9	21	3.6	---	50	4.9	4.5	e6.3	e2.6	3.8	2.2
30	2.2	2.6	29	4.8	---	27	3.8	4.1	e5.0	e2.5	3.0	2.2
31	2.2	---	24	3.8	---	15	---	3.8	---	e2.3	2.5	---
TOTAL	97.6	88.0	486.3	217.6	431.8	335.4	172.3	130.7	228.9	125.4	84.8	75.9
MEAN	3.15	2.93	15.7	7.02	15.4	10.8	5.74	4.22	7.63	4.05	2.74	2.53
MAX	7.3	8.3	106	16	93	50	12	9.7	27	11	4.9	7.2
MIN	2.2	2.1	2.5	3.6	3.1	5.1	3.6	2.8	3.0	2.3	2.2	2.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1991, BY WATER YEAR (WY)

MEAN	3.74	4.90	6.98	8.50	10.7	8.33	5.35	5.19	5.84	4.40	3.71	3.95
MAX	6.46	8.65	15.7	12.0	16.7	10.8	6.80	8.24	12.0	6.18	6.15	7.90
(WY)	1990	1990	1991	1989	1990	1991	1989	1990	1989	1989	1990	1989
MIN	2.57	2.93	3.33	5.94	4.71	5.59	3.94	2.97	2.69	2.89	2.46	2.53
(WY)	1988	1991	1988	1988	1988	1988	1988	1988	1988	1987	1987	1991

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1987 - 1991		
ANNUAL TOTAL	2700.6		2474.7				
ANNUAL MEAN	7.40		6.78		6.26		
HIGHEST ANNUAL MEAN					7.29		1989
LOWEST ANNUAL MEAN					3.77		1988
HIGHEST DAILY MEAN	106	Dec 23	106	Dec 23	106	Dec 23	1990
LOWEST DAILY MEAN	2.1	Sep 30	2.1	Nov 4	*1.7	Oct 10	1987
ANNUAL SEVEN-DAY MINIMUM	2.2	Oct 29	2.2	Oct 29	2.1	Oct 12	1987
INSTANTANEOUS PEAK FLOW			*384	Dec 23	*384	Dec 23	1990
INSTANTANEOUS PEAK STAGE			*6.09	Dec 23	*6.09	Dec 23	1990
INSTANTANEOUS LOW FLOW			*2.1	Oct 7	*1.6	Oct 9	1987
10 PERCENT EXCEEDS	14		11		11		
50 PERCENT EXCEEDS	4.3		3.8		3.8		
90 PERCENT EXCEEDS	2.5		2.3		2.5		

e Estimated.
* See REMARKS.

03536440 NORTHWEST TRIBUTARY NEAR OAK RIDGE, TN

LOCATION.--Lat 35°55'18", long 84°19'13", Roane County, Hydrologic Unit 06010207, on left bank 750 ft upstream of Lagoon Road, 6 mi southwest of Oak Ridge, and at mile 0.2.
DRAINAGE AREA.--0.67 mi².
PERIOD OF RECORD.--May 1987 to current year.
REVISED RECORD.--WDR TN-89-1: 1987-88 (M).
GAGE.--Water-stage recorder and concrete V-notch weir. Datum of gage is 774.36 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair. Flow regulated at times by Oak Ridge National Laboratory. Lowest daily mean also occurred Sept. 22-23, 1991. Maximum discharge from rating curve extended above 22 ft³/s based on theoretical weir formula. Minimum discharge for current year also occurred Sept. 20-24. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.45	.33	.49	2.5	.46	.97	1.7	.36	.41	1.1	.38	.47
2	.44	.33	.47	1.5	.44	1.0	1.3	.33	.42	2.9	.40	.47
3	.41	.34	4.3	1.1	.44	8.0	.96	.32	.48	1.7	.38	.49
4	.67	.35	1.5	.84	.44	4.6	.77	.30	.47	.97	.39	.47
5	.45	.47	.95	.70	.45	2.3	.76	.39	.40	.77	.38	.47
6	.41	.40	.74	.59	.50	2.1	.62	.35	.36	.62	.37	.51
7	.41	.35	.64	3.5	.48	1.7	.57	.37	.38	.56	.33	.50
8	1.0	.36	.55	1.8	.48	1.2	.57	.33	.36	.49	.33	.47
9	.54	.89	.49	1.2	.44	.97	.60	.36	.35	.48	.62	.47
10	.50	2.2	.44	1.4	.41	.84	.51	.35	.35	.45	.44	.49
11	.53	.83	.48	2.9	.41	.74	.44	.33	.36	.41	.36	.50
12	.52	.62	.44	2.0	.42	.78	.44	.47	2.9	.44	.34	.49
13	.44	.54	.50	1.3	3.5	1.9	1.2	.42	.88	.53	.36	.41
14	.41	.45	.74	1.0	4.7	1.3	.69	.36	.54	.41	.36	.33
15	.38	.44	.61	.87	1.9	1.1	1.7	.33	.46	.39	.36	.33
16	.40	.45	.55	1.2	1.2	.90	.99	.38	.41	.41	.33	.31
17	.38	.42	1.3	.90	5.9	.87	.81	.33	.50	.38	.35	.35
18	1.1	.41	3.0	.76	28	1.8	.70	.41	.46	.38	.45	.34
19	.52	.41	2.1	.74	29	1.1	.87	.45	.41	.40	.54	.35
20	.42	.41	1.6	.80	13	.93	.64	1.3	.50	.36	.46	.31
21	.41	.43	1.4	.71	4.5	.87	.53	.56	.48	.35	.44	.28
22	.96	.41	24	.66	2.6	1.0	.50	.47	.46	.35	.44	.28
23	.84	.41	32	.61	1.6	4.8	.53	.46	.52	.37	.47	.28
24	.61	.41	4.5	.60	1.2	e3.0	.45	.40	.97	.66	.44	.66
25	.54	.41	2.2	.60	1.0	e2.4	.45	.38	2.2	.46	.44	.39
26	.50	.41	1.2	.54	.87	e1.3	.41	.38	1.7	.44	.61	.37
27	.47	.44	2.7	.53	.75	e1.2	.44	.57	.82	.43	.54	.37
28	.44	.71	11	.52	.66	e1.0	.38	1.5	.64	.41	.52	.35
29	.41	.59	4.6	.47	---	e12	.49	.58	.53	.41	.55	.35
30	.38	.54	7.1	.51	---	6.4	.44	.48	.48	.41	.54	.33
31	.41	---	5.7	.50	---	2.8	---	.46	---	.38	.50	---
TOTAL	16.35	15.76	118.29	33.85	105.75	71.87	21.46	14.48	20.20	18.82	13.42	12.19
MEAN	.53	.53	3.82	1.09	3.78	2.32	.72	.47	.67	.61	.43	.41
MAX	1.1	2.2	32	3.5	29	12	1.7	1.5	2.9	2.9	.62	.66
MIN	.38	.33	.44	.47	.41	.74	.38	.30	.35	.35	.33	.28

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1991, BY WATER YEAR (WY)

MEAN	.74	1.00	1.66	1.99	2.74	1.97	.94	1.03	1.12	.85	.61	.77
MAX	1.33	1.78	3.82	3.07	3.96	2.32	1.34	1.95	3.09	1.24	.77	1.51
(WY)	1990	1990	1991	1989	1990	1991	1989	1990	1989	1989	1990	1989
MIN	.51	.53	.70	1.09	.98	1.16	.72	.47	.55	.61	.43	.41
(WY)	1989	1991	1988	1991	1988	1988	1991	1991	1990	1991	1991	1991

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1987 - 1991	
ANNUAL TOTAL	569.12		462.44			
ANNUAL MEAN	1.56		1.27		1.30	
HIGHEST ANNUAL MEAN					1.62	1989
LOWEST ANNUAL MEAN					.82	1988
HIGHEST DAILY MEAN	32	Dec 23	32	Dec 23	32	Dec 23 1990
LOWEST DAILY MEAN	.33	Nov 1	*.28	Sep 21	*.28	Sep 21 1991
ANNUAL SEVEN-DAY MINIMUM	.36	Oct 29	.31	Sep 17	.31	Sep 17 1991
INSTANTANEOUS PEAK FLOW			*182	Dec 23	*182	Dec 23 1990
INSTANTANEOUS PEAK STAGE			3.73	Dec 23	3.73	Dec 23 1990
INSTANTANEOUS LOW FLOW			*.28	May 18	.18	Jun 1 1988
10 PERCENT EXCEEDS	2.8		2.1		2.2	
50 PERCENT EXCEEDS	.70		.50		.66	
90 PERCENT EXCEEDS	.43		.36		.44	

e Estimated.
* See REMARKS.

03536450 FIRST CREEK NEAR OAK RIDGE, TN

LOCATION.--Lat 35°55'21", long 84°19'10", Roane County, Hydrologic Unit 06010207, on left bank, 5.9 mi southwest of Oak Ridge, and at mile 0.1.
DRAINAGE AREA.--0.33 mi².
PERIOD OF RECORD.--February 1987 to current year.
REVISED RECORDS.--WDR TN-89-1: 1987-88 (M).
GAGE.--Water-stage recorder and concrete weir. Datum of gage is 772.78 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair, except for periods of estimated daily discharge, which are poor. Flow regulated at times by Oak Ridge National Laboratory. Lowest daily mean for current year also occurred Sept. 28-30. Maximum discharge from rating curve extended above 10 ft³/s on basis of theoretical weir formula. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.25	.24	.21	e3.0	.39	1.3	2.2	.53	e.40	.68	.24	.22
2	.21	.24	.23	e2.3	.37	1.1	1.8	.51	e.40	1.9	.23	.21
3	.21	.23	2.9	e1.9	.36	4.9	1.6	.48	e.50	1.2	.23	.22
4	.68	.22	1.2	e1.6	.36	3.6	1.3	.48	e.50	.97	.28	.22
5	.27	.37	.96	e1.4	.36	2.4	1.3	.67	e.45	.84	.25	.21
6	.24	.21	.71	e1.2	.48	2.3	1.1	.45	e.40	.63	.25	.21
7	.23	.20	.53	e2.8	.42	1.7	.99	.40	e.45	.53	.25	.20
8	1.0	.20	.41	e2.0	.39	1.4	1.0	.38	e.40	.46	.25	.20
9	.31	.80	.34	1.5	.38	1.2	.99	.49	e.38	.44	.78	.20
10	.37	1.4	.32	1.8	.38	1.1	.83	.40	e.37	.40	.35	.20
11	.37	.65	.30	2.2	.38	.98	.76	.40	e.37	.38	.27	.21
12	.30	.49	.28	1.9	.37	1.1	.74	.61	e2.0	.42	.27	.21
13	.27	.39	.40	1.6	2.6	1.8	1.4	.43	e.80	.60	.27	.21
14	.25	.33	.43	1.3	2.9	1.4	.93	.40	e.50	.37	.28	.21
15	.24	.30	.34	1.3	1.9	1.3	1.8	.40	e.40	.34	.31	.21
16	.24	.28	.33	1.4	1.4	1.2	1.3	.63	e.35	.33	.26	.20
17	.24	.24	1.1	1.1	4.2	1.2	1.2	.41	e.45	.32	.25	.21
18	1.0	.24	2.1	.98	15	1.7	1.1	.68	.43	e.34	.26	.22
19	.36	.23	1.6	1.0	17	1.2	1.3	.81	.40	e.44	.47	.31
20	.30	.22	1.5	1.0	10	1.2	.96	1.1	.52	e.36	.27	.20
21	.26	.22	1.2	.92	4.6	1.1	.86	.54	.41	e.33	.26	.19
22	.83	.22	12	.83	2.9	1.3	.74	.47	.50	e.36	.25	.19
23	.52	.22	26	.75	2.2	3.2	.65	.43	.51	e.38	.23	.20
24	.38	.21	e4.6	.69	1.8	2.0	.61	.42	1.5	e.60	.23	1.0
25	.29	.21	e2.6	.60	1.6	1.7	.57	.41	1.8	e.33	.24	.37
26	.26	.21	e1.8	.55	1.3	1.4	.56	.40	1.5	e.27	.53	.21
27	.25	.21	e3.0	.52	1.1	1.4	.67	.69	.97	.24	.24	.18
28	.24	.56	e7.3	.50	.98	1.3	.57	1.4	.70	.24	.21	.18
29	.24	.26	e4.5	.45	---	9.0	.72	.59	.56	.25	.37	.18
30	.24	.21	e5.7	.62	---	5.6	.58	e.51	.48	.24	.29	.18
31	.24	---	e4.9	.47	---	3.1	---	e.43	---	.24	.24	---
TOTAL	11.09	10.01	89.79	40.18	76.12	65.18	31.13	16.95	19.40	15.43	9.11	7.16
MEAN	.36	.33	2.90	1.30	2.72	2.10	1.04	.55	.65	.50	.29	.24
MAX	1.0	1.4	26	3.0	17	9.0	2.2	1.4	2.0	1.9	.78	1.0
MIN	.21	.20	.21	.45	.36	.98	.56	.38	.35	.24	.21	.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1991, BY WATER YEAR (WY)

MEAN	.45	.69	1.16	1.62	1.86	1.49	.92	.80	.77	.58	.39	.43
MAX	1.01	1.44	2.90	2.33	2.86	2.10	1.10	1.65	2.14	.94	.56	.96
(WY)	1990	1990	1991	1989	1990	1991	1989	1990	1989	1989	1990	1989
MIN	.20	.23	.28	.83	.75	.97	.72	.41	.32	.33	.29	.22
(WY)	1988	1988	1988	1988	1988	1988	1988	1988	1988	1987	1991	1990

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1987 - 1991	
ANNUAL TOTAL	433.94		391.55			
ANNUAL MEAN	1.19		1.07		.97	
HIGHEST ANNUAL MEAN					1.15	1990
LOWEST ANNUAL MEAN					.49	1988
HIGHEST DAILY MEAN	26	Dec 23	26	Dec 23	26	Dec 23 1990
LOWEST DAILY MEAN	.14	Sep 26	*.18	Sep 27	.14	Dec 2 1987
ANNUAL SEVEN-DAY MINIMUM	.15	Sep 24	.20	Sep 5	.15	Dec 1 1987
INSTANTANEOUS PEAK FLOW			*295	Dec 23	*295	Dec 23 1990
INSTANTANEOUS PEAK STAGE			4.10	Dec 23	4.10	Dec 23 1990
INSTANTANEOUS LOW FLOW			.09	Sep 13	.09	Sep 13 1991
10 PERCENT EXCEEDS	2.4		1.9		1.9	
50 PERCENT EXCEEDS	.67		.47		.49	
90 PERCENT EXCEEDS	.22		.22		.23	

e Estimated.
* See REMARKS.

03536550 WHITEOAK CREEK BELOW MELTON VALLEY DRIVE NEAR OAK RIDGE, TN

LOCATION.--Lat 35°55'10", long 84°19'02", Roane County, Hydrologic Unit 06010207, on right bank 200 ft downstream of bridge on Melton Valley Drive at Oak Ridge National Laboratory, 6.7 mi southwest of Oak Ridge, and at mile 2.2.
DRAINAGE AREA.--3.28 mi².
PERIOD OF RECORD.--April 1985 to current year.
GAGE.--Water-stage recorder, crest-stage gage, and sharp-crested weir. Datum of gage is 766.35 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair. Flow regulated by Oak Ridge National Laboratory. The control structure's weir plate and dam was modified June 14, 1988. Lowest daily mean also occurred Oct. 17, 1987. Maximum discharge from rating curve extended above 100 ft³/s on basis of theoretical weir formula. Minimum discharge for current year also occurred Sept. 24, 28, and 30. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.4	5.1	5.0	25	7.4	14	19	7.1	7.3	11	5.4	5.5
2	5.1	5.1	5.2	19	7.0	13	15	6.6	7.0	17	5.5	5.5
3	5.0	4.8	29	15	6.6	43	13	6.9	14	12	5.3	5.5
4	10	5.0	14	13	6.6	34	12	6.7	9.5	9.3	5.8	5.4
5	5.8	7.0	10	11	6.7	23	12	8.1	8.0	8.7	5.8	5.5
6	5.0	5.7	8.7	10	7.8	20	9.9	6.5	7.1	7.5	5.8	5.9
7	4.9	5.6	7.2	27	7.0	17	9.2	6.4	6.8	6.9	6.1	5.6
8	13	5.4	7.1	18	6.9	14	9.9	6.2	6.3	6.9	5.9	5.5
9	6.6	9.5	6.5	16	6.7	12	9.9	7.2	6.1	6.9	10	5.8
10	6.6	17	6.0	17	6.7	11	8.4	6.6	6.0	7.1	6.9	5.7
11	6.8	8.6	5.8	24	6.4	10	8.1	6.1	6.1	7.2	6.0	5.9
12	6.0	7.0	5.7	19	6.3	11	8.1	8.3	35	7.3	6.0	5.5
13	5.7	6.3	6.8	15	24	19	14	6.7	17	13	5.8	5.3
14	5.4	5.8	8.0	13	32	14	9.7	6.3	11	7.0	5.9	5.4
15	5.2	5.5	6.2	12	19	12	20	6.5	8.9	6.4	6.3	5.2
16	5.4	5.3	6.2	15	14	11	14	8.7	8.2	6.7	5.7	5.3
17	5.2	5.4	13	12	35	12	12	6.5	9.9	6.5	5.5	5.1
18	14	5.2	23	11	140	17	11	13	8.6	6.7	5.6	5.4
19	6.5	5.1	19	11	134	12	14	9.8	8.1	6.3	7.6	6.7
20	5.5	4.8	16	12	81	11	11	16	9.6	6.2	5.7	4.8
21	5.2	5.0	13	11	39	11	9.0	9.1	7.8	6.1	5.9	4.4
22	12	4.6	117	9.8	27	12	8.3	8.2	8.6	6.2	5.7	4.4
23	8.1	5.0	e150	9.0	20	30	8.2	7.7	9.2	6.3	5.8	4.5
24	6.5	4.8	41	8.9	17	18	7.8	6.8	27	9.9	5.5	12
25	5.9	4.7	25	8.3	14	14	7.3	6.5	42	7.2	5.5	6.7
26	5.6	4.5	18	7.7	13	12	7.1	6.0	32	6.4	9.1	4.9
27	5.3	4.9	24	7.7	12	12	8.5	9.9	19	6.3	6.5	5.0
28	5.2	9.0	65	7.8	11	13	7.2	16	14	6.4	6.1	4.7
29	5.2	5.6	37	7.7	---	74	9.1	8.8	11	6.1	7.7	4.8
30	5.0	5.7	46	9.2	---	44	7.6	8.0	9.8	5.8	6.6	4.7
31	5.4	---	44	7.7	---	26	---	7.5	---	5.5	5.7	---
TOTAL	202.5	183.0	788.4	409.8	714.1	596	320.3	250.7	380.9	238.8	192.7	166.6
MEAN	6.53	6.10	25.4	13.2	25.5	19.2	10.7	8.09	12.7	7.70	6.22	5.55
MAX	14	17	150	27	140	74	20	16	42	17	10	12
MIN	4.9	4.5	5.0	7.7	6.3	10	7.1	6.0	6.0	5.5	5.3	4.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1991, BY WATER YEAR (WY)

MEAN	7.20	8.94	11.4	13.7	17.3	13.9	9.28	9.21	9.85	8.40	8.33	7.57
MAX	11.2	14.8	25.4	19.8	26.0	19.2	11.9	15.5	21.9	11.9	13.6	13.9
(WY)	1990	1990	1991	1989	1990	1991	1989	1990	1989	1989	1985	1989
MIN	5.23	5.94	6.39	7.10	8.84	10.4	6.96	6.85	6.22	6.75	6.22	5.55
(WY)	1988	1988	1988	1986	1988	1988	1986	1988	1988	1987	1991	1991

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1985 - 1991	
ANNUAL TOTAL	4743.5		4443.8			
ANNUAL MEAN	13.0		12.2		10.4	
HIGHEST ANNUAL MEAN					12.9	1989
LOWEST ANNUAL MEAN					7.47	1988
HIGHEST DAILY MEAN	150	Dec 23	150	Dec 23	150	Dec 23 1990
LOWEST DAILY MEAN	4.5	Nov 26	4.4	Sep 21	*4.3	Oct 10 1987
ANNUAL SEVEN-DAY MINIMUM	4.8	Nov 20	4.8	Nov 20	4.8	Nov 20 1990
INSTANTANEOUS PEAK FLOW			*711	Dec 23	*711	Dec 23 1990
INSTANTANEOUS PEAK STAGE			6.51	Dec 23	6.51	Dec 23 1990
INSTANTANEOUS LOW FLOW			*4.1	Sep 22	3.8	Aug 4 1988
10 PERCENT EXCEEDS	23		19		17	
50 PERCENT EXCEEDS	8.4		7.5		7.2	
90 PERCENT EXCEEDS	5.3		5.2		5.6	

e Estimated.
* See REMARKS.

03537050 MELTON BRANCH TRIBUTARY (EAST SEVEN) NEAR OAK RIDGE, TN

LOCATION.--Lat 35°55'07", long 84°17'43", Roane County, Hydrologic Unit 06010207, on left bank 125 ft upstream from mouth, 1.2 mi southeast of the Oak Ridge National Laboratory, and 5.8 mi southwest of Oak Ridge.
DRAINAGE AREA.--0.24 mi².
PERIOD OF RECORD.--August 1987 to September 1991 (discontinued).
REVISED RECORDS.--WDR TN-90-1: 1988, 1989 (M).
GAGE.--Water-stage recorder and fiberglass flume. Datum of gage is 800.70 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records good except above 20 ft³/s, which are poor. Lowest daily mean discharge also occurred many days 1987-1991. Maximum discharge from rating curve extended above 12 ft³/s on basis of theoretical flume rating; may have been greater during missing record on Dec. 23, 1990. Maximum stage for current year and period of record may have been higher during missing record on Dec. 23, 1990. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.01	.05	.60	e.10	.41	.37	.09	.03	.04	.00	.00
2	.00	.01	.05	.35	e.09	.50	.26	.05	.04	.16	.00	.00
3	.00	.01	2.2	.24	e.09	4.1	.21	.04	2.2	.15	.00	.00
4	.04	.02	.59	.19	e.08	1.7	.18	.04	.71	.05	.00	.00
5	.01	.10	.22	.16	e.08	.60	.24	.08	.17	.07	.00	.00
6	.01	.09	.14	.14	e.17	.78	.17	.07	.07	.04	.00	.02
7	.01	.04	.10	1.2	.15	.77	.14	.04	.04	.02	.00	.01
8	.18	.02	.08	.57	.12	.41	.17	.03	.02	.01	.00	.01
9	.04	.10	.06	.33	.10	.28	.29	.07	.02	.01	.02	.00
10	.02	.90	.05	.49	.10	.21	.20	.04	.01	.01	.03	.00
11	.09	.20	.05	1.5	.09	.18	.15	.03	.01	.01	.01	.00
12	.04	.10	.05	.70	.08	.25	.15	.12	2.2	.01	.01	.00
13	.02	.07	.07	.38	2.2	.99	.77	.10	.62	.14	.00	.00
14	.01	.06	.25	.26	2.6	.56	.38	.04	.17	.01	.01	.00
15	.01	.05	.15	.23	.55	.34	1.6	.02	.09	.01	.01	.00
16	.01	.04	.13	.49	.35	.24	.50	.07	.07	.01	.00	.00
17	.01	.04	.56	.30	3.2	.26	.28	.05	.11	.01	.00	.00
18	.21	.04	1.6	.23	14	1.0	.19	1.2	.12	.01	.00	.00
19	.06	.03	1.0	.28	13	.42	.66	.50	.04	.01	.01	.00
20	.03	.03	.55	.36	4.0	.29	.55	1.5	.11	.01	.01	.00
21	.02	.02	.46	.28	.89	.23	.31	.31	.08	.01	.00	.00
22	.22	.02	13	.22	.49	.33	.22	.13	.23	.01	.00	.00
23	.20	.03	e20	.19	.34	2.0	.16	.07	.28	.00	.00	.00
24	.07	.03	1.8	.16	.25	.61	.12	.05	2.0	.01	.00	.05
25	.05	.02	1.1	.14	.23	.33	.09	.03	3.2	.01	.00	.03
26	.03	.02	.35	.13	.21	.24	.08	.02	1.9	.01	.02	.01
27	.03	.02	1.1	.13	.16	.22	.15	.19	.49	.01	.01	.01
28	.02	.21	5.5	.12	.14	.55	.13	.82	.22	.01	.00	.01
29	.01	.13	1.6	.10	---	8.5	.20	.19	.11	.01	.00	.01
30	.01	.07	3.4	.29	---	2.5	.13	.08	.06	.01	.01	.01
31	.01	---	2.2	.17	---	.63	---	.04	---	.00	.00	---
TOTAL	1.47	2.53	58.46	10.93	43.86	30.43	9.05	6.11	15.42	0.88	0.15	0.17
MEAN	.047	.084	1.89	.35	1.57	.98	.30	.20	.51	.028	.005	.006
MAX	.22	.90	20	1.5	14	8.5	1.6	1.5	3.2	.16	.03	.05
MIN	.00	.01	.05	.10	.08	.18	.08	.02	.01	.00	.00	.00
CFSM	.20	.35	7.86	1.47	6.53	4.09	1.26	.82	2.14	.12	.02	.02
IN.	.23	.39	9.06	1.69	6.80	4.72	1.40	.95	2.39	.14	.02	.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1991, BY WATER YEAR (WY)

MEAN	.090	.22	.65	.72	1.00	.72	.27	.33	.34	.11	.030	.12
MAX	.31	.61	1.89	1.09	1.57	.98	.33	.69	.81	.24	.10	.54
(WY)	1990	1990	1991	1989	1991	1991	1989	1990	1989	1989	1990	1989
MIN	.000	.002	.022	.35	.25	.42	.18	.019	.000	.018	.000	.001
(WY)	1988	1988	1988	1991	1988	1988	1988	1988	1988	1988	1987	1987

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1987 - 1991	
ANNUAL TOTAL	191.87		179.46			
ANNUAL MEAN	.53		.49		.38	
HIGHEST ANNUAL MEAN					.49	1991
LOWEST ANNUAL MEAN					.12	1988
HIGHEST DAILY MEAN	20	Dec 23	20	Dec 23	20	Dec 23 1990
LOWEST DAILY MEAN	.00	Jun 27	.00	Oct 1	*.00	Aug 1 1987
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 23	.00	Jul 31	.00	Aug 1 1987
INSTANTANEOUS PEAK FLOW			*39	Dec 23	*51	Jan 19 1988
INSTANTANEOUS PEAK STAGE			*3.60	Dec 23	*3.69	Jan 19 1988
INSTANTANEOUS LOW FLOW			.00	Jul 25	.00	Aug 3 1987
ANNUAL RUNOFF (CFSM)	2.19		2.05		1.59	
ANNUAL RUNOFF (INCHES)	29.74		27.82		21.66	
10 PERCENT EXCEEDS	1.0		.89		.81	
50 PERCENT EXCEEDS	.12		.09		.07	
90 PERCENT EXCEEDS	.01		.00		.00	

e Estimated.
* See REMARKS.

03537100 MELTON BRANCH NEAR MELTON HILL, NEAR OAK RIDGE, TN

LOCATION.--Lat 35°54'59", long 84°17'53", Roane County, Hydrologic Unit 06010207, on left bank 1.0 mi southeast of the Oak Ridge National Laboratory, 6.0 mi south of Oak Ridge, and at mile 1.2.
DRAINAGE AREA.--0.52 mi².
PERIOD OF RECORD.--April 1985 to current year.
GAGE.--Water-stage recorder and concrete control. Datum of gage is 784.06 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records good between 0.2 and 30 ft³/s, and poor above and below. Lowest daily mean for the period of record occurred many days each year. Maximum discharge from rating curve extended above 30 ft³/s. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
REVISIONS.--The maximum discharges for water years 1986-90 have been revised, as shown in the following table. These figures supersede those published in the reports for 1986-90.

Water height Year	Date	Discharge (ft³/s)	Gage height (ft)	Water Year	Date	Discharge (ft³/s)	Gage (ft)
1986	Mar. 19, 1986	74	9.64	1989	Sept. 30, 1989	38	9.24
1987	Jan. 19, 1987	64	9.54	1990	May 1, 1990	38	9.24
1988	Jan. 19, 1988	109	9.92				

Revised daily discharge in cubic feet per second, for high water periods in water years 1987-89 are given below. These figures supersede those published in the reports for 1987-89.

Jan. 18, 1987.... 2.0
19..... 13
Jan. 19, 1988... 11
Jan. 20, 1988.... 11
Mar. 10, 1988.... 11
Sept. 1, 1989.... 1.6
Sept. 15, 1989.... 1.6
25..... 0.91
26..... 2.7
Sept. 30, 1989.... 9.0

		TOTAL	MEAN	MAX	MIN	CFSM	IN
January	1987	35.96	1.16	17	.07	2.23	2.57
Wtr Yr	1987	165.06	.45	17	.00	.87	11.81
January	1988	28.08	.91	11	.05	1.74	2.01
March	1988	22.66	.73	11	.07	1.41	1.62
Wtr Yr	1988	76.78	.21	11	.00	.40	5.49
Cal Yr	1987	123.88	.34	17	.00	.65	8.86
September	1989	25.85	.86	9.0	.00	1.66	1.88
Wtr Yr	1989	320.54	.88	21	.00	1.69	22.93
Cal Yr	1988	104.12	.28	11	.00	.55	7.45

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.03	.10	1.8	.34	.79	1.6	e.17	.07	.15	.00	.00
2	.00	.03	.10	1.2	.29	1.1	1.2	e.12	.07	.38	.00	.00
3	.00	.03	3.5	.92	.27	6.6	.93	e.10	2.9	.45	.00	.00
4	.06	.03	1.3	.66	.23	3.4	.72	e.10	1.4	.14	.00	.00
5	.02	.15	.57	.53	.23	1.7	.82	e.15	.43	.16	.00	.00
6	.01	.16	.33	.42	.34	1.9	.59	e.13	.17	.08	.00	.01
7	.00	.09	.22	2.1	.25	1.8	.46	e.09	.10	e.06	.00	.01
8	.39	.05	.16	1.3	.21	1.2	.47	e.08	.06	e.06	.00	.00
9	.08	.18	.13	.90	.17	.98	.70	e.12	e.06	e.06	.07	.00
10	.05	1.6	.11	1.0	.17	.73	.52	e.09	e.06	e.05	e.06	.00
11	.18	.45	.10	2.6	.14	.57	.36	e.07	e.05	e.06	e.03	.00
12	.07	.22	.07	1.6	.13	.62	.34	e.20	e3.0	.05	e.02	.00
13	.05	.14	.11	1.1	3.4	1.8	1.4	e.18	1.2	.22	e.02	.00
14	.03	.12	.42	.98	4.4	1.3	.91	e.14	.37	.04	e.03	.00
15	.02	.10	.24	.86	1.5	.95	2.8	e.05	.18	.03	e.03	.00
16	.02	.09	.18	1.3	.95	.71	1.2	.13	.11	.02	e.02	.00
17	.02	.07	.89	1.0	5.0	.68	.81	.09	.34	.02	e.02	.00
18	.42	.06	2.8	.77	22	1.9	.54	1.4	.41	.04	e.01	.00
19	.11	.06	1.9	.84	21	1.1	1.2	.90	.13	.03	e.07	.00
20	.06	.06	1.2	1.1	9.2	.85	1.1	2.7	.26	.02	.05	.00
21	.04	.05	1.1	.86	3.0	.67	.70	.71	.19	.01	.02	.00
22	.45	.05	18	.72	2.0	.84	.48	.27	.44	.01	.00	.00
23	.45	.06	28	.56	1.5	3.4	.34	e.18	.84	.00	.00	.00
24	.17	.05	2.8	.47	1.1	1.5	.25	e.09	2.9	.02	.00	.05
25	.10	.04	1.4	.39	.87	1.1	.20	e.07	5.6	.03	.00	.02
26	.06	.04	.97	.36	.70	.85	.16	e.06	3.9	.02	.04	.00
27	.05	.04	1.9	.32	.52	.70	.28	e.35	1.5	.03	.02	.00
28	.04	.42	9.1	.31	.41	1.2	.23	e1.5	.77	.02	.00	.00
29	.04	.24	3.3	.27	---	13	.34	.45	.39	.01	.00	.00
30	.03	.13	5.7	.63	---	5.7	.22	.19	.20	.00	.00	.00
31	.03	---	4.4	.46	---	2.3	---	.09	---	.00	.00	---
TOTAL	3.05	4.84	91.10	28.33	80.32	61.94	21.87	10.97	28.10	2.27	0.51	0.09
MEAN	.098	.16	2.94	.91	2.87	2.00	.73	.35	.94	.073	.016	.003
MAX	.45	1.6	28	2.6	22	13	2.8	2.7	5.6	.45	.07	.05
MIN	.00	.03	.07	.27	.13	.57	.16	.05	.05	.00	.00	.00
CFSM	.19	.31	5.65	1.76	5.52	3.84	1.40	.68	1.80	.14	.03	.01
IN.	.22	.35	6.52	2.03	5.75	4.43	1.56	.78	2.01	.16	.04	.01

e Estimated.

03537100 MELTON BRANCH NEAR MELTON HILL, NEAR OAK RIDGE, TN--Continued

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1991, BY WATER YEAR (WY)

MEAN	.16	.42	.92	1.24	1.80	1.29	.55	.41	.36	.13	.16	.13
MAX	.71	1.17	2.94	2.22	3.15	2.00	.82	1.52	1.44	.41	.87	.86
(WY)	1990	1990	1991	1989	1990	1991	1987	1990	1989	1989	1985	1989
MIN	.000	.000	.039	.31	.44	.73	.15	.045	.000	.012	.000	.000
(WY)	1988	1988	1988	1986	1988	1988	1986	1988	1988	1987	1986	1987

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1985 - 1991		
ANNUAL TOTAL	382.49		333.39				
ANNUAL MEAN	1.05		.91		.63		
HIGHEST ANNUAL MEAN					.99		1990
LOWEST ANNUAL MEAN					.21		1988
HIGHEST DAILY MEAN	28	Dec 23	28	Dec 23	28	Dec 23	1990
LOWEST DAILY MEAN	.00	Jun 26	.00	Oct 1	*.00	Jun 5	1985
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 2	.00	Jul 30	.00	Jun 21	1986
INSTANTANEOUS PEAK FLOW			*238	Dec 23	*238	Dec 23	1990
INSTANTANEOUS PEAK STAGE			10.64	Dec 23	10.64	Dec 23	1990
INSTANTANEOUS LOW FLOW			*.00	Oct 1	*.00	Jun 3	1985
ANNUAL RUNOFF (CFSM)	2.02		1.76		1.21		
ANNUAL RUNOFF (INCHES)	27.36		23.85		16.40		
10 PERCENT EXCEEDS	2.0		1.8		1.4		
50 PERCENT EXCEEDS	.30		.18		.11		
90 PERCENT EXCEEDS	.00		.00		.00		

* See REMARKS.

03537200 MELTON BRANCH TRIBUTARY (CENTER SEVEN) NEAR OAK RIDGE, TN

LOCATION.--Lat 35°55'03", long 84°17'55", Roane County, Hydrologic Unit 06010207, on left bank 300 ft upstream of mouth, 1.1 mi southeast of the Oak Ridge National Laboratory, and 5.9 mi southwest of Oak Ridge.
DRAINAGE AREA.--0.07 mi².
PERIOD OF RECORD.--August 1987 to September 1991 (discontinued).
GAGE.--Water-stage recorder and fiberglass flume. Datum of gage is 794.74 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records good below 20 ft³/s, poor above. Lowest daily mean and minimum discharge also occurred many days 1987-89. Maximum discharge from rating curve extended above 9 ft³/s on basis of theoretical flume formula. Minimum discharge for current year also occurred Sept. 17-18. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.02	.03	.21	.06	.13	.16	.05	.03	.04	.01	.01
2	.01	.02	.03	.14	.06	.16	e.12	.04	.03	.09	.01	.01
3	.01	.01	.59	.10	.06	1.2	e.10	.04	.37	.07	.01	.01
4	.06	.02	.19	.09	.06	.56	e.09	.04	.17	.04	.01	.01
5	.02	.05	.08	.08	.06	.22	e.11	.06	.07	.05	.01	.01
6	.01	.04	.06	.07	.07	.25	e.09	.05	.04	.03	.01	.04
7	.01	.02	.05	.31	.06	.26	e.08	.04	.03	.03	.01	.02
8	.10	.02	.04	.21	.06	.17	e.09	.03	.03	.02	.01	.01
9	.03	.05	.03	.13	.05	.13	e.13	.05	.02	.02	.06	.01
10	.02	.26	.03	.16	.05	.11	e.10	.04	.02	.02	.04	.01
11	.04	.08	.03	.40	.05	.09	e.09	.03	.02	.02	.02	.01
12	.03	.05	.02	.25	.04	.11	e.08	.06	.45	.02	.01	.01
13	.02	.04	.03	.15	.62	.25	e.23	.05	.17	.05	.01	.01
14	.01	.03	.07	.11	.81	.21	e.16	.03	.07	.02	.01	.01
15	.01	.02	.05	.10	.20	.15	e.50	.03	.05	.01	.01	.01
16	.01	.02	.05	.14	.11	.12	e.20	.05	.04	.01	.01	.01
17	.01	.02	.14	.11	.87	.12	.12	.04	.06	.01	.01	.01
18	.08	.02	.45	.10	4.2	.29	.10	.25	.05	.02	.01	.01
19	.03	.02	.31	.11	3.9	.17	.18	.16	.03	.02	.03	.01
20	.02	.02	.17	.12	1.4	.13	.17	.45	.05	.01	.01	.01
21	.01	.02	.14	.11	.32	.11	.13	.12	.04	.01	.01	.01
22	.08	.02	3.5	.10	.19	.13	.10	.07	.09	.01	.01	.01
23	.07	.02	4.6	.09	.14	.62	.09	.05	.11	.01	.01	.01
24	.04	.02	.34	.08	.11	.23	.07	.04	.41	.02	.01	.07
25	.03	.02	.16	.07	.10	.14	.06	.03	.82	.02	.01	.03
26	.02	.02	.11	.06	.09	.11	.06	.03	.60	.01	.04	.02
27	.02	.02	.29	.06	.08	.12	.08	.08	.17	.01	.02	.01
28	.02	.08	1.6	.06	.08	.15	.07	.27	.09	.01	.01	.01
29	.02	.05	.47	.06	---	2.6	.08	.09	.06	.01	.01	.01
30	.02	.04	.96	.09	---	.80	.07	.05	.04	.01	.01	.01
31	.02	---	.75	.07	---	.23	---	.04	---	.01	.01	---
TOTAL	0.89	1.14	15.37	3.94	13.90	10.07	3.71	2.46	4.23	0.73	0.46	0.43
MEAN	.029	.038	.50	.13	.50	.32	.12	.079	.14	.024	.015	.014
MAX	.10	.26	4.6	.40	4.2	2.6	.50	.45	.82	.09	.06	.07
MIN	.01	.01	.02	.06	.04	.09	.06	.03	.02	.01	.01	.01
CFSM	.41	.54	7.08	1.82	7.09	4.64	1.77	1.13	2.01	.34	.21	.20
IN.	.47	.61	8.17	2.09	7.39	5.35	1.97	1.31	2.25	.39	.24	.23

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1991, BY WATER YEAR (WY)

MEAN	.035	.078	.18	.23	.32	.24	.10	.12	.10	.048	.017	.044
MAX	.11	.18	.50	.35	.50	.32	.12	.24	.25	.090	.045	.17
(WY)	1990	1990	1991	1989	1991	1991	1991	1990	1989	1989	1990	1989
MIN	.000	.007	.025	.13	.083	.13	.057	.012	.000	.012	.000	.002
(WY)	1988	1988	1988	1991	1988	1988	1988	1988	1988	1988	1987	1987

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1987 - 1991	
ANNUAL TOTAL	61.17		57.33			
ANNUAL MEAN	.17		.16		.13	
HIGHEST ANNUAL MEAN					.16	1991
LOWEST ANNUAL MEAN					.044	1988
HIGHEST DAILY MEAN	4.6	Dec 23	4.6	Dec 23	4.6	Dec 23 1990
LOWEST DAILY MEAN	.01	Jun 24	.01	Oct 1	*.00	Aug 3 1987
ANNUAL SEVEN-DAY MINIMUM	.01	Jun 24	.01	Jul 26	.00	Aug 3 1987
INSTANTANEOUS PEAK FLOW			*35	Dec 23	*35	Dec 23 1990
INSTANTANEOUS PEAK STAGE			3.71	Dec 23	3.71	Dec 23 1990
INSTANTANEOUS LOW FLOW			*.00	Aug 3	*.00	Aug 3 1987
ANNUAL RUNOFF (CFSM)	2.39		2.24		1.81	
ANNUAL RUNOFF (INCHES)	32.51		30.47		24.58	
10 PERCENT EXCEEDS	.30		.25		.24	
50 PERCENT EXCEEDS	.06		.05		.04	
90 PERCENT EXCEEDS	.01		.01		.00	

e Estimated.
* See REMARKS.

035382672 BEAR CREEK TRIB ABOVE BEAR CREEK ROAD NEAR WHEAT, TN

LOCATION.--Lat 35°56'41", long 84°19'27", Roane County, Hydrologic Unit 06010207, on right bank 200 ft upstream from mouth, 1.2 mi northwest of the Oak Ridge National Laboratory, 1.2 mi northeast of intersection of Bear Creek Road and State Highway 95, 4.8 mi southwest of Oak Ridge.
DRAINAGE AREA.--0.30 mi².
PERIOD OF RECORD.--October 1986 to September 1991 (discontinued).
REVISED RECORD.--WDR TN - 90 - 1: 1987 - 89 (M)
GAGE.--Water-stage recorder and concrete control. Datum of gage is 830.47 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair, except for estimated days which are poor. Lowest daily mean and minimum discharge also occurred many days 1986-89. Maximum discharge for current year may have been greater during period of backwater, Dec. 23, 1990. Maximum discharge from rating curve extended above 14 ft³/s. Maximum stage from backwater from Bear Creek. Minimum discharge for current year occurred several days. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.04	.03	.08	1.4	.13	.36	.91	e.15	.06	.11	e.02	e.04
2	.04	.03	.08	.85	.13	.46	.62	.12	.05	.16	e.02	e.03
3	.04	.03	1.7	.56	.13	3.8	.46	.11	.08	.16	e.02	e.03
4	.12	.03	1.2	.40	.13	2.6	.37	.10	.07	.10	e.02	e.02
5	.05	.05	.48	.32	.13	1.4	.36	.13	.05	.08	e.02	e.02
6	.04	.04	.28	.27	.19	.95	.30	.11	.04	.07	e.02	e.02
7	.04	e.04	.17	1.5	.19	.63	.26	.09	.04	.05	e.02	e.02
8	.20	e.04	.11	1.4	.16	.46	.27	.08	.04	.03	e.02	e.02
9	.09	e.10	.08	.88	.15	.37	.30	.09	.03	.02	e.02	e.02
10	.07	e.70	.06	.73	.15	.31	.28	.08	.03	e.03	e.02	e.02
11	.09	e.30	.05	1.5	.14	.28	.25	.07	.03	e.03	.02	e.02
12	.07	e.16	.05	1.4	.14	.28	.24	.08	e1.20	e.03	.01	e.02
13	.06	e.13	.05	.87	.95	.86	.62	.07	e.50	.23	.01	e.02
14	.05	e.11	.09	.58	2.9	.95	.58	.06	e.28	.07	.02	e.01
15	.05	e.09	.08	.45	1.3	.73	1.4	.05	e.20	.06	.03	e.01
16	.04	e.08	.07	.57	.72	.52	1.1	e.12	e.14	.05	e.02	e.01
17	.04	e.07	.48	.48	2.1	.46	e.70	e.19	e.10	.04	e.02	e.02
18	.13	e.06	1.6	.41	14	.88	e.56	e.14	.08	.04	e.02	e.02
19	.07	e.05	1.6	.39	14	.70	e.60	e.23	.06	e.03	e.03	.03
20	.05	.04	.81	.40	6.1	.55	e.56	e.30	.06	e.03	e.02	.01
21	.05	.04	.59	.36	1.9	.45	e.40	e.20	.05	e.03	.02	.01
22	.14	.04	14	.32	1.2	.43	e.32	e.14	.05	e.03	.02	.01
23	.15	.05	e20	.29	.80	1.3	e.26	e.32	.06	.02	.02	.01
24	.10	.07	2.0	.25	.56	1.1	e.22	e.30	.20	.03	.02	.07
25	.08	.08	1.1	.21	.45	.72	e.20	e.17	1.1	.02	.02	.03
26	.06	.08	.66	.18	.37	.52	e.18	e.11	1.8	.02	.04	.02
27	.05	.07	.89	.16	.31	.43	e.17	e.16	.67	.02	.03	.03
28	.05	.14	5.5	.15	.26	.43	e.20	e.20	.33	.02	.03	.03
29	.04	.11	2.5	.13	---	8.0	e.21	.11	.20	.02	.05	.02
30	.04	.09	3.1	.19	---	3.2	e.18	.08	.12	e.02	.07	.02
31	.03	---	3.3	.15	---	1.5	---	.07	---	e.02	.06	---
TOTAL	2.17	2.95	62.76	17.75	49.69	35.63	13.08	4.23	7.72	1.67	0.78	0.66
MEAN	.070	.098	2.02	.57	1.77	1.15	.44	.14	.26	.054	.025	.022
MAX	.20	.70	20	1.5	14	8.0	1.4	.32	1.8	.23	.07	.07
MIN	.03	.03	.05	.13	.13	.28	.17	.05	.03	.02	.01	.01
CFSM	.23	.33	6.75	1.91	5.92	3.83	1.45	.45	.86	.18	.08	.07
IN.	.27	.37	7.78	2.20	6.16	4.42	1.62	.52	.96	.21	.10	.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1991, BY WATER YEAR (WY)

MEAN	.11	.23	.65	.83	1.01	.73	.34	.26	.35	.089	.12	.11
MAX	.45	.64	2.02	1.26	1.77	1.15	.46	.52	1.12	.21	.50	.44
(WY)	1990	1990	1991	1989	1991	1991	1989	1989	1989	1990	1990	1989
MIN	.001	.004	.019	.57	.23	.36	.18	.028	.000	.006	.000	.005
(WY)	1988	1988	1988	1991	1988	1987	1990	1988	1988	1988	1988	1987

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1986 - 1991	
ANNUAL TOTAL	224.41		199.09			
ANNUAL MEAN	.61		.55		.40	
HIGHEST ANNUAL MEAN					.55	1990
LOWEST ANNUAL MEAN					.13	1988
HIGHEST DAILY MEAN	20	Dec 23	20	Dec 23	20	Dec 23 1990
LOWEST DAILY MEAN	.03	Oct 31	.01	Aug 12	*.00	Oct 6 1986
ANNUAL SEVEN-DAY MINIMUM	.03	Oct 29	.02	Sep 10	.00	Aug 19 1987
INSTANTANEOUS PEAK FLOW			*35	Dec 23	*48	Jun 9 1990
INSTANTANEOUS PEAK STAGE			*3.43	Dec 23	*3.43	Dec 23 1990
INSTANTANEOUS LOW FLOW			*.01	Jul 9	*.00	Oct 1 1986
ANNUAL RUNOFF (CFSM)	2.05		1.82		1.33	
ANNUAL RUNOFF (INCHES)	27.83		24.69		18.05	
10 PERCENT EXCEEDS	1.2		1.1		.80	
50 PERCENT EXCEEDS	.17		.11		.10	
90 PERCENT EXCEEDS	.04		.02		.00	

e Estimated.
* See REMARKS.

035382673 BEAR CREEK NEAR WHEAT, TN

LOCATION.--Lat 35°56'39", long 84°19'27", Roane County, Hydrologic Unit 06010207, on left bank 20 ft upstream from county road bridge, 1.2 mi northeast of intersection of Bear Creek Road and State Highway 95, 4.8 mi southwest of Oak Ridge, and at mile 3.9.
DRAINAGE AREA.--3.20 mi².
PERIOD OF RECORD.--October 1986 to September 1991 (discontinued).
REVISED RECORDS.--WDR TN - 90-1: 1987, 1988, 1989 (M).
GAGE.--Water-stage recorder. Datum of gage is 825.56 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair, except for estimated discharges which are poor. Maximum discharge from rating curve extended above 120 ft³/s. Maximum stage from floodmarks. Minimum discharge for current year also occurred Sept. 19 and that for period of record also occurred Sept. 4-5, 1987. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.48	.69	1.1	16	e2.8	6.5	11	e2.2	2.4	4.2	.56	.48
2	.43	.65	1.1	10	e2.5	6.9	e9.0	e2.0	1.8	6.1	.52	.44
3	.39	.66	24	7.6	e2.4	37	e7.0	e1.9	4.4	7.7	.48	.40
4	e2.5	.65	8.9	5.9	e2.2	25	e6.0	e1.7	3.1	3.1	.44	.37
5	e1.4	.97	4.5	4.9	e2.1	13	e5.0	e2.1	1.7	2.8	.44	.37
6	e.80	1.2	3.2	4.2	2.6	10	e4.4	e1.9	1.3	2.2	.44	.37
7	e.66	.85	2.4	22	2.5	7.8	e3.8	e1.7	1.1	1.8	.40	.52
8	e5.6	.82	1.9	12	2.1	6.4	e3.5	e1.6	1.1	1.4	.39	.43
9	e2.6	2.0	1.6	8.3	2.0	5.6	e3.3	e1.7	.89	1.2	.50	.38
10	e1.4	9.8	1.4	8.4	2.0	5.3	e3.5	e1.5	.81	1.1	.53	.37
11	e2.2	3.1	1.3	16	1.9	5.2	e3.3	e1.4	.76	1.1	.51	.35
12	e1.6	2.0	1.2	12	1.8	5.1	e3.0	e1.3	49	1.2	.44	.37
13	e1.1	1.6	1.2	8.3	16	12	e8.0	1.3	13	12	.40	.36
14	e.90	1.3	3.0	6.5	26	9.3	e6.0	1.1	5.5	2.4	.40	.33
15	e.78	1.1	1.9	5.6	10	e6.3	e15	1.0	3.7	1.9	.57	.33
16	e.66	1.0	1.9	8.4	6.6	5.1	8.5	2.9	2.7	1.4	.48	.30
17	e.58	.99	9.8	5.8	27	4.7	7.1	2.1	7.4	1.2	.40	.30
18	3.9	.93	18	4.9	159	10	6.6	5.3	4.8	1.1	.40	.28
19	1.3	.90	13	4.9	155	6.4	9.8	4.7	2.5	1.1	.55	.45
20	.96	.88	8.3	5.7	85	5.4	7.9	8.0	2.7	.89	.56	.41
21	.81	.84	6.7	4.7	26	4.8	e6.4	4.0	2.0	.95	.47	.32
22	3.5	.88	144	4.1	16	4.7	e5.0	3.1	1.7	.77	.40	.33
23	2.8	.95	e194	3.8	11	21	e4.0	6.6	3.1	.67	.37	.33
24	1.6	.72	28	3.5	8.7	10	e3.4	7.0	10	.70	.33	3.5
25	1.3	.68	14	3.1	7.6	7.7	e2.7	2.5	38	.84	.32	1.5
26	1.1	.68	9.5	2.9	6.9	6.3	e2.4	1.8	29	1.9	.78	.77
27	.90	.71	13	2.9	6.1	5.3	e2.2	3.5	11	1.2	.80	.53
28	.90	3.0	65	2.9	e4.5	6.2	e3.1	5.8	7.0	.80	.51	.45
29	.90	1.9	29	2.7	---	84	e3.3	3.6	5.3	.81	.52	.40
30	.82	1.2	38	e3.5	---	39	e2.8	2.3	4.5	.72	1.7	.40
31	.68	---	36	e3.2	---	16	---	1.7	---	.61	.58	---
TOTAL	45.55	43.65	686.9	214.7	598.3	398.0	167.0	89.3	222.26	65.86	16.19	16.14
MEAN	1.47	1.45	22.2	6.93	21.4	12.8	5.57	2.88	7.41	2.12	.52	.54
MAX	5.6	9.8	194	22	159	84	15	8.0	49	12	1.7	3.5
MIN	.39	.65	1.1	2.7	1.8	4.7	2.2	1.0	.76	.61	.32	.28
CFSM	.46	.45	6.92	2.16	6.68	4.01	1.74	.90	2.32	.66	.16	.17
IN.	.53	.51	7.99	2.50	6.96	4.63	1.94	1.04	2.58	.77	.19	.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1991, BY WATER YEAR (WY)

MEAN	1.88	3.09	7.49	9.32	11.9	8.35	4.12	3.71	4.94	2.09	1.92	2.07
MAX	6.42	8.42	22.2	14.4	21.4	12.8	5.57	7.71	13.9	3.55	6.07	7.71
(WY)	1990	1990	1991	1989	1991	1991	1991	1990	1989	1989	1990	1989
MIN	.21	.33	.69	6.17	2.84	4.09	2.46	.64	.12	.76	.049	.31
(WY)	1989	1988	1988	1988	1988	1988	1988	1988	1988	1987	1987	1987

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1986 - 1991		
ANNUAL TOTAL	2724.43		2563.85				
ANNUAL MEAN	7.46		7.02		5.04		
HIGHEST ANNUAL MEAN					7.02		1991
LOWEST ANNUAL MEAN					1.63		1988
HIGHEST DAILY MEAN	194	Dec 23	194	Dec 23	194	Dec 23	1990
LOWEST DAILY MEAN	.39	Oct 3	.28	Sep 18	.01	Aug 24	1987
ANNUAL SEVEN-DAY MINIMUM	.51	Sep 27	.32	Sep 12	.02	Aug 20	1987
INSTANTANEOUS PEAK FLOW			*664	Dec 23	*664	Dec 23	1990
INSTANTANEOUS PEAK STAGE			*8.26	Dec 23	*8.26	Dec 23	1990
INSTANTANEOUS LOW FLOW			*.23	Sep 18	*.00	Sep 3	1987
ANNUAL RUNOFF (CFSM)	2.33		2.20		1.57		
ANNUAL RUNOFF (INCHES)	31.67		29.80		21.40		
10 PERCENT EXCEEDS	14		12		10		
50 PERCENT EXCEEDS	2.7		2.3		1.8		
90 PERCENT EXCEEDS	.70		.44		.17		

e Estimated.
* See REMARKS.

03538270 BEAR CREEK AT STATE HIGHWAY 95 NEAR OAK RIDGE, TN

LOCATION.--Lat 35°56'14", long 84°20'22", Roane County, Hydrologic Unit 06010207, on right bank upstream from bridge on State Highway 95, in triangle formed by intersection of Highway 95 and Bear Creek Valley Road, 6.8 mi southwest of Oak Ridge, and at mile 2.8.
DRAINAGE AREA.--4.34 mi².
PERIOD OF RECORD.--April 1959 to June 1964 (discharge measurements only), March 1985 to current year.
REVISED RECORDS.--WDR TN-87-1: Drainage area. WDR TN-89-1: 1985-88 (M).
GAGE.--Water-stage recorder and Cippolletti-weir. Datum of gage is 801.15 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair, except for periods of estimated daily discharge, and discharges less than 2.0 ft³/s which are poor. Maximum discharge from rating curve extended above 120 ft³/s based on indirect measurement of peak flow. Minimum discharge for current year also occurred Sept. 16-19 and that for period of record also occurred Sept. 4, 1987. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.83	1.4	2.3	29	4.7	9.4	17	3.9	3.3	4.5	.87	.78
2	.78	1.3	2.1	21	4.1	11	13	3.4	3.2	5.5	.81	.74
3	.75	1.3	29	16	4.0	47	11	3.2	5.1	11	.78	.71
4	3.9	1.2	17	13	3.9	36	9.4	3.0	5.0	4.9	.74	.64
5	2.0	1.4	10	11	3.8	21	8.5	3.4	2.9	4.3	.74	.63
6	1.2	2.2	7.6	10	4.6	16	7.7	3.3	2.2	3.3	.74	.63
7	1.1	e1.7	6.1	32	5.0	13	7.1	2.8	1.9	2.7	.72	.80
8	7.6	e1.6	4.5	20	4.3	11	6.6	2.5	1.6	2.3	.68	.70
9	2.9	e1.8	3.5	16	4.0	9.1	6.9	2.7	1.5	2.1	.84	.62
10	1.8	e15	3.0	15	3.9	7.9	6.6	2.6	1.3	1.8	.89	.59
11	2.8	e7.0	2.8	23	3.8	7.2	5.6	2.3	1.2	1.7	.82	.60
12	2.1	e4.5	2.5	18	3.5	6.7	5.4	2.3	55	1.7	.72	.58
13	1.7	e3.0	2.4	15	19	16	10	2.4	19	14	.68	.56
14	1.5	e2.6	5.1	12	35	14	8.6	2.2	8.8	3.3	.68	.51
15	1.4	e2.3	3.7	10	17	11	19	2.0	6.1	2.4	.93	.46
16	1.3	e2.0	3.6	13	12	9.3	13	4.1	4.8	1.8	.78	.43
17	1.1	e1.9	12	10	30	8.4	10	3.5	7.9	1.5	.67	.43
18	5.7	e1.8	25	9.1	215	15	8.9	5.9	7.4	1.6	.66	.43
19	2.9	e1.7	23	8.3	217	11	12	6.6	3.9	1.6	.80	.63
20	2.1	1.6	15	9.7	130	9.7	13	10	4.0	1.4	.96	.62
21	1.7	1.5	13	8.2	42	8.5	9.9	5.1	3.2	1.6	.72	.52
22	4.6	1.5	210	7.6	26	8.3	8.1	3.4	2.7	1.3	.66	.49
23	5.9	1.5	295	7.1	19	26	6.9	4.7	3.9	1.1	.60	.47
24	3.2	1.5	50	6.6	15	17	5.9	11	9.8	1.1	.55	3.9
25	2.4	1.4	28	6.0	12	13	5.0	3.9	41	1.3	.56	2.5
26	2.0	1.4	19	5.7	10	11	4.3	2.9	34	2.2	.98	1.3
27	1.8	1.3	22	5.5	8.9	9.2	4.2	4.5	15	2.0	1.4	.90
28	1.7	4.0	98	5.4	8.0	9.9	4.6	7.7	10	1.2	.80	.80
29	1.5	4.2	48	5.1	---	98	5.0	6.0	7.3	1.2	.74	.73
30	1.4	2.7	57	5.9	---	54	4.8	4.0	5.5	1.1	2.3	.68
31	1.4	---	60	5.6	---	25	---	3.0	---	.99	.95	---
TOTAL	73.06	78.3	1080.2	379.8	865.5	569.6	258.0	128.3	278.5	88.49	25.77	24.38
MEAN	2.36	2.61	34.8	12.3	30.9	18.4	8.60	4.14	9.28	2.85	.83	.81
MAX	7.6	15	295	32	217	98	19	11	55	14	2.3	3.9
MIN	.75	1.2	2.1	5.1	3.5	6.7	4.2	2.0	1.2	.99	.55	.43
CFSM	.54	.60	8.03	2.82	7.12	4.23	1.98	.95	2.14	.66	.19	.19
IN.	.63	.67	9.26	3.26	7.42	4.88	2.21	1.10	2.39	.76	.22	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1985 - 1991, BY WATER YEAR (WY)

MEAN	2.76	4.74	10.5	12.6	17.4	11.2	6.33	4.94	5.26	2.72	3.21	2.24
MAX	10.3	12.9	34.8	24.2	30.9	18.4	8.78	13.1	19.3	5.79	8.92	9.26
(WY)	1990	1990	1991	1989	1991	1991	1989	1990	1989	1989	1990	1989
MIN	.43	.62	1.54	2.85	4.67	5.52	2.41	1.26	.32	.89	.31	.55
(WY)	1988	1988	1988	1986	1988	1985	1986	1988	1988	1986	1987	1987

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1985 - 1991	
ANNUAL TOTAL	4323.08		3849.90			
ANNUAL MEAN	11.8		10.5		7.06	
HIGHEST ANNUAL MEAN					11.0	1990
LOWEST ANNUAL MEAN					2.57	1988
HIGHEST DAILY MEAN	295	Dec 23	295	Dec 23	295	Dec 23 1990
LOWEST DAILY MEAN	.75	Oct 3	.43	Sep 16	.19	Sep 4 1987
ANNUAL SEVEN-DAY MINIMUM	.80	Sep 27	.49	Sep 12	.21	Sep 1 1987
INSTANTANEOUS PEAK FLOW			*783	Dec 23	*783	Dec 23 1990
INSTANTANEOUS PEAK STAGE			3.88	Dec 23	3.88	Dec 23 1990
INSTANTANEOUS LOW FLOW			*.43	Sep 15	*.18	Sep 3 1987
ANNUAL RUNOFF (CFSM)	2.73		2.43		1.63	
ANNUAL RUNOFF (INCHES)	37.05		33.00		22.09	
10 PERCENT EXCEEDS	24		19		15	
50 PERCENT EXCEEDS	5.4		3.9		2.7	
90 PERCENT EXCEEDS	1.2		.74		.43	

e Estimated.
* See REMARKS.

03538273 BEAR CREEK AT PINE RIDGE NEAR WHEAT, TN

LOCATION.--Lat 35°56'32", long 84°20'37", Roane County, Hydrologic Unit 06010207, on right bank, 0.6 mi north of intersection of Highway 95 and Bear Creek Road, 5.7 mi southwest of Oak Ridge, and at mile 2.3.
DRAINAGE AREA.--5.0 mi².
PERIOD OF RECORD.--October 1986 to September 1991 (discontinued).
REVISED RECORD.--WDR TN-89-1: 1987, 1988 (M).
GAGE.--Water-stage recorder. Datum of gage is 784.98 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair. Maximum discharge from rating curve extended above 141 ft³/s. Minimum discharge for current year also occurred Sept. 16-18 and that for period of record also occurred Sept. 2, 4-6, 1987. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.86	1.2	2.2	34	e4.7	10	23	4.1	3.1	4.5	.76	.70
2	.80	1.2	2.2	24	e4.2	13	17	3.5	3.0	6.4	.74	.67
3	.77	1.1	39	19	e4.1	68	13	3.2	5.1	12	.71	.63
4	3.9	1.1	19	16	e4.0	51	10	3.0	4.7	4.9	.69	.58
5	1.9	1.4	8.7	15	e3.7	28	9.7	3.6	2.6	4.4	.71	.57
6	1.2	2.2	6.2	13	e4.6	21	8.3	3.2	1.9	3.3	.67	.57
7	1.0	1.6	4.9	e40	e5.0	16	7.4	2.7	1.7	2.7	.66	.77
8	7.7	1.4	3.9	e23	4.3	12	7.0	2.4	1.6	2.3	.66	.63
9	2.8	2.1	3.1	e18	4.2	9.5	7.7	2.7	1.3	2.0	1.0	.55
10	1.9	18	2.7	e17	4.2	8.2	7.1	2.5	1.2	1.8	1.0	.51
11	3.4	6.1	2.4	e30	3.9	7.4	6.0	2.2	1.1	1.8	.88	.54
12	2.5	4.3	2.2	e26	3.6	7.2	5.7	2.4	57	1.8	.78	.54
13	1.9	3.2	2.2	e20	26	22	13	2.3	21	16	.72	.51
14	1.5	2.7	4.5	e17	51	18	9.7	2.0	8.3	3.2	.74	.49
15	1.3	2.3	3.4	e14	23	13	26	1.8	5.6	2.3	1.2	.47
16	1.1	2.0	3.3	e19	14	10	16	4.1	4.4	1.9	.83	.43
17	1.0	2.0	14	e14	40	9.1	12	3.3	8.2	1.6	.75	.44
18	5.5	1.8	32	e13	252	20	9.5	6.2	7.2	1.7	.77	.44
19	2.5	1.7	27	e11	234	12	13	6.4	3.6	1.6	.85	.67
20	1.8	1.6	17	e12	146	10	12	11	3.7	1.3	.91	.62
21	1.5	1.6	13	e9.5	57	9.1	8.2	4.8	3.0	1.3	.69	.54
22	4.7	1.5	237	e8.3	34	8.9	7.0	3.3	2.5	1.1	.63	.51
23	5.2	1.6	320	e7.5	24	34	6.1	4.2	4.0	.97	.57	.52
24	2.9	1.5	61	e6.8	18	22	5.4	12	11	1.1	.55	4.1
25	2.3	1.4	31	e6.0	14	16	4.8	3.6	53	1.3	.54	2.3
26	1.9	1.3	21	e5.8	11	12	4.4	2.6	43	2.1	1.1	1.1
27	1.7	1.3	25	e5.4	9.2	9.9	4.6	4.3	18	1.9	1.5	.71
28	1.5	3.8	110	e5.2	8.0	11	4.7	8.0	9.9	1.1	.88	.58
29	1.4	3.9	59	e5.0	---	119	5.4	5.7	7.0	1.1	.83	.53
30	1.3	2.6	62	e6.3	---	74	4.8	3.9	5.3	.99	2.2	.51
31	1.3	---	72	e5.5	---	34	---	2.9	---	.84	.84	---
TOTAL	71.03	79.5	1210.9	466.3	1011.7	715.3	288.5	127.9	303.0	91.30	26.36	22.73
MEAN	2.29	2.65	39.1	15.0	36.1	23.1	9.62	4.13	10.1	2.95	.85	.76
MAX	7.7	18	320	40	252	119	26	12	57	16	2.2	4.1
MIN	.77	1.1	2.2	5.0	3.6	7.2	4.4	1.8	1.1	.84	.54	.43
CFSM	.46	.53	7.81	3.01	7.23	4.61	1.92	.83	2.02	.59	.17	.15
IN.	.53	.59	9.01	3.47	7.53	5.32	2.15	.95	2.25	.68	.20	.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1991, BY WATER YEAR (WY)

MEAN	3.33	5.64	13.0	17.7	21.5	15.3	7.71	6.74	8.58	3.31	2.71	2.96
MAX	12.0	15.8	39.1	26.6	36.3	23.1	10.6	14.8	27.1	6.72	8.27	10.8
(WY)	1990	1990	1991	1989	1990	1991	1989	1990	1989	1989	1990	1989
MIN	.37	.57	1.12	9.64	5.04	7.69	4.72	1.07	.34	1.13	.26	.53
(WY)	1988	1988	1988	1988	1988	1988	1988	1988	1988	1988	1987	1987

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1986 - 1991	
ANNUAL TOTAL	4853.30		4414.52			
ANNUAL MEAN	13.3		12.1		8.97	
HIGHEST ANNUAL MEAN					12.6	1990
LOWEST ANNUAL MEAN					2.80	1988
HIGHEST DAILY MEAN	320	Dec 23	320	Dec 23	320	Dec 23 1990
LOWEST DAILY MEAN	.73	Sep 29	.43	Sep 16	.24	Aug 24 1987
ANNUAL SEVEN-DAY MINIMUM	.78	Sep 27	.47	Sep 12	.24	Aug 24 1987
INSTANTANEOUS PEAK FLOW			*900	Dec 23	*900	Dec 23 1990
INSTANTANEOUS PEAK STAGE			6.62	Dec 23	6.62	Dec 23 1990
INSTANTANEOUS LOW FLOW			*.43	Sep 15	*.23	Sep 1 1987
ANNUAL RUNOFF (CFSM)	2.66		2.42		1.79	
ANNUAL RUNOFF (INCHES)	36.11		32.84		24.38	
10 PERCENT EXCEEDS	29		24		20	
50 PERCENT EXCEEDS	4.8		3.9		3.1	
90 PERCENT EXCEEDS	1.1		.71		.37	

e Estimated.
* See REMARKS.

03540500 EMORY RIVER AT OAKDALE, TN

LOCATION.--Lat 35°58'59", long 84°33'29", Morgan County, Hydrologic Unit 06010208, on left bank, at Oakdale, 1,000 ft downstream from highway bridge, 1,100 ft downstream from Mud Lick Creek, and at mile 18.3.
DRAINAGE AREA.--764 mi².
PERIOD OF RECORD.--June 1927 to current year. Prior to October 1929, published as Emery River at Harriman and October 1929 to September 1934 as Emery River at Oakdale.
REVISED RECORDS.--WSP 823: Drainage area. WSP 923: 1940. WSP 1386: 1928-30(M), 1932, 1943, 1945(P).
GAGE.--Water-stage recorder. Datum of gage is 761.38 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1, 1929, nonrecording gage at site 5.8 mi downstream at datum 43.60 ft lower, and Oct. 1, 1929, to Dec. 29, 1969, water-stage recorder at present site at datum 2.00 ft higher.
REMARKS.--No estimated daily discharges. Records good. Maximum discharge from rating curve extended above 85,000 ft³/s confirmed by slope-area measurement of peak flow for flood of May 28, 1973, at gage height 38.68 ft. Maximum stage from floodmarks and flood profile, present site and datum, 61.1 ft at site and datum then in use. Minimum discharge, periods of no flow in 1944, 1952-53. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1857, that of Mar. 23, 1929, from report of Tennessee Valley Authority.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	117	455	5480	1160	1180	4430	738	541	309	109	28
2	19	104	406	3550	1050	3180	3070	636	410	298	88	32
3	17	95	3760	2630	989	7750	2290	544	399	731	72	30
4	27	86	10900	2030	922	11600	1810	474	341	386	60	29
5	40	81	3800	1690	866	5630	1610	459	338	275	50	38
6	64	85	2070	1430	953	3700	1410	528	302	216	42	37
7	135	88	1480	4770	1410	3220	1220	549	226	164	38	33
8	105	93	1130	6390	1410	2640	1110	458	176	130	33	30
9	87	106	894	3940	1320	2110	1350	394	144	142	138	56
10	77	185	740	2870	1190	1740	1620	360	120	151	168	52
11	68	1020	638	3530	1060	1470	1370	337	103	131	278	48
12	83	755	544	3890	932	1300	1180	331	146	167	189	44
13	87	550	490	3150	920	1830	1360	957	341	167	124	36
14	88	422	505	2450	4380	2500	1930	1030	245	137	119	28
15	78	343	664	1980	4490	2170	7890	693	652	106	204	22
16	70	306	815	1870	2910	1830	6840	534	1030	88	157	19
17	62	281	1140	1850	2530	1570	3860	770	689	77	102	23
18	71	256	2980	1590	36500	3090	2650	860	1280	68	84	32
19	83	236	5850	1420	41600	3180	2900	1220	642	67	74	47
20	75	219	3620	1410	27800	2410	3580	2400	663	72	68	37
21	64	204	8620	1380	9150	1950	2530	2030	1870	79	64	25
22	84	181	29300	1260	5160	1870	1980	1230	2830	78	61	21
23	692	160	103000	1140	3450	25900	1590	857	3440	69	50	17
24	789	157	12000	1060	2570	10400	1310	652	1540	89	43	28
25	521	158	6140	973	2070	4940	1080	523	959	255	35	134
26	374	161	3750	873	1740	3260	912	407	917	291	33	117
27	274	155	2820	817	1470	2460	801	365	752	401	36	143
28	219	153	13600	797	1270	3500	757	1310	605	355	37	103
29	182	236	9200	789	---	26300	792	757	459	312	35	84
30	151	512	6050	764	---	18300	848	646	374	196	29	67
31	130	---	8710	1110	---	7320	---	536	---	150	26	---
TOTAL	4839	7505	246071	68883	161272	170300	66080	23585	22534	6157	2646	1440
MEAN	156	250	7938	2222	5760	5494	2203	761	751	199	85.4	48.0
MAX	789	1020	103000	6390	41600	26300	7890	2400	3440	731	278	143
MIN	17	81	406	764	866	1180	757	331	103	67	26	17
CFSM	.20	.33	10.4	2.91	7.54	7.19	2.88	1.00	.98	.26	.11	.06
IN.	.24	.37	11.98	3.35	7.85	8.29	3.22	1.15	1.10	.30	.13	.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1991, BY WATER YEAR (WY)

MEAN	296	1092	2193	2777	3046	3142	2146	1339	645	471	286	240
MAX	1971	6214	7938	7941	8136	8962	5808	5804	6731	3694	2107	1562
(WY)	1976	1958	1991	1937	1939	1975	1977	1973	1989	1967	1942	1944
MIN	.57	.37	42.1	97.8	422	946	374	140	16.3	5.55	7.70	.91
(WY)	1954	1954	1940	1981	1941	1985	1986	1962	1936	1944	1930	1954

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1927 - 1991	
ANNUAL TOTAL	626579.2		781312			
ANNUAL MEAN	1717		2141		1465	
HIGHEST ANNUAL MEAN					2653	1973
LOWEST ANNUAL MEAN					670	1981
HIGHEST DAILY MEAN	103000	Dec 23	103000	Dec 23	103000	Dec 23 1990
LOWEST DAILY MEAN	9.0	Jul 9	17	Oct 3	.00	Aug 13 1944
ANNUAL SEVEN-DAY MINIMUM	13	Jul 4	29	Sep 17	.00	Nov 7 1953
INSTANTANEOUS PEAK FLOW			170000	Mar 23	*195000	Mar 23 1929
INSTANTANEOUS PEAK STAGE			38.71	Mar 23	*41.20	Mar 23 1929
INSTANTANEOUS LOW FLOW			14	Sep 24	*	
ANNUAL RUNOFF (CFSM)	2.25		2.80		1.92	
ANNUAL RUNOFF (INCHES)	30.51		38.04		26.06	
10 PERCENT EXCEEDS	3730		3820		3390	
50 PERCENT EXCEEDS	521		549		541	
90 PERCENT EXCEEDS	29		46		20	

* See REMARKS.

03543500 SEWEE CREEK NEAR DECATUR, TN

LOCATION.--Lat 35°34'53", long 84°44'53", Meigs County, Hydrologic Unit 06020001, on right bank, 0.3 mi downstream from bridge on State Highway 58, 0.5 mi downstream from Dry Fork, 5.0 mi north of Decatur, and at mile 5.7.
DRAINAGE AREA.--117 mi².
PERIOD OF RECORD.--May 1934 to current year. Prior to October 1935, published as Suee Creek near Decatur.
REVISED RECORDS.--WSP 1910: 1936(M), 1939(M), 1943(M), 1946, 1948(M), 1949, 1951, 1957, 1958(P). WSP 2110: 1951 (monthly runoff).
GAGE.--Water-stage recorder. Datum of gage is 694.32 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharges. Records good. Maximum discharge from rating curve extended above 11,300 ft³/s on basis of slope-area measurement of peak flow at gage height 22.81 ft. Maximum stage from floodmarks. Minimum discharge for current year also occurred Sept. 10-11 and 15-18. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	43	48	696	151	351	400	130	71	46	27	25
2	26	42	45	489	141	636	317	119	74	43	27	25
3	25	42	387	368	135	1490	268	112	91	42	27	24
4	58	37	416	288	131	1300	236	108	133	42	25	23
5	61	39	195	246	130	680	323	141	120	45	25	23
6	35	48	154	220	133	508	255	142	83	43	25	24
7	30	47	129	292	129	390	226	118	73	39	27	25
8	34	42	109	272	126	312	216	107	67	37	29	23
9	44	48	95	232	121	266	229	105	63	57	49	23
10	37	217	85	221	116	233	219	102	61	48	108	22
11	34	134	79	576	113	214	194	99	55	42	58	23
12	33	89	74	492	108	201	186	97	72	39	38	24
13	33	73	71	356	131	335	232	97	224	37	34	23
14	31	63	114	284	241	263	212	92	95	36	33	23
15	29	57	102	256	187	225	322	89	81	34	48	23
16	27	52	93	288	160	202	254	89	79	33	33	22
17	26	50	111	244	331	194	219	90	86	32	29	21
18	66	47	390	219	4580	304	198	83	83	35	28	22
19	61	44	443	207	4660	231	202	101	72	37	27	37
20	40	42	263	221	4780	210	191	263	80	34	27	31
21	35	40	258	200	1340	198	169	136	87	32	27	25
22	48	39	1600	185	792	195	161	110	72	31	25	25
23	165	41	6360	175	701	837	150	97	71	29	25	25
24	90	42	1990	167	504	427	138	91	61	33	23	85
25	75	39	666	160	411	303	129	85	58	54	24	107
26	65	37	455	151	368	257	126	81	64	39	37	51
27	57	37	376	146	301	232	126	77	61	35	40	37
28	52	42	1570	143	266	363	136	116	58	33	31	31
29	48	68	1100	134	---	957	143	94	54	36	28	29
30	46	55	898	162	---	1120	152	82	50	39	27	27
31	45	---	1570	183	---	559	---	75	---	31	27	---
TOTAL	1483	1696	20246	8273	21287	13993	6329	3328	2399	1193	1038	928
MEAN	47.8	56.5	653	267	760	451	211	107	80.0	38.5	33.5	30.9
MAX	165	217	6360	696	4780	1490	400	263	224	57	108	107
MIN	25	37	45	134	108	194	126	75	50	29	23	21
CFSM	.41	.48	5.58	2.28	6.50	3.86	1.80	.92	.68	.33	.29	.26
IN.	.47	.54	6.44	2.63	6.77	4.45	2.01	1.06	.76	.38	.33	.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1934 - 1991, BY WATER YEAR (WY)

MEAN	57.3	120	241	344	399	394	269	163	96.1	93.7	55.2	54.4
MAX	334	684	795	969	1058	1074	595	962	846	648	272	439
(WY)	1990	1949	1943	1946	1939	1963	1977	1984	1989	1967	1942	1957
MIN	16.3	17.9	25.6	27.2	49.9	90.4	55.8	32.0	12.9	15.8	17.0	15.8
(WY)	1988	1988	1988	1981	1941	1988	1986	1988	1988	1986	1956	1935

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1934 - 1991	
ANNUAL TOTAL	88454		82193			
ANNUAL MEAN	242		225		190	
HIGHEST ANNUAL MEAN					323	1974
LOWEST ANNUAL MEAN					61.5	1988
HIGHEST DAILY MEAN	6360	Dec 23	6360	Dec 23	12900	Mar 12 1963
LOWEST DAILY MEAN	25	Sep 7	21	Sep 17	8.1	Jun 29 1988
ANNUAL SEVEN-DAY MINIMUM	26	Sep 5	23	Sep 12	9.2	Jun 26 1988
INSTANTANEOUS PEAK FLOW			7470	Dec 23	*23900	Jan 7 1946
INSTANTANEOUS PEAK STAGE			14.70	Dec 23	*23.97	Jan 7 1946
INSTANTANEOUS LOW FLOW			*21	Sep 9	6.3	Jun 28 1988
ANNUAL RUNOFF (CFSM)	2.07		1.92		1.62	
ANNUAL RUNOFF (INCHES)	28.12		26.13		22.03	
10 PERCENT EXCEEDS	544		388		405	
50 PERCENT EXCEEDS	93		87		75	
90 PERCENT EXCEEDS	32		27		23	

* See REMARKS.

03560500 DAVIS MILL CREEK AT COPPERHILL, TN

LOCATION.--Lat 34°59'43", long 84°22'56", Polk County, Hydrologic Unit 06020203, on right bank 100 ft upstream from bridge on State Highway 68, 0.1 mi upstream from mouth, 0.4 mi northwest of CSX Railroad station, and 0.8 mi northwest of Post Office at Copperhill.
DRAINAGE AREA.--5.16 mi².
PERIOD OF RECORD.--July 1940 to September 1941 (published as Mill Creek at Copperhill), December 1948 to December 1977, July 1986 to current year.
REVISED RECORDS.--WSP 1206: Drainage area. WSP 2110: 1949-65 (M).
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 1,451.06 ft above National Geodetic Vertical Datum of 1929. July 16, 1940, to Sept. 30, 1941, water-stage recorder and sharp-crested weir at site 145 ft upstream at datum of 1.58 ft higher. Oct. 1, 1941, to Aug. 12, 1971, water-stage recorder and concrete San Dimas flume and dam at present site and datum.
REMARKS.--No estimated daily discharges. Records fair, except those above 200 ft³/s which are poor. Flow is predominately process water for Tennessee Chemical Company plant that is withdrawn from Ocoee River upstream from Davis Mill Creek and discharged to Davis Mill Creek upstream from the gage. Maximum discharge from rating curve extended above 150 ft³/s on basis of critical-depth measurement of peak flow; gage height 6.02 ft in gage well, 8.5 ft from floodmarks. Maximum stage caused by backwater from flooding on Ocoee River. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	58	66	37	45	48	51	54	51	59	38	48	43
2	58	64	36	43	45	54	52	50	57	40	47	39
3	60	62	50	44	43	55	52	48	49	51	61	36
4	64	62	40	45	48	54	53	57	52	43	62	36
5	63	63	37	45	49	53	90	67	51	37	55	41
6	60	60	37	45	49	52	58	61	43	37	47	44
7	55	60	35	46	49	52	53	57	50	36	44	47
8	61	59	37	46	49	54	56	55	39	36	38	49
9	51	71	38	44	51	52	56	55	39	35	46	48
10	51	63	39	50	50	52	56	54	38	39	48	45
11	42	60	39	62	49	52	52	55	39	40	42	48
12	43	59	39	49	47	53	53	55	43	42	44	49
13	40	59	39	47	49	63	54	50	47	46	42	48
14	44	59	39	45	57	53	52	50	42	43	40	50
15	43	57	40	44	50	54	53	49	39	42	39	53
16	32	55	39	44	48	54	54	49	38	40	42	53
17	46	43	41	43	66	54	53	46	39	37	47	55
18	123	43	54	43	70	55	52	50	38	40	41	56
19	48	44	55	44	105	52	107	45	37	43	49	54
20	44	38	46	44	119	58	61	45	38	42	44	55
21	43	41	45	44	60	56	56	45	40	47	39	56
22	118	37	47	43	52	58	54	46	51	43	39	57
23	65	37	215	42	51	67	54	47	62	40	40	59
24	48	37	63	43	49	57	55	46	52	36	39	64
25	45	37	39	45	47	57	53	48	41	42	39	65
26	43	38	36	45	47	59	52	49	122	43	92	65
27	43	37	41	45	46	60	56	51	47	39	47	62
28	36	40	46	46	45	83	54	49	44	49	45	60
29	54	36	44	46	---	202	91	45	43	48	53	64
30	49	36	47	48	---	69	63	47	40	48	59	64
31	54	---	50	48	---	56	---	55	---	50	53	---
TOTAL	1684	1523	1490	1413	1538	1901	1759	1577	1419	1292	1471	1565
MEAN	54.3	50.8	48.1	45.6	54.9	61.3	58.6	50.9	47.3	41.7	47.5	52.2
MAX	123	71	215	62	119	202	107	67	122	51	92	65
MIN	32	36	35	42	43	51	52	45	37	35	38	36

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1991, BY WATER YEAR (WY)

MEAN	59.2	53.6	51.1	49.1	51.4	54.9	56.0	55.7	57.6	59.9	58.6	59.3
MAX	156	158	149	131	121	147	124	129	143	164	154	146
(WY)	1976	1976	1976	1976	1975	1977	1977	1976	1974	1974	1974	1974
MIN	6.35	7.03	7.65	6.85	5.53	6.44	6.37	5.72	6.40	9.97	8.56	6.39
(WY)	1941	1941	1941	1941	1941	1941	1941	1941	1941	1941	1941	1940

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1940 - 1991	
ANNUAL TOTAL	22503		18632			
ANNUAL MEAN	61.7		51.0		55.7 (UNADJUSTED)	
HIGHEST ANNUAL MEAN					134	1976
LOWEST ANNUAL MEAN					6.99	1941
HIGHEST DAILY MEAN	950	Feb 16	215	Dec 23	950	Feb 16 1990
LOWEST DAILY MEAN	32	Feb 14	32	Oct 16	3.1	Jul 30 1940
ANNUAL SEVEN-DAY MINIMUM	37	Nov 26	37	Nov 26	4.6	Aug 1 1940
INSTANTANEOUS PEAK FLOW			675	Oct 18	*3520	Oct 6 1949
INSTANTANEOUS PEAK STAGE			2.20	Oct 18	*10.82	Feb 16 1990
INSTANTANEOUS LOW FLOW			10	Aug 2		
10 PERCENT EXCEEDS	74		62		110	
50 PERCENT EXCEEDS	56		48		44	
90 PERCENT EXCEEDS	40		39		27	

* See REMARKS.

03563000 OCOEE RIVER AT EMF, TN

LOCATION.--Lat 35°05'48", long 84°32'07", Polk County, Hydrologic Unit 06020203, on left bank 700 ft downstream from Tennessee Valley Authority powerplant, 0.8 mi upstream from former village of Emf, 2.0 mi downstream from Goforth Creek, and at mile 19.6.
DRAINAGE AREA.--524 mi².
PERIOD OF RECORD.--October 1912 to current year. Prior to January 1913, monthly discharge only, published in WSP 1306.
REVISED RECORDS.--WSP 783: 1913-34. WSP 853: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 837.88 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharge. Records fair. Flow regulated by Blue Ridge Lake (station 03558500), in Water Resources Data for Georgia, Ocoee No. 3 Lake (station 03562500) (see p. 169), and by powerplant above station. Highest daily mean and Maximum discharge from rating curve extended above 17,000 ft³/s. Maximum stage from high-water mark in gage well. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 19, 1906, discharge, 62,000 ft³/s, was the greatest known since at least 1840, from reports of Tennessee Valley Authority.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	263	1030	1270	2540	979	1350	1860	2930	1280	1280	1040	1360
2	301	878	1280	2630	961	2210	2370	3080	1300	1290	866	1350
3	291	628	1030	2530	750	1600	2140	2710	1310	1280	1170	1340
4	307	533	1580	1360	918	1470	2140	3190	1300	1260	1210	1320
5	428	371	865	1330	893	2220	3330	3590	1090	1280	1120	1320
6	513	988	985	1320	751	1490	2290	2800	1260	984	1030	1320
7	496	957	947	1320	748	2140	2420	3320	1300	803	981	1320
8	442	946	1310	1320	742	1390	2350	3180	1140	854	933	1320
9	561	959	1310	1320	741	1350	2470	3100	999	911	1040	1360
10	1170	1110	811	1320	738	1340	2090	2670	1110	944	1060	1270
11	1050	678	778	1870	501	1330	2560	2470	915	994	937	1270
12	821	855	775	1460	760	1330	2250	2460	981	968	1300	1290
13	553	964	1140	1410	754	1470	2060	1520	1240	958	1220	1290
14	549	709	992	1380	1230	2020	1950	1820	1160	952	1220	1290
15	425	390	964	1420	1320	1350	1720	1360	1310	1070	1030	1300
16	416	358	873	1350	1070	1340	1500	2080	1300	986	1390	1340
17	502	850	1290	1360	911	1340	1830	1350	1270	999	934	1300
18	1750	1020	1320	1340	2280	1350	1380	2390	1120	1170	880	1290
19	903	1180	1420	1040	2770	1340	2360	1870	1380	1180	1390	1300
20	937	1290	1390	1110	5530	1330	1760	1350	1320	1180	1420	1190
21	892	1290	1240	1020	1960	1330	1370	1350	1300	870	1000	1270
22	1400	1290	1040	1110	2180	1330	1350	1350	1310	915	995	1260
23	1680	1270	5210	1150	1800	1330	1070	1390	1100	1200	1310	1260
24	1120	1270	4370	1030	2150	1320	1040	1300	879	1050	942	1070
25	1280	1260	1950	908	1740	1320	1060	1290	1160	1050	905	1300
26	1070	648	1120	919	1360	1310	1080	1280	1760	1020	1580	1290
27	1080	370	1460	973	2080	1310	1210	1290	1400	1290	2610	1270
28	981	691	2240	837	1350	1610	2020	1310	2290	899	1260	1260
29	1000	790	1610	588	---	4740	1500	1320	1690	1100	1340	1270
30	1060	767	1420	548	---	3260	2360	1330	1290	1290	1380	1270
31	1020	---	2190	960	---	1450	---	1300	---	1070	1490	---
TOTAL	25261	26340	46180	40773	39967	51070	56890	63750	38264	33097	36983	38660
MEAN	815	878	1490	1315	1427	1647	1896	2056	1275	1068	1193	1289
MAX	1750	1290	5210	2630	5530	4740	3330	3590	2290	1290	2610	1360
MIN	263	358	775	548	501	1310	1040	1280	879	803	866	1070
(†)	-3500	-9600	+200	+2700	+10500	+18300	+5300	-700	-700	-3400	+300	-15200
MEAN‡	702	558	1496	1402	1802	2238	2073	2034	1252	958	1203	782
CFSM‡	1.34	1.06	2.85	2.68	3.44	4.27	3.96	3.88	2.39	1.83	2.30	1.49
IN‡	1.54	1.19	3.29	3.09	3.58	4.92	4.41	4.47	2.67	2.11	2.65	1.67

CAL YR 1990 MEAN‡ 1661 CFSM‡ 3.17 IN.‡ 43.03
WTR YR 1991 MEAN‡ 1374 CFSM‡ 2.62 IN.‡ 35.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1991, BY WATER YEAR (WY)

MEAN	1044	994	1092	1258	1403	1462	1511	1321	1160	1118	1101	1070
MAX	2312	1677	3415	2780	4687	4111	4040	2786	2272	2439	2014	1604
(WY)	1965	1990	1933	1933	1990	1990	1936	1946	1973	1938	1967	1949
MIN	410	260	278	448	356	381	351	328	436	432	459	472
(WY)	1931	1988	1988	1931	1934	1988	1941	1988	1940	1940	1986	1986

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1931 - 1991	
ANNUAL TOTAL	602124		497235			
ANNUAL MEAN	‡1661		‡1374		1210	(UNADJUSTED)
HIGHEST ANNUAL MEAN					1868	1990
LOWEST ANNUAL MEAN					570	1988
HIGHEST DAILY MEAN	24000	Feb 16	5530	Feb 20	*24000	Feb 16 1990
LOWEST DAILY MEAN	45	May 24	263	Oct 1	4.6	Sep 14 1962
ANNUAL SEVEN-DAY MINIMUM	327	Sep 27	371	Oct 1	6.0	Jul 27 1944
INSTANTANEOUS PEAK FLOW			11200	Dec 23	*51400	Feb 16 1990
INSTANTANEOUS PEAK STAGE			9.29	Dec 23	*17.06	Feb 16 1990
INSTANTANEOUS LOW FLOW			34	Nov 16	3.4	Sep 20 1962
10 PERCENT EXCEEDS	3450		2230		1720	
50 PERCENT EXCEEDS	1210		1290		1060	
90 PERCENT EXCEEDS	539		772		573	

† Change in contents, in cfs-days, in Blue Ridge Lake (Georgia).
‡ Adjusted for change in contents in lakes or reservoirs listed above.
NOTE.--CONTENTS (cfs-days) for adjustment furnished by Tennessee Valley Authority.
* See REMARKS.

03564500 OCOEE RIVER AT PARKSVILLE, TN

LOCATION.--Lat 35°05'48", long 84°39'15", Polk County, Hydrologic Unit 06020203, on right bank 0.4 mi downstream from Lake Ocoee Dam and Ocoee No. 1 powerplant of Tennessee Valley Authority at Parksville, and at mile 11.5.
DRAINAGE AREA.--595 mi².
PERIOD OF RECORD.--January 1911 to September 1916, March 1921 to current year.
REVISED RECORDS.--WSP 823: Drainage area. WSP 1306: 1916, 1921-36 (adjusted runoff). WSP 1386: 1926.
GAGE.--Water-stage recorder. Datum of gage is 716.96 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharge. Records good. Flow regulated by Blue Ridge Lake (station 03558500) in Water Resources Data for Georgia, Ocoee No. 3 Lake (station 03562500), and Lake Ocoee (station 03564000) (see p. 169). Highest daily mean and maximum discharge from rating curve extended above 15,000 ft³/s on basis of contracted-opening measurement of peak flow for flood of Feb. 16, 1990. Maximum stage from high-water mark in gage house. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Nov. 19, 1906, discharge, 65,000 ft³/s, was the greatest known flood since at least 1840, from reports of Tennessee Valley Authority.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	579	1160	1130	2960	781	1920	2500	2960	1380	2160	1070	1600
2	558	1280	1330	2770	738	2030	2650	3450	1570	1690	1560	1650
3	545	1090	1380	2980	867	2300	2570	3210	1350	1420	1320	1410
4	535	928	1630	2480	916	2270	2530	2960	1550	1600	1270	1320
5	536	758	1460	2040	987	2440	2900	4260	1210	1560	1400	1430
6	564	829	1280	1840	987	2260	3380	4130	1480	948	1250	1360
7	591	885	1320	1750	936	2330	2950	4110	964	952	1070	1470
8	604	892	1290	1710	906	2140	2630	3730	1080	749	1120	1490
9	1350	1140	1440	1680	895	1970	2880	3430	968	1020	938	1590
10	1670	1420	1380	1680	883	1860	2780	2780	1330	1040	1050	1410
11	1570	1270	1180	1970	760	1790	2440	2430	1100	1080	1080	1380
12	1390	1090	1070	2330	814	1740	2880	2470	1430	1380	1180	1430
13	1130	1140	1070	2380	847	1740	2650	2120	1470	1170	1180	1380
14	953	1100	1160	2060	1060	1970	2530	1960	1420	1170	1440	1360
15	793	898	1180	1940	1550	1930	2390	1850	1260	1120	1870	1330
16	740	723	1150	1850	1760	1820	2200	1700	1370	951	1760	1350
17	684	684	1320	1660	1510	1760	2150	1960	1220	1090	1050	1490
18	1050	909	1500	1570	2190	1740	2080	2180	1220	930	921	1580
19	1420	1150	1790	1680	3100	1710	2110	2170	1480	1090	1330	1720
20	1280	1300	1870	1530	6440	1690	2220	2150	1480	1000	1050	1570
21	1240	1420	1790	1420	4390	1670	2120	2120	1520	1120	1160	1450
22	1300	1480	1620	1390	3300	1650	2030	1660	1330	1230	935	1390
23	1960	1510	3190	1390	2740	1640	2040	1610	1440	1100	978	1470
24	1780	1520	7480	1350	2830	1650	1470	1750	1740	1370	769	1170
25	1770	1510	3350	1270	2600	1620	1210	1450	1100	1220	729	1260
26	1590	1370	2350	1190	2240	1600	1190	1660	1010	1160	1650	1300
27	1490	966	1990	1190	2170	1600	985	1710	1450	925	3330	1260
28	1370	782	2270	1140	2090	1700	835	1680	2060	937	1560	1450
29	1320	996	2250	1080	---	2770	1010	1050	2130	1150	1840	1530
30	1320	1010	2160	776	---	4590	2200	1130	2140	1310	1980	1510
31	1300	---	2480	939	---	3220	---	934	---	1380	1620	---
TOTAL	34982	33210	57860	53995	51287	63120	66510	72764	42252	37022	41460	43110
MEAN	1128	1107	1866	1742	1832	2036	2217	2347	1408	1194	1337	1437
MAX	1960	1520	7480	2980	6440	4590	3380	4260	2140	2160	3330	1720
MIN	535	684	1070	776	738	1600	835	934	964	749	729	1170

CAL YR 1990 MEAN‡ 2020 CFSM‡ 3.39 IN.‡ 46.09
WTR YR 1991 MEAN‡ 1648 CFSM‡ 2.77 IN.‡ 37.61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1911 - 1991, BY WATER YEAR (WY)

MEAN	1030	1108	1262	1512	1608	1738	1671	1459	1230	1161	1065	1026
MAX	2579	2507	3762	3136	5382	4591	4214	4243	2530	2790	2294	2238
(WY)	1990	1930	1933	1933	1990	1990	1936	1929	1989	1916	1967	1928
MIN	228	348	329	544	212	370	295	283	354	409	242	225
(WY)	1927	1988	1931	1931	1934	1988	1941	1988	1931	1914	1925	1925

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1911 - 1991	
ANNUAL TOTAL	731229		597572			
ANNUAL MEAN	‡2020		‡1648		1320 (UNADJUSTED)	
HIGHEST ANNUAL MEAN					2214	1990
LOWEST ANNUAL MEAN					586	1988
HIGHEST DAILY MEAN	*28000	Feb 16	7480	Dec 24	*28000	Feb 16 1990
LOWEST DAILY MEAN	164	May 25	535	Oct 4	10	Oct 28 1925
ANNUAL SEVEN-DAY MINIMUM	521	Sep 26	558	Oct 1	54	Oct 17 1925
INSTANTANEOUS PEAK FLOW			10600	Dec 24	*61800	Feb 16 1990
INSTANTANEOUS PEAK STAGE			12.57	Dec 24	*24.76	Feb 16 1990
INSTANTANEOUS LOW FLOW			NOT DETERMINED		NOT DETERMINED	
10 PERCENT EXCEEDS	3830		2580		2200	
50 PERCENT EXCEEDS	1480		1450		1200	
90 PERCENT EXCEEDS	784		923		327	

‡ Adjusted for changes in contents in Blue Ridge Lake (Georgia) and Lake Ocoee.
NOTE.--CONTENTS (cfs-days) for adjustments furnished by Tennessee Valley Authority.
* See REMARKS.

03566000 HIWASSEE RIVER AT CHARLESTON, TN

LOCATION.--Lat 35°17'16", long 84°45'07", Bradley County, Hydrologic Unit 06020002, on left bank 250 ft upstream from Norfolk Southern Railway bridge, 0.3 mi upstream from bridge on U.S. Highway 11 at Charleston, and at mile 18.9.
DRAINAGE AREA.--2,298 mi².
PERIOD OF RECORD.--November 1898 to April 1899, November 1899 to April 1903, October 1919 to January 1940, January 1963 to January 1977, September 1979 to December 1981 (vane lost), August 1987 to current year. Gage-height records collected at this station during the period December 1884 to December 1889 are contained in the United States War Department Stages of Ohio River and Principal Tributaries, 1858-89, Part 1, and during period January 1890 to December 1943 in reports of the U.S. Weather Bureau.
REVISED RECORDS.--WSP 853: Drainage area. WSP 1436: 1902, 1922(M), 1928, 1936(M).
GAGE.--Water-stage recorder and velocity recorder. Datum of gage is 665.56 ft above National Geodetic Vertical Datum of 1929. Prior to July 18, 1925, nonrecording gages, and July 18, 1925, to Sept. 6, 1926, water-stage recorder, at Southern Railway bridge, 250 ft downstream at datum 1.50 ft higher. Auxiliary nonrecording gages at several sites and datums used periodically.
REMARKS.--Records fair. Some diversions above gage for industrial and municipal water supplies. Flow regulated by seven reservoirs (see p. 169) and Water Resources Data for Georgia and North Carolina). Daily discharge figures computed using areas as determined from a stage-area curve and velocities as determined from a velocity curve. Reverse flow has occurred for short periods each year since closure of Chickamauga Dam on Tennessee River in 1939. Maximum discharge for current year is maximum discharge recorded, but was more Feb. 18-20. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
COOPERATION.--Records for December and January furnished by Bowater Paper Company.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 31, 1886, reached a stage of 34.0 ft, present datum, discharge about 70,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2900	3880	4920	13300	e2900	e8200	e6100	6230	3930	3830	3550	3430
2	e2900	4000	5310	12000	e2500	e8100	e5300	5690	4040	3970	4170	3440
3	e3000	3900	5450	12100	e2500	e12500	e5000	5380	3990	3750	3490	4180
4	e3100	3760	6810	9020	e3200	e11600	e4800	4770	4050	3360	3310	4170
5	e2900	3690	6470	7010	e3600	e8700	e5700	6200	4270	3660	4310	4130
6	e1600	3600	5990	6800	e3600	e7700	e5800	6940	3960	3090	4420	4190
7	e1700	3820	5920	6500	e3500	e7200	e5100	7440	3810	2570	4350	4000
8	e2600	3720	5830	6990	e3500	e6600	e5400	6750	3070	2660	4370	3000
9	e3400	3870	5990	6810	e2800	e6200	e5700	7210	3190	3770	4560	4210
10	e3900	4540	6140	6700	e2400	e5900	e5400	7000	3390	3660	4590	4090
11	e3800	4620	5990	8520	e3200	e5700	e5100	5510	3080	4030	3810	4150
12	e3600	4320	5900	8280	e3300	e5200	5490	5320	2970	3690	5390	4160
13	e2400	4210	5950	6860	e3500	e5900	5290	5170	3120	3580	5140	4150
14	e2400	4110	6290	7000	e4300	e6800	4620	4780	3030	3590	4820	4170
15	e3000	3690	6540	7130	e4700	e5900	4620	4830	2890	4060	4810	4000
16	e3500	3510	5880	6840	e5000	e5400	4570	4910	2950	4330	4670	4170
17	e3400	3570	6900	6720	e4600	e5100	4360	5040	3000	4350	3300	4300
18	e4000	3790	8070	5930	e27000	e6200	4250	5120	3060	4090	2850	4290
19	e4600	3950	7910	6210	e30000	e5800	4260	5020	3440	3800	4040	4130
20	e3600	4140	6090	6070	e34000	e5500	4250	5080	3440	2870	4170	4290
21	e2500	4260	5370	5770	e15000	e5400	3860	4900	3590	2720	3950	4310
22	e4100	4530	4990	5480	e12000	e5100	3690	4590	3310	3530	3940	4120
23	e5300	4700	10300	5160	e13000	e6600	3650	4530	3060	3880	3960	4390
24	e4900	4720	6430	5120	e12000	e4700	3480	4600	3780	3570	2880	4220
25	e4700	4790	3830	4040	e12000	e4800	3000	4310	3640	3960	2780	4710
26	e4500	4770	5460	2940	e11000	e4400	3000	4430	3480	3810	3900	4820
27	4090	4510	6570	2870	e11000	e4200	2810	4540	3910	3740	7210	4710
28	3880	4390	10800	e4500	e10000	e5000	3160	4540	4250	3040	4480	4460
29	3900	5100	12500	e3900	---	e9400	3410	4280	3670	4080	4540	4610
30	4000	5050	11100	e3700	---	e11200	5510	3950	3230	4280	4940	4730
31	4040	---	13800	e4100	---	e6700	---	3960	---	4300	3790	---
TOTAL	108210	125510	215500	204370	246100	207700	136680	163020	104600	113620	130490	125730
MEAN	3491	4184	6952	6593	8789	6700	4556	5259	3487	3665	4209	4191
MAX	5300	5100	13800	13300	34000	12500	6100	7440	4270	4350	7210	4820
MIN	1600	3510	3830	2870	2400	4200	2810	3950	2890	2570	2780	3000

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1991, BY WATER YEAR (WY)

MEAN	3925	4339	5119	5975	6652	6058	4360	3788	3837	3882	3882	3538
MAX	9332	8638	12980	13060	16270	13860	11280	6457	8897	6975	6201	5118
(WY)	1990	1968	1968	1974	1990	1990	1964	1964	1989	1967	1967	1967
MIN	1442	1681	2070	2601	2680	1866	1110	971	1395	1750	1810	1747
(WY)	1989	1982	1988	1981	1988	1988	1988	1988	1988	1988	1988	1987

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1964 - 1991	
ANNUAL TOTAL	2230340		1881530			
ANNUAL MEAN	6111		5155		4637 (UNADJUSTED)	
HIGHEST ANNUAL MEAN					6891	1990
LOWEST ANNUAL MEAN					1940	1988
HIGHEST DAILY MEAN	34700	Feb 16	34000	Feb 20	54000	Mar 17 1973
LOWEST DAILY MEAN	1600	Oct 6	1600	Oct 6	*524	May 24 1981
ANNUAL SEVEN-DAY MINIMUM	2360	Jul 6	2540	Oct 2	817	Oct 29 1988
INSTANTANEOUS PEAK FLOW			*21500	Dec 24	57000	Mar 17 1973
INSTANTANEOUS PEAK STAGE			21.82	Dec 24	29.39	Mar 17 1973
10 PERCENT EXCEEDS	12700		7160		7500	
50 PERCENT EXCEEDS	4000		4330		4020	
90 PERCENT EXCEEDS	2610		3060		2080	

e Estimated.
* See REMARKS.

03567500 SOUTH CHICKAMAUGA CREEK NEAR CHICKAMAUGA, TN

LOCATION.--Lat 35°00'51", long 85°12'35", Hamilton County Hydrologic Unit 06020001, on left bank 0.1 mi upstream from bridge on U.S. Highway 11, 1.5 mi south of Chickamauga, 6.0 mi east of the city hall in Chattanooga, and at mile 12.2.
DRAINAGE AREA.--428 mi².
PERIOD OF RECORD.--October 1928 to September 1978, October 1980 to current year. Monthly discharge only for December 1930, published in WSP 1306. Gage-height records collected October 1978 to September 1980 (fragmentary). Prior to October 1937, published as Chickamauga Creek near Chickamauga.
REVISED RECORDS.--WSP 823: Drainage area. WSP 853: 1937. WSP 1386: 1932.
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 644.12 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 7, 1930, nonrecording gage. Oct. 7, 1930, to Oct. 29, 1980, water-stage recorder at site 1,000 ft upstream at datum 7.00 ft higher.
REMARKS.--No estimated daily discharges. Records good. Maximum discharge of 30,000 ft³/s, gage height 28.70 ft; maximum gage height from floodmarks (backwater from Tennessee River). Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	139	157	228	1860	596	1050	1270	1710	338	709	324	219
2	139	156	208	1240	477	3470	981	1020	338	642	255	188
3	139	149	771	1060	436	4310	827	779	374	478	230	173
4	154	146	1320	1130	413	4530	716	1090	438	681	213	168
5	161	150	719	923	396	3210	1310	3890	2430	713	202	165
6	149	157	479	798	383	1620	1010	5220	732	518	195	159
7	140	154	394	751	374	1270	728	3240	450	415	188	158
8	183	147	337	785	352	1240	673	1410	370	361	184	154
9	257	270	294	705	325	1280	780	1100	324	332	181	149
10	174	1640	264	686	310	988	744	953	292	304	184	147
11	149	971	245	2220	297	838	613	794	273	304	183	146
12	144	497	230	2210	285	771	569	728	260	335	183	145
13	142	361	222	1360	355	1640	862	835	319	283	402	144
14	139	296	243	1030	1250	1280	822	710	740	251	295	140
15	139	256	254	857	874	914	2470	602	631	233	218	139
16	137	233	246	887	581	773	2030	532	387	243	203	139
17	135	215	294	799	694	698	1300	495	451	317	186	141
18	359	202	427	660	3460	956	858	460	652	290	195	149
19	409	196	753	591	7770	846	1360	443	408	292	214	148
20	209	191	652	615	12700	697	1640	407	442	248	244	168
21	169	186	695	561	12000	633	994	372	569	234	186	164
22	282	181	2410	493	5640	595	808	353	978	226	171	147
23	746	180	7790	451	2700	599	696	342	754	210	165	143
24	397	178	11400	428	2120	564	625	335	608	232	160	284
25	266	177	7150	413	1460	493	544	314	493	576	158	430
26	211	172	2200	389	1220	460	486	301	2170	501	244	344
27	189	172	1240	367	1010	444	517	338	2790	718	242	234
28	177	218	2130	364	858	1280	1010	570	1220	438	188	185
29	168	342	1790	362	---	2910	958	764	1060	324	246	170
30	166	276	1500	388	---	4470	1640	491	875	312	582	162
31	171	---	2870	666	---	2550	---	393	---	333	365	---
TOTAL	6539	8626	49755	26049	59336	47379	29841	30991	22166	12053	7186	5402
MEAN	211	288	1605	840	2119	1528	995	1000	739	389	232	180
MAX	746	1640	11400	2220	12700	4530	2470	5220	2790	718	582	430
MIN	135	146	208	362	285	444	486	301	260	210	158	139
CFSM	.49	.67	3.75	1.96	4.95	3.57	2.32	2.34	1.73	.91	.54	.42
IN.	.57	.75	4.32	2.26	5.16	4.12	2.59	2.69	1.93	1.05	.62	.47

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1991, BY WATER YEAR (WY)

MEAN	275	496	818	1244	1453	1392	943	601	341	350	232	278
MAX	1525	2709	3269	3752	3952	3785	2834	2093	1453	1575	654	2960
(WY)	1990	1930	1933	1947	1990	1929	1936	1929	1989	1967	1984	1950
MIN	84.0	98.9	119	160	246	311	172	132	75.4	83.9	85.6	82.7
(WY)	1988	1940	1940	1940	1941	1988	1986	1988	1988	1986	1986	1954

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1929 - 1991	
ANNUAL TOTAL	400474		305323			
ANNUAL MEAN	1097		837		698	
HIGHEST ANNUAL MEAN					1197	1990
LOWEST ANNUAL MEAN					258	1986
HIGHEST DAILY MEAN	25000	Feb 17	12700	Feb 20	26500	Mar 17 1973
LOWEST DAILY MEAN	127	Sep 7	135	Oct 17	64	Oct 18 1954
ANNUAL SEVEN-DAY MINIMUM	130	Sep 3	141	Oct 11	67	Jun 26 1988
INSTANTANEOUS PEAK FLOW			14300	Feb 21	*30000	Mar 17 1973
INSTANTANEOUS PEAK STAGE			21.71	Feb 21	*30.75	Mar 17 1973
INSTANTANEOUS LOW FLOW			133	Oct 17	61	Oct 8 1941
ANNUAL RUNOFF (CFSM)	2.56		1.95		1.63	
ANNUAL RUNOFF (INCHES)	34.81		26.54		22.17	
10 PERCENT EXCEEDS	2890		1640		1480	
50 PERCENT EXCEEDS	350		409		297	
90 PERCENT EXCEEDS	147		158		124	

* See REMARKS.

03568000 TENNESSEE RIVER AT CHATTANOOGA, TN

LOCATION.--Lat 35°05'12", long 85°16'43", Hamilton County, Hydrologic Unit 06020001, on right bank at Rivermont Golf and Country Club, 0.5 mi downstream from South Chickamauga Creek, 3.0 mi downstream from Chickamauga Dam, 3.5 mi upstream from Walnut Street Bridge in Chattanooga, and at mile 467.6.
DRAINAGE AREA.--21,400 mi², approximately.
PERIOD OF RECORD.--April 1874 to current year. Monthly discharges only for some periods, published in WSP 1306. July 1930 to December 1935, published as "at Hales Bar, near Chattanooga." Gage-height records collected in this vicinity since 1874 are contained in reports of U.S. Weather Bureau.
REVISED RECORDS.--WSP 353: 1874-1912. WSP 783: 1917. WSP 823: 1875(M). WSP 973: 1942. WSP 1306: 1916(M). WSP 1386: 1932-34 (station at Hales Bar near Chattanooga).
GAGE.--Water-stage recorder. Datum of gage is 621.12 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 1, 1939, nonrecording or recording gages at several sites from 7.0 mi upstream from Chattanooga to Hales Bar Dam 33 mi downstream at or within 0.2 ft of present datum, except nonrecording gage at Bridgeport, AL, 49.9 mi downstream at different datum Oct. 22, 1913, to Feb. 28, 1915, and Oct. 1, 1918, to Jan. 5, 1921. Auxiliary gages at several sites parts of periods since Feb. 28, 1915. Present auxiliary gage at site 2.2 mi downstream from base gage at same datum.
REMARKS.--No estimated daily discharges. Records good. Flow regulated since 1936 by many upstream reservoirs (see p. 89 and Water Resources Data for adjoining states).
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge observed, 410,000 ft³/s, Mar. 1, 1875, gage height, 53.8 ft, present datum, at Walnut Street, from rating curve extended above 250,000 ft³/s; minimum daily, 1,200 ft³/s, Nov. 1, 1953; minimum gage height, 0.0 ft, Sept. 11-14, 1881, Sept. 19, 1883.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage known, 57.9 ft, Mar. 11, 1867, present datum at Walnut Street, discharge about 459,000 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19900	27100	25300	115000	31800	86600	71800	31300	23400	32100	37400	25900
2	18000	24900	24200	109000	21700	73600	76300	35200	24500	34900	38800	37700
3	18600	16700	24400	98500	18500	74100	68700	34700	30900	36300	27900	40100
4	29100	16400	25400	89100	26300	82600	47300	36000	34500	39800	24300	38500
5	16300	31100	35900	62900	19200	94700	44800	24400	37100	34200	32700	42900
6	16600	34700	34800	62800	18600	92500	28300	24400	27800	27500	35800	42500
7	15800	35100	33700	62200	26700	88400	23200	36000	25600	27500	37500	37800
8	22200	36900	21500	61700	21300	78500	29100	32000	11400	33500	35600	16400
9	19400	39800	21700	62800	24800	73300	35300	36100	9800	39500	32900	35300
10	33000	35600	24500	61600	18300	72300	35800	37900	20900	35500	28200	37300
11	29100	35400	27100	62400	25400	66300	34400	22800	18900	35400	33000	36800
12	30100	34500	24400	64600	22600	59100	33600	17300	24100	35100	38900	40700
13	21200	34300	27700	64000	17300	57600	35300	25000	28300	30600	42100	42400
14	17200	33600	27900	64100	17200	57900	26800	34500	40200	18200	42500	32000
15	25300	33800	27000	64700	27100	58700	24200	33600	18500	24700	43500	28300
16	34300	34900	23400	64700	46600	58100	31600	34000	22800	28000	43400	37700
17	30800	33500	28900	64200	35400	58400	34700	32800	26800	32100	26800	37900
18	31800	34200	35600	51200	59300	50500	27700	31900	28900	29300	23700	32500
19	34700	34300	36600	51700	109000	45100	34600	32200	37300	34700	38000	30700
20	35000	31700	35900	51300	156000	44800	27000	33100	40300	25300	40000	33400
21	24600	26500	39700	51400	160000	45200	22500	24800	40500	20100	38500	22200
22	29600	20000	49500	52400	142000	46400	23200	32200	26700	28100	39100	19200
23	35600	16900	101000	52100	128000	35500	18800	27700	25000	34400	39200	29600
24	35600	25900	163000	45900	125000	36200	29100	22300	34700	35200	24800	28700
25	35500	18500	132000	43300	120000	49900	33700	23600	43900	37400	22600	28400
26	35500	30900	99600	22200	117000	57100	32400	23300	44800	37800	34300	34200
27	35200	22700	92800	19800	108000	57300	22800	17100	46400	22000	38000	33000
28	16100	31800	103000	26300	100000	57100	23000	28600	45200	19000	42400	22900
29	27200	33700	116000	20800	---	59400	27000	32600	32500	27900	43600	19000
30	29800	31300	113000	19000	---	63900	29100	32800	22800	31100	43900	30700
31	30400	---	115000	31500	---	69000	---	36000	---	36300	27700	---
TOTAL	833500	896700	1690500	1773200	1743100	1950100	1032100	926200	894500	963500	1097100	974700
MEAN	26890	29890	54530	57200	62250	62910	34400	29880	29820	31080	35390	32490
MAX	35600	39800	163000	115000	160000	94700	76300	37900	46400	39800	43900	42900
MIN	15800	16400	21500	19000	17200	35500	18800	17100	9800	18200	22600	16400

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1954 - 1991, BY WATER YEAR (WY)

MEAN	28880	34030	43340	47780	49760	46050	27330	29200	29380	29790	31140	28200
MAX	63270	68330	94270	127900	132800	98850	60380	87890	65280	49670	41460	42140
(WY)	1990	1958	1973	1974	1957	1963	1975	1984	1989	1989	1967	1967
MIN	16690	16340	13660	17370	22570	14380	7503	7805	11310	11230	12740	14090
(WY)	1984	1988	1988	1986	1986	1988	1986	1988	1988	1988	1988	1968

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		*WATER YEARS 1954 - 1991	
ANNUAL TOTAL	15709240		14775200			
ANNUAL MEAN	43040		40480		35360	
HIGHEST ANNUAL MEAN					53260	1973
LOWEST ANNUAL MEAN					15070	1988
HIGHEST DAILY MEAN	163000	Dec 24	163000	Dec 24	251000	Mar 18 1973
LOWEST DAILY MEAN	4540	Apr 24	9800	Jun 9	1200	Nov 1 1953
ANNUAL SEVEN-DAY MINIMUM	8590	Apr 15	19200	Oct 1	6790	May 29 1986
INSTANTANEOUS PEAK FLOW			185000	Dec 23	267000	Mar 18 1973
INSTANTANEOUS PEAK STAGE			29.94	Feb 21	38.98	Mar 18 1973
10 PERCENT EXCEEDS	91400		68800		56100	
50 PERCENT EXCEEDS	33700		34000		31000	
90 PERCENT EXCEEDS	18100		20900		16200	

* Regulated period only.

03571000 SEQUATCHIE RIVER NEAR WHITWELL, TN

LOCATION.--Lat 35°12'22", long 85°29'48", Marion County, Hydrologic Unit 06020004, on right bank 250 ft upstream from county road bridge, 1.5 mi east of Whitwell, 3.0 mi upstream from bridge on State Highway 283 (formerly 27), 4.5 mi downstream from Griffith Creek, and at mile 25.1.
DRAINAGE AREA.--402 mi², includes 18 mi² without surface drainage.
PERIOD OF RECORD.--October 1920 to current year. Prior to December 1920, monthly discharges only, published in WSP 1306.
REVISED RECORDS.--WSP 603: 1922(M). WSP 758: 1929(M). WSP 1033: 1943(M). WSP 1386: 1921-22, 1923-25(M), 1927-28(M), 1930(M), 1933(M). WSP 1910: Drainage area. WDR TN-76-1: 1973-75(P).
GAGE.--Water-stage recorder. Datum of gage is 632.73 ft above National Geodetic Vertical datum of 1929 (levels by Tennessee Valley Authority). Prior to Sept. 18, 1927, nonrecording gage at same site at datum 0.03 ft higher. Sept. 18, 1927, to Sept. 30, 1930, nonrecording gage at bridge 15 ft upstream at present datum.
REMARKS.--No estimated daily discharges. Records good. Prior to 1950, some diurnal fluctuation caused by small mills above station. Minimum for period of record also occurred Sept. 7-21, 27, 28, 1925. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1867 reached a stage of about 19 ft from reports of Tennessee Valley Authority.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	51	78	169	4430	496	1220	3470	616	275	209	108	65
2	49	74	174	3080	488	2470	2240	558	444	200	101	64
3	48	71	829	2300	464	2750	1750	504	344	218	96	62
4	52	68	2270	1870	449	4410	1390	486	310	205	93	60
5	57	67	1700	1600	437	3470	1300	748	344	216	89	59
6	52	69	1250	1280	438	2560	1210	1050	283	204	85	57
7	51	68	776	1150	443	1910	1080	891	251	190	83	56
8	97	65	527	1250	436	1600	1170	719	228	197	82	55
9	101	74	418	1210	426	1370	1720	628	214	180	87	54
10	82	318	352	1150	413	1190	1620	565	204	169	210	53
11	103	295	309	2240	396	1050	1360	527	193	165	132	53
12	93	234	276	2250	376	964	1210	517	241	160	157	53
13	88	229	254	1960	409	1190	2030	469	1660	151	138	53
14	82	189	311	1660	1290	1230	2270	426	778	143	115	52
15	74	165	329	1410	1680	1130	4330	394	611	137	103	52
16	69	150	342	1310	1460	995	5680	373	501	130	97	51
17	66	137	395	1200	1300	901	3860	352	420	125	90	50
18	70	128	1220	1080	4640	993	2400	334	436	122	88	49
19	76	117	1660	985	11700	994	2150	333	415	124	88	50
20	78	110	1530	970	15700	1000	2020	438	364	115	94	52
21	72	104	1390	933	10900	918	1710	372	346	111	83	47
22	85	99	6230	859	6930	844	1470	330	399	109	80	46
23	141	96	32300	790	3850	1030	1260	310	368	103	76	46
24	141	92	23700	729	2650	1850	1080	291	316	102	73	61
25	165	89	14900	670	2160	1950	928	277	283	104	72	214
26	156	86	6680	614	1870	1560	815	271	276	113	76	136
27	130	84	2880	573	1580	1220	729	266	254	213	74	106
28	110	92	3840	547	1270	1170	694	367	244	145	72	96
29	96	114	5150	516	---	3870	672	299	236	131	69	91
30	88	140	4540	514	---	7980	655	275	224	126	70	80
31	82	---	5280	526	---	6000	---	266	---	119	67	---
TOTAL	2705	3702	121981	41656	74651	61789	54273	14252	11462	4736	2948	2023
MEAN	87.3	123	3935	1344	2666	1993	1809	460	382	153	95.1	67.4
MAX	165	318	32300	4430	15700	7980	5680	1050	1660	218	210	214
MIN	48	65	169	514	376	844	655	266	193	102	67	46
CFSM	.22	.31	9.79	3.34	6.63	4.96	4.50	1.14	.95	.38	.24	.17
IN.	.25	.34	11.29	3.85	6.91	5.72	5.02	1.32	1.06	.44	.27	.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1991, BY WATER YEAR (WY)

MEAN	186	465	985	1351	1547	1595	1206	684	361	271	206	169
MAX	1626	3471	3935	3736	3589	3508	2887	2795	2381	1770	863	1152
(WY)	1990	1958	1991	1937	1939	1973	1983	1984	1928	1989	1926	1950
MIN	27.1	32.4	51.9	74.0	271	364	228	179	71.6	68.6	46.9	23.1
(WY)	1932	1932	1940	1981	1941	1988	1986	1941	1988	1986	1957	1925

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1921 - 1991	
ANNUAL TOTAL	403882		396178			
ANNUAL MEAN	1107		1085		748	
HIGHEST ANNUAL MEAN					1284	1973
LOWEST ANNUAL MEAN					305	1981
HIGHEST DAILY MEAN	32300	Dec 23	32300	Dec 23	32300	Dec 23 1990
LOWEST DAILY MEAN	41	Sep 11	46	Sep 22	16	Sep 6 1925
ANNUAL SEVEN-DAY MINIMUM	46	Sep 6	49	Sep 17	18	Sep 6 1925
INSTANTANEOUS PEAK FLOW			35800	Dec 23	35400	Dec 23 1990
INSTANTANEOUS PEAK STAGE			18.02	Dec 23	18.02	Dec 23 1990
INSTANTANEOUS LOW FLOW			45	Sep 22	*16	Sep 6 1925
ANNUAL RUNOFF (CFSM)	2.75		2.70		1.86	
ANNUAL RUNOFF (INCHES)	37.37		36.66		25.30	
10 PERCENT EXCEEDS	2490		2240		1750	
50 PERCENT EXCEEDS	308		318		335	
90 PERCENT EXCEEDS	66		68		62	

* See REMARKS.

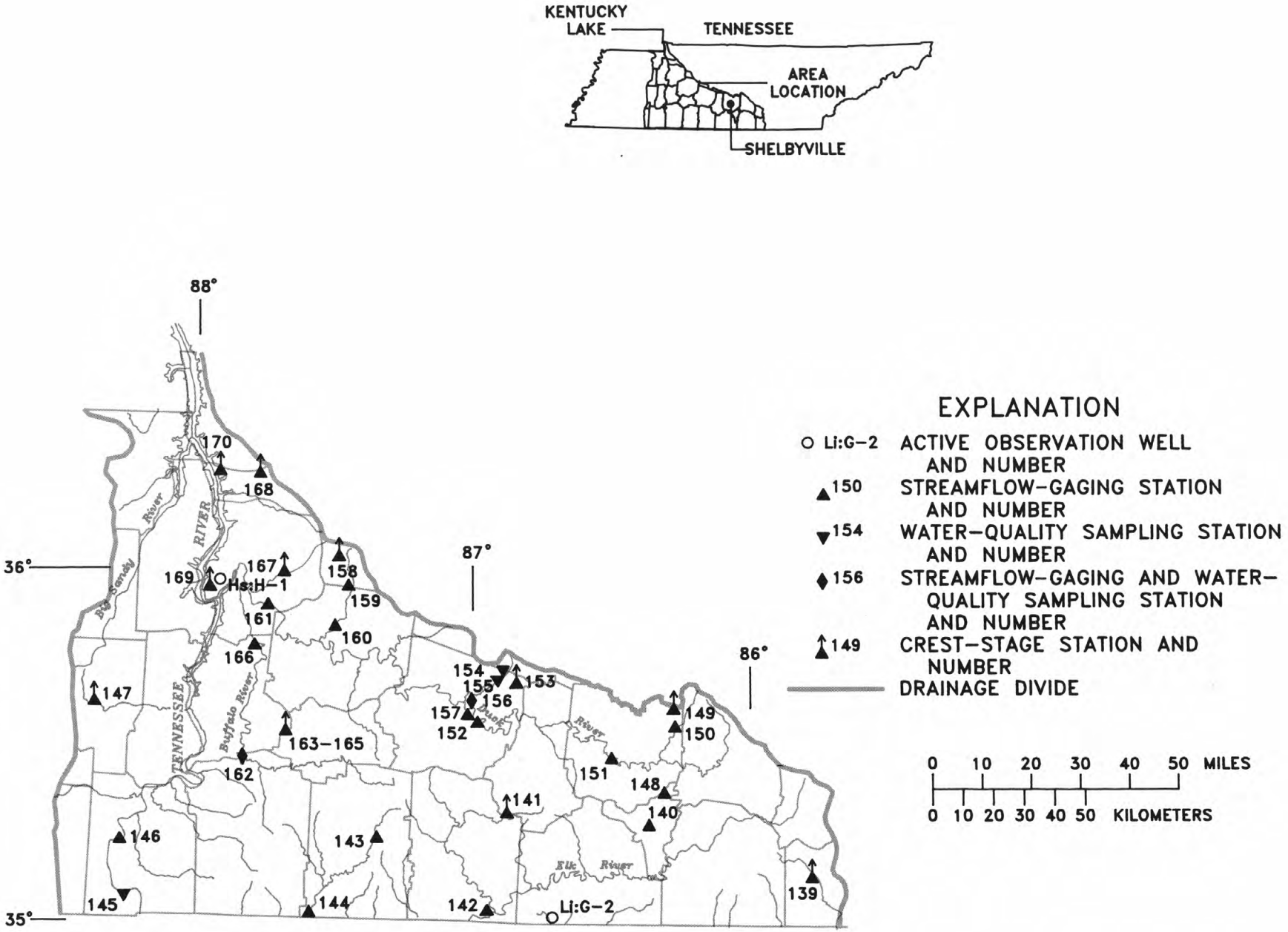

Figure 7.--Location of gaging sites in the lower Tennessee River basin.

03580995 EAST FORK MULBERRY CREEK BELOW JACK DANIEL DISTILLERY AT LYNCHBURG, TN

LOCATION.--Lat 35°16'56", long 86°22'17", Moore County, Hydrologic Unit 06030003, on right bank 160 ft above county road bridge, 0.2 mi below State Highway 55 bridge, 1.4 mi above Price Branch, and at mile 13.2
DRAINAGE AREA.--23.4 mi².
PERIOD OF RECORD.--October 1987 to current year. Miscellaneous low-flow measurements made in vicinity since 1932.
GAGE.--Water-stage encoder, crest-stage gage and satellite telemeter at station. Elevation of the gage is 774.31 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records good. Minimum discharge also occurred July 11, 19, 1988. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.2	7.8	20	201	26	144	121	32	23	12	4.2	4.0
2	7.3	7.4	19	139	25	164	85	28	22	12	4.2	3.9
3	7.1	7.1	507	97	25	287	65	25	21	12	4.2	4.0
4	18	6.9	155	72	25	230	52	54	119	13	4.2	4.0
5	11	9.4	77	61	26	145	51	280	55	11	4.2	4.1
6	7.0	9.3	54	51	35	108	41	156	27	8.4	4.2	3.7
7	6.8	8.1	39	142	35	73	37	92	23	7.4	3.8	3.3
8	35	7.8	30	123	34	54	44	92	21	7.7	3.7	3.2
9	25	55	25	94	33	43	41	111	20	7.9	4.4	3.7
10	16	86	22	142	32	37	39	78	20	8.1	5.5	3.6
11	12	43	19	224	29	34	35	59	19	7.6	4.4	5.1
12	9.9	28	18	175	28	41	38	309	18	7.2	3.9	4.7
13	8.6	21	17	128	118	55	39	160	20	9.0	4.3	4.6
14	7.1	17	20	98	201	41	83	109	19	7.7	4.3	4.1
15	7.1	15	19	78	135	35	271	78	17	6.7	4.3	3.7
16	7.4	13	25	69	91	33	149	60	21	6.5	4.6	3.7
17	8.4	13	90	52	233	34	99	49	20	6.9	4.6	3.8
18	9.3	11	163	45	1780	39	73	44	16	8.0	5.1	3.9
19	8.0	11	134	43	2110	34	60	50	15	10	4.8	3.9
20	6.1	10	395	41	704	33	45	60	17	8.9	4.6	3.8
21	6.4	9.7	258	36	245	33	37	43	20	8.1	4.0	3.6
22	25	9.1	2570	32	157	45	34	38	15	7.5	4.0	3.3
23	26	9.1	2040	31	115	516	31	35	13	7.3	4.2	3.8
24	17	8.8	394	30	84	157	29	32	13	16	3.7	8.5
25	15	8.5	220	28	67	98	26	30	13	15	3.9	10
26	13	8.9	142	27	54	71	25	31	15	13	5.0	5.5
27	10	8.8	156	26	45	67	25	28	18	7.3	5.1	4.4
28	9.2	41	289	27	38	68	29	28	19	6.3	4.6	3.9
29	9.1	40	220	25	---	1370	65	27	14	5.6	4.3	3.5
30	8.5	26	300	31	---	386	38	25	12	5.3	4.4	3.8
31	8.1	---	319	28	---	178	---	24	---	4.9	4.3	---
TOTAL	371.6	556.7	8756	2396	6530	4653	1807	2267	685	274.3	135.0	129.1
MEAN	12.0	18.6	282	77.3	233	150	60.2	73.1	22.8	8.85	4.35	4.30
MAX	35	86	2570	224	2110	1370	271	309	119	16	5.5	10
MIN	6.1	6.9	17	25	25	33	25	24	12	4.9	3.7	3.2
CFSM	.51	.79	12.1	3.30	9.97	6.41	2.57	3.13	.98	.38	.19	.18
IN.	.59	.89	13.92	3.81	10.38	7.40	2.87	3.60	1.09	.44	.21	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1991, BY WATER YEAR (WY)

MEAN	25.1	24.8	89.7	85.6	130	87.7	49.3	31.8	38.4	21.8	8.05	18.8
MAX	80.1	44.7	282	112	233	150	69.9	73.1	112	63.7	14.5	48.2
(WY)	1990	1989	1991	1989	1991	1991	1989	1991	1989	1989	1989	1989
MIN	3.22	6.54	15.3	45.0	29.6	15.1	23.4	9.59	3.88	6.23	4.35	4.30
(WY)	1988	1988	1988	1988	1988	1988	1990	1988	1988	1988	1991	1991

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1988 - 1991	
ANNUAL TOTAL	23051.9		28560.7			
ANNUAL MEAN	63.2		78.2		50.5	
HIGHEST ANNUAL MEAN					78.2	1991
LOWEST ANNUAL MEAN					16.1	1988
HIGHEST DAILY MEAN	2570	Dec 22	2570	Dec 22	2570	Dec 22 1990
LOWEST DAILY MEAN	4.0	Sep 1	3.2	Sep 8	1.7	Jul 10 1988
ANNUAL SEVEN-DAY MINIMUM	4.5	Aug 31	3.7	Sep 4	2.1	Jul 5 1988
INSTANTANEOUS PEAK FLOW			5370	Dec 23	5370	Dec 23 1990
INSTANTANEOUS PEAK STAGE			10.01	Dec 23	10.01	Dec 23 1990
INSTANTANEOUS LOW FLOW			2.6	Sep 8	*1.6	Jul 10 1988
ANNUAL RUNOFF (CFSM)	2.70		3.34		2.16	
ANNUAL RUNOFF (INCHES)	36.65		45.40		29.32	
10 PERCENT EXCEEDS	133		155		106	
50 PERCENT EXCEEDS	18		25		18	
90 PERCENT EXCEEDS	6.4		4.2		4.1	

* See REMARKS.

03584600 ELK RIVER AT PROSPECT, TN

LOCATION.--Lat 35°00'51", long 86°59'41", Giles County, Hydrologic Unit 06030004, on right bank 25 ft upstream from county road bridge, 800 ft above abandoned L and N Railroad bridge, 0.4 mi above Ford Creek, 0.8 mi south of Prospect, 2.9 mi upstream from Tennessee-Alabama State line, and at mile 36.5.
DRAINAGE AREA.--1,805 mi².
PERIOD OF RECORD.--July 1904 to February 1908, January 1919 to current year. Published as "near Elkmont, Ala." 1904-8, 1919-34. Record for both sites published January to March 1934. Published as "near Prospect, Tn." 1935-89.
REVISED RECORDS.--WSP 523: 1904-8, 1919-20. WSP 823: Drainage area. WSP 1436: 1920-22, 1923(M), 1924, 1927, 1929, 1931-32(M).
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 558.70 ft above National Geodetic Vertical Datum of 1929. July 1, 1904, to Feb. 2, 1908, and Jan. 20, 1919, to Mar. 31, 1934; nonrecording gage 6.9 mi downstream at datum 8.93 ft lower. January 1934 to September 1989, water-stage recorder at site 5.0 mi upstream at datum 4.59 ft higher.
REMARKS.--Records good except those for estimated daily discharges, May 26 to June 5, June 13-21, Sept. 24-27, which are fair. Flow regulated by Woods Reservoir (station 03579000) since May 1952, and Tims Ford Lake (station 03580740) since December 1970. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data. Tennessee Valley Authority satellite telemeter at station.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge and gage height from rating curve extended above 63,000 ft³/s, on basis of slope-area measurement at gage height 38.17 ft and contracted-opening measurement at gage height 38.96 ft site and datum then in use; minimum, 78 ft³/s, Sept. 29, 1961 (caused by highway construction upstream).
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1902 reached a stage of 40.9 ft, site and datum then in use, discharge, 130,000 ft³/s, and may have been equaled by a flood in March 1897, from reports of Tennessee Valley Authority.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	232	355	2660	14300	2370	9740	11800	5610	e2500	680	411	425
2	229	453	2230	6900	2400	14400	8500	5480	e2300	575	460	345
3	407	1360	8560	7700	1430	17100	7520	4710	e2400	885	529	267
4	377	391	14900	9070	1330	17700	6830	5160	e2400	1650	525	242
5	535	263	7480	8970	1470	13400	6720	8650	e4000	754	410	294
6	516	249	5060	8550	1760	9830	6040	12600	2830	651	357	377
7	433	724	4170	10900	2430	10000	3870	7750	1410	1170	426	378
8	424	797	3530	13100	2270	9760	3900	6990	1120	580	476	379
9	762	1100	2330	8880	2420	9030	4530	8290	980	547	598	312
10	753	4150	1120	7680	1990	6790	4570	5870	884	721	428	228
11	547	3500	2040	11400	1570	6160	5000	6200	809	673	719	265
12	1320	1450	3230	10100	1490	5970	4970	4850	764	560	521	418
13	1050	909	3460	9060	2810	6350	4520	6920	779	499	407	401
14	1010	788	3260	7840	9190	6030	7570	5240	e5000	465	418	404
15	556	1280	3550	7080	7640	6010	19500	4100	e4000	455	479	369
16	336	2330	2550	7040	5400	5630	19700	3530	e2500	422	464	307
17	389	2440	2570	6710	5360	3210	10600	2990	e2300	400	518	219
18	2000	1790	8030	6290	22600	3220	6930	3340	e2000	394	486	243
19	2070	550	10200	6060	79000	3210	7650	5770	e2200	412	472	330
20	1300	1150	9040	5970	86100	2860	7360	7420	e2500	405	379	343
21	1020	901	25200	5750	45900	3080	6680	6350	e3000	394	459	346
22	415	1070	38200	4840	30300	4420	6240	8270	2460	394	397	359
23	610	722	52200	5430	14500	11400	4920	4870	2070	388	370	307
24	1880	376	56500	5360	9770	10700	2680	3870	1400	367	365	e350
25	1050	391	45300	3530	8530	5450	1880	3080	1370	628	367	e330
26	656	779	37500	1720	7770	4010	1650	e2500	2130	1280	309	e350
27	1350	443	31300	1450	7610	4120	1520	e900	2000	997	257	e400
28	1080	992	25300	1400	8680	4180	2600	e900	2110	859	324	514
29	410	1800	22400	2080	---	21300	7500	e900	1990	588	434	397
30	826	2110	19900	2210	---	29000	9680	e1500	1660	494	523	266
31	794	---	21000	1880	---	29700	---	e3500	---	441	440	---
TOTAL	25337	35613	474770	209250	374090	293760	203430	158110	63866	19728	13728	10165
MEAN	817	1187	15320	6750	13360	9476	6781	5100	2129	636	443	339
MAX	2070	4150	56500	14300	86100	29700	19700	12600	5000	1650	719	514
MIN	229	249	1120	1400	1330	2860	1520	900	764	367	257	219

CAL YR 1990 MEAN‡ 4356 CFSM‡ 2.41 IN.‡ 32.76
WTR YR 1991 MEAN‡ 5152 CFSM‡ 2.85 IN.‡ 38.75

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1972 - 1991, BY WATER YEAR (WY)

MEAN	1911	3254	5450	6069	5487	6325	4045	3036	1877	1135	757	1110
MAX	8699	8888	15320	17290	13360	17700	10220	9806	8011	6260	1739	4389
(WY)	1976	1978	1991	1974	1991	1973	1983	1983	1989	1989	1972	1979
MIN	209	619	1256	799	2017	1464	728	445	201	341	241	339
(WY)	1988	1988	1981	1981	1981	1985	1986	1988	1988	1988	1987	1991

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		*WATER YEARS 1972 - 1991	
ANNUAL TOTAL	1526810		1881847			
ANNUAL MEAN	4183		5156		3364	
HIGHEST ANNUAL MEAN					5214	1973
LOWEST ANNUAL MEAN					1013	1981
HIGHEST DAILY MEAN	56500	Dec 24	86100	Feb 20	105000	Mar 17 1973
LOWEST DAILY MEAN	226	Sep 10	219	Sep 17	132	Sep 4 1987
ANNUAL SEVEN-DAY MINIMUM	231	Aug 31	307	Sep 16	153	Jun 13 1988
INSTANTANEOUS PEAK FLOW			103000	Feb 20	117000	Mar 17 1973
INSTANTANEOUS PEAK STAGE			34.20	Feb 20	40.12	Mar 17 1973
10 PERCENT EXCEEDS	10200		10400		7400	
50 PERCENT EXCEEDS	1350		2080		1760	
90 PERCENT EXCEEDS	287		377		418	

e Estimated.
‡ Adjusted for change in contents in Woods Reservoir and Tims Ford Lake.
NOTE.--Contents (cfs-days) for adjustments furnished by Tennessee Valley Authority.
* Regulated period only.

03588000 SHOAL CREEK AT LAWRENCEBURG, TN

LOCATION.--Lat 35°14'40", long 87°21'02", Lawrence County, Hydrologic Unit 06030005, on left bank at Lawrenceburg municipal water-supply intake, 500 ft downstream from Little Shoal Creek, 0.5 mi upstream from Crowson Creek, 0.9 mi west of courthouse in Lawrenceburg, and at mile 55.9.
DRAINAGE AREA.--55.4 mi².
PERIOD OF RECORD.--June 1932 to March 1934, March 1967 to September 1991 (discontinued).
REVISED RECORDS.--WSP 1306: Drainage area. WSP 2110: 1933.
GAGE.--Water-stage recorder, crest-stage gage, and concrete control. Datum of gage is 784.41 ft above National Geodetic Vertical Datum of 1929. June 7, 1932, to Mar. 31, 1934, nonrecording gage at site 500 ft downstream at datum 4.01 ft lower. Mar. 22, 1967, to Sept. 30, 1970, at site 1,300 ft downstream at datum 7.71 ft lower.
REMARKS.--Records good. Maximum discharge from rating curve extended above 6,700 ft³/s, on basis of computation of peak flow over dam. About 6 ft³/s were diverted by Lawrenceburg water plant, some of which was returned to the stream through sewage treatment plant 0.6 mi downstream. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1846, 20.0 ft present site and datum, Mar. 28, 1902, discharge, 23,000 ft³/s; flood of Mar. 21, 1955, reached a stage of 17.2 ft, present site and datum, discharge 18,000 ft³/s, from report of Tennessee Valley Authority.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	22	23	201	68	279	166	200	175	70	46	36
2	24	22	39	167	67	232	143	166	167	62	46	36
3	25	23	347	139	64	220	131	152	153	64	44	36
4	55	23	55	126	64	184	124	277	143	68	46	37
5	23	23	38	118	66	156	127	553	150	59	102	36
6	23	22	33	137	86	149	115	248	128	60	65	37
7	27	23	30	418	75	130	108	174	118	58	47	37
8	32	22	29	180	69	118	109	198	114	56	44	39
9	23	72	28	150	67	113	106	273	108	63	44	36
10	21	33	26	326	65	104	105	189	101	57	303	37
11	23	25	25	323	63	105	94	218	98	55	57	36
12	22	22	27	197	62	107	132	171	96	53	50	38
13	23	22	26	157	255	115	131	263	90	56	48	37
14	22	21	28	134	233	95	1220	182	92	55	47	36
15	21	21	28	137	120	91	1480	154	90	53	45	36
16	22	20	26	156	96	90	255	139	89	52	44	35
17	22	21	88	124	395	94	189	320	81	54	45	34
18	22	20	167	109	3910	101	244	555	82	53	44	33
19	22	21	104	107	4280	92	637	305	78	52	42	31
20	23	22	658	102	632	86	226	166	78	52	42	33
21	24	20	1450	90	297	80	168	141	122	51	41	34
22	40	21	2560	90	231	254	153	127	106	50	41	37
23	24	22	854	88	219	564	136	118	96	50	41	34
24	22	21	252	82	185	146	127	111	84	53	40	47
25	22	21	173	81	168	116	117	848	76	51	43	61
26	22	21	146	79	159	108	111	3390	72	52	39	30
27	23	19	249	77	144	101	110	1940	70	51	38	29
28	23	46	348	76	134	102	775	494	67	48	42	29
29	22	22	196	78	---	1360	1230	285	68	48	40	29
30	23	22	996	72	---	403	316	218	73	47	43	27
31	22	---	420	71	---	202	---	189	---	46	39	---
TOTAL	767	735	9469	4392	12274	6097	9085	12764	3065	1699	1698	1073
MEAN	24.7	24.5	305	142	438	197	303	412	102	54.8	54.8	35.8
MAX	55	72	2560	418	4280	1360	1480	3390	175	70	303	61
MIN	21	19	23	71	62	80	94	111	67	46	38	27
CFSM	.45	.44	5.51	2.56	7.91	3.55	5.47	7.43	1.84	.99	.99	.65
IN.	.52	.49	6.36	2.95	8.24	4.09	6.10	8.57	2.06	1.14	1.14	.72

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1991, BY WATER YEAR (WY)

MEAN	47.8	80.0	121	156	162	187	144	144	67.1	61.9	44.3	46.2
MAX	147	268	336	535	438	656	334	412	197	235	79.2	190
(WY)	1976	1978	1973	1974	1991	1973	1983	1991	1989	1989	1981	1979
MIN	18.4	24.0	25.4	24.4	39.7	52.5	34.4	32.4	26.5	23.3	18.0	18.6
(WY)	1988	1988	1981	1981	1934	1981	1986	1987	1988	1988	1988	1988

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1932 - 1991	
ANNUAL TOTAL	39728		63118			
ANNUAL MEAN	109		173		106	
HIGHEST ANNUAL MEAN					185	1973
LOWEST ANNUAL MEAN					40.5	1981
HIGHEST DAILY MEAN	2560	Dec 22	4280	Feb 19	6100	Mar 13 1975
LOWEST DAILY MEAN	19	Nov 27	19	Nov 27	15	Aug 24 1987
ANNUAL SEVEN-DAY MINIMUM	21	Nov 15	21	Nov 15	16	Aug 21 1987
INSTANTANEOUS PEAK FLOW			10600	May 26	*15200	Mar 15 1973
INSTANTANEOUS PEAK STAGE			13.64	May 26	18.71	Mar 15 1973
INSTANTANEOUS LOW FLOW			15	Sep 26	11	Aug 30 1988
ANNUAL RUNOFF (CFSM)	1.96		3.12		1.91	
ANNUAL RUNOFF (INCHES)	26.68		42.38		25.90	
10 PERCENT EXCEEDS	174		278		168	
50 PERCENT EXCEEDS	52		73		53	
90 PERCENT EXCEEDS	23		23		25	

* See REMARKS.

03588500 SHOAL CREEK AT IRON CITY, TN

LOCATION.--Lat 35°01'27", long 87°34'44", Lawrence County, Hydrologic Unit 06030005, near center of span on downstream side of bridge on county road, 400 ft downstream from Holly Creek, 1,350 ft upstream from Louisville and Nashville Railroad bridge, 1,350 ft northeast of Iron City Post Office, and at mile 22.3.
DRAINAGE AREA.--348 mi².
PERIOD OF RECORD.--July 1925 to current year.
REVISED RECORDS.--WSP 823: Drainage area. WSP 1113: 1927(M). WSP 1436: 1926(M), 1927-29, 1930(M), 1932, 1933(M).
GAGE.--Water-stage recorder. Datum of gage is 534.22 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 25, 1931, nonrecording gage at railroad bridge, 1,350 ft downstream at datum 0.85 ft lower. Feb. 25, 1931, to Sept. 30, 1933, nonrecording gage at site 825 ft downstream and Oct. 1, 1933, to Sept. 30, 1957, water-stage recorder at site 750 ft downstream at datum 0.69 ft higher.
REMARKS.--Records good. Prior to January 1951, diurnal fluctuation at low flow caused by powerplant near Lawrenceburg. Minimum discharge for the current year also occurred on Oct. 4. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1902 reached a stage about 3 ft higher than that of Mar. 21, 1955, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	128	152	221	1870	361	948	1740	2260	1310	352	225	203
2	126	154	224	1270	355	1790	1300	1520	1320	332	219	188
3	122	156	2060	969	352	1460	1030	1110	1010	347	215	178
4	208	157	1300	783	352	1350	906	1080	915	428	207	175
5	299	164	625	677	357	1090	876	2100	1010	380	225	172
6	178	186	435	644	415	1000	795	2330	830	331	278	169
7	151	175	370	1260	417	901	723	1570	740	317	234	168
8	254	166	332	1260	406	839	733	1300	661	312	212	163
9	305	273	306	980	401	757	769	1940	597	329	207	171
10	207	622	289	961	396	687	769	1940	552	317	252	225
11	171	337	275	1800	386	650	711	3390	526	310	344	190
12	158	267	255	1460	375	645	910	2440	524	293	237	177
13	153	222	243	1120	582	744	1080	2590	499	278	210	161
14	148	199	273	915	1620	680	3690	2280	498	269	202	160
15	144	187	271	797	1210	628	8430	1660	517	261	198	160
16	140	178	269	769	865	596	3290	1250	488	256	190	159
17	139	175	380	668	992	583	1990	993	443	255	188	159
18	162	173	1160	588	17000	633	1500	1620	409	264	191	158
19	170	169	1390	547	25600	595	1830	1190	396	275	189	153
20	154	169	1420	528	8440	570	1760	1080	384	258	180	152
21	149	168	8560	479	3410	557	1140	860	383	247	180	150
22	239	167	11200	439	2320	593	965	751	572	238	182	152
23	338	177	7140	424	1800	3670	868	678	511	231	177	153
24	240	182	2520	413	1430	2040	771	613	670	228	173	161
25	185	169	1440	402	1150	1350	682	1830	563	284	178	288
26	164	165	1050	389	999	1020	629	31200	477	437	202	254
27	163	165	934	385	899	892	619	20100	431	404	196	178
28	159	289	1720	395	823	838	2650	7230	402	288	189	165
29	157	353	1370	385	---	5000	6990	3360	380	259	231	160
30	155	266	3000	381	---	5600	4490	2250	360	243	237	157
31	154	---	4370	373	---	2620	---	1660	---	236	243	---
TOTAL	5620	6382	55402	24331	73713	41326	54636	106175	18378	9259	6591	5259
MEAN	181	213	1787	785	2633	1333	1821	3425	613	299	213	175
MAX	338	622	11200	1870	25600	5600	8430	31200	1320	437	344	288
MIN	122	152	221	373	352	557	619	613	360	228	173	150
CFSM	.52	.61	5.14	2.26	7.56	3.83	5.23	9.84	1.76	.86	.61	.50
IN.	.60	.68	5.92	2.60	7.88	4.42	5.84	11.35	1.96	.99	.70	.56

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1991, BY WATER YEAR (WY)

MEAN	229	439	739	1046	1217	1306	996	736	374	295	220	209
MAX	1290	1894	2968	3604	3562	3626	2227	3425	1876	1131	615	1295
(WY)	1933	1978	1927	1974	1948	1975	1964	1991	1928	1932	1926	1979
MIN	69.4	123	165	170	273	373	222	169	118	105	94.8	64.8
(WY)	1932	1955	1964	1981	1941	1966	1986	1936	1988	1943	1988	1925

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1925 - 1991	
ANNUAL TOTAL	265038		407072			
ANNUAL MEAN	726		1115		649	
HIGHEST ANNUAL MEAN					1178	1973
LOWEST ANNUAL MEAN					281	1981
HIGHEST DAILY MEAN	13700	Feb 4	31200	May 26	44000	Feb 13 1948
LOWEST DAILY MEAN	106	Sep 7	122	Oct 3	41	Sep 22 1925
ANNUAL SEVEN-DAY MINIMUM	109	Sep 2	149	Oct 12	55	Sep 3 1925
INSTANTANEOUS PEAK FLOW			40500	May 26	132000	Mar 21 1955
INSTANTANEOUS PEAK STAGE			22.00	May 26	27.25	Mar 21 1955
INSTANTANEOUS LOW FLOW			*121	Oct 3	38	Aug 31 1943
ANNUAL RUNOFF (CFSM)	2.09		3.20		1.86	
ANNUAL RUNOFF (INCHES)	28.33		43.51		25.32	
10 PERCENT EXCEEDS	1390		1960		1300	
50 PERCENT EXCEEDS	361		402		308	
90 PERCENT EXCEEDS	129		163		127	

* See REMARKS.

03593005 TENNESSEE RIVER AT PICKWICK LANDING DAM (LL), TN
(National stream-quality accounting network station)

LOCATION.--Lat 35°03'54", long 88°15'08", Hardin County, Hydrologic Unit 06040001, at downstream end of lockwall in lower pool at Pickwick Landing Dam, 16.8 mi upstream from Savannah, and at mile 206.7.

DRAINAGE AREA.--32,820 mi^2, approximately.

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: April 1976 to September 1981.
WATER TEMPERATURE: April 1976 to September 1981.

REMARKS.--Flow regulated by Pickwick Landing Dam and many other reservoirs above the station. Continuous discharge records are published under station 03593500 Tennessee River at Savannah, TN.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 326 microsiemens, Sept. 18, 19, 1978; minimum, 116 microsiemens, Apr. 27, 1979.
WATER TEMPERATURES: Maximum, 31.5°C, July 7, 1978; minimum, 2.0°C, Feb. 8, 9, 1978.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV											
29...	1400	49600	197	8.0	15.0	779	2.5	9.2	89	--	--
FEB											
07...	0930	55300	175	8.2	9.0	761	6.4	11.2	97	K14	K12
JUN											
04...	1400	71800	107	7.8	25.0	760	12	7.8	95	K7	K17
AUG											
29...	1215	72700	160	7.9	28.0	769	2.0	6.6	84	130	88

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV											
29...	73	6	21	5.0	10	22	0.5	1.8	67	16	11
FEB											
07...	74	12	23	3.9	5.5	14	0.3	1.5	62	13	6.6
JUN											
04...	46	1	15	2.1	2.5	10	0.2	1.3	45	6.5	3.4
AUG											
29...	61	9	17	4.5	6.3	18	0.4	1.7	52	12	6.5

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
NOV											
29...	0.20	5.3	109	111	0.15	14600	0.280	0.020	0.07	0.300	0.050
FEB											
07...	<0.10	5.1	98	99	0.13	14600	0.580	0.020	0.07	0.600	0.030
JUN											
04...	0.20	5.0	57	62	0.08	11100	0.260	0.020	0.07	0.280	0.020
AUG											
29...	<0.10	4.6	86	85	0.12	16900	--	<0.010	--	<0.050	0.020

K--Results based on non-ideal colony count.

TENNESSEE RIVER BASIN

03593005 TENNESSEE RIVER AT PICKWICK LANDING DAM (LL), TN--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)
NOV 29...	0.09	0.070	<0.20	0.050	0.050	0.030	20	<1	22	<0.5
FEB 07...	0.04	0.030	0.40	0.050	0.040	0.030	30	<1	20	<0.5
JUN 04...	0.03	0.020	0.40	0.080	0.020	0.020	90	<1	22	<0.5
AUG 29...	0.04	0.030	0.40	0.040	0.020	<0.010	<10	<1	21	<0.5

DATE	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)
NOV 29...	<1.0	<1	<3	3	12	<1	<4	4	<0.1	<10
FEB 07...	1.0	<1	<3	7	38	1	<4	16	<0.1	<10
JUN 04...	<1.0	<1	<3	4	63	1	<4	3	<0.1	<10
AUG 29...	<1.0	<1	<3	2	7	<1	<4	1	<0.1	<10

DATE	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 29...	2	<1	<1.0	69	<6	<3	7	937	86
FEB 07...	<1	<1	<1.0	60	<6	3	6	896	81
JUN 04...	1	<1	<1.0	40	<6	6	19	3680	82
AUG 29...	<1	<1	<1.0	59	<6	<3	10	1960	71

03593500 TENNESSEE RIVER AT SAVANNAH, TN

LOCATION.--Lat 35°13'29", long 88°15'26", Hardin County, Hydrologic Unit 06040001, on right bank at upstream side of bridge on U.S. Highway 64, at Savannah, 16.8 mi downstream from Pickwick Landing Dam, and at mile 189.9.
DRAINAGE AREA.--33,140 mi² approximately.
PERIOD OF RECORD.--September 1930 to current year. Gage-height records collected in this vicinity since June 1905, are in reports of U.S. Weather Bureau.
REVISED RECORDS.--WSP 853: Drainage area. WSP 1306: 1936 (monthly runoff). WSP 2110: 1966. WRD TN-74-1: 1973. WRD TN-85-1: 1973. WRD TN-90-1: 1989.
GAGE.--Water-stage recorder. Datum of gage is 300.00 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 7, 1945, at datum 41.61 ft higher. Oct. 1, 1948, to Apr. 13, 1978, auxiliary water-stage recorder on downstream end of lockwall in lower pool at Pickwick Landing Dam. Since Apr. 13, 1978, auxiliary water-stage recorder over the tailwater elevation well adjacent to the powerhouse which is an integral part of Pickwick Landing Dam, 16.8 mi upstream from base gage at same datum. Apr. 5, 1937, to Jan. 31, 1939, auxiliary nonrecording gage 4.0 mi downstream and Feb. 1, 1939, to Sept. 30, 1948, water-stage recorder 4.3 mi downstream from base gage at same datum.
REMARKS.--Records good. Slight regulation since 1924 by Wilson Lake and increasing regulation since 1936 as other reservoirs have been built above station (see p. 169) and Water Resources Data for adjoining states). Minimum daily discharge for current year from TVA release figures at Pickwick Landing Dam; gage height unknown.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since 1867, 101.2 ft, Mar. 21, 1897, present datum, from floodmarks, discharge, 450,000 ft³/s, from rating curve extended above 320,000 ft³/s. Flood of Jan. 2, 1927, reached a stage of 92.7 ft present datum, discharge, 349,000 ft³/s. Minimum stage since 1905, 38.8 ft present datum, Sept. 8, 1925.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25200	25700	38900	225000	49900	195000	166000	e127000	63100	48700	39400	41800
2	26300	19900	28400	203000	e34700	184000	166000	e108000	57200	34900	36700	48500
3	27300	19400	45900	194000	e25700	174000	158000	e82800	62700	40600	40000	41200
4	28500	19700	66100	178000	e36200	166000	137000	79300	63400	48600	54500	42500
5	29600	35600	66700	143000	e38400	160000	105000	84200	35900	52200	36900	40800
6	23100	40200	66100	132000	e38100	159000	68500	128000	e32300	46600	33000	40400
7	19900	43300	66600	129000	47600	157000	50500	137000	e33600	43700	30800	43300
8	30600	42700	30700	121000	37900	152000	56700	124000	e46200	39700	30800	30500
9	33300	39600	21800	111000	27700	144000	60800	107000	e24800	37400	32000	40300
10	44700	43600	36600	113000	22300	140000	76300	96800	e23700	38900	41100	51100
11	36000	40400	41300	115000	31900	131000	77100	82700	e20600	42500	44800	37700
12	35500	44500	48400	115000	35300	113000	77700	92600	25200	42400	41800	33500
13	17800	45600	49900	114000	35300	99200	78800	125000	25200	43200	41000	35800
14	14400	44800	41400	113000	35700	95400	96000	141000	42800	32500	39700	36500
15	30400	47200	28100	e110000	67200	84000	154000	129000	45800	29700	52400	36500
16	34300	45300	22400	e88400	67200	76000	164000	97700	52600	28100	52300	37100
17	36500	38300	29700	73900	61300	77300	143000	81400	34400	26700	39500	44300
18	33300	32300	51800	74300	88700	72600	123000	69000	37600	27800	41500	37400
19	31000	40000	67900	74100	236000	58700	109000	55600	35900	26100	39500	36600
20	25600	38900	68400	73500	369000	56600	93600	63800	36000	42400	41000	37100
21	23900	35600	89100	74700	377000	66500	81000	64700	33100	45500	39300	e15800
22	34100	28700	172000	75000	356000	e63600	70700	66600	48600	29200	37900	e13200
23	43000	26100	327000	e80400	e312000	e61000	49200	71500	56200	28700	37900	e28300
24	41000	26000	382000	e80400	e291000	e40700	43100	42000	39200	29700	32800	e28300
25	44600	24100	406000	e77100	e280000	e62500	e43200	e37800	49200	32800	36000	36800
26	40400	33500	400000	e47200	e260000	e75100	e40000	98900	59900	47500	40400	37400
27	27600	26900	361000	e22500	e235000	e85200	e36000	271000	64700	40900	40500	e31600
28	17600	27300	324000	e18900	227000	e91200	e44400	175000	59300	40600	43700	e21400
29	36100	42300	291000	32400	---	e118000	e115000	123000	49000	32700	37500	e20100
30	36600	47900	271000	47600	---	153000	e126000	102000	42100	32400	45800	e37400
31	34100	---	253000	54400	---	162000	---	87200	---	35500	47100	---
TOTAL	962300	1065400	4193200	3110800	3724100	3473600	2809600	3151600	1300300	1168200	1247600	1063200
MEAN	31040	35510	135300	100300	133000	112100	93650	101700	43340	37680	40250	35440
MAX	44700	47900	406000	225000	377000	195000	166000	271000	64700	52200	54500	51100
MIN	14400	19400	21800	18900	22300	40700	36000	37800	20600	26100	30800	13200
CFSM	.94	1.07	4.08	3.03	4.01	3.38	2.83	3.07	1.31	1.14	1.21	1.07
IN.	1.08	1.20	4.71	3.49	4.18	3.90	3.15	3.54	1.46	1.31	1.40	1.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1946 - 1991, BY WATER YEAR (WY)

MEAN	64030	57740	101500	109400	174000	117700	62070	78570	40240	35420	39890	32710
MAX	97010	79970	135300	118500	214900	123400	93650	101700	43340	37680	40250	35440
(WY)	1990	1990	1991	1990	1990	1990	1991	1991	1991	1991	1991	1991
MIN	31040	35510	67820	100300	133000	112100	30480	55480	37130	33170	39540	29980
(WY)	1991	1991	1990	1991	1991	1991	1990	1990	1990	1990	1990	1990

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1946 - 1991	
ANNUAL TOTAL	26641210		27269900			
ANNUAL MEAN	72990		74710		75610	
HIGHEST ANNUAL MEAN					76520	1990
LOWEST ANNUAL MEAN					74710	1991
HIGHEST DAILY MEAN	406000	Dec 25	406000	Dec 25	406000	Dec 25 1990
LOWEST DAILY MEAN	8350	Apr 14	*13200	Sep 22	8350	Apr 14 1990
ANNUAL SEVEN-DAY MINIMUM	14300	Apr 14	25700	Oct 1	14300	Apr 14 1990
INSTANTANEOUS PEAK FLOW			417000	Dec 26	507000	Mar 18 1973
INSTANTANEOUS PEAK STAGE			91.04	Dec 27	96.11	Mar 20 1973
INSTANTANEOUS LOW FLOW					60	Apr 23 1966
10 PERCENT EXCEEDS	173000		158000		160000	
50 PERCENT EXCEEDS	43200		44700		50100	
90 PERCENT EXCEEDS	22300		27500		26100	

e Estimated.
* See REMARKS.

03597210 GARRISON FORK ABOVE L&N RAILROAD AT WARTRACE, TN

LOCATION.--Lat 35°30'42", long 86°19'26", Bedford County, Hydrologic Unit 06040002, on right bank 0.3 mi above L&N Railroad bridge, 0.6 mi below Knob Creek, 1.2 mi southeast of Wartrace, and at mile 3.2.
DRAINAGE AREA.--85.5 mi².
PERIOD OF RECORD.--October 1989 to September 1991.
GAGE.--Water-stage encoder and crest-stage gage. Datum of gage is 769.30 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records good, except those for estimated days Oct. 1-18, 1989, which are fair. Periodic regulation by a small powerplant, 6.8 miles upstream. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e2250	29	68	641	227	70	59	61	35	8.6	10	3.1
2	e1000	27	64	306	197	226	57	67	33	9.7	9.7	2.2
3	e400	27	59	205	1870	270	50	52	34	8.7	9.4	2.5
4	e300	25	55	601	2640	185	50	284	33	7.5	9.7	7.5
5	e200	26	55	424	814	145	50	481	29	6.7	21	7.1
6	e150	48	54	277	434	121	56	200	28	6.6	28	6.5
7	e120	54	50	202	287	104	56	139	23	6.2	15	6.5
8	e100	223	67	299	205	175	50	106	24	7.1	11	7.6
9	e90	218	74	257	351	300	47	91	23	8.6	10	9.3
10	e80	117	67	194	2010	288	51	78	21	7.1	9.3	7.1
11	e70	78	66	157	850	223	59	66	20	21	8.9	9.1
12	e60	62	64	128	388	174	51	59	19	74	8.6	31
13	e55	52	60	104	236	143	48	57	18	34	8.0	28
14	e50	64	57	91	182	125	47	50	18	23	7.4	14
15	e45	685	57	86	248	141	48	46	19	17	6.9	31
16	e55	752	50	78	333	1640	46	44	22	14	6.6	16
17	e70	319	48	76	242	1020	45	145	12	12	6.4	10
18	e50	201	47	382	196	518	43	71	15	11	5.9	7.6
19	42	143	56	217	172	301	41	52	15	10	5.3	6.7
20	39	118	55	996	139	203	39	202	14	10	5.1	7.1
21	36	98	48	1190	120	159	410	111	17	523	4.7	38
22	34	285	44	505	117	133	540	104	17	226	4.3	105
23	32	311	41	289	107	113	223	80	17	112	4.5	33
24	31	194	44	208	91	99	145	68	14	46	5.1	19
25	30	149	48	171	79	88	108	58	13	31	5.2	14
26	29	122	48	129	71	80	88	53	12	22	5.6	12
27	30	104	47	110	71	74	76	60	11	18	4.7	10
28	25	104	45	100	68	69	86	62	10	15	4.2	9.0
29	27	81	39	966	---	69	72	49	9.7	13	4.1	7.9
30	26	71	141	668	---	67	63	43	9.0	12	11	7.1
31	28	---	2020	340	---	63	---	38	---	11	16	---
TOTAL	5554	4787	3738	10397	12745	7386	2804	3077	584.7	1331.8	271.6	474.9
MEAN	179	160	121	335	455	238	93.5	99.3	19.5	43.0	8.76	15.8
MAX	2250	752	2020	1190	2640	1640	540	481	35	523	28	105
MIN	25	25	39	76	68	63	39	38	9.0	6.2	4.1	2.2
CFSM	2.10	1.87	1.41	3.92	5.32	2.79	1.09	1.16	.23	.50	.10	.19
IN.	2.42	2.08	1.63	4.52	5.55	3.21	1.22	1.34	.25	.58	.12	.21

SUMMARY STATISTICS FOR 1990 WATER YEAR

ANNUAL TOTAL	53151.0	
ANNUAL MEAN	146	
HIGHEST DAILY MEAN	2640	Feb 4
LOWEST DAILY MEAN	2.2	Sep 2
ANNUAL SEVEN-DAY MINIMUM	4.8	Aug 23
INSTANTANEOUS PEAK FLOW	5770	Feb 4
INSTANTANEOUS PEAK STAGE	13.30	Feb 4
INSTANTANEOUS LOW FLOW	1.7	Sep 3
ANNUAL RUNOFF (CFSM)	1.70	
ANNUAL RUNOFF (INCHES)	23.13	

e Estimated.

03597210 GARRISON FORK ABOVE L&N RAILROAD AT WARTRACE, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.8	13	45	455	90	416	325	156	32	35	11	11
2	4.0	17	38	261	80	402	228	114	30	69	10	10
3	6.0	8.3	1030	176	74	944	178	92	30	125	10	7.9
4	32	12	508	132	69	732	144	218	39	49	9.7	7.1
5	31	14	199	110	66	416	130	670	68	40	9.7	6.6
6	16	18	116	108	111	287	112	372	36	32	9.5	6.6
7	12	17	82	1120	115	200	101	218	30	28	8.9	6.8
8	21	15	60	530	104	152	128	165	27	27	8.6	6.5
9	55	158	49	290	95	125	122	239	26	25	11	7.1
10	28	310	41	436	87	106	113	152	25	26	17	7.1
11	20	114	37	562	76	95	96	128	23	55	13	11
12	18	64	33	390	68	92	103	423	25	40	11	25
13	17	45	32	265	411	101	116	253	42	31	9.7	16
14	15	36	36	199	884	85	206	178	80	25	9.3	9.9
15	13	30	34	161	360	72	1100	134	37	22	8.7	6.4
16	12	23	35	142	202	66	456	107	30	21	8.2	5.2
17	11	27	194	111	2040	66	267	86	26	19	7.9	4.4
18	20	22	738	93	6440	133	191	74	24	20	8.2	4.3
19	17	22	594	86	6870	98	166	67	19	20	9.9	4.6
20	15	21	2340	86	1680	87	128	63	20	18	12	5.1
21	14	19	2870	78	733	82	105	56	62	15	11	5.8
22	39	18	7390	69	452	151	93	51	38	14	9.3	5.5
23	77	20	3650	67	304	1600	85	48	36	13	8.3	5.3
24	41	20	839	63	222	464	76	46	1260	13	7.5	124
25	30	18	402	58	178	250	68	42	253	16	7.1	143
26	22	17	238	55	148	180	63	47	110	16	7.2	57
27	20	17	421	54	125	145	60	67	73	26	7.6	29
28	18	111	1130	56	109	133	162	68	55	18	8.0	19
29	16	99	591	51	---	3120	405	48	48	14	7.4	14
30	15	58	835	97	---	1190	244	42	40	13	13	12
31	13	---	957	113	---	547	---	39	---	12	13	---
TOTAL	677.8	1383.3	25564	6474	22193	12537	5771	4463	2644	897	302.7	583.2
MEAN	21.9	46.1	825	209	793	404	192	144	88.1	28.9	9.76	19.4
MAX	77	310	7390	1120	6870	3120	1100	670	1260	125	17	143
MIN	4.0	8.3	32	51	66	66	60	39	19	12	7.1	4.3
CFSM	.26	.54	9.64	2.44	9.27	4.73	2.25	1.68	1.03	.34	.11	.23
IN.	.29	.60	11.12	2.82	9.66	5.45	2.51	1.94	1.15	.39	.13	.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1991, BY WATER YEAR (WY)

MEAN	101	103	473	272	624	321	143	122	53.8	35.9	9.26	17.6
MAX	179	160	825	335	793	404	192	144	88.1	43.0	9.76	19.4
(WY)	1990	1990	1991	1990	1991	1991	1991	1991	1991	1990	1991	1991
MIN	21.9	46.1	121	209	455	238	93.5	99.3	19.5	28.9	8.76	15.8
(WY)	1991	1991	1990	1991	1990	1990	1990	1990	1990	1991	1990	1990

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1990 - 1991	
ANNUAL TOTAL	66697.1		83490.0			
ANNUAL MEAN	183		229		187	
HIGHEST ANNUAL MEAN					229	1991
LOWEST ANNUAL MEAN					146	1990
HIGHEST DAILY MEAN	7390	Dec 22	7390	Dec 22	7390	Dec 22 1990
LOWEST DAILY MEAN	2.2	Sep 2	4.0	Oct 2	2.2	Sep 2 1990
ANNUAL SEVEN-DAY MINIMUM	4.8	Aug 23	5.0	Sep 16	4.8	Aug 23 1990
INSTANTANEOUS PEAK FLOW			9800	Dec 22	9800	Dec 22 1990
INSTANTANEOUS PEAK STAGE			16.45	Dec 22	16.45	Dec 22 1990
INSTANTANEOUS LOW FLOW			2.6	Oct 2	2.2	Sep 2 1990
ANNUAL RUNOFF (CFSM)	2.14		2.68		2.19	
ANNUAL RUNOFF (INCHES)	29.02		36.33		29.75	
10 PERCENT EXCEEDS	394		428		387	
50 PERCENT EXCEEDS	45		55		55	
90 PERCENT EXCEEDS	7.6		9.6		8.7	

03597590 WARTRACE CREEK BELOW COUNTY ROAD AT WARTRACE, TN

LOCATION.--Lat 35°31'38", long 86°20'25", Bedford County, Hydrologic Unit 06040002, on right bank 300 ft below county road bridge, 0.4 mi upstream from Louisville and Nashville Railroad bridge, 0.4 mi west of Wartrace, and at mile 2.3.
DRAINAGE AREA.--35.7 mi².
PERIOD OF RECORD.--October 1989 to current year.
GAGE.--Water-stage encoder, crest-stage gage and satellite telemeter at station. Datum of gage is 781.66 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records good. No flow many days most years. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.36	1.8	16	134	41	365	83	69	4.3	1.5	.06	.00
2	.33	1.6	14	84	33	184	60	45	4.4	99	.05	.00
3	.31	1.7	701	61	28	592	46	33	3.9	81	.04	.00
4	1.0	2.2	117	46	26	217	37	183	3.3	17	.02	.00
5	2.8	3.4	54	39	24	115	35	359	4.0	10	.02	.00
6	1.5	5.0	36	50	46	81	29	121	3.6	6.1	.01	.00
7	.84	5.7	27	811	43	58	25	66	2.8	4.2	.00	.00
8	1.6	5.6	21	170	37	45	35	92	2.2	3.3	.00	.00
9	5.3	96	17	98	32	37	31	247	1.9	2.9	.00	.00
10	3.0	172	15	350	28	31	28	72	1.7	5.5	.05	.00
11	1.9	40	13	264	24	28	22	51	1.3	6.3	.06	.00
12	1.9	22	11	149	22	27	31	195	1.4	4.2	.04	.00
13	5.7	15	10	93	e320	31	38	83	2.1	3.1	.02	.00
14	3.8	10	12	67	e260	25	151	55	4.6	1.8	.01	.00
15	2.6	7.9	12	53	111	22	642	40	3.0	1.2	.00	.00
16	1.7	6.8	12	49	68	20	122	30	1.9	.90	.00	.00
17	1.2	6.8	101	40	1190	20	71	24	1.4	.71	.00	.00
18	1.7	6.1	374	32	2580	76	51	20	.92	.67	.00	.00
19	1.4	5.2	164	30	3000	38	62	17	.72	.64	.00	.00
20	1.4	4.7	1040	30	580	31	40	16	.60	.62	.00	.00
21	1.2	4.0	1630	27	204	27	32	13	.82	.50	.00	.00
22	9.0	4.0	3260	23	124	70	27	11	1.4	.37	.00	.00
23	20	5.9	850	22	85	446	23	9.7	3.4	.26	.00	.00
24	9.1	6.1	226	21	64	84	20	8.5	144	.17	.00	7.0
25	5.3	4.9	114	19	52	55	17	6.9	19	.15	.00	29
26	5.0	4.3	74	17	45	42	16	13	8.4	.17	.00	11
27	3.8	4.1	287	17	37	35	15	14	5.1	.20	.00	3.9
28	2.8	82	545	17	32	32	76	13	4.0	.14	.00	2.0
29	2.6	43	180	16	---	1610	681	8.7	3.1	.11	.00	.95
30	1.9	23	569	85	---	376	143	6.4	1.9	.10	.00	.60
31	1.6	---	345	63	---	138	---	5.1	---	.08	.00	---
TOTAL	102.64	600.8	10847	2977	9136	4958	2689	1927.3	241.16	252.89	0.38	54.45
MEAN	3.31	20.0	350	96.0	326	160	89.6	62.2	8.04	8.16	.012	1.81
MAX	20	172	3260	811	3000	1610	681	359	144	99	.06	29
MIN	.31	1.6	10	16	22	20	15	5.1	.60	.08	.00	.00
CFSM	.09	.56	9.80	2.69	9.14	4.48	2.51	1.74	.23	.23	.00	.05
IN.	.11	.63	11.30	3.10	9.52	5.17	2.80	2.01	.25	.26	.00	.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1991, BY WATER YEAR (WY)

MEAN	49.6	51.1	203	121	256	129	57.0	45.0	4.81	8.09	.21	1.47
MAX	96.0	82.3	350	147	326	160	89.6	62.2	8.04	8.16	.40	2.59
(WY)	1990	1990	1991	1990	1991	1991	1991	1991	1991	1991	1990	1990
MIN	3.31	20.0	55.4	96.0	185	98.8	24.4	27.8	1.57	8.03	.012	.002
(WY)	1991	1991	1990	1991	1990	1990	1990	1990	1990	1990	1991	1989

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1989 - 1991		
ANNUAL TOTAL	26319.83		33786.62				
ANNUAL MEAN	72.1		92.6		76.3		
HIGHEST ANNUAL MEAN					92.6		1991
LOWEST ANNUAL MEAN					60.1		1990
HIGHEST DAILY MEAN	3260	Dec 22	3260	Dec 22	3260	Dec 22	1990
LOWEST DAILY MEAN	.00	Aug 24	.00	Aug 7	.00	Aug 31	1989
ANNUAL SEVEN-DAY MINIMUM	.00	Aug 24	.00	Aug 15	.00	Aug 31	1989
INSTANTANEOUS PEAK FLOW			5400	Dec 21	5400	Dec 21	1990
INSTANTANEOUS PEAK STAGE			13.00	Dec 21	13.00	Dec 21	1990
INSTANTANEOUS LOW FLOW			*.00	Aug 7	*.00	Aug 24	1990
ANNUAL RUNOFF (CFSM)	2.02		2.59		2.14		
ANNUAL RUNOFF (INCHES)	27.43		35.21		29.05		
10 PERCENT EXCEEDS	142		171		131		
50 PERCENT EXCEEDS	11		13		13		
90 PERCENT EXCEEDS	.12		.00		.00		

e Estimated.
* See REMARKS.

03598000 DUCK RIVER NEAR SHELBYVILLE, TN

LOCATION.--Lat 35°28'49", long 86°29'57", Bedford County, Hydrologic Unit 06040002, on right bank 150 ft downstream from Sims Bridge, 2.1 mi upstream from Sugar Creek, 2.2 mi west of Shelbyville, 2.9 mi downstream from Flat Creek, and at mile 216.2.
DRAINAGE AREA.--481 mi².
PERIOD OF RECORD.--October 1933 to current year. Prior to April 1934, monthly discharge only, published in WSP 1306.
REVISED RECORDS.--WSP 783: 1934. WSP 853: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 683.51 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 2, 1966, at datum 2.0 ft higher.
REMARKS.--No estimated daily discharges. Records good. Maximum discharge prior to regulation, 62,900 ft³/s, Feb. 13, 1948, gage height, 38.40 ft, present datum; from floodmarks, from rating curve extended above 35,000 ft³/s on basis of slope-area measurement of peak flow. Prior to 1948, diurnal fluctuation caused by powerplant upstream. Flow regulated by Normandy Reservoir (station 03596460) since January 1976. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1929 reached a stage of 39.6 ft present datum, discharge, about 70,000 ft³/s, from high-water profile by Tennessee Valley Authority. Flood in March 1902 reached a stage about 2.0 ft higher than that in March 1929, from information by local residents.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	182	367	301	3680	496	2990	3060	611	419	692	171	178
2	183	215	256	3130	461	4300	2520	552	398	679	168	160
3	174	211	2720	2790	442	5480	2230	473	390	500	170	154
4	292	200	2380	2560	428	5210	2040	724	325	287	176	151
5	303	214	1060	2430	418	3480	1970	2450	429	256	173	150
6	229	222	939	2330	676	2910	1510	1930	274	226	173	149
7	207	218	806	4470	812	2580	1400	2050	521	212	169	149
8	365	211	807	3280	876	2190	1310	1850	452	206	168	148
9	546	524	749	2420	842	769	503	2760	414	223	173	147
10	323	1800	707	1340	808	635	431	1010	405	217	197	147
11	257	831	677	2520	765	574	362	745	271	221	189	149
12	312	505	654	2700	724	539	372	2180	195	223	180	161
13	621	394	637	2320	1140	586	408	1680	541	211	173	174
14	591	330	333	1950	2740	497	730	1460	1250	203	171	167
15	566	284	273	877	1480	448	3980	1290	441	194	172	163
16	549	263	268	751	1310	364	3400	1120	287	191	168	160
17	542	258	349	633	2420	380	2600	524	240	190	166	160
18	577	246	1590	625	13600	491	1700	984	216	189	174	155
19	569	232	2090	614	19800	458	638	1170	202	190	174	150
20	548	228	3120	610	17000	450	517	1010	202	189	176	145
21	537	222	10500	582	7850	427	413	364	498	186	172	146
22	661	220	12800	546	5750	321	363	272	325	181	163	147
23	874	231	21700	529	3810	4900	328	246	315	178	153	146
24	747	228	16400	517	2610	2180	299	229	1470	189	152	285
25	756	222	6250	502	2340	1350	271	212	1750	261	152	600
26	738	214	3510	487	2180	1510	254	306	898	203	156	365
27	703	213	3200	483	2210	1820	246	305	832	232	155	225
28	679	524	5380	484	2110	1870	331	463	776	200	152	188
29	657	763	4030	388	---	10000	2030	475	738	189	152	178
30	641	461	3880	441	---	7190	1250	454	712	184	156	168
31	632	---	5370	609	---	3960	---	431	---	177	176	---
TOTAL	15561	11051	113736	47598	96098	70859	37466	30330	16186	7679	5220	5565
MEAN	502	368	3669	1535	3432	2286	1249	978	540	248	168	185
MAX	874	1800	21700	4470	19800	10000	3980	2760	1750	692	197	600
MIN	174	200	256	388	418	321	246	212	195	177	152	145
(†)	-9100	-300	+10700	-10100	+10200	+7500	-1900	+900	+300	-1900	-1800	-400
MEAN‡	209	358	4014	1210	3796	2528	1186	1007	550	186	110	172
CFSM‡	.43	.74	8.35	2.52	7.89	5.26	2.47	2.09	1.14	.39	.23	.36
IN.‡	.50	.83	9.62	2.90	8.22	6.06	2.75	2.41	1.27	.45	.26	.40

CAL YR 1990 MEAN‡ 1029 CFSM‡ 2.14 IN.‡ 29.03
WTR YR 1991 MEAN‡ 1264 CFSM‡ 2.63 IN.‡ 35.68

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1991, BY WATER YEAR (WY)

MEAN	389	1008	1258	1204	1282	1322	872	789	475	347	250	281
MAX	1314	2277	3669	2873	3432	3649	2230	2753	2151	1670	728	928
(WY)	1990	1987	1991	1979	1991	1980	1983	1983	1989	1989	1982	1979
MIN	157	170	337	175	339	308	165	137	166	166	154	163
(WY)	1988	1988	1981	1986	1978	1988	1986	1988	1988	1987	1983	1980

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		*WATER YEARS 1977 - 1991	
ANNUAL TOTAL	367712		457349			
ANNUAL MEAN	1007		1253		787	
HIGHEST ANNUAL MEAN					1253	1991
LOWEST ANNUAL MEAN					257	1981
HIGHEST DAILY MEAN	21700	Dec 23	21700	Dec 23	21700	Dec 23 1990
LOWEST DAILY MEAN	168	Apr 20	145	Sep 20	72	Oct 1 1982
ANNUAL SEVEN-DAY MINIMUM	174	Jun 30	148	Sep 5	88	Sep 25 1982
INSTANTANEOUS PEAK FLOW			26100	Dec 23	26100	Dec 23 1990
INSTANTANEOUS PEAK STAGE			29.88	Dec 23	29.88	Dec 23 1990
10 PERCENT EXCEEDS	2550		2770		1970	
50 PERCENT EXCEEDS	323		463		273	
90 PERCENT EXCEEDS	189		170		164	

† Change in contents, in cfs-days, in Normandy Lake.
‡ Adjusted for change in contents.
NOTE.--Contents (cfs-days) for adjustments furnished by Tennessee Valley Authority.
* Regulated period only (1977-1991).

03599500 DUCK RIVER AT COLUMBIA, TN

LOCATION.--Lat 35°37'05", long 87°01'56", Maury County, Hydrologic Unit 06040003, on right bank 4 ft downstream from bridge on former U.S. Highway 31, 2 blocks north of public square in Columbia, 0.7 mi downstream from Columbia hydroelectric plant, 2.4 mi upstream from Rutherford Creek, and at mile 132.8.
DRAINAGE AREA.--1,208 mi².
PERIOD OF RECORD.--October 1904 to December 1908, April 1920 to current year. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected at same site, 1887-95, 1911 (fragmentary), 1947-71, published in reports of U.S. Weather Bureau.
REVISED RECORD.--WSP 783: 1929(M). WSP 853: Drainage area. WSP 1306: 1905-9, 1920-22, 1923(M).
GAGE.--Water-stage recorder. Datum of gage is 535.33 ft above National Geodetic Vertical Datum of 1929, supplementary adjustment of 1955. Prior to Jan. 9, 1925, nonrecording gages near this site; all gages at datum 2.37 ft higher prior to Oct. 1, 1933.
REMARKS.--Flow regulated by Normandy Lake (station 03596460) since Jan. 1976.
COOPERATION.--Records of daily discharge since January 1982 furnished by Tennessee Valley Authority.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 61,500 ft³/s, March 17, 1973; maximum gage height, 51.75 ft February 14, 1948; no flow October 22, 1922.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 30, 1902, reached a stage of 48.0 ft, present datum, discharge, 50,700 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1988 TO SEPTEMBER 1989
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	235	209	2090	11900	1360	8220	3420	504	352	2460	1010	431
2	791	204	1770	11400	1200	6420	2610	453	375	7320	1000	542
3	716	199	1560	5800	1220	5250	2750	560	1130	8790	822	460
4	499	427	1190	4120	1400	3810	9300	540	2650	8860	709	349
5	358	3520	773	3220	1590	19600	17900	579	1280	5670	580	307
6	290	3260	634	2980	2240	34100	13600	802	874	4270	507	287
7	243	1970	556	3100	2470	35400	8950	1250	725	3220	458	275
8	220	1150	497	4240	2170	22800	9400	1060	2010	3340	408	267
9	203	766	458	5680	1910	7750	6740	872	6110	2530	383	262
10	194	579	420	4220	1670	5510	5170	881	12800	1820	361	261
11	178	516	391	6480	1470	4610	4140	1060	6930	5810	336	277
12	172	489	368	22000	1340	3250	3520	1200	3790	21300	314	286
13	170	469	340	30400	1230	2610	3040	1130	3130	21600	295	333
14	166	459	316	29800	3060	2330	1990	901	2430	6920	285	483
15	161	475	297	22600	6200	2100	1570	659	3720	3830	284	1260
16	179	551	277	14200	6080	1750	1460	579	7580	2730	277	2580
17	185	1250	258	8450	6720	1420	1310	535	7980	2220	286	1610
18	185	1240	242	6240	14100	1290	1130	494	4460	1930	310	1040
19	183	1900	233	5150	14600	1170	1020	468	5040	2450	303	721
20	182	12500	228	4400	9740	1150	900	945	12100	5050	293	561
21	185	10600	461	3730	23700	1900	811	825	10200	4990	288	468
22	186	4860	1190	2520	27100	2900	738	732	6730	3940	284	531
23	182	2610	5260	2080	19700	3070	673	625	5200	3320	272	1770
24	168	1960	10200	1900	7850	2930	622	494	3840	2550	275	3850
25	156	1590	9560	1550	5580	2270	568	438	3060	2320	292	2760
26	153	1670	6060	1340	4720	1820	523	407	2570	1960	310	3680
27	151	3810	3720	1280	4550	1580	483	570	2200	1720	355	3940
28	167	3870	4890	1230	7310	1390	445	443	1640	1230	332	2550
29	170	3250	6530	1130	---	1260	409	506	1190	891	344	1980
30	226	2510	4900	1110	---	1270	418	519	1420	972	424	4900
31	230	---	5330	1330	---	2270	---	407	---	925	496	---
TOTAL	7484	68863	70999	225580	182280	193200	105610	21438	123516	146938	12893	39021
MEAN	241	2295	2290	7277	6510	6232	3520	692	4117	4740	416	1301
MAX	791	12500	10200	30400	27100	35400	17900	1250	12800	21600	1010	4900
MIN	151	199	228	1110	1200	1150	409	407	352	891	272	261

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1989, BY WATER YEAR (WY)

MEAN	683	2503	3052	3241	2917	3715	2688	2407	921	735	409	658
MAX	2259	5925	7099	8513	6510	10090	6984	9105	4117	4740	938	3832
(WY)	1985	1987	1984	1979	1989	1980	1983	1983	1989	1989	1982	1979
MIN	180	236	418	273	953	1104	325	244	167	220	189	163
(WY)	1988	1981	1981	1986	1978	1985	1986	1988	1988	1988	1987	1984

SUMMARY STATISTICS	FOR 1988 CALENDAR YEAR		FOR 1989 WATER YEAR		*WATER YEARS 1977 - 1989	
ANNUAL TOTAL	433038		1197822			
ANNUAL MEAN	1183		3282		1990	
HIGHEST ANNUAL MEAN					3282	1989
LOWEST ANNUAL MEAN					553	1981
HIGHEST DAILY MEAN	21100	Jan 20	35400	Mar 7	35400	Mar 7 1989
LOWEST DAILY MEAN	128	Jun 2	151	Oct 27	86	Oct 4 1982
ANNUAL SEVEN-DAY MINIMUM	145	May 29	164	Oct 23	100	Sep 28 1982
INSTANTANEOUS PEAK FLOW			36500	Mar 7	36500	Mar 7 1989
INSTANTANEOUS PEAK STAGE			38.72	Mar 7	39.84	Mar 21 1980
10 PERCENT EXCEEDS	2630		7900		4640	
50 PERCENT EXCEEDS	392		1290		683	
90 PERCENT EXCEEDS	164		270		185	

* Regulated period only.

03599500 DUCK RIVER AT COLUMBIA, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1989 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13600	404	1080	12500	4950	1030	902	780	555	214	232	156
2	23500	395	1050	8320	4320	1190	812	727	434	202	221	155
3	25200	422	1450	4120	16600	2470	726	1190	496	191	216	167
4	14000	761	1410	4750	31600	3560	660	1530	509	186	270	164
5	5980	805	1340	7090	29000	2450	613	3100	726	180	436	160
6	4690	917	1290	6010	17500	1910	630	5460	581	182	357	165
7	3940	1140	1240	4580	7580	1600	633	3230	475	185	269	158
8	2630	2060	1280	3850	5740	1790	704	2440	418	190	244	180
9	1880	3590	1120	4090	5210	3750	698	1810	367	188	240	174
10	1670	2880	1050	4050	13800	6700	635	1550	316	195	221	210
11	1530	2140	1050	3360	18100	5690	589	1440	297	231	208	204
12	1230	1790	1010	2870	10500	4190	589	1200	276	1370	204	210
13	894	1580	978	2520	6390	3430	610	987	261	1940	199	262
14	793	2120	941	1940	5420	2920	558	910	257	1170	197	413
15	720	3800	893	1620	4870	2480	527	835	257	855	193	422
16	679	7540	845	1490	7250	7970	500	763	273	568	192	513
17	1230	8730	803	1420	6850	13700	513	1320	269	432	189	469
18	1230	4830	763	1670	4630	10200	492	1460	261	370	187	328
19	954	3390	781	3100	3720	6380	465	1170	286	299	187	251
20	826	2770	791	3570	3160	4820	443	1750	314	276	185	221
21	724	2420	862	9560	2730	3880	584	3690	641	257	184	228
22	649	2330	772	10600	2440	3300	2940	3000	531	316	173	298
23	598	3920	630	5660	2260	2910	4280	2160	500	1950	166	359
24	559	5140	662	4800	1910	2580	2320	1680	443	1210	168	528
25	524	3550	589	4210	1630	1730	1600	1440	344	776	167	381
26	494	2830	542	3740	1460	1260	1220	1280	291	524	165	282
27	469	2470	544	2570	1350	1100	994	1240	267	407	168	243
28	451	2220	530	1960	1220	994	910	1210	251	351	166	224
29	432	1850	525	2700	---	933	839	1120	236	282	165	209
30	419	1300	848	6870	---	940	886	997	224	260	162	198
31	409	---	4870	6310	---	900	---	835	---	245	159	---
TOTAL	112904	80094	32539	141900	222190	108757	28872	52304	11356	16002	6490	7932
MEAN	3642	2670	1050	4577	7935	3508	962	1687	379	516	209	264
MAX	25200	8730	4870	12500	31600	13700	4280	5460	726	1950	436	528
MIN	409	395	525	1420	1220	900	443	727	224	180	159	155

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1990, BY WATER YEAR (WY)

MEAN	895	2515	2909	3336	3272	3700	2565	2356	882	719	395	630
MAX	3642	5925	7099	8513	7935	10090	6984	9105	4117	4740	938	3832
(WY)	1990	1987	1984	1979	1990	1980	1983	1983	1989	1989	1982	1979
MIN	180	236	418	273	953	1104	325	244	167	220	189	163
(WY)	1988	1981	1981	1986	1978	1985	1986	1988	1988	1988	1987	1984

SUMMARY STATISTICS	FOR 1989 CALENDAR YEAR		FOR 1990 WATER YEAR		*WATER YEARS 1977 - 1990	
ANNUAL TOTAL	1276013		821340			
ANNUAL MEAN	3496		2250		2009	
HIGHEST ANNUAL MEAN					3282	1989
LOWEST ANNUAL MEAN					553	1981
HIGHEST DAILY MEAN	35400	Mar 7	31600	Feb 4	35400	Mar 7 1989
LOWEST DAILY MEAN	261	Sep 10	155	Sep 2	86	Oct 4 1982
ANNUAL SEVEN-DAY MINIMUM	274	Sep 6	160	Aug 30	100	Sep 28 1982
INSTANTANEOUS PEAK FLOW			32600	Feb 4	36500	Mar 7 1989
INSTANTANEOUS PEAK STAGE			36.34	Feb 4	39.84	Mar 21 1980
10 PERCENT EXCEEDS	8080		5290		4720	
50 PERCENT EXCEEDS	1420		902		704	
90 PERCENT EXCEEDS	407		199		186	

* Regulated period only.

03599500 DUCK RIVER AT COLUMBIA, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	201	736	1390	12600	1320	3230	8300	4780	1080	954	273	208
2	191	704	1070	7900	1160	5900	5380	2560	940	912	248	182
3	186	419	7020	5890	1010	7880	4230	1900	699	1930	229	182
4	228	282	13500	4900	944	11100	3540	1480	875	2320	213	161
5	259	268	7500	4260	899	9430	3140	3490	1110	1360	205	140
6	405	254	3340	3890	935	6040	2900	5670	908	931	196	132
7	409	256	2380	5120	1230	4740	2480	4530	794	682	194	124
8	335	265	1920	9860	1660	3960	2340	3400	617	535	199	122
9	305	710	1660	7130	1610	3430	2290	3970	785	551	191	127
10	821	3660	1490	5360	1570	2260	1780	5410	699	1290	226	134
11	684	4980	1340	7600	1470	1720	1420	3070	642	1230	210	124
12	461	2540	1240	7760	1110	1570	1340	4550	617	785	208	120
13	360	1480	1160	5910	1740	1500	1520	6260	498	614	213	117
14	490	1050	1110	4800	5790	1430	3280	4980	412	505	191	117
15	757	825	1030	3950	7010	1530	12000	3180	1910	423	177	127
16	704	688	1770	2930	4050	1700	11400	2640	1100	365	169	142
17	652	582	790	2520	4240	1790	6800	2170	691	324	161	142
18	672	526	2450	2110	24700	1770	4840	1720	505	307	169	132
19	660	479	6720	1870	44600	1510	4510	1790	402	296	169	142
20	712	440	6560	1780	52300	1100	3640	2680	348	284	163	169
21	680	402	18900	1680	44800	1150	2360	2660	365	267	161	142
22	825	376	33300	1560	33800	1540	1810	1600	871	256	158	130
23	1500	369	39400	1400	15700	8870	1540	1050	1060	240	158	130
24	1680	357	39900	1280	7200	10100	1320	848	959	231	155	166
25	1290	366	36500	1190	5040	5360	1140	729	1230	912	142	352
26	1050	357	27400	1110	4180	3180	992	1240	2560	1250	142	724
27	998	341	9840	1040	3720	2750	886	2530	1320	678	158	799
28	921	563	10400	1010	3430	2810	1200	2500	1200	494	158	487
29	851	1690	12200	975	---	8980	3780	1680	1100	448	166	316
30	799	2090	11900	939	---	19400	7830	1380	1010	355	171	248
31	766	---	15900	953	---	17800	---	1210	---	304	153	---
TOTAL	20852	28055	321080	121277	277218	155530	109988	87657	27307	22033	5726	6338
MEAN	673	935	10360	3912	9901	5017	3666	2828	910	711	185	211
MAX	1680	4980	39900	12600	52300	19400	12000	6260	2560	2320	273	799
MIN	186	254	790	939	899	1100	886	729	348	231	142	117

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1991, BY WATER YEAR (WY)

MEAN	880	2409	3405	3375	3711	3788	2638	2387	884	719	381	602
MAX	3642	5925	10360	8513	9901	10090	6984	9105	4117	4740	938	3832
(WY)	1990	1987	1991	1979	1991	1980	1983	1983	1989	1989	1982	1979
MIN	180	236	418	273	953	1104	325	244	167	220	185	163
(WY)	1988	1981	1981	1986	1978	1985	1986	1988	1988	1988	1991	1984

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		*WATER YEARS 1977 - 1991	
ANNUAL TOTAL	965790		1183061			
ANNUAL MEAN	2646		3241		2091	
HIGHEST ANNUAL MEAN					3282	1989
LOWEST ANNUAL MEAN					553	1981
HIGHEST DAILY MEAN	39900	Dec 24	52300	Feb 20	52300	Feb 20 1991
LOWEST DAILY MEAN	155	Sep 2	117	Sep 13	86	Oct 4 1982
ANNUAL SEVEN-DAY MINIMUM	160	Aug 30	123	Sep 8	100	Sep 28 1982
ANNUAL RUNOFF (CFSM)	2.19		2.68		1.73	
ANNUAL RUNOFF (INCHES)	29.74		36.43		23.52	
10 PERCENT EXCEEDS	6460		7320		4860	
50 PERCENT EXCEEDS	799		1110		735	
90 PERCENT EXCEEDS	196		170		185	

* Regulated period only.

03600085 CARTERS CREEK AT PETTY LANE NEAR CARTERS CREEK, TN

LOCATION.--Lat 35°43'39", long 86°59'19", Maury County, Hydrologic Unit 06040003, at bridge on Petty Lane, 0.8 mile north of Carters Creek, and at mile 4.7.

DRAINAGE AREA.--16.6 mi².

PERIOD OF RECORD.--October 1986 to current year

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	PH (STAND-ARD UNITS)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 16...	1015	0.49	445	13.0	7.5	750	6.6	64	1100
JAN 16...	0930	48	313	9.0	7.8	745	10.3	91	400
APR 09...	0830	20	334	19.0	7.4	749	8.0	88	590
JUL 23...	0900	0.87	380	22.0	7.3	755	5.3	62	K1300

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
OCT 16...	640	<1	<100	<1	<1	4	2	<0.10	4
JAN 16...	590	<1	<100	<1	1	3	2	<0.10	1
APR 09...	250	<1	<100	<1	<1	1	2	<0.10	2
JUL 23...	K2900	2	<100	<1	<1	4	3	<0.10	3

DATE	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 16...	<1	<1	10	<0.010	<1	2	0.00	60
JAN 16...	<1	<1	<10	<0.010	<1	6	0.76	96
APR 09...	<1	<1	<10	<0.010	<1	12	0.66	58
JUL 23...	<1	<1	<10	<0.010	<1	6	0.01	78

K--Results based on non-ideal colony counts.

03600086 CARTERS CREEK TRIBUTARY NEAR CARTERS CREEK, TN

LOCATION.--Lat 35°43'34", long 86°59'19", Maury County, Hydrologic Unit 06040003, at culvert on Carters Creek Road, 0.7 mile north of Carters Creek.

DRAINAGE AREA.--2.94 mi².

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	TEMPERATURE WATER (DEG C)	PH (STANDARD UNITS)	BAROMETRIC PRESSURE (MM OF HG)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)
OCT 16...	1130	0.40	766	17.5	7.3	750	9.7	103	220
JAN 16...	1330	8.7	670	10.0	7.7	745	10.3	94	K50
APR 09...	1030	7.6	498	20.0	7.6	749	8.9	100	110
JUL 23...	1030	0.45	634	22.0	7.3	755	6.5	76	160

DATE	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA)	CADMIUM TOTAL RECOVERABLE (UG/L AS CD)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR)	COPPER, TOTAL RECOVERABLE (UG/L AS CU)	LEAD, TOTAL RECOVERABLE (UG/L AS PB)	MERCURY TOTAL RECOVERABLE (UG/L AS HG)	NICKEL, TOTAL RECOVERABLE (UG/L AS NI)
OCT 16...	240	<1	<100	<1	2	3	2	<0.10	4
JAN 16...	180	<1	<100	<1	<1	2	1	<0.10	1
APR 09...	390	<1	<100	<1	2	2	2	<0.10	1
JUL 23...	K2000	1	<100	<1	1	3	2	<0.10	2

DATE	SELENIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOVERABLE (UG/L AS AG)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	OIL AND GREASE, TOTAL RECOV. GRAVIMETRIC (MG/L)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 16...	<1	<1	<10	<0.010	<1	2	0.00	40
JAN 16...	<1	<1	<10	<0.010	<1	9	0.21	97
APR 09...	<1	<1	<10	<0.010	<1	11	0.22	81
JUL 23...	<1	<1	<10	<0.010	<1	6	0.01	50

K--Results based on non-ideal colony counts.

03600088 CARTERS CREEK AT BUTLER ROAD AT CARTERS CREEK, TN

LOCATION.--Lat 35°43'02", long 86°59'45", Maury County, Hydrologic Unit 06040003, on left bank at end of Butler road bridge, 0.1 mi west of Carters Creek, 0.3 mi upstream from Ferrell Branch, 3.7 mi upstream from Rutherford Creek, and at mile 3.7.
DRAINAGE AREA.--20.1 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1986 to current year. Occasional low-flow measurements, water year 1986.
GAGE.--Water-stage recorder, crest-stage gage and concrete weir. Datum of gage is 605.94 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records good. Minimum discharge for current year also occurred Sept. 22, 23. Minimum discharge for the period of record also occurred Aug. 16, 1987, and June 26, 1988.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.64	1.5	10	112	14	47	65	49	36	6.0	.58	2.2
2	.56	1.4	26	84	13	52	52	39	29	2.6	.52	1.8
3	.48	1.3	386	63	12	80	44	33	24	3.2	.48	1.4
4	6.5	1.5	82	51	12	68	39	30	33	3.6	.42	.94
5	5.6	4.2	47	45	13	53	36	63	37	3.0	.43	.88
6	2.9	5.1	34	49	28	46	32	43	22	2.4	.40	1.0
7	1.8	4.6	26	105	28	38	29	33	18	2.3	12	.85
8	2.7	4.3	21	72	25	33	33	29	16	2.0	21	.75
9	3.7	67	18	56	22	30	36	39	15	43	7.3	1.5
10	2.3	55	15	123	20	26	33	33	13	9.8	54	1.9
11	1.7	26	13	125	17	24	27	29	12	7.3	11	1.3
12	1.4	15	12	88	16	26	57	703	12	5.5	6.7	.94
13	1.3	10	12	68	167	32	54	193	18	4.9	4.1	.77
14	1.1	8.2	16	54	154	26	278	105	21	4.2	3.5	.63
15	.97	6.7	21	49	74	23	322	72	15	3.5	3.2	.49
16	.89	5.9	34	50	52	21	106	53	13	2.1	2.5	.58
17	.80	6.0	55	44	297	28	73	41	12	3.4	2.4	.92
18	4.9	5.1	223	39	770	41	64	59	8.7	2.3	3.6	.47
19	5.5	4.7	115	36	1000	34	195	38	7.8	1.7	3.8	.38
20	2.8	4.3	90	34	257	30	93	30	7.6	1.5	2.5	.54
21	1.8	4.0	242	30	140	27	67	27	11	1.3	2.1	.44
22	14	4.0	740	27	102	207	53	24	10	2.0	1.8	.33
23	15	5.0	218	25	76	178	44	20	11	1.2	1.5	.47
24	7.4	4.4	116	23	61	85	37	17	11	1.1	.89	.70
25	4.6	4.0	84	20	51	61	32	17	9.6	1.5	.79	6.0
26	3.5	3.6	65	19	44	49	29	185	8.9	1.3	.98	6.0
27	2.6	3.6	163	18	39	43	26	530	8.1	1.0	9.6	3.2
28	2.2	28	139	18	34	39	60	152	7.3	.86	5.1	1.8
29	2.0	23	105	17	---	198	101	92	6.1	1.4	4.0	1.1
30	1.7	14	594	17	---	139	69	69	5.6	.83	5.1	1.3
31	1.6	---	190	15	---	88	---	47	---	.70	2.8	---
TOTAL	104.94	331.4	3912	1576	3538	1872	2186	2894	458.7	127.49	175.09	41.58
MEAN	3.39	11.0	126	50.8	126	60.4	72.9	93.4	15.3	4.11	5.65	1.39
MAX	15	67	740	125	1000	207	322	703	37	43	54	6.0
MIN	.48	1.3	10	15	12	21	26	17	5.6	.70	.40	.33
CFSM	.17	.55	6.28	2.53	6.29	3.00	3.63	4.64	.76	.20	.28	.07
IN.	.19	.61	7.24	2.92	6.55	3.46	4.05	5.36	.85	.24	.32	.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1987 - 1991, BY WATER YEAR (WY)

MEAN	10.4	39.3	61.0	59.1	100	50.1	34.8	30.8	13.1	13.3	3.12	6.72
MAX	44.8	64.7	126	93.4	146	85.1	72.9	93.4	42.0	45.5	6.09	20.3
(WY)	1990	1989	1991	1989	1990	1989	1991	1991	1989	1989	1989	1989
MIN	.51	3.88	18.7	33.6	29.3	20.5	14.2	3.11	.51	.54	.47	.99
(WY)	1988	1988	1990	1987	1988	1988	1990	1988	1988	1988	1987	1987

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1987 - 1991	
ANNUAL TOTAL	13968.95		17217.20			
ANNUAL MEAN	38.3		47.2		34.8	
HIGHEST ANNUAL MEAN					50.0	1989
LOWEST ANNUAL MEAN					17.4	1988
HIGHEST DAILY MEAN	1430	Feb 3	1000	Feb 19	1430	Feb 3 1990
LOWEST DAILY MEAN	.26	Sep 7	.33	Sep 22	.12	Aug 15 1987
ANNUAL SEVEN-DAY MINIMUM	.30	Sep 3	.48	Sep 18	.15	Jun 25 1988
INSTANTANEOUS PEAK FLOW			2550	May 12	2990	Feb 3 1990
INSTANTANEOUS PEAK STAGE			13.40	May 12	14.83	Feb 3 1990
INSTANTANEOUS LOW FLOW			*.31	Sep 20	*.11	Aug 15 1987
ANNUAL RUNOFF (CFSM)	1.90		2.35		1.73	
ANNUAL RUNOFF (INCHES)	25.85		31.86		23.50	
10 PERCENT EXCEEDS	82		105		72	
50 PERCENT EXCEEDS	12		17		12	
90 PERCENT EXCEEDS	1.0		1.0		.49	

* See REMARKS.

03600088 CARTERS CREEK AT BUTLER RD AT CARTERS CREEK, TN--Continued

WATER-QUALITY RECORDS

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

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	PH (STAND-ARD UNITS)	BARO-METRIC PRES-SURE (MM OF HG)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
OCT 16...	1300	1.0	590	16.0	7.3	750	8.7	90	210
NOV 14...	1245	11	575	13.5	--	--	--	--	--
DEC 14...	0830	17	490	9.5	--	--	--	--	--
JAN 16...	1130	53	380	9.5	8.1	745	11.5	103	220
MAR 04...	1415	68	320	10.0	--	--	--	--	--
APR 09...	1230	34	356	21.0	8.1	749	10.7	123	320
JUN 06...	1015	24	386	19.0	--	--	--	--	--
JUL 23...	1200	1.3	535	25.5	7.6	755	5.2	64	92
AUG 23...	0930	1.7	556	21.5	--	--	--	--	--

DATE	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	ARSENIC TOTAL (UG/L AS AS)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA)	CADMIUM TOTAL RECOV-ERABLE (UG/L AS CD)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB)	MERCURY TOTAL RECOV-ERABLE (UG/L AS HG)	NICKEL, TOTAL RECOV-ERABLE (UG/L AS NI)
OCT 16...	140	1	<100	<1	2	3	2	<0.10	3
JAN 16...	310	<1	<100	<1	2	3	2	<0.10	2
APR 09...	88	<1	<100	<1	<1	2	1	<0.10	1
JUL 23...	850	2	<100	<1	2	3	5	<0.10	4

DATE	SELE-NIUM, TOTAL (UG/L AS SE)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN)	CYANIDE TOTAL (MG/L AS CN)	OIL AND GREASE, TOTAL RECOV. GRAVI-METRIC (MG/L)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 16...	<1	<1	<10	<0.010	<1	1	0.00	67
JAN 16...	<1	<1	<10	<0.010	<1	8	1.1	90
APR 09...	<1	<1	<10	<0.010	<1	1	0.09	64
JUL 23...	<1	<1	<10	<0.010	<1	7	0.02	72

03600258 LITTLE BIGBY CREEK AT EXPERIMENT LANE AT COLUMBIA, TN

LOCATION.--Lat 35°36'16", long 87°04'12", Maury County, Hydrologic Unit 06040003, 250 ft upstream from bridge on Experiment Lane, 0.5 mi upstream from Louisville and Nashville Railroad bridge, 2.1 mi southwest of Maury County Courthouse.
DRAINAGE AREA.--42.6 mi².
PERIOD OF RECORD.--January 1990 to September 1991.
GAGE.--Water-stage recorder. Datum of gage is 574.29 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records good. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR JANUARY 1990 TO SEPTEMBER 1990
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	e250	114	49	47	32	32	5.7	4.2	1.4
2	---	---	---	e200	129	68	44	43	28	5.4	4.6	1.4
3	---	---	---	e170	2700	85	41	33	37	5.3	4.1	1.3
4	---	---	---	e220	1350	76	39	122	27	5.1	20	1.3
5	---	---	---	e190	514	70	37	73	24	5.0	6.7	1.1
6	---	---	---	e180	360	64	42	62	22	4.7	5.0	1.1
7	---	---	---	e155	266	60	38	50	19	4.5	4.2	1.3
8	---	---	---	e130	204	120	34	43	17	4.3	3.7	3.7
9	---	---	---	e97	245	228	32	40	15	4.1	3.5	1.9
10	---	---	---	e82	636	220	33	37	15	4.4	3.2	10
11	---	---	---	e71	389	177	32	32	14	12	3.0	3.1
12	---	---	---	e65	274	143	28	32	12	157	2.8	3.5
13	---	---	---	e60	210	120	27	30	12	55	2.6	4.6
14	---	---	---	e53	170	106	26	26	13	37	2.8	2.4
15	---	---	---	e49	169	205	26	23	11	24	2.7	3.4
16	---	---	---	e43	344	503	25	21	10	18	2.6	2.7
17	---	---	---	52	226	371	28	88	9.8	13	2.5	1.7
18	---	---	---	62	186	264	25	35	9.3	36	2.3	1.4
19	---	---	---	60	156	203	22	32	8.9	27	2.3	1.3
20	---	---	---	159	127	161	21	171	10	21	2.0	1.2
21	---	---	---	248	111	132	44	157	39	17	1.8	4.4
22	---	---	---	186	104	112	47	128	21	15	1.8	1.9
23	---	---	---	148	90	98	43	104	11	21	1.9	1.6
24	---	---	---	123	76	84	39	82	8.7	14	2.0	1.4
25	---	---	---	109	66	73	35	66	7.8	10	2.0	1.3
26	---	---	---	94	62	66	31	68	7.2	8.0	1.9	1.3
27	---	---	---	80	58	61	28	74	6.8	6.9	1.7	1.3
28	---	---	---	71	49	54	45	61	6.5	5.8	1.6	1.3
29	---	---	---	157	---	52	37	49	6.3	4.9	1.6	1.3
30	---	---	---	157	---	61	32	42	6.0	4.2	1.4	1.2
31	---	---	---	131	---	52	---	37	---	3.9	1.4	---

SUMMARY STATISTICS FOR JANUARY TO SEPTEMBER 1990

HIGHEST DAILY MEAN	2700	Feb 3
LOWEST DAILY MEAN	1.1	Sep 5
INSTANTANEOUS PEAK FLOW	5310	Feb 3
INSTANTANEOUS PEAK STAGE	16.26	Feb 3
INSTANTANEOUS LOW FLOW	.99	Sep 6

e Estimated.

03600258 LITTLE BIGBY CREEK AT EXPERIMENT LANE AT COLUMBIA, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.2	4.1	14	366	25	115	218	159	120	12	4.7	2.9
2	1.2	4.6	22	262	24	126	165	123	100	12	4.2	2.7
3	1.2	4.3	515	200	23	177	134	103	83	13	3.9	2.4
4	10	4.6	196	160	22	181	116	92	77	13	3.7	2.1
5	3.5	8.4	118	133	24	152	104	101	98	11	3.4	2.0
6	1.7	6.4	86	127	26	129	89	84	63	9.4	3.4	2.0
7	1.8	7.1	63	216	26	102	78	72	53	8.7	3.3	1.7
8	4.9	6.7	46	196	25	81	75	69	46	8.5	4.1	1.5
9	4.8	66	37	166	25	68	67	76	42	16	11	1.5
10	3.0	75	29	222	25	60	59	66	40	9.6	14	1.5
11	2.4	30	25	286	24	54	53	63	33	9.8	4.9	1.4
12	2.3	21	24	240	24	50	73	130	31	9.8	3.8	1.3
13	2.3	20	22	194	102	48	65	107	27	8.1	3.4	1.1
14	2.2	15	22	162	227	42	310	98	25	7.4	2.8	1.1
15	2.0	12	21	145	170	36	669	87	32	6.7	2.6	1.1
16	2.0	12	20	132	129	32	304	75	26	6.1	2.1	1.0
17	2.1	10	27	112	410	33	199	64	22	5.8	2.1	8.0
18	9.9	9.1	158	103	3090	34	154	58	19	5.8	6.6	4.5
19	4.0	12	197	96	3810	30	135	157	18	5.5	4.3	1.9
20	2.7	12	344	86	924	27	111	102	17	5.2	3.4	1.6
21	2.4	8.5	860	74	540	26	95	73	20	4.8	2.8	1.3
22	21	8.1	1350	66	368	208	83	58	24	4.5	2.6	1.4
23	16	7.6	751	61	273	280	73	49	24	4.4	2.6	1.5
24	8.0	6.9	433	57	198	153	62	44	38	14	2.6	20
25	6.6	6.3	293	46	156	121	54	57	29	25	2.4	31
26	5.7	7.6	214	42	127	102	48	460	22	9.0	6.9	6.9
27	5.4	7.4	262	38	104	94	46	735	19	7.7	3.8	4.8
28	5.1	25	344	36	87	90	152	443	16	6.5	3.2	3.9
29	4.7	20	273	31	---	738	324	271	14	5.9	4.9	3.5
30	4.4	17	669	31	---	529	227	186	13	5.5	3.3	3.0
31	4.2	---	544	27	---	319	---	137	---	5.0	4.7	---
TOTAL	148.7	454.7	7979	4113	11008	4237	4342	4399	1191	275.7	131.5	120.6
MEAN	4.80	15.2	257	133	393	137	145	142	39.7	8.89	4.24	4.02
MAX	21	75	1350	366	3810	738	669	735	120	25	14	31
MIN	1.2	4.1	14	27	22	26	46	44	13	4.4	2.1	1.0
CFSM	.11	.36	6.04	3.11	9.23	3.21	3.40	3.33	.93	.21	.10	.09
IN.	.13	.40	6.97	3.59	9.61	3.70	3.79	3.84	1.04	.24	.11	.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1991, BY WATER YEAR (WY)

MEAN	4.80	15.2	257	128	364	135	89.5	101	27.6	13.5	3.80	3.12
MAX	4.80	15.2	257	133	393	137	145	142	39.7	18.0	4.24	4.02
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1991	1990	1991	1991
MIN	4.80	15.2	257	124	335	133	34.3	61.1	15.5	8.89	3.35	2.23
(WY)	1991	1991	1991	1990	1990	1990	1990	1990	1990	1991	1990	1990

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1990 - 1991	
ANNUAL TOTAL	30074.6		38400.2			
ANNUAL MEAN	82.4		105		105	
HIGHEST ANNUAL MEAN					105	1991
LOWEST ANNUAL MEAN					105	1991
HIGHEST DAILY MEAN	2700	Feb 3	3810	Feb 19	3810	Feb 19 1991
LOWEST DAILY MEAN	1.1	Sep 5	1.0	Sep 16	1.0	Sep 16 1991
ANNUAL SEVEN-DAY MINIMUM	1.2	Sep 27	1.2	Sep 10	1.2	Sep 10 1991
INSTANTANEOUS PEAK FLOW			6450	Feb 18	6450	Feb 18 1991
INSTANTANEOUS PEAK STAGE			16.92	Feb 18	16.92	Feb 18 1991
INSTANTANEOUS LOW FLOW			.84	Sep 16	.84	Sep 16 1991
ANNUAL RUNOFF (CFSM)	1.93		2.47		2.47	
ANNUAL RUNOFF (INCHES)	26.26		33.53		33.55	
10 PERCENT EXCEEDS	201		227		204	
50 PERCENT EXCEEDS	25		26		30	
90 PERCENT EXCEEDS	2.0		2.6		2.3	

03602219 PINEY RIVER AT CEDAR HILL, TN

LOCATION.--Lat 35°59'43", long 87°26'22", Dickson County, Hydrologic Unit 06040003, on right bank 300 ft upstream of Interstate Highway 40 bridge, 0.2 mi southeast of Cedar Hill, 0.5 mi upstream from Double Branch, and at mile 22.
DRAINAGE AREA.--46.6 mi².
PERIOD OF RECORD.--October 1987 to current year, discharge for stage of 7.00 ft and below only.
GAGE.--Water-stage encoder and satellite telemeter station. Datum of gage is 552.20 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--No estimated daily discharges. Records good. The City of Dickson diverts water for municipal water supply at confluence of West Piney River, 1.6 mi upstream from gage. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, not determined; maximum gage height, 19.78 ft, May 27, 1991; minimum, 7.6 ft³/s, Sept. 4, 1990.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, not determined; maximum gage height, 19.78 ft, May 27; minimum 10.0 ft³/s, Oct. 1, 2, 3, 4.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12	16	25	336	53	106	188	81	168	40	22	19
2	11	15	27	231	60	116	151	75	141	39	22	16
3	11	15	227	173	58	113	130	73	121	38	21	16
4	53	15	115	139	57	109	124	71	373	47	21	15
5	22	17	78	120	102	103	117	119	416	39	21	17
6	17	17	61	125	179	101	106	106	197	36	20	17
7	16	16	49	397	154	92	112	91	139	34	19	19
8	15	16	42	267	135	83	250	85	111	33	20	23
9	15	66	38	195	121	77	192	103	95	141	24	25
10	16	59	34	191	112	72	165	97	85	67	30	23
11	14	36	32	256	104	72	140	104	84	56	23	33
12	14	29	30	217	97	76	143	397	135	48	21	28
13	13	26	30	173	274	81	176	406	128	44	20	20
14	13	24	29	147	394	74	316	242	97	39	20	18
15	13	22	85	132	232	67	390	171	84	37	18	17
16	13	23	113	124	168	63	256	137	75	34	17	17
17	13	21	141	105	---	67	188	116	68	33	17	16
18	22	20	---	96	---	81	156	152	79	32	19	17
19	16	19	481	91	---	75	146	112	69	31	17	18
20	15	19	256	88	---	74	123	101	59	29	16	16
21	14	18	---	81	321	73	108	92	56	28	16	16
22	39	18	---	73	225	109	100	85	93	27	16	16
23	29	23	---	70	170	140	94	78	123	26	15	16
24	22	20	280	66	142	111	86	72	74	32	15	19
25	19	19	200	61	123	101	79	72	65	30	16	24
26	18	18	155	58	108	95	75	---	58	27	16	18
27	17	18	282	56	99	99	72	---	53	25	16	17
28	17	40	445	55	90	112	77	---	48	24	16	17
29	16	31	293	52	---	489	94	396	45	24	16	16
30	15	27	---	52	---	398	89	274	42	23	18	16
31	15	---	---	48	---	258	---	208	---	22	17	---
TOTAL	555	723	---	4275	---	3687	4443	---	3381	1185	585	565
MEAN	17.9	24.1	---	138	---	119	148	---	113	38.2	18.9	18.8
MAX	53	66	---	397	---	489	390	---	416	141	30	33
MIN	11	15	---	48	---	63	72	---	42	22	15	15
CFSM	.38	.52	---	2.96	---	2.55	3.18	---	2.42	.82	.40	.40
IN.	.44	.58	---	3.41	---	2.94	3.55	---	2.70	.95	.47	.45

03602500 PINEY RIVER AT VERNON, TN

LOCATION.--Lat 35°52'16", long 87°30'05", Hickman County, Hydrologic Unit 06040003, on right bank at county highway bridge, 40 ft upstream from Pretty Creek, 0.2 mi northwest of Vernon, 2.3 mi downstream from Mill Creek, 6.5 mi north of Centerville, and at mile 8.3.
DRAINAGE AREA.--193 mi².
PERIOD OF RECORD.--July 1925 to current year.
REVISED RECORDS.--WSP 758: 1927(M). WSP 823: Drainage area. WSP 1306: Drainage area at site used Feb. 9, 1931, to May 10, 1934. WSP 1436: 1926(M), 1927, 1929, 1930-31(M), 1932, 1934(M).
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 461.72 ft above National Geodetic Vertical Datum of 1929. Prior to May 11, 1934, nonrecording gage; July 3, 1925, to Feb. 8, 1931, at site 350 ft upstream at datum 3.17 ft higher; Feb. 9, 1931, to May 10, 1934, at site 0.4 mi downstream at datum 0.40 ft higher. May 11, 1934, to Sept. 30, 1970, water-stage recorder at site 350 ft upstream; prior to June 29, 1965, at datum 3.17 ft higher, and 2.17 ft higher thereafter.
REMARKS.--Records good. Minimum discharge for the period of record also occurred on Sept. 20, 1936. Minimum discharge for the current year also occurred on Oct. 3. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1897 reached a stage of 20.7 ft, present site and datum, discharge, 37,000 ft³/s, from reports by Tennessee Valley Authority.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	82	106	1040	175	383	699	398	754	214	132	115
2	74	81	109	780	171	451	581	367	668	205	131	112
3	74	80	474	616	167	422	497	346	585	200	129	109
4	149	80	403	507	165	425	453	335	750	203	128	108
5	122	83	270	443	207	408	430	426	1900	198	129	108
6	95	84	218	419	354	406	388	450	722	186	129	112
7	88	82	185	918	365	370	372	389	576	178	126	110
8	86	80	163	839	334	338	529	359	501	173	124	113
9	87	147	148	672	316	316	540	392	444	442	143	127
10	87	274	137	595	298	297	531	386	401	255	231	120
11	83	164	128	759	277	284	481	392	379	237	153	113
12	81	135	121	701	260	283	485	892	459	212	141	140
13	82	118	115	603	465	292	554	1660	513	207	137	114
14	80	109	118	528	1020	273	912	900	425	188	135	109
15	78	102	129	471	754	255	1360	689	361	177	134	106
16	77	99	259	441	576	244	1010	549	332	168	133	105
17	78	96	253	387	640	242	800	466	319	162	129	102
18	92	91	2830	347	2910	266	672	794	355	157	128	102
19	90	90	1530	323	4930	256	703	584	366	152	124	100
20	83	89	777	309	2320	251	616	525	287	148	123	99
21	82	87	723	284	1230	250	549	444	297	146	123	100
22	130	87	4250	264	920	253	497	389	335	144	121	101
23	140	90	1630	250	747	388	451	350	539	143	121	102
24	108	90	937	238	616	334	406	318	374	146	120	105
25	98	87	691	224	520	311	370	306	320	172	120	118
26	92	84	546	215	451	296	343	3370	290	147	124	107
27	90	87	593	209	405	294	330	27800	266	144	119	102
28	87	118	1190	205	373	328	348	3410	251	139	112	101
29	85	124	875	198	---	846	400	1760	238	140	116	100
30	84	112	1860	193	---	1120	423	1210	225	138	118	99
31	83	---	2170	184	---	859	---	903	---	135	116	---
TOTAL	2841	3132	23938	14162	21966	11741	16730	51559	14232	5656	4049	3259
MEAN	91.6	104	772	457	784	379	558	1663	474	182	131	109
MAX	149	274	4250	1040	4930	1120	1360	27800	1900	442	231	140
MIN	74	80	106	184	165	242	330	306	225	135	112	99
CFSM	.47	.54	4.00	2.37	4.06	1.96	2.89	8.62	2.46	.95	.68	.56
IN.	.55	.60	4.61	2.73	4.23	2.26	3.22	9.94	2.74	1.09	.78	.63

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1991, BY WATER YEAR (WY)

MEAN	100	174	352	504	573	618	510	403	215	141	115	107
MAX	265	749	2535	1930	1704	2091	1393	1715	1041	340	258	685
(WY)	1978	1958	1927	1937	1932	1975	1927	1983	1974	1972	1938	1979
MIN	52.5	64.9	66.2	84.4	115	109	137	84.9	59.8	61.4	49.3	47.0
(WY)	1932	1957	1936	1940	1941	1941	1967	1941	1941	1942	1936	1936

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1925 - 1991	
ANNUAL TOTAL	110240		173265			
ANNUAL MEAN	302		475		317	
HIGHEST ANNUAL MEAN					684	1927
LOWEST ANNUAL MEAN					102	1941
HIGHEST DAILY MEAN	4700	Feb 4	27800	May 27	31200	Dec 21 1926
LOWEST DAILY MEAN	70	Sep 5	74	Oct 2	38	Aug 19 1936
ANNUAL SEVEN-DAY MINIMUM	72	Sep 1	80	Oct 11	38	Aug 19 1936
INSTANTANEOUS PEAK FLOW			49400	May 27	49400	May 27 1991
INSTANTANEOUS PEAK STAGE			24.42	May 27	24.42	May 27 1991
INSTANTANEOUS LOW FLOW			*74	Oct 2	*35	Sep 19 1936
ANNUAL RUNOFF (CFSM)	1.56		2.46		1.64	
ANNUAL RUNOFF (INCHES)	21.25		33.40		22.29	
10 PERCENT EXCEEDS	550		786		621	
50 PERCENT EXCEEDS	164		251		149	
90 PERCENT EXCEEDS	80		90		72	

* See REMARKS.

03603000 DUCK RIVER ABOVE HURRICANE MILLS, TN

LOCATION.--Lat 35°55'48", long 87°44'35", Humphreys County, Hydrologic Unit 06040003, on left bank 0.4 mi downstream from Tumbling Creek, 1.3 mi upstream from bridge on State Highway 13, 3.6 mi southeast of Hurricane Mills, and at mile 26.0.
DRAINAGE AREA.--2,557 mi².
PERIOD OF RECORD.--July 1925 to current year. Prior to October 1951, published as "near Hurricane Mills."
REVISED RECORDS.--WSP 803: 1935. WSP 823: 1927(M). WSP 853: Drainage area. WSP 1436: 1926-28, 1938(M).
GAGE.--Water-stage recorder. Datum of gage is 370.53 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 21, 1934, nonrecording gage and Feb. 21, 1934, to Sept. 30, 1951, water-stage recorder at bridge 5.6 mi downstream at datum 8.80 ft lower.
REMARKS.--No estimated daily discharges. Records good. Maximum discharge prior to regulation, 122,00 ft³/s, Feb. 14, 1948, gage height, 30.70 ft, from floodmark in gage house, present site and datum. Flow regulated since January 1976 by Normandy Lake (station 03596460). Prior to 1953 occasional regulation at low flow from small dams upstream. Minor diversions for irrigation. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1991 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	598	1250	2760	27200	2030	5950	28200	11600	5550	2230	1090	851
2	577	1220	2480	22600	2160	6100	18000	9370	5130	2100	1000	825
3	557	1190	2580	14400	2280	8020	9610	6060	4570	2010	943	801
4	712	1170	9260	10000	2090	11100	7820	4740	3930	2100	909	786
5	860	1040	14800	8170	2030	14100	6750	4400	5220	3670	879	754
6	867	852	11500	7410	2200	14000	5760	5920	4430	2810	843	751
7	777	776	5910	8150	2500	9450	5250	7880	3620	2200	827	730
8	798	751	4060	10100	2590	7640	4930	7530	3240	1830	816	735
9	904	823	3340	13400	2920	6400	4740	5900	2850	2000	871	800
10	898	1730	2860	11700	2990	5480	4790	6220	2640	2030	1230	855
11	830	3770	2540	10300	2920	4560	4430	7960	2600	2050	1250	792
12	1110	5600	2260	12600	2780	3690	3910	7540	2460	2570	1220	757
13	1160	4360	2070	12800	2840	3420	3970	11700	2620	2190	1030	749
14	972	2840	1960	9930	5320	3280	5110	12000	3000	1830	935	699
15	846	2070	1940	8190	9920	3080	11200	9570	2840	1630	903	674
16	838	1680	2110	7260	10900	2940	20900	6890	2920	1470	865	657
17	1110	1470	2190	5870	8060	2730	21100	5460	3260	1360	841	643
18	1160	1320	5010	4950	15200	2640	13700	5330	2550	1290	817	651
19	1190	1210	9850	4400	37800	2660	10000	5360	2230	1230	806	661
20	1240	1120	11000	3970	58400	2770	10400	5070	1970	1180	813	659
21	1170	1050	10900	3700	67000	2830	8450	6210	1810	1140	796	645
22	1290	1000	25900	3450	60200	2700	6700	5350	1890	1100	777	646
23	1460	970	35900	3210	52700	4610	5240	4250	2300	1060	762	659
24	1780	947	41300	3000	43400	14100	4500	3360	2920	1040	746	672
25	2150	924	44500	2810	21000	14200	3970	2930	3060	1130	729	749
26	2070	891	44100	2650	9040	9130	3520	6670	2950	1250	727	791
27	1730	877	42000	2520	7620	6070	3210	63900	3590	1900	739	992
28	1550	991	34800	2400	6650	5150	3050	72300	3230	1790	781	1210
29	1470	1190	19000	2300	---	6200	4130	35800	2640	1440	826	1320
30	1380	1690	19900	2200	---	16100	8340	10800	2420	1260	916	1110
31	1300	---	25600	2140	---	24900	---	7340	---	1190	916	---
TOTAL	35354	46772	444380	243780	445540	226000	251680	365410	94440	54080	27603	23624
MEAN	1140	1559	14330	7864	15910	7290	8389	11790	3148	1745	890	787
MAX	2150	5600	44500	27200	67000	24900	28200	72300	5550	3670	1250	1320
MIN	557	751	1940	2140	2030	2640	3050	2930	1810	1040	727	643

CAL YR 1990 MEAN‡ 4809 CFSM‡ 1.88 IN.‡ 25.53
WTR YR 1991 MEAN‡ 6199 CFSM‡ 2.42 IN.‡ 32.91

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1991, BY WATER YEAR (WY)

MEAN	1717	4047	6642	6370	7219	7607	6122	5879	2217	1668	1000	1405
MAX	5684	10120	14330	15490	16510	19430	13790	18140	6475	7116	1668	7207
(WY)	1990	1980	1991	1979	1990	1980	1979	1983	1989	1989	1984	1979
MIN	580	955	1190	958	2997	2235	1373	1058	574	667	575	606
(WY)	1988	1981	1981	1986	1978	1981	1986	1987	1988	1988	1987	1987

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		*WATER YEARS 1977 - 1991	
ANNUAL TOTAL	1747677		2258663			
ANNUAL MEAN	4788		6188		4312	
HIGHEST ANNUAL MEAN					6546	1979
LOWEST ANNUAL MEAN					1646	1981
HIGHEST DAILY MEAN	53900	Feb 5	72300	May 28	72300	May 28 1991
LOWEST DAILY MEAN	445	Sep 7	557	Oct 3	428	Jul 10 1988
ANNUAL SEVEN-DAY MINIMUM	458	Sep 1	652	Sep 16	455	Aug 31 1987
INSTANTANEOUS PEAK FLOW			89700	May 27	89700	May 27 1991
INSTANTANEOUS PEAK STAGE			27.71	May 27	27.71	May 27 1991
10 PERCENT EXCEEDS	10900		13500		9700	
50 PERCENT EXCEEDS	2110		2650		2060	
90 PERCENT EXCEEDS	657		797		710	

‡ Adjusted for change in contents in Normandy Lake.
NOTE.--Contents (cfs-days) for adjustments furnished by Tennessee Valley Authority.
* Regulated period only.

03604000 BUFFALO RIVER NEAR FLAT WOODS, TN
(Hydrologic bench-mark station)

LOCATION.--Lat 35°29'45", long 87°49'58", Perry County, Hydrologic Unit 06040004, on right bank 0.4 mi downstream from Little Opossum Creek, 0.5 mi downstream from bridge on State Highway 13, 1.3 mi north of Flat Woods, 3.9 mi upstream from Sinking Creek, and at mile 58.7.
DRAINAGE AREA.--447 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--May 1920 to current year.
REVISED RECORDS.--WSP 758: 1933. WSP 803: 1935. WSP 823: Drainage area. WSP 1436: 1921(M), 1922-24, 1925(M), 1927(M), 1934(M), WRD TN-71: 1970.
GAGE.--Water-stage recorder. Datum of gage is 513.58 ft above National Geodetic Vertical Datum of 1929. Prior to May 27, 1934, nonrecording gage at same site and datum.
REMARKS.--No estimated daily discharges. Records good. Maximum discharge and gage height from high-water mark in gage house, from rating curve extended above 50,000 ft³/s on basis of slope-area and contracted-opening measurements of peak flow and rainfall-runoff study.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1897, that of Feb. 13, 1948.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	171	239	412	3150	417	849	1950	2530	1420	494	304	351
2	171	239	368	1850	416	1130	1500	1660	1330	468	294	318
3	171	237	1100	1380	414	1140	1230	1300	1110	569	288	299
4	216	239	2470	1150	411	1160	1060	1170	987	493	285	287
5	309	250	1190	1020	415	1090	978	1610	1150	499	282	282
6	264	270	831	898	487	1010	888	1940	1050	454	318	278
7	224	280	659	1050	514	932	809	1450	870	436	317	268
8	241	272	584	1320	507	851	779	1170	784	427	298	260
9	412	309	530	1130	493	783	813	1380	711	432	292	256
10	312	879	489	1050	485	725	778	1430	660	436	489	309
11	264	657	457	1770	476	683	729	2030	631	429	531	306
12	240	456	433	1780	462	662	746	3680	632	415	406	282
13	230	365	408	1410	613	664	796	3330	607	394	354	272
14	227	323	393	1150	2100	642	1420	2390	620	380	334	260
15	222	302	393	1020	1920	600	4750	1680	606	368	325	254
16	218	292	387	950	1300	568	3840	1300	622	356	310	247
17	218	307	410	880	1790	548	2100	1080	569	362	306	243
18	271	315	989	790	13500	573	1550	1530	523	361	321	240
19	336	315	2070	729	24200	570	1380	2260	498	377	335	249
20	284	314	1490	690	18000	539	1990	2110	483	360	313	253
21	258	309	2280	646	4260	520	1560	1540	484	342	299	241
22	276	306	8100	596	2440	540	1240	1120	594	327	293	239
23	398	309	8220	554	1840	4430	1080	952	707	318	287	239
24	368	320	3390	515	1510	3150	941	847	910	339	278	244
25	312	319	1950	492	1240	1720	839	823	982	391	274	290
26	282	311	1440	472	1100	1290	770	10600	791	401	277	349
27	269	307	1240	458	979	1090	731	75800	655	372	297	301
28	258	354	2400	455	872	1010	844	24600	591	352	296	272
29	246	530	2230	452	---	1850	3560	4500	550	336	316	260
30	242	474	2150	444	---	5460	4770	2450	521	327	530	253
31	240	---	5830	433	---	3030	---	1760	---	317	414	---
TOTAL	8150	10399	55293	30684	83161	39809	46421	162022	22648	12332	10263	8202
MEAN	263	347	1784	990	2970	1284	1547	5227	755	398	331	273
MAX	412	879	8220	3150	24200	5460	4770	75800	1420	569	531	351
MIN	171	237	368	433	411	520	729	823	483	317	274	239
CFSM	.59	.78	3.99	2.21	6.64	2.87	3.46	11.7	1.69	.89	.74	.61
IN.	.68	.87	4.60	2.55	6.92	3.31	3.86	13.48	1.88	1.03	.85	.68

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1920 - 1991, BY WATER YEAR (WY)

MEAN	277	518	896	1212	1397	1457	1189	901	443	344	276	256
MAX	1418	2554	3568	3854	4901	4405	3034	5227	1642	1824	1008	1286
(WY)	1933	1958	1927	1937	1948	1973	1964	1991	1974	1932	1923	1979
MIN	112	174	213	234	316	458	303	210	146	121	117	94.2
(WY)	1932	1925	1964	1940	1926	1966	1986	1942	1941	1943	1925	1925

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1920 - 1991	
ANNUAL TOTAL	310442		489384			
ANNUAL MEAN	851		1341		760	
HIGHEST ANNUAL MEAN					1583	1973
LOWEST ANNUAL MEAN					323	1942
HIGHEST DAILY MEAN	23100	Feb 4	75800	May 27	75800	May 27 1991
LOWEST DAILY MEAN	171	Oct 1	171	Oct 1	65	Sep 9 1925
ANNUAL SEVEN-DAY MINIMUM	178	Sep 2	218	Oct 1	71	Sep 5 1925
INSTANTANEOUS PEAK FLOW			*96300	May 27	*96300	May 27 1991
INSTANTANEOUS PEAK STAGE			*32.19	May 27	*32.19	May 27 1991
INSTANTANEOUS LOW FLOW			168	Oct 4	65	Sep 9 1925
ANNUAL RUNOFF (CFSM)	1.90		3.00		1.70	
ANNUAL RUNOFF (INCHES)	25.84		40.73		23.11	
10 PERCENT EXCEEDS	1520		2080		1460	
50 PERCENT EXCEEDS	488		523		377	
90 PERCENT EXCEEDS	210		260		175	

* See REMARKS.

03604000 BUFFALO RIVER NEAR FLAT WOODS, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1964 to current year.

PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: June 1964 to January 1978.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER TEMPERATURES: Maximum, 31.0°C, July 13-15, 1966; minimum, 0.0°C, many days during winter periods.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	HARD-NESS TOTAL (MG/L AS CACO3)
OCT												
18...	1030	266	97	7.5	17.0	751	4.3	7.9	83	290	630	43
NOV												
21...	0745	310	90	--	12.0	--	--	--	--	--	--	--
DEC												
10...	1200	499	85	--	7.5	--	--	--	--	--	--	--
JAN												
15...	1145	1050	74	7.5	7.0	757	--	11.3	94	K54	K43	--
23...	1100	--	80	7.9	4.5	753	2.3	11.7	92	K5	K11	37
MAR												
08...	0730	857	75	--	10.5	--	--	--	--	--	--	--
APR												
10...	1030	809	77	6.8	17.5	753	3.5	8.0	85	99	32	34
MAY												
28...	1200	18800	75	--	24.0	--	--	--	--	--	--	--
JUL												
22...	1015	318	92	6.9	25.5	755	24	6.7	83	36	100	48
AUG												
20...	0915	314	96	--	23.0	--	--	--	--	--	--	--

DATE	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)
OCT												
18...	0	14	1.9	1.2	6	0.1	0.80	48	2.8	2.0	0.20	6.5
JAN												
15...	--	--	--	--	--	--	--	24	--	--	--	--
23...	0	12	1.7	1.4	7	0.1	0.80	39	4.9	3.1	<0.10	6.3
APR												
10...	4	11	1.6	1.4	8	0.1	0.90	30	4.3	1.6	0.20	5.0
JUL												
22...	4	16	2.0	1.6	7	0.1	1.0	44	2.7	2.5	0.10	6.7

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)
OCT												
18...	51	56	0.07	36.6	--	<0.010	--	<0.100	0.020	--	--	<0.010
JAN												
15...	--	--	--	--	--	<0.010	--	0.500	0.020	0.04	--	0.030
23...	52	51	0.07	--	0.390	0.010	0.03	0.400	0.010	0.03	--	0.020
APR												
10...	50	46	0.07	109	--	<0.010	--	0.200	0.030	0.01	--	0.010
JUL												
22...	57	59	0.08	48.9	0.071	0.020	0.07	0.091	0.040	0.06	0.75	0.050

K--Results based on non-ideal colony counts.

03604000 BUFFALO RIVER NEAR FLAT WOODS, TN--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)
OCT 18...	0.40	0.010	<0.010	0.020	<10	<1	17	<0.5	<1.0	2	<3	1
JAN 15...	0.30	0.100	0.020	0.020	--	--	--	--	--	--	--	--
23...	0.30	0.030	0.030	0.020	10	<1	15	<0.5	<1.0	<1	<3	2
APR 10...	<0.20	0.060	0.040	<0.010	10	<1	16	<0.5	<1.0	2	<3	2
JUL 22...	0.80	<0.010	0.010	0.020	20	<1	27	<0.5	1.0	<1	<3	3

DATE	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)
OCT 18...	39	1	<4	8	0.2	<10	1	<1	<1.0	52	<6	7
JAN 23...	33	<1	<4	5	<0.1	<10	1	<1	<1.0	45	<6	6
APR 10...	30	1	<4	8	<0.1	<10	1	<1	<1.0	42	<6	9
JUL 22...	29	<1	<4	16	<0.1	<10	2	<1	<1.0	57	<6	12

DATE	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT)	GROSS BETA, DISSOLVED (PCI/L AS CS-137)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137)	GROSS BETA, DISSOLVED (PCI/L AS SR/YT-90)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90)	RADIUM 226, DISSOLVED, RADON METHOD (PCI/L)	URANIUM NATURAL DISSOLVED (UG/L AS U)
OCT 18...	3	2.4	75	--	--	--	--	--	--	--	--
JAN 15...	2	4.5	75	--	--	--	--	--	--	--	--
23...	1	--	66	<0.6	<0.6	0.9	<0.6	0.8	<0.6	0.03	0.03
APR 10...	8	18	47	--	--	--	--	--	--	--	--
JUL 22...	8	6.9	--	<0.6	<0.6	1.4	1.2	1.2	1.1	0.05	--

03604400 BUFFALO RIVER BELOW LOBELVILLE, TN

LOCATION.--Lat 35°48'44", long 87°46'44", Perry County, Hydrologic Unit 06040004, on left bank at downstream end of bridge on State Highway 13, 1.1 mi downstream from Lost Creek, 1.4 mi above Standing Rock bridge, 2.8 mi north of Lobelville, and at mile 19.1.
DRAINAGE AREA.--702 mi².
PERIOD OF RECORD.--October 1927 to September 1989 (published as "near Lobelville"), October 1989 to current year. Monthly discharge only for October 1927, published in WSP 1306.
REVISED RECORDS.--WSP 803: 1935. WSP 823: Drainage area. WSP 853: 1928-37. WSP 1436: 1932(M).
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage 405.25 ft above National Geodetic Vertical Datum of 1929. Nov. 1, 1927, to May 31, 1934, nonrecording gage. June 1, 1934, to September 30, 1989, water-stage recorder at Standing Rock bridge 1.4 mi downstream at datum 2.23 ft lower.
REMARKS.--Records good. Maximum discharge, 100,000 ft³/s, Feb. 14, 1948, gage height 25.99 ft, present datum, from high-water mark, from rating curve extended above 40,000 ft³/s, on basis of slope-area measurement of peak flow; minimum caused by unknown regulation; minimum natural 142 ft³/s, Oct. 1-8, 1931. Minimum discharge for current year also occurred on Oct. 3. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage since at least 1897, 25.99 ft, Feb. 14, 1948. Flood of March 1902 reached a stage of about 24.0 ft, present datum, discharge not determined, from flood profile by Tennessee Valley Authority.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	288	393	650	7310	632	1390	3870	5710	2740	826	525	619
2	288	390	592	e4100	614	1510	2710	3290	2440	799	513	563
3	288	390	893	e3000	607	1670	2170	2380	2130	771	496	522
4	370	390	1860	e2200	605	1650	1830	1990	1790	815	486	494
5	399	394	2540	1710	627	1640	1620	2250	1660	766	482	478
6	420	411	1600	1530	711	1560	1470	3040	1710	752	483	470
7	417	416	1230	2280	777	1450	1370	2760	1490	718	496	462
8	389	423	1020	2360	797	1360	1300	2160	1290	689	508	449
9	398	489	890	2190	777	1270	1270	1960	1160	967	497	449
10	501	812	798	1880	754	1180	1260	2190	1070	797	599	443
11	502	1060	720	2070	732	1110	1200	2700	1010	745	713	469
12	444	904	667	2700	709	1070	1200	3940	1010	711	734	497
13	411	693	634	2580	854	1070	1290	6530	974	697	648	471
14	390	575	608	2130	2000	1040	2210	5250	969	671	589	454
15	378	506	604	1790	3260	990	5210	3570	948	640	551	441
16	371	464	635	1560	2580	941	7050	2610	956	614	533	424
17	366	442	647	1430	2160	905	4910	2080	936	598	518	414
18	381	446	1730	1320	8080	905	3030	1800	883	598	514	407
19	420	449	2920	1210	23400	910	2510	2620	835	601	511	409
20	470	448	3000	1130	31900	887	2320	2790	802	594	518	402
21	453	443	2500	1050	20200	861	2650	2690	797	576	502	411
22	458	440	7070	973	e5200	847	2140	2050	1120	554	487	411
23	510	442	11600	904	e3000	1210	1820	1640	1220	534	477	407
24	543	443	e11200	841	e2200	4910	1610	1440	1400	561	474	431
25	543	449	e5500	777	e2000	3170	1440	1340	1600	681	463	478
26	493	444	e3200	735	e1800	2070	1310	3840	1460	641	470	492
27	454	442	e2000	704	e1700	1700	1230	57100	1210	638	483	508
28	430	499	e2800	691	1460	1610	1260	67400	1040	600	484	498
29	415	582	3990	682	---	1910	2110	24000	941	583	486	461
30	406	655	3520	674	---	4230	5530	7100	876	567	515	439
31	398	---	5190	653	---	6530	---	3750	---	543	640	---
TOTAL	12994	15334	82808	55164	120136	53556	70900	233970	38467	20847	16395	13873
MEAN	419	511	2671	1779	4291	1728	2363	7547	1282	672	529	462
MAX	543	1060	11600	7310	31900	6530	7050	67400	2740	967	734	619
MIN	288	390	592	653	605	847	1200	1340	797	534	463	402
CFSM	.60	.73	3.81	2.53	6.11	2.46	3.37	10.8	1.83	.96	.75	.66
IN.	.69	.81	4.39	2.92	6.37	2.84	3.76	12.40	2.04	1.10	.87	.74

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1991, BY WATER YEAR (WY)

MEAN	455	797	1368	1985	2180	2226	1872	1457	727	568	412	411
MAX	2107	3195	4619	7029	7231	6161	4659	7547	3320	2201	925	1989
(WY)	1933	1958	1973	1937	1948	1975	1964	1991	1974	1932	1967	1979
MIN	159	285	331	359	530	666	479	320	233	198	233	180
(WY)	1932	1955	1936	1940	1934	1941	1966	1942	1941	1943	1936	1941

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1928 - 1991	
ANNUAL TOTAL	500364		734444			
ANNUAL MEAN	1371		2012		1200	
HIGHEST ANNUAL MEAN					2410	1973
LOWEST ANNUAL MEAN					523	1941
HIGHEST DAILY MEAN	25700	Feb 5	67400	May 28	82100	Feb 14 1948
LOWEST DAILY MEAN	265	Sep 7	288	Oct 1	142	Oct 1 1931
ANNUAL SEVEN-DAY MINIMUM	271	Sep 1	353	Oct 1	142	Oct 1 1931
INSTANTANEOUS PEAK FLOW			84700	May 28	100000	Feb 14 1948
INSTANTANEOUS PEAK STAGE			25.23	May 28	25.99	Feb 14 1948
INSTANTANEOUS LOW FLOW			*284	Oct 2	*135	Aug 18 1953
ANNUAL RUNOFF (CFSM)	1.95		2.87		1.71	
ANNUAL RUNOFF (INCHES)	26.52		38.92		23.23	
10 PERCENT EXCEEDS	2750		3180		2380	
50 PERCENT EXCEEDS	821		841		625	
90 PERCENT EXCEEDS	324		431		284	

e Estimated.
* See REMARKS.

RESERVOIRS IN TENNESSEE RIVER BASIN

03468500 DOUGLAS LAKE.--Lat 35°57'40", long 83°32'20", Sevier County, Hydrologic Unit 06010107, at Douglas Dam on French Broad River, 6.5 mi north of Sevierville, and at mile 32.3. DRAINAGE AREA, 4,541 mi^2. PERIOD OF RECORD, February 1943 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir formed by concrete main dam and 10 saddle dams. Spillway equipped with 11 radial gages, each 32 ft high by 40 ft wide and 8 sluice gates 10 ft high by 5.67 ft wide. Closure of dam was made Feb. 19, 1943; water in reservoir first reached minimum pool elevation Feb. 25, 1943. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,002.00 ft, top of gates, is 743,600 cfs-days, of which 631,200 cfs-days is controlled storage above elevation 940.00 ft, normal minimum pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 760,000 cfs-days, July 25, 1949, elevation, 1,001.79 ft; minimum after first filling, 1,000 cfs-days, Jan. 16, 1956, elevation, 883.7 ft, estimated.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 647,000 cfs-days, June 27, elevation, 996.08 ft; minimum, 138,800 cfs-days, Dec. 22, elevation, 946.09 ft.

03476000 SOUTH HOLSTON LAKE.--Lat 36°31'15", long 82°05'11", Sullivan County, Hydrologic Unit 06010102, 470 ft upstream from South Holston Dam on South Fork Holston River, 7.0 mi southeast of Bristol, Virginia-Tennessee, and at mile 49.8. DRAINAGE AREA, 703 mi^2. PERIOD OF RECORD, November 1950 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929. Prior to May 11, 1951, non-recording gage at same site and datum.

REMARKS.--Reservoir is formed by rock and rolled earthfill dam. Spillway is uncontrolled morning-glory type, 128 ft in diameter with six piers, each 3 ft wide to guide flow spilling into a concrete-lined shaft and tunnel 34 ft in diameter. Closure of dam was made Nov. 20, 1950; water in reservoir first reached minimum pool elevation Jan. 25, 1951. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,742.00 ft, spillway crest, is 385,200 cfs-days, of which 220,800 cfs-days is controlled storage above elevation 1,675.00 ft, normal minimum pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 363,800 cfs-days, May 10, 1984, elevation, 1,736.86 ft; minimum after first filling, 57,700 cfs-days, Jan. 13, 1956, elevation, 1,614.15 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 333,700 cfs-days, June 13, elevation, 1,729.51 ft; minimum, 231,200 cfs-days, Dec. 14, elevation, 1,699.48 ft.

03483500 WATAUGA LAKE.--Lat 36°19'20", long 82°07'16", Carter County, Hydrologic Unit 06010103, at Watauga Dam on Watauga River, 5 mi east of Elizabethton, and at mile 36.7. DRAINAGE AREA, 468 mi^2. PERIOD OF RECORD, December 1948 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by rock and rolled earthfill dam. Spillway is uncontrolled morning-glory type, 128 ft in diameter with six piers, each 3 ft wide to guide flow spilling into a concrete-lined shaft and tunnel 34 ft in diameter. Closure of dam was made Dec. 1, 1948; water in reservoir first reached minimum pool elevation Dec. 31, 1948. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,975.00 ft, spillway crest, is 341,300 cfs-days, of which 178,500 cfs-days is controlled storage above elevation 1,915.00 ft, normal minimum pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 300,800 cfs-days, Apr. 19, 1987, elevation, 1,963.28 ft; minimum after first filling, 25,100 cfs-days, Jan. 13, 1956, elevation, 1,813.47 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 297,800 cfs-days, March 31, elevation, 1,962.39 ft; minimum, 225,500 cfs-days, Dec. 6, elevation, 1,938.81 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03468500 DOUGLAS LAKE			03476000 SOUTH HOLSTON LAKE			03483500 WATAUGA LAKE		
Sept. 30...	964.64	278,500	-	1,706.82	254,000	-	1,940.47	230,200	-
Oct. 31...	969.08	320,600	+42,100	1,702.34	239,900	-14,100	1,943.61	239,200	+9,000
Nov. 30...	954.80	197,000	-123,600	1,700.90	235,500	-4,400	1,940.30	229,700	-9,500
Dec. 31...	953.09	184,600	-12,400	1,707.01	254,600	+19,100	1,943.33	238,400	+8,700
CAL YR 1990	-	-	+33,600	-	-	+27,900	-	-	+18,900
Jan. 31...	948.03	150,600	-34,000	1,708.19	258,400	+3,800	1,945.60	245,000	+6,600
Feb. 28...	960.75	244,300	+93,700	1,716.36	285,700	+27,300	1,952.02	264,300	+19,300
Mar. 31...	981.28	451,500	+207,200	1,717.40	289,300	+3,600	1,962.36	297,700	+33,400
Apr. 30...	990.46	567,400	+115,900	1,721.80	304,900	+15,600	1,959.06	286,800	-10,900
May 31...	994.86	629,200	+61,800	1,727.96	327,800	+22,900	1,957.91	283,100	-3,700
June 30...	995.67	641,000	+11,800	1,728.90	331,300	+3,500	1,956.89	279,800	-3,300
July 31...	994.00	616,800	-24,200	1,724.90	316,300	-15,000	1,950.92	260,900	-18,900
Aug. 31...	988.86	545,900	-70,900	1,716.68	286,800	-29,500	1,944.71	242,400	-18,500
Sept. 30...	976.30	395,200	-150,700	1,707.68	256,700	-30,100	1,941.64	233,600	-8,800
WTR YR 1991	-	-	-116,700	-	-	+2,700	-	-	+3,400

RESERVOIRS IN TENNESSEE RIVER BASIN--Continued

03486800 BOONE LAKE.--Lat 36°26'26", long 82°26'16", Sullivan County, Hydrologic Unit 06010102, at Boone Dam on South Fork Holston River, 0.7 mi northeast of Spurgeon, 1.3 mi downstream from Watauga River, and at mile 18.6. DRAINAGE AREA, 1,840 mi^2. PERIOD OF RECORD, December 1952 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by gravity nonover-flow type concrete dam. Spillway is equipped with five radial gates, each 35 ft high by 35 ft wide. Storage began Dec. 16, 1952; water in reservoir first reached minimum pool elevation Jan. 5, 1953. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,385.0 ft, top of gates, is 97,500 cfs-days, of which 74,800 cfs-days is controlled storage above elevation 1,330 ft, normal minimum pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 99,100 cfs-days, May 19, 1964, elevation 1,384.99 ft; minimum after first filling, 21,300 cfs-days, Jan. 23, 1956, elevation, 1,327.06 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 95,400 cfs-days, June 4, elevation, 1,384.05 ft; minimum, 49,900 cfs-days, Jan. 8, elevation, 1,357.17 ft.

03487000 FORT PATRICK HENRY LAKE.--Lat 36°29'53", long 82°30'32", Sullivan County, Hydrologic Unit 06010102, at Fort Patrick Henry Dam on South Fork Holston River, 0.2 mi upstream from bridge on U. S. Highway 23, 4.5 mi southeast of Kingsport, and at mile 8.2. DRAINAGE AREA, 1,903 mi^2. PERIOD OF RECORD, October 1953 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by gravity nonover-flow type concrete dam. Spillway is equipped with five radial gates, each 35 ft high by 35 ft wide. Storage began Oct. 27, 1953; water in reservoir first reached minimum pool elevation Dec. 8, 1953. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,263 ft, top of gates, is 13,600 cfs-days, of which 2,200 cfs-days is controlled storage above elevation 1,258 ft, normal minimum pool. Reservoir is used for navigation, flood control and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 14,000 cfs-days, Feb. 11, 1954, elevation, 1,263.80 ft, minimum after first filling, 2,690 cfs-days, Sept. 19, 1986, elevation, 1,226.33 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 13,600 cfs-days, July 1, elevation, 1,263.02 ft; minimum, 11,300 cfs-days, Sept. 25, elevation, 1,257.61 ft.

03493500 CHEROKEE LAKE.--Lat 36°10'00", long 83°29'55", Jefferson County, Hydrologic Unit 06010104, at Cherokee Dam on Holston River, 0.3 mi upstream from bridge on State Highway 92, 2.7 mi upstream from Mill Spring Creek, 2.8 mi north of Jefferson City, and at mile 52.3. DRAINAGE AREA, 3,429 mi^2. PERIOD OF RECORD, December 1941 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with nine radial gates, each 32 ft high by 40 ft wide. Storage began Dec. 5, 1941; water in reservoir first reached minimum pool elevation Jan. 6, 1942. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,075.0 ft, top of gates, is 778,400 cfs-days, of which 580,300 cfs-days is controlled storage above elevation 1,020.0 ft, normal minimum pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 779,400 cfs-days, May 11, 1944, maximum elevation, 1,074.47 ft May 30, 1973; minimum after first filling, 48,400 cfs-days, Jan. 7, 1954, elevation, 980.77 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 726,000 cfs-days, June 17, elevation, 1,071.59 ft; minimum, 295,100 cfs-days, Dec. 6, elevation, 1,033.58 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03486800 BOONE LAKE			03487000 FORT PATRICK HENRY LAKE			03493500 CHEROKEE LAKE		
Sept. 30...	1,376.90	80,800	-	1,260.64	12,500	-	1,040.28	353,500	-
Oct. 31...	1,372.92	73,600	- 7,200	1,262.34	13,300	+800	1,038.64	338,500	-15,000
Nov. 30...	1,364.30	59,800	-13,800	1,261.45	12,900	-400	1,034.25	300,600	-37,900
Dec. 31...	1,360.85	54,800	- 5,000	1,260.78	12,600	-300	1,041.46	364,500	+63,900
CAL YR 1990	-	-	+ 4,200	-	-	-700	-	-	+112,100
Jan. 31...	1,359.98	53,600	-1,200	1,261.23	12,800	+200	1,034.59	303,400	-61,100
Feb. 28...	1,365.56	61,600	+8,000	1,262.13	13,200	+400	1,046.17	411,000	+107,600
Mar. 31...	1,380.12	87,100	+25,500	1,261.58	12,900	-300	1,054.93	507,200	+96,200
Apr. 30...	1,380.90	88,700	+1,600	1,262.35	13,300	+400	1,067.19	663,400	+156,200
May 31...	1,382.33	91,700	+3,000	1,259.69	12,100	-1,200	1,068.69	684,400	+21,000
June 30...	1,381.49	89,900	-1,800	1,262.30	13,200	+1,100	1,070.79	714,300	+29,900
July 31...	1,382.54	92,200	+2,300	1,262.15	13,200	0	1,062.96	606,600	-107,700
Aug. 31...	1,382.07	91,200	-1,000	1,261.20	12,800	-400	1,053.08	485,800	-120,800
Sept. 30...	1,377.39	81,800	-9,400	1,261.84	13,000	+200	1,044.36	392,700	-93,100
WTR YR 1991	-	-	-1,000	-	-	+500	-	-	+39,200

RESERVOIRS IN TENNESSEE RIVER BASIN--Continued

03499500 FORT LOUDOUN LAKE.--Lat 35°47'30", long 84°14'35", Loudon County, Hydrologic Unit 06010201, at Fort Loudoun Dam on Tennessee River, 1 mi northeast of Lenoir City, and at mile 602.3. DRAINAGE AREA, 9,550 mi^2. PERIOD OF RECORD, July 1943 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir formed by concrete dam with earth embankment. Spillway equipped with 14 radial gates, each 32 ft high by 40 ft wide. Closure of dam was made Aug. 2, 1943; water in reservoir first reached ordinary minimum pool elevation Sept. 4, 1943. Revised capacity table put into use Jan. 19, 1980. Total level pool capacity at elevation 815.00 ft, top of gates, is 424,000 cfs-days, of which 120,000 cfs-days is controlled flood storage above elevation 807.00 ft, minimum navigation pool. Reservoir is used for navigation, flood control, and power. Tellico-Fort Loudoun canal was opened Jan. 19, 1980. Canal is 1,000 ft long, and interconnects Tellico and Fort Loudoun Lakes at the dam. Spillway gates of Tellico Dam were closed Feb. 7, 1980, diverting all flow from Little Tennessee River.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 815.14 ft, May 8, 1984; minimum first filling, 805.54 ft, Jan. 18, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 184,000 cfs-days, Oct. 18; maximum elevation, 813.19 ft Aug. 26; minimum midnight contents, 147,000 cfs-days, Jan. 6, minimum elevation, 807.61 ft Jan. 8. Contents based on backwater profile.

03519800 TELLICO LAKE.--Lat 35°46'53", long 84°15'10", Loudon County, Hydrologic Unit 06010201, at Tellico Dam on Little Tennessee River, 1.1 mi south of Lenoir City, and at mile 0.4. DRAINAGE AREA, 2,627 mi^2. PERIOD OF RECORD, December 1979 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir formed by concrete dam with earth embankment. Spillway equipped with 3 radial gates, each 42 ft high by 40 ft wide. Closure of dam was made Nov. 29, 1979; water in reservoir first reached ordinary minimum pool elevation Dec. 24, 1979. Total capacity at elevation 815.00 ft, top of gates, is 225,500 cfs-days, of which 63,800 cfs-days is controlled storage above elevation 807.00 ft, minimum navigation pool. Reservoir is used for navigation, flood control, and indirectly, power. Tellico-Fort Loudoun canal was opened Jan. 19, 1980. Canal is 1,000 ft long, and interconnects Tellico and Fort Loudoun Lakes at the dam. Spillway gates of Tellico Dam were closed Feb. 7, 1980, diverting all flow from Little Tennessee River.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 228,700 cfs-days, May 8, 1984, elevation, 815.37 ft; minimum after first filling, 155,400 cfs-days, Jan. 11, 1985, elevation, 807.31 ft; minimum elevation, 806.96 ft, Jan. 14, 1980.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 199,600 cfs-days, Aug. 26, elevation, 813.25 ft; minimum, 158,000 cfs-days, Jan. 8, elevation, 807.69 ft.

03532500 NORRIS LAKE.--Lat 36°13'29", long 84°05'29", Anderson County, Hydrologic Unit 06010205, at Norris Dam on Clinch River, 2.5 mi northwest or Norris, and at mile 79.8. DRAINAGE AREA, 2,912 mi^2. PERIOD OF RECORD, June 1935 to current year. GAGE, water-stage recorder. Datum of stage is 0.11 ft above National Geodetic Vertical Datum of 1929. Gage readings have been reduced to National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity dam with three drum gates, each 100 ft wide by 14 ft high. Some storage began in June 1935; dam was completely closed and placed in operation Mar. 4, 1936; water in reservoir first reached minimum pool elevation Mar. 24, 1936. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 1,034.11 ft, top of gates, is 1,286,600 cfs-days, of which 969,000 cfs-days is controlled storage above elevation 960.11 ft normal minimum pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 1,236,700 cfs-days, Feb. 11, 1937, elevation, 1,031.21 ft; minimum after first filling, 75,500 cfs-days, Jan. 24, 1956, elevation, 909.46 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 1,044,400 cfs-days, June 24, elevation, 1021.04 ft; minimum, 584,500 cfs-days, Dec. 5, elevation, 988.73 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	*03499500 FORT LOUDOUN LAKE			03519800 TELLICO LAKE			03532500 NORRIS LAKE		
Sept. 30...	812.82	181,700	-	812.85	196,500	-	998.85	708,800	-
Oct. 31...	812.58	180,000	-1,700	812.63	194,700	-1,800	995.24	663,900	-44,900
Nov. 30...	808.98	155,000	-25,000	809.07	167,900	-26,800	988.92	587,900	-76,000
Dec. 31...	808.79	155,000	0	808.89	166,600	-1,300	1,001.63	747,400	+159,500
CAL YR 1990	-	-	+2,100	-	-	+900	-	-	+176,100
Jan. 31...	807.89	148,400	-6,600	807.96	160,000	-6,600	993.77	644,300	-103,100
Feb. 28...	808.86	155,900	+7,500	808.90	166,700	+6,700	1,007.09	822,800	+178,500
Mar. 31...	810.15	164,000	+8,100	810.29	176,900	+10,200	1,013.24	915,900	+93,100
Apr. 30...	812.89	182,200	+18,200	812.95	197,200	+20,300	1,015.68	954,800	+38,900
May 31...	812.44	179,600	-2,600	812.50	193,700	-3,500	1,018.88	1,007,600	+52,800
June 30...	812.66	180,800	+1,200	812.69	195,200	+1,500	1,020.78	1,040.000	+32,400
July 31...	812.59	180,100	-700	812.61	194,600	-600	1,013.82	925,100	-114,900
Aug. 31...	812.39	178,800	-1,300	812.43	193,200	-1,400	1,007.15	823,700	-101,400
Sept. 30...	812.94	182,800	+4,000	812.99	197,600	+4,400	1,000.55	731,400	-92,300
WTR YR 1991	-	-	+1,100	-	-	+1,100	-	-	+22,600

* Contents based on backwater profile.

RESERVOIRS IN TENNESSEE RIVER BASIN--Continued

03535900 MELTON HILL LAKE.--Lat 35°53'04", 84°18'01", Loudon-Roane County line, Hydrologic Unit 06010207, 9 mi southwest of Oak Ridge, 19 mi west of Knoxville, 57 mi downstream from Norris Dam on Clinch River, and at mile 23.1. DRAINAGE AREA, 3,343 mi^2. PERIOD OF RECORD, August 1962 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity dam. Spillway is equipped with three radial gates, each 42 ft high by 40 ft wide. Dam completed and storage began May 1, 1963; water in reservoir first reached minimum pool elevation May 23, 1963. Revised capacity table put into use Jan. 1, 1971. Total capacity at elevation 796 ft, top of gates, is 63,500 cfs-days, of which 16,100 cfs-days is controlled storage above elevation 790.0 ft, normal minimum pool. Reservoir is used for navigation, power, and recreation.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 64,900 cfs-days, Mar. 16, 1973, elevation, 796.45 ft; minimum after first filling, 35,100 cfs-days, Feb. 9, 1966, elevation, 784.10 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 62,600 cfs-days, Feb. 18, elevation, 795.71 ft; minimum, 47,700 cfs-days, Nov. 30, elevation, 790.10 ft.

03543000 WATTS BAR LAKE.--Lat 35°37'13", long 84°47'00", Rhea County, Hydrologic Unit 06010201, at Watts Bar Dam on Tennessee River, 6.5 mi southeast of Spring City, 72.4 mi downstream from Fort Loudoun Dam, and at mile 529.9. DRAINAGE AREA, 17,310 mi^2, approximately. PERIOD OF RECORD, October 1941 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with 20 radial gates, each 32 ft high by 40 ft wide, also one 2-section leaf trashway gate 16.3 ft high by 24 ft wide. Storage began with partial closure Dec. 12, 1941, and final closure Jan. 1, 1942; water in reservoir first reached minimum navigation pool elevation Feb. 17, 1942. Revised capacity table put into use Jan. 1, 1971. Total level pool capacity at elevation 745.0 ft, top of gates, is 592,400 cfs-days, of which 191,000 cfs-days is controlled flood storage above elevation 735.0 ft, minimum navigation pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 745.40 ft, Mar. 17, 1973; minimum after first filling, 733.44 ft, Mar. 20, 1945.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 552,000 cfs-days, Dec. 23; maximum elevation, 743.84 ft, Dec. 23; minimum midnight contents, 411,000 cfs-days, Jan. 27; minimum elevation , 735.08 ft, Jan. 28. Contents based on backwater profile.

03564000 LAKE OCOEE.--LAT 35°05'40", long 84°38'53", Polk County, Hydrologic Unit 06020003, at Lake Ocoee Dam on Ocoee River at Parksville, 13.8 mi east of Cleveland, and at mile 11.9. DRAINAGE AREA, 595 mi^2. PERIOD OF RECORD, June 1914 to current year. Prior to October 1953, published as "Parksville (Ocoee No. 1) Reservoir," and October 1953 to September 1968, as "Parksville Lake." GAGE, nonrecording gage. Datum of gage is 6.89 ft above National Geodetic Vertical Datum of 1929. Gage readings have been reduced to National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with 347 ft of spillway. Spillway is equipped with four floodgates, each 6 ft high by 20 ft wide and 265 ft of flashboards about 5.7 ft high. Crest of spillway under gates is at elevation 830.82 ft; remainder of spillway is 1.0 ft higher. Dam completed and storage began in 1911. Capacity of reservoir has been considerably reduced by silting. Revised capacity table put into use Jan. 1, 1979. Total capacity at elevation 837.55 ft, about top of flashboards, is 42,300 cfs-days, of which 15,600 cfs-days is controlled storage above elevation 817.9 ft, normal minimum pool. Reservoir is used for power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum midnight contents observed, 53,300 cfs-days, July 9, 1916; maximum midnight elevation observed, 840.2 ft, Feb. 10, 1946; minimum contents observed, 27,300 cfs-days, Jan. 27, 1956, elevation, 817.7 ft; minimum midnight elevation observed, 814.8 ft, Dec. 14, 1934.

EXTREMES FOR CURRENT YEAR.--Maximum contents observed, 43,600 cfs-days, Dec. 23, elevation, 839.3 ft; minimum contents observed, 34,400 cfs-days, April 24, elevation, 829.4 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03535900 MELTON HILL LAKE			*03543000 WATTS BAR LAKE			03564000 LAKE OCOEE		
Sept. 30.	793.68	56,700	-	740.97	508,600		834.7	39,100	
Oct. 31...	793.90	57,300	+600	740.22	494,000	-14,600	827.0	38,300	-800
Nov. 30...	790.91	47,600	-9,700	736,73	431,000	-63,000	826.4	37,800	-500
Dec. 31...	793.50	56,200	+8,600	737.64	450,000	+19,000	829.0	40,300	+2,500
CAL YR 1990	-	-	-3,000	-	-	+16,500	-	-	+2,000
Jan. 31...	794.18	58,100	+1,900	735.83	415,300	-34,700	832.3	36,900	-3,400
Feb. 28...	793.89	57,300	-800	735.73	419,000	+3,700	833.0	37,500	+600
Mar. 31...	795.10	60,800	+3,500	739.21	476,700	+57,700	834.4	38,800	+1,300
Apr. 30...	794.15	58,000	-2,800	741.11	511,600	+34,900	835.1	39,500	+700
May 31...	794.17	58,100	+100	740.90	507,500	-4,100	835.1	39,500	0
June 30...	793.89	57,300	-800	740.07	491,100	-16,400	835.7	40,100	+600
July 31...	793.58	56,500	-800	741.07	510,600	+19,500	835.4	39,800	-300
Aug. 31...	793.24	55,500	-1,000	740.95	508,200	-2,400	835.2	39,600	-200
Sept. 30...	792.73	54,200	-1,300	740.11	492,500	-15,700	834.6	39,000	-600
WTR YR 1991	-	-	-2,500	-	-	-16,100	-	-	-100

* Contents based on backwater profile.

RESERVOIRS IN TENNESSEE RIVER BASIN--Continued

03566500 CHICKAMAUGA LAKE.--Lat 35°06'07", long 85°13'42", Hamilton County, Hydrologic Unit 06020001, at Chickamauga Dam on Tennessee River, 5.8 mi northeast of Chattanooga, 58.9 mi downstream from Watts Bar Dam, and at mile 471.0. DRAINAGE AREA, 20,790 mi^2, approximately. PERIOD OF RECORD, October 1939 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with eighteen 2-section lift gates, each 40.44 ft high by 40 ft wide. Storage began Feb. 6, 1940; water in reservoir first reached minimum navigation pool elevation Mar. 10, 1940. Revised capacity table put into use Jan. 1, 1971. Total level pool capacity at elevation 685.44 ft, top of gates, is 372,600 cfs-days, of which 175,000 cfs-days is controlled flood storage above elevation 675.0 ft, minimum navigation pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 686.10 ft, Mar. 18, 1973; minimum after first filling, 673.27 ft, Jan. 21, 1942.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 357,000 cfs-days, Dec. 23; maximum elevation, 684.54 ft, Dec. 24; minimum midnight contents, 209,000 cfs-days, March 22; minimum elevation, 675.29 ft, Dec. 18. Contents based on backwater profile.

03570520 NICKAJACK LAKE.--Lat 35°00'07", long 85°37'14", Marion County, Hydrologic Unit 06020001, at Nickajack Dam on Tennessee River, 2 mi upstream from Sequatchie River, 5 mi south of Jasper, 46.3 mi downstream from Chickamauga Dam, and at mile 424.7. DRAINAGE AREA, 21,870 mi^2, approximately. PERIOD OF RECORD, December 1967 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with earth embankments on each side. The spillway, with crest at elevation 595.0 ft, is equipped with 10 radial gates, each 40 ft high by 40 ft wide. A trash gate, 5.5 ft high by 15 ft wide, is located between the spillway and powerhouse. Dam was completed and storage began on Dec. 14, 1967. Revised capacity table put into use Jan. 1, 1971. Total level pool capacity at elevation 635.0 ft, top of gates, is 127,200 cfs-days, of which 16,200 cfs-days is controlled storage above elevation 632.0 ft, ordinary minimum. Reservoir is used for navigation and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 634.99 ft, Apr. 19, 1969; minimum after first filling, 630.82 ft, Feb. 20, 1968.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 157,000 cfs-days, Feb. 20; maximum elevation, 634.30 ft, July 21; minimum midnight contents, 115,000 cfs-days, Oct. 5; minimum elevation, 632.00 ft, Feb. 22. Contents based on backwater profile.

03579000 WOODS RESERVOIR.--Lat 35°17'54", long 86°05'48", Franklin County, Hydrologic Unit 06030003, at Elk River Dam on Elk River, 1.2 mi upstream from Spring Creek, 2.5 mi northeast of Estill Springs, 6.8 mi upstream from bridge on U.S. Highway 41-A, and at mile 170.0. DRAINAGE AREA, 263 mi^2. PERIOD OF RECORD, May 1952 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity and earthfill-type dam with riprapped embankments. Spillway equipped with three radial gates, each 25 ft high by 50 ft wide, and two sluice gates, each 6 ft high by 4 ft wide. Closure of dam was made May 1, 1952; water in reservoir first reached minimum pool elevation Feb. 6, 1953. Total capacity at elevation 962.0 ft, surcharge pool, is 44,400 cfs-days, of which 9,900 cfs- days is controlled storage above elevation 957.0 ft, normal minimum pool. Reservoir is used for cooling water, flood control, and recreational purposes.

COOPERATION.--Twice-daily gage readings (0600 and 2400 hours) furnished by U.S. Air Force.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 42,300 cfs-days, April 21 and 22, 1956, elevation, 960.98 ft; minimum after first filling, 26,300 cfs-days, Nov. 8-11, 1953, elevation, 951.93 ft.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 41,400 cfs-days, Dec. 23, elevation, 960.54 ft; minimum midnight contents, 31,400 cfs-days, Feb. 25, elevation, 955.15 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	*03566500 CHICKAMAUGA LAKE			*03570520 NICKAJACK LAKE			03579000 WOODS RESERVOIR		
Sept. 30...	680.96	286,700	-	683.36	118,000	-	959.37	39,000	-
Oct. 31...	678.56	248,000	-38,700	633.65	120,000	+2,000	958.74	37,800	-1,200
Nov. 30...	676.20	215,000	-33,000	633.30	119,000	-1,000	958.11	36,600	-1,200
Dec. 31...	678.91	268,000	+53,000	632.09	132,000	+13,000	958.04	36,500	-100
CAL YR 1990	-	-	+38,800	-	-	+10,900	-	-	-200
Jan. 31...	675.91	212,200	-55,800	633.26	119,200	-12,800	958.03	36,500	0
Feb. 28...	676.28	226,700	+14,500	632.30	129,200	+10,000	955.18	31,400	-5,100
Mar. 31...	677.44	240,000	+13,300	632.27	121,200	-8,000	959.44	39,200	+7,800
Apr. 30...	682.44	312,700	+72,700	632.76	117,000	-4,200	959.51	39,300	+100
May 31...	681.41	294,700	-18,000	633.40	121,300	+4,300	959.53	39,300	0
June 30...	682.70	317,500	+22,800	633.77	120,400	-900	959.51	39,300	0
July 31...	682.22	309,000	-8,500	633.65	119,500	-900	959.46	39,200	-100
Aug. 31...	682.28	309,800	+800	633.74	120,100	+600	959.29	38,900	-300
Sept. 30...	681.03	287,900	-21,900	633.82	121,900	+1,800	959.20	38,700	-300
WTR YR 1991	-	-	+1,200	-	-	+3,900	-	-	-300

* Contents based on backwater profile.

RESERVOIRS IN TENNESSEE RIVER BASIN--Continued

03580740 TIMS FORD LAKE.--Lat 35°11'51", long 86°16'41", Franklin County, Hydrologic Unit 06030003, in intake tower near left bank at Tims Ford Dam on Elk River, 0.4 mi upstream from bridge on State Highway 50, 9.5 mi west of Winchester, and at mile 133.4. DRAINAGE AREA, 529 mi^2. PERIOD OF RECORD, December 1970 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with compacted rockfill impervious earth core embankments. Spillway equipped with three radial gates, each 42 ft high by 40 ft wide. Storage began Dec. 1, 1970; water in reservoir first reached minimum pool elevation Feb. 23, 1971, and first filling was completed June 3, 1971. Total capacity at elevation 895 ft, top of gates, is 306,500 cfs-days, of which 142,400 cfs-days is controlled storage above elevation 865 ft, normal minimum pool. Reservoir is used for flood control, power, and recreation.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 298,600 cfs-days, Dec. 23, 1990, elevation, 893.62 ft; minimum after first filling 154,000 cfs-days, Oct. 15, 1972, elevation, 862.24 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 298,600 cfs-days, Dec. 23, elevation, 893.62 ft; minimum, 210,300 cfs-days, Jan. 24, elevation, 876.36 ft.

03593000 PICKWICK LAKE.--Lat 35°04'16", long 88°15'04", Hardin County, Hydrologic Unit 06040001, at Pickwick Landing Dam on Tennessee River, 1.5 mi north of town of Pickwick Dam, 6.1 mi upstream from Lick Creek, 52.7 mi downstream from Wilson Dam, and at mile 206.7. DRAINAGE AREA, 38,820 mi^2, approximately. PERIOD OF RECORD, October 1937 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with riprapped earth embankments. Spillway equipped with twenty-two 2-section lift gates, each 40 ft high by 40 ft wide, one of which is used as a trash gate. Dam completed and storage began Feb. 8, 1938; water in reservoir first reached minimum pool elevation Feb. 18, 1938. Revised capacity table put into use Jan. 1, 1971. Total level pool capacity at elevation 418.0 ft, top of gates, is 557,100 cfs-days, of which 210,200 cfs-days is controlled flood storage above elevation 408.0 ft, minimum navigation pool. Reservoir is used for navigation, flood control, and power.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 419.49 ft, Mar. 30, 1944; minimum after first filling, 407.12 ft, Dec. 18, 1944.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 721,000 cfs-days, Feb. 19; maximum elevation, 418.35 ft, Feb. 19; minimum midnight contents, 366,000 cfs-days, Dec. 15, minimum elevation, 408.20 ft, Jan. 21. Contents based on backwater profile.

03596460 NORMANDY LAKE.--Lat 35°27'55", long 86°14'55", Coffee County, Hydrologic Unit 06040002, at Normandy Dam on Duck River, 1.5 mi northeast of Normandy, 2.6 mi downstream from Riley Creek, 8 mi north of Tullahoma, and at mile 248.6. DRAINAGE AREA, 195 mi^2. PERIOD OF RECORD, January 1976 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete gravity dam with riprapped and rolled earthfill embankment on left side. Spillway is equipped with two radial gates, each 40 ft high by 36 ft wide. Storage began Jan. 5, 1976; water in reservoir first reached minimum pool elevation Mar. 22, 1976. Revised capacity table put into use Jan. 1, 1977. Total capacity at elevation 880 ft, top of gates, is 64,000 cfs-days, of which 30,400 cfs-days is controlled storage above elevation 859 ft, normal minimum pool. Reservoir is used for flood control, water supply, water-quality control, recreation, and shoreline development.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum contents, 63,800 cfs-days, Feb. 20, 1991, elevation, 880.12 ft; minimum after first filling, 26,800 cfs-days, Nov. 27, 1981, elevation, 853.12 ft.

EXTREMES FOR CURRENT YEAR.--Maximum contents, 63,800 cfs-days, Feb. 20, elevation, 880.12 ft; minimum 38,500 cfs-days, Feb. 13, elevation, 863.35 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	03580740	TIMS FORD LAKE		*03593000	PICKWICK LAKE		03596460	NORMANDY LAKE	
Sept. 30...	885.24	252,700	-	411.26	409,000	-	870.60	48,600	-
Oct. 31...	883.24	242,500	-10,200	410.56	480,000	+71,000	864.11	39,500	-9,100
Nov. 30...	881.30	233,000	-9,500	409.50	459,000	-21,000	863.86	39,200	-300
Dec. 31...	887.40	264,000	+31,000	412.01	537,000	+78,000	871.47	49,900	+10,700
CAL YR 1990	-	-	+63,400	-	-	+143,900	-	-	+7,700
Jan. 31...	876.80	212,200	-51,800	409.02	446,800	-90,200	864.31	39,800	-10,100
Feb. 28...	888.70	271,000	+58,800	413.66	572,200	+125,400	871.59	50,000	+10,200
Mar. 31...	887.08	262,300	-8,700	416.17	633,800	+61,600	876.36	57,500	+7,500
Apr. 30...	886.57	259,600	-2,700	416.20	626,400	-7,400	875.16	55,600	-1,900
May 31...	886.83	261,000	+1,400	415.04	589,400	-37,000	875.75	56,500	+900
June 30...	886.01	256,700	-4,300	413.85	559,900	-29,500	875.97	56,800	+300
July 31...	886.65	260,000	+3,300	412.46	525,000	-34,900	874.74	54,900	-1,900
Aug. 31...	886.01	256,700	-3,300	411.70	506,400	-18,600	873.60	53,100	-1,800
Sept. 30...	885.05	251,700	-5,000	411.56	502,500	-3,900	873.33	52,700	-400
WTR YR 1991	-	-	-1,000	-	-	+93,500	-	-	+4,100

* Contents based on backwater profile.

RESERVOIRS IN TENNESSEE RIVER BASIN--Continued

03609000 KENTUCKY LAKE.--Lat. 37°00'49", long 88°16'06", Marshall County, KY, Hydrologic Unit 06040006, at Kentucky Dam on Tennessee River at Gilbertsville, KY, and at mile 22.4. DRAINAGE AREA, 40,200 mi^2, approximately. PERIOD OF RECORD, July 1944 to current year. GAGE, water-stage recorder. Datum of gage is National Geodetic Vertical Datum of 1929.

REMARKS.--Reservoir is formed by concrete dam with 24 lift gates 50 ft high by 40 ft wide. Storage began Aug. 16, 1944, and final closure was Aug. 30, 1944. Water in reservoir reached minimum pool elevation Apr. 7, 1945. Revised capacity table put into use Jan. 1, 1971. Total level pool capacity at elevation 375.0 ft, top of gates, is 3,090,000 cfs-days, of which 2,020,700 cfs-days is controlled storage above 354.0 ft, ordinary minimum pool. Reservoir is used for navigation, flood control, and power. Barkley-Kentucky Canal opened July 13, 1966, for navigation and power use. Canal is 1.75 miles long and interconnects Lake Barkley and Kentucky Lake at a point 2.2 mi upstream from Barkley Dam. For daily discharges through the canal, see Kentucky reports.

COOPERATION.--Records furnished by Tennessee Valley Authority.

EXTREMES FOR PERIOD OF RECORD.--Maximum elevation, 369.87 ft, May 24, 1983; minimum after first filling, 348.02 ft, Mar. 11, 1961.

EXTREMES FOR CURRENT YEAR.--Maximum midnight contents, 2,191,000 cfs-days, Dec. 27; maximum elevation, 360.04 ft, May 28; minimum midnight contents, 1,078,000 cfs-days , Jan. 29, minimum elevation , 353.89 ft, Jan. 20.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

Date	Elevation (feet)	Contents (cfs-days)	Change in contents (cfs-days)
	*03609000 KENTUCKY LAKE		
Sept. 30...	355.31	1,148,300	-
Oct. 31...	354.70	1,113,000	-35,300
Nov. 30...	354.81	1,126,000	+13,000
Dec. 31...	359.02	2,037,000	+911,000
CAL YR 1990	-	-	+913,900
Jan. 31...	354.67	1,131,000	-906,000
Feb. 28...	356.00	1,712,000	+581,000
Mar. 31...	356.57	1,416,000	-296,000
Apr. 30...	358.95	1,530,000	+114,000
May 31...	358.75	1,479,000	-51,000
June 30...	359.27	1,453,000	-26,000
July 31...	358.00	1,344,000	-109,000
Aug. 31...	357.11	1,287,000	-57,000
Sept. 30...	355.74	1,192,000	-95,000
WTR YR 1991	-	-	+43,700

* Contents based on backwater profile.

OTHER RESERVOIRS.--The following small reservoirs in the Tennessee River basin are described below, but records of contents are not published herein.

03466400 DAVY CROCKETT LAKE on Nolichucky River at Nolichucky Dam, with a total capacity of 1,300 cfs-days, none of which is controlled storage.

03517900 CALDERWOOD LAKE on Little Tennessee River at Calderwood, with a total capacity of 20,800 cfs-days of which 840 cfs-days is controlled storage.

03518200 CHILHOWEE LAKE on Little Tennessee River at Chilhowee Dam, with a total capacity of 24,800 cfs-days of which 3,400 cfs-days is controlled storage.

03562500 OCOEE NO. 3 LAKE on Ocoee River at Ocoee No. 3 Dam, 5.0 miles west of Ducktown, with a total capacity of 1,660 cfs-days, of which 1,550 cfs-days is controlled storage. Records of contents previous to 1971 water year published as Ocoee No. 3 Lake near Ducktown, TN.

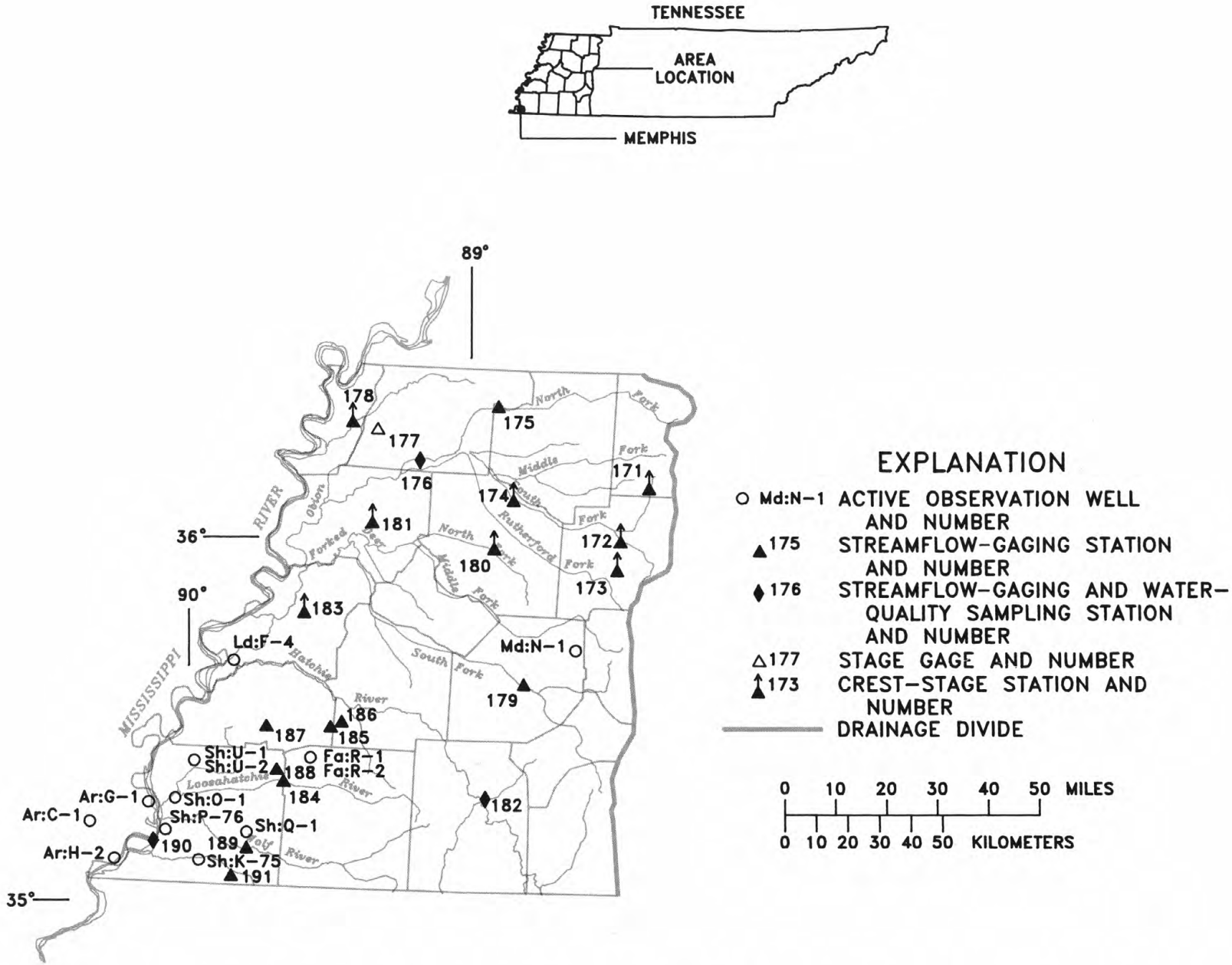

Figure 8.--Location of gaging sites in the Mississippi River basin.

07025500 NORTH FORK OBION RIVER NEAR UNION CITY, TN

LOCATION.--Lat 36°23'59", long 88°59'43", Obion County, Hydrologic Unit 08010202, at bridge on State Highway 22, 0.3 mi downstream from Harris Fork Creek, 0.8 mi southeast of Gibbs, 3.9 mi southeast of Union City, 4.5 mi upstream from Hoosier Creek, and 10 mi upstream from confluence with South Fork.
DRAINAGE AREA.--480 mi² approximately.
PERIOD OF RECORD.--July 1929 to November 1966, April 1967 to January 1971. February 1989 to current year.
GAGE.--Water-stage recorder. Datum of gage is 285.80 ft above National Geodetic Vertical Datum of 1929. Prior to May 20, 1939, and from Aug. 26 to Dec. 9, 1959, staff gage at same site 1.08 ft lower, May 21, 1939, to Aug. 25 and Dec. 10, 1959, to Jan. 1971, water-stage recorder at same site 1.08 ft lower.
REMARKS.--Records good, except for estimated discharges which are poor. Minimum discharge for current year also occurred on Oct. 3. Gage height Jan. 22, 1937, 23.08 ft present datum, from flood marks. Periodic observation of water temperature are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	202	222	290	1220	716	e860	365	304	545	450	319	311
2	199	220	263	1170	657	e2650	311	242	2970	438	317	310
3	198	218	2620	1080	631	700	287	222	1460	628	314	292
4	6090	218	1620	761	620	546	281	218	854	883	311	290
5	2960	233	631	658	1330	438	295	304	2550	565	310	380
6	783	269	364	1050	1870	404	284	308	2360	461	306	438
7	645	250	303	1200	1370	361	271	230	1180	426	301	377
8	872	233	272	1210	1220	325	885	208	634	411	298	325
9	3720	236	257	1260	1200	311	1180	346	562	404	303	359
10	2560	465	251	1060	1120	293	1330	314	532	401	301	324
11	623	373	243	1310	964	286	477	578	539	397	297	312
12	363	282	238	1170	884	291	533	1040	1250	387	293	428
13	294	254	234	860	1410	327	2410	3380	3890	413	289	352
14	265	240	230	652	e3400	314	4460	1290	2960	455	285	309
15	280	235	292	611	e4800	288	2770	824	2040	395	286	296
16	241	229	368	856	e3800	274	852	1020	912	375	284	288
17	234	228	970	867	e6200	300	493	885	648	366	287	282
18	259	227	e9000	766	e9100	628	387	2520	581	363	295	280
19	258	225	e12500	723	e6800	423	345	1430	550	358	289	281
20	242	223	e11500	746	e1700	339	316	1470	555	352	285	287
21	234	222	8360	708	1140	321	281	818	530	347	283	277
22	309	240	1600	648	694	5890	268	625	566	344	281	271
23	382	328	1140	635	576	6050	263	576	1860	341	280	269
24	296	285	1140	644	492	3000	247	559	1580	339	280	270
25	253	251	1140	626	443	778	233	938	1010	337	279	281
26	238	236	1130	613	422	455	230	1090	652	334	279	278
27	231	232	1080	611	389	385	228	692	545	334	283	265
28	227	1650	1260	636	362	362	260	584	501	332	306	259
29	225	850	2540	638	---	362	747	532	480	332	318	256
30	223	376	1620	961	---	735	502	505	464	328	362	252
31	222	---	1220	908	---	539	---	487	---	323	357	---
TOTAL	24128	9750	64676	26858	54310	29235	21791	24539	35760	12619	9278	9199
MEAN	778	325	2086	866	1940	943	726	792	1192	407	299	307
MAX	6090	1650	12500	1310	9100	6050	4460	3380	3890	883	362	438
MIN	198	218	230	611	362	274	228	208	464	323	279	252
CFSM	1.62	.68	4.35	1.80	4.04	1.96	1.51	1.65	2.48	.85	.62	.64
IN.	1.87	.76	5.01	2.08	4.21	2.27	1.69	1.90	2.77	.98	.72	.71

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1991, BY WATER YEAR (WY)

MEAN	215	434	664	1197	1111	1221	850	613	403	308	227	228
MAX	1158	4479	2165	6738	3783	3717	2510	1983	1838	1449	891	1263
(WY)	1950	1958	1958	1937	1956	1964	1933	1967	1945	1933	1950	1950
MIN	88.7	117	115	125	144	235	184	123	107	97.5	98.6	91.2
(WY)	1944	1944	1944	1944	1941	1941	1941	1936	1936	1943	1943	1941

SUMMARY STATISTICS	FOR 1991 WATER YEAR		WATER YEARS 1930 - 1991	
ANNUAL TOTAL	322143			
ANNUAL MEAN	883		620	
HIGHEST ANNUAL MEAN			1385	1950
LOWEST ANNUAL MEAN			174	1941
HIGHEST DAILY MEAN	12500	Dec 19	44300	Jan 22 1937
LOWEST DAILY MEAN	198	Oct 3	84	Sep 26 1941
ANNUAL SEVEN-DAY MINIMUM	221	Oct 29	85	Sep 26 1941
INSTANTANEOUS PEAK FLOW	13200	Dec 19	49200	Jan 22 1937
INSTANTANEOUS PEAK STAGE	19.89	Dec 19	*23.08	Jan 22 1937
INSTANTANEOUS LOW FLOW	*195	Oct 2	82	Oct 5 1943
ANNUAL RUNOFF (CFSM)	1.84		1.29	
ANNUAL RUNOFF (INCHES)	24.97		17.55	
10 PERCENT EXCEEDS	1660		1430	
50 PERCENT EXCEEDS	390		190	
90 PERCENT EXCEEDS	243		110	

e Estimated.
* See REMARKS.

07026040 OBION RIVER AT U.S. HIGHWAY 51 NEAR OBION, TN
(National stream-quality accounting network station)

LOCATION.--Lat 36°14'27", long 89°13'03", Obion County, Hydrologic Unit 08010202, on right downstream bank, at end of main channel bridge on U.S. Highway 51, 3.2 mi northeast of Trimble, 2.0 mi southwest of Obion and 1.6 river miles downstream of the former gage location, Obion River at Obion.
DRAINAGE AREA.--1,875 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1929 to September 1958, October 1966 to current year. Gage height and discharge records at this site from 1964 to 1975 are in reports of U.S. Army Corps of Engineers. Prior to Oct. 1990 published as "at Obion".
REVISED RECORD.--WSP 1211: 1930, 1943. WSP 2120: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 245.17 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 1990 water-stage recorder at site 1.6 mi upstream at a datum 1.31 ft higher (levels by the U.S. Army Corps of Engineers). Prior to Oct. 1, 1932, nonrecording gage at site 1.6 mi upstream at datum 6.31 ft higher; Oct. 1, 1932, to Aug. 2, 1939, nonrecording gage, and Aug. 3, 1939, to Sept. 1958, water-stage recorder at site 1.6 mi upstream at datum 16.31 ft higher. Gage height Jan. 24, 1937, 41.71 ft present datum.
REMARKS.--Records poor.
COOPERATION.--Twenty-one discharge measurements furnished by the U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e790	e710	e3500	22000	1500	3220	4250	2050	1200	822	605	864
2	e800	e705	e2150	21100	1310	7920	3050	1650	3090	748	598	818
3	e720	e700	e7000	18500	1250	6540	2220	1450	2860	942	587	815
4	e13000	e730	e8800	15000	1200	3500	1950	1360	1610	1900	579	724
5	e15000	e730	e7000	12000	3760	2810	1860	1960	2710	1010	592	1920
6	e12800	e920	e4000	11800	10400	2140	1720	2170	3490	885	615	1680
7	e10000	e800	e2500	14200	12100	1910	1560	1510	2720	749	578	747
8	e11000	e730	e1750	16000	14000	1710	2650	1310	1600	779	598	783
9	e10800	e690	e1300	16300	13700	1600	4110	2690	1400	772	652	1070
10	e7000	e700	e930	15300	7000	1500	7580	1940	1300	869	684	1040
11	e4700	e1200	e760	12000	4000	1500	5820	4090	1310	863	1170	788
12	e3300	e900	e740	9500	3200	1540	4380	4650	1720	818	879	737
13	e2300	e780	e730	7600	3500	1580	6770	8520	5950	1080	773	772
14	e1500	e730	880	6000	10600	1570	9550	8950	6020	1010	800	658
15	e1600	e710	1020	4500	11500	1430	10800	8180	5380	1030	740	616
16	e1200	e700	1220	3700	10900	1410	10600	6000	3460	786	716	587
17	e970	e690	2110	3000	5000	1570	8920	4200	1660	736	704	569
18	e1120	e690	11500	2400	9000	3120	6680	4500	1290	720	695	543
19	e980	e695	15000	2100	12400	2650	4810	4000	1140	708	671	586
20	e890	e700	20400	1950	12500	2250	3390	3420	1030	695	662	600
21	e840	e700	26300	1800	12000	2150	2230	2180	1110	683	664	556
22	e1200	e760	34700	1720	10000	6680	1820	1530	1970	671	655	552
23	e1800	e980	39100	1560	7500	8860	1410	1330	2430	663	655	560
24	e1000	e850	44000	1510	5000	8920	1120	1250	2110	671	641	597
25	e880	e760	43600	1440	3700	7410	1060	2250	1880	643	629	669
26	e830	e720	37600	1350	2800	3300	1070	3900	1200	713	626	661
27	e800	e720	30500	1320	2500	2000	1190	2190	1020	670	660	631
28	e790	e5400	26400	1350	2300	1800	1640	2280	908	632	758	617
29	e760	e7800	23500	1360	---	1600	4260	1840	895	624	1370	621
30	e750	e5300	21500	2170	---	6120	3640	1780	814	619	991	625
31	e730	---	21700	2110	---	6040	---	1470	---	612	987	---
TOTAL	110850	39200	442190	232640	194620	106350	122110	96600	65277	25123	22534	23006
MEAN	3576	1307	14260	7505	6951	3431	4070	3116	2176	810	727	767
MAX	15000	7800	44000	22000	14000	8920	10800	8950	6020	1900	1370	1920
MIN	720	690	730	1320	1200	1410	1060	1250	814	612	578	543
CFSM	1.91	.70	7.61	4.00	3.71	1.83	2.17	1.66	1.16	.43	.39	.41
IN.	2.20	.78	8.77	4.62	3.86	2.11	2.42	1.92	1.30	.50	.45	.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1991, BY WATER YEAR (WY)

MEAN	933	2132	3509	4992	5039	4420	3982	2973	1923	1431	1000	933
MAX	3576	15500	14260	26640	17120	15810	11770	15540	10970	4783	6643	5041
(WY)	1991	1958	1991	1937	1990	1975	1973	1983	1970	1975	1971	1950
MIN	249	372	495	587	543	628	678	487	323	301	277	264
(WY)	1944	1955	1944	1944	1941	1941	1941	1936	1936	1944	1936	1956

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1929 - 1991	
ANNUAL TOTAL	1590580		1480500			
ANNUAL MEAN	4358		4056		2761	
HIGHEST ANNUAL MEAN					5351	1973
LOWEST ANNUAL MEAN					569	1941
HIGHEST DAILY MEAN	44000	Dec 24	44000	Dec 24	99500	Jan 24 1937
LOWEST DAILY MEAN	433	Sep 5	543	Sep 18	15	Feb 4 1937
ANNUAL SEVEN-DAY MINIMUM	444	Sep 1	567	Sep 17	233	Oct 6 1943
INSTANTANEOUS PEAK FLOW			45000	Dec 24	99500	Jan 24 1937
INSTANTANEOUS PEAK STAGE			39.10	Dec 24	*41.71	Jan 24 1937
INSTANTANEOUS LOW FLOW			533	Sep 18	230	Oct 7 1943
ANNUAL RUNOFF (CFSM)	2.32		2.16		1.47	
ANNUAL RUNOFF (INCHES)	31.56		29.37		20.01	
10 PERCENT EXCEEDS	12800		10900		7150	
50 PERCENT EXCEEDS	1220		1530		1000	
90 PERCENT EXCEEDS	543		662		403	

e Estimated.
* See REMARKS.

07026040 OBION RIVER AT U.S. HIGHWAY 51 NEAR OBION, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1975 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: July 1975 to September 1981.
WATER TEMPERATURE: June 1975 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 488 microsiemens, Dec. 14, 1976; minimum, 35 microsiemens, July 21 and 22, 1975.
WATER TEMPERATURES: Maximum, 33.5°C, June 18, 1978; minimum, -0.5°C, several days in Jan. and Feb. 1979.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DISCHARGE, INST. CUBIC FEET PER SECOND	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE WATER (DEG C)	BAROMETRIC PRESSURE (MM OF HG)	TURBIDITY (NTU)	OXYGEN, DISSOLVED (MG/L)	OXYGEN, DISSOLVED (PERCENT SATURATION)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV 27...	1430	720	93	7.6	18.5	763	10	8.5	91	640	81
FEB 08...	0930	13900	52	6.3	9.0	742	110	8.9	79	900	4000
APR 17...	1130	9300	75	6.7	19.0	772	64	6.4	68	480	600
AUG 27...	1235	636	81	7.0	27.0	770	16	7.9	98	>1600	43

DATE	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLVED FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM ADSORPTION RATIO	POTASSIUM, DISSOLVED (MG/L AS K)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DISSOLVED (MG/L AS SO4)	CHLORIDE, DISSOLVED (MG/L AS CL)
NOV 27...	27	0	6.6	2.5	6.7	33	0.6	2.2	31	4.8	5.9
FEB 08...	16	1	4.2	1.3	1.6	15	0.2	2.7	15	4.6	1.6
APR 17...	28	2	7.2	2.5	3.0	17	0.2	2.4	26	5.3	3.1
AUG 27...	23	0	6.0	2.0	6.2	35	0.6	1.3	28	2.9	4.3

DATE	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	SOLIDS, DISSOLVED (TONS PER DAY)	NITROGEN, NITRATE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS NO2)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)
NOV 27...	0.10	12	56	61	0.08	109	0.380	0.020	0.07	0.400	0.140
FEB 08...	<0.10	5.2	40	31	0.05	1500	--	<0.010	--	0.300	0.090
APR 17...	<0.10	7.8	66	49	0.09	1660	0.300	0.010	0.03	0.310	0.080
AUG 27...	<0.10	13	69	55	0.09	118	0.370	0.010	0.03	0.380	0.040

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)
NOV 27...	0.18	0.140	0.30	0.150	0.060	0.050	20	1	28	<0.5	1.0
FEB 08...	0.08	0.060	1.3	0.270	0.050	0.030	30	<1	28	<0.5	<1.0
APR 17...	0.09	0.070	1.1	0.210	0.060	0.030	230	1	45	<0.5	<1.0
AUG 27...	0.04	0.030	0.40	0.130	0.100	0.020	180	<1	23	<0.5	<1.0

OBION RIVER BASIN

07026040 OBION RIVER AT HWY 51 NEAR OBION, TN--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)
NOV 27...	<1	<3	1	350	1	<4	200	<0.1	<10	3
FEB 08...	1	<3	8	270	1	<4	74	<0.1	<10	1
APR 17...	<1	<3	11	910	2	<4	100	<0.1	<10	2
AUG 27...	<1	<3	3	820	<1	<4	88	<0.1	<10	1

DATE	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 27...	<1	<1.0	42	<6	4	50	97	68
FEB 08...	<1	<1.0	26	<6	8	184	6910	83
APR 17...	<1	<1.0	45	<6	8	141	3540	84
AUG 27...	<1	<1.0	37	<6	17	41	70	88

07027000 REELFOOT LAKE NEAR TIPTONVILLE, TN

LOCATION.--Lat 36°21'09", long 89°25'07", Lake County, Hydrologic Unit 08010202, at Middle Landing in Reelfoot Lake State Park, 0.4 mi east of Blue Bank, 0.8 mi west of the spillway, and 3.3 mi southeast of Tiptonville.
DRAINAGE AREA.--240 mi².
PERIOD OF RECORD.--July 1940 to current year.
GAGE.--Water-stage recorder. Datum of gage is 270.22 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records fair.
EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 15.65 ft, from recorded range in stage, about Apr. 26, 1973; minimum, 9.59 ft, July 6, 7, 8, 1985.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of January 1937 reached a stage of about 17.0 ft, at spillway, present datum, from information by local resident. Minimum stage at spillway, 9.30 ft, Nov. 20, 21, 1953, at a datum of 270.29 ft above National Geodetic Vertical Datum of 1929.
EXTREMES FOR CURRENT YEAR.--Maximum gage height, 14.12 ft, Dec. 30; minimum 10.98 ft, Oct. 2.

GAGE HEIGHT, (FEET ABOVE DATUM), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	11.03	11.00	11.01	11.95	11.94	11.94	12.04	12.04	12.04	13.90	13.87	13.89
2	11.01	10.98	11.00	11.94	11.91	11.93	12.04	12.03	12.03	13.87	13.84	13.85
3	11.00	11.00	11.00	11.92	11.90	11.91	12.07	12.03	12.05	13.85	13.76	13.81
4	11.03	11.03	11.03	11.90	11.86	11.89	12.09	12.07	12.08	13.76	13.72	13.73
5	11.05	11.01	11.04	11.95	11.90	11.92	12.10	12.09	12.09	13.72	13.72	13.72
6	11.07	11.00	11.04	11.97	11.95	11.96	12.10	12.10	12.10	13.72	13.72	13.72
7	11.17	11.03	11.09	12.00	11.97	11.98	12.11	12.10	12.12	13.72	13.69	13.71
8	11.39	11.18	11.28	12.00	11.96	11.99	12.11	12.11	12.11	13.69	13.64	13.64
9	11.53	11.39	11.49	12.00	11.97	11.99	12.11	12.10	12.10	13.64	13.63	13.63
10	11.67	11.56	11.60	12.00	11.96	11.98	12.10	12.10	12.10	13.63	13.59	13.61
11	11.79	11.67	11.73	11.96	11.94	11.95	12.10	12.10	12.10	13.59	13.55	13.50
12	11.85	11.79	11.81	11.97	11.95	11.96	12.10	12.10	12.10	13.50	13.45	13.48
13	11.90	11.85	11.87	11.97	11.94	11.95	12.00	12.10	12.10	13.46	13.41	13.39
14	11.94	11.89	11.91	11.95	11.94	11.95	12.11	12.11	12.11	13.39	13.32	13.34
15	11.97	11.94	11.95	11.95	11.91	11.94	12.15	12.11	12.13	13.32	13.30	13.25
16	11.97	11.97	11.97	11.97	11.94	11.94	12.20	12.16	12.18	13.25	13.15	13.20
17	12.00	11.94	11.98	11.95	11.94	11.95	12.41	12.19	12.25	13.20	13.09	13.11
18	12.01	12.01	12.01	11.94	11.94	11.94	12.65	12.41	12.56	13.09	12.98	13.03
19	12.02	12.01	12.01	11.92	11.90	11.91	12.80	12.65	12.73	12.98	12.87	12.94
20	12.03	12.01	12.02	11.91	11.88	11.89	12.90	12.80	12.85	12.85	12.77	12.80
21	12.03	12.03	12.03	11.89	11.82	11.85	12.96	12.90	12.94	12.77	12.67	12.72
22	12.04	12.03	12.03	11.96	11.82	11.91	---	---	---	12.67	12.58	12.62
23	12.02	12.01	12.01	11.95	11.91	11.93	---	---	---	12.58	12.55	12.58
24	12.00	12.00	12.00	11.93	11.93	11.93	---	---	---	12.58	12.57	12.58
25	11.99	11.98	11.99	11.92	11.90	11.91	---	---	---	12.57	12.52	12.53
26	11.99	11.94	11.95	11.91	11.86	11.85	---	---	---	12.52	12.49	12.50
27	11.97	11.95	11.95	11.86	11.85	11.85	13.80	13.80	13.80	12.49	12.47	12.47
28	11.95	11.95	11.95	11.99	11.90	12.03	14.00	13.80	13.85	12.47	12.44	12.45
29	11.96	11.95	11.95	12.06	11.99	12.05	14.10	14.00	14.05	12.45	12.43	12.43
30	11.95	11.94	11.94	12.06	12.04	12.04	14.12	14.00	14.06	12.48	12.42	12.45
31	11.94	11.93	11.94	---	---	---	14.00	13.90	13.92	12.42	12.38	12.40
MONTH	12.04	10.98	11.70	12.06	11.82	11.94	---	---	---	13.90	12.38	13.13

07027000 REELFOOT LAKE NEAR TIPTONVILLE, TN--Continued

GAGE HEIGHT, (FEET ABOVE DATUM), WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	12.38	12.33	12.36	12.38	12.34	12.35	12.42	12.40	12.41	12.62	12.57	12.59
2	12.37	12.35	12.36	12.49	12.38	12.42	12.44	12.41	12.42	12.62	12.59	12.61
3	12.37	12.37	12.37	12.54	12.49	12.52	12.42	12.34	12.39	12.59	12.54	12.57
4	12.37	12.35	12.36	12.52	12.47	12.50	12.39	12.36	12.38	12.58	12.55	12.56
5	12.58	12.36	12.42	12.47	12.36	12.43	12.42	12.39	12.40	12.58	12.54	12.56
6	12.76	12.59	12.67	12.46	12.35	12.40	12.41	12.39	12.40	12.55	12.54	12.55
7	12.88	12.75	12.83	12.45	12.43	12.44	12.39	12.36	12.38	12.54	12.54	12.54
8	12.89	12.86	12.88	12.43	12.39	12.42	12.38	12.34	12.36	12.54	12.53	12.53
9	12.86	12.84	12.85	12.39	12.32	12.36	12.43	12.34	12.39	12.54	12.53	12.53
10	12.88	12.84	12.85	12.35	12.31	12.34	12.49	12.41	12.45	12.55	12.54	12.54
11	12.82	12.74	12.78	12.31	12.22	12.26	12.47	12.41	12.46	12.62	12.55	12.60
12	12.75	12.63	12.71	12.25	12.22	12.24	12.43	12.40	12.41	12.76	12.62	12.65
13	12.80	12.63	12.73	12.26	12.24	12.25	12.48	12.36	12.43	12.69	12.64	12.66
14	12.89	12.77	12.81	12.30	12.26	12.29	12.66	12.47	12.55	12.69	12.67	12.68
15	12.87	12.81	12.84	12.31	12.30	12.31	12.74	12.63	12.69	12.70	12.65	12.68
16	12.84	12.72	12.78	12.34	12.31	12.32	12.76	12.70	12.73	12.70	12.62	12.67
17	12.81	12.72	12.78	12.32	12.28	12.30	12.72	12.72	12.72	12.78	12.62	12.67
18	12.79	12.71	12.76	12.36	12.32	12.34	12.72	12.68	12.69	12.74	12.73	12.74
19	12.80	12.75	12.78	12.37	12.34	12.36	12.68	12.61	12.66	12.75	12.71	12.73
20	12.84	12.80	12.82	12.37	12.27	12.34	12.62	12.59	12.62	12.72	12.63	12.67
21	12.80	12.78	12.79	12.36	12.28	12.32	12.59	12.51	12.55	12.60	12.59	12.59
22	12.78	12.76	12.75	12.53	12.35	12.48	12.51	12.44	12.47	12.59	12.59	12.59
23	12.78	12.72	12.73	12.59	12.48	12.53	12.43	12.37	12.41	12.60	12.59	12.59
24	12.71	12.70	12.70	12.65	12.59	12.62	12.44	12.40	12.44	12.70	12.60	12.66
25	12.71	12.60	12.65	12.65	12.63	12.64	12.44	12.42	12.43	12.70	12.64	12.68
26	12.60	12.48	12.52	12.62	12.50	12.56	12.42	12.38	12.41	12.69	12.69	12.69
27	12.48	12.41	12.43	12.55	12.36	12.46	12.44	12.38	12.41	12.69	12.69	12.69
28	12.41	12.38	12.41	12.51	12.46	12.50	12.46	12.40	12.44	12.69	12.61	12.65
29	---	---	---	12.62	12.49	12.54	12.56	12.45	12.49	12.61	12.55	12.56
30	---	---	---	12.56	12.48	12.53	12.57	12.50	12.54	12.56	12.55	12.55
31	---	---	---	12.48	12.36	12.42	---	---	---	12.56	12.56	12.56
MONTH	12.89	12.33	12.67	12.65	12.22	12.41	12.76	12.34	12.48	12.78	12.53	12.62

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	12.66	12.51	12.56	12.20	12.18	12.19	11.61	11.58	11.58	11.25	11.25	11.25
2	12.58	12.57	12.57	12.21	12.18	12.19	11.58	11.55	11.57	11.33	11.25	11.27
3	12.60	12.56	12.58	12.21	12.21	12.21	11.55	11.54	11.55	11.48	11.34	11.41
4	12.63	12.56	12.57	12.21	12.12	12.20	11.54	11.49	11.53	11.57	11.49	11.53
5	12.59	12.59	12.59	12.13	12.11	12.12	11.51	11.51	11.51	11.59	11.57	11.59
6	12.59	12.59	12.59	12.11	12.11	12.11	11.59	11.47	11.51	11.59	11.58	11.58
7	12.59	12.49	12.52	12.11	12.06	12.09	11.49	11.45	11.47	11.58	11.58	11.58
8	12.49	12.43	12.49	12.06	12.06	12.06	11.43	11.40	11.42	11.58	11.57	11.57
9	12.43	12.43	12.43	12.06	11.99	12.04	11.43	11.42	11.42	11.57	11.56	11.57
10	12.43	12.37	12.40	12.02	12.02	12.02	11.42	11.40	11.41	11.56	11.54	11.55
11	12.37	12.37	12.37	12.02	12.02	12.02	11.40	11.39	11.40	11.54	11.53	11.54
12	12.44	12.37	12.41	12.02	11.95	12.00	11.39	11.38	11.39	11.53	11.51	11.52
13	12.53	12.44	12.46	11.98	11.96	11.97	11.44	11.44	11.44	11.51	11.51	11.51
14	12.48	12.44	12.45	11.97	11.97	11.97	11.44	11.38	11.40	11.51	11.43	11.48
15	12.44	12.41	12.42	11.97	11.97	11.97	11.38	11.38	11.38	11.43	11.43	11.43
16	12.43	12.41	12.42	11.97	11.97	11.97	11.38	11.19	11.29	11.43	11.43	11.43
17	12.43	12.42	12.43	11.96	11.91	11.93	11.21	11.21	11.21	11.43	11.43	11.43
18	12.42	12.42	12.42	11.95	11.85	11.92	11.22	11.21	11.22	11.45	11.43	11.44
19	12.40	12.36	12.38	11.86	11.85	11.85	11.22	11.22	11.22	11.46	11.45	11.46
20	12.40	12.36	12.37	11.85	11.78	11.83	11.22	11.19	11.21	11.47	11.46	11.46
21	12.36	12.31	12.33	11.78	11.78	11.78	11.21	11.19	11.19	11.47	11.47	11.47
22	12.31	12.31	12.31	11.78	11.72	11.77	11.21	11.21	11.21	11.48	11.44	11.46
23	12.31	12.31	12.31	11.74	11.73	11.73	11.21	11.21	11.21	11.45	11.44	11.45
24	12.31	12.31	12.31	11.76	11.74	11.74	11.21	11.21	11.21	11.46	11.45	11.45
25	12.31	12.31	12.31	11.75	11.74	11.74	11.21	11.21	11.21	11.46	11.39	11.43
26	12.31	12.31	12.31	11.75	11.74	11.74	11.21	11.21	11.21	11.43	11.40	11.42
27	12.31	12.31	12.31	11.74	11.70	11.73	11.21	11.21	11.21	11.44	11.39	11.42
28	12.31	12.26	12.27	11.70	11.69	11.69	11.21	11.21	11.21	11.40	11.35	11.38
29	12.26	12.18	12.24	11.69	11.64	11.67	11.24	11.21	11.21	11.37	11.36	11.36
30	12.20	12.20	12.20	11.66	11.63	11.64	11.25	11.25	11.25	11.38	11.36	11.37
31	---	---	---	11.62	11.60	11.61	11.25	11.25	11.25	---	---	---
MONTH	12.66	12.18	12.41	12.21	11.60	11.92	11.61	11.19	11.34	11.59	11.25	11.46

07027500 SOUTH FORK FORKED DEER RIVER AT JACKSON, TN

LOCATION.--Lat 35°35'38", long 88°48'52", Madison County, Hydrologic Unit 08010205, on right bank 20 ft downstream from bridge on U.S. Highway 45, 0.6 mi downstream from Meridian Creek, and 1.4 mi south of the post office in Jackson, and at mile 55.4.
DRAINAGE AREA.--495 mi².
PERIOD OF RECORD.--July 1929 to September 1973, May 1988 to June 1991 (discontinued).
REVISED RECORDS.--WSP 1147: 1935(M). WSP 1211: 1930(M), 1932, 1934. WSP 1561: 1957. WSP 1631: 1936, 1945. WSP 1920: Drainage area. WRD TN-71-1: 1967.
GAGE.--Water-stage recorder. Datum of gage is 330.76 ft above National Geodetic Vertical Datum of 1929. Prior to Feb. 4, 1939, nonrecording gage at same site and datum.
REMARKS.--Records fair. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Dec. 25, 1987, reached a stage of 22.45 ft, from high-water marks flagged at the gage.
EXTREMES FOR CURRENT YEAR.--Maximum discharge during period Oct. to June, 16,800 ft³/s, Feb. 20, gage height, 20.15 ft; minimum, 149 ft³/s, Oct. 3, gage height, 4.90 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO JUNE 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	153	206	455	4230	377	1200	1820	3230	842	---	---	---
2	155	205	396	3590	363	1630	1180	2590	587	---	---	---
3	152	203	1960	2590	355	1130	743	1460	484	---	---	---
4	873	203	1480	1270	358	1060	672	1820	421	---	---	---
5	424	235	914	853	1340	849	715	3210	474	---	---	---
6	281	279	743	1840	2970	738	607	3430	355	---	---	---
7	264	252	512	3480	1680	624	540	2110	---	---	---	---
8	343	232	393	3030	1300	550	559	1390	---	---	---	---
9	390	399	341	2130	923	508	578	1690	---	---	---	---
10	452	826	313	1970	687	458	668	2200	---	---	---	---
11	333	513	293	2110	568	447	531	3990	---	---	---	---
12	277	472	281	1630	511	447	1030	3960	---	---	---	---
13	252	420	277	1300	1830	519	1910	4170	---	---	---	---
14	238	346	299	1020	3440	443	3490	4850	---	---	---	---
15	223	299	610	848	2600	400	4250	4470	---	---	---	---
16	191	279	853	852	1790	380	4340	3910	---	---	---	---
17	186	265	1370	703	2220	397	4340	2970	---	---	---	---
18	232	255	3630	628	4030	536	3860	2990	---	---	---	---
19	246	254	4190	579	6230	447	2290	2360	---	---	---	---
20	223	253	4080	560	14900	409	1170	1840	---	---	---	---
21	207	252	4280	527	13900	384	907	1430	---	---	---	---
22	747	263	6170	479	6690	497	794	958	---	---	---	---
23	662	318	6910	460	3580	1950	661	684	---	---	---	---
24	394	294	5020	444	1890	998	548	557	---	---	---	---
25	307	273	3220	414	1100	966	470	642	---	---	---	---
26	257	270	1650	405	857	679	421	1770	---	---	---	---
27	235	267	2320	398	745	531	739	3200	---	---	---	---
28	220	818	3520	400	643	820	2560	2660	---	---	---	---
29	212	613	2950	391	---	2870	3570	2540	---	---	---	---
30	209	507	2980	436	---	3340	3470	2210	---	---	---	---
31	207	---	4010	411	---	2540	---	1370	---	---	---	---
TOTAL	9545	10271	66420	39978	77877	28747	49433	76661	---	---	---	---
MEAN	308	342	2143	1290	2781	927	1648	2473	---	---	---	---
MAX	873	826	6910	4230	14900	3340	4340	4850	---	---	---	---
MIN	152	203	277	391	355	380	421	557	---	---	---	---
CFSM	.62	.69	4.33	2.61	5.62	1.87	3.33	5.00	---	---	---	---
IN.	.72	.77	4.99	3.00	5.85	2.16	3.71	5.76	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1990, BY WATER YEAR (WY)

MEAN	247	554	831	1381	1419	1234	1087	664	414	347	246	264
MAX	1041	2361	3124	4739	3686	2189	4077	2379	1991	1211	903	990
(WY)	1973	1958	1973	1937	1990	1973	1973	1953	1939	1932	1931	1950
MIN	96.5	126	197	212	219	244	213	127	88.3	112	95.0	80.4
(WY)	1944	1955	1966	1955	1941	1941	1941	1941	1936	1942	1936	1941

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		WATER YEARS 1929 - 1990	
ANNUAL TOTAL	360229			
ANNUAL MEAN	987		721	
HIGHEST ANNUAL MEAN			1555	1973
LOWEST ANNUAL MEAN			192	1941
HIGHEST DAILY MEAN	17700	Feb 5	35200	Jan 21 1935
LOWEST DAILY MEAN	120	Sep 7	70	Sep 21 1941
ANNUAL SEVEN-DAY MINIMUM	124	Sep 1	73	Sep 26 1941
INSTANTANEOUS PEAK FLOW			43600	Jan 21 1935
INSTANTANEOUS PEAK STAGE			24.00	Jan 21 1935
INSTANTANEOUS LOW FLOW			67	Oct 9 1941
ANNUAL RUNOFF (CFSM)	1.99		1.46	
ANNUAL RUNOFF (INCHES)	27.07		19.80	
10 PERCENT EXCEEDS	2550		1830	
50 PERCENT EXCEEDS	434		270	
90 PERCENT EXCEEDS	153		116	

07029500 HATCHIE RIVER AT BOLIVAR, TN
(National stream-quality accounting network station)

LOCATION.--Lat 35°16'31", long 88°58'36", Hardeman County, Hydrologic Unit 08010208, on left bank 25 ft upstream from bridge on State Highway 18, 250 ft upstream from Illinois Central Gulf Railroad bridge, 0.6 mi downstream from Spring Creek, 1.5 mi northeast of Bolivar, and at mile 135.1.
DRAINAGE AREA.--1,480 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--July 1929 to current year.
GAGE.--Water-stage recorder. Datum of gage is 323.49 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records good.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	283	344	1040	10300	1060	e7640	5360	13600	17200	1920	675	752
2	281	341	819	9360	1010	e6790	5660	16300	12600	1260	595	688
3	279	340	997	8100	961	e5910	6730	15300	9790	990	554	609
4	355	340	1230	7280	927	e4850	7510	13300	8100	872	561	552
5	397	358	1550	6690	1070	e5080	7300	12700	6960	793	566	530
6	464	386	1580	6130	2080	5320	6540	13500	6090	745	585	516
7	469	420	1320	6560	2910	5070	5770	14700	5390	702	599	499
8	473	430	1020	6510	3220	4860	5210	14600	4850	664	587	483
9	497	476	823	6030	3290	4600	4720	14200	4410	637	653	511
10	518	704	711	5360	3320	e4180	4250	13300	3910	615	834	643
11	482	1020	648	5150	3240	e3550	3630	13700	3250	596	852	974
12	436	1250	622	4960	2950	e2880	3310	13100	2500	584	783	1040
13	403	1030	608	4820	2900	e2450	3470	17300	2070	554	682	777
14	369	762	605	4700	3570	e2220	5410	19100	1750	530	611	600
15	350	629	664	4610	3530	2050	10500	20400	1480	513	560	529
16	338	561	730	4520	3380	1970	e15500	20200	1390	495	531	501
17	326	519	1050	4350	3380	1830	e20900	17500	1440	480	500	493
18	361	496	3360	4080	5160	1700	e17900	16400	1640	470	473	471
19	405	482	5630	3730	12500	1710	15200	14200	1680	497	452	462
20	416	473	5510	3220	20700	1770	12900	11700	1500	582	433	479
21	392	466	6380	2560	31000	1720	11200	9480	1290	698	425	472
22	420	464	8940	2010	33700	1760	9850	8030	1230	640	414	452
23	498	473	8150	1640	28600	2920	8880	6940	1190	556	407	436
24	523	478	7470	1420	21200	3560	7900	6030	1820	520	405	433
25	487	477	7790	1270	15300	3800	6920	5500	2680	672	399	453
26	430	470	8630	1160	11800	3900	5980	6010	3160	818	407	520
27	389	463	9480	1100	9800	4080	5520	7370	3380	1110	443	641
28	364	584	10100	1060	8540	4300	6640	6730	3500	1260	490	593
29	352	861	9360	1040	---	5110	9120	11100	3380	1150	606	513
30	346	1160	9410	1050	---	5610	10700	24200	2820	960	685	477
31	345	---	10300	1060	---	5470	---	23100	---	799	735	---
TOTAL	12448	17257	126527	131830	241098	118660	250480	419590	122450	23682	17502	17099
MEAN	402	575	4082	4253	8611	3828	8349	13540	4082	764	565	570
MAX	523	1250	10300	10300	33700	7640	20900	24200	17200	1920	852	1040
MIN	279	340	605	1040	927	1700	3310	5500	1190	470	399	433
CFSM	.27	.39	2.76	2.87	5.82	2.59	5.64	9.15	2.76	.52	.38	.39
IN.	.31	.43	3.18	3.31	6.06	2.98	6.30	10.55	3.08	.60	.44	.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1929 - 1991, BY WATER YEAR (WY)

MEAN	694	1683	3079	4546	4762	4520	4046	2748	1351	901	580	686
MAX	4447	7457	12490	13420	14060	12110	10960	13540	6319	5933	2678	4651
(WY)	1933	1958	1983	1974	1948	1973	1979	1991	1939	1932	1931	1979
MIN	150	233	422	555	829	1053	711	444	209	189	193	127
(WY)	1957	1957	1955	1955	1934	1941	1986	1942	1941	1943	1954	1956

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1929 - 1991	
ANNUAL TOTAL	1063800		1498623			
ANNUAL MEAN	2915		4106		2454	
HIGHEST ANNUAL MEAN					5003	1973
LOWEST ANNUAL MEAN					971	1941
HIGHEST DAILY MEAN	30600	Feb 7	33700	Feb 22	59300	Mar 18 1973
LOWEST DAILY MEAN	263	Sep 6	279	Oct 3	80	Sep 1 1943
ANNUAL SEVEN-DAY MINIMUM	266	Sep 3	344	Oct 29	85	Aug 26 1943
INSTANTANEOUS PEAK FLOW			34300	Feb 22	61600	Mar 18 1973
INSTANTANEOUS PEAK STAGE			19.27	Feb 22	21.66	Mar 18 1973
INSTANTANEOUS LOW FLOW			278	Oct 3	78	Sep 2 1943
ANNUAL RUNOFF (CFSM)	1.97		2.77		1.64	
ANNUAL RUNOFF (INCHES)	26.74		37.67		22.52	
10 PERCENT EXCEEDS	6420		11700		6100	
50 PERCENT EXCEEDS	1050		1390		1060	
90 PERCENT EXCEEDS	315		433		262	

e Estimated.

07029500 HATCHIE RIVER AT BOLIVAR, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.-- Water years 1964, 1968, 1977 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: June 1980 to September 1982, October 1983 to September 1986.
WATER TEMPERATURE: June 1980 to September 1982, October 1983 to September 1986.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum, 380 microsiemens, Sept. 5, 6, 1985; minimum, 28 microsiemens, Apr. 18, 1982.
WATER TEMPERATURE: Maximum, 31.5°C, July 15, 16, 1980; minimum recorded, 0.0°C, Dec. 23, 1983 to Jan. 3, 1984, several days in 1985, minimum observed, -0.5°C, Jan. 3, 1984.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
NOV											
28...	1030	683	58	6.6	15.0	770	20	8.4	82	--	160
FEB											
06...	0930	1950	60	6.7	10.0	767	32	9.6	85	650	800
APR											
18...	0900	18200	40	6.6	18.5	740	30	6.8	74	K150	310
AUG											
28...	1100	480	55	6.9	24.5	769	18	6.8	81	140	480

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
NOV											
28...	20	1	5.4	1.5	13	54	1	3.2	19	21	7.2
FEB											
06...	19	5	5.2	1.4	3.1	25	0.3	1.4	14	7.7	3.7
APR											
18...	14	3	4.0	0.94	1.6	18	0.2	1.3	11	4.5	1.7
AUG											
28...	18	0	5.0	1.3	2.9	25	0.3	1.2	20	2.2	3.0

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)
NOV											
28...	0.30	9.9	72	75	0.10	133	0.080	0.020	0.07	0.100	0.130
FEB											
06...	<0.10	8.6	46	41	0.06	242	--	<0.010	--	0.200	0.070
APR											
18...	<0.10	5.6	68	28	0.09	3340	0.054	0.020	0.07	0.074	0.050
AUG											
28...	<0.10	10	35	38	0.05	45.4	--	<0.010	--	0.190	0.050

K--Results based on non-ideal colony counts.

07029500 HATCHIE RIVER AT BOLIVAR, TN--Continued

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	ALUMINUM, DISSOLVED (UG/L AS AL)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)
NOV 28...	0.15	0.120	0.60	0.180	0.090	0.090	50	<1	18	<0.5	<1.0
FEB 06...	0.08	0.060	0.50	0.100	0.020	0.010	70	<1	27	<0.5	3.0
APR 18...	0.06	0.050	0.50	0.080	0.070	0.010	160	<1	24	<0.5	<1.0
AUG 28...	0.06	0.050	0.30	0.070	0.010	<0.010	30	<1	16	<0.5	<1.0

DATE	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)
NOV 28...	1	<3	31	250	<1	<4	110	0.1	<10	180	<1
FEB 06...	<1	<3	2	220	1	<4	130	<0.1	<10	1	<1
APR 18...	1	<3	2	470	2	<4	44	<0.1	<10	1	<1
AUG 28...	<1	<3	3	120	<1	<4	140	<0.1	<10	<1	<1

DATE	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
NOV 28...	<1.0	54	<6	17	54	100	81
FEB 06...	<1.0	44	<6	15	49	258	89
APR 18...	<1.0	32	<6	9	37	1820	65
AUG 28...	<1.0	43	<6	5	32	41	92

07030240 LOOSAHATCHIE RIVER NEAR ARLINGTON, TN

LOCATION.--Lat 35°18'37", long 89°38'23", Shelby County, Hydrologic Unit 08010209, on left bank 20 ft downstream from bridge on U.S. Highways 70 and 79, 1.5 mi upstream from Beaver Creek, 1.5 mi northeast of Arlington, and at mile 30.4.
DRAINAGE AREA.--262 mi².
PERIOD OF RECORD.--October 1969 to current year.
GAGE.--Water-stage recorder. Datum of the gage is 246.43 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Records poor. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data. Minimum discharge for current year also occurred many days during Oct., Nov., and Dec. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	97	93	134	506	e138	824	268	468	155	133	107	e106
2	97	93	127	273	e137	819	220	232	143	128	107	e103
3	104	93	2590	189	e135	312	195	315	139	161	107	e102
4	1680	93	681	147	e300	238	2030	1880	135	181	107	e112
5	354	102	198	127	e1150	186	992	3740	156	128	107	e130
6	148	118	146	2140	e3550	169	344	833	136	121	107	e115
7	165	102	124	6030	e2650	149	339	275	129	118	110	e109
8	281	99	113	996	e1800	134	1490	186	128	113	108	e104
9	139	129	106	351	e1070	128	982	e193	128	113	946	e131
10	140	532	102	926	e800	122	549	e191	128	113	245	e126
11	123	174	100	1120	e690	121	360	e188	734	111	162	e111
12	114	131	98	550	e2650	124	3050	e180	1720	109	144	e105
13	110	119	95	303	e8600	133	4720	e9600	545	107	137	103
14	108	114	93	231	e2000	123	8970	e3150	237	104	134	103
15	106	110	99	200	e420	118	9650	e1220	192	102	131	103
16	105	108	132	199	258	117	1510	e800	207	100	127	103
17	103	107	921	175	1480	120	366	e600	180	99	124	103
18	161	107	6360	162	4930	134	4040	e1350	155	100	123	103
19	115	107	4350	158	10300	129	3250	e750	148	120	121	103
20	104	105	588	166	10600	127	449	e520	144	106	119	101
21	101	102	8700	155	944	124	254	e380	152	105	118	102
22	151	104	9380	145	360	159	203	258	221	105	e114	102
23	137	107	2250	143	265	686	176	204	225	105	e112	102
24	103	105	348	143	208	218	151	182	2650	109	e112	104
25	100	102	207	141	175	168	134	1260	472	278	e113	107
26	97	101	165	140	156	154	125	1940	212	131	e140	107
27	95	100	e700	139	144	147	2130	828	174	120	e152	107
28	95	940	e400	136	141	182	6580	325	158	114	e125	107
29	93	264	e255	e141	---	2500	10900	268	149	112	e113	107
30	93	152	e880	e140	---	1640	4760	202	140	111	e109	107
31	93	---	e3400	e139	---	392	---	175	---	107	e108	---
TOTAL	5512	4713	43842	16511	56051	10697	69187	32693	10192	3764	4689	3228
MEAN	178	157	1414	533	2002	345	2306	1055	340	121	151	108
MAX	1680	940	9380	6030	10600	2500	10900	9600	2650	278	946	131
MIN	93	93	93	127	135	117	125	175	128	99	107	101
CFSM	.68	.60	5.40	2.03	7.64	1.32	8.80	4.03	1.30	.46	.58	.41
IN.	.78	.67	6.22	2.34	7.96	1.52	9.82	4.64	1.45	.53	.67	.46

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1991, BY WATER YEAR (WY)

MEAN	139	357	642	522	705	565	647	419	279	181	139	145
MAX	379	1344	1962	1479	2064	1548	2306	1497	1609	1155	521	292
(WY)	1989	1989	1988	1974	1990	1980	1991	1983	1974	1989	1974	1977
MIN	73.4	75.6	106	94.5	143	141	107	93.8	86.7	87.5	84.3	80.7
(WY)	1970	1972	1977	1981	1978	1986	1978	1988	1972	1970	1982	1982

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1970 - 1991	
ANNUAL TOTAL	194702		261079			
ANNUAL MEAN	533		715		393	
HIGHEST ANNUAL MEAN					769	1989
LOWEST ANNUAL MEAN					154	1986
HIGHEST DAILY MEAN	12000	Feb 4	10900	Apr 29	19900	Dec 26 1987
LOWEST DAILY MEAN	93	Oct 29	93	Oct 29	66	Apr 7 1974
ANNUAL SEVEN-DAY MINIMUM	93	Oct 29	93	Oct 29	68	Nov 5 1982
INSTANTANEOUS PEAK FLOW			14400	Dec 22	27400	Dec 25 1987
INSTANTANEOUS PEAK STAGE			21.16	Dec 22	25.27	Dec 25 1987
INSTANTANEOUS LOW FLOW			*93	Oct 28	66	Apr 6 1974
ANNUAL RUNOFF (CFSM)	2.04		2.73		1.50	
ANNUAL RUNOFF (INCHES)	27.64		37.07		20.38	
10 PERCENT EXCEEDS	941		1750		633	
50 PERCENT EXCEEDS	138		143		114	
90 PERCENT EXCEEDS	98		103		83	

e Estimated.
* See REMARKS.

07030241 EAST BEAVER CREEK CANAL TRIB AT TRITT FARM NEAR KEELING, TN

LOCATION.--Lat 35°25'56", long 89°29'16", Tipton County, Hydrologic Unit 08010209, at culvert on U.S. Highways 70 and 79, 2.95 mi northeast of Mason and 0.9 mi southwest of Keeling.
DRAINAGE AREA.--0.044 mi².
PERIOD OF RECORD.--April 1990 to current year.
GAGE.--Water-stage recorder. Elevation of gage is 380 ft above National Geodetic Vertical Datum of 1929, from topographic map.
REMARKS.--Records fair. Lowest daily mean occurred many days. Until Apr. 30, 1991, when an artificial control was installed, stream level could fall below the stage sensor. Generally there were enough gage inspections to adequately correct the gage height record for these periods. Technically, flow for these periods should be considered as estimated, but are not flagged as such because of the adequate control points the gage inspections provided.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR APRIL 1990 TO SEPTEMBER 1990
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	.00	.35	.00	.00	.00	.00
2	---	---	---	---	---	---	.03	.51	.00	.00	.00	.00
3	---	---	---	---	---	---	.00	.00	.18	.00	.00	.00
4	---	---	---	---	---	---	.00	e.25	.00	.00	.00	.00
5	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
6	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
7	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
8	---	---	---	---	---	---	.00	.00	.00	.00	.00	.18
9	---	---	---	---	---	---	.00	.00	.67	.00	.00	.17
10	---	---	---	---	---	---	.05	.00	.01	.00	.00	.00
11	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
12	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
13	---	---	---	---	---	---	.00	.00	e1.2	.00	.00	.00
14	---	---	---	---	---	---	.00	.00	e.90	.00	.00	.01
15	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
16	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
17	---	---	---	---	---	---	.67	.00	.00	.00	.00	.00
18	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
19	---	---	---	---	---	---	.00	.15	.00	.00	.00	.00
20	---	---	---	---	---	---	.45	.45	.00	.00	.00	.00
21	---	---	---	---	---	---	1.1	.32	.00	.00	.00	.30
22	---	---	---	---	---	---	.00	.00	1.4	.00	.00	.00
23	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
24	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
25	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
26	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
27	---	---	---	---	---	---	1.9	.00	.00	.00	.00	.00
28	---	---	---	---	---	---	.49	.00	.00	.00	.17	.00
29	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
30	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
31	---	---	---	---	---	---	---	.00	---	.00	.00	---
TOTAL	---	---	---	---	---	---	4.69	2.03	4.36	0.00	0.17	0.66
MEAN	---	---	---	---	---	---	.16	.065	.15	.000	.005	.022
MAX	---	---	---	---	---	---	1.9	.51	1.4	.00	.17	.30
MIN	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
CFSM	---	---	---	---	---	---	3.91	1.64	3.63	.00	.14	.55
IN.	---	---	---	---	---	---	4.36	1.89	4.05	.00	.16	.61

07030241 EAST BEAVER CREEK CANAL TRIB AT TRITT FARM NEAR KEELING, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	e.04	.00	.47	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	e.01	.00	.00	.00	.00	.00	.00	.00	.00
3	.12	.00	.88	e.00	.00	.00	.05	.06	.00	.00	.00	.00
4	1.6	.00	.00	.00	.00	.00	.22	.10	.00	.00	.00	.00
5	.00	.00	.00	.00	2.2	.00	.00	.13	.00	.00	.00	.00
6	.00	.00	.00	1.7	.02	.00	.00	.00	.00	.00	.00	.00
7	.66	.00	.00	.05	.00	.00	.06	.00	.00	.00	.00	.00
8	.00	.00	.00	.00	.00	.00	.02	.00	.00	.00	.00	.18
9	.00	.64	.00	.00	.00	.00	.28	.00	.00	.00	1.9	.17
10	.08	.00	.00	.34	.00	.00	.00	.00	.00	.00	.01	.00
11	.00	.00	.00	.06	.00	.00	.22	.04	e.42	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.89	.26	e.01	.00	.00	.00
13	.00	.00	.00	.00	1.1	.00	1.1	.70	.00	.00	.00	.00
14	.00	.00	.00	.00	.00	.00	1.2	.01	.00	.00	.00	.00
15	.00	.00	.18	.01	.00	.00	.01	.54	.62	.00	.00	.00
16	.00	.00	.02	.00	.00	.00	.00	.01	.00	.00	.00	.00
17	.13	.00	1.0	.00	.72	.00	.00	.11	.00	.00	.00	.00
18	.08	.00	1.2	.00	.80	.00	.65	.01	.00	.00	.00	.00
19	.00	.00	.00	.00	1.5	.00	.24	.33	.00	.00	.00	.00
20	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
21	.00	.00	5.3	.00	.00	.00	.00	.00	.00	.00	.00	.00
22	.13	.00	.02	.00	.00	.00	.00	.00	.16	.00	.00	.00
23	.00	.00	e.01	.00	.00	.00	.00	.00	.18	.00	.00	.00
24	.00	.00	e.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
25	.00	.00	e.00	.00	.00	.00	.00	.53	.00	.00	.00	.00
26	.00	.00	e.00	.00	.00	.00	.00	.01	.00	.00	.00	.00
27	.00	.57	e1.4	.00	.00	.00	.91	.00	.00	.00	.00	.00
28	.00	.35	e.01	.00	.00	.07	1.4	.00	.00	.00	.17	.00
29	.00	.00	e.15	.00	---	.13	1.1	.00	.00	.00	.00	.00
30	.00	.00	e.93	.00	---	.00	.00	.00	.00	.00	.00	.00
31	.00	---	e.12	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	2.80	1.56	11.22	2.21	6.34	0.67	8.35	2.84	1.39	0.00	2.08	0.35
MEAN	.090	.052	.36	.071	.23	.022	.28	.092	.046	.000	.067	.012
MAX	1.6	.64	5.3	1.7	2.2	.47	1.4	.70	.62	.00	1.9	.18
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	2.26	1.30	9.05	1.78	5.66	.54	6.96	2.29	1.16	.00	1.68	.29
IN.	2.60	1.45	10.43	2.06	5.90	.62	7.77	2.64	1.29	.00	1.93	.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1991, BY WATER YEAR (WY)

MEAN	.090	.052	.36	.071	.23	.022	.22	.079	.096	.000	.036	.017
MAX	.090	.052	.36	.071	.23	.022	.28	.092	.15	.000	.067	.022
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1990	1990	1991	1990
MIN	.090	.052	.36	.071	.23	.022	.16	.065	.046	.000	.005	.012
(WY)	1991	1991	1991	1991	1991	1991	1990	1990	1991	1990	1990	1991

SUMMARY STATISTICS	FOR 1991 WATER YEAR		WATER YEARS 1990 - 1991	
ANNUAL TOTAL	39.81			
ANNUAL MEAN	.11		.11	
HIGHEST ANNUAL MEAN			.11	1991
LOWEST ANNUAL MEAN			.11	1991
HIGHEST DAILY MEAN	5.3	Dec 21	5.3	Dec 21 1990
LOWEST DAILY MEAN	* .00	Oct 1	* .00	Apr 1 1990
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 23	.00	Apr 3 1990
INSTANTANEOUS PEAK FLOW	58	Dec 21	90	Jun 13 1990
INSTANTANEOUS PEAK STAGE	5.51	Dec 21	5.84	Jun 13 1990
ANNUAL RUNOFF (CFSM)	2.73		2.73	
ANNUAL RUNOFF (INCHES)	37.02		37.05	
10 PERCENT EXCEEDS	.23		.18	
50 PERCENT EXCEEDS	.00		.00	
90 PERCENT EXCEEDS	.00		.00	

e Estimated.
* See REMARKS.

07030242 EAST BEAVER CREEK CANAL TRIB AT WILLIAMS FARM NEAR BELMONT, TN

LOCATION.--Lat 35°23'35", long 89°30'33", Fayette County, Hydrologic Unit 08010209, at culvert on county road, 2 mi southeast of the intersection of U.S. Highways 70,79 and 59 in Mason, and .74 mi south of the Tipton-Fayette county line.
DRAINAGE AREA.--0.168 mi².
PERIOD OF RECORD.--April 1990 to current year.
GAGE.--Water-stage recorder. Elevation of gage is 310 ft above National Geodetic Vertical Datum of 1929, from topographic map.
REMARKS.--Records fair. Lowest daily mean occurred many days. Until Mar. 25, 1991, when an artificial control was installed, stream level could fall below the stage sensor. Generally there were enough gage inspections to adequately correct the gage height record for these periods. Technically, flow for these periods should be considered as estimated, but are not flagged as such because of the adequate control points the gage inspections provided.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR APRIL 1990 TO SEPTEMBER 1990
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	.17	.19	.00	.00	.00	.00
2	---	---	---	---	---	---	.22	2.1	.00	.00	.00	.00
3	---	---	---	---	---	---	.19	.07	.07	.00	.00	.00
4	---	---	---	---	---	---	.08	2.1	.00	.00	.00	.00
5	---	---	---	---	---	---	.02	.00	.00	.00	.00	.00
6	---	---	---	---	---	---	.27	.00	.00	.00	.00	.00
7	---	---	---	---	---	---	.12	.00	.00	.00	.00	.00
8	---	---	---	---	---	---	.07	.00	.00	.00	.00	.00
9	---	---	---	---	---	---	.04	.03	.59	.00	.00	.00
10	---	---	---	---	---	---	.37	.00	.01	.00	.00	.01
11	---	---	---	---	---	---	.16	.00	.00	.43	.00	.00
12	---	---	---	---	---	---	.09	.00	.00	.66	.00	.00
13	---	---	---	---	---	---	.04	.00	.00	1.4	.00	.00
14	---	---	---	---	---	---	.02	.15	4.1	.00	.00	.00
15	---	---	---	---	---	---	.06	.19	.10	.00	.00	.00
16	---	---	---	---	---	---	.12	.00	.00	.00	.00	.00
17	---	---	---	---	---	---	2.6	.05	.00	.00	.00	.00
18	---	---	---	---	---	---	.35	.00	.00	.00	.00	.00
19	---	---	---	---	---	---	.18	1.1	.00	.00	.00	.00
20	---	---	---	---	---	---	.32	2.5	.00	.00	.00	.00
21	---	---	---	---	---	---	6.5	.64	.00	.00	.00	.00
22	---	---	---	---	---	---	.25	.00	2.9	.00	.00	.00
23	---	---	---	---	---	---	.09	.00	.00	.00	.00	.00
24	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
25	---	---	---	---	---	---	.03	.00	.00	.00	.00	.00
26	---	---	---	---	---	---	.04	.00	.00	.00	.00	.00
27	---	---	---	---	---	---	8.5	.00	.00	.00	.00	.00
28	---	---	---	---	---	---	2.0	.00	.00	.00	.00	.00
29	---	---	---	---	---	---	.23	.00	.00	.00	.00	.00
30	---	---	---	---	---	---	.04	.00	.00	.00	.00	.00
31	---	---	---	---	---	.24	---	.00	---	.00	.00	---
TOTAL	---	---	---	---	---	---	23.17	9.12	7.77	2.49	0.00	0.01
MEAN	---	---	---	---	---	---	.77	.29	.26	.080	.000	.000
MAX	---	---	---	---	---	---	8.5	2.5	4.1	1.4	.00	.01
MIN	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
CFSM	---	---	---	---	---	---	4.54	1.73	1.52	.47	.00	.00
IN.	---	---	---	---	---	---	5.07	2.00	1.70	.54	.00	.00

07030242 EAST BEAVER CREEK CANAL TRIB AT WILLIAMS FARM NEAR BELMONT, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.48	.02	2.4	.02	.00	.00	.00	.00	.00
2	.00	.00	.00	.36	.03	.15	.02	.00	.00	.00	.00	.00
3	.22	.00	2.5	.31	.03	.06	.23	.09	.00	.00	.00	.00
4	9.7	.00	.07	.24	.05	.00	1.6	2.2	.00	.00	.00	.00
5	.03	.00	.00	.03	9.7	.00	.17	.98	.00	.00	.00	.00
6	.00	.00	.00	6.1	1.3	.00	.09	.00	.00	.00	.00	.00
7	.92	.00	.00	1.8	.14	.00	.25	.00	.00	.00	.00	.00
8	.00	.00	.00	.60	.08	.00	.62	.00	.00	.00	.00	.00
9	.00	.99	.00	.22	.07	.00	1.0	.00	.00	.00	4.1	.34
10	.00	.14	.00	2.1	.06	.00	.09	.04	.00	.00	.04	.02
11	.00	.00	.00	.48	.03	.00	1.0	.21	1.8	.00	.00	.00
12	.00	.00	.00	.04	.04	.01	3.7	1.9	.63	.00	.00	.00
13	.00	.00	.00	.00	5.8	.01	5.7	2.6	.00	.00	.00	.00
14	.00	.00	.00	.00	.34	.00	6.8	.07	.00	.00	.00	.00
15	.00	.00	.00	.00	.01	.00	.49	.35	.18	.00	.00	.00
16	.00	.00	.00	.00	.00	.00	.08	.08	.06	.00	.00	.00
17	.21	.00	2.6	.08	3.4	.06	.06	.07	.03	.00	.00	.00
18	.36	.00	5.0	.13	3.2	.00	6.2	.07	.00	.00	.00	.00
19	.00	.00	.53	.20	7.3	.00	1.4	6.1	.00	.00	.00	.00
20	.00	.00	.43	.17	.39	.00	.08	.28	.00	.00	.00	.00
21	.00	.00	27.4	.06	.04	.00	.05	.06	.00	.00	.00	.00
22	.01	.00	2.2	.02	.03	.01	.05	.02	1.7	.00	.00	.00
23	.00	.00	1.4	.07	.00	.00	.06	.00	8.7	.00	.00	.00
24	.00	.00	.86	.05	.00	.00	.05	.00	.37	.00	.00	.00
25	.00	.00	.42	.02	.00	.00	.03	3.0	.03	.00	.00	.00
26	.00	.00	.11	.04	.00	.00	.00	.49	.01	.00	.00	.00
27	.00	.74	6.1	.08	.00	.00	2.9	.13	.00	.00	.00	.00
28	.00	1.8	2.1	.07	.00	.11	6.8	.07	.00	.00	.04	.00
29	.00	.00	.63	.19	---	.62	4.4	.04	.00	.00	.04	.00
30	.00	.00	4.0	.23	---	.10	.08	.00	.00	.00	.00	.00
31	.00	---	1.1	.04	---	.03	---	.00	---	.00	.00	---
TOTAL	11.45	3.67	57.45	14.21	32.06	3.56	44.02	18.85	13.51	0.00	4.22	0.36
MEAN	.37	.12	1.85	.46	1.14	.11	1.47	.61	.45	.000	.14	.012
MAX	9.7	1.8	27	6.1	9.7	2.4	6.8	6.1	8.7	.00	4.1	.34
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	2.17	.72	10.9	2.70	6.74	.68	8.63	3.58	2.65	.00	.80	.07
IN.	2.51	.80	12.57	3.11	7.02	.78	9.63	4.12	2.96	.00	.92	.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1991, BY WATER YEAR (WY)

MEAN	.37	.12	1.85	.46	1.14	.11	1.12	.45	.35	.040	.068	.006
MAX	.37	.12	1.85	.46	1.14	.11	1.47	.61	.45	.080	.14	.012
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1991	1990	1991	1991
MIN	.37	.12	1.85	.46	1.14	.11	.77	.29	.26	.000	.000	.000
(WY)	1991	1991	1991	1991	1991	1991	1990	1990	1990	1991	1990	1990

SUMMARY STATISTICS	FOR 1991 WATER YEAR		WATER YEARS 1990 - 1991	
ANNUAL TOTAL	203.36			
ANNUAL MEAN	.56		.56	
HIGHEST ANNUAL MEAN			.56	1991
LOWEST ANNUAL MEAN			.56	1991
HIGHEST DAILY MEAN	27	Dec 21	27	Dec 21 1990
LOWEST DAILY MEAN	* .00	Oct 1	* .00	Apr 24 1990
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 8	.00	May 22 1990
INSTANTANEOUS PEAK FLOW	230	Jun 23	230	Jun 23 1991
INSTANTANEOUS PEAK STAGE	7.32	Dec 21	7.32	Dec 21 1990
ANNUAL RUNOFF (CFSM)	3.28		3.28	
ANNUAL RUNOFF (INCHES)	44.50		44.53	
10 PERCENT EXCEEDS	1.5		.98	
50 PERCENT EXCEEDS	.00		.00	
90 PERCENT EXCEEDS	.00		.00	

* See REMARKS.

070302481 WEST BEAVER CREEK CANAL TRIB AT MOFFATT FARM NEAR MADGE, TN

LOCATION.--Lat 35°23'52", long 89°42'35", Shelby County, Hydrologic Unit 08010209, at culvert on Brunswick Road, 2.3 mi south of Idaville, 1.0 mi west of State Highway 14, and 2.7 mi northwest of Madge.
DRAINAGE AREA.--0.105 mi².
PERIOD OF RECORD.--April 1990 to current year.
GAGE.--Water-stage recorder. Elevation of gage is 340 ft above National Geodetic Vertical Datum of 1929, from topographic map.
REMARKS.--Records fair. Lowest daily mean occurred many days. Until Apr. 23, 1991, when an artificial control was installed, stream level could fall below the stage sensor. Generally there were enough gage inspections to adequately correct the gage height record for these periods. Technically, flow for these periods should be considered as estimated, but are not flagged as such because of the adequate control points the gage inspections provided.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR APRIL 1990 TO SEPTEMBER 1990
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	.11	.39	.00	.00	.00	.00
2	---	---	---	---	---	---	.04	.68	.00	.00	.00	.00
3	---	---	---	---	---	---	.00	.27	.00	.00	.00	.00
4	---	---	---	---	---	---	.01	.17	.00	.00	.00	.00
5	---	---	---	---	---	---	.01	.09	.00	.00	.00	.00
6	---	---	---	---	---	---	.10	.05	.00	.00	.00	.00
7	---	---	---	---	---	---	.00	.05	.00	.00	.00	.00
8	---	---	---	---	---	---	.00	.05	.00	.00	.00	.00
9	---	---	---	---	---	---	.00	.05	.07	.00	.00	.00
10	---	---	---	---	---	---	.44	.02	.00	.00	.00	.09
11	---	---	---	---	---	---	.00	.00	.00	.68	.00	.00
12	---	---	---	---	---	---	.00	.04	.00	.42	.00	.00
13	---	---	---	---	---	---	.00	.02	.00	3.0	.00	.00
14	---	---	---	---	---	---	.00	.00	1.4	.00	.00	.00
15	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
16	---	---	---	---	---	---	.04	.00	.00	.00	.00	.00
17	---	---	---	---	---	---	.99	.00	.00	.00	.00	.00
18	---	---	---	---	---	---	.19	.00	.00	.00	.00	.00
19	---	---	---	---	---	---	.09	.21	.00	.00	.00	.00
20	---	---	---	---	---	---	2.1	1.1	.00	.00	.00	.00
21	---	---	---	---	---	---	4.4	.42	.00	.00	.00	.09
22	---	---	---	---	---	---	.19	.13	.50	.00	.00	.00
23	---	---	---	---	---	---	.13	.08	.01	.00	.00	.00
24	---	---	---	---	---	---	.09	.03	.00	.00	.00	.00
25	---	---	---	---	---	---	.06	.00	.00	.00	.00	.00
26	---	---	---	---	---	---	.05	.00	.00	.00	.00	.00
27	---	---	---	---	---	---	3.5	.00	.00	.00	.00	.00
28	---	---	---	---	---	---	1.3	.00	.00	.00	.00	.00
29	---	---	---	---	---	---	.25	.00	.00	.00	.00	.00
30	---	---	---	---	---	---	.13	.00	.00	.00	.00	.00
31	---	---	---	---	---	.18	---	.00	---	.00	.00	---
TOTAL	---	---	---	---	---	---	14.22	3.85	1.98	4.10	0.00	0.18
MEAN	---	---	---	---	---	---	.47	.12	.066	.13	.000	.006
MAX	---	---	---	---	---	---	4.4	1.1	1.4	3.0	.00	.09
MIN	---	---	---	---	---	---	.00	.00	.00	.00	.00	.00
CFSM	---	---	---	---	---	---	4.31	1.13	.60	1.20	.00	.05
IN.	---	---	---	---	---	---	4.81	1.30	.67	1.39	.00	.06

e Estimated.

070302481 WEST BEAVER CREEK CANAL TRIB AT MOFFATT FARM NEAR MADGE, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.02	.00	.66	.01	.00	.00	.00	.00	.00
2	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00
3	.66	.00	.98	.00	.00	.00	.86	.48	.00	.34	.00	.00
4	6.10	.00	.00	.00	.00	.01	1.1	.92	.00	.01	.00	.00
5	.02	.00	.00	.00	3.7	.00	.00	2.1	.00	.00	.00	.00
6	.00	.00	.00	2.4	.01	.00	.02	.02	.00	.00	.00	.00
7	1.40	.00	.00	.05	.00	.00	.11	.01	.00	.00	.00	.00
8	.04	.00	.00	.00	.00	.00	.27	.01	.00	.00	.00	.00
9	.69	.15	.00	.00	.01	.00	1.3	.01	.00	.00	.34	.58
10	.35	.08	.00	.17	.00	.00	.00	.25	.00	.00	.00	.00
11	.18	.01	.00	.00	.00	.00	.32	.01	.00	.00	.00	.00
12	.04	.00	.00	.00	.00	.00	2.8	2.1	.24	.00	.00	.00
13	.00	.00	.00	.01	1.4	.00	2.7	1.3	.00	.00	.00	.00
14	.00	.00	.00	.01	.00	.00	3.0	.07	.00	.00	.00	.00
15	.00	.11	.00	.00	.00	.00	.00	.47	.00	.00	.00	.00
16	.00	.08	.00	.00	.00	.00	.00	.10	.00	.00	.00	.00
17	.80	.00	2.1	.00	.48	.00	.00	.04	.00	.00	.19	.00
18	.02	.00	3.7	.00	.81	.00	3.2	.01	.00	.00	.00	.52
19	.00	.00	.15	.00	2.2	.00	.01	.01	.00	.00	.00	.00
20	.00	.00	.11	.00	.00	.00	.00	.01	.00	.00	.00	.00
21	.00	.00	10	.00	.00	.00	.03	.00	.00	.00	.00	.00
22	.06	.01	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00
23	.00	.02	.04	.00	.00	.00	.00	.11	.77	.00	.00	.00
24	.00	.01	.00	.00	.00	.00	.00	.00	.03	.51	.00	.00
25	.00	.00	.00	.00	.01	.00	.00	3.0	.00	.01	.00	.00
26	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00	.00
27	.00	.57	1.1	.00	.00	.02	2.2	.01	.00	.00	.40	.00
28	.00	.42	.11	.00	.00	.39	3.7	.00	.00	.00	1.7	.00
29	.00	.00	.06	.00	---	.73	2.9	.00	.00	.00	.00	.00
30	.00	.00	1.9	.00	---	.00	.01	.00	.00	.00	.00	.00
31	.00	---	.02	.00	---	.02	---	.00	---	.00	.00	---
TOTAL	10.36	1.46	20.28	2.66	8.62	1.83	24.56	11.10	1.04	0.87	2.63	1.10
MEAN	.33	.049	.65	.086	.31	.059	.82	.36	.035	.028	.085	.037
MAX	6.1	.57	10	2.4	3.7	.73	3.7	3.0	.77	.51	1.7	.58
MIN	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
CFSM	3.04	.44	5.95	.78	2.80	.54	7.44	3.26	.32	.26	.77	.33
IN.	3.50	.49	6.86	.90	2.92	.62	8.31	3.75	.35	.29	.89	.37

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1991, BY WATER YEAR (WY)

MEAN	.33	.049	.65	.086	.31	.059	.65	.24	.050	.080	.042	.021
MAX	.33	.049	.65	.086	.31	.059	.82	.36	.066	.13	.085	.037
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1990	1990	1991	1991
MIN	.33	.049	.65	.086	.31	.059	.47	.12	.035	.028	.000	.006
(WY)	1991	1991	1991	1991	1991	1991	1990	1990	1991	1991	1990	1990

SUMMARY STATISTICS	FOR 1991 WATER YEAR		WATER YEARS 1990 - 1991	
ANNUAL TOTAL	86.51			
ANNUAL MEAN	.24		.24	
HIGHEST ANNUAL MEAN			.24	1991
LOWEST ANNUAL MEAN			.24	1991
HIGHEST DAILY MEAN	10	Dec 21	10	Dec 21 1990
LOWEST DAILY MEAN	* .00	Oct 1	* .00	Apr 3 1990
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 23	.00	May 25 1990
INSTANTANEOUS PEAK FLOW	118	Oct 4	124	Jul 13 1990
INSTANTANEOUS PEAK STAGE	4.16	Oct 4	4.19	Jul 13 1990
ANNUAL RUNOFF (CFSM)	2.15		2.15	
ANNUAL RUNOFF (INCHES)	29.26		29.28	
10 PERCENT EXCEEDS	.57		.42	
50 PERCENT EXCEEDS	.00		.00	
90 PERCENT EXCEEDS	.00		.00	

* See REMARKS.

07030249 MIDDLE BEAVER CREEK CANAL TRIB AT WILSON FARM NEAR MADGE, TN

LOCATION.--Lat 35°20'35", long 89°40'29", Shelby County, Hydrologic Unit 08010209, on left bank on Collierville-Arlington road, 2.6 mi north of the intersection of U.S. Highway 70,79 and Collierville-Arlington road in Arlington, 2.3 mi south of Madge, and 1.25 mi west of the confluence West Beaver Creek Canal and Middle Beaver Creek Canal.
DRAINAGE AREA.--0..66 mi².
PERIOD OF RECORD.--April 1990 to current year.
GAGE.--Water-stage recorder. Elevation of gage is 280 ft above National Geodetic Vertical Datum of 1929, from topographic map.
REMARKS.--Records fair. Lowest daily mean occurred many days. Until Mar. 25, 1991, when an artificial control was installed, stream level could fall below the stage sensor. Generally there were enough gage inspections to adequately correct the gage height record for these periods. Technically, flow for these periods should be considered as estimated, but are not flagged as such because of the adequate control points the gage inspections provided.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR APRIL 1990 TO SEPTEMBER 1990
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	e.23	2.1	.01	e.00	.00	.00
2	---	---	---	---	---	---	e.12	5.1	.00	e.00	.00	.00
3	---	---	---	---	---	---	e.16	.26	5.8	e.00	e.00	.00
4	---	---	---	---	---	---	e.11	.26	.18	e.00	.00	.00
5	---	---	---	---	---	---	e.08	.22	.12	e.00	.00	.00
6	---	---	---	---	---	---	e.50	.20	.07	e.00	.00	.00
7	---	---	---	---	---	---	e.23	.20	.01	e.00	.00	.00
8	---	---	---	---	---	---	e.19	.18	.00	e.00	.00	.00
9	---	---	---	---	---	---	e.14	.17	.00	e.00	.00	.00
10	---	---	---	---	---	---	e1.6	.17	.00	e.00	.00	.78
11	---	---	---	---	---	---	e.22	.14	.00	.20	.00	.20
12	---	---	---	---	---	---	e.18	.13	.00	.20	.00	.11
13	---	---	---	---	---	---	e.16	.11	.00	1.9	.00	.03
14	---	---	---	---	---	---	e.12	.11	.00	.00	.00	.17
15	---	---	---	---	---	---	e.10	.09	.00	.00	.00	.18
16	---	---	---	---	---	---	e.08	.07	.00	e.00	.00	.00
17	---	---	---	---	---	---	e12.4	.06	.00	e.00	.00	.00
18	---	---	---	---	---	---	e.30	.05	.00	e.00	.00	.00
19	---	---	---	---	---	---	e.18	2.4	.00	.00	.00	.00
20	---	---	---	---	---	---	1.1	14	.00	e.00	.00	.00
21	---	---	---	---	---	---	34	2.6	.20	e.00	.00	.00
22	---	---	---	---	---	---	.27	.22	4.5	e.00	.00	.00
23	---	---	---	---	---	---	.20	.20	e.00	.00	.00	.00
24	---	---	---	---	---	---	.17	.18	e.00	.00	.00	.00
25	---	---	---	---	---	---	.15	.15	e.00	.00	.00	.00
26	---	---	---	---	---	---	.12	.13	e.00	.00	.00	.00
27	---	---	---	---	---	---	19	.11	e.00	.00	.00	.00
28	---	---	---	---	---	---	17	.09	e.00	.00	.00	.00
29	---	---	---	---	---	---	.26	.07	e.00	.00	.00	.00
30	---	---	---	---	---	---	.16	.05	e.00	.00	.00	.00
31	---	---	---	---	---	.03	---	.03	---	.00	.00	---
TOTAL	---	---	---	---	---	---	89.53	29.85	10.89	2.30	0.00	1.47
MEAN	---	---	---	---	---	---	2.98	.96	.36	.074	.000	.049
MAX	---	---	---	---	---	---	34	14	5.8	1.9	.00	.78
MIN	---	---	---	---	---	---	.08	.03	.00	.00	.00	.00
CFSM	---	---	---	---	---	---	4.52	1.46	.55	.11	.00	.07
IN.	---	---	---	---	---	---	5.05	1.68	.61	.13	.00	.08

e Estimated.

07030249 MIDDLE BEAVER CREEK CANAL TRIB AT WILSON FARM NEAR MADGE, TN--Continued

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.10	e1.9	.04	9.7	.14	.17	.05	.00	.00	.00
2	.00	.00	.02	e.05	.03	.22	.08	.07	.03	.00	.00	.00
3	.54	.00	5.9	.03	.03	.10	4.3	1.2	.06	3.3	.00	.00
4	19	.00	.44	.02	.03	.06	19	31	.04	.19	.00	.00
5	.22	.00	.20	.01	e28	.04	.85	12	.01	.02	.00	.00
6	.10	.00	.09	28	6.5	.04	.29	.40	.01	.00	.00	.00
7	3.4	.00	.00	6.4	.15	.04	12	.11	.01	.00	.00	.00
8	.66	.00	.00	.16	.09	.04	10	.08	.00	.00	.00	.00
9	.10	e.00	.00	.08	.05	.03	11	.10	.00	.00	5.4	.00
10	1.0	e.54	.00	4.9	.04	.03	.77	2.8	.00	.00	.01	.00
11	.19	e.04	.00	.77	.02	.03	7.3	.19	2.2	.00	.00	.00
12	.05	e.02	.00	.15	.02	.02	e14	21	1.5	.04	.00	.00
13	.00	e.01	.00	.08	26	.02	e23	16	.20	.06	.00	.00
14	.00	.00	.00	.05	.23	.02	e26.5	1.6	.03	.00	.00	.00
15	.00	.00	.00	.06	.11	.02	e2.0	8.1	.02	.00	.00	.00
16	.00	.00	.00	.05	e.02	.02	e.32	1.6	.03	.00	.00	.00
17	.08	.00	e10	.03	e13.0	.05	e.11	.29	.03	.00	.00	.00
18	.99	.00	e19	.02	e10	.03	e24.5	.11	.02	.00	.00	.15
19	.08	.00	e2.1	.02	e29	.02	e5.6	.10	.01	.00	.00	.00
20	.00	.00	e1.7	.02	.43	.02	e.32	.07	.02	.00	.00	.00
21	.00	.00	e127	e.23	.12	.04	e.13	.05	.41	.00	.00	.00
22	.22	.72	2.3	e.03	.09	.02	e.08	.02	.68	.00	.00	.00
23	.08	.52	e1.9	e.27	.07	.01	.05	.01	.12	.00	.00	.00
24	.00	.15	e1.2	e.20	.06	.00	.04	.01	.22	.78	.00	.00
25	.00	.04	e.64	e.13	.05	.00	.03	21	.03	.18	.00	.00
26	.00	.00	e.36	.12	.05	.00	.03	1.4	.01	.00	.00	.00
27	.00	1.8	e.24	.11	.04	.01	21	.28	.01	.00	.00	.00
28	.00	11	e8.0	.10	.04	2.7	29	.08	.00	.00	1.6	.00
29	.00	.42	e2.4	.08	---	12	27	.06	.00	.00	.10	.00
30	.00	.19	e15.8	.06	---	1.4	.66	.05	.00	.00	.00	.00
31	.00	---	e4.3	.05	---	.30	---	.08	---	.00	.00	---
TOTAL	26.71	15.45	203.69	44.18	114.31	27.03	240.10	120.03	5.75	4.57	7.11	0.15
MEAN	.86	.51	6.57	1.43	4.08	.87	8.00	3.87	.19	.15	.23	.005
MAX	19	11	127	28	29	12	29	31	2.2	3.3	5.4	.15
MIN	.00	.00	.00	.01	.02	.00	.03	.01	.00	.00	.00	.00
CFSM	1.31	.78	9.96	2.16	6.19	1.32	12.1	5.87	.29	.22	.35	.01
IN.	1.51	.87	11.48	2.49	6.44	1.52	13.53	6.77	.32	.26	.40	.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1990 - 1991, BY WATER YEAR (WY)

MEAN	.86	.51	6.57	1.43	4.08	.87	5.49	2.42	.28	.11	.11	.027
MAX	.86	.51	6.57	1.43	4.08	.87	8.00	3.87	.36	.15	.23	.049
(WY)	1991	1991	1991	1991	1991	1991	1991	1991	1990	1991	1991	1990
MIN	.86	.51	6.57	1.43	4.08	.87	2.98	.96	.19	.074	.000	.005
(WY)	1991	1991	1991	1991	1991	1991	1990	1990	1991	1990	1990	1991

SUMMARY STATISTICS	FOR 1991 WATER YEAR		WATER YEARS 1990 - 1991	
ANNUAL TOTAL	809.08			
ANNUAL MEAN	2.22		2.22	
HIGHEST ANNUAL MEAN			2.22	1991
LOWEST ANNUAL MEAN			2.22	1991
HIGHEST DAILY MEAN	127	Dec 21	127	Dec 21 1990
LOWEST DAILY MEAN	* .00	Oct 1	* .00	Jun 2 1990
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 24	.00	Jun 8 1990
INSTANTANEOUS PEAK FLOW	432	Dec 21	432	Dec 21 1990
INSTANTANEOUS PEAK STAGE	10.56	Dec 21	10.56	Dec 21 1990
ANNUAL RUNOFF (CFSM)	3.36		3.36	
ANNUAL RUNOFF (INCHES)	45.60		45.63	
10 PERCENT EXCEEDS	5.7		2.4	
50 PERCENT EXCEEDS	.03		.02	
90 PERCENT EXCEEDS	.00		.00	

e Estimated.
* See REMARKS.

07031650 WOLF RIVER AT GERMANTOWN, TN

LOCATION.--Lat 35°06'59", long 89°48'05", Shelby County, Hydrologic Unit 08010210, on left bank, downstream of the bridge on Germantown Road, 1.7 mi north of U.S. Hwy 72, 3.6 mi downstream of Grays Creek, 4.0 mi northeast of I-240 and U.S. Highway 72 interchange, and at mile 18.9.
DRAINAGE AREA.--699 mi².
PERIOD OF RECORD.--October 1969 to September 1986, October 1990 to September 1991. Prior to September 1977 published as "near Germantown".
GAGE.--Water-stage recorder. Datum of gage is 235.76 ft above National Geodetic Vertical Datum of 1929. Apr. 21, 1986, to Dec. 30, 1990, water-stage recorder at site 2.1 mi downstream at datum 9.94 ft lower.
REMARKS.--Records fair. Gage height Mar. 14, 1975, 27.98 ft, site and datum then in use. Instantaneous low flow for period of record also occurred Oct. 9, 12, and 13, 1987. Instantaneous low flow for current year also occurred on Oct. 3. Periodic observations of water temperature and specific conductance are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	292	352	555	4210	410	1400	2180	9610	2260	694	608	469
2	282	351	533	3800	398	1750	1820	6650	1780	628	534	481
3	324	352	2490	3220	391	1790	1490	4630	1340	587	481	487
4	935	356	1180	2540	387	1600	2840	3930	1110	559	450	466
5	465	381	869	1960	2640	1400	2130	4400	991	546	431	473
6	448	407	666	2330	3560	1340	1880	4210	897	521	424	624
7	653	461	589	3870	2670	1120	1430	3800	811	499	466	577
8	609	431	540	2900	1860	979	2500	3300	745	484	487	528
9	481	586	509	2450	1070	856	2070	2770	706	472	478	491
10	540	660	480	2380	801	767	1670	2560	671	460	600	552
11	559	679	457	2220	700	715	1530	2400	833	450	510	783
12	576	637	441	1970	613	686	2650	7290	1110	449	475	648
13	573	559	435	1720	808	667	4070	17900	1090	450	464	511
14	e530	538	436	e1400	793	656	7910	11100	1140	433	458	467
15	e500	530	439	e1200	809	620	13100	6440	999	424	461	440
16	e480	496	473	e950	689	601	13800	4830	831	417	442	422
17	e460	465	e7000	801	913	608	9990	3990	765	413	437	408
18	e515	436	e5200	694	2450	605	9820	4060	715	492	428	410
19	e520	422	e4540	627	10700	598	8740	3590	666	425	427	395
20	e490	421	4410	592	15800	576	5220	3410	639	474	421	387
21	e430	419	8720	562	16800	549	3660	3310	e740	516	414	385
22	e460	443	e10900	528	9860	611	2900	3090	e1080	537	413	381
23	e470	454	e9820	496	5410	1020	2330	2570	e1200	546	411	380
24	e435	444	e7710	479	3620	1240	1840	1990	e1090	527	406	382
25	416	442	e4800	464	2640	1160	1410	3310	e1100	546	403	387
26	395	450	e3220	447	1890	1040	1140	2460	e1000	539	408	393
27	380	469	4020	434	1360	982	2920	2180	788	594	445	396
28	e372	1090	3470	426	1130	1000	6110	2380	777	625	678	388
29	e373	700	3130	423	---	2850	12500	2910	814	632	540	387
30	e373	659	e4740	429	---	2680	12500	3000	786	638	480	384
31	361	---	e5420	429	---	2550	---	2740	---	651	464	---
TOTAL	14697	15090	98192	46951	91172	35016	144150	140810	29474	16228	14544	13882
MEAN	474	503	3167	1515	3256	1130	4805	4542	982	523	469	463
MAX	935	1090	10900	4210	16800	2850	13800	17900	2260	694	678	783
MIN	282	351	435	423	387	549	1140	1990	639	413	403	380
CFSM	.68	.72	4.53	2.17	4.66	1.62	6.87	6.50	1.41	.75	.67	.66
IN.	.78	.80	5.23	2.50	4.85	1.86	7.67	7.49	1.57	.86	.77	.74

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1991, BY WATER YEAR (WY)

MEAN	424	784	1626	1451	1374	1673	1805	1471	752	409	380	449
MAX	1063	1991	4939	3504	3256	4854	4805	4542	1986	856	737	1345
(WY)	1985	1980	1983	1974	1991	1980	1991	1991	1974	1974	1979	1979
MIN	213	239	439	372	546	569	448	391	271	258	240	244
(WY)	1970	1972	1981	1981	1977	1986	1986	1986	1972	1971	1986	1986

SUMMARY STATISTICS	FOR 1991 WATER YEAR		WATER YEARS 1970 - 1991	
ANNUAL TOTAL	660206			
ANNUAL MEAN	1809		1048	
HIGHEST ANNUAL MEAN			1809	1991
LOWEST ANNUAL MEAN			497	1986
HIGHEST DAILY MEAN	17900	May 13	30400	Mar 14 1975
LOWEST DAILY MEAN	282	Oct 2	196	Sep 15 1972
ANNUAL SEVEN-DAY MINIMUM	360	Oct 29	199	Sep 12 1972
INSTANTANEOUS PEAK FLOW	19000	May 13	33400	Mar 14 1975
INSTANTANEOUS PEAK STAGE	22.26	May 13	*27.98	Mar 14 1975
INSTANTANEOUS LOW FLOW	*280	Oct 2	*184	Oct 8 1987
ANNUAL RUNOFF (CFSM)	2.59		1.50	
ANNUAL RUNOFF (INCHES)	35.14		20.38	
10 PERCENT EXCEEDS	4220		2260	
50 PERCENT EXCEEDS	653		518	
90 PERCENT EXCEEDS	412		265	

e Estimated.
* See REMARKS.

07032000 MISSISSIPPI RIVER AT MEMPHIS, TN
(National stream-quality accounting network station)

LOCATION.--Lat 35°07'37", long 90°04'25", Shelby County, Hydrologic Unit 08010100, on left bank 50 ft downstream from Harahan Bridge at Memphis, 1.3 mi downstream from Beale Street gage, 3.5 mi downstream from Wolf River, 62.4 mi upstream from St. Francis River, and at mile 734.8.
DRAINAGE AREA.--932,800 mi², approximately.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--
Discharge: January 1933 to current year. Monthly discharge only for some periods, published in WSP 1311.
Gage heights: October 1934 to September 1951 and October 1952 to current year in reports of Geological Survey. Since November 1871, at Beale Street gage, in reports of Mississippi River Commission, December 1890 to August 1932 at Beale Street gage, September 1932 to December 1934 at nonrecording gage 1,000 ft downstream, and since December 1934 water-stage recorder at present site, in reports of National Weather Service.
GAGE.--Water-stage recorder. Datum of gage is 183.91 ft above National Geodetic Vertical Datum of 1929. Prior to Apr. 16, 1934, Beale Street nonrecording gage 1.3 mi upstream at present datum. Apr. 16 to Dec. 21, 1934, nonrecording gage 1,000 ft downstream at present datum.
REMARKS.--Flow regulated by many locks, dams, and reservoirs.
COOPERATION.--Records furnished by U.S. Army Corps of Engineers (preliminary).
AVERAGE DISCHARGE.--58 years, 483,100 ft³/s, 350,000,000 acre-ft/yr.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,980,000 ft³/s, Feb. 8, 1937; maximum gage height, 48.69 ft, Feb. 10, 1937; minimum discharge, 79,200 ft³/s, Aug. 26, 1936; minimum gage height, -10.70 ft, July 10-11, 1988.
EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum stage prior to 1937, 46.55 ft, Apr. 9, 1913, at Beale Street gage or about 45.2 ft at present site.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,160,000 ft³/s, Feb. 28; maximum gage height, 30.51 ft Mar. 1; minimum daily discharge, 125,000 ft³/s Oct. 17; minimum gage height, -9.70 ft Oct. 17.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	258000	435000	325000	1248000	636000	1153000	1030000	795000	834000	419000	244000	189000
2	249000	422000	336000	1267000	559000	1177000	1049000	761000	836000	400000	244000	182000
3	240000	394000	358000	1292000	534000	1189000	1071000	745000	802000	378000	237000	174000
4	238000	357000	372000	1315000	528000	1190000	1100000	735000	753000	365000	227000	174000
5	230000	322000	383000	1332000	531000	1165000	1117000	727000	701000	359000	215000	178000
6	225000	293000	406000	1348000	551000	1122000	1121000	706000	664000	349000	203000	181000
7	227000	279000	451000	1360000	554000	1052000	1118000	687000	633000	341000	200000	184000
8	240000	272000	503000	1355000	567000	972000	1111000	686000	602000	337000	199000	187000
9	252000	273000	536000	1346000	599000	906000	1091000	693000	578000	333000	198000	189000
10	260000	276000	550000	1341000	643000	858000	1045000	714000	556000	324000	197000	181000
11	263000	275000	551000	1337000	693000	827000	966000	741000	538000	314000	199000	170000
12	269000	279000	540000	1361000	733000	815000	890000	774000	524000	321000	207000	164000
13	286000	285000	519000	1383000	768000	814000	825000	803000	498000	343000	220000	167000
14	301000	299000	482000	1410000	792000	813000	792000	811000	474000	364000	223000	176000
15	311000	319000	444000	1405000	805000	806000	785000	805000	463000	378000	223000	187000
16	312000	337000	407000	1399000	814000	794000	782000	795000	465000	374000	223000	192000
17	321000	347000	380000	1387000	828000	783000	809000	775000	471000	360000	223000	194000
18	343000	354000	386000	1372000	849000	778000	851000	763000	465000	348000	220000	197000
19	371000	351000	398000	1353000	873000	779000	902000	744000	457000	342000	215000	202000
20	396000	344000	438000	1332000	882000	788000	936000	721000	462000	328000	214000	203000
21	410000	333000	574000	1302000	913000	802000	959000	696000	472000	308000	216000	203000
22	411000	315000	705000	1265000	961000	813000	978000	681000	481000	295000	218000	203000
23	400000	298000	812000	1225000	985000	827000	993000	659000	484000	281000	221000	203000
24	392000	290000	911000	1185000	1003000	850000	1001000	630000	490000	271000	225000	203000
25	393000	286000	972000	1132000	1014000	883000	1000000	617000	488000	262000	221000	202000
26	401000	289000	1021000	1071000	1055000	911000	990000	622000	474000	256000	212000	198000
27	413000	298000	1078000	1000000	1093000	933000	979000	600000	460000	256000	207000	195000
28	422000	315000	1131000	922000	1125000	953000	949000	593000	445000	259000	205000	197000
29	427000	320000	1166000	834000		979000	908000	623000	434000	261000	204000	202000
30	429000	321000	1198000	757000		1000000	845000	698000	428000	252000	201000	204000
31	433000		1232000	725000		1013000		788000		246000	196000	
TOTAL	10123000	9578000	19565000	38361000	21888000	28745000	28993000	22188000	16432000	10024000	6657000	5681000
MEAN	327000	319000	631000	1237000	781000	927000	966000	716000	548000	323000	215000	189000
MAX	433000	435000	1232000	1410000	1125000	1190000	1121000	811000	836000	419000	244000	204000
MIN	225000	272000	325000	725000	528000	778000	782000	593000	428000	246000	196000	164000

CAL YR 1990 TOTAL 211827000 MEAN 580000 MAX 1232000 MIN 196000
WTR YR 1991 TOTAL 218235000 MEAN 597904 MAX 1410000 MIN 164000

07032000 MISSISSIPPI RIVER AT MEMPHIS, TN--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--February 1973 to current year.

PERIOD OF DAILY RECORD--
SPECIFIC CONDUCTANCE: February 1973 to September 1981.
WATER TEMPERATURES: February 1973 to September 1981.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: Maximum daily, 571 microsiemens, July 30, 1977; minimum daily, 174 microsiemens, Feb. 7, 1979.
WATER TEMPERATURE: Maximum daily, 32.0 °C, July 22 and 24, 1981; minimum daily, 0.0°C, Jan. 12-14, 17, and 18, 1981.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH (STAND-ARD UNITS)	TEMPER-ATURE WATER (DEG C)	BARO-METRIC PRES-SURE (MM OF HG)	TUR-BID-ITY (NTU)	OXYGEN, DIS-SOLVED (MG/L)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION)	COLI-FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP-TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)
OCT 30...	1330	416000	415	8.2	14.0	766	39	9.1	88	K410	110
MAR 05...	1230	1110000	265	7.4	7.5	751	39	10.9	92	93	84
MAY 02...	0930	782000	375	8.1	15.0	762	91	9.2	91	730	K60
JUL 11...	0820	357000	440	7.6	29.0	760	30	6.4	84	290	K12

DATE	HARD-NESS TOTAL (MG/L AS CACO3)	HARD-NESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	SODIUM PERCENT	SODIUM AD-SORP-TION RATIO	POTAS-SIUM, DIS-SOLVED (MG/L AS K)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL)
OCT 30...	160	37	42	13	20	21	0.7	3.2	121	57	20
MAR 05...	110	33	31	8.1	9.4	15	0.4	2.4	78	30	10
MAY 02...	150	40	42	12	9.6	12	0.3	2.9	115	42	16
JUL 11...	190	52	50	15	14	14	0.4	3.5	135	43	14

DATE	FLUO-RIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	SOLIDS, DIS-SOLVED (TONS PER DAY)	NITRO-GEN, NITRATE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS NO2)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N)
OCT 30...	0.40	5.9	253	242	0.34	284000	1.58	0.020	0.07	1.60
MAR 05...	0.10	6.3	146	150	0.20	438000	1.17	0.030	0.10	1.20
MAY 02...	0.30	7.7	--	215	0.29	454000	2.94	0.060	0.20	3.00
JUL 11...	0.30	8.2	266	243	0.36	256000	2.89	0.010	0.03	2.90

DATE	NITRO-GEN, AMMONIA TOTAL (MG/L AS N)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITRO-GEN, AM-MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS-PHORUS TOTAL (MG/L AS P)	PHOS-PHORUS DIS-SOLVED (MG/L AS P)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P)	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	ARSENIC DIS-SOLVED (UG/L AS AS)	BARIUM, DIS-SOLVED (UG/L AS BA)
OCT 30...	0.040	--	<0.010	0.40	0.140	0.060	0.050	10	1	53
MAR 05...	0.050	0.06	0.050	0.50	0.160	0.040	0.050	60	<1	35
MAY 02...	0.090	0.04	0.030	1.1	0.270	0.070	0.040	30	1	55
JUL 11...	0.070	0.05	0.040	1.3	0.130	0.140	0.100	<10	3	74

K--Results based on non-ideal colony counts.

MISSISSIPPI RIVER MAIN STEM

07032000 MISSISSIPPI RIVER AT MEMPHIS, TN--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE, DISSOLVED (UG/L AS MN)	MERCURY DISSOLVED (UG/L AS HG)
OCT 30...	<0.5	<1.0	<1	<3	35	19	<1	10	2	<0.1
MAR 05...	<0.5	<1.0	<1	<3	2	68	<1	<4	3	<0.1
MAY 02...	<0.5	9.0	<1	<3	8	19	1	6	2	<0.1
JUL 11...	<0.5	<1.0	<1	<3	6	7	<1	7	1	<0.1

DATE	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SELENIUM, DISSOLVED (UG/L AS SE)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	SEDIMENT, SUSPENDED (MG/L)	SEDIMENT, DISCHARGE, SUSPENDED (T/DAY)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM
OCT 30...	<10	1	<1	<1.0	200	<6	19	98	110000	94
MAR 05...	<10	1	<1	<1.0	110	<6	6	76	228000	85
MAY 02...	<10	<1	<1	<1.0	140	<6	17	289	610000	87
JUL 11...	<10	1	<1	<1.0	170	<6	<3	105	101000	92

07032200 NONCONNAH CREEK NEAR GERMANTOWN, TN

LOCATION.--Lat 35°02'59", long 89°49'08", Shelby County, Hydrologic Unit 08010211, on left bank at downstream side of bridge on Winchester Road, 2.6 mi south of Germantown, and at mile 17.3.
DRAINAGE AREA.--68.2 mi².
PERIOD OF RECORD.--Occasional low-flow measurements, water years 1959-1964, 1969; October 1969 to May 1985, October 1985 to current year.
REVISED RECORDS.--WRD TN-74-1: Drainage area, WRD TN-87-1 (P).
GAGE.--Water-stage recorder. Datum of gage is 262.92 ft above National Geodetic Vertical Datum of 1929 (levels by Soil Conservation Service).
REMARKS.--Records fair. Minimum discharge for current year also occurred Sept. 22, 25, 26, and 28; no flow at times most years. Periodic observations of water temperature are published in this report as miscellaneous water-quality data.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	.56	e2.00	92	3.3	314	42	86	15	.72	.44	.57
2	.02	.44	e1.00	51	3.0	190	28	48	9.3	33	.48	.54
3	5.4	.29	e1000	35	2.8	106	58	78	9.1	17	.40	2.3
4	113	.45	e71.0	23	2.5	73	911	431	5.9	2.0	.23	.53
5	6.2	9.9	20	18	1680	43	247	928	3.3	.88	.15	.90
6	.68	2.2	8.9	830	914	31	75	207	2.7	.71	.31	4.6
7	157	.67	4.6	1550	129	22	95	51	2.2	.64	.54	28
8	43	.40	3.5	160	58	16	807	39	1.4	.56	1.2	7.5
9	4.0	85	2.3	65	37	12	245	49	2.1	.47	17	8.8
10	24	46	2.1	350	25	10	116	62	1.4	.48	3.2	2.0
11	4.2	8.4	1.0	252	18	8.2	122	44	3.1	.43	.61	.61
12	.71	1.9	.67	94	13	7.5	722	1740	24	.37	.40	.30
13	.67	.65	.54	47	32	8.4	1500	1480	86	.32	.38	.20
14	.35	.48	.49	31	40	6.6	4280	447	19	.32	.32	.15
15	.12	.68	11	27	19	5.9	1750	80	5.0	.32	.27	.11
16	.10	.55	11	14	11	5.6	129	67	3.1	.31	.15	.06
17	.24	.35	596	12	176	12	43	80	34	.25	13	.06
18	6.4	.25	3000	13	872	13	2570	1420	5.5	168	12	.59
19	1.5	.38	374	12	5770	8.6	803	316	2.9	43	1.5	.37
20	.56	.34	62	11	567	7.3	97	224	2.0	3.2	.48	.12
21	2.4	.23	2960	9.2	111	6.8	42	72	2.7	1.7	.45	.08
22	49	3.1	1280	6.6	69	181	29	49	16	1.4	.37	.06
23	9.8	.73	150	5.5	48	180	22	40	37	.71	.32	.04
24	1.4	.38	49	5.3	35	45	16	33	103	.53	.33	.07
25	.48	.29	30	4.1	24	22	12	1920	46	3.6	29	.04
26	.28	.25	22	4.0	18	14	10	439	13	.84	6.5	.07
27	.22	9.8	1100	3.9	15	51	2840	152	5.6	.59	21	.16
28	.19	656	465	3.8	13	140	3310	68	2.7	.50	159	.13
29	.16	e40.0	109	3.9	---	1530	3700	40	1.7	.52	41	.10
30	.48	e3.70	1620	10	---	317	388	22	.91	.49	3.9	.08
31	.71	---	583	4.5	---	76	---	26	---	.44	.88	---
TOTAL	433.29	874.37	13540.10	3747.8	10705.6	3462.9	25009	10738	465.61	284.30	315.81	59.14
MEAN	14.0	29.1	437	121	382	112	834	346	15.5	9.17	10.2	1.97
MAX	157	656	3000	1550	5770	1530	4280	1920	103	168	159	28
MIN	.02	.23	.49	3.8	2.5	5.6	10	22	.91	.25	.15	.04
CFSM	.20	.43	6.40	1.77	5.61	1.64	12.2	5.08	.23	.13	.15	.03
IN.	.24	.48	7.39	2.04	5.84	1.89	13.64	5.86	.25	.16	.17	.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1970 - 1991, BY WATER YEAR (WY)

MEAN	15.6	106	186	166	198	202	201	125	55.9	34.0	12.7	22.4
MAX	69.4	323	616	531	604	659	834	407	300	354	77.4	164
(WY)	1990	1989	1983	1974	1989	1980	1991	1979	1974	1989	1978	1977
MIN	.000	.21	2.24	.41	14.6	15.2	9.44	3.74	3.09	.70	.37	.087
(WY)	1970	1972	1977	1986	1978	1986	1978	1988	1988	1976	1980	1984

SUMMARY STATISTICS	FOR 1990 CALENDAR YEAR		FOR 1991 WATER YEAR		WATER YEARS 1970 - 1991	
ANNUAL TOTAL	57278.06		69635.92			
ANNUAL MEAN	157		191		111	
HIGHEST ANNUAL MEAN					215	1979
LOWEST ANNUAL MEAN					22.4	1986
HIGHEST DAILY MEAN	4360	Feb 3	5770	Feb 19	5900	Jul 2 1989
LOWEST DAILY MEAN	.01	Sep 29	.02	Oct 1	.00	Oct 1 1969
ANNUAL SEVEN-DAY MINIMUM	.03	Sep 26	.07	Sep 20	.00	Oct 1 1969
INSTANTANEOUS PEAK FLOW			9210	Apr 14	13100	Jul 2 1989
INSTANTANEOUS PEAK STAGE			20.81	Apr 14	27.11	Mar 12 1975
INSTANTANEOUS LOW FLOW			*.00	Sep 16	(*)	
ANNUAL RUNOFF (CFSM)	2.30		2.80		1.63	
ANNUAL RUNOFF (INCHES)	31.24		37.98		22.10	
10 PERCENT EXCEEDS	280		434		201	
50 PERCENT EXCEEDS	8.7		9.3		4.4	
90 PERCENT EXCEEDS	.36		.31		.12	

e Estimated.
* See REMARKS.

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or floodflow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for some special reason are called measurements at miscellaneous sites.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at low-flow partial-record sites and at miscellaneous sites and for special studies are given in separate tables.

Crest-stage partial-record stations

The following table contains annual maximum discharges for crest-stage stations. A crest-stage gage is a device that will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from current meter or indirect measurements of peak flow. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, but is not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Maximum discharge at crest-stage partial-record stations

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
CUMBERLAND RIVER BASIN								
Whiteoak Creek at Sunbright, TN (03409000)	Lat 36°14'38", long 84°40'14", Morgan County, Hydrologic Unit 05130104, at bridge on U.S. Highway 27 in Sunbright. Datum of gage is 1,294.05 ft above National Geodetic Vertical Datum of 1929. Drainage area is 13.5 mi^2.	1934, 1955-82, 1985-91	12-23-90	10.80	-	5-27-73	17.24a	5,560
Doe Creek at Gainesboro, TN (03418201)	Lat 36°21'23", long 85°39'20", Jackson County, Hydrologic Unit 05130106, at bridge on Highway 56, at Gainesboro. Datum of gage is 519.37 ft above National Geodetic Vertical Datum of 1929. Drainage area is 5.72 mi^2.	1978-91	7- 8-91	4.16	-	8-31-82	7.28	-
Mud Creek tributary No. 2 near Summitville, TN (03420360)	Lat 35°36'10", long 86°01'33", Coffee County, Hydrologic Unit 05130107, at culvert under county road, 3.5 miles northwest of Summitville, and 0.7 mile upstream from mouth. Drainage area is 2.28 mi^2.	1967-91	2-18-91	5.88	2,910	2-18-91	5.88	2,910
Charles Creek near McMinnville, TN (03421200)	Lat 35°43'00", long 85°46'05", Warren County, Hydrologic Unit 05130107, at bridge on county road at Faulkner Springs, 2.7 miles north of McMinnville. Drainage area is 31.1 mi^2.	1955-91	12-22-90	11.99	6,780	6-22-89	17.03	24,800
Mulherrin Creek near Gordonsville, TN (03424900)	Lat 36°11'28", long 85°57'11", Smith County, Hydrologic Unit 05130108, at bridge on State Highway 53, 1.3 miles upstream from mouth, 1.5 miles northwest of Gordonsville. Drainage area is 26.9 mi^2.	1982, 1986-91	12-22-90	19.30	-	2-14-89	23.85	-

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
		CUMBERLAND RIVER BASIN--Continued						
Peyton Creek at Monoville, TN (03425045)	Lat 36°18'37", long 85°59'21", Smith County, Hydrologic Unit 05130201, at county road bridge 0.9, mile northwest of Monoville. Datum of gage is 459.39 ft above National Geodetic Vertical Datum of 1929. Drainage area is 44.7 mi^2.	1986-91	2-17-91	34.79	-	3- 6-89	40.41	-
Darwin Branch tributary at Hartsville, TN (03425357)	Lat 36°23'54", long 86°09'08", Trousdale County, Hydrologic Unit 05130201, at culvert on New Hall Town Road, 0.9 miles northwest of Hartsville. Drainage area is 0.66 mi^2.	1986-91	12-22-90	20.12	-	9-23-89	23.97	-
Second Creek near Walnut Grove, TN (03425365)	Lat 36°24'01", long 86°12'48", Trousdale County, Hydrologic Unit 05130201, at culvert on State Highways 10 and 25, 2.6 miles west of Hartsville. Drainage area is 3.47 mi^2.	1986-91	5-11-91	24.24	-	9-23-89	29.24	-
Spencer Creek near Lebanon, TN (03425700)	Lat 36°14'20", long 86°24'03", Wilson County, Hydrologic Unit 05130201, at bridge on county road, 100 ft north of junction of county road and U.S. Highway 70, 6.5 miles west of square in Lebanon. Drainage area is 3.32 mi^2.	1955-91	7- 4-91	6.36	802	9- 4-86	9.06	2,880
East Fork Stones River at Woodbury, TN (03426800)	Lat 35°49'41", long 86°04'36", Cannon County, Hydrologic Unit 05130203, at bridge on U.S. Highway 70S at Woodbury. Datum of gage is 676.23 ft above National Geodetic Vertical Datum of 1929. Drainage area is 39.1 mi^2.	1962-89†, 1991	12-22-90	11.08	3,120	3-15-73	16.75	13,200
Brawleys Fork below Bradyville, TN (03426874)	Lat 35°44'44", long 86°10'14", Cannon County, Hydrologic Unit 05130203, at bridge on Bradyville Pike, 0.5 mile northwest of Bradyville. Drainage area is 15.4 mi^2.	1983-91	12-22-90	23.66	1,740	10- 1-89	27.94	2,850
Reed Creek near Bradyville, TN (034269424)	Lat 35°44'44", long 86°12'31", Rutherford County, Hydrologic Unit 05130203, at bridge on Bradyville Pike, 2.4 miles northwest of Bradyville. Drainage area is 3.52 mi^2.	1983-91	6- 4-91	2.97	-	9- 4-86	4.55	-

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
CUMBERLAND RIVER BASIN--Continued								
McCrory Creek at Ironwood Drive at Donelson, TN (03430118)	Lat 36°09'07", long 86°39'02", Davidson County, Hydrologic Unit 05130203, at bridge under Ironwood Drive, 1.3 miles southeast of intersection of U.S. Highway 70 (Lebanon Road) and Donelson Pike in Donelson. Datum of gage is 430.63 ft above National Geodetic Vertical Datum of 1929. Drainage area is 7.31 mi^2.	1977-91b	5-12-91	6.78	1,240	5- 6-84	9.87	2,850
Mill Creek at Nolensville, TN (03430400)	Lat 35°57'32", long 86°40'31", Williamson County, Hydrologic Unit 05130202, at bridge on Sunset Road, 0.6 mile northwest of Nolensville. Datum of gage is 586.18 ft above National Geodetic Vertical Datum of 1929. Drainage area is 12.0 mi^2.	1965-91	12-22-90	7.30	4,610	5- 7-84	9.82	11,400
Mill Creek near Antioch, TN (03431000)	Lat 36°04'54", long 86°40'50", Davidson County, Hydrologic Unit 05130202, at bridge on Franklin-Limestone Road, 1.6 miles north of Antioch. Datum of gage is 472.93 ft above National Geodetic Vertical Datum of 1929. Drainage area is 64.0 mi^2.	1954-61†, 1962-63, 1964-75†, 1976-91	12-22-90	12.31	4,520	5- 4-79	23.78	30,100
Sevenmile Creek at Blackman Road, near Nashville, TN (03431040)	Lat 36°04'21", long 86°44'00", Davidson County, Hydrologic Unit 05130202, at bridge on Blackman Road, 7.0 miles southeast of State capitol in Nashville. Datum of gage is 499.08 ft above National Geodetic Vertical Datum of 1929. Drainage area is 12.2 mi^2.	1965-91	12-22-90	5.27	-	9-13-79	9.58	-
Mill Creek at Thompson Lane, near Woodbine, TN (03431060)	Lat 36°07'04", long 86°43'08", Davidson County, Hydrologic Unit 05130202, at bridge on Thompson Lane, 1.5 miles northeast of intersection of Thompson Lane and Nolensville Road (U.S. Highway 31-A, 41-A) in Woodbine. Datum of gage is 432.55 ft above National Geodetic Vertical Datum of 1929. Drainage area is 93.4 mi^2.	1965-91	12-22-90	11.60	6,640	5- 4-79	20.63	26,200

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
CUMBERLAND RIVER BASIN--Continued								
Mill Creek tributary at Glenrose Avenue, at Woodbine, TN (03431062)	Lat 36°07'02", long 86°43'37", Davidson County, Hydrologic Unit 05130202, at culvert under Glenrose Avenue, 1.1 miles northeast of intersection of Nolensville Road and Thompson Lane in Woodbine, and 750 ft upstream from mouth. Datum of gage is 443.52 ft above National Geodetic Vertical Datum of 1929. Drainage area is 1.17 mi^2.	1977-91b	5-12-91	5.00	320	5- 6-84	9.12	833
West Fork Browns Creek at General Bates Drive, at Nashville, TN (03431120)	Lat 36°06'29", long 86°47'07", Davidson County, Hydrologic Unit 05130202, at bridge on General Bates Drive, 4.0 miles south of State capitol in Nashville. Datum of gage is 499.94 ft above National Geodetic Vertical Datum of 1929. Drainage area is 3.30 mi^2.	1965-91	7-10-91	3.62	285	3-29-75	7.00	2,110
East Fork Browns Creek at Baird-Ward Printing Company, at Nashville, TN (03431240)	Lat 36°06'33", long 86°46'00", Davidson County, Hydrologic Unit 05130202, at bridge on access road to Baird-Ward Printing Co., Plant No. 1, 500 ft west of 100-Oaks Shopping Center, and 4.0 miles southeast of State capitol in Nashville. Datum of gage is 497.91 ft above National Geodetic Vertical Datum of 1929. Drainage area is 1.58 mi^2.	1965-91	5-12-91	4.15	378	6-13-73	5.10	610
Browns Creek at Factory Street, at Nashville, TN (03431340)	Lat 36°08'26", long 46°45'31", Davidson County, Hydrologic Unit 05130202, at bridge on Factory Street, 800 ft downstream from Louisville and Nashville Railroad bridge, and 2.3 miles southeast of State capitol in Nashville. Datum of gage is 420.66 ft above National Geodetic Vertical Datum of 1929. Drainage area is 13.2 mi^2.	1965-91	12-22-90	5.72	-	9-13-79	10.89	7,800
Pages Branch at Avondale, TN (03431490)	Lat 36°12'22", long 86°46'24", Davidson County, Hydrologic Unit 05130202, at culvert under Trinity Lane, 900 ft east of intersection of Interstate 65 and Trinity Lane at Avondale, 0.9 mile upstream from mouth. Drainage area is 2.01 mi^2.	1977-91b	12-18-90	3.97	354	12- 3-78	6.20	-

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
			CUMBERLAND RIVER BASIN--Continued					
Earthman Fork at Whites Creek, TN (03431550)	Lat 36°15'55", long 86°49'51", Davidson County, Hydrologic Unit 05130202, at bridge on Whites Creek Pike in town of Whites Creek, 1,800 ft upstream from mouth. Drainage area is 6.29 mi^2.	1965-91	5-12-91	7.33	1,420	9-15-81	9.34	2,450
Ewing Creek at Richmond Hill Drive at Parkwood, TN (03431573)	Lat 36°13'50", long 86°46'28", Davidson County, Hydrologic Unit 05130202, at bridge on Richmond Hill Drive, 1.0 mile southeast of Parkwood. Datum of gage is National Geodetic Vertical Datum of 1929. Drainage area is 2.17 mi^2.	1976-91	5-12-91	494.65	-	6- 9-86	497.32	-
Ewing Creek at Brick Church Pike at Parkwood, TN (03431575)	Lat 36°13'58", long 86°46'54", Davidson County, Hydrologic Unit 05130202, at bridge on Brick Church Pike, 0.4 mile upstream from North Fork, 0.8 mile south of Parkwood. Datum of gage is National Geodetic Vertical Datum of 1929. Drainage area is 3.02 mi^2.	1976-91	5-12-91	476.42	-	6- 9-86	478.15	-
Ewing Creek at Gwynwood Drive near Jordonia, TN (03431578)	Lat 36°13'58", long 86°47'32" Davidson County, Hydrologic Unit 05130202, at bridge on county road, 0.3 mile downstream from North Fork, 3.4 miles northeast of Bordeaux, 4.5 miles northeast of Jordonia, and at mile 2.1. Datum of gage is National Geodetic Vertical Datum of 1929. Drainage area is 9.98 mi^2.	1976-91	5-12-91	461.93	-	6- 9-86	463.10	-
Ewing Creek below Knight Road, near Bordeaux, TN (03431581)	Lat 36°13'55", long 86°48'14", Davidson County, Hydrologic Unit 05130202, at downstream side of bridge on Knight Road, 3.0 miles northeast of Bordeaux. Datum of gage is National Geodetic Vertical Datum of 1929. Drainage area is 13.3 mi^2.	1976-91	5-12-91	448.18	-	6- 9-86	449.80	-
Sugartree Creek at YMCA Access Road, at Green Hills, TN (03431677)	Lat 36°06'13", long 86°49'12", Davidson County, Hydrologic Unit 05130202, at bridge on YMCA Access Road, 0.5 mile southwest of Hillsboro High School, at Green Hills. Datum of gage is National Geodetic Vertical Datum of 1929. Drainage area is 1.51 mi^2.	1976-91	12-22-90	542.75	-	9-13-79	545.23	-

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
			CUMBERLAND RIVER BASIN--Continued					
Sugartree Creek at Abbott Martin Road, at Green Hills, TN (03431679)	Lat 36°06'23", long 86°49'17", Davidson County, Hydrologic Unit 05130202, at bridge on Abbott Martin Road, at intersection of Bedford Avenue and Abbott Martin Road, at Green Hills. Datum of gage is National Geodetic Vertical Datum of 1929. Drainage area is 2.19 mi^2.	1976-91	12-22-90	529.54	-	9-13-79	531.30	-
Bednigo Branch tributary at Chestnut Grove, TN (03431795)	Lat 36°25'10", long 86°54'11", Robertson County, Hydrologic Unit 05130206, at culvert on Coopertown Road, 0.6 mile southwest of Crunk, 0.6 mile northeast of Chestnut Grove. Drainage area is 0.47 mi^2.	1986-91	12-21-90	20.50	_	12-25-84 12-25-87	21.06 21.06	- -
Murfrees Fork above Burwood, TN (03432470)	Lat 35°48'58", long 86°57'20", Williamson County, Hydrologic Unit 05130204, at county road bridge, just downstream from Cayce Branch, 1.6 miles east of Burwood. Drainage area is 7.43 mi^2.	1986-91	12-21-90	20.77	-	9- 4-86	26.85	-
Little Harpeth River at Granny White Pike, at Brentwood, TN (03432925)	Lat 36°01'30", long 86°49'09", Williamson County, Hydrologic Unit 05130204, at bridge on Granny White Pike, 2.0 miles southwest of Brentwood. Datum of gage is 618.29 ft above National Geodetic Vertical Datum of 1929. Drainage area is 22.0 mi^2.	1978-91	12-22-90	10.41	1,930	5- 4-79	17.55	9,260
Jones Creek near Burns, TN (03434590)	Lat 36°06'15", long 87°19'05", Dickson County, Hydrologic Unit 05130204, at bridge on Rock Church Road, 3.5 miles north of Burns and at mile 21.9. Drainage area is 13.3 mi^2.	1984-91	5-27-91	9.10	3,020	5- 6-84	9.87	3,750
Hall Branch near Charlotte, TN (03434616)	Lat 36°11'48", long 87°20'30", Dickson County, Hydrologic Unit 05130204, at Culvert under State Highway 48, 1.4 miles north of Charlotte and at mile 2.6. Drainage area is 0.50 mi^2.	1984-91	5-27-91	13.66	205	5- 6-84	15.71	385
Bartons Creek near Cumberland Furnace, TN (034350021)	Lat 36°15'02", long 87°20'00", Dickson County, Hydrologic Unit 05130205, at bridge on Stayton road, 1.9 miles southeast of Cumberland Furnace. Drainage area is 22.3 mi^2.	1984-91	5-27-91	14.93	-	5-27-91	14.93	-

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
		CUMBERLAND RIVER BASIN--Continued						
Bartons Creek tributary near Stayton, TN (0343500213)	Lat 36°15'19", long 87°19'12", Dickson County, Hydrologic Unit 05130205, at Culvert under Jackson Lane road, 1.5 miles southeast of Stayton, 2.5 miles southeast of Cumberland Furnace. Drainage area is 0.51 mi^2.	1984-91	5-27-91	13.49	-	5-27-91	13.49	-
Honey Run Creek below Cross Plains, TN (034351113)	Lat 36°32'31", long 86°42'14", Robertson County, Hydrologic Unit 05130206, at Empson Bridge on county road, 0.4 mile above mouth of Empson branch, 0.6 mile southwest of Cross Plains. Drainage area is 25.8 mi^2.	1986-91	12-21-90	23.08	-	2- 3-90	23.11	-
Sulphur Fork Red River above Springfield, TN (03435770)	Lat 36°30'47", long 86°51'44", Robertson County, Hydrologic Unit 05130206, on left bank 150 ft downstream from new bridge on State Highway 49, 1.2 miles downstream from Beaver Dam Creek, 1.3 miles northeast of Springfield. Datum of gage is 538.17 ft above National Geodetic Vertical Datum of 1929. Drainage area is 65.6 mi^2.	1975-88†, 1988-91	12-21-90	13.11	8,210	2-21-89	14.29	11,200
Spring Creek tributary near Cedar Hill, TN (03435930)	Lat 36°32'08", long 86°59'26", Robertson County, Hydrologic Unit 05130206, at culvert on Kinney Road, 1.2 miles southeast of Cedar Hill. Drainage area is 1.40 mi^2.	1986-91	5-27-91	21.42	-	5-17-90	22.23	-
Cummings Creek near Dotsonville, TN (03436505)	Lat 36°29'18", long 87°28'06", Montgomery County, Hydrologic Unit 05130205, at bridge on Dotsonville Road, 1.1 miles northeast of Dotsonville. Drainage area is 2.65 mi^2.	1984-91	12-21-90	7.36	-	12-25-87	9.45	-
Yellow Creek near Shiloh, TN (03436700)	Lat 36°20'55", long 87°32'20", Montgomery County, Hydrologic Unit 05130205, at bridge on State Highway 13, 2.6 miles west of Shiloh, 3.0 miles downstream from Leatherwood Creek, 9.0 miles east of Erin. Datum of gage is 390.13 ft above National Geodetic Vertical Datum of 1929. Drainage area is 124 mi^2.	1957-80†, 1982-91	5-27-91	15.87	11,600	5- 6-84	17.75	16,200

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
			TENNESSEE RIVER BASIN					
Caney Creek near Cosby, TN (03461230)	Lat 35°47'03", long 83°12'11", Cocke County, Hydrologic Unit 06010106, at culvert under State Highway 32, 3.3 miles southeast of Cosby. Drainage area is 1.62 mi^2.	1967-91	4-30-91	3.65	48	3-16-73	6.05	240
Cherokee Creek near Embreeville, TN (03435607)	Lat 36°12'24", long 82°29'23", Washington County, Hydrologic Unit 06010108, at culvert on county road, 0.5 mile southeast of Mayday, 1.4 miles northwest of Kansas City, and at mile 1.3. Drainage area is 22.9 mi^2.	1984-91	7-29-91	14.92	-	5- 7-84	18.37	-
Clear Fork near Fairview, TN (03465780)	Lat 36°19'33", long 82°33'47", Washington County, Hydrologic Unit 06010108, at culvert on State Highway 81, 2.0 miles southwest of Sulfur Springs, and at mile 3.8. Drainage area is 10.5 mi^2.	1983-91	3-29-91	5.10	-	5- 7-84	7.26	-
Lick Creek near Albany, TN (03466890)	Lat 36°14'54", long 82°55'34", Greene County, Hydrologic Unit 06010108, at State Highway 70 bridge, 0.3 mile downstream from Puncheon Camp Creek, 1.0 mile northwest of Albany, and at mile 33.7. Drainage area is 172 mi^2.	1984-91	3-29-91	13.71	4,130	3-29-91	13.71	4,130
Bent Creek at Taylor Gap, TN (03467480)	Lat 36°14'08", long 83°06'41", Hamblen County, Hydrologic Unit 06010108, at bridge on county road (Mountain Valley Road), 2.1 miles southwest of Bulls Gap, 5.0 miles southeast of Russellville. Drainage area is 2.18 mi^2.	1986-91	6- 4-91	14.15	2,030	9-15-89	15.55	-
Carter Branch near White Pine, TN (03467992)	Lat 36°07'05", long 83°18'55", Jefferson County, Hydrologic Unit 06010108, at bridge on county road, 1.6 miles northeast of Kimbrough Crossroad, 1.8 miles northwest of White Pine. Drainage area is 4.25 mi^2.	1986-91	8- 9-91	9.09	-	8- 9-91	9.09	-
Cedar Creek near Valley Home, TN (03467993)	Lat 36°08'03", long 83°18'47", Jefferson County, Hydrologic Unit 06010108, at culvert on county road, 1.7 miles southeast of Valley Home, 1.9 miles southeast of Witt, 2.2 miles northwest of White Pine. Drainage area is 2.01 mi^2.	1986-91	8- 9-91	13.19	193	8- 9-91	13.19	-

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
		TENNESSEE RIVER BASIN--Continued						
Sinking Fork at White Pine, TN (03467998)	Lat 36°07'21", long 83°17'44", Jefferson County, Hydrologic Unit 06010108, at culvert on county road, 0.9 mile northwest of White Pine, 2.7 miles northeast of Kimbrough Crossroad. Drainage area is 6.38 mi^2.	1986-91	8- 9-91	6.66	1,170	5-28-90	6.68	1,180
Dumplin Creek at Mt. Hareb, TN (03470215)	Lat 36°04'59", long 83°25'51", Jefferson County, Hydrologic Unit 06010107, at culvert on county road, 0.8 mile southeast of Mt. Hareb, 4.3 miles southeast of Jefferson City, 4.6 miles north of Dandridge. Drainage area is 3.65 mi^2.	1986-91	2-20-91	9.83	66	5-28-90	10.92	211
Indian Creek at Childress, TN (03476960)	Lat 36°25'38", long 82°15'54", Sullivan County, Hydrologic Unit 06010102, at bridge on U.S. Highway 19, 3.3 miles south of Bluff City, and at mile 4.6. Drainage area is 6.79 mi^2.	1983-91	3-29-91	8.85	-	5- 7-84	10.73	-
Evans Creek near Blountville, TN (03478615)	Lat 36°31'19", long 82°18'12", Sullivan County, Hydrologic Unit 06010102, at State Highway 37 bridge, 1.5 miles southeast of Blountville. Datum of gage is 1500.00 ft above National Geodetic Vertical Datum of 1929. Drainage area is 2.50 mi^2.	1983-91	2-20-91	11.77	79	7-21-84	12.38	-
Reedy Creek at Orebank, TN (03487550)	Lat 36°33'42", long 82°27'36", Sullivan County, Hydrologic Unit 06010102, 80 ft upstream from culvert, 0.3 mi north of Orebank, 1.0 mi upstream from Gaines Branch, and at mile 9.8. Drainage area is 36.3 mi^2.	1963-89†, 1990-91	2-20-91	6.76	845	10- 2-77	11.61	4,940c
Forgey Creek at Zion Hill, TN (03490522)	Lat 36°29'12", long 82°53'08", Hawkins County, Hydrologic Unit 06010104, at culvert on county road (Carter Valley Road), 0.9 mile north of Zion Hill, 7.8 miles northeast of Rogersville. Drainage area is 0.86 mi^2.	1986-91	6- 4-91	19.41	-	7- 7-89	21.03	-
Dodson Creek tributary near Rogersville, TN (03491490)	Lat 36°21'19", long 82°57'03", Hawkins County, Hydrologic Unit 06010104, at bridge on county road, 1.4 miles northwest of Enterprise, and at mile 0.5. Drainage area is 0.32 mi^2.	1983-91	6- 4-91	6.60	-	9-16-89	8.05	-

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
		TENNESSEE RIVER BASIN--Continued						
Robertson Creek near Persia, TN (03491540)	Lat 36°20'24", long 83°02'27", Hawkins County, Hydrologic Unit 06010104, at bridge on State Highway 113, 0.25 mile below Mooney Branch, and at mile 3.0. Drainage area is 14.6 mi^2.	1986-91	12-23-90	11.53	574	9-16-89	12.16	663
Dry Land Creek tributary near New Market, TN (03494714)	Lat 36°03'33", long 83°34'13", Jefferson County, Hydrologic Unit 06010104, at culvert on county road (Rocky Valley Road), 3.0 miles south of New Market, 3.3 miles northwest of Piedmont. Drainage area is 0.20 mi^2.	1986-91	12-23-90	11.63	-	5- 5-89	12.42	-
Flat Creek at Luttrell, TN (03494990)	Lat 36°11'45", long 83°44'44", Union County, Hydrologic Unit 06010104, at bridge on State Highway 61, 0.3 mile southwest of Luttrell, 3.5 miles northwest of Blaine. Drainage area is 22.4 mi^2.	1986-91	12-23-90	12.37	-	12-23-90	12.37	-
Baker Creek tributary near Binfield, TN (03519610)	Lat 35°41'56", long 84°02'46", Blount County, Hydrologic Unit 06010204, at culvert under county road, 1.5 miles east of Binfield. Drainage area is 2.10 mi^2.	1966-77, 1979-91	12-23-90	4.12	136	6-23-81	8.29	-
Baker Creek near Greenback, TN (03519640)	Lat 35°40'21", long 84°06'28", Blount County, Hydrologic Unit 06010204, at county road bridge, 1.0 mile upstream from Little Baker Creek, 3.4 miles east of Greenback, and at mile 15.0. Datum of gage is 845.01 ft above National Geodetic Vertical Datum of 1929. Drainage area is 16.0 mi^2.	1965-75†, 1976-91	2-20-91	7.08	630	5-30-74	9.70	2,900
Big War Creek at Luther, TN (03527800)	Lat 36°27'18", long 83°14'29", Hancock County, Hydrologic Unit 06010205, at bridge on county road, 0.4 mile south of Luther 0.8 mile northwest of Yount Town, 6.0 miles southwest of Sneedville. Drainage area is 22.3 mi^2.	1986-91	6- 4-91	8.95	-	6- 4-91	8.95	-
Crooked Creek near Maynardville, TN (03528390)	Lat 36°15'56", long 83°50'25", Union County, Hydrologic Unit 06010205, at culvert on State Highway 170, 2.5 miles northwest of Maynardville, 5.5 miles northeast of Paulette. Drainage area is 2.23 mi^2.	1986-91	12-23-90	5.57	-	12-23-90	5.57	-

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
		TENNESSEE RIVER BASIN--Continued						
Coal Creek at Lake City, TN (03534000)	Lat 36°13'14", long 84°09'27" Anderson County, Hydrologic Unit 06010207, at bridge on U.S. Highway 25-W, at Lake City. Datum of Gage is 842.76 ft above National Geodetic Vertical Datum of 1929. Drainage area is 24.5 mi^2.	1932-34†, 1955-91	12-23-90	9.77	7,110	4- 5-77	10.57	7,950d
Willow Fork near Halls Crossroads, TN (03535180)	Lat 36°05'59", long 83°54'27", Knox County, Hydrologic Unit 06010207, at culvert under Quarry Road, 1.7 miles northeast of Halls Crossroads. Datum of gage is 1,027.82 ft above National Geodetic Vertical Datum of 1929. Drainage area is 3.23 mi^2.	1967-91	12-23-90	7.08	528	3-16-73	8.08	878
Coker Creek near Ironsburg, TN (03555900)	Lat 35°13'05", long 84°20'28", Monroe County, Hydrologic Unit 06020002, at bridge on State Highway 68, 4.2 miles southwest of Coker Creek. Drainage area is 22.4 mi^2.	1983-91	12-23-90	3.99	-	2-16-90	5.06	-
Wolftever Creek near Ooltewah, TN (03566420)	Lat 35°03'43", long 85°03'59", Hamilton County, Hydrologic Unit 06020001, on right downstream wingwall of county road bridge, 0.6 mi downstream from Southern Railway bridge, 0.9 mi south of Ooltewah, 1.6 mi upstream from Little Wolftever Creek, and at mile 16.1. Drainage area is 18.8 mi^2.	1964-89†, 1991	12-22-90	6.58	1,200	3-16-73	9.75	7,300
North Chickamauga Creek at Greens Mill, near Hixson, TN (03566599)	Lat 35°10'30", long 85°13'40", Hamilton County, Hydrologic Unit 06020001, at bridge on Boy Scout Road, 2.3 miles north of Hixson. Drainage area is 99.5 mi^2.	1925,1944, 1953-56, 1980-91	12-22-90	36.19	-	12-22-90	36.19	-
Stringers Branch at Leawood Drive, at Red Bank, TN (03569168)	Lat 35°07'00", long 85°17'28", Hamilton County, Hydrologic Unit 06020001, at bridge on Leawood Drive at Red Bank. Drainage area is 1.54 mi^2.	1980-91	6-12-91	25.49	-	4-15-87	25.70	-
Little Sequatchie River at Sequatchie, TN (03571500)	Lat 35°07'47", long 85°35'10", Marion County, Hydrologic Unit 06020004, at Highway 27 bridge, 1.0 mile northeast of Sequatchie. Drainage area is 116 mi^2.	1925,1929, 1930, 1932-34†, 1944, 1951-54, 1965,1979-91	12-22-90	11.78	-	12-22-90	11.78	-

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
		TENNESSEE RIVER BASIN--Continued						
Standifer Branch at Jasper, TN (03571730)	Lat 35°04'22", long 85°36'56", Marion County, Hydrologic Unit 06020004, at bridge on U.S. Highways 41, 64, and 72, 0.6 mile east of courthouse, 0.8 mile above Town Creek, at Jasper. Drainage area is 15.3 mi^2.	1982-91	12-22-90	19.59	-	12-22-90	19.59	-
Battle Creek near Monteagle, TN (03571800)	Lat 35°08'03", long 85°46'15", Marion County, Hydrologic Unit 06030001, at bridge on former U.S. Highways 41 and 64, 9.2 miles southeast of Monteagle. Datum of gage is 621.51 ft above National Geodetic Vertical Datum of 1929. Drainage area is 50.4 mi^2.	1955-91	12-22-90	12.03	9,800	3-12-63	12.20	10,200
Richland Creek near Cornersville, TN (03583300)	Lat 35°19'10", long 86°52'20", Marshall County, Hydrologic Unit 06030004, at bridge on U.S. Highway 31-A, 3.4 miles southwest of Cornersville. Datum of gage is 754.28 ft above National Geodetic Vertical Datum of 1929. Drainage area is 47.5 mi^2.	1962-68†, 1969-91	2-19-91	13.72	6,890	7-11-89	16.58	11,400
Owl Creek at Lexington, TN (035944242)	Lat 35°38'26", long 88°22'13", Henderson County, Hydrologic Unit 06040001, on State Highway 20, 1.37 miles east of Lexington, and at mile 1.3. Datum of gage is 400.00 ft above National Geodetic Vertical Datum of 1929, prior to March 15, 1990 unknown. Drainage area is 2.50 mi^2.	1984-91	12- 3-90	26.35	-	12- 3-90	26.35	-
Wartrace Creek above Bell Buckle, TN (03597300)	Lat 35°37'45", long 86°21'22", Bedford County, Hydrologic Unit 06040002, at culvert under county road, 2.7 miles north of Bell Buckle. Drainage area is 4.99 mi^2.	1966-91	12-21-90	7.30	1,060	3-15-73	12.64	3,220
Rutherford Creek tributary at Moores Lane near Kedron, TN (035999716)	Lat 35°42'03", long 86°55'03", Maury County, Hydrologic Unit 06040003, at culvert under Moores Lane, 1.1 miles southwest of Kedron. Drainage area is 0.25 mi^2.	1987-91	4-14-91	26.68	-	2- 2-90	26.93	-
West Piney River at Hwy 70 near Dickson, TN (03602170)	Lat 36°05'21", long 87°28'12", Dickson County, Hydrologic Unit 06040003, at U.S. Highway 70 bridge, 4.0 miles west of Dickson. Drainage area is 2.16 mi^2.	1984-91	5-31-91 7- 9-91	26.37 26.37	- -	5- 6-84	28.17	1,230

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
		TENNESSEE RIVER BASIN--Continued						
Coon Creek tributary near Hohenwald, TN (03604070)	Lat 35°34'07", long 87°40'02", Perry County, Hydrologic Unit 06040004, at culvert under State Highway 20, 7.0 miles northwest of Hohenwald. Drainage area is 0.51 mi^2.	1967-91	5-26-91	4.43	123	5- 8-84	6.58	301
Hugh Hollow Branch near Hohenwald, TN (03604080)	Lat 35°34'59", long 87°40'36", Perry County, Hydrologic Unit 06040004, at culvert under State Highway 20, 8.0 miles northwest of Hohenwald. Drainage area is 1.52 mi^2.	1967-91	5-26-91	3.51	317	5- 8-84	5.55	1,400
Coon Creek above Chop Hollow, near Hohenwald, TN (03604090)	Lat 35°35'19", long 87°41'09", Perry County, Hydrologic Unit 06040004, at bridge on State Highway 20, 9.0 miles northwest of Hohenwald. Drainage area is 6.02 mi^2.	1967-91	5-26-91	5.75	1,700	12- 9-72	6.80	3,150
Blue Creek near New Hope, TN (03604580)	Lat 36°03'52", long 87°38'58", Humphreys County, Hydrologic Unit 06040003, at county road bridge, 1.8 miles northwest of New Hope, 3.1 miles southeast of McEwen, and at mile 3.9. Drainage area is 13.2 mi^2.	1984-91	6- 4-91	17.77	-	6-13-89	18.82	-
Little Blue Creek tributary near Gorman, TN (03604595)	Lat 36°19'44", long 87°42'13", Humphreys County, Hydrologic Unit 06040003, at culvert under county road, 1.8 miles south of Gorman, 4.4 miles southwest of McEwen, and at mile 0.3. Drainage area is 0.62 mi^2.	1984-91	6- 4-91	21.34	-	5- 6-84	21.89	-
Trace Creek above Denver, TN (03605555)	Lat 36°03'08", long 87°54'27", Humphreys County, Hydrologic Unit 06040005, on left bank at bridge on U.S. Highway 70, 1.0 mile northeast of New Johnsonville. Datum of gage is 377.05 ft above National Geodetic Vertical Datum of 1929. Drainage area is 31.9 mi^2.	1963-91†	12-22-90	11.80	7,990	5- 6-84	13.61	11,700
Cane Creek at Stewart, TN (03605880)	Lat 36°19'09", long 87°50'21", Houston County, Hydrologic Unit 06040005, at bridge on county road, 200 ft north of intersection of county road and State Highway 147, and at mile 7.0. Drainage area is 4.12 mi^2.	1984-91	12-22-90	17.26	-	12-25-87	18.74	-

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
			OBION RIVER BASIN					
Neil Ditch near Henry, TN (07024225)	Lat 36°10'19", long 88°23'33", Henry County, Hydrologic Unit 08010203, located on county road, 2.7 miles southeast of Henry, 1.6 miles north of Henry-Carroll county line. Drainage area is 4.07 mi^2.	1984-91	12-21-90	14.48	-	12-21-90	14.48	-
Beaver Creek near Huntingdon, TN (07024300)	Lat 34°59'56", long 88°26'01", Carroll County, Hydrologic Unit 08010203, at bridge on U.S. Highway 70 at Huntington, 0.6 mile downstream from Brier Creek at mile 5.6. Drainage area is 55.5 mi^2.	1954-61e, 1962-89†, 1990-91	12-21-90	14.48	5,910	9-13-82	15.20	7,290
Little Reedy Creek near Huntingdon, TN (07024370)	Lat 35°55'44", long 88°29'50", Carroll County, Hydrologic Unit 08010203, located on U.S. Highway 70, 0.6 mile southwest of Leach, 5.6 miles northeast of Cedar Grove. Drainage area is 0.91 mi^2.	1984-91	12-21-90	14.50	-	12-25-87	15.38	-
South Fork Obion River near Greenfield, TN (07024500)	Lat 36°07'05", long 88°48'39", Weakly County, Hydrologic Unit 08010203, at bridge on U.S. Highway 45 E, 1.1 miles downfrom Mosley Branch, 2.5 miles south of Greenfield, and 9.7 miles upstream from confluence with Middle Fork. Datum of gage is 300.36 ft above National Geodetic Vertical Datum of 1929. Drainage area is 383 mi^2.	1929-89†, 1990-91	12-22-90	18.10	20,000	1-22-37	17.82	25,600
Running Reelfoot Bayou near Owl City, TN (07027010)	Lat 36°19'53", long 89°24'02", Obion County, Hydrologic Unit 08010202, located at bridge on county road, 1.5 miles downstream from the spillway a Reelfoot Lake, and 1.6 miles east of Owl City. Datum of gage is 264.96 ft above National Geodetic Vertical Datum of 1929. Drainage area is 247 mi^2.	1982-83†, 1984-88†, 1989-91	12-30-90	18.02	2,200	2-21-89	18.25f	2,400
North Fork Forked Deer River at U.S. Highway 45W Bypass at Trenton, TN (07028505)	Lat 35°58'58", long 88°55'49", Gibson County, Hydrologic Unit 08010204, at bridge on U. S. Highway 45W Bypass, 0.25 mile north of intersection of U. S. Highway 45W Bypass and State Highways 77 and 104 in Trenton. Datum of gage is 306.85 ft above National Geodetic Vertical Datum of 1929. Drainage area is 73.9 mi^2.	1987-91	12-21-90	12.00	-	12-21-90	12.00	-

See footnotes at the end of the table.

Maximum discharge at crest-stage partial-record stations--Continued

Station name and number	Location and drainage area	Period of record	Water year 1991 maximum			Period of record maximum		
			Date	Gage height (ft)	Discharge (ft^3/s)	Date	Gage height (ft)	Discharge (ft^3/s)
		OBION RIVER BASIN--Continued						
Lewis Creek near Dyersburg, TN (07029090)	Lat 36°03'14", long 89°21'42", Dyer County, Hydrologic Unit 08010204, at bridge on U.S. Highway 51 (Business Route), 2.1 miles northeast of square in Dyersburg. Datum of gage is 276.52 ft above National Geodetic Vertical Datum of 1929. Drainage area is 25.5 mi^2.	1955-78, 1980-83, 1985-91	10- 4-90	18.17	-	3- 9-64	19.31	5,450
Cane Creek at Ripley, TN (07030100)	Lat 35°45'25", long 89°33'05", Lauderdale County, Hydrologic Unit 08010208, at bridge on State Highway 19, 1.3 miles upstream from Hyde Creek, 1.5 miles northwest of Ripley. Datum of gage is 295.93 ft above National Geodetic Vertical Datum of 1929. Drainage area is 33.9 mi^2.	1957-62†, 1963-70, 1986-88†, 1989-91	4-29-91	21.23	5,030	7- 1-89	23.16	6,360

† Operated as a continuous-record gaging station.
a A gage height of 17.45 ft occurred on 3-23-29.
b Operated as a flood hydrograph station.
c A peak discharge of 11,000 ft^3/s occurred on 5-30-27.
d A peak discharge of 8,400 ft^3/s occurred on 3-23-29.
e Operated as low-flow partial-record station.
f Observed.

Miscellaneous Sites

Measurements of streamflow at points other than gaging stations are given in the following table. Measurements of base flow are designed by an asterisk (*); measurements of peak flow by a dagger(†).

Discharge measurements made at miscellaneous sites during water year 1991

Stream	Tributary to	Location	Drainage area (mi^2)	Measured previously (water years)	Measurements	
					Date	Discharge (ft^3/s)
		TENNESSEE RIVER BASIN				
03469500 West Fork Little Pigeon River	Little Pigeon River	Lat 35°48′21", long 83°34′28", Sevier County, Hydrologic Unit 06010107, at US Hwy 411 bridge, in Pigeon Forge.	76.2	1946-49 1952-59 1961 1965	8- 1-91 8- 6-91 8-23-91 9-13-91	176 81 89 54
03470000 Little Pigeon River	French Broad River	Lat 35°52′42", long 83°34′40", Sevier County, Hydrologic Unit 06010107, 0.2 mile downstream from West Prong Little Pigeon River, in Sevierville, and at mile 4.4.		1920-82	8- 1-91 8- 6-91 8-23-91 9-13-91	489 254 276 164
03566535 North Chickamauga Creek	Tennessee River	Lat 35°12′40", long 85°12′55", Hamilton County, Hydrologic Unit 06020001, at Thrasher Pike, 2 miles upstream from Falling Water Creek, and 3 miles southwest of Daisy.	74.0	1982, 1988	9-10-91	*0
03599000 Big Rock Creek	Duck River to Tennessee River	Lat 35°26′56", long 86°47′09", Marshall County, Hydrologic Unit 06040002, at bridge on State Highway 50, 800 ft east of Courthouse in Lewisburg.	24.9	1932-33, 1944, 1950-53, 1954-61, 1966-68,	3-27-91 4- 5-91 4-15-91 6- 5-91 6-20-91 7- 1-91 7- 1-91 7-15-91	41 43 383 18 *2.6 9.2 8.8 5.4
03600085 Carters Creek	Duck River to Tennessee River	Lat 35°43′39", long 86°59′19", Maury County, Hydrologic Unit 06040003, at bridge on Petty Lane, 0.8 mile north of Carters Creek, and at mile 4.7.	16.6	1986-90	10-16-90 1-16-91 4- 9-91 7- 3-91	*.50 47 20 *.87
03600086 Carters Creek Tributary	Carters Creek to Duck River to Tennessee River	Lat 35°43′34", long 86°59′19", Maury County, Hydrologic Unity 06040003, at culvert on Carters Creek Road, 0.7 mile north of Carters Creek.	2.94	1986-90	10-16-90 1-16-91 4- 9-91 7-23-91	*.39 8.7 7.6 *.45

Springs

In 1931 a study of large springs in Tennessee was made and the results published in WSP 713. From 1950 to 1954 a more detailed study, including some of these springs, was made. Results of this study and all subsequent spring measurements were published annually in WSP's from 1950 to 1960. Since 1960 results of measurements have been published in annual State reports. Measurements made in the 1991 water year are given in the following table.

Discharge measurement of springs during water year 1991

Site number and name	Location	Tributary to	Date	Discharge (gpm)	Discharge (ft^3/sec)
		Hamblen County			
03492200 Panther Spring	Lat 36°11'14", long 83°22'54", Hydrologic Unit 06010104, 1 mile North of Alpha, 5 miles Southwest of Morristown.	Holston River	11-25-90	580	1.3

Soddy-Daisy special study

A series of low-flow discharge measurements were made July 18, 1991, in the vicinity of Soddy-Daisy, TN (Hamilton County), to define areas of potential ground-water supplies. In addition, measurements of water temperature and specific conductance were taken at each site. The measurements were made during a period of constant base flow.

Stream	Tributary to	Location	Drainage area (mi^2)	Measurements Discharge (ft^3/s)	Water temperature (°C)	Specific conductance ($\mu S/cm$)
		TENNESSEE RIVER BASIN				
035664038 Tennessee River Tributary	Dallas Bay to Tennessee River	Lat 35°13'15", long 85°09'15", Hamilton County, Hydrologic Unit 06020001, at county road, 0.1 mile west of Dallas Hollow road, 0.9 mile south of New Salem.	---	0.00	---	---
035664057 Tennessee River Tributary	Tennessee River	Lat 35°13'04", long 85°10'38", Hamilton County, Hydrologic Unit 06020001, 1.8 miles north of Middle Valley, 2.0 miles south of Daisy.	1.28	0.00	---	---
03566510 Poe Branch Tributary	Poe Branch to North Chickamauga Creek to Tennessee River	Lat 35°15'17", long 85°10'21", Hamilton County, Hydrologic Unit 06020001, 2.2 miles east of Huckleberry, 2.4 miles south of Soddy.	0.17	0.11	21.5	175
03566530 North Chickamauga Creek	Tennessee River	Lat 35°13'20", long 85°13'16", Hamilton County, Hydrologic Unit 06020001, between Mile Straight and Daisy, at U.S. Highway 27 bridge crossing.	62.6	0.00	---	---
035665305 Poe Branch	North Chickamauga Creek to Tennessee River	Lat 35°14'26", long 85°10'36", Hamilton County, Hydrologic Unit 06020001, 1.9 miles east of Huckleberry, and 2.2 miles south of Soddy.	1.31	0.15	22.0	200
03566533 Poe Branch	North Chickamauga Creek to Tennessee River	Lat 35°14'17", long 85°11'21", Hamilton County, Hydrologic Unit 06020001, at county highway bridge, 30 feet downstream from Southern Railway bridge, 0.5 mile south of Daisy.	5.05	0.00	---	---
03566534 Poe Branch	Poe Branch to North Chickamauga Creek to Tennessee River	Lat 35°14'16", long 85°11'55", Hamilton County, Hydrologic Unit 06020001, at bridge on Dayton Pike, 0.7 mile southwest of Daisy.	0.94	0.00	---	---
035665348 Poe Branch	North Chickamauga Creek to Tennessee River	Lat 35°12'48", long 85°12'52", Hamilton County, Hydrologic Unit 06020001, 0.8 mile east of Mile Straight, 2.4 miles Northwest of Middle Valley.	8.09	0.00	---	---
03566535 North Chickamauga Creek	Tennessee River	Lat 35°12'40", long 85°12'55 Hamilton County, Hydrologic Unit 06020001, at Thrasher Pike, 2.0 miles upstream from Falling Water Creek, and 3.0 miles southwest of Daisy.	0.66	0.05	25.2	92

Soddy-Daisy special study--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measurements discharge (ft^3/s)	Water temperature (°C)	Specific conductance ($\mu S/cm$)
		TENNESSEE RIVER BASIN--Continued				
03566537 North Chickamauga Creek Tributary	North Chickamauga Creek to Tennessee River	Lat 35°12'39", long 85°13'53", Hamilton County, Hydrologic Unit 06020001, 0.4 mile southwest of Mile Straight, 3.0 miles northwest of Middle Valley.	0.38	0.00	---	---
03566539 North Chickamauga Creek	Tennessee River	Lat 35°11'49", long 85°13'58", Hamilton County, Hydrologic Unit 06020001, 1.3 miles south of Mile Straight, 2.8 miles west of Middle Valley.	65.0	0.26	21.0	170
03566543 Falling Water Creek	North Chickamauga Creek to Tennessee River	Lat 35°11'40", long 85°14'40", Hamilton County, Hydrologic Unit 06020001, at bridge on U.S. Highway 27, at Falling Water.	13.2	1.78	18.3	157
03566545 Poe Branch Tributary	Poe Branch to North Chickamauga Creek to Tennessee	Lat 35°13'23", long 85°11'54", Hamilton County, Hydrologic Unit 06020001, 0.9 mile southwest of melville, 1.7 miles east of Mile Straight.	---	0.00	---	---
03566550 Pitts Branch	North Chickamauga Creek to Tennessee River	Lat 35°11'02", long 85°14'48", Hamilton County, Hydrologic Unit 06020001, at bridge on U.S. Highway 27, 0.5 mile above mouth, and 3.0 miles northwest of Hixson.	6.59	1.88	23.0	300
03566560 North Chickamauga Creek	Tennessee River	Lat 35°10'44", long 85°14'13 Hamilton County, Hydrologic Unit 06020001, at bridge on Southern Railway, 1.9 miles southeast of Falling Water.	97.6	19.5	23.5	340
03566570 North Chickamauga Creek Tributary	North Chickamauga Creek to Tennessee River	Lat 35°11'11", long 85°13'35", Hamilton County, Hydrologic Unit 06020001, 0.8 mile north of Greens Mill, 2.5 miles west of Middle Valley.	0.42	0.00	---	---
03566604 Lick Branch Tributary	Lick Branch to North Chickamauga Creek to Tennessee River	Lat 35°11'04", long 85°11'07, Hamilton County, Hydrologic Unit 06020001, 0.5 mile south of Middle Valley, 0.7 mile west of Port Serena.	0.80	0.05	18.0	400
03566605 Lick Branch Tributary	Lick Branch to North Chickamauga Creek to Tennessee River	Lat 35°12'18", long 85°10'56", Hamilton County, Hydrologic Unit 06020001, at county road 300 ft south of Middle Valley road at Middle Valley.	---	0.00	---	---
035666165 Lick Branch	North Chickamauga Creek to Tennessee River	Lat 35°10'19", long 85°12'26", Hamilton County, Hydrologic Unit 06020001, at bridge on Middle Valley road, 1.2 miles north of Valleybrook, 2.1 miles southwest of Middle Valley.	---	0.82	25.0	320

Soddy-Daisy special study--Continued

Stream	Tributary to	Location	Drainage area (mi^2)	Measurements discharge (ft^3/s)	Water temperature (°C)	Specific conductance ($\mu S/cm$)
		TENNESSEE RIVER BASIN--Continued				
03566617 Lick Branch Tributary	Lick Branch to North Chickamauga Creek to Tennessee River	Lat 35°11′23", long 85°12′12", Hamilton County, Hydrologic Unit 06020001, at intersection of Gann road and North Dent road, 1.1 miles north of Sterling Park.	---	0.01	23.0	80
03566618 Lick Branch Tributary	Lick Branch to North Chickamauga Creek to Tennessee River	Lat 35°10′23", long 85°12′41", Hamilton County, Hydrologic Unit 06020001, 1.1 miles north of Valleybrook, 2.1 miles southwest of Middle Valley.	2.07	0.00	---	---
03566625 North Chickamauga Creek	Tennessee River	Lat 35°10′03", long 85°13′19", Hamilton County, Hydrologic Units 06020001, at bridge on county road, 2.0 miles northeast of Hixson.	108	30.0	23.0	380

Construction and water-quality data for selected farmstead wells, 1989-90

[--, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter at 25 degrees Celsius; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; conc., concentration; wat wh tot it, water whole total incremental titration; GC/MS, gas chromatography/mass spectrometer; µg/L, micrograms per liter; GC/FID, gas chromatography/flame ionization detection]

Site number	Latitude and longitude	County	Water level (feet)	Principle aquifer	Well depth (feet)	Date	Specific conductance (µS/cm)	pH (standard units)	Temperature water (deg. C)
1	345945 850028	Hamilton	--	Cambrian/Ordovician	100	06-07-90	300	7.77	17.0
2	350018 863117	Lincoln	--	Mississippian	25	05-22-90	45	5.40	15.0
3	350157 880520	Hardin	--	Cretaceous	50	01-04-90	41	6.51	16.0
4	350159 845331	Bradley	--	Cambrian/Ordovician	105	05-12-90	260	7.91	16.5
5	350212 873946	Wayne	--	Mississippian	140	06-22-90	17	5.48	16.5
6	350214 844921	Bradley	46.9	Cambrian/Ordovician	107	10-31-89	193	7.21	16.0
7	350222 883816	McNairy	--	Cretaceous	385	08-29-89	400	7.53	19.0
8	350223 861709	Franklin	--	Mississippian	122	05-17-90	490	7.50	16.5
9	350304 853537	Marion	--	Ordovician	75	06-12-90	380	7.21	15.0
10	350314 854422	Marion	--	Mississippian	30	06-06-90	240	7.78	15.0
						07-31-89	60	5.40	18.0
11	350558 891005	Hardeman	--	Tertiary	153	11-17-89	--	--	--
12	351015 870821	Giles	--	Ordovician	100	05-10-90	325	7.97	15.5
13	351220 892135	Fayette	120	Tertiary	155	07-26-89	50	5.63	17.0
14	351300 844130	Polk	30.0	Cambrian/Ordovician	87	12-13-89	365	7.45	16.0
15	351319 863014	Lincoln	--	Ordovician	40	05-21-90	500	7.30	16.5
16	351448 882924	McNairy	62.2	Cretaceous	263	08-30-89	260	7.42	18.0
17	351453 860929	Franklin	40.6	Mississippian	103	04-26-90	174	6.80	15.5
18	351538 843619	Polk	66.2	Cambrian/Ordovician	187	01-03-90	268	7.82	16.0
19	351544 894957	Shelby	50.0	Tertiary	110	07-20-89	100	5.96	18.0
20	351558 884112	McNairy	--	Tertiary	32	08-28-89	140	5.00	18.0
21	351619 892129	Fayette	70.0	Tertiary	100	08-01-89	40	5.69	17.0
						11-17-89	--	--	--
22	351705 885358	Hardeman	13.9	Alluvial	47	07-31-89	75	5.31	17.0
23	351756 874544	Wayne	--	Alluvial	16	06-21-90	33	5.68	14.5
24	351849 861951	Moore	14.3	Alluvial	20	11-30-89	251	7.91	16.0
25	352002 872224	Lawrence	47.0	Mississippian	247	06-20-90	225	7.42	17.0
26	352028 851258	Hamilton	--	Pennsylvanian	87	06-13-90	120	6.57	17.5
27	352049 844336	McMinn	36.3	Cambrian/Ordovician	150	11-30-89	370	7.38	15.0
28	352108 855143	Grundy	25.0	Mississippian	117	05-25-90	330	7.69	15.5
29	352224 883637	Chester	--	Cretaceous	120	01-03-90	180	5.65	16.5
30	352304 871252	Giles	--	Mississippian	60	05-16-90	45	5.34	17.0
31	352400 884153	Chester	40.0	Cretaceous	78	09-08-89	70	5.51	18.0
32	352442 852525	Sequatchie	25.0	Pennsylvanian	55	04-25-90	91	5.30	16.5
33	352953 874058	Lewis	34.6	Mississippian	164	06-15-90	280	7.11	16.0
34	353048 845011	Meigs	72.0	Cambrian/Ordovician	150	11-03-89	352	7.52	16.5
35	352141 865632	Maury	70.0	Ordovician	190	11-16-89	933	8.08	15.0
36	353252 850748	Bledsoe	59.5	Pennsylvanian	125	05-08-90	149	6.48	15.0
						06-08-90	150	--	16.0
37	353256 880545	Decatur	--	Cretaceous	26	11-15-89	58	5.61	17.0
38	353258 860323	Coffee	--	Mississippian	67	12-06-89	141	6.67	15.0
39	353352 853827	Warren	60.0	Mississippian	65	05-23-90	262	7.13	14.5
40	353444 863646	Bedford	17.5	Ordovician	56	11-21-89	520	7.38	16.5
41	353516 842431	Monroe	--	Cambrian/Ordovician	575	11-28-89	305	7.92	15.5
42	353535 893712	Tipton	--	Tertiary	120	08-02-89	300	6.86	17.5
43	353557 861630	Bedford	--	Ordovician	123	12-01-89	625	8.77	12.0
44	353623 891119	Haywood	--	Tertiary	90	08-01-89	120	6.18	18.0
						11-26-89	--	--	--
45	353630 885731	Madison	--	Tertiary	160	08-22-89	60	5.63	17.0
46	353640 845243	Rhea	124	Cambrian/Ordovician	282	05-24-90	200	8.01	15.5
47	353645 864045	Marshall	--	Ordovician	145	11-07-89	525	7.57	16.0
48	353652 891813	Haywood	95.0	Tertiary	152	08-21-89	80	5.82	17.0
49	353658 893852	Tipton	--	Tertiary	90	08-02-89	480	6.66	14.0
50	353809 873301	Hickman	--	Mississippian	200	06-19-90	108	6.52	19.0

Construction and water-quality data for selected farmstead wells, 1989-90--Continued

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Site number	Latitude and longitude	County	Water level (feet)	Principle aquifer	Well depth (feet)	Date	Specific conductance (µS/cm)	pH (standard units)	Temperature water (deg. C)
51	353904 842519	Monroe	24.4	Cambrian/Ordovician	85	11-14-89	620	7.15	15.5
52	354006 863835	Marshall	--	Ordovician	195	11-29-89	481	7.76	16.0
53	354128 871449	Maury	35.0	Ordovician	175	10-27-89	810	7.36	16.0
54	354144 862733	Rutherford	9.85	Ordovician	55	10-02-89	378	7.12	16.5
55	354147 880955	Decatur	30.0	Cretaceous	51	12-06-89	118	6.57	16.5
56	354158 841239	Loudon	54.7	Cambrian/Ordovician	390	10-13-89	340	7.74	16.0
57	354200 853249	Van Buren	--	Mississippian	100	07-12-90	100	8.42	15.0
58	354201 882359	Henderson	--	Cretaceous	150	11-30-89	50	5.40	16.0
59	354228 874534	Perry	14.5	Mississippian	23	11-29-89	300	6.65	16.0
60	354235 874657	Perry	--	Mississippian	225	12-01-89	605	7.71	15.0
61	354410 833806	Sevier	15.6	Cambrian/Ordovician	105	10-03-89	238	7.79	15.5
62	354535 890409	Crockett	--	Tertiary	85	08-03-89	98	5.94	14.0
63	354552 853348	Van Buren	--	Mississippian	160	07-13-90	355	7.50	16.5
64	354604 884145	Madison	--	Tertiary	90	08-30-89	40	5.51	16.0
65	354660 835534	Blount	--	Cambrian/Ordovician	451	05-10-90	220	7.93	16.0
66	354743 882057	Henderson	--	Cretaceous	110	12-04-89	48	5.73	16.0
67	354747 833338	Sevier	28.0	Crystalline	166	10-05-89	570	7.68	15.5
68	354827 871743	Hickman	--	Ordovician	20	11-21-89	160	5.91	17.0
69	354834 860955	Cannon	47.0	Ordovician	55	03-06-90	490	7.41	15.0
70	354853 842027	Loudon	25.0	Cambrian/Ordovician	100	10-12-89	310	7.36	16.0
71	354921 850821	Cumberland	--	Pennsylvanian	183	06-19-90	230	7.79	15.5
72	354952 845600	Cumberland	40.0	Pennsylvanian	58	06-14-90	121	6.41	15.0
73	355014 842215	Roane	133	Cambrian/Ordovician	288	11-17-89	265	7.85	16.0
74	355028 835014	Blount	--	Cambrian/Ordovician	190	09-01-89	638	7.21	15.5
75	355039 843803	Roane	81.1	Cambrian/Ordovician	180	10-20-89	280	7.73	15.0
76	355208 862804	Rutherford	22.0	Ordovician	150	09-19-89	410	7.65	16.0
77	355227 852556	White	--	Mississippian	121	07-03-90	560	7.79	15.5
78	355259 864838	Williamson	--	Ordovician	75	09-22-89	450	7.87	16.5
79	355307 872204	Hickman	7.72	Mississippian	125	11-30-89	308	7.54	15.0
80	355340 885758	Gibson	--	Tertiary	125	11-01-89	100	6.28	15.0
81	355416 855952	Cannon	5.46	Ordovician	37	12-07-89	285	8.15	11.0
						04-03-90	--	--	--
82	355532 885957	Gibson	4.00	Tertiary	140	11-01-89	60	5.75	15.0
83	355616 865820	Williamson	10.5	Ordovician	14	08-11-89	387	7.15	19.0
84	355617 882138	Carroll	--	Cretaceous	120	12-05-89	59	6.15	16.0
85	355718 881159	Benton	--	Cretaceous	110	11-16-89	75	5.72	18.0
86	355754 891041	Crockett	30.0	Tertiary	54	01-04-90	70	5.90	16.0
87	355812 874749	Humphreys	20.4	Mississippian	54	11-15-89	115	6.39	16.0
88	355816 823552	Unicoi	13.4	Crystalline	105	04-18-90	80	7.15	12.5
89	360009 831101	Cocke	119	Cambrian/Ordovician	270	05-11-90	300	7.53	15.5
90	360021 853216	White	--	Mississippian	120	06-21-90	310	7.76	16.5
91	360023 883820	Carroll	51.7	Tertiary	115	10-31-89	50	5.78	16.0
92	360055 825952	Cocke	66.6	Cambrian/Ordovician	415	08-31-89	700	7.22	15.0
93	360307 835255	Knox	--	Cambrian/Ordovician	250	07-28-89	370	7.74	15.5
94	360352 893838	Dyer	--	Alluvial	47	08-04-89	580	7.31	14.0
95	360433 825832	Greene	92.0	Cambrian/Ordovician	400	12-14-89	710	7.22	15.0
96	360515 832647	Jefferson	125	Cambrian/Ordovician	210	09-12-89	540	7.31	16.0
						10-11-89	--	--	--
97	360612 874109	Humphreys	--	Mississippian	315	11-16-89	364	7.55	15.5
98	360635 892007	Dyer	40.0	Tertiary	86	08-04-89	340	7.24	17.5
99	360707 861419	Wilson	20.0	Ordovician	45	10-16-89	655	7.15	17.0
100	360823 854633	Putnam	--	Ordovician	60	05-09-90	479	7.22	16.0
						06-15-90	498	--	16.0

Construction and water-quality data for selected farmstead wells, 1989-90--Continued

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Site number	Latitude and longitude	County	Water level (feet)	Principle aquifer	Well depth (feet)	Date	Specific conductance (µS/cm)	pH (standard units)	Temperature water (deg. C)
101	360901 875738	Benton	--	Mississippian	59	12-05-89	65	6.14	16.5
102	360902 865404	Davidson	22.7	Ordovician	96	10-05-89	430	7.16	15.5
103	360938 884440	Weakley	--	Tertiary	250	12-07-89	100	6.26	16.0
104	361008 860733	Wilson	55.0	Ordovician	70	10-11-89	550	7.43	17.0
105	361023 845305	Morgan	28.7	Pennsylvanian	90	03-28-90	143	6.26	14.5
106	361130 821441	Unicoi	34.7	Crystalline	255	04-19-90	165	8.27	14.0
107	361226 840536	Anderson	23.1	Cambrian/Ordovician	150	08-29-89	360	7.52	14.0
108	361230 832812	Grainger	32.1	Cambrian/Ordovician	128	10-16-89	380	7.49	15.0
109	361322 871032	Cheatham	35.0	Mississippian	75	10-03-89	520	7.31	16.5
110	361333 823344	Washington	28.6	Cambrian/Ordovician	228	04-17-90	550	7.59	15.0
						05-31-90	--	--	--
111	361411 892709	Lake	--	Alluvial	60	09-14-89	350	6.99	18.0
112	361431 852453	Overton	25.0	Mississippian	50	05-25-90	278	7.60	16.0
113	361555 815843	Carter	300	Cambrian/Ordovician	340	04-04-90	160	7.52	13.0
114	361617 860422	Smith	--	Ordovician	80	10-17-89	460	7.03	15.0
115	361637 845608	Fentress	--	Pennsylvanian	100	06-13-90	219	4.29	14.0
116	361650 891755	Obion	--	Tertiary	70	09-13-89	1200	6.99	19.5
117	361724 831139	Hamblen	46.0	Cambrian/Ordovician	255	09-15-89	790	7.41	15.0
118	361729 884758	Weakley	69.0	Tertiary	90	10-18-89	180	6.42	16.5
119	361800 872449	Dickson	--	Mississippian	50	02-28-90	493	7.46	15.0
120	361820 844358	Morgan	79.0	Pennsylvanian	114	11-08-89	190	7.10	14.5
121	361826 843100	Scott	--	Pennsylvanian	40	01-04-90	520	7.73	13.5
122	361850 825411	Greene	--	Cambrian/Ordovician	105	05-16-90	940	7.14	15.5
123	361912 882336	Henry	--	Tertiary	150	12-06-89	100	5.60	16.0
124	362011 880858	Henry	--	Cretaceous	58	10-19-89	46	5.20	16.0
125	362013 834941	Union	80.0	Cambrian/Ordovician	226	10-19-89	575	8.21	15.0
126	362049 874242	Houston	5.35	Mississippian	133	11-08-89	440	7.44	16.0
127	362126 853445	Jackson	50.0	Ordovician	70	11-14-89	480	7.15	15.0
128	362149 873107	Montgomery	25.7	Mississippian	30	10-26-89	408	7.11	16.5
129	362202 860924	Trousdale	71.0	Ordovician	170	07-12-90	500	7.02	15.5
130	362226 890916	Obion	--	Tertiary	78	02-23-90	855	6.95	16.0
131	362234 815529	Johnson	94.1	Cambrian/Ordovician	190	04-05-90	125	7.60	14.0
132	362348 850145	Fentress	--	Mississippian	100	05-10-90	655	7.85	16.0
133	362512 874531	Stewart	--	Mississippian	20	06-27-90	205	6.67	16.5
134	362618 842351	Scott	--	Pennsylvanian	95	11-16-89	1000	8.95	14.5
						03-27-90	--	--	--
135	362627 862838	Sumner	19.6	Ordovician	70	10-04-89	345	7.57	15.5
136	362700 853522	Jackson	--	Ordovician	95	11-07-89	490	7.30	15.5
137	362719 835650	Campbell	73.2	Cambrian/Ordovician	287	11-29-89	480	7.53	14.5
138	362725 821015	Sullivan	--	Cambrian/Ordovician	200	04-03-90	250	7.21	14.0
139	362805 825654	Hawkins	17.8	Cambrian/Ordovician	300	10-04-89	470	7.48	15.0
140	362832 832926	Claiborne	160	Cambrian/Ordovician	188	04-21-90	325	7.82	15.0
141	362840 855416	Macon	24.1	Mississippian	30	03-01-90	226	7.38	14.5
142	362941 892147	Lake	--	Alluvial	70	12-20-89	300	6.78	16.5
143	363028 870303	Robertson	--	Mississippian	105	10-20-89	610	7.08	15.5
144	363128 831111	Hancock	--	Cambrian/Ordovician	100	11-09-89	215	7.56	15.0
145	363219 853004	Clay	--	Ordovician	120	04-13-90	600	7.51	15.0
146	363359 842733	Scott	--	Pennsylvanian	110	06-05-90	310	7.82	14.0
147	363539 821751	Sullivan	--	Cambrian/Ordovician	365	06-06-90	440	7.58	15.0
148	363548 874532	Stewart	--	Mississippian	84	07-02-90	320	7.56	15.0
149	363606 872231	Montgomery	90.9	Mississippian	145	10-24-89	500	7.33	16.5
150	363633 850331	Pickett	30.0	Mississippian	72	03-07-90	125	7.15	15.0

Construction and water-quality data for selected farmstead wells, 1989-90--Continued

[--, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter at 25 degrees Celsius; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; conc., concentration; wat wh tot it, water whole total incremental titration; GC/MS, gas chromatography/mass spectrometer; µg/L, micrograms per liter; GC/FID, gas chromatography/flame ionization detection]

Site number	Coliform, fecal, 0.7 UM-MF (cols./ 100 mL)	Streptococci, fecal, Kf agar (cols./ 100 mL)	Nitrogen, nitrite total (mg/L as N)	Nitrogen, nitrate total* (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Carbon, organic total (mg/L as C)	Calcium, total recoverable (mg/L as Ca)	Magnesium, total recoverable (mg/L as Mg)	Sodium, total recoverable (mg/L as Na)	Potassium, total recoverable (mg/L as K)
1	<1	<1	<0.010	2.10	2.10	0.1	48	6.5	3.1	0.7
2	20	<1	<0.010	1.30	1.30	0.2	2.1	1.0	2.2	1.9
3	<1	<1	<0.010	<0.100	<0.100	<0.1	2.1	0.80	4.3	0.3
4	<1	K1	<0.010	2.60	2.60	<0.1	38	3.8	2.0	0.7
5	<1	<1	<0.010	0.800	0.800	0.1	1.8	0.60	1.1	0.1
6	K1	K2	<0.010	0.500	0.500	0.4	18	11	0.8	1.9
7	<1	<1	<0.010	<0.100	<0.100	0.3	40	16	6.4	4.6
8	K1	<1	0.010	0.690	0.700	0.1	63	17	4.0	0.3
9	<1	<1	<0.010	3.90	3.90	0.9	59	4.6	6.1	4.3
10	2300	K1700	<0.010	0.600	0.600	0.9	36	4.0	1.3	0.7
11	K2	<1	<0.010	1.20	1.20	0.2	3.2	1.8	4.6	4.7
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12	K1	26	<0.010	0.100	0.100	0.2	34	14	5.5	1.0
13	<1	<1	<0.010	1.20	1.20	0.1	2.2	0.90	5.3	0.8
14	<1	<1	0.020	5.78	5.80	0.5	60	4.5	2.9	0.5
15	K100	340	0.060	2.04	2.10	0.7	82	8.8	4.4	1.8
16	<1	<1	<0.010	<0.100	<0.100	0.6	29	11	7.5	8.0
17	K8	<1	<0.010	2.10	2.10	3.4	45	20	1.4	0.8
18	<1	<1	<0.010	0.900	0.900	1.8	28	17	0.9	1.0
19	<1	<1	<0.010	0.900	0.900	<0.1	6.7	3.4	7.7	1.0
20	<1	<1	<0.010	10.0	10.0	0.3	36	5.2	9.3	0.6
21	<1	<1	<0.010	0.400	0.400	0.3	1.6	0.70	4.0	0.7
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22	220	<1	<0.010	2.50	2.50	0.3	3.2	2.5	3.3	2.2
23	<1	<1	<0.010	0.100	0.100	0.1	2.2	0.90	1.6	0.6
24	K1100	K100	<0.010	1.90	1.90	5.9	37	5.3	1.6	2.5
25	<1	<1	<0.010	3.40	3.40	0.1	42	1.5	2.1	0.5
26	<1	<1	<0.010	<0.100	<0.100	0.8	11	3.3	1.5	1.1
27	220	88	<0.010	5.00	5.00	0.3	44	20	3.3	1.5
28	51	25	<0.010	0.100	0.100	0.5	53	8.3	1.2	0.5
29	<1	<1	<0.010	1.40	1.40	0.2	2.3	0.90	7.9	0.2
30	K1000	K11	<0.010	1.70	1.70	0.3	1.5	0.80	2.4	0.9
31	<1	<1	<0.010	2.50	2.50	0.2	1.3	0.60	8.1	4.2
32	<1	<1	<0.010	2.10	2.10	--	3.3	1.5	6.9	0.7
33	<1	<1	<0.010	0.300	0.300	1.4	37	8.9	1.8	0.9
34	<1	<1	<0.010	1.10	1.10	0.5	61	4.3	2.5	2.5
35	<1	<1	0.010	<0.100	<0.100	0.2	30	17	110	3.9
36	<1	<1	<0.010	0.900	0.900	0.5	13	4.1	5.2	1.0
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37	<1	<1	<0.010	<0.100	<0.100	0.4	2.7	0.70	6.9	0.1
38	K4	K1	<0.010	2.60	2.60	0.2	14	4.1	2.1	0.3
39	K3	21	<0.010	0.100	0.100	0.4	42	5.9	1.2	0.7
40	80	120	<0.010	0.800	0.800	0.8	62	12	15	3.2
41	K8	950	<0.010	1.40	1.40	0.2	32	20	0.9	1.2
42	K54	<1	<0.010	<0.100	<0.100	0.6	33	16	5.8	1.0
43	K130	K19	<0.010	1.80	1.80	1.2	22	3.8	120	1.5
44	<1	<1	<0.010	3.20	3.20	0.5	3.6	1.4	15	0.4
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45	<1	<1	<0.010	2.70	2.70	0.1	3.6	1.3	6.6	0.3
46	<1	<1	0.040	0.360	0.400	0.3	21	13	0.8	0.9
47	<1	<1	<0.010	<0.100	<0.100	<0.1	44	24	18	2.9
48	<1	<1	<0.010	2.50	2.50	0.2	3.1	1.2	15	0.3
49	K3	<1	<0.010	<0.100	<0.100	0.6	53	28	10	0.7
50	<1	<1	<0.010	0.400	0.400	0.1	18	1.8	2.8	0.4

Construction and water-quality data for selected farmstead wells, 1989-90--Continued

[--, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter at 25 degrees Celsius; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; conc., concentration; wat wh tot it, water whole total incremental titration; GC/MS, gas chromatography/mass spectrometer; µg/L, micrograms per liter; GC/FID, gas chromatography/flame ionization detection]

Site number	Coliform, fecal, 0.7 UM-MF (cols./100 mL)	Streptococci, fecal, Kf agar (cols./100 mL)	Nitrogen, nitrite total (mg/L as N)	Nitrogen, nitrate total* (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Carbon, organic total (mg/L as C)	Calcium, total recoverable (mg/L as Ca)	Magnesium, total recoverable (mg/L as Mg)	Sodium, total recoverable (mg/L as Na)	Potassium, total recoverable (mg/L as K)
51	K1	K2	0.030	14.0	14.0	0.6	110	6.8	8.3	2.1
52	<1	<1	<0.010	<0.100	<0.100	0.2	42	23	11	3.7
53	<1	<1	0.040	5.16	5.20	1.2	110	24	6.7	2.0
54	420	3400	0.010	0.290	0.300	4.0	64	3.8	1.2	2.6
55	<1	<1	<0.010	0.900	0.900	0.3	11	3.1	2.9	2.7
56	<1	<1	<0.010	0.700	0.700	0.2	40	17	0.7	0.6
57	<1	<1	0.020	0.980	1.00	0.7	5.3	1.3	12	0.7
58	<1	<1	<0.010	2.10	2.10	0.1	2.0	1.3	4.0	0.7
59	23	K5	0.010	6.29	6.30	0.4	37	3.1	5.2	4.2
60	K2	K3	<0.010	0.500	0.500	0.3	56	19	26	2.2
61	K12	54	0.020	1.68	1.70	0.5	37	5.0	2.0	1.0
62	46	<1	<0.010	2.20	2.20	0.5	3.1	1.3	12	0.2
63	<1	<1	0.010	0.790	0.800	0.2	60	5.4	0.8	0.4
64	<1	<1	<0.010	0.300	0.300	<0.1	1.1	0.70	1.9	0.7
65	<1	<1	<0.010	1.00	1.00	<0.1	27	12	1.3	1.6
66	<1	<1	<0.010	2.10	2.10	0.1	1.6	0.70	4.6	0.5
67	K4	K3	<0.010	<0.100	<0.100	0.6	46	10	58	0.4
68	K3	<1	<0.010	10.0	10.0	0.3	15	3.4	2.6	2.7
69	K750	260	0.040	1.66	1.70	1.5	84	6.3	2.2	1.2
70	K1	K3	<0.010	4.70	4.70	0.6	50	2.8	3.1	0.6
71	<1	<1	<0.010	0.500	0.500	0.1	21	5.2	12	1.3
72	<1	<1	1.00	3.20	4.20	0.2	14	2.5	1.6	1.1
73	<1	<1	<0.010	0.500	0.500	0.3	28	17	0.7	1.4
74	K10000	K13000	<0.010	5.10	5.10	1.0	62	33	8.0	6.0
75	<1	<1	<0.010	<0.100	<0.100	0.4	29	15	2.4	1.7
76	530	790	<0.010	1.80	1.80	0.6	68	7.7	2.2	0.9
77	<1	<1	<0.010	2.00	2.00	<0.1	47	33	12	1.0
78	K15	K24	<0.010	0.400	0.400	0.7	41	19	13	4.0
79	K1	<1	<0.010	0.600	0.600	0.8	45	8.6	2.1	0.9
80	<1	<1	<0.010	3.60	3.60	0.3	3.6	1.1	12	0.3
81	K14000	K1100	<0.010	0.300	0.300	1.7	42	6.3	2.2	0.9
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82	<1	<1	<0.010	<0.100	<0.100	0.3	2.2	0.90	4.5	0.4
83	25	170	<0.010	0.300	0.300	0.5	56	6.4	2.9	0.9
84	<1	<1	<0.010	0.400	0.400	0.2	0.90	0.40	2.6	0.4
85	<1	<1	<0.010	0.400	0.400	0.2	0.40	0.40	1.9	0.5
86	<1	<1	<0.010	2.30	2.30	0.3	2.4	0.90	7.8	0.4
87	K1	<1	0.010	1.39	1.40	0.8	15	1.1	1.8	1.3
88	<1	<1	<0.010	0.700	0.700	<0.1	8.3	1.7	4.1	0.6
89	<1	<1	<0.010	0.200	0.200	0.2	47	6.2	3.3	0.3
90	<1	<1	0.040	0.760	0.800	0.1	39	13	1.2	0.3
91	K3	<1	<0.010	1.30	1.30	0.3	2.5	1.2	4.0	0.6
92	<1	K1	<0.010	3.80	3.80	0.3	85	31	1.9	1.7
93	<1	K3	0.020	0.180	0.200	0.6	49	8.9	6.9	0.5
94	<1	<1	0.050	3.75	3.80	1.3	74	20	4.0	3.2
95	<1	<1	<0.010	1.20	1.20	0.8	86	42	3.5	5.7
96	K11	K2	<0.010	3.20	3.20	0.4	78	11	5.2	<0.1
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97	<1	<1	<0.010	1.50	1.50	0.2	46	9.3	4.1	0.2
98	<1	<1	<0.010	0.800	0.800	0.4	31	18	6.5	0.3
99	220	100	0.020	4.38	4.40	1.6	100	9.5	5.2	2.0
100	61	360	<0.010	1.20	1.20	0.7	81	5.0	2.0	1.1
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Construction and water-quality data for selected farmstead wells, 1989-90--Continued

[--, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter at 25 degrees Celsius; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; conc., concentration; wat wh tot it, water whole total incremental titration; GC/MS, gas chromatography/mass spectrometer; µg/L, micrograms per liter; GC/FID, gas chromatography/flame ionization detection]

Site number	Coliform, fecal, 0.7 UM-MF (cols./ 100 mL)	Streptococci, fecal, Kf agar (cols./ 100 mL)	Nitrogen, nitrite total (mg/L as N)	Nitrogen, nitrate total* (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Carbon, organic total (mg/L as C)	Calcium, total recoverable (mg/L as Ca)	Magnesium, total recoverable (mg/L as Mg)	Sodium, total recoverable (mg/L as Na)	Potassium, total recoverable (mg/L as K)
101	<1	<1	<0.010	<0.100	<0.100	0.3	6.0	1.0	2.1	1.4
102	<1	<1	<0.010	4.80	4.80	0.3	68	2.8	2.3	0.5
103	<1	<1	<0.010	<0.100	<0.100	0.1	2.0	0.80	3.6	0.4
104	440	2000	<0.010	<0.100	<0.100	2.9	87	8.0	7.3	1.8
105	<1	<1	<0.010	<0.100	<0.100	0.4	7.0	4.6	3.2	1.6
106	<1	<1	<0.010	0.300	0.300	<0.1	15	8.2	4.1	0.7
107	K2	K3	<0.010	0.800	0.800	0.3	32	20	1.9	2.4
108	K1	K3	<0.010	1.50	1.50	0.3	36	23	1.1	1.3
109	<1	<1	0.030	7.17	7.20	0.2	70	12	8.3	0.7
110	<1	<1	<0.010	0.500	0.500	0.3	62	26	5.6	1.4
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111	<1	<1	0.010	<0.100	<0.100	1.4	37	16	12	1.8
112	<1	<1	<0.010	0.700	0.700	0.2	20	7.6	1.3	0.3
113	<1	<1	<0.010	0.700	0.700	<0.1	17	9.4	0.8	2.7
114	K4	100	<0.010	9.50	9.50	0.5	64	4.8	4.8	2.4
115	<1	<1	0.020	13.0	13.0	0.4	12	3.5	4.0	6.2
116	<1	<1	0.010	18.0	18.0	1.0	110	67	30	0.5
117	<1	K3	0.020	0.880	0.900	0.5	85	44	7.6	3.0
118	<1	K11	<0.010	4.20	4.20	0.6	6.4	2.5	20	0.4
119	<1	<1	0.010	7.49	7.50	0.1	72	12	4.1	1.2
120	K1	<1	<0.010	<0.100	<0.100	1.0	27	4.7	4.7	0.5
121	<1	<1	<0.010	<0.100	<0.100	1.0	10	4.9	100	2.4
122	<1	<1	<0.010	<0.100	<0.100	0.8	130	35	22	1.1
123	<1	<1	<0.010	3.60	3.60	<0.1	2.9	1.1	4.6	0.7
124	<1	<1	<0.010	3.30	3.30	0.3	2.2	1.2	2.9	1.0
125	<1	K2	<0.010	<0.100	<0.100	0.7	9.4	8.9	99	6.9
126	K2	<1	<0.010	<0.100	<0.100	0.1	52	20	1.7	0.4
127	--	73	<0.010	1.60	1.60	0.3	80	5.0	1.0	0.4
128	29	K22	<0.010	0.500	0.500	0.6	72	4.7	1.6	0.5
129	80	37	0.010	5.09	5.10	0.9	79	8.8	2.8	2.5
130	<1	<1	<0.010	2.20	2.20	0.4	23	14	7.3	0.3
131	<1	<1	<0.010	2.00	2.00	0.3	12	6.9	1.4	0.9
132	K4	<1	<0.010	<0.100	<0.100	0.2	61	29	9.7	1.2
133	K20	<1	<0.010	0.300	0.300	0.3	31	2.8	3.4	0.6
134	K1	K3	0.010	<0.100	<0.100	0.7	0.80	0.20	220	0.5
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135	K2	K1	<0.010	2.00	2.00	0.3	42	9.2	3.0	0.6
136	K12	K20	<0.010	<0.100	<0.100	1.0	49	18	16	1.9
137	<1	<1	<0.010	2.30	2.30	0.4	52	24	13	3.1
138	380	260	<0.010	1.00	1.00	4.7	38	12	6.0	3.2
139	K1	K9	0.010	1.79	1.80	0.8	51	26	1.3	1.9
140	<1	<1	<0.010	1.30	1.30	<0.1	35	22	1.0	0.6
141	<1	91	0.020	4.38	4.40	0.6	32	2.7	3.8	1.0
142	<1	<1	0.020	0.080	0.100	10	85	24	8.3	2.9
143	<1	K4	<0.010	2.70	2.70	0.2	110	15	3.1	0.6
144	<1	<1	<0.010	<0.100	<0.100	0.7	20	9.6	5.8	4.4
145	<1	<1	<0.010	0.200	0.200	0.6	70	23	9.8	1.0
146	<1	<1	<0.010	<0.100	<0.100	0.4	30	5.3	24	1.1
147	<1	<1	<0.010	0.600	0.600	0.7	46	28	0.7	1.0
148	K5	<1	--	--	--	0.2	59	2.4	3.9	0.5
149	K7	77	<0.010	5.10	5.10	<0.1	84	8.3	2.3	<0.1
150	<1	<1	<0.010	0.500	0.500	<0.1	27	5.3	1.1	0.4

Construction and water-quality data for selected farmstead wells, 1989-90--Continued

[--, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter at 25 degrees Celsius; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; conc., concentration; wat wh tot it, water whole total incremental titration; GC/MS, gas chromatography/mass spectrometer; µg/L, micrograms per liter; GC/FID, gas chromatography/flame ionization detection]

Site number	Alkalinity wat wh tot it field (mg/L as $CaCO_3$)	Sulfate, dissolved (mg/L as SO_4)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)	Silica, dissolved (mg/L as SiO_2)	Solids, residue at 105 deg. C, total recoverable (mg/L)	Iron, total recoverable (µg/L as Fe)	Manganese, total recoverable (µg/L as Mn)	GC/FID estimated total conc. (µg/L)	GC/FID number of peaks reported	GC/FID number peaks poss. identified by GC/MS
1	160	3.6	5.6	<0.10	10	186	20	<10	0.0	0.0	0.0
2	8	1.7	4.0	<0.10	6.7	27	20	<10	2.6	3.0	0.0
3	50	2.0	2.4	<0.10	14	38	50	10	0.70	1.0	0.0
4	104	5.2	8.7	0.30	17	147	60	<10	0.0	0.0	0.0
5	3	<1.0	1.4	<0.10	8.2	14	<10	<10	1.2	3.0	0.0
6	98	<1.0	1.0	<0.10	8.9	113	530	40	1.4	1.0	0.0
7	184	34	3.8	0.20	16	226	260	40	0.0	0.0	0.0
8	174	81	8.4	0.30	7.8	504	40	20	0.0	0.0	0.0
9	168	9.0	10	<0.10	6.5	340	4900	700	3.1	5.0	0.0
10	121	6.9	0.20	<0.10	5.6	139	200	10	1.7	3.0	0.0
11	5	<1.0	4.8	<0.10	13	66	<10	<10	120	34	4.0
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12	120	53	1.4	0.20	9.7	175	60	<10	0.50	1.0	0.0
13	10	3.0	4.5	<0.10	14	32	<10	10	0.20	1.0	0.0
14	166	4.0	5.2	<0.10	12	228	120	10	0.20	1.0	0.0
15	253	22	9.6	<0.10	7.4	310	20	40	0.40	1.0	0.0
16	124	18	1.6	0.20	13	217	3400	50	2.4	3.0	0.0
17	61	22	1.1	0.10	9.4	135	5200	710	34	14	1.0
18	143	<1.0	1.4	0.20	10	152	210	10	1.7	5.0	0.0
19	50	2.0	4.6	<0.10	16	*92	80	<10	0.0	0.0	0.0
20	4	<1.0	15	<0.10	19	112	20	110	0.60	2.0	0.0
21	8	<1.0	3.7	<0.10	14	37	<10	<10	45	31	1.0
	--	--	--	--	--	--	--	--	0.30	1.0	0.0
22	8	<1.0	11	<0.10	14	61	<10	330	0.0	0.0	0.0
23	5	4.4	2.4	<0.10	8.1	20	30	<10	0.0	0.0	0.0
24	124	7.0	2.0	0.10	8.0	487	11000	1300	1.3	2.0	0.0
25	102	1.4	6.9	<0.10	8.8	164	110	<10	36	14	3.0
26	48	3.7	2.7	<0.10	11	62	6600	440	3.6	5.0	0.0
27	178	3.0	6.3	<0.10	9.0	*271	70	<10	0.50	1.0	0.0
28	175	11	0.30	0.20	5.8	196	960	30	0.80	2.0	0.0
29	9	2.0	9.5	<0.10	12	54	40	20	1.1	2.0	0.0
30	4	1.8	3.4	<0.10	7.5	21	130	30	1.6	3.0	0.0
31	6	<1.0	6.5	<0.10	17	52	60	<10	0.30	1.0	0.0
32	5	2.0	13	<0.10	8.2	54	130	80	7.7	8.0	0.0
33	132	88	1.3	0.20	8.8	472	3400	240	6.0	14	0.0
34	190	4.0	3.8	<0.10	15	211	50	20	1.2	2.0	0.0
35	204	94	99	4.0	9.0	518	150	10	0.0	0.0	0.0
36	52	7.6	6.3	<0.10	2.3	182	69000	740	22	7.0	1.0
	--	--	--	--	--	--	--	--	16	15	2.0
37	11	1.0	8.4	<0.10	27	66	1000	50	0.0	0.0	0.0
38	45	2.0	3.8	<0.10	8.0	86	70	20	3.8	6.0	0.0
39	108	25	0.4	0.20	6.0	166	520	<10	0.0	0.0	0.0
40	228	23	12	1.4	8.0	305	790	50	0.50	1.0	0.0
41	153	11	2.6	0.30	32	166	40	30	0.80	2.0	0.0
42	187	2.0	1.8	0.20	26	187	2500	90	0.20	1.0	0.0
43	320	19	13	1.7	9.0	371	550	70	3.7	7.0	0.0
44	25	5.0	11	<0.10	22	88	50	<10	46	31	1.0
	--	--	--	--	--	--	--	--	1.5	2.0	0.0
45	14	<1.0	8.8	<0.10	70	62	70	<10	1.5	4.0	0.0
46	118	2.0	2.4	0.20	8.5	116	580	30	1.3	1.0	0.0
47	258	24	5.8	0.40	8.7	*386	80	20	1.2	3.0	0.0
48	28	<1.0	10	0.10	27	81	10	<10	0.0	0.0	0.0
49	266	21	3.4	0.20	26	294	880	40	0.20	1.0	0.0
50	52	2.7	3.1	<0.10	8.8	66	10	<10	1.0	3.0	0.0

Construction and water-quality data for selected farmstead wells, 1989-90--Continued

[--, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter at 25 degrees Celsius; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; conc., concentration; wat wh tot it, water whole total incremental titration; GC/MS, gas chromatography/mass spectrometer; µg/L, micrograms per liter; GC/FID, gas chromatography/flame ionization detection]

Site number	Alkalinity wat wh tot it field (mg/L as $CaCO_3$)	Sulfate, dissolved (mg/L as SO_4)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)	Silica, dissolved (mg/L as SiO_2)	Solids, residue at 105 deg. C, total recoverable (mg/L)	Iron, total recoverable (µg/L as Fe)	Manganese, total recoverable (µg/L as Mn)	GC/FID estimated total conc. (µg/L)	GC/FID number of peaks reported	GC/FID number peaks poss. identified by GC/MS
51	252	13	23	<0.10	8.2	403	410	20	0.30	1.0	0.0
52	220	20	7.7	0.50	8.0	269	10	<10	0.50	1.0	0.0
53	230	180	11	0.80	9.5	554	110	30	0.0	0.0	0.0
54	187	10	1.9	0.10	6.6	219	170	<10	0.50	2.0	0.0
55	19	14	5.1	0.10	18	69	160	10	0.30	1.0	0.0
56	185	4.0	1.3	0.10	8.7	152	260	<10	0.0	0.0	0.0
57	44	1.1	3.4	<0.10	7.7	74	500	20	4.8	10	0.0
58	6	<1.0	5.4	0.40	15	45	80	10	1.6	3.0	0.0
59	105	12	5.3	0.10	11	176	80	10	1.5	5.0	0.0
60	151	150	8.3	0.10	9.0	377	870	40	1.0	4.0	0.0
61	112	5.0	1.9	0.10	6.0	157	2100	60	0.30	1.0	0.0
62	18	1.0	11	<0.10	22	67	20	10	0.30	1.0	0.0
63	190	2.4	15	0.20	8.1	207	20	<10	2.5	2.0	0.0
64	8	2.0	1.8	<0.10	14	16	<10	<10	0.30	1.0	0.0
65	120	<1.0	1.2	0.20	12	124	<10	<10	1.1	3.0	0.0
66	2	<1.0	3.9	<0.10	17	43	30	<10	1.9	3.0	0.0
67	228	63	15	0.50	17	350	310	150	0.0	0.0	0.0
68	39	5.0	6.2	0.10	9.0	117	50	40	1.5	3.0	0.0
69	226	29	7.1	<0.10	5.7	314	210	70	1.1	2.0	0.0
70	130	7.0	7.2	0.10	13	197	360	30	0.0	0.0	0.0
71	124	2.4	5.6	0.30	12	121	70	70	5.2	6.0	0.0
72	31	1.6	6.1	<0.10	9.1	90	80	<10	5.6	8.0	0.0
73	144	2.0	1.2	<0.10	11	146	140	<10	0.0	0.0	0.0
74	286	19	14	0.20	9.0	356	<10	<10	1.5	1.0	0.0
75	152	4.0	0.60	0.20	15	176	2200	10	0.0	0.0	0.0
76	196	12	5.2	0.10	8.0	161	150	10	2.7	4.0	0.0
77	188	95	13	1.2	9.0	257	20	<10	1.8	3.0	0.0
78	193	37	6.0	0.50	8.0	260	210	20	1.5	3.0	0.0
79	162	8.0	2.1	0.10	8.3	275	3000	170	4.4	8.0	0.0
80	16	<1.0	9.5	<0.10	20	69	30	<10	0.50	1.0	0.0
81	130	15	1.9	0.10	8.0	193	930	170	--	--	--
	--	--	--	--	--	--	--	--	5.4	6.0	0.0
82	17	<1.0	1.9	<0.10	12	25	50	10	0.0	0.0	0.0
83	177	12	4.7	0.20	9.0	414	240	20	0.20	1.0	0.0
84	6	<1.0	1.7	<0.10	15	27	50	10	1.2	3.0	0.0
85	5	<1.0	1.1	<0.10	11	27	<10	50	0.80	2.0	0.0
86	20	<1.0	2.9	0.10	38	80	50	10	0.50	1.0	0.0
87	38	5.0	2.6	0.10	9.0	92	590	210	3.9	5.0	0.0
88	36	1.4	0.70	<0.10	19	47	1200	10	2.6	6.0	0.0
89	149	15	1.1	0.20	19	159	3000	80	0.50	1.0	1.0
90	164	1.3	2.5	0.40	8.7	184	<10	<10	87	5.0	5.0
91	12	<1.0	4.2	<0.10	16	11	80	40	0.40	1.0	0.0
92	35	17	6.7	0.50	11	401	180	<10	0.0	0.0	0.0
93	151	10	9.8	0.10	9.0	158	100	<10	0.40	2.0	0.0
94	287	27	9.7	0.20	18	376	20	200	0.0	0.0	0.0
95	362	53	4.1	1.1	13	438	4200	30	2.7	6.0	0.0
96	263	3.0	12	<0.10	11	309	60	<10	58	1.0	1.0
	--	--	--	--	--	--	--	--	0.0	0.0	0.0
97	181	4.0	5.9	0.20	8.0	208	<10	<10	0.70	2.0	0.0
98	145	2.0	1.5	0.30	26	202	20	<10	0.0	0.0	0.0
99	285	25	15	0.10	8.4	447	730	80	0.30	1.0	0.0
100	234	13	4.8	0.30	7.0	276	300	30	140	26	2.0
	--	--	--	--	--	--	--	--	9.5	12	0.0

Construction and water-quality data for selected farmstead wells, 1989-90--Continued

[--, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter at 25 degrees Celsius; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; conc., concentration; wat wh tot it, water whole total incremental titration; GC/MS, gas chromatography/mass spectrometer; µg/L, micrograms per liter; GC/FID, gas chromatography/flame ionization detection]

Site number	Alkalinity wat wh tot it field (mg/L as $CaCO_3$)	Sulfate, dissolved (mg/L as SO_4)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)	Silica, dissolved (mg/L as SiO_2)	Solids, residue at 105 deg. C, total recoverable (mg/L)	Iron, total recoverable (µg/L as Fe)	Manganese, total recoverable (µg/L as Mn)	GC/FID estimated total conc. (µg/L)	GC/FID number of peaks reported	GC/FID number peaks poss. identified by GC/MS
101	17	5.0	2.0	0.20	17	54	80	10	0.0	0.0	0.0
102	172	21	7.7	0.20	9.7	264	70	<10	0.50	2.0	0.0
103	12	<1.0	1.5	<0.10	13	33	90	<10	6.7	9.0	0.0
104	276	14	6.9	0.10	7.7	307	1400	90	0.0	0.0	0.0
105	67	1.3	2.1	<0.10	17	69	18000	1000	2.6	5.0	0.0
106	84	7.9	0.40	0.20	19	94	50	<10	1.4	4.0	0.0
107	180	5.0	2.7	<0.10	7.0	185	40	<10	0.0	0.0	0.0
108	204	3.0	2.1	0.10	9.5	195	780	10	0.20	1.0	0.0
109	177	42	15	0.10	9.5	323	<10	<10	1.4	3.0	0.0
110	194	100	1.8	0.50	13	375	4800	20	10	1.0	1.0
	--	--	--	--	--	--	--	--	2.2	3.0	0.0
111	152	32	6.2	0.40	30	264	5900	290	0.0	0.0	0.0
112	97	5.7	2.7	<0.10	13	104	1800	30	0.40	4.0	0.0
113	84	2.5	0.80	0.20	15	96	340	30	0.30	1.0	0.0
114	175	7.0	10	0.10	8.8	283	50	10	0.0	0.0	0.0
115	2	5.6	20	0.20	5.8	161	140	370	5.4	6.0	0.0
116	396	29	120	0.30	33	807	200	<10	0.0	0.0	0.0
117	241	190	3.6	1.5	9.2	539	120	<10	5.5	9.0	0.0
118	32	5.0	19	0.10	21	109	<10	<10	1.0	3.0	0.0
119	176	12	12	0.20	11	306	50	<10	0.30	1.0	0.0
120	101	6.0	1.5	0.10	23	124	2400	270	0.0	0.0	0.0
121	268	2.0	20	0.50	14	319	360	110	0.0	0.0	0.0
122	366	190	26	0.10	17	667	1200	40	3.1	6.0	0.0
123	6	<1.0	3.4	<0.10	16	41	50	<10	0.0	0.0	0.0
124	2	<1.0	3.1	<0.10	12	40	60	10	0.0	0.0	0.0
125	280	22	14	1.1	12	351	50	20	0.0	0.0	0.0
126	238	6.0	3.2	1.1	8.6	221	80	10	0.0	0.0	0.0
127	268	15	3.8	0.10	8.0	273	<10	60	0.0	0.0	0.0
128	224	6.0	2.6	0.10	9.5	221	80	<10	0.90	1.0	0.0
129	207	8.8	22	0.10	9.5	332	40	40	2.0	4.0	0.0
130	253	2.0	3.6	0.20	22	164	160	10	2.2	1.0	0.0
131	55	1.4	1.5	<0.10	8.0	66	1400	30	0.70	2.0	0.0
132	161	240	14	0.30	13	412	310	20	0.0	0.0	0.0
133	89	9.6	5.2	<0.10	8.7	94	90	10	0.60	2.0	0.0
134	354	<1.0	120	1.2	8.8	579	110	<10	--	--	--
	--	--	--	--	--	--	--	--	0.40	1.0	0.0
135	147	25	3.3	0.10	10	206	30	<10	0.0	0.0	0.0
136	206	23	20	0.70	11	273	330	90	0.60	2.0	0.0
137	238	20	9.3	0.30	9.0	291	20	<10	7.5	12	1.0
138	107	8.8	4.2	0.20	12	945	120000	4800	0.40	1.0	0.0
139	242	12	3.9	0.10	2.0	233	60	20	0.0	0.0	0.0
140	183	2.3	2.6	0.20	7.9	186	530	10	0.30	1.0	0.0
141	80	6.6	6.4	0.10	7.6	136	320	260	0.90	2.0	0.0
142	144	12	35	0.30	40	868	110000	2800	1.4	3.0	0.0
143	308	60	4.0	0.40	11	396	30	10	0.0	0.0	0.0
144	90	23	0.80	0.20	20	94	720	300	0.80	2.0	0.0
145	267	38	17	0.30	11	347	90	10	1.1	2.0	0.0
146	172	<1.0	0.20	<0.10	25	194	760	20	3.2	5.0	0.0
147	252	2.5	3.4	0.20	9.2	228	880	10	0.0	0.0	0.0
148	162	3.0	6.7	<0.10	9.5	--	140	<10	0.40	1.0	0.0
149	259	4.0	3.3	0.10	12	319	580	10	0.40	1.0	0.0
150	92	5.2	<0.50	0.20	8.1	80	70	<10	5.1	5.0	0.0

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; conc., concentration; GC/FID, gas chromatography/flame ionization detector; GC/MS, gas chromatography/mass spectrometry]

Site number	Latitude and longitude	County	Depth of well (feet)	Principal aquifer	Sampling date	Specific conductance (µS/cm)	pH (standard units)	Temperature water (deg. C)
1	350124 900722	Shelby	110	Alluvial	07-20-90	614	7.2	18.0
2	350253 893239	Fayette	174	Tertiary	07-25-89	380	5.8	17.0
3	350322 861517	Franklin	120	Ordovician	04-05-90	222	6.7	15.5
4	350611 845203	Bradley	N/A	Cambrian/Ordovician	10-30-89	228	7.6	16.0
5	350655 862813	Lincoln	N/A	Ordovician	05-02-90	95	7.6	14.0
6	350715 853539	Marion	N/A	Mississippian	01-25-90	110	7.5	12.0
7	350726 845105	Bradley	N/A	Cambrian/Ordovician	09-06-89	300	7.4	15.5
8	351002 843720	Polk	411	Cambrian/Ordovician	06-07-90	480	7.7	16.0
9	351008 883506	McNairy	560	Cretaceous	08-29-89	400	7.7	20.0
10	351044 872047	Lawrence	N/A	Mississippian	02-09-90	182	7.1	14.5
11	351127 874503	Wayne	N/A	Mississippian	02-07-90	52	6.7	12.0
12	351128 851602	Hamilton	140	Mississippian	04-12-90	170	7.3	13.5
13	351412 881515	Hardin	50	Alluvial	08-31-89	198	7.5	19.0
14	351424 850039	Hamilton	58	Cambrian/Ordovician	01-11-90	134	7.2	14.0
15	351552 885920	Hardeman	618	Cretaceous	09-01-89	200	7.1	18.5
16	351622 854233	Grundy	N/A	Pennsylvanian	01-25-90	234	6.6	13.0
17	351641 860759	Franklin	N/A	Mississippian	04-06-90	117	6.9	14.5
18	352016 862237	Moore	N/A	Ordovician	12-05-89	190	8.3	13.5
19	352036 895345	Shelby	399	Tertiary	07-21-89	347	6.6	17.5
20	352510 861357	Coffee	N/A	Mississippian	03-29-90	80	6.4	15.0
21	352612 883819	Chester	211	Cretaceous	08-31-89	50	6.4	18.0
22	352643 850443	Rhea	338	Mississippian	03-28-90	174	8.1	15.0
23	352647 871456	Maury	N/A	Mississippian	11-01-89	112	7.5	15.0
24	352956 870710	Maury	875	Knox	11-15-89	700	7.8	15.5
25	353036 895829	Tipton	65	Alluvial	02-01-90	500	6.6	15.0
26	353040 881448	Henderson	220	Cretaceous	09-06-89	345	7.2	18.0
27	353145 881248	Decatur	210	Cretaceous	09-07-89	140	6.4	18.0
28	353253 873226	Lewis	225	Mississippian	03-23-90	73	4.7	15.0
					05-09-90	--	--	--
					06-08-90	--	5.4	--
29	353344 893858	Tipton	558	Tertiary	12-13-89	105	6.2	19.0
30	353523 891541	Haywood	290	Tertiary	07-27-89	48	6.0	17.0
31	353551 842808	Monroe	N/A	Cambrian/Ordovician	08-17-89	280	7.3	16.0
32	353727 851121	Bledsoe	350	Cambrian/Ordovician	01-23-90	160	7.3	12.5
33	353806 864138	Marshall	540	Ordovician	02-06-90	445	7.6	15.5
34	354001 884956	Madison	305	Tertiary	08-15-89	45	5.6	16.0
35	354225 894617	Lauderdale	110	Alluvial	12-20-89	295	6.6	16.5
36	354324 842254	Loudon	N/A	Cambrian/Ordovician	08-16-89	280	7.4	15.0
37	354343 840609	Blount	N/A	Cambrian/Ordovician	08-03-89	310	7.6	15.5
38	354606 832053	Sevier	350	Crystalline	07-27-89	297	6.9	15.0
39	354702 890706	Crockett	129	Tertiary	08-17-89	189	6.1	17.0
40	354703 890707	Crockett	213	Tertiary	08-17-89	60	5.8	17.0
41	354707 863949	Williamson	300	Ordovician	11-08-89	--	7.8	16.0
42	354753 853113	Van Buren	156	Mississippian	05-08-90	800	7.6	15.0
43	354830 893143	Lauderdale	509	Tertiary	12-14-89	360	6.5	17.0
44	354947 860411	Cannon	N/A	Ordovician	09-13-89	315	7.7	18.5
45	355017 862315	Rutherford	300	Ordovician	09-05-89	480	7.7	18.0

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; conc., concentration; GC/FID, gas chromatography/flame ionization detector; GC/MS, gas chromatography/mass spectrometry]

Site number	Latitude and longitude	County	Depth of well (feet)	Principal aquifer	Sampling date	Specific conductance (µS/cm)	pH (standard units)	Temperature water (deg. C)
46	355300 872212	Hickman	N/A	Mississippian	02-27-90	148	7.3	13.0
47	355351 865313	Williamson	1,103	Knox	08-17-89	2020	7.8	18.5
48	355437 891443	Crockett	330	Tertiary	10-12-89	135	6.7	19.5
49	355516 884532	Gibson	241	Tertiary	09-27-89	70	5.7	17.0
50	355631 870904	Williamson	200	Mississippian	09-21-89	379	7.8	15.0
51	355646 893844	Dyer	70	Alluvial	01-31-90	590	7.1	16.0
52	355752 851842	White	120	Pennsylvanian	04-16-90	110	6.8	15.0
53	355813 830854	Cocke	730	Cambrian/Ordovician	08-22-89	650	7.1	15.0
54	360010 882529	Carroll	270	Cretaceous	10-12-89	80	5.8	18.0
55	360049 855621	Dekalb	103	Ordovician	11-01-89	380	7.1	15.5
56	360125 844139	Morgan	85	Pennsylvanian	04-23-90	76	6.6	13.5
57	360154 892325	Dyer	649	Tertiary	10-04-89	155	6.4	19.5
58	360155 832358	Jefferson	390	Cambrian/Ordovician	01-31-90	440	7.5	15.0
59	360241 840335	Knox	N/A	Cambrian/Ordovician	08-02-89	295	7.0	14.0
60	360412 872504	Dickson	140	Mississippian	01-24-90	125	7.2	13.0
61	360507 874708	Humphreys	114	Mississippian	01-30-90	332	7.5	16.0
62	360535 843525	Morgan	242	Pennsylvanian	03-22-90	300	6.9	14.0
63	360550 860827	Wilson	257	Ordovician	09-06-89	600	7.4	20.0
64	360647 873810	Humphreys	217	Mississippian	11-03-89	333	7.5	15.0
65	360825 822431	Unicoi	N/A	Cambrian/Ordovician	12-06-89	175	8.0	12.5
66	360905 870702	Cheatham	1,424	Knox	09-27-89	1280	7.9	16.5
67	361101 820353	Carter	N/A	Crystalline	12-07-89	50	6.7	9.5
68	361146 864125	Davidson	50	Ordovician	06-29-89	235	6.9	16.5
69	361249 855744	Smith	109	Ordovician	10-17-89	500	7.5	16.0
70	361305 834541	Union	N/A	Cambrian/Ordovician	08-04-89	390	7.3	14.5
71	361410 880449	Benton	160	Cretaceous	10-13-89	70	5.7	17.0
72	361659 821027	Carter	N/A	Cambrian/Ordovician	03-29-90	152	7.8	14.0
73	361709 884235	Weakley	398	Tertiary	10-17-89	40	5.9	16.5
74	361802 881940	Henry	421	Cretaceous	12-01-89	69	6.2	14.0
75	361849 874554	Houston	115	Mississippian	10-27-89	367	7.7	16.0
76	362130 872244	Montgomery	N/A	Mississippian	05-01-90	292	7.5	14.0
77	362133 823849	Greene	N/A	Cambrian/Ordovician	01-11-90	442	7.3	14.0
78	362243 892803	Lake	470	Tertiary	09-12-89	250	6.7	19.0
79	362528 833530	Claiborne	N/A	Cambrian/Ordovician	08-18-89	320	7.1	15.0
80	362543 890321	Obion	572	Tertiary	09-13-89	105	6.6	17.5
81	362607 851603	Overton	N/A	Mississippian	04-10-90	381	8.0	14.5
82	362642 882000	Henry	135	Tertiary	10-18-89	60	5.9	16.0
83	362851 892032	Lake	--	Alluvial	01-18-90	480	6.6	16.0
84	362936 843226	Scott	--	Pennsylvanian	01-30-90	355	6.8	14.0
85	362945 814714	Johnson	N/A	Cambrian/Ordovician	12-08-89	135	7.6	9.0
86	363019 831041	Hancock	N/A	Cambrian/Ordovician	08-15-89	389	7.5	14.5
87	363212 855106	Macon	N/A	Mississippian	10-23-89	231	7.0	16.0
88	363336 874625	Stewart	108	Mississippian	11-09-89	239	6.6	15.0
					03-08-90	--	--	--
89	363338 824231	Hawkins	N/A	Cambrian/Ordovician	03-23-90	390	7.3	14.0
90	363609 864304	Robertson	75	Mississippian	10-31-89	450	6.8	15.0

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

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Site number	Coliform, fecal (cols./100 mL)	Streptococci, fecal (cols. per 100 mL)	Nitrogen, ammonia total recoverable (mg/L as N)	Nitrogen, ammonia + organic total recoverable (mg/L as N)	Nitrogen, nitrite total recoverable (mg/L as N)	Nitrogen, nitrate total recoverable (mg/L as N)	Nitrogen, NO_2+NO_3 total recoverable (mg/L as N)	Phosphorus, total recoverable (mg/L as P)	Calcium, dissolved (mg/L as Ca)	Magnesium, dissolved (mg/L as Mg)	Sodium, dissolved (mg/L as Na)
1	<1	<1	0.015	0.30	0.004	0.948	0.952	0.034	--	--	--
2	<1	<1	0.002	--	0.001	0.644	0.645	<0.001	2.2	0.76	3.7
3	K3	<1	<0.002	<0.20	0.033	3.17	3.20	0.013	33	6.0	4.4
4	<1	<1	0.011	<0.20	0.002	0.465	0.467	0.001	27	14	1.2
5	K3	45	0.015	<0.20	0.006	0.426	0.432	0.009	15	1.6	0.80
6	K10	33	0.006	<0.20	0.009	0.261	0.270	0.003	16	1.7	0.80
7	K5	K12	0.012	--	0.004	1.10	1.10	0.004	34	17	2.5
8	<1	<1	0.018	0.30	0.003	0.013	0.016	0.034	69	18	3.6
9	<1	<1	0.145	--	0.001	<0.010	<0.010	0.036	47	18	5.1
10	K18	K20	0.013	0.40	0.008	1.19	1.20	0.013	17	4.0	2.4
11	K2	K4	0.006	<0.20	0.004	0.031	0.035	0.037	5.8	1.6	0.90
12	<1	<1	<0.002	<0.20	0.012	0.214	0.226	0.022	26	4.3	1.3
13	<1	<1	0.020	--	0.001	<0.010	<0.010	0.048	27	4.4	7.7
14	K9	K5	0.005	0.20	0.012	1.19	1.20	0.006	16	6.1	1.4
15	<1	<1	0.234	--	0.014	0.005	0.019	0.034	25	6.4	5.7
16	K11	28	0.006	0.30	0.007	2.09	2.10	0.001	21	8.6	2.8
17	<1	<1	0.020	<0.20	0.012	0.342	0.354	0.009	17	3.2	0.80
18	110	500	0.007	--	0.004	2.30	2.30	0.036	35	3.3	1.5
19	<1	<1	0.032	--	0.007	<0.010	<0.010	<0.001	40	20	13
20	<1	<1	0.029	0.30	0.027	0.923	0.950	0.013	10	2.6	1.0
21	<1	<1	0.023	--	0.001	0.014	0.015	0.018	1.9	1.1	3.3
22	<1	<1	0.022	0.20	0.040	2.36	2.40	0.132	27	5.0	0.90
23	K9	148	0.002	<0.20	0.004	0.065	0.069	0.016	16	2.9	1.1
24	<1	<1	0.835	0.80	0.006	<0.010	<0.010	0.015	43	28	51
25	<1	<1	0.293	0.40	0.019	<0.010	0.017	0.102	120	27	4.0
26	<1	<1	0.020	--	0.005	0.029	0.034	0.029	45	14	4.8
27	<1	<1	0.047	--	0.011	0.037	0.048	<0.001	10	3.4	4.7
28	<1	<1	<0.002	0.30	<0.001	0.880	0.880	0.022	2.1	0.81	8.5
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	--	--	0.009	<0.20	0.003	0.755	0.758	<0.001	2.1	0.76	1.9
29	<1	<1	0.019	<0.20	0.007	0.005	0.012	0.002	12	4.3	7.8
30	<1	<1	0.013	--	0.016	0.157	0.173	<0.001	3.0	1.0	5.8
31	K4	K7	0.153	--	0.008	0.013	0.021	0.004	32	16	1.8
32	K840	K3300	0.010	<0.20	0.008	0.892	0.900	0.009	17	2.3	3.7
33	K15	27	0.020	<0.20	0.006	0.987	0.993	0.004	62	14	4.4
34	<1	<1	0.003	--	0.002	0.919	0.921	<0.001	2.2	0.80	3.3
35	<1	<1	1.30	1.2	0.007	0.003	0.010	0.067	100	26	7.5
36	<1	<1	0.005	--	0.002	0.998	1.00	0.005	31	17	1.3
37	K160	33	0.085	--	0.008	1.29	1.30	0.002	36	19	1.1
38	<1	<1	0.019	--	0.009	<0.010	<0.010	<0.001	41	5.1	6.4
39	<1	<1	0.002	--	0.003	0.024	0.027	<0.001	3.7	1.4	5.9
40	<1	<1	<0.002	--	0.002	0.896	0.898	<0.001	7.9	2.8	29
41	<1	<1	0.109	<0.20	0.004	<0.010	<0.010	0.029	68	18	10
42	<1	<1	0.229	<0.20	0.034	0.103	0.137	0.006	110	36	11
43	<1	<1	0.127	<0.20	0.010	0.004	0.014	0.012	39	18	6.6
44	390	2000	0.034	<0.20	0.004	1.10	1.10	0.106	52	7.6	2.4
45	20	30	0.030	--	0.015	1.28	1.30	0.025	83	6.7	3.7

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; conc., concentration; GC/FID, gas chromatography/flame ionization detector; GC/MS, gas chromatography/mass spectrometry]

Site number	Coliform, fecal (cols./100 mL)	Streptococci, fecal (cols. per 100 mL)	Nitrogen, ammonia total recoverable (mg/L as N)	Nitrogen, ammonia + organic total recoverable (mg/L as N)	Nitrogen, nitrite total recoverable (mg/L as N)	Nitrogen, nitrate total recoverable (mg/L as N)	Nitrogen, NO_2+NO_3 total recoverable (mg/L as N)	Phosphorus, total recoverable (mg/L as P)	Calcium, dissolved (mg/L as Ca)	Magnesium, dissolved (mg/L as Mg)	Sodium, dissolved (mg/L as Na)
46	K2	<1	<0.002	<0.20	0.026	0.773	0.799	0.040	23	3.5	1.3
47	<1	<1	0.630	--	0.005	<0.010	<0.010	<0.001	31	18	280
48	<1	<1	0.040	0.23	0.007	0.008	0.015	0.030	11	4.9	6.1
49	<1	<1	<0.002	<0.20	0.004	1.40	1.40	0.005	4.1	1.5	9.0
50	<1	<1	0.014	<0.20	0.005	0.506	0.511	0.020	49	15	4.1
51	<1	<1	0.215	0.30	0.031	<0.010	0.027	0.435	130	26	4.1
52	<1	<1	0.036	<0.20	0.019	0.021	0.040	0.153	11	4.0	2.1
53	K3	K6	0.005	--	0.002	0.064	0.066	<0.001	84	39	0.80
54	<1	<1	0.027	<0.20	0.004	0.015	0.019	0.012	4.2	2.3	3.8
55	K2	K1	0.017	0.20	0.001	0.809	0.810	0.190	68	5.8	4.1
56	<1	<1	0.025	0.20	0.017	0.004	0.021	0.013	6.3	1.5	3.3
57	<1	<1	0.048	<0.20	0.011	0.005	0.016	<0.001	13	6.3	4.5
58	<1	<1	0.012	0.40	0.004	0.821	0.825	0.007	62	22	1.7
59	240	600	0.022	--	0.004	0.240	0.244	0.015	33	18	2.1
60	<1	K6	0.008	<0.20	0.008	0.082	0.090	0.018	17	2.3	1.6
61	K5	K4	0.009	0.40	0.003	0.851	0.854	0.013	60	4.5	3.6
62	K1	K1	0.305	0.70	0.004	0.007	0.011	<0.001	19	5.9	29
63	K1	K1	0.087	--	0.002	<0.010	<0.010	0.006	92	18	13
64	<1	<1	0.004	<0.20	0.006	1.09	1.10	0.026	63	4.7	4.9
65	K1	K1	--	--	--	--	--	--	19	10	1.2
66	<1	K15	0.460	0.49	0.003	<0.010	<0.010	<0.001	22	8.6	240
67	K1	K3	<0.002	--	0.006	0.810	0.816	0.013	4.6	1.3	2.4
68	<1	<1	0.209	<0.20	0.002	<0.010	<0.010	0.104	36	3.6	4.7
69	K130	270	0.107	0.20	0.014	0.230	0.244	0.050	82	15	3.8
70	45	100	0.075	--	0.002	1.30	1.30	0.005	45	25	1.1
71	<1	<1	0.007	<0.20	0.004	0.217	0.221	0.008	7.0	1.7	3.5
72	K1	<1	0.004	0.30	0.003	0.507	0.510	0.006	14	7.8	3.3
73	<1	<1	0.003	<0.20	0.005	0.009	0.014	<0.001	2.0	0.72	3.3
74	<1	<1	0.027	<0.20	0.002	0.010	0.012	0.081	5.9	2.5	3.4
75	<1	<1	0.004	0.40	0.001	0.793	0.794	0.031	71	3.1	4.9
76	K17	K8	0.017	<0.20	0.005	0.275	0.280	0.013	52	5.0	2.7
77	25	470	0.011	0.50	0.005	2.80	2.80	0.011	75	14	1.6
78	K9	<1	0.089	--	0.002	<0.010	<0.010	<0.001	29	12	4.7
79	K7000	K11000	0.026	--	0.028	1.87	1.90	0.045	45	15	2.8
80	<1	<1	0.011	--	0.003	<0.010	<0.010	0.002	12	5.8	7.6
81	K11	K9	0.003	<0.20	0.007	0.598	0.605	0.003	62	4.9	4.1
82	<1	<1	<0.002	<0.20	0.002	0.033	0.035	0.004	2.9	0.99	10
83	<1	<1	0.234	0.30	0.029	0.042	0.071	0.143	71	24	7.6
84	<1	<1	0.306	0.70	0.012	<0.010	0.010	0.025	48	11	11
85	K2	K14	<0.002	--	0.007	0.690	0.697	0.009	14	8.0	1.4
86	K11	45	0.004	--	0.004	1.10	1.10	0.009	43	24	2.1
87	35	93	0.021	0.60	0.004	5.00	5.00	0.021	35	7.8	2.5
88	<1	<1	<0.002	<0.20	<0.001	0.654	0.654	0.015	37	5.4	4.5
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89	<1	<1	0.024	<0.20	0.009	1.79	1.80	0.007	47	26	1.6
90	K2	<1	0.076	0.40	0.005	1.20	1.20	0.032	67	9.6	11

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

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Site number	Potassium, dissolved (mg/L as K)	Alkalinity wat wh tot it field (mg/L as $CACO_{3)}$	Sulfate, dissolved (mg/L as SO_4)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)	Silica, dissolved (mg/L as SiO_2)	Solids, residue at 180 deg. C dissolved (mg/L)	Aluminum, dissolved (µg/L as Al)	Arsenic, dissolved (µg/L as As)	Barium, dissolved (µg/L as Ba)	Beryllium, dissolved (µg/L as Be)	Bromide, dissolved (mg/L as Br)
1	--	--	--	--	--	--	--	--	--	--	--	--
2	0.60	13	<1.0	2.2	<0.10	17	31	<10	<1	10	<0.5	0.030
3	0.90	89	3.0	10	<0.10	7.2	121	<10	<1	31	<0.5	0.020
4	0.50	122	<1.0	1.7	<0.10	8.6	131	<10	<1	75	<0.5	0.020
5	0.40	46	17	24	0.20	8.0	66	<10	<1	7	<0.5	<0.010
6	0.50	44	5.0	1.1	<0.10	5.2	66	30	<1	15	<0.5	0.010
7	0.80	146	3.0	3.6	0.10	8.8	139	<10	<1	32	<0.5	0.020
8	3.0	101	130	0.20	<0.10	19	261	<10	<1	130	<0.5	<0.010
9	6.4	134	39	4.7	0.10	12	218	<10	<1	180	<0.5	0.040
10	1.0	43	6.0	5.9	0.10	8.1	88	10	<1	24	<0.5	0.010
11	0.50	14	5.0	1.0	0.10	7.8	49	20	<1	13	<0.5	<0.010
12	0.40	75	5.5	1.1	<0.10	6.5	89	<10	<1	12	<0.5	<0.010
13	1.3	69	11	5.6	0.20	9.1	112	<10	<1	6	<0.5	0.020
14	1.0	55	3.0	2.4	<0.10	7.0	76	20	<1	19	<0.5	0.010
15	6.2	77	33	1.0	0.10	31	144	<10	1	68	<0.5	0.020
16	2.7	36	56	3.2	0.10	7.4	119	<10	<1	36	<0.5	0.010
17	0.20	52	1.2	1.0	<0.10	7.9	62	<10	<1	5	<0.5	0.010
18	0.70	88	2.0	2.6	0.10	8.6	119	<10	<1	12	<0.5	0.010
19	2.0	210	10	3.6	0.20	14	213	10	<1	250	<0.5	0.040
20	0.20	30	4.9	8.4	<0.10	8.4	42	<10	<1	6	<0.5	0.010
21	1.3	12	7.0	1.1	<0.10	9.7	26	<10	<1	34	<0.5	0.010
22	0.50	72	<1.0	2.1	<0.10	8.2	99	10	<1	12	<0.5	0.020
23	0.90	46	4.0	1.7	<0.10	8.4	57	20	<1	13	<0.5	0.020
24	8.7	194	140	9.5	4.1	8.4	409	<10	<1	28	<0.5	0.050
25	3.7	256	28	2.3	0.20	31	486	10	5	450	<0.5	<0.010
26	3.8	138	29	2.6	0.10	24	201	<10	<1	93	<0.5	0.010
27	1.8	30	6.0	6.3	<0.10	17	89	<10	<1	36	<0.5	0.030
28	0.20	1	<1.0	9.0	4.2	8.5	29	<10	<1	8	<0.5	0.030
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	0.20	6	<1.0	1.9	<0.10	8.3	16	30	2	8	<0.5	0.020
29	0.80	66	2.0	2.1	0.10	9.5	72	<10	<1	27	<0.5	0.030
30	0.30	21	<1.0	2.3	0.10	13	40	<10	<1	5	<0.5	0.020
31	1.3	138	2.0	3.3	<0.10	8.2	151	<10	<1	29	<0.5	<0.010
32	0.80	58	7.0	6.1	<0.10	5.4	96	30	<1	18	<0.5	0.010
33	1.5	210	18	4.9	0.20	7.5	245	<10	<1	34	<0.5	<0.010
34	0.70	6	<1.0	2.3	<0.10	15	52	<10	<1	14	<0.5	0.020
35	2.5	255	2.0	4.5	0.20	35	443	<10	2	530	<0.5	0.34
36	1.0	140	2.0	2.5	0.10	8.3	152	<10	<1	25	<0.5	<0.010
37	1.2	158	1.0	2.0	0.10	9.2	164	<10	<1	52	<0.5	<0.010
38	0.70	59	76	3.1	0.20	30	196	60	<1	12	<0.5	0.010
39	0.50	44	3.0	2.4	<0.10	12	50	<10	<1	12	<0.5	0.040
40	0.70	23	8.0	16	<0.10	22	136	<10	<1	23	<0.5	0.13
41	2.1	236	30	8.7	0.40	7.8	271	<10	<1	73	<0.5	0.030
42	1.4	200	230	5.8	0.60	10	556	<10	<1	12	<0.5	0.020
43	3.2	191	1.0	2.0	0.20	19	204	<10	<1	540	<0.5	0.020
44	1.4	142	13	3.8	0.10	8.0	146	<10	<1	23	<0.5	--
45	1.4	221	9.0	5.6	0.10	10	366	<10	<1	42	<0.5	<0.010

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; conc., concentration; GC/FID, gas chromatography/flame ionization detector; GC/MS, gas chromatography/mass spectrometry]

Site number	Potassium, dissolved (mg/L as K)	Alkalinity wat wh tot it field (mg/L as $CACO_{3)}$	Sulfate, dissolved (mg/L as SO_4)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)	Silica, dissolved (mg/L as SiO_2)	Solids, residue at 180 deg. C dissolved (mg/L)	Aluminum, dissolved (µg/L as Al)	Arsenic, dissolved (µg/L as As)	Barium, dissolved (µg/L as Ba)	Beryllium, dissolved (µg/L as Be)	Bromide, dissolved (mg/L as Br)
46	0.60	55	3.4	0.90	<0.10	7.0	83	10	<1	12	<0.5	<0.010
47	14	284	390	160	6.3	8.8	1080	<10	<1	13	<0.5	0.67
48	1.5	47	3.0	2.3	0.10	13	70	<10	<1	130	<0.5	0.030
49	0.70	20	6.0	5.6	<0.10	18	50	<10	<1	12	<0.5	0.050
50	0.10	158	25	4.0	0.20	9.1	202	<10	2	10	<0.5	0.010
51	3.1	273	13	3.4	0.20	29	485	20	10	630	<0.5	<0.010
52	0.80	44	4.1	0.20	<0.10	7.7	65	<10	<1	12	<0.5	<0.010
53	1.6	350	19	1.2	0.80	9.3	272	<10	<1	110	<0.5	0.030
54	0.90	5	27	1.3	<0.10	10	49	20	<1	44	0.7	0.030
55	1.6	182	14	4.4	0.10	6.8	215	<10	<1	18	<0.5	0.030
56	1.9	32	3.1	2.1	<0.10	5.7	35	<10	<1	75	<0.5	0.070
57	1.8	51	4.0	1.1	0.10	10	74	40	<1	240	<0.5	0.020
58	1.8	240	13	4.0	0.20	9.2	261	<10	<1	180	<0.5	0.010
59	1.4	146	6.0	2.3	0.10	8.4	157	10	<1	25	<0.5	<0.010
60	0.60	58	4.0	2.4	<0.10	7.7	71	40	<1	13	<0.5	0.010
61	1.2	156	12	5.1	0.10	8.4	199	<10	<1	27	<0.5	0.020
62	1.2	98	24	26	0.20	15	195	<10	1	180	<0.5	0.020
63	2.0	269	52	7.7	0.30	6.5	462*	<10	<1	140	<0.5	0.020
64	0.20	204	4.0	5.1	0.10	8.8	178	<10	<1	10	<0.5	0.060
65	1.4	87	3.0	1.5	0.10	8.6	107	<10	<1	47	<0.5	0.010
66	11	304	180	140	8.2	8.9	778	10	<1	24	<0.5	0.49
67	0.90	10	7.0	0.80	<0.10	14	45	<10	<1	27	<0.5	<0.010
68	0.70	104	10	5.4	0.30	14	135	10	<1	320	<0.5	0.050
69	1.4	252	22	3.8	0.20	7.9	263	<10	<1	230	<0.5	<0.010
70	1.4	209	2.0	1.5	<0.10	9.6	210	<10	<1	23	<0.5	<0.010
71	0.70	10	18	1.9	0.10	8.5	45	40	<1	7	<0.5	0.010
72	1.6	65	6.7	5.0	<0.10	11	97	10	<1	40	0.7	<0.010
73	0.40	10	<1.0	1.0	<0.10	9.7	22	40	<1	4	<0.5	<0.010
74	1.9	23	9.0	2.6	0.10	8.7	51	<10	<1	62	<0.5	0.070
75	0.30	184	4.0	6.7	0.10	8.4	209	<10	<1	8	<0.5	0.090
76	0.40	147	4.7	4.5	0.20	9.3	168	<10	<1	15	<0.5	0.030
77	2.3	240	7.0	4.5	0.10	9.2	260	<10	<1	47	<0.5	0.010
78	7.8	135	7.0	1.5	0.10	12	149	<10	<1	400	<0.5	0.010
79	1.9	152	10	4.9	<0.10	5.7	186	10	<1	31	<0.5	<0.010
80	1.1	66	3.0	1.7	0.10	13	81	<10	<1	88	<0.5	0.020
81	<0.10	181	4.7	10	0.20	7.8	199	<10	<1	19	<0.5	0.010
82	0.40	10	3.0	8.4	<0.10	18	50	<10	<1	12	<0.5	0.070
83	2.1	187	5.0	3.6	0.20	36	341	10	2	300	<0.5	0.090
84	2.4	170	21	5.2	0.10	17	217	<10	<1	160	<0.5	<0.010
85	1.0	64	2.0	3.2	<0.10	6.3	74	20	<1	21	<0.5	<0.010
86	1.3	200	2.0	3.4	<0.10	8.8	184	<10	<1	20	<0.5	<0.010
87	1.1	108	6.0	3.9	0.10	8.1	135	<10	<1	21	<0.5	0.010
88	2.2	109	10	8.0	0.10	7.9	133	20	<1	80	<0.5	<0.010
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89	1.6	226	2.6	2.4	0.10	8.7	221	<10	<1	35	<0.5	0.010
90	2.2	173	23	17	0.10	10	260	<10	<1	51	<0.5	0.050

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

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Site number	Cadmium, dissolved (µg/L as Cd)	Chromium, dissolved (µg/L as Cr)	Copper, dissolved (µg/L as Cu)	Iron, dissolved (µg/L as Fe)	Lead, dissolved (µg/L as Pb)	Manganese, dissolved (µg/L as Mn)	Mercury, dissolved (µg/L as Hg)	Selenium, dissolved (µg/L as Se)	Silver, dissolved (µg/L as Ag)	Strontium, dissolved (µg/L as Sr)	Zinc, dissolved (µg/L as Zn)
1	--	--	1	9	<1	37	<0.1	1	<1.0	92	77
2	3.0	<1	3	6	2	2	<0.1	<1	<1.0	11	11
3	<1.0	<5	<10	<3	<10	<1	<0.1	<1	<1.0	87	19
4	<1.0	<1	1	<3	<1	<1	0.2	<1	<1.0	19	8
5	<1.0	<1	1	3	<1	1	0.1	<1	2.0	20	15
6	<1.0	<1	<10	14	<10	<1	<0.1	<1	<1.0	49	11
7	<1.0	<1	<1	<3	<1	<1	0.1	<1	<1.0	23	5
8	<1.0	2	1	9	1	<1	0.3	<1	<1.0	150	7
9	<1.0	<1	1	110	<1	53	0.1	<1	<1.0	2100	12
10	<1.0	<5	<10	9	<10	<1	<0.1	<1	<1.0	39	4
11	<1.0	<5	<10	10	<10	<1	<0.1	<1	<1.0	21	5
12	<1.0	<1	1	<3	<1	<1	<0.1	<1	<1.0	96	5
13	<1.0	<1	2	82	1	230	<0.1	<1	<1.0	62	8
14	1.0	<1	20	11	10	<1	<0.1	<1	2.0	19	11
15	<1.0	<1	<1	3800	<1	49	0.2	<1	<1.0	490	21
16	1.0	<1	<10	4	<10	2	<0.1	<1	<1.0	100	5
17	<1.0	<5	<10	<3	<10	<1	<0.1	<1	<1.0	13	5
18	<1.0	<1	<1	3	<1	<1	<0.1	<1	2.0	57	<3
19	1.0	<1	2	4400	1	140	<0.1	<1	<1.0	340	11
20	<1.0	<5	<10	<3	<10	1	<0.1	<1	1.0	11	9
21	<1.0	<1	1	1600	2	39	<0.1	<1	<1.0	26	23
22	<1.0	<5	<10	<3	<10	1	<0.1	<1	1.0	140	7
23	<1.0	<1	<1	14	<1	<1	<0.1	<1	<1.0	30	16
24	<1.0	<1	<1	39	<1	2	<0.1	<1	<1.0	12000	13
25	<1.0	<5	<10	8200	<10	1100	<0.1	<1	2.0	480	100
26	<1.0	<1	5	360	<1	340	<0.1	<1	<1.0	1100	12
27	<1.0	<1	2	46	<1	240	<0.1	<1	1.0	200	110
28	<1.0	<5	<10	5	<10	6	2.3	<1	3.0	10	5
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	3.0	<1	4	5	1	7	<0.1	<1	1.0	13	16
29	<1.0	<1	2	460	<1	10	<0.1	<1	<1.0	33	8
30	<1.0	<1	2	6	<1	<1	<0.1	<1	<1.0	7	4
31	<1.0	<1	1	<3	<1	<1	<0.1	<1	<1.0	25	4
32	<1.0	<1	<10	21	<10	<1	<0.1	<1	1.0	55	<3
33	<1.0	<5	<10	3	<10	<1	<0.1	<1	<1.0	620	17
34	<1.0	2	1	<3	<1	1	<0.1	<1	<1.0	17	5
35	1.0	<1	1	14000	<1	980	<0.1	<1	<1.0	350	20
36	<1.0	<1	1	<3	<1	1	0.2	<1	<1.0	19	<3
37	<1.0	<1	1	<3	<1	4	0.2	<1	<1.0	23	<3
38	<1.0	<1	1	3800	2	630	0.2	<1	<1.0	240	150
39	<1.0	<1	1	250	<1	17	<0.1	<1	<1.0	23	<3
40	<1.0	<1	2	5	<1	<1	<0.1	<1	<1.0	28	5
41	<1.0	<1	<1	76	1	4	<0.1	<1	<1.0	860	8
42	<1.0	<1	2	390	<1	16	<0.1	<1	<1.0	3300	15
43	1.0	<1	<1	9900	<1	180	<0.1	<1	<1.0	540	6
44	<1.0	<1	1	<3	<1	2	<0.1	<1	<1.0	91	7
45	<1.0	<1	2	4	<1	150	<0.1	<1	1.0	200	11

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

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Site number	Cadmium, dissolved (µg/L as Cd)	Chromium, dissolved (µg/L as Cr)	Copper, dissolved (µg/L as Cu)	Iron, dissolved (µg/L as Fe)	Lead, dissolved (µg/L as Pb)	Manganese, dissolved (µg/L as Mn)	Mercury, dissolved (µg/L as Hg)	Selenium, dissolved (µg/L as Se)	Silver, dissolved (µg/L as Ag)	Strontium, dissolved (µg/L as Sr)	Zinc, dissolved (µg/L as Zn)
46	<1.0	<5	<10	4	<10	<1	<0.1	<1	<1.0	37	8
47	<1.0	<1	1	10	<1	2	0.1	<1	1.0	6900	9
48	<1.0	<1	9	540	1	130	<0.1	<1	<1.0	100	88
49	<1.0	1	3	4	1	1	0.1	<1	<1.0	23	10
50	<1.0	<1	2	5	<1	<1	0.2	2	<1.0	910	12
51	2.0	<5	<10	9300	<10	460	<0.1	<1	<1.0	420	5
52	<1.0	<1	<1	1800	<1	940	<0.1	<1	<1.0	13	44
53	<1.0	<1	3	<3	2	<1	<0.1	<1	<1.0	110	17
54	<1.0	<1	1	2800	1	51	<0.1	<1	1.0	38	15
55	<1.0	<1	<1	9	<1	5	<0.1	<1	<1.0	140	26
56	2.0	<1	3	5800	1	510	<0.1	<1	<1.0	27	180
57	<1.0	<1	<1	6000	<1	81	<0.1	<1	2.0	210	6
58	<1.0	<1	<10	<3	<10	<1	<0.1	<1	<1.0	1400	3
59	<1.0	<1	<1	10	<1	<1	0.1	<1	<1.0	29	10
60	<1.0	<1	<10	18	<10	<1	<0.1	<1	<1.0	32	9
61	<1.0	<5	<10	4	<10	13	<0.1	<1	<1.0	150	6
62	<1.0	<5	<10	6100	<10	360	<0.1	<1	<1.0	270	32
63	<1.0	<1	1	160	<1	6	<0.1	<1	<1.0	400	25
64	<1.0	<1	1	<3	<1	<1	<0.1	<1	<1.0	130	10
65	<1.0	<1	<1	<3	<1	<1	<0.1	<1	<1.0	21	51
66	14	<1	2	8	<1	<1	0.4	<1	<1.0	950	55
67	2.0	<1	<1	9	<1	1	0.2	<1	4.0	28	9
68	<1.0	1	2	230	1	3900	<0.1	<1	<1.0	150	41
69	<1.0	<1	2	410	1	31	<0.1	<1	<1.0	610	15
70	<1.0	<1	1	<3	<1	1	0.1	<1	1.0	23	7
71	<1.0	<1	8	23	<1	14	<0.1	<1	1.0	26	56
72	<1.0	<5	<10	<3	<10	<1	0.4	<1	<1.0	53	<3
73	<1.0	<1	6	26	2	1	<0.1	<1	<1.0	6	6
74	2.0	<1	3	4200	<1	82	<0.1	<1	<1.0	97	10
75	<1.0	<1	1	39	2	38	0.2	1	2.0	90	13
76	2.0	<1	<1	5	<1	2	<0.1	<1	1.0	57	18
77	<1.0	<1	<10	<3	<10	1	0.2	<1	<1.0	270	4
78	<1.0	<1	2	4000	<1	220	<0.1	<1	<1.0	1000	9
79	<1.0	<1	2	3	<1	3	0.2	<1	<1.0	52	10
80	<1.0	<1	1	970	<1	16	<0.1	<1	<1.0	72	6
81	<1.0	<5	<10	<3	<10	<1	<0.1	<1	1.0	150	<3
82	<1.0	<1	12	18	<1	24	<0.1	<1	<1.0	12	44
83	1.0	<1	<10	7100	<10	390	<0.1	<1	<1.0	120	96
84	<1.0	<1	<10	4000	<10	440	0.1	<1	<1.0	170	6
85	<1.0	<1	<1	3	<1	<1	0.5	<1	<1.0	11	<3
86	<1.0	1	2	<3	<1	<1	<0.1	<1	<1.0	23	9
87	<1.0	<1	1	7	<1	22	0.1	<1	<1.0	37	7
88	4.0	<1	1	7	1	2	0.4	<1	2.0	170	9
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89	<1.0	<5	<10	<3	<10	<1	0.3	<1	<1.0	19	5
90	<1.0	<1	1	5	<1	<1	0.1	<1	1.0	340	17

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; conc., concentration; GC/FID, gas chromatography/flame ionization detector; GC/MS, gas chromatography/mass spectrometry]

Site number	Methane, total recoverable (µg/L)	Dichlorobromoride, total recoverable (µg/L)	Carbontetrachloroethane, total recoverable (µg/L)	1,2-Dichloroform, total recoverable (µg/L)	Bromomethane, total recoverable (µg/L)	Chlorodibromoform, total recoverable (µg/L)	Chlorotoluene, total recoverable (µg/L)	Benzene, total recoverable (µg/L)	Methylchloride, total recoverable (µg/L)	Methylene chloride, total recoverable (µg/L)	Tetrachloroethylene, total recoverable (µg/L)	Trichlorofluoromethane, total recoverable (µg/L)	1,1-Dichloroethane, total recoverable (µg/L)
1	<0.20	<0.20	<0.20	<0.20	<0.20	2.3	0.30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
3	<0.20	<0.20	<0.20	<0.20	<0.20	0.40	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
4	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
7	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
9	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
10	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
11	<0.20	<0.20	<0.20	<0.20	<0.20	0.30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
12	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
13	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
14	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
15	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
16	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
18	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
19	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
22	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
23	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
24	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
25	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
26	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
27	<0.20	<0.20	<0.20	<0.20	<0.20	0.30	<0.20	<0.20	<0.20	0.20	<0.20	0.70	<0.20
28	0.70	<0.20	<0.20	<0.20	<0.20	4.9	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
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	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
29	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
31	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
32	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
33	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
34	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
35	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
36	0.30	<0.20	<0.20	0.40	0.60	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
37	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
38	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
39	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
40	<0.20	<0.20	<0.20	<0.20	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	<0.20	<0.20
41	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
42	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
43	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
44	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
45	<0.20	<0.20	<0.20	<0.20	<0.20	0.90	<0.20	<0.20	<0.20	<0.20	0.60	<0.20	<0.20

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; conc., concentration; GC/FID, gas chromatography/flame ionization detector; GC/MS, gas chromatography/mass spectrometry]

Site number	Methane, total recoverable (µg/L)	Dichlorobromoride, total recoverable (µg/L)	Carbontetrachloethane, total recoverable (µg/L)	1,2-Dichloroform, total recoverable (µg/L)	Bromomethane, total recoverable (µg/L)	Chlorodibromoform, total recoverable (µg/L)	Chlorotoluene, total recoverable (µg/L)	Benzene, total recoverable (µg/L)	Methylchloride, total recoverable (µg/L)	Methylene chloride, total recoverable (µg/L)	Tetrachloroethylene, total recoverable (µg/L)	Trichlorofluoromethane, total recoverable (µg/L)	1,1-Dichloroethane, total recoverable (µg/L)
46	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
47	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
48	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	2.5	<0.20	<0.20
49	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
50	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
51	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
52	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
53	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
54	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
55	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
56	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
57	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
58	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
59	<0.20	<0.20	<0.20	<0.20	<0.20	0.30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
60	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
61	<0.20	<0.20	<0.20	<0.20	<0.20	0.80	<0.20	0.60	<0.20	<0.20	<0.20	<0.20	<0.20
62	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
63	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
64	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
65	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
66	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
67	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
68	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
69	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
70	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
71	<0.20	<0.20	<0.20	<0.20	<0.20	1.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
72	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
73	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
74	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	2.2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
75	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
76	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
77	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
78	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
79	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.30	<0.20	<0.20
80	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
81	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
82	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
83	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
84	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
85	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
86	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
87	<0.20	<0.20	<0.20	<0.20	<0.20	0.60	<0.20	<0.20	<0.20	<0.20	4.6	<0.20	<0.20
88	4.6	<0.20	<0.20	<0.20	2.0	8.3	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
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89	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
90	0.40	<0.20	<0.20	<0.20	0.30	1.9	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; conc., concentration; GC/FID, gas chromatography/flame ionization detector; GC/MS, gas chromatography/mass spectrometry]

Site number	1,1-Dichloroethylene, total recoverable (µg/L)	1,1,1-Trichloroethane, total recoverable (µg/L)	Chloroethane, total recoverable (µg/L)	Ethylbenzene, total recoverable (µg/L)	Methylbromide, total recoverable (µg/L)	1,1,2-Trichloroethane, total recoverable (µg/L)	1,1,2,2 Tetrachloroethane, total recoverable (µg/L)	1,2-Dichlorobenzene, total recoverable (µg/L)	1,2-Dichloropropane, total recoverable (µg/L)	1,2 Transdichloroethene, total recoverable (µg/L)	1,3-Dichloropropene, total recoverable (µg/L)	1,3-Dichlorobenzene, total recoverable (µg/L)	1,4-Dichlorobenzene, total recoverable (µg/L)
1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
3	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
4	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
7	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
9	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
10	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
11	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
12	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
13	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
14	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
15	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
16	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
18	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
19	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	1.3	<0.20	<0.20	<0.20
21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
22	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
23	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
24	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
25	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
26	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
27	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
28	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
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	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
29	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
31	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
32	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
33	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
34	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
35	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
36	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
37	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
38	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
39	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
40	1.4	2.1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
41	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
42	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
43	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
44	<0.20	0.80	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
45	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	0.40	<0.20	<0.20	<0.20

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; conc., concentration; GC/FID, gas chromatography/flame ionization detector; GC/MS, gas chromatography/mass spectrometry]

Site number	1,1-Dichloroethylene, total recoverable (µg/L)	1,1,1-Trichloroethane, total recoverable (µg/L)	Chloroethane, total recoverable (µg/L)	Ethylbenzene, total recoverable (µg/L)	Methylbromide, total recoverable (µg/L)	1,1,2-Trichloroethane, total recoverable (µg/L)	1,1,2,2 Tetrachloroethane, total recoverable (µg/L)	1,2-Dichlorobenzene, total recoverable (µg/L)	1,2-Dichloropropane, total recoverable (µg/L)	1,2 Transdichloroethene, total recoverable (µg/L)	1,3-Dichloropropene, total recoverable (µg/L)	1,3-Dichlorobenzene, total recoverable (µg/L)	1,4-Dichlorobenzene, total recoverable (µg/L)
46	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
47	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
48	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
49	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
50	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
51	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
52	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
53	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
54	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
55	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
56	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
57	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
58	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
59	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
60	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
61	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
62	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
63	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
64	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
65	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
66	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
67	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
68	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
69	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
70	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
71	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
72	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
73	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
74	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
75	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
76	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
77	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
78	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
79	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
80	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
81	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
82	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
83	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
84	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
85	<0.20	0.30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
86	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
87	0.20	1.8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
88	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
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89	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
90	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; conc., concentration; GC/FID, gas chromatography/flame ionization detector; GC/MS, gas chromatography/mass spectrometry]

Site number	2-Chloroethyl-vinyl-ether, total recoverable (µg/L)	Dichlorodifluoromethane, total recoverable (µg/L)	Trans-1,3-dichloropropene, total recoverable (µg/L)	Cis 1,3-dichloropropene, total recoverable (µg/L)	Vinyl chloride, total recoverable (µg/L)	Trichloroethylene, total recoverable (µg/L)	Styrene, total recoverable (µg/L)	1,2-Dibromoethane wat wh tot it, total recoverable (µg/L)	Methylene blue active substance (mg/L)	Carbon, organic total (mg/L as C)	GC/FID estimated total conc. (µg/L)	GC/FID number of peaks reported	GC/FID number peaks poss. identified by GC/MS
1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	--	1.1	35	26	1.0
2	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	0.1	0.0	0.0	0.0
3	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.05	0.1	1.2	2.0	0.0
4	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	0.1	0.40	1.0	0.0
5	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	<0.1	0.70	1.0	0.0
6	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	0.6	0.0	0.0	0.0
7	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	0.3	0.0	0.0	0.0
8	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.03	<0.1	0.0	0.0	0.0
9	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	0.1	6.3	4.0	0.0
10	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.05	0.6	0.30	1.0	0.0
11	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.03	0.5	4.8	6.0	0.0
12	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.10	<0.1	2.5	8.0	0.0
13	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.12	0.8	8.2	11	0.0
14	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	1.0	0.90	3.0	0.0
15	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.08	0.1	4.6	5.0	0.0
16	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.03	0.6	0.70	3.0	0.0
17	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	<0.1	0.30	1.0	0.0
18	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	0.2	6.1	13	0.0
19	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	0.1	0.20	1.0	0.0
20	<0.20	<0.20	<0.20	<0.20	<0.20	0.2	<0.2	<0.2	0.01	<0.1	3.1	3.0	0.0
21	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	0.4	3.9	4.0	0.0
22	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.08	<0.1	1.8	3.0	0.0
23	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	1.1	0.0	0.0	0.0
24	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	0.2	0.30	1.0	0.0
25	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	1.2	0.70	2.0	0.0
26	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	0.5	0.30	1.0	0.0
27	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	<0.1	0.0	0.0	0.0
28	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.16	0.1	2900	29	7.0
	--	--	--	--	--	--	--	--	--	--	1.2	2.0	0.0
	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	0.2	0.80	2.0	1.0
29	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	0.3	1.3	4.0	0.0
30	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	0.1	0.30	1.0	0.0
31	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.05	1.2	0.0	0.0	0.0
32	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	1.0	0.50	2.0	0.0
33	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.03	0.4	0.0	0.0	0.0
34	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	0.1	0.0	0.0	0.0
35	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	2.7	2.5	7.0	0.0
36	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.05	0.6	6.9	8.0	0.0
37	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	0.4	0.0	0.0	0.0
38	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	0.3	0.20	1.0	0.0
39	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.03	<0.1	0.0	0.0	0.0
40	<0.20	<0.20	<0.20	<0.20	<0.20	2.1	<0.2	<0.2	0.06	0.3	5.8	3.0	1.0
41	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	0.5	0.0	0.0	0.0
42	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	0.2	1.3	3.0	0.0
43	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	0.5	0.90	2.0	0.0
44	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.04	0.9	0.60	1.0	0.0
45	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	1.4	2.8	3.0	0.0

Construction and water-quality data for ground-water network sites, 1989-90, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100 mL, colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; conc., concentration; GC/FID, gas chromatography/flame ionization detector; GC/MS, gas chromatography/mass spectrometry]

Site number	2-Chloroethyl-vinyl-ether, total recoverable (µg/L)	Dichlorodifluoromethane, total recoverable (µg/L)	Trans-1,3-dichloropropene, total recoverable (µg/L)	Cis 1,3-dichloropropene, total recoverable (µg/L)	Vinyl chloride, total recoverable (µg/L)	Trichloroethylene, total recoverable (µg/L)	Styrene, total recoverable (µg/L)	1,2-Dibromoethane wat wh tot it, total recoverable (µg/L)	Methylene blue active substance (mg/L)	Carbon, organic total (mg/L as C)	GC/FID estimated total conc. (µg/L)	GC/FID number of peaks reported	GC/FID number peaks poss. identified by GC/MS
46	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.03	0.2	2.6	2.0	0.0
47	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.06	0.2	1.0	1.0	0.0
48	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.03	1.0	3.9	8.0	0.0
49	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	0.2	0.0	0.0	0.0
50	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.11	0.3	0.40	1.0	0.0
51	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	1.1	0.0	0.0	0.0
52	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	<0.1	0.0	0.0	0.0
53	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	0.3	0.0	0.0	0.0
54	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	0.3	0.0	0.0	0.0
55	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	0.6	4000	24	12
56	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.10	1.4	12	12	0.0
57	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.03	0.4	0.0	0.0	0.0
58	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.04	0.3	0.0	0.0	0.0
59	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	1.7	0.0	0.0	0.0
60	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	1.0	0.0	0.0	0.0
61	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	0.1	0.0	0.0	0.0
62	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.03	1.3	0.80	2.0	1.0
63	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	0.9	1.5	3.0	0.0
64	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	0.1	0.50	1.0	0.0
65	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	--	0.80	3.0	0.0
66	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.08	0.3	0.90	2.0	0.0
67	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	0.6	0.0	0.0	0.0
68	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.03	0.7	0.60	2.0	0.0
69	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.04	1.2	0.0	0.0	0.0
70	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	0.6	0.50	2.0	0.0
71	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	0.1	2.1	5.0	0.0
72	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	<0.1	0.80	2.0	0.0
73	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.06	0.2	0.0	0.0	0.0
74	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	<0.1	2.5	5.0	0.0
75	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	0.1	0.0	0.0	0.0
76	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	<0.1	3.0	4.0	0.0
77	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.04	0.9	4.4	8.0	0.0
78	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.04	0.5	0.30	1.0	0.0
79	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.06	2.5	0.70	1.0	0.0
80	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.04	0.2	0.30	1.0	0.0
81	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	0.3	1.0	2.0	0.0
82	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.08	0.5	2.3	5.0	0.0
83	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	1.5	2.3	4.0	0.0
84	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	2.4	0.40	1.0	0.0
85	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	<0.01	0.1	0.60	1.0	0.0
86	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.07	1.0	0.50	1.0	0.0
87	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.02	0.2	0.0	0.0	0.0
88	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.01	0.5	1800	12	8.0
	--	--	--	--	--	--	--	--	--	--	2.3	5.0	0.0
89	<0.20	<0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.03	0.2	5.9	5.0	0.0
90	<0.20	0.20	<0.20	<0.20	<0.20	<0.2	<0.2	<0.2	0.05	0.9	0.0	0.0	0.0

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100ml; colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; NS, no sample taken in 1990-91]

Site number	Latitude and longitude	County	Depth of well (feet)	Principal aquifer	Date	Specific conductance (µS/cm)	pH (standard units)	Temperature water (deg. C)
1	350124 900722	Shelby	110	Alluvial	NS	NS	NS	NS
2	350253 893239	Fayette	174	Tertiary	10-29-90	38	5.5	16.5
3	350322 861517	Franklin	120	Ordovician	NS	NS	NS	NS
4	350611 845203	Bradley	N/A	Cambrian/Ordovician	11-20-90	230	7.6	16.5
5	350655 862813	Lincoln	N/A	Ordovician	NS	NS	NS	NS
6	350715 853539	Marion	N/A	Mississippian	12-07-90	105	7.4	13.0
7	350726 845105	Bradley	N/A	Cambrian/Ordovician	11-21-90	280	7.6	16.0
8	351002 843720	Polk	411	Cambrian/Ordovician	11-16-90	510	7.5	16.5
9	351008 883506	McNairy	560	Cretaceous	11-01-90	388	7.7	19.0
10	351044 872047	Lawrence	N/A	Mississippian	10-31-90	178	7.0	15.5
11	351127 874503	Wayne	N/A	Mississippian	10-31-90	90	6.7	15.0
12	351128 851602	Hamilton	140	Mississippian	NS	NS	NS	NS
13	351412 881515	Hardin	50	Alluvial	11-28-90	214	7.4	22.0
14	351424 850039	Hamilton	58	Cambrian/Ordovician	11-29-90	250	7.3	14.5
15	351552 885920	Hardeman	618	Cretaceous	NS	NS	NS	NS
16	351622 854233	Grundy	N/A	Pennsylvanian	12-12-90	260	6.7	13.5
17	351641 860759	Franklin	N/A	Mississippian	11-06-90	118	6.8	14.0
18	352016 862237	Moore	N/A	Ordovician	NS	NS	NS	NS
19	352036 895345	Shelby	399	Tertiary	12-18-90	358	6.70	16.0
20	352510 861357	Coffee	N/A	Mississippian	11-06-90	87	6.3	14.5
21	352612 883819	Chester	211	Cretaceous	10-29-90	48	6.3	17.0
22	352643 850443	Rhea	338	Mississippian	11-29-90	170	8.1	15.5
23	352647 871456	Maury	N/A	Mississippian	11-16-90	121	7.7	13.0
24	352956 870710	Maury	875	Knox	11-14-90	590	8.1	16.0
25	353036 895829	Tipton	65	Alluvial	11-05-90	808	7.0	15.5
26	353040 881448	Henderson	220	Cretaceous	10-30-90	348	7.3	16.0
27	353145 881248	Decatur	210	Cretaceous	10-30-90	71	5.8	16.0
28	353253 873226	Lewis	225	Mississippian	NS	NS	NS	NS
29	353344 893858	Tipton	558	Tertiary	11-05-90	111	6.4	18.5
29A	353506 861849	Bedford	1,100	Knox	11-08-90	1200	7.9	16.0
30	353523 891541	Haywood	290	Tertiary	12-17-90	60	6.7	16.5
31	353551 842808	Monroe	N/A	Cambrian/Ordovician	11-13-90	288	7.1	15.5
32	353727 851121	Bledsoe	350	Cambrian/Ordovician	11-30-90	195	7.3	13.0
33	353806 864138	Marshall	540	Ordovician	11-27-90	548	7.6	16.0
34	354001 884956	Madison	305	Tertiary	12-16-90	45	5.4	15.0
35	354225 894617	Lauderdale	110	Alluvial	11-20-90	703	6.9	16.5
36	354324 842254	Loudon	N/A	Cambrian/Ordovician	11-01-90	283	7.5	15.0
37	354343 840609	Blount	N/A	Cambrian/Ordovician	10-29-90	320	7.7	15.5
38	354606 832053	Sevier	350	Crystalline	11-26-90	265	6.9	14.5
39	354702 890706	Crockett	129	Tertiary	11-08-90	200	6.1	16.0
40	354703 890707	Crockett	213	Tertiary	NS	NS	NS	NS
41	354707 863949	Williamson	300	Ordovician	NS	NS	NS	NS
42	354753 853113	Van Buren	156	Mississippian	12-14-90	820	7.7	15.0
43	354830 893143	Lauderdale	509	Tertiary	11-06-90	380	6.6	15.0
44	354947 860411	Cannon	N/A	Ordovician	NS	NS	NS	NS
45	355017 862315	Rutherford	300	Ordovician	11-07-90	525	7.1	16.5

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

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Site number	Latitude and longitude	County	Depth of well (feet)	Principal aquifer	Date	Specific conductance (µS/cm)	pH (standard units)	Temperature water (deg. C)
46	355300 872212	Hickman	N/A	Mississippian	11-14-90	217	7.5	14.0
47	355351 865313	Williamson	1,103	Knox	10-25-90	1420	7.9	18.0
48	355437 891443	Crockett	330	Tertiary	11-12-90	126	6.6	17.0
49	355516 884532	Gibson	241	Tertiary	11-12-90	82	5.6	17.0
50	355631 870904	Williamson	200	Mississippian	11-14-90	360	7.5	15.0
51	355646 893844	Dyer	70	Alluvial	11-07-90	795	7.1	17.0
52	355752 851842	White	120	Pennsylvanian	NS	NS	NS	NS
53	355813 830854	Cocke	730	Cambrian/Ordovician	11-08-90	700	7.1	15.0
54	360010 882529	Carroll	270	Cretaceous	11-15-90	88	5.7	17.5
55	360049 855621	Dekalb	103	Ordovician	11-15-90	438	7.1	15.0
56	360125 844139	Morgan	85	Pennsylvanian	NS	NS	NS	NS
57	360154 892325	Dyer	649	Tertiary	11-07-90	146	6.3	19.0
58	360155 832358	Jefferson	390	Cambrian/Ordovician	11-07-90	460	7.5	16.5
59	360241 840335	Knox	N/A	Cambrian/Ordovician	10-30-90	360	7.2	14.5
60	360412 872504	Dickson	140	Mississippian	11-09-90	288	7.6	13.0
61	360507 874708	Humphreys	114	Mississippian	11-15-90	354	7.5	16.5
62	360535 843525	Morgan	242	Pennsylvanian	NS	NS	NS	NS
63	360550 860827	Wilson	257	Ordovician	11-15-90	649	7.5	15.5
64	360647 873810	Humphreys	217	Mississippian	NS	NS	NS	NS
65	360825 822431	Unicoi	N/A	Cambrian/Ordovician	12-04-90	170	8.0	13.0
66	360905 870702	Cheatham	1,424	Knox	10-30-90	1280	7.9	17.0
67	361101 820353	Carter	N/A	Crystalline	12-05-90	54	6.5	11.0
67A	361108 865009	Davidson	1,491	Knox	01-15-91	1700	7.7	14.0
68	361146 864125	Davidson	50	Ordovician	11-08-90	249	6.6	15.5
69	361249 855744	Smith	109	Ordovician	NS	NS	NS	NS
70	361305 834541	Union	N/A	Cambrian/Ordovician	10-31-90	395	7.5	14.5
71	361410 880449	Benton	160	Cretaceous	11-14-90	71	5.7	15.5
72	361659 821027	Carter	N/A	Cambrian/Ordovician	12-06-90	145	7.8	15.0
73	361709 884235	Weakley	398	Tertiary	11-13-90	30	5.8	15.0
74	361802 881940	Henry	421	Cretaceous	NS	NS	NS	NS
74A	361804 881945	Henry	406	Cretaceous	01-04-91	88	6.0	16.5
75	361849 874554	Houston	115	Mississippian	11-14-90	366	7.6	15.0
76	362130 872244	Montgomery	N/A	Mississippian	11-29-90	383	7.4	15.0
77	362133 823849	Greene	N/A	Cambrian/Ordovician	11-15-90	480	7.6	13.5
78	362243 892803	Lake	470	Tertiary	12-13-90	260	6.5	19.0
79	362528 833530	Claiborne	N/A	Cambrian/Ordovician	11-02-90	385	7.1	14.5
80	362543 890321	Obion	572	Tertiary	12-14-90	160	6.3	16.0
81	362607 851603	Overton	N/A	Mississippian	12-13-90	345	8.0	15.0
82	362642 882000	Henry	135	Tertiary	11-13-90	50	5.8	17.0
83	362851 892032	Lake	--	Alluvial	11-08-90	544	6.7	16.5
84	362936 843226	Scott	--	Pennsylvanian	NS	NS	NS	NS
85	362945 814714	Johnson	N/A	Cambrian/Ordovician	12-05-90	150	7.7	12.0
86	363019 831041	Hancock	N/A	Cambrian/Ordovician	11-14-90	395	7.3	14.5
87	363212 855106	Macon	N/A	Mississippian	11-28-90	220	7.2	14.5
88	363336 874625	Stewart	108	Mississippian	NS	NS	NS	NS
89	363338 824231	Hawkins	N/A	Cambrian/Ordovician	11-09-90	440	7.2	14.0
90	363609 864304	Robertson	75	Mississippian	NS	NS	NS	NS

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

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Site number	Coliform, fecal, 0.7 UM-MF (cols./ 100 mL)	Streptococci, fecal, Kf agar (cols. per 100 mL)	Nitrogen, ammonia total recoverable (mg/L as N)	Nitrogen, ammonia + organic total recoverable (mg/L as N)	Nitrogen, nitrite total recoverable (mg/L as N)	Nitrogen, nitrate total* recoverable (mg/L as N)	Nitrogen, NO_2+NO_3, total recoverable (mg/L as N)	Phosphorus, total recoverable (mg/L as P)	Calcium, dissolved (mg/L as Ca)	Magnesium, dissolved (mg/L as Mg)	Sodium, dissolved (mg/L as Na)
1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2	<1	<1	0.005	<0.20	0.006	0.565	0.571	0.008	2.1	0.65	4.1
3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4	<1	<1	0.007	0.20	0.008	0.987	0.995	<0.001	27	13	1.1
5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6	45	34	0.002	0.40	0.010	0.237	0.247	0.001	16	2.1	1.2
7	K1	K1	0.003	<0.20	0.006	0.441	0.447	<0.001	34	17	2.5
8	<1	<1	<0.002	<0.20	0.005	0.756	0.761	0.048	73	20	3.9
9	<1	<1	0.144	0.20	0.003	0.007	0.010	0.037	47	17	5.1
10	K9	K16	0.006	0.20	0.003	1.80	1.80	0.031	20	3.0	1.6
11	K3	K4	0.005	0.30	0.003	0.138	0.141	0.102	12	2.5	1.2
12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13	<1	<1	0.013	<0.20	0.005	0.005	0.010	0.076	28	4.3	7.2
14	K5	K8	0.007	<0.20	0.003	0.796	0.799	0.015	33	11	1.3
15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
16	K5	K19	0.003	0.20	0.004	1.60	1.60	0.003	31	11	3.4
17	K1	K11	<0.002	<0.20	0.001	0.520	0.521	0.006	18	2.8	0.90
18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19	<1	<1	0.084	<0.20	0.001	<0.010	<0.010	0.003	41	21	14
20	<1	K2	0.004	<0.20	0.003	0.905	0.908	0.004	12	2.6	1.1
21	<1	<1	0.021	0.20	0.007	<0.010	<0.010	0.015	1.8	1.0	3.1
22	<1	<1	0.004	<0.20	0.007	2.19	2.20	0.025	27	4.3	0.90
23	K12	23	0.002	<0.20	0.007	0.057	0.064	0.016	17	3.1	1.1
24	<1	<1	0.487	0.80	0.006	0.020	0.026	0.120	16	10	92
25	<1	<1	0.425	0.30	0.004	<0.010	<0.010	0.041	130	26	4.2
26	<1	<1	0.081	<0.20	0.004	<0.010	<0.010	0.034	44	14	4.4
27	<1	<1	0.024	0.20	0.034	1.07	1.10	0.121	2.5	1.4	5.7
28	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29	<1	<1	0.010	<0.20	0.003	<0.010	<0.010	0.002	12	4.2	7.8
29A	<1	<1	0.325	0.50	0.003	<0.010	<0.010	0.002	27	14	210
30	<1	<1	0.037	<0.20	0.002	0.112	0.114	0.004	2.8	0.94	5.4
31	510	100	0.006	0.20	0.001	1.40	1.40	0.004	34	17	2.1
32	350	300	0.003	<0.20	0.007	0.471	0.478	0.028	32	4.0	5.0
33	K10	K1	<0.002	<0.20	0.008	1.79	1.80	0.013	79	20	6.0
34	<1	<1	43.0	30	0.002	0.698	0.700	<0.001	2.2	0.80	3.2
35	<1	K16	0.178	0.40	0.007	0.378	0.385	0.171	63	24	7.7
36	<1	<1	0.004	<0.20	0.001	1.10	1.10	0.005	33	17	2.8
37	K100	70	0.024	<0.20	0.013	<0.010	<0.010	0.008	38	19	1.1
38	<1	<1	0.002	<0.20	0.004	0.009	0.013	0.017	39	5.0	7.3
39	<1	<1	<0.002	0.50	0.001	4.60	4.60	<0.001	8.0	2.9	29
40	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
42	K7	K3	0.185	0.50	0.004	0.007	0.011	0.001	110	41	12
43	<1	<1	0.128	0.20	0.006	<0.010	<0.010	0.009	40	19	7.0
44	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
45	370	410	0.037	<0.20	0.007	0.972	0.979	0.018	99	8.0	5.2

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

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Site number	Coliform, fecal, 0.7 UM-MF (cols./ 100 mL)	Streptococci, fecal, Kf agar (cols. per 100 mL)	Nitrogen, ammonia total recoverable (mg/L as N)	Nitrogen, ammonia + organic total recoverable (mg/L as N)	Nitrogen, nitrite total recoverable (mg/L as N)	Nitrogen, nitrate total* recoverable (mg/L as N)	Nitrogen, NO_2+NO_3, total recoverable (mg/L as N)	Phosphorus, total recoverable (mg/L as P)	Calcium, dissolved (mg/L as Ca)	Magnesium, dissolved (mg/L as Mg)	Sodium, dissolved (mg/L as Na)
46	K14	K10	0.006	<0.20	0.005	0.145	0.150	0.078	36	4.9	1.5
47	<1	<1	0.695	0.60	0.005	0.016	0.021	0.011	28	16	270
48	<1	<1	0.006	<0.20	0.005	<0.010	<0.010	<0.001	11	5.0	6.0
49	<1	<1	0.004	<0.20	0.006	1.29	1.30	0.004	4.0	1.5	8.7
50	<1	<1	<0.002	<0.20	0.004	0.512	0.516	0.022	47	15	4.2
51	<1	<1	0.204	0.30	0.003	0.008	0.011	0.429	130	27	4.5
52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
53	<1	<1	0.036	0.20	0.010	0.342	0.352	0.003	88	43	2.4
54	<1	<1	<0.002	<0.20	0.008	0.090	0.098	0.005	4.2	2.2	3.9
55	44	44	0.005	0.20	0.004	1.50	1.50	0.179	72	6.6	6.0
56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
57	<1	<1	0.030	<0.20	0.005	<0.010	<0.010	0.001	13	6.2	4.6
58	<1	<1	<0.002	0.20	<0.001	1.30	1.30	0.007	62	23	2.9
59	K2	K2	0.009	<0.20	0.009	0.845	0.854	0.010	43	23	1.5
60	<1	<1	0.002	<0.20	0.004	0.143	0.147	0.016	48	7.3	1.9
61	<1	<1	0.011	<0.20	0.003	<0.010	<0.010	0.015	64	4.6	3.7
62	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
63	K1	<1	0.066	<0.20	0.005	<0.010	<0.010	0.032	99	19	11
64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
65	K1	<1	<0.002	<0.20	0.007	0.574	0.581	0.011	18	9.4	0.80
66	<1	K5	0.432	0.50	0.014	0.00	0.014	<0.001	19	8.9	250
67	<1	K2	<0.002	<0.20	0.006	0.988	0.994	0.015	5.0	1.3	2.6
67A	K7	<1	0.869	0.70	0.018	0.007	0.025	0.023	60	29	290
68	<1	<1	0.229	0.20	0.001	<0.010	<0.010	0.069	37	3.7	4.9
69	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
70	K13	K2	0.007	<0.20	0.009	0.922	0.931	0.009	48	27	0.90
71	<1	<1	0.005	<0.20	0.006	0.197	0.203	0.002	6.3	1.7	3.4
72	K1	<1	0.008	0.20	0.007	0.397	0.404	0.016	15	7.9	2.1
73	<1	<1	0.003	<0.20	0.006	0.041	0.047	0.005	2.0	0.76	3.3
74	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
74A	<1	<1	0.032	<0.20	0.008	<0.010	<0.010	0.071	5.7	2.4	2.7
75	<1	<1	0.006	<0.20	0.002	0.705	0.707	0.028	71	3.1	4.7
76	100	280	0.008	<0.20	0.007	1.59	1.60	0.033	30	7.2	2.5
77	K12	69	0.017	0.20	0.008	1.69	1.70	0.007	83	12	1.5
78	K3	<1	0.190	0.50	0.001	<0.010	<0.010	0.760	27	11	4.2
79	40	K8	0.007	0.30	0.004	2.30	2.30	0.016	47	21	3.7
80	<1	<1	65.0	71	0.003	<0.010	<0.010	<0.001	15	6.4	7.7
81	K5	K5	0.009	<0.20	0.007	0.986	0.993	0.009	66	5.8	5.5
82	<1	<1	0.004	0.20	0.004	2.10	2.10	0.091	3.0	1.1	9.8
83	<1	<1	0.181	0.30	0.009	<0.010	<0.010	0.050	73	25	8.1
84	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
85	K4	22	<0.002	<0.20	0.009	0.742	0.751	0.010	17	9.7	1.2
86	28	37	<0.002	0.30	0.005	1.79	1.80	0.007	46	25	2.2
87	K1500	K2100	0.004	<0.20	0.006	0.493	0.499	0.026	61	5.5	3.0
88	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
89	<1	<1	0.002	0.40	<0.001	1.40	1.40	0.006	51	28	1.6
90	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100ml; colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; NS, no sample taken in 1990-91]

Site number	Potassium, dissolved (mg/L as K)	Alkalinity, wat wh tot it field mg/L as $CaCO_3$)	Sulfate, dissolved (mg/L as SO_4)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)	Silica, dissolved (mg/L as SiO_2)	Solids, residue at 180 deg. C dissolved (mg/L)	Aluminum, dissolved (µg/L as Al)	Arsenic, dissolved (µg/L as As)	Barium, dissolved (µg/L as Ba)	Beryllium, dissolved (µg/L as Be)	Bromide, dissolved (mg/L as Br)
1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2	0.60	12	<1.0	2.7	<0.10	17	23	<10	<1	8	<0.5	0.040
3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4	0.50	121	<1.0	2.6	<0.10	7.9	115	<10	<1	74	<0.5	0.021
5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6	0.60	41	8.9	2.5	<0.10	4.4	58	30	<1	22	<0.5	0.010
7	0.70	144	2.0	4.8	<0.10	8.2	158	10	<1	36	<0.5	0.030
8	3.3	108	190	1.5	<0.10	19	361	<10	<1	120	<0.5	0.020
9	6.0	130	37	7.2	<0.10	11	219	<10	<1	170	<0.5	0.050
10	0.30	44	1.5	4.7	<0.10	8.2	74	<10	<1	12	<0.5	0.020
11	0.40	14	2.3	2.1	<0.10	8.0	48	10	<1	18	<0.5	0.020
12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13	1.5	96	12	8.8	0.20	11	115	<10	<1	12	<0.5	0.030
14	0.80	128	2.9	3.3	0.20	7.3	135	10	<1	38	<0.5	0.020
15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
16	3.0	46	59	4.7	0.20	7.8	157	10	<1	50	<0.5	0.020
17	0.30	52	1.4	2.5	<0.10	7.8	68	<10	<1	10	<0.5	0.14
18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19	1.9	--	8.0	5.0	0.40	14	204	<10	<1	250	<0.5	0.050
20	0.10	32	<1.0	3.3	<0.10	8.6	48	<10	<1	9	<0.5	0.010
21	1.2	12	7.1	1.5	<0.10	9.4	28	<10	<1	34	<0.5	0.040
22	0.50	76	1.2	2.6	0.20	7.9	89	20	<1	16	<0.5	0.020
23	0.70	50	4.1	1.1	<0.10	7.7	70	10	<1	13	<0.5	<0.010
24	8.1	170	100	21	7.1	7.9	344	10	<1	21	<0.5	0.10
25	3.5	500	27	5.5	0.20	28	487	<10	7	460	<0.5	0.020
26	3.7	175	32	2.2	0.30	23	203	<10	<1	99	<0.5	0.020
27	0.60	23	<1.0	9.8	<0.10	14	47	<10	<1	22	<0.5	0.13
28	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29	0.70	66	1.9	3.2	<0.10	9.3	66	<10	<1	28	<0.5	0.030
29A	8.6	199	100	240	4.4	9.3	700	<10	<1	61	<0.5	0.79
30	0.30	21	<1.0	2.5	<0.10	13	32	<10	<1	6	<0.5	0.040
31	1.2	142	1.9	3.1	<0.10	0.10	154	10	<1	31	<0.5	0.020
32	1.1	85	9.9	8.8	0.10	5.5	111	20	<1	31	<0.5	0.010
33	2.5	248	25	9.9	0.40	8.3	292	<10	<1	48	<0.5	0.030
34	0.80	10	1.5	2.6	<0.10	14	34	<10	<1	18	<0.5	0.020
35	3.2	273	1.5	5.8	0.40	25	268	<10	2	340	<0.5	0.040
36	1.0	146	2.0	4.2	1.3	8.7	151	20	<1	28	<0.5	<0.010
37	1.2	164	2.2	3.7	0.10	8.8	172	<10	<1	60	<0.5	0.12
38	0.50	55	71	5.7	0.40	28	174	30	<1	14	<0.5	0.010
39	0.70	44	6.9	21	<0.10	22	125	<10	<1	27	<0.5	0.14
40	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
42	1.1	199	250	4.6	0.20	9.3	569	10	1	21	<0.5	0.020
43	3.0	192	2.1	1.2	0.20	17	193	<10	<1	560	<0.5	0.030
44	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
45	1.7	249	14	9.9	0.10	9.6	291	<10	<1	48	<0.5	0.030

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

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Site number	Potassium, dissolved (mg/L as K)	Alkalinity, wat wh tot it field mg/L as $CaCO_3$)	Sulfate, dissolved (mg/L as SO_4)	Chloride, dissolved (mg/L as Cl)	Fluoride, dissolved (mg/L as F)	Silica, dissolved (mg/L as SiO_2)	Solids, residue at 180 deg. C dissolved (mg/L)	Aluminum, dissolved (µg/L as Al)	Arsenic, dissolved (µg/L as As)	Barium, dissolved (µg/L as Ba)	Beryllium, dissolved (µg/L as Be)	Bromide, dissolved (mg/L as Br)
46	0.40	105	2.2	0.90	<0.10	7.1	104	<10	<1	14	<0.5	0.020
47	13	288	330	100	4.4	9.0	952	<10	<1	14	<0.5	0.48
48	1.4	46	2.7	1.2	<0.10	12	64	<10	<1	150	<0.5	0.030
49	0.70	18	6.7	6.7	<0.10	17	63	<10	<1	15	<0.5	0.050
50	0.30	154	23	5.2	0.10	8.6	190	<10	<1	11	<0.5	0.030
51	3.0	268	16	5.8	0.20	27	483	<10	12	640	<0.5	0.030
52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
53	1.9	374	23	7.2	0.40	9.2	378	20	<1	94	<0.5	0.030
54	0.90	6	25	1.0	<0.10	9.2	49	20	<1	42	0.5	0.020
55	1.7	179	21	10	<0.10	7.3	232	<10	<1	21	<0.5	0.030
56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
57	1.7	50	4.7	2.0	<0.10	9.0	70	<10	<1	230	<0.5	0.030
58	2.0	229	23	8.4	0.20	9.1	263	10	<1	190	<0.5	0.050
59	1.2	191	3.5	4.0	<0.10	8.9	203	20	<1	28	<0.5	0.020
60	0.40	147	3.0	1.0	<0.10	7.6	155	<10	<1	19	<0.5	0.020
61	1.3	153	13	5.7	0.10	8.2	198	<10	<1	29	<0.5	0.030
62	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
63	1.7	275	58	9.0	0.20	6.3	364	<10	<1	150	<0.5	0.030
64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
65	1.3	90	2.6	2.4	<0.10	8.1	91	<10	<1	42	<0.5	<0.010
66	12	294	220	120	8.2	9.2	770	<10	<1	29	<0.5	0.51
67	1.1	14	6.6	1.4	<0.10	14	38	10	<1	29	<0.5	<0.010
67A	15	232	200	400	4.2	9.6	1110	<10	<1	33	<0.5	1.9
68	0.60	106	15	8.7	0.30	14	137	<10	<1	340	<0.5	0.070
69	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
70	1.2	218	2.3	0.90	<0.10	9.2	203	20	<1	26	<0.5	0.021
71	0.60	11	21	2.4	<0.10	7.7	42	40	<1	7	0.6	0.020
72	1.7	66	6.2	3.1	<0.10	10	86	<10	<1	38	<0.5	<0.010
73	0.30	10	1.2	0.80	<0.10	9.6	19	<10	<1	4	<0.5	0.020
74	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
74A	2.4	--	8.7	2.0	<0.10	8.4	52	<10	<1	77	<0.5	0.020
75	0.20	182	3.2	8.6	<0.10	8.0	197	<10	<1	10	<0.5	0.090
76	1.1	167	3.7	4.4	0.10	7.8	107	<10	<1	20	<0.5	0.021
77	2.0	274	3.7	3.4	0.10	10	255	<10	<1	51	<0.5	0.020
78	8.1	168	6.4	1.8	0.20	--	--	<10	<1	430	<0.5	--
79	1.6	194	11	8.2	<0.10	7.6	192	20	<1	33	<0.5	0.020
80	1.4	74	2.0	33	<0.10	12	90	<10	<1	120	<0.5	0.021
81	0.60	170	3.3	12	0.40	7.8	212	<10	<1	26	<0.5	0.020
82	0.40	12	2.3	9.0	<0.10	17	61	<10	<1	17	<0.5	0.070
83	1.8	189	6.3	6.5	0.40	33	307	<10	2	310	<0.5	0.050
84	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
85	1.2	75	2.3	3.0	<0.10	6.3	84	20	<1	24	<0.5	<0.010
86	1.5	196	2.7	6.2	0.10	8.1	221	<10	<1	22	<0.5	0.020
87	0.70	96	7.8	5.2	0.20	9.1	188	10	<1	20	<0.5	0.030
88	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
89	1.5	235	3.4	6.3	<0.10	8.8	240	10	<1	55	<0.5	0.020
90	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

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Site number	Cadmium, dissolved (µg/L as Cd)	Chromium, dissolved (µg/L as Cr)	Copper, dissolved (µg/L as Cu)	Iron, dissolved (µg/L as Fe)	Lead, dissolved (µg/L as Pb)	Manganese, dissolved (µg/L as Mn)	Mercury, dissolved (µg/L as Hg)	Selenium, dissolved (µg/L as Se)	Silver, dissolved (µg/L as Ag)	Strontium, dissolved (µg/L as Sr)	Zinc, dissolved (µg/L as Zn)	Acenaphthylene, total recoverable (µg/L)	Acenaphthene, total recoverable (µg/L)
1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2	<1.0	<1	4	<3	1	<1	0.2	<1	<1.0	10	6	<5.0	<5.0
3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4	4.0	1	1	<3	<1	<1	<0.1	<1	<1.0	19	29	<5.0	<5.0
5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6	<1.0	<1	<1	8	<1	<1	<0.1	<2	<1.0	65	3	<5.0	<5.0
7	<1.0	1	1	6	1	<1	<0.1	<1	<1.0	23	19	<5.0	<5.0
8	<1.0	2	1	9	1	<1	<0.1	<1	<1.0	170	24	<300	<5.0
9	<1.0	<1	<1	34	<1	59	0.1	<1	<1.0	2100	3	<5.0	<5.0
10	1.0	<1	<1	3	<1	1	0.1	<1	<1.0	36	11	<5.0	<5.0
11	<1.0	<1	1	16	1	49	0.1	<1	<1.0	30	11	<5.0	<5.0
12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13	<1.0	<1	1	410	<1	290	<0.1	<2	<1.0	67	<3	<5.0	<5.0
14	<1.0	1	1	4	<1	<1	<0.1	<1	<1.0	34	6	<5.0	<5.0
15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
16	<1.0	<1	<1	140	<1	6	<0.1	<1	<1.0	130	<3	<5.0	<5.0
17	<1.0	<1	<1	<3	<1	<1	<0.1	<1	<1.0	15	10	<5.0	<5.0
18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19	1.0	<1	2	4600	1	150	<0.1	<1	<1.0	350	29	<5.0	<5.0
20	<1.0	<1	<1	<3	<1	<1	<0.1	<1	<1.0	11	6	<5.0	<5.0
21	<1.0	<1	<1	1700	<1	46	0.2	<1	<1.0	24	7	<5.0	<5.0
22	<1.0	2	1	11	3	<1	<0.1	<1	<1.0	130	18	<5.0	<5.0
23	<1.0	<1	1	6	<1	<1	<0.1	<1	<1.0	31	12	<5.0	<5.0
24	<1.0	<1	<1	5	<1	<1	--	<1	<1.0	1800	25	<5.0	<5.0
25	3.0	<1	<1	14000	<1	1200	0.1	<1	2.0	490	21	<5.0	<5.0
26	<1.0	<1	<1	1000	<1	340	0.2	<1	<1.0	1100	5	<5.0	<5.0
27	<1.0	<1	1	350	<1	55	0.2	<1	<1.0	30	2800	<5.0	<5.0
28	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29	<1.0	<1	1	460	<1	10	0.2	<1	<1.0	36	6	<5.0	<5.0
29A	2.0	<1	1	24	<1	7	0.2	<1	<1.0	5100	7	<5.0	<5.0
30	<1.0	<1	2	7	3	<1	<0.1	<1	<1.0	37	26	<5.0	<5.0
31	<1.0	1	<1	7	<1	<1	<0.1	<1	<1.0	25	7	<5.0	<5.0
32	<1.0	<1	1	22	<1	10	<0.1	<1	<1.0	97	16	<5.0	<5.0
33	<1.0	<1	1	6	1	<1	<0.1	<1	<1.0	920	46	<5.0	<5.0
34	<1.0	<1	4	5	2	1	0.1	<1	<1.0	1000	18	<5.0	<5.0
35	1.0	<1	<1	890	<1	210	0.1	<1	<1.0	400	260	<5.0	<5.0
36	<1.0	<1	<1	3	<1	2	0.2	<1	<1.0	21	4	<5.0	<5.0
37	<1.0	<1	1	<3	<1	6	<0.1	<1	<1.0	26	<3	<5.0	<5.0
38	<1.0	2	1	590	<1	490	<0.1	<1	<1.0	240	150	<5.0	<5.0
39	<1.0	<1	1	11	<1	2	0.2	<1	2.0	28	43	<5.0	<5.0
40	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
42	<1.0	1	<1	610	<1	57	<0.1	<1	1.0	3500	9	<5.0	<5.0
43	3.0	<1	<1	9800	<1	230	0.1	<1	2.0	540	5	<5.0	<5.0
44	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
45	<1.0	<1	3	5	1	12	<0.1	<1	1.0	230	5	<5.0	<5.0

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100ml; colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; NS, no sample taken in 1990-91]

Site number	Cadmium, dissolved (µg/L as Cd)	Chromium, dissolved (µg/L as Cr)	Copper, dissolved (µg/L as Cu)	Iron, dissolved (µg/L as Fe)	Lead, dissolved (µg/L as Pb)	Manganese, dissolved (µg/L as Mn)	Mercury, dissolved (µg/L as Hg)	Selenium, dissolved (µg/L as Se)	Silver, dissolved (µg/L as Ag)	Strontium, dissolved (µg/L as Sr)	Zinc, dissolved (µg/L as Zn)	Acenaphthylene, total recoverable (µg/L)	Acenaphthene, total recoverable (µg/L)
46	<1.0	2	<1	<3	<1	<1	<0.1	<1	<1.0	50	5	<5.0	<5.0
47	<1.0	<1	<1	22	<1	9	0.1	<1	<1.0	7300	29	<5.0	<5.0
48	<1.0	<1	2	210	12	210	0.2	<1	<1.0	110	63	<5.0	<5.0
49	<1.0	<1	2	3	1	3	0.2	<1	<1.0	24	7	<5.0	<5.0
50	<1.0	<1	2	11	<1	<1	<0.1	2	<1.0	810	13	<5.0	<5.0
51	2.0	<1	<1	9300	1	490	0.1	<1	1.0	430	5	<5.0	<5.0
52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
53	<1.0	<1	3	3	1	<1	<0.1	<1	<1.0	97	6	<5.0	<5.0
54	<1.0	<1	5	2500	2	60	0.1	<1	<1.0	38	9	<5.0	<5.0
55	<1.0	1	2	8	<1	4	<0.1	<1	<1.0	150	5	<5.0	<5.0
56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
57	<1.0	<1	1	4100	4	80	0.1	<1	<1.0	180	4	<5.0	<5.0
58	<1.0	1	1	<3	1	<1	<0.1	<1	<1.0	1300	3	<5.0	<5.0
59	<1.0	1	<1	<3	<1	<1	<0.1	<1	<1.0	27	4	<5.0	<5.0
60	<1.0	<1	4	3	2	2	<0.1	<1	<1.0	65	6	<5.0	<5.0
61	<1.0	<1	1	13	<1	38	--	<1	<1.0	190	<3	<5.0	<5.0
62	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
63	<1.0	2	<1	190	<1	9	<0.1	<1	<1.0	380	5	<5.0	<5.0
64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
65	<1.0	<1	<1	<3	<1	<1	<0.1	<1	<1.0	17	4	<5.0	<5.0
66	<1.0	<1	1	4	<1	3	0.2	<1	<1.0	990	3	<5.0	<5.0
67	<1.0	2	<1	5	<1	<1	<0.1	<1	<1.0	29	4	<5.0	<5.0
67A	<1.0	<1	<1	48	<1	2	0.1	<1	<1.0	5200	3	<5.0	<5.0
68	<1.0	<1	<1	310	1	4200	<0.1	<1	<1.0	160	22	<5.0	<5.0
69	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
70	<1.0	1	1	<3	1	<1	<0.1	<1	<1.0	25	5	<5.0	<5.0
71	<1.0	<1	8	10	<1	9	0.1	<1	<1.0	23	48	<5.0	<5.0
72	<1.0	<1	1	<3	1	<1	<0.1	<1	<1.0	54	<3	<5.0	<5.0
73	<1.0	<1	2	9	1	1	0.1	<1	<1.0	6	7	<5.0	<5.0
74	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
74A	1.0	<1	2	4800	<1	120	<0.1	<1	<1.0	130	24	<5.0	<5.0
75	<1.0	1	<1	<3	<1	<1	0.1	<1	<1.0	85	12	<5.0	<5.0
76	<1.0	<1	<1	6	<1	18	<0.1	<1	<1.0	33	13	<5.0	<5.0
77	<1.0	2	<1	19	<1	10	<0.1	<1	2.0	530	8	<5.0	<5.0
78	4.0	<1	3	27000	1	310	<0.1	<1	<1.0	1100	30	<5.0	<5.0
79	<1.0	1	<1	3	<1	4	<0.1	<1	<1.0	44	6	<5.0	<5.0
80	<1.0	<1	1	1100	<1	29	<0.1	<1	<1.0	550	17	<5.0	<5.0
81	<1.0	<1	2	4	<1	<1	<0.1	<1	<1.0	170	<3	<5.0	<5.0
82	<1.0	<1	5	86	1	79	0.3	<1	<1.0	12	7	<5.0	<5.0
83	2.0	<1	<1	7600	<1	390	0.2	<1	<1.0	120	4	<5.0	<5.0
84	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
85	<1.0	60	<1	4	<1	<1	<0.1	<2	2.0	13	4	<5.0	<5.0
86	<1.0	<1	1	9	1	5	<0.1	<1	<1.0	24	30	<5.0	<5.0
87	<1.0	<1	<1	7	<1	<1	<0.1	<1	<1.0	73	4	<5.0	<5.0
88	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
89	<1.0	1	1	<3	1	<1	<0.1	<1	<1.0	22	<3	<5.0	<5.0
90	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100ml; colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; NS, no sample taken in 1990-91]

Site number	Anthracene, total recoverable (µg/L)	Benzo B fluoranthene, total recoverable (µg/L)	Benzo K fluoranthene, total recoverable (µg/L)	Benzo-A-pyrene, total recoverable (µg/L)	Bis 2-chloroethyl ether, total recoverable (µg/L)	Bis (2-chloroethoxy) methane, total recoverable (µg/L)	Bis (2-chloroisopropyl) ether, total recoverable (µg/L)	N-butyl benzyl phthalate, total recoverable (µg/L)	Chrysene, total recoverable (µg/L)	Diethyl phthalate, total recoverable (µg/L)	Dimethyl phthalate, total recoverable (µg/L)
1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
7	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
8	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
9	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
10	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
11	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
14	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
16	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
17	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
20	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
21	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
22	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
23	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
24	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
25	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
26	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
27	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
28	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
29A	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
30	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
31	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
32	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
33	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
34	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
35	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
36	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
37	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
38	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
39	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
40	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
42	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
43	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
44	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
45	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100ml; colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; NS, no sample taken in 1990-91]

Site number	Anthracene, total recoverable (µg/L)	Benzo B fluoranthene, total recoverable (µg/L)	Benzo K fluoranthene, total recoverable (µg/L)	Benzo-a-pyrene, total recoverable (µg/L)	Bis 2-chloroethyl ether, total recoverable (µg/L)	Bis (2-chloroethoxy) methane, total recoverable (µg/L)	Bis (2-chloroisopropyl) ether, total recoverable (µg/L)	N-butyl benzyl phthalate, total recoverable (µg/L)	Chrysene, total recoverable (µg/L)	Diethyl phthalate, total recoverable (µg/L)	Dimethyl phthalate, total recoverable (µg/L)
46	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
47	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
48	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
49	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
50	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
51	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
53	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
54	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
55	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
57	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
58	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
59	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
60	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
61	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
62	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
63	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
65	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
66	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
67	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
67A	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
68	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
69	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
70	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
71	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
72	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
73	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
74	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
74A	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
75	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
76	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
77	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
78	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
79	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
80	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
81	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
82	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
83	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
84	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
85	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
86	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
87	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
88	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
89	<5.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0
90	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100ml; colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; NS, no sample taken in 1990-91]

Site number	Fluoranthene, total recoverable (µg/L)	Fluorene, total recoverable (µg/L)	Hexachlorocyclopentadiene, total recoverable (µg/L)	Hexachloroethane, total recoverable (µg/L)	Indeno (1,2,3-cd) pyrene, total recoverable (µg/L)	Isophorone, total recoverable (µg/L)	N-nitrosodi-N-propylamine, total recoverable (µg/L)	N-nitrosodiphenylamine, total recoverable (µg/L)	N-nitrosodimethylamine, total recoverable (µg/L)	Nitrobenzene, total recoverable (µg/L)	Parachloro-meta cresol, total recoverable (µg/L)
1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
7	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
8	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
9	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
10	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
11	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
14	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
16	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
17	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
20	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
21	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
22	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
23	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
24	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
25	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
26	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
27	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
28	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
29A	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
30	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
31	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
32	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
33	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
34	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
35	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
36	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
37	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
38	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
39	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
40	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
42	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
43	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
44	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
45	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100ml; colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; NS, no sample taken in 1990-91]

Site number	Fluoranthene, total recoverable (µg/L)	Fluorene, total recoverable (µg/L)	Hexachlorocyclopentadiene, total recoverable (µg/L)	Hexachloroethane, total recoverable (µg/L)	Indeno (1,2,3-cd) pyrene, total recoverable (µg/L)	Isophorone, total recoverable (µg/L)	N-nitrosodi-N-propylamine, total recoverable (µg/L)	N-nitrosodiphenylamine, total recoverable (µg/L)	N-nitrosodimethylamine, total recoverable (µg/L)	Nitrobenzene, total recoverable (µg/L)	Parachloro-meta cresol, total recoverable (µg/L)
46	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
47	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
48	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
49	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
50	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
51	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
53	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
54	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
55	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
57	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
58	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
59	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
60	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
61	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
62	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
63	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
65	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
66	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
67	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
67A	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
68	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
69	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
70	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
71	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
72	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
73	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
74	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
74A	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
75	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
76	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
77	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
78	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
79	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
80	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
81	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
82	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
83	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
84	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
85	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
86	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
87	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
88	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
89	<5.0	<5.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0	<5.0	<30.0
90	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100ml; colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; NS, no sample taken in 1990-91]

Site number	Phenanthrene, total recoverable (µg/L)	Pyrene, total recoverable (µg/L)	Benzogh I peryl ene1,12 -benzop erylene, total recoverable (µg/L)	Benzo A anthrac ene1,2- benzant hracene, total recoverable (µg/L)	1,2-Di chloro- benzene, total recoverable (µg/L)	1,2,4- Tri- chloro- benzene, total recoverable (µg/L)	1,2,5,6- Dibenz- anthra- cene, total recoverable (µg/L)	1,3-Di- chloro- benzene, total recoverable (µg/L)	1,4-Di- chloro- benzene, total recoverable (µg/L)	2- Chloro- naph- thalene, total recoverable (µg/L)	2- Chloro- phenol, total recoverable (µg/L)
1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
7	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
8	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
9	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
10	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
11	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
14	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
16	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
17	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
20	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
21	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
22	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
23	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
24	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
25	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
26	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
27	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
28	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
29A	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
30	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
31	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
32	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
33	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
34	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
35	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
36	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
37	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
38	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
39	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
40	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
42	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
43	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
44	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
45	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100ml; colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; NS, no sample taken in 1990-91]

Site number	Phenanthrene, total recoverable (µg/L)	Pyrene, total recoverable (µg/L)	Benzogh I peryl ene1,12 -benzop erylene, total recoverable (µg/L)	Benzo A anthrac ene1,2- benzant hracene, total recoverable (µg/L)	1,2-Dichloro-benzene, total recoverable (µg/L)	1,2,4-Trichloro-benzene, total recoverable (µg/L)	1,2,5,6-Dibenz-anthracene, total recoverable (µg/L)	1,3-Dichloro-benzene, total recoverable (µg/L)	1,4-Dichloro-benzene, total recoverable (µg/L)	2-Chloro-naphthalene, total recoverable (µg/L)	2-Chloro-phenol, total recoverable (µg/L)
46	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
47	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
48	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
49	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
50	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
51	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
53	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
54	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
55	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
57	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
58	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
59	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
60	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
61	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
62	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
63	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
65	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
66	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
67	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
67A	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
68	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
69	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
70	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
71	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
72	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
73	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
74	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
74A	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
75	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
76	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
77	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
78	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
79	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
80	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
81	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
82	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
83	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
84	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
85	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
86	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
87	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
88	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
89	<5.0	<5.0	<10.0	<10.0	<5.0	<5.0	<10.0	<5.0	<5.0	<5.0	<5.0
90	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100ml; colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; NS, no sample taken in 1990-91]

Site number	2-Nitrophenol, total recoverable (µg/L)	Di-N-octyl phthalate, total recoverable (µg/L)	2,4-Dichlorophenol, total recoverable (µg/L)	2,4-Dimethylphenol, total recoverable (µg/L)	2,4-Dinitrotoluene, total recoverable (µg/L)	2,4,-Dinitrophenol, total recoverable (µg/L)	2,4,6-Trichlorophenol, total recoverable (µg/L)	2,6-Dinitrotoluene, total recoverable (µg/L)	4-Bromophenyl phenyl ether, total recoverable (µg/L)	4-Chlorophenyl phenyl ether, total recoverable (µg/L)	4-Nitrophenol, total recoverable (µg/L)
1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
7	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
8	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
9	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
10	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
11	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
14	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
16	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
17	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
20	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
21	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
22	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
23	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
24	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
25	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
26	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
27	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
28	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
29A	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
30	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
31	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
32	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
33	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
34	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
35	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
36	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
37	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
38	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
39	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
40	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
42	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
43	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
44	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
45	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100ml; colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; NS, no sample taken in 1990-91]

Site number	2-Nitrophenol, total recoverable (µg/L)	Di-N-octyl phthalate, total recoverable (µg/L)	2,4-Dichlorophenol, total recoverable (µg/L)	2,4-Dimethylphenol, total recoverable (µg/L)	2,4-Dinitrotoluene, total recoverable (µg/L)	2,4,-Dinitrophenol, total recoverable (µg/L)	2,4,6-Trichlorophenol, total recoverable (µg/L)	2,6-Dinitrotoluene, total recoverable (µg/L)	4-Bromophenyl phenyl ether, total recoverable (µg/L)	4-Chlorophenyl phenyl ether, total recoverable (µg/L)	4-Nitrophenol, total recoverable (µg/L)
46	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
47	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
48	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
49	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
50	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
51	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
53	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
54	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
55	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
57	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
58	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
59	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
60	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
61	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
62	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
63	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
65	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
66	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
67	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
67A	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
68	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
69	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
70	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
71	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
72	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
73	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
74	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
74A	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
75	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
76	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
77	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
78	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
79	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
80	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
81	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
82	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
83	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
84	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
85	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
86	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
87	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
88	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
89	<5.0	<10.0	<5.0	<5.0	<5.0	<20.0	<20.0	<5.0	<5.0	<5.0	<30.0
90	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100ml; colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; NS, no sample taken in 1990-91]

Site number	Dinitro-ortho-cresol, total recoverable (µg/L)	4,6-Phenol (C6H-5OH), total recoverable (µg/L)	Naphthalene, total recoverable (µg/L)	Pentachlorophenol, total recoverable (µg/L)	Bis(2-ethyl hexyl) phthalate, total recoverable (µg/L)	Di-N-butyl phthalate, total recoverable (µg/L)	Hexachlorobenzene, total recoverable (µg/L)	Hexachlorobutadiene, total recoverable (µg/L)	Methylene blue active substance (mg/L)	Carbon, organic, total recoverable (mg/L as C)
1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
2	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.06	0.1
3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
4	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	<0.1
5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
6	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.8
7	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.1
8	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.01	<0.1
9	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	<0.01	0.7
10	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.04	0.9
11	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.05	1.0
12	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
13	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.8
14	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.2
15	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
16	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.8
17	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.2
18	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
19	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	<0.01	0.2
20	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.1
21	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.04	0.3
22	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.04	<0.1
23	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	1.3
24	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	--
25	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	<0.01	1.5
26	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	<0.01	0.6
27	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.5
28	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
29	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	<0.01	0.3
29A	<30.0	5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.12	1.0
30	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.01	0.2
31	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.1
32	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	1.5
33	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.3
34	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.1
35	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.04	3.1
36	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	<0.1
37	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.1
38	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.01	0.3
39	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.06	0.4
40	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
41	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
42	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.01	1.2
43	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.9
44	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
45	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.04	1.4

Construction and water-quality data for ground-water network sites, 1990-91, for physical, inorganic chemical, bacteriological characteristics, total organic carbon, and synthetic organic compounds--Continued

[N/A, not applicable, spring site; --, no data; <, less than; K, non-ideal colony count; *, computed value; µS/cm, microsiemens per centimeter; deg. C, degrees Celsius; cols./100ml; colonies per 100 milliliters; mg/L, milligrams per liter; wat wh tot it, water whole total incremental titration; µg/L, micrograms per liter; NS, no sample taken in 1990-91]

Site number	Dinitro-ortho-cresol, total recoverable (µg/L)	4,6-Phenol (C6H-5OH), total recoverable (µg/L)	Naphthalene, total recoverable (µg/L)	Pentachloro-phenol, total recoverable (µg/L)	Bis(2-ethyl hexyl) phthalate, total recoverable (µg/L)	Di-N-butyl phthalate, total recoverable (µg/L)	Hexachloro-benzene, total recoverable (µg/L)	Hexachloro-butadiene, total recoverable (µg/L)	Methylene blue active substance (mg/L)	Carbon, organic, total recoverable (mg/L as C)
46	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.4
47	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.3
48	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.01	0.6
49	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.4
50	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.3
51	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.10	1.7
52	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
53	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	1.3
54	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.01	0.4
55	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	1.3
56	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
57	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.04	0.6
58	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.4
59	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.1
60	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.01	0.2
61	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.01	0.3
62	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
63	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	1.1
64	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
65	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.1
66	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.13	<0.1
67	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.6
67A	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.17	0.8
68	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.4
69	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
70	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.1
71	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.01	0.2
72	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.1
73	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.5
74	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
74A	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.01	<0.1
75	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.1
76	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.9
77	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.6
78	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.7
79	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.5
80	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	<0.01	<0.1
81	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.05	0.5
82	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.5
83	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	<0.01	1.3
84	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
85	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	<0.1
86	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.03	0.3
87	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.02	0.7
88	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
89	<30.0	<5.0	<5.0	<30.0	<5.0	<5.0	<5.0	<5.0	0.04	0.6
90	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
CUMBERLAND RIVER BASIN									
03312255 - SALT LICK CREEK AT RED BOILING SPRINGS, TN									
AUG 01...	1025	2.7	215	20.5					
03408500 - NEW RIVER AT NEW RIVER, TN									
NOV 20...	1015	72	305	7.5	JUN 19...	1630	546	220	22.0
FEB 28...	1245	531	218	6.0					
03409500 - CLEAR FORK NEAR ROBBINS, TN									
OCT 03...	1440	6.9	120	22.0	MAY 17...	1455	203	48	20.5
NOV 20...	1225	60	82	7.0	JUN 18...	1420	131	220	22.0
FEB 27...	1115	441	50	5.5	JUL 25...	1215	38	78	26.5
APR 12...	1015	279	55	14.0	SEP 10...	1120	13	84	24.5
03414500 - EAST FORK OBEY RIVER NEAR JAMESTOWN, TN									
OCT 03...	1110	8.5	495	18.0	APR 25...	1255	313	130	13.0
NOV 16...	0835	55	220	10.0	JUN 05...	1355	101	234	21.0
DEC 12...	1250	105	175	9.0	JUL 11...	1200	49	280	21.5
JAN 29...	1230	246	175	8.0	AUG 28...	1405	15	395	24.5
MAR 13...	1245	309	140	10.0					
03416000 - WOLF RIVER NEAR BYRDSTOWN, TN									
OCT 17...	1050	17	360	17.0	APR 25...	0910	105	215	12.0
NOV 15...	0935	42	265	10.0	JUN 05...	0950	55	280	20.5
DEC 12...	0905	59	270	5.0	JUL 11...	0830	29	319	23.5
JAN 29...	0905	105	250	8.0	AUG 28...	0935	12	361	24.5
MAR 13...	0915	191	220	10.5					
03417500 - CUMBERLAND RIVER AT CELINA, TN									
JAN 30...	1300	23900	170	8.5	MAR 26...	1125	29300	160	9.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991--Continued

DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
CUMBERLAND RIVER BASIN--Continued									
03418070 - ROARING RIVER ABOVE GAINESBORO, TN									
NOV					MAR				
14...	1455	17	280	10.0	12...	1420	261	205	11.0
DEC					APR				
10...	1425	56	285	6.0	24...	0935	119	215	15.0
JAN					JUN				
31...	1330	225	225	7.5	04...	1445	1.9	250	25.5
03421000 - COLLINS RIVER NEAR MCMINNVILLE, TN									
OCT					MAR				
04...	1145	131	280	20.5	15...	0830	1290	185	9.5
NOV					JUN				
29...	1020	917	250	13.0	06...	1200	469	191	22.0
DEC					JUL				
13...	1020	441	190	10.0	16...	1130	205	252	25.5
JAN					SEP				
31...	0945	1010	220	9.0	05...	1230	123	279	24.0
03422500 - CANEY FORK NEAR ROCK ISLAND, TN									
NOV					APR				
29...	1415	52	255	13.0	30...	1100	3290	171	16.5
JAN					JUL				
31...	1130	1780	195	9.0	12...	0900	73	238	20.5
MAR					SEP				
14...	0900	4100	140	10.0	11...	1115	75	230	21.5
03423152 - FALLING WATER RIVER BELOW BURGESS FALLS DAM, TN									
OCT					APR				
05...	1015	70	420	18.0	24...	1545	133	240	16.5
NOV					JUN				
13...	1015	66	240	10.0	03...	1515	99	217	22.0
DEC					JUL				
11...	1200	68	315	7.0	10...	1250	45	341	26.5
JAN					SEP				
28...	1300	153	275	8.0	04...	1300	27	290	24.5
MAR									
12...	1030	202	220	10.5					
03423400 - TAYLOR CREEK NEAR CASSVILLE, TN									
OCT					MAR				
05...	1230	5.9	270	18.0	12...	0740	41	--	10.5
NOV					APR				
13...	1350	19	255	12.0	24...	1305	24	195	15.5
DEC					JUN				
11...	0850	20	220	7.5	03...	1150	25	148	21.5
JAN					JUL				
28...	1000	27	205	9.5	10...	0915	4.4	305	21.5
FEB					SEP				
19...	1510	1770	--	--	04...	0945	2.1	309	20.5
03424730 - SMITH FORK AT TEMPERANCE HALL, TN									
JUL					SEP				
03...	1330	336	194	24.0	03...	1145	21	270	27.0
09...	0915	143	283	25.0					
24...	1600	31	306	29.0					

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991--Continued

DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
CUMBERLAND RIVER BASIN--Continued									
03427690 - BUSHMAN CREEK AT PITTS LANE FORD NEAR COMPTON, TN									
JUL									
16...	1350	4.1	420	25.0					
03428043 - LYTLE CREEK AT SANBYRNE DRIVE AT MURFREESBORO, TN									
OCT					MAR				
11...	1245	0.03	700	15.0	04...	1100	85	240	7.0
NOV					APR				
20...	1130	2.8	420	13.0	22...	1200	11	310	14.0
DEC					JUN				
12...	1330	7.0	405	10.0	05...	1400	31	200	24.0
FEB					AUG				
05...	1045	7.0	395	10.5	02...	1245	0.0	--	--
03428500 - WEST FORK STONES RIVER NEAR SMYRNA, TN									
OCT					APR				
02...	1115	43	--	19.0	22...	0815	375	350	14.0
NOV					JUN				
19...	1000	101	490	11.0	05...	1030	701	295	19.5
DEC					SEP				
11...	0930	236	470	10.0	05...	1045	27	410	24.5
FEB					30...	1400	47	511	21.0
05...	1130	198	390	11.5					
MAR									
06...	1130	970	360	12.0					
03431000 - MILL CREEK NEAR ANTIOCH, TN									
OCT					APR				
17...	1415	1.3	--	19.0	02...	1015	159	400	13.5
NOV					MAY				
21...	1200	6.8	555	15.0	10...	1015	126	400	18.0
FEB					JUN				
05...	0915	24	470	10.5	13...	1015	11	360	22.0
19...	1115	3260	--	13.0	JUL				
19...	1345	2970	--	13.0	25...	1115	1.3	390	27.5
03432350 - HARPETH RIVER AT FRANKLIN, TN									
OCT					JUN				
02...	1130	1.2	360	18.5	07...	0730	73	348	21.0
NOV					07...	0930	65	348	21.0
13...	0900	90	410	10.0	JUL				
JAN					09...	1115	39	291	24.5
02...	0845	802	300	9.5	AUG				
28...	0845	171	330	7.0	23...	1230	1.1	398	22.5
MAR					SEP				
04...	1045	1010	230	7.5	26...	0745	62	254	17.0
APR									
24...	1015	230	355	15.0					

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991--Continued

DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
CUMBERLAND RIVER BASIN--Continued									
03432400 - HARPETH RIVER BELOW FRANKLIN, TN									
OCT					JUN				
02...	1400	6.2	575	20.5	07...	1235	92	386	21.5
NOV					JUL				
13...	1145	117	450	11.5	15...	0850	46	383	24.0
JAN					AUG				
28...	1300	207	340	8.0	26...	1100	11	580	23.5
APR					SEP				
24...	1400	259	372	16.0	26...	1100	83	291	17.0
03433500 - HARPETH RIVER AT BELLEVUE, TN									
OCT					APR				
02...	1145	8.8	360	19.5	22...	0815	1320	310	13.5
NOV					JUN				
27...	1430	60	450	16.0	10...	0730	155	385	21.5
JAN					JUL				
25...	0900	422	340	5.0	18...	0745	56	388	25.5
MAR					AUG				
19...	0900	813	300	10.5	26...	0745	15	410	24.0
20...	1115	749	300	10.0					
03434500 - HARPETH RIVER NEAR KINGSTON SPRINGS, TN									
OCT					JUL				
02...	1015	62	320	17.5	02...	1030	186	275	25.0
NOV					AUG				
27...	1100	147	350	16.0	23...	1345	76	255	25.5
JAN					SEP				
25...	1100	680	320	4.0	30...	1200	102	340	18.5
JUN									
06...	0845	697	285	22.5					
03435000 - CUMBERLAND RIVER BELOW CHEATHAM DAM, TN									
08...	1035	16100	159	27.0					
03436000 - SULPHUR FORK RED RIVER NEAR ADAMS, TN									
OCT					APR				
11...	1330	32	400	15.0	11...	1300	313	240	16.0
NOV					JUN				
08...	1315	28	475	9.0	05...	1530	213	320	22.0
DEC					JUL				
07...	0830	174	330	7.5	17...	1050	494	360	25.0
JAN					AUG				
24...	0900	197	330	5.5	27...	1435	36	390	25.0
MAR									
13...	1030	228	300	11.5					

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991--Continued

DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
CUMBERLAND RIVER BASIN--Continued									
03436100 - RED RIVER AT PORT ROYAL, TN									
OCT 11...	0930	248	340	16.0	APR 11...	0845	2360	280	15.5
NOV 06...	1100	112	430	12.0	MAY 30...	1245	4210	290	19.0
DEC 07...	1145	991	340	8.5	JUL 16...	1130	494	350	24.5
JAN 23...	0900	1630	340	4.5	AUG 27...	1130	152	390	24.5
MAR 13...	0930	1320	295	11.5					
03436690 - YELLOW CREEK AT ELLIS MILLS, TN									
NOV 15...	1200	34	280	14.0	MAY 01...	1230	158	215	17.0
DEC 06...	1115	119	260	10.0	JUN 05...	1115	310	170	19.5
JAN 22...	0930	142	225	6.5	JUL 19...	1245	54	220	26.0
MAR 12...	1130	121	230	11.0	AUG 27...	0900	27	285	23.0
TENNESSEE RIVER BASIN									
03455000 - FRENCH BROAD RIVER NEAR NEWPORT, TN									
NOV 30...	0830	1440	155	9.0	JUL 03...	1045	2900	75	26.0
03465500 - NOLICHUCKY RIVER AT EMBREEVILLE, TN									
OCT 03...	1020	465	75	16.5	SEP 17...	1315	482	67	24.5
03466228 - SINKING CREEK AT AFTON, TN									
OCT 30...	1105	4.7	--	9.0	AUG 21...	1110	7.3	--	16.0
FEB 13...	1140	8.4	--	9.0					
03469175 - LITTLE PIGEON RIVER ABOVE SEVIERVILLE, TN									
OCT 29...	1330	164	73	10.0	JUN 06...	1015	208	97	19.0
NOV 28...	1015	72	130	13.0	SEP 20...	0855	199	265	17.0
03491000 - BIG CREEK NEAR ROGERSVILLE, TN									
OCT 02...	1320	5.3	380	17.5	JUN 25...	1610	49	360	19.0
NOV 06...	1440	6.9	380	11.5	AUG 07...	1730	15	350	24.5
MAY 13...	1740	22	340	22.5					

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991--Continued

DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
TENNESSEE RIVER BASIN--Continued									
03491544 - CROCKETT CREEK BELOW ROGERSVILLE, TN									
OCT					MAY				
02...	1020	0.89	510	14.5	13...	1345	2.1	625	20.5
NOV					JUN				
06...	1055	1.2	480	11.5	25...	1210	4.9	500	18.0
MAR					AUG				
05...	1635	11	420	14.0	07...	1445	1.4	465	24.0
03495547 - LOVE CREEK AT I-40 AT KNOXVILLE, TN									
OCT					MAY				
12...	1040	8.3	520	16.0	28...	1245	24	--	20.0
NOV					JUN				
09...	1045	4.5	540	11.0	27...	0945	16	--	18.0
JAN					JUL				
15...	1515	20	--	11.5	24...	0845	7.7	500	19.5
MAR					AUG				
21...	0955	15	540	13.5	27...	1405	5.6	515	19.0
APR					SEP				
22...	1515	12	510	15.0	26...	1600	6.2	--	17.5
03495957 - WHITES CREEK AT NORA ROAD AT KNOXVILLE, TN									
NOV					APR				
13...	1035	4.0	420	8.0	22...	1030	12	385	12.0
DEC					MAY				
11...	1105	3.8	--	5.5	28...	0935	12	--	19.0
JAN					JUL				
15...	1305	17	--	--	23...	1035	4.2	400	21.0
MAR									
21...	1325	14	480	15.0					
03497300 - LITTLE RIVER ABOVE TOWNSEND, TN									
OCT					AUG				
30...	1445	194	18	8.0	23...	0945	--	--	--
JUL					28...	1000	160	16	19.0
					SEP				
10...	0850	142	--	19.5	09...	1125	99	17	19.5
					20...	1205	103	19	16.0
03497322 - LITTLE RIVER AT KINZEL SPRINGS, TN									
OCT					JUN				
15...	1615	--	39	16.5	18...	1430	--	34	21.5
DEC					AUG				
05...	1645	--	18	5.0	20...	1330	--	28	20.0
FEB					25...	1010	--	--	--
05...	1415	--	42	8.0	28...	1015	--	37	20.0
APR					SEP				
16...	1405	--	45	18.5	09...	1220	--	41	21.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991--Continued

DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
TENNESSEE RIVER BASIN--Continued									
03498500 - LITTLE RIVER NEAR MARYVILLE, TN									
NOV					JUL				
29...	1130	338	140	12.5	17...	0745	204	--	23.0
APR					SEP				
15...	1430	540	107	16.0	20...	1605	152	97	19.5
JUN									
05...	1455	280	120	22.0					
03498850 - LITTLE RIVER NEAR ALCOA, TN									
OCT					JUL				
31...	1035	246	95	9.5	16...	0855	183	--	24.5
NOV					22...	1125	234	87	24.0
28...	1500	133	240	13.5	AUG				
APR					19...	1200	333	64	21.0
16...	1045	534	129	15.5	SEP				
JUN					18...	0930	111	--	24.0
06...	1325	235	145	21.0					
03528000 - CLINCH RIVER ABOVE TAZEWELL, TN									
08...	1145	396	340	10.0	07...	1220	4410	270	8.5
03535103 - SCARBORO CREEK TRIBUTARY NEAR OAK RIDGE, TN									
OCT					AUG				
03...	1255	0.04	290	15.0	20...	1750	0.06	265	14.5
MAY									
31...	1145	0.11	220	13.5					
03536320 - WHITEOAK CREEK NEAR MELTON HILL, TN									
NOV					MAY				
07...	1315	0.07	410	13.0	28...	1140	1.9	255	19.5
APR					AUG				
17...	1110	2.2	180	14.0	22...	1700	0.04	380	22.0
03536380 - WHITEOAK CREEK NEAR WHEAT, TN									
OCT					AUG				
02...	1615	2.5	290	23.0	22...	1530	2.5	270	24.0
APR									
17...	1435	6.6	235	18.5					
03536440 - NORTHWEST TRIBUTARY NEAR OAK RIDGE, TN									
AUG									
21...	1620	0.52	265	24.0					
03536450 - FIRST CREEK NEAR OAK RIDGE, TN									
NOV					AUG				
08...	1415	0.23	335	16.0	22...	1410	0.26	300	26.5
03536550 - WHITEOAK CREEK BELOW MELTON VALLEY DRIVE NEAR OAK RIDGE, TN									
DEC					AUG				
07...	1405	6.8	320	14.0	22...	1210	5.9	270	23.5

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991--Continued

DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
TENNESSEE RIVER BASIN--Continued									
03537050 - MELTON BRANCH TRIBUTARY (EAST SEVEN) NEAR OAK RIDGE, TN									
MAR 11...	1405	0.22	175	9.0	AUG 21...	1145	0.01	310	18.5
JUL 11...	1330	0.01	290	23.5					
03537100 - MELTON BRANCH NEAR MELTON HILL NEAR OAK RIDGE, TN									
MAR 12...	1240	0.53	260	9.5	APR 16...	1245	1.1	225	16.0
03537200 - MELTON BRANCH TRIBUTARY (CENTER SEVEN) NEAR OAK RIDGE, TN									
NOV 07...	1525	0.02	325	11.0	JUL 11...	1115	0.02	315	20.0
MAR 11...	1520	0.10	215	10.0	AUG 21...	1035	0.02	315	18.5
035382672 - BEAR CREEK TRIBUTARY ABOVE BEAR CREEK ROAD NEAR WHEAT, TN									
OCT 03...	1355	0.03	185	16.5	JUL 08...	1030	0.04	145	21.5
DEC 18...	1110	1.3	65	12.0					
035382673 - BEAR CREEK NEAR WHEAT, TN									
NOV 06...	1405	1.0	500	12.5	JUL 08...	1510	1.3	365	21.5
FEB 07...	1320	2.5	380	11.0	AUG 20...	1135	0.55	410	19.0
MAY 28...	1545	4.0	--	21.0					
3538270 - BEAR CREEK AT STATE HIGHWAY 95 NEAR OAK RIDGE, TN									
DEC 18...	1355	14	250	12.5	JUL 08...	1330	2.3	355	18.5
APR 18...	1110	9.0	235	13.5	AUG 20...	1405	1.0	385	17.5
03538273 - BEAR CREEK AT PINE RIDGE, NEAR WHEAT, TN									
NOV 06...	1530	1.7	410	12.5	JUL 10...	1145	1.8	340	19.5
APR 18...	1420	9.1	235	15.5					
03540500 - EMORY RIVER AT OAKDALE, TN									
NOV 01...	1110	120	110	11.0	AUG 30...	1025	29	154	21.5
JUL 01...	1130	323	88	25.0					

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991--Continued

DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
TENNESSEE RIVER BASIN--Continued									
03543500 - SEWEE CREEK NEAR DECATUR, TN									
OCT					AUG				
24...	1100	86	240	14.5	14...	1310	36	274	21.0
NOV					SEP				
14...	1320	63	280	11.0	24...	1105	28	293	18.0
MAY									
15...	1240	88	268	19.5					
03560500 - DAVIS MILL CREEK AT COPPERHILL, TN									
NOV					APR				
02...	1345	68	440	20.0	02...	1312	49	800	16.0
16...	1020	58	540	14.0	JUL				
30...	1240	36	860	15.5	31...	1600	55	548	26.0
DEC					SEP				
18...	1430	49	900	18.0	03...	1240	36	610	25.0
03563000 - OCOEE RIVER AT EMF, TN									
OCT					NOV				
11...	1430	434	90	19.0	15...	1425	41	90	13.5
					15...	1430	43	90	13.5
03564500 - OCOEE RIVER AT PARKSVILLE, TN									
OCT					AUG				
24...	1545	1630	90	18.0	01...	1145	47	73	24.0
24...	1800	1590	90	18.0					
NOV									
16...	1415	712	160	14.0					
03566000 - HIWASSEE RIVER AT CHARLESTON, TN									
DEC					AUG				
19...	1125	6550	80	12.0	15...	1110	3820	54	21.0
03567500 - SOUTH CHICKAMAUGA CREEK NEAR CHICKAMAUGA, TN									
OCT					MAY				
24...	1730	353	335	18.0	30...	1030	484	160	21.0
DEC					AUG				
12...	1330	226	260	13.0	20...	1500	214	520	27.0
APR									
17...	1045	1380	170	18.5					
03571000 - SEQUATCHIE RIVER NEAR WHITWELL, TN									
OCT					MAY				
03...	1330	47	255	19.5	30...	1415	246	160	28.0
DEC					JUL				
11...	1700	303	190	11.0	10...	1415	160	227	24.0
APR					AUG				
16...	1145	5260	108	18.0	19...	1500	90	420	30.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991--Continued

DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
				TENNESSEE RIVER BASIN--Continued					
				03580995 - EAST FORK MULBERRY CREEK BELOW JACK DANIEL DISTILLERY AT LYNCHBURG, TN					
OCT					APR				
16...	1000	6.1	450	17.0	16...	1000	156	185	14.5
NOV					JUN				
16...	0745	12	325	10.0	05...	0700	40	313	18.0
DEC					JUL				
12...	1430	17	270	12.5	16...	1200	6.5	308	26.5
JAN					AUG				
30...	1100	34	240	12.0	22...	0715	4.1	340	19.0
MAR									
05...	1445	140	180	14.0					
				03584600 - ELK RIVER AT PROSPECT, TN					
OCT					APR				
18...	1545	1340	200	18.0	05...	0915	6840	180	15.0
NOV					JUN				
19...	1100	524	220	11.0	04...	1230	2220	201	20.0
DEC					JUL				
12...	0815	2240	210	9.5	16...	1530	420	254	28.5
JAN					AUG				
31...	0900	1890	220	9.0	21...	0945	426	225	24.5
				03588000 - SHOAL CREEK AT LAWRENCEBURG, TN					
OCT					APR				
16...	1545	25	180	17.0	16...	1530	240	115	18.0
NOV					JUN				
19...	1545	21	180	11.5	03...	1545	152	141	20.5
DEC					JUL				
11...	1200	27	190	9.5	17...	0730	53	166	19.5
JAN					AUG				
30...	0715	71	150	12.5	21...	0700	37	169	17.5
MAR									
07...	0700	129	140	11.5					
				03588500 - SHOAL CREEK AT IRON CITY, TN					
OCT					APR				
16...	1230	140	130	17.0	17...	0800	2000	175	11.5
NOV					JUN				
20...	0900	170	120	11.5	04...	0745	918	109	21.5
DEC					JUL				
11...	0845	279	112	7.0	17...	1000	252	120	24.5
JAN					AUG				
31...	1400	371	100	9.0	20...	1115	184	123	23.0
FEB									
21...	0830	3290	80	9.5					

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991--Continued

DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
TENNESSEE RIVER BASIN--Continued									
03597210 - GARRISON FORK ABOVE L&N RAILROAD AT WARTRACE, TN									
OCT					MAY				
15...	1245	13	320	19.0	17...	1015	85	280	22.0
NOV					JUN				
27...	1045	17	290	19.0	27...	0945	73	275	20.0
DEC					JUL				
11...	1145	37	320	8.0	30...	1130	13	440	32.0
21...	0945	1830	180	14.0	SEP				
JAN					09...	1045	6.3	500	26.0
07...	1345	1490	190	11.0					
APR									
02...	1115	230	245	18.0					
03597590 - WARTRACE CREEK BELOW COUNTY ROAD AT WARTRACE, TN									
OCT					APR				
15...	0945	2.7	380	15.0	02...	0845	63	330	13.0
NOV					MAY				
27...	0930	4.2	390	17.5	17...	1115	23	370	21.0
DEC					JUN				
11...	1045	13	400	5.5	27...	1100	5.1	350	22.5
JAN					JUL				
07...	1045	914	130	8.5	30...	1000	0.10	650	23.0
FEB					SEP				
14...	1100	278	270	10.0	30...	1420	0.60	350	23.0
03598000 - DUCK RIVER NEAR SHELBYVILLE, TN									
NOV					JUN				
15...	1330	279	280	12.0	05...	1030	418	188	22.0
DEC					JUL				
13...	0730	648	180	10.5	16...	0800	184	188	25.0
JAN					AUG				
29...	1130	389	180	8.0	22...	1045	155	163	22.0
MAR					SEP				
05...	1100	3560	150	9.5	19...	1130	152	158	21.5
APR					20...	0845	149	160	21.5
15...	1230	4740	175	17.0					
03600258 - LITTLE BIGBY CREEK AT EXPERIMENT LANE AT COLUMBIA, TN									
NOV					APR				
15...	0930	11	440	10.5	23...	1100	75	310	15.0
DEC					JUN				
14...	1130	22	440	10.5	06...	0730	64	378	18.0
JAN					JUL				
29...	0830	31	380	9.5	15...	1300	6.2	401	25.0
MAR					AUG				
05...	0900	161	320	9.5	22...	1445	2.5	388	22.0

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991--Continued

DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
				TENNESSEE RIVER BASIN--Continued					
				03602219 - PINEY RIVER AT CEDAR HILL, TN					
OCT					APR				
10...	0900	15	300	16.5	24...	1130	80	205	14.5
NOV					JUN				
14...	1000	22	290	11.0	03...	1215	108	210	19.5
DEC					JUL				
06...	1345	53	250	12.0	12...	1145	47	263	22.5
JAN					12...	1245	46	263	22.5
22...	1200	68	210	7.0	AUG				
MAR					28...	1130	15	260	22.0
11...	1000	68	190	9.0					
				03602500 - PINEY RIVER AT VERNON, TN					
OCT					APR				
10...	1330	91	260	17.0	24...	1615	390	180	16.0
NOV					JUL				
13...	1315	115	240	13.0	12...	0700	213	234	22.5
DEC					12...	0945	237	234	22.5
06...	1200	215	230	12.5	AUG				
JAN					28...	0800	107	242	22.0
23...	0745	256	190	6.5					
MAR									
11...	1400	287	190	12.0					
				03603000 - DUCK RIVER ABOVE HURRICANE MILLS, TN					
OCT					FEB				
11...	0830	832	235	17.0	21...	0930	67400	128	10.0
NOV					JUN				
16...	1200	1740	275	12.0	04...	1245	4000	220	24.0
DEC					JUL				
07...	0700	5680	260	10.0	18...	1130	1290	230	27.0
JAN					AUG				
23...	1115	3060	290	7.0	29...	0745	794	210	24.5
				03604400 - BUFFALO RIVER BELOW LOBELVILLE, TN					
11...	1300	504	110	17.5	28...	1015	72000	39	19.5
NOV					28...	1030	36200	--	--
13...	1630	668	105	12.0	29...	0800	26400	35	20.0
DEC					29...	0815	27200	35	19.0
10...	0815	802	102	7.5	JUN				
JAN					03...	0845	2190	97	21.0
24...	0845	852	100	8.0	JUL				
FEB					22...	1245	552	100	27.0
19...	1330	21800	60	10.5	AUG				
					28...	1040	498	119	24.5
				OBION RIVER BASIN					
				07025500 - NORTH FORK OBION RIVER NEAR UNION CITY, TN					
OCT					JUL				
24...	1145	299	--	13.0	10...	0935	202	72	24.5
MAR					AUG				
01...	0900	372	80	10.0	21...	1005	285	63	20.5
MAY									
30...	1145	504	82	24.5					

MISCELLANEOUS TEMPERATURE MEASUREMENTS AND FIELD DETERMINATIONS

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991--Continued

DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)	DATE	TIME	DIS-CHARGE, INSTAN-TANEOUS (FT^3/S)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	TEMPER-ATURE WATER (DEG C)
OBION RIVER BASIN--Continued									
07027500 - SOUTH FORK FORKED DEER RIVER AT JACKSON, TN									
OCT					JAN				
31...	1305	199	60	12.0	28...	1235	374	58	7.0
DEC					MAR				
12...	1010	--	--	--	12...	1550	--	51	11.0
12...	1030	281	51	8.0					
LOOSAHATCHIE RIVER BASIN									
07030240 - LOOSAHATCHIE RIVER NEAR ARLINGTON, TN									
OCT					JUL				
23...	1320	104	55	14.0	11...	1410	109	52	24.5
FEB					AUG				
14...	1215	2000	43	10.0	22...	1405	144	47	21.5
21...	1055	716	43	9.0					
WOLF RIVER BASIN									
07031650 - WOLF RIVER AT GERMANTOWN, TN									
OCT					JUL				
24...	1210	435	44	14.0	12...	1525	450	69	28.5
DEC					AUG				
06...	1615	646	--	8.5	23...	1330	410	40	25.0
FEB									
22...	0830	10200	25	10.5					
NONCONNAH CREEK BASIN									
07032200 - NONCONNAH CREEK NEAR GERMANTOWN, TN									
OCT					MAY				
24...	1415	1.2	70	14.0	30...	1515	21	--	28.5
JAN					AUG				
17...	1200	16	--	7.0	23...	1120	0.29	142	27.5

360835086441100. Local number, Dv:L-10.

LOCATION.--Lat 36°08'35", long 86°44'11", Hydrologic Unit 05130202, 220 ft south of Elm Hill Pike, 0.3 mi west of Louisville and Nashville Railroad crossing, 0.4 mi east of Fesslers Lane in Nashville. Owner: U.S. Geological Survey.

AQUIFER.--Carters and Lebanon Limestones of middle Ordovician age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in., depth 262 ft, cased to 40 ft, open end.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 515 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing 2.5 ft above land-surface datum.

REMARKS.--Records good.

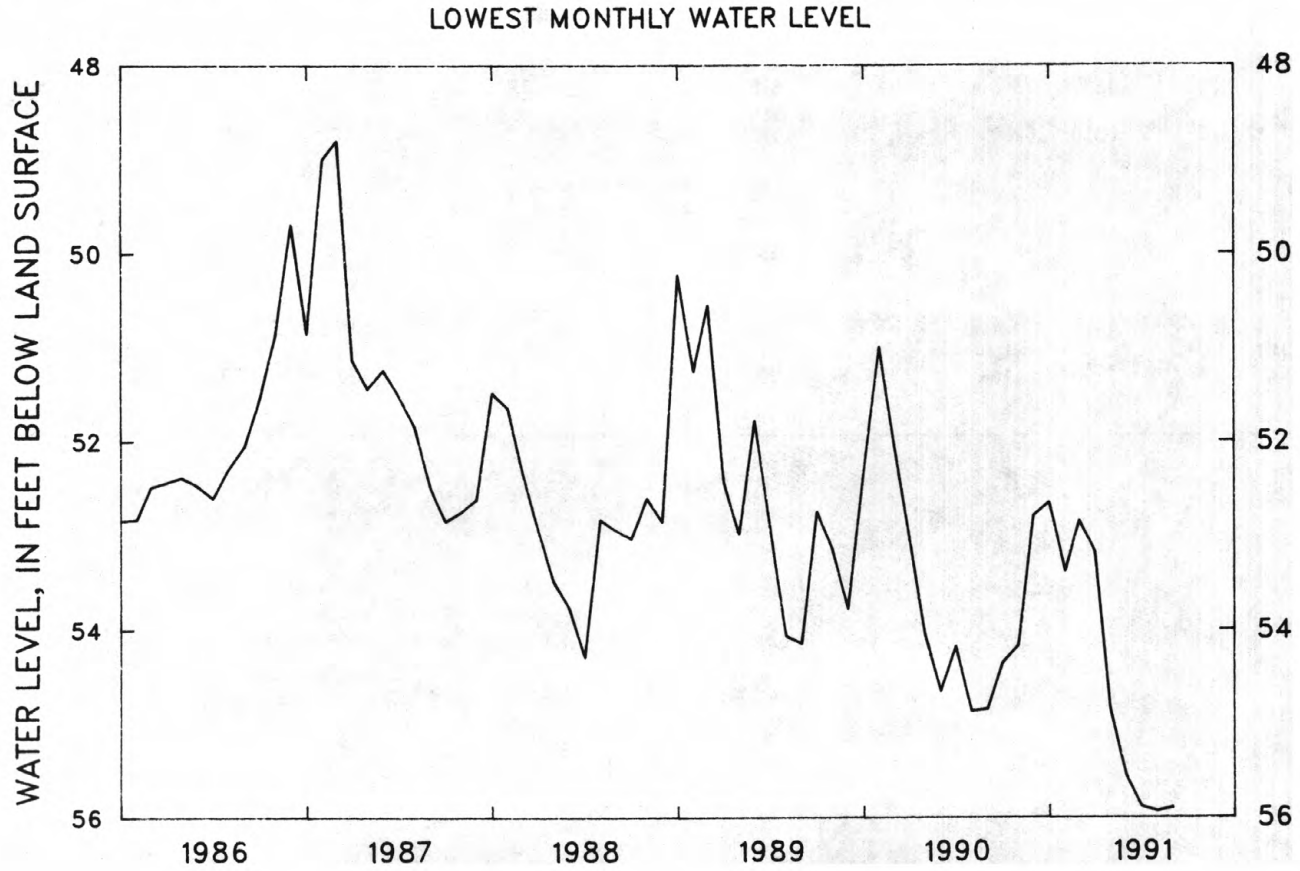
PERIOD OF RECORD.--June 1985 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 36.52 ft below land-surface datum, Feb. 21, 1989; lowest water level 55.94 ft below land-surface datum, Aug. 5, 6, 7, and 8, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	50.60	54.10	47.91	47.61	53.27	48.43	50.65	53.41	55.08	53.47	55.94	55.90
10	53.50	46.97	52.03	47.32	53.04	51.62	51.95	51.17	55.40	54.13	55.88	54.90
15	54.16	52.05	52.30	47.82	49.82	52.34	47.22	50.89	55.10	55.08	55.90	55.79
20	53.46	53.27	47.03	50.11	46.89	52.47	50.00	53.85	55.55	55.55	55.90	55.71
25	51.53	52.59	46.75	51.95	47.69	52.15	52.72	54.86	54.15	55.74	55.90	55.13
EOM	53.78	51.76	44.17	52.65	49.56	47.33	50.59	54.06	55.42	55.89	55.86	55.72

WTR YR 1991 HIGHEST 41.12 DEC 22, 23, 1990 LOWEST 55.94 AUG 5, 6, 7, 8, 1991



HAMILTON COUNTY

350234085181200. Local number, Hm:G-36.

LOCATION.--Lat 35°02'34", long 85°18'12", Hydrologic Unit 06020001, in Tennessee Valley Authority parking lot, Douglas Street in Chattanooga.
Owner: Tennessee Valley Authority.

AQUIFER.--Knox Dolomite of Cambrian and Ordovician age.

WELL CHARACTERISTICS.--Drilled artesian test well, diameter 16 in. to 120 ft, 6 in. to 250 ft, cased to 27 ft, open end.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 670.3 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of instrument shelf, 1.5 ft above land-surface datum.

REMARKS.--No record Dec. 14 to Jan. 3, Feb. 3 to Feb. 21, May 29. Records good. The well has been pumped at rates up to 1,200 gal/min over a 68 hour period indicating a specific capacity of 20.4 [(gal/min)/ft].

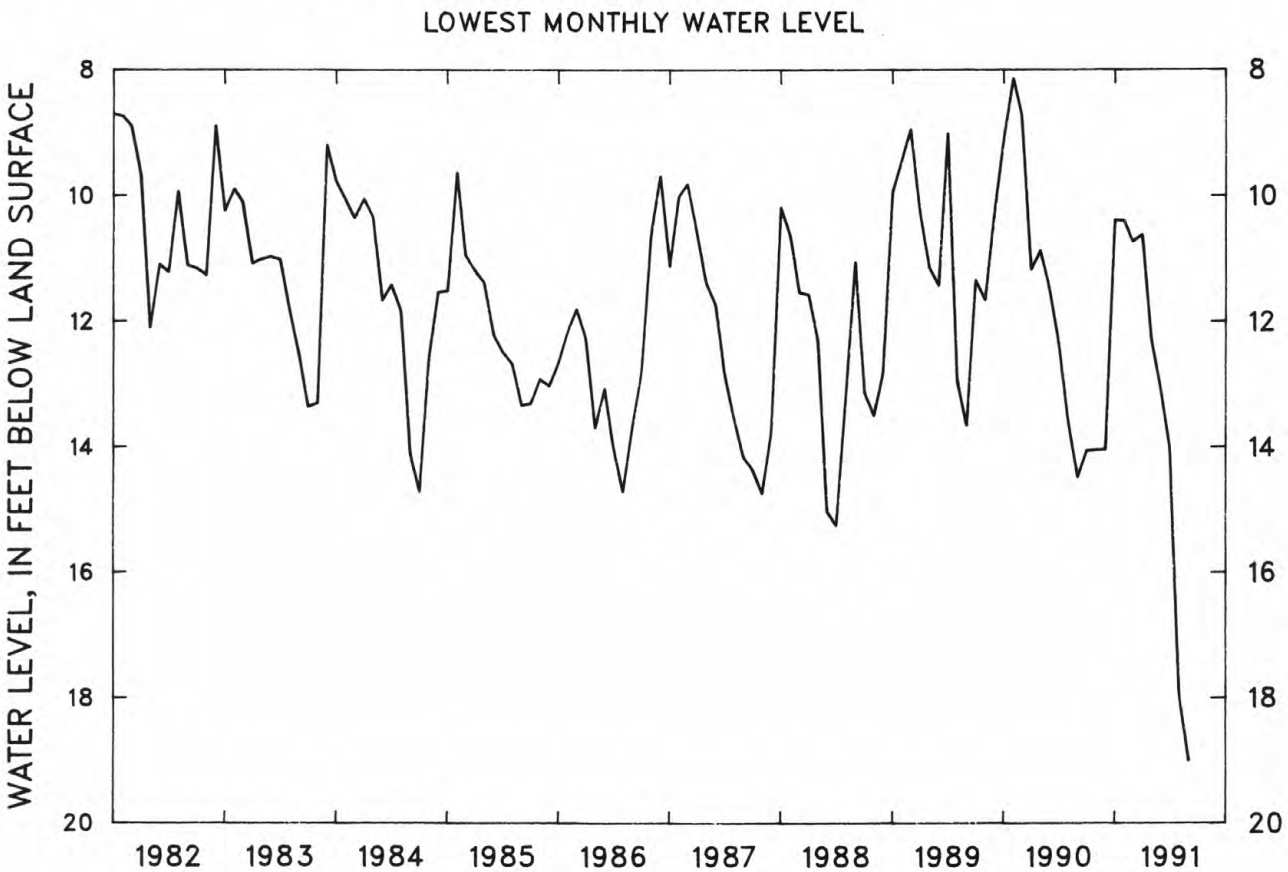
PERIOD OF RECORD.--April 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.57 ft below land-surface datum, Feb. 16, 1990; lowest, 19.90 ft below land-surface datum, Sept. 24, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	14.03	13.34	11.65	8.42	---	7.18	10.52	8.34	10.64	12.81	14.76	17.82
10	13.57	12.94	11.95	9.82	---	7.73	9.50	7.98	11.07	12.96	15.70	18.16
15	13.74	12.06	---	8.87	---	8.66	8.22	9.30	11.40	13.32	16.14	18.77
20	13.19	12.44	---	9.42	---	9.02	7.32	10.05	12.36	13.73	16.90	19.76
25	12.49	13.16	---	10.37	6.24	9.90	9.79	11.72	12.69	13.75	17.47	19.12
EOM	12.85	13.39	---	10.39	7.83	9.27	9.51	12.29	13.09	14.02	17.63	18.65

WTR YR 1991 HIGHEST 3.62 FEB 21, 1991 LOWEST 19.90 SEPT 24, 1991



HAMILTON COUNTY--Continued

351428085003600. Local number, Hm:O-15.

LOCATION.--Lat 35°14'28", long 85°00'36", Hydrologic Unit 06020001, at Smith Road and State Highway 58, near Snow Hill.
Owner: Savannah Valley Utility District.

AQUIFER.--Knox Dolomite of Cambrian and Ordovician age.

WELL CHARACTERISTICS.--Drilled artesian test well, diameter 10 in., depth 262 ft, cased to 50 ft, open end.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 735 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of back shelter panel, 8.00 ft above land-surface datum.

REMARKS.--Record goods. Well previously published as "at Savannah Valley". Water level affected by pumping from municipal supply well 300 ft south. Negative values indicate water levels above land-surface.

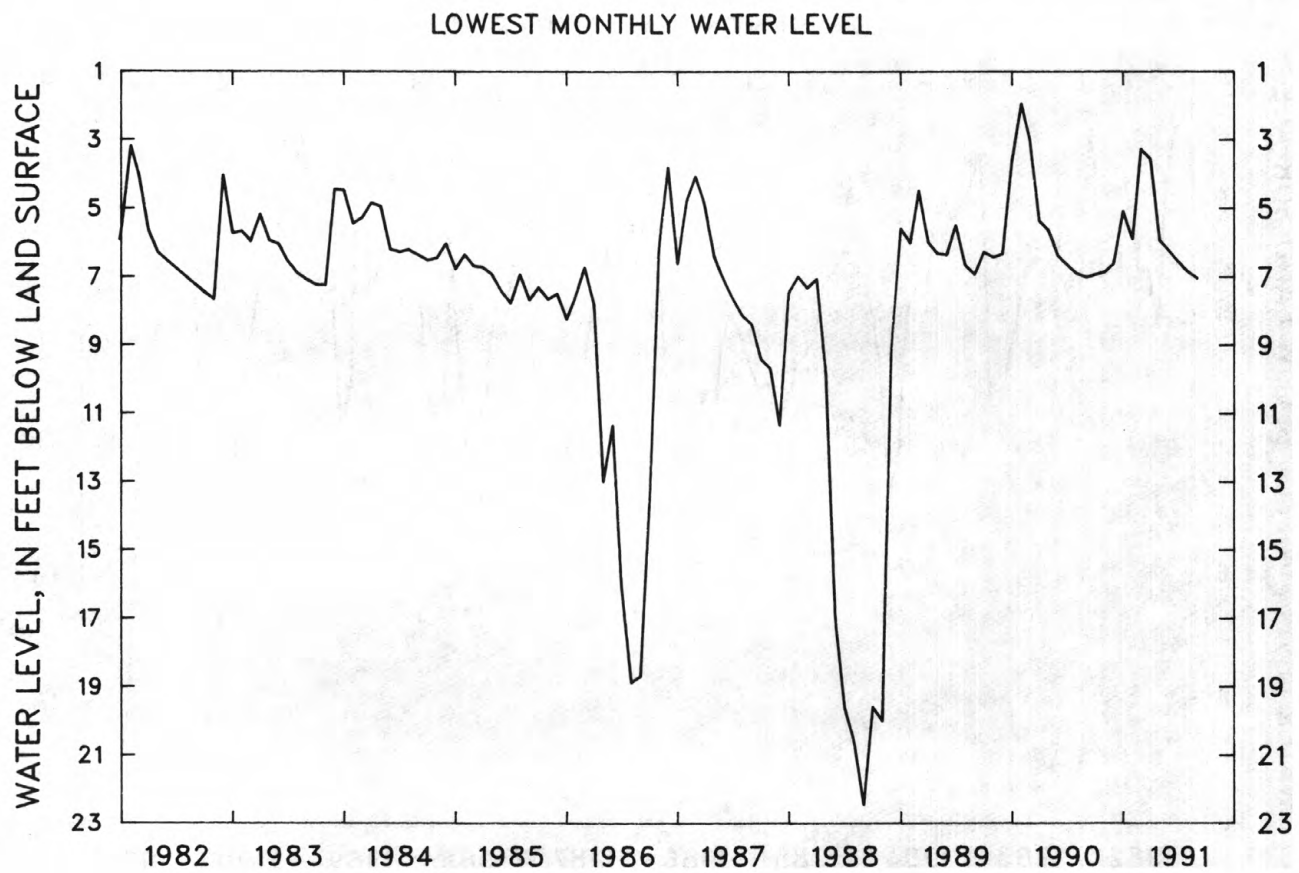
PERIOD OF RECORD.--May 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, -3.57 ft above land-surface datum, Feb. 19, 1991; lowest, 22.45 ft below land-surface datum, Sept. 3, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	6.74	6.73	4.77	.48	5.53	-.47	2.71	4.01	6.02	5.63	6.61	6.76
10	6.45	6.45	5.68	2.12	5.82	.22	.94	2.60	6.23	6.17	6.65	6.85
15	6.68	5.79	5.13	.40	4.86	.31	-.08	4.17	5.18	6.28	6.40	6.92
20	6.37	6.41	3.07	1.78	-1.69	1.42	.36	5.05	5.23	6.45	6.61	6.95
25	5.79	6.62	-1.01	3.83	-.42	2.65	2.44	5.66	5.25	6.51	6.74	6.59
EOM	6.52	6.61	-1.08	5.08	.59	1.93	3.56	5.95	5.24	6.32	6.67	6.77

WTR YR 1991 HIGHEST -3.57 FEB 19, 1991 LOWEST 7.04 SEPT 17, 1991



HUMPHREYS COUNTY

360020087573300. Local number, Hs:H-1.

LOCATION.--Lat 36°00'20", long 87°57'33", Hydrologic Unit 06040005, 100 ft north of Woodland Drive, at New Johnsonville.
Owner: A.M. Powers.

AQUIFER.--Camden Chert of early Devonian age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 187 ft, cased to 72 ft, open end.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 470 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.00 ft above land-surface datum.

REMARKS.--Records good, except period May 31 to July 9, no record.

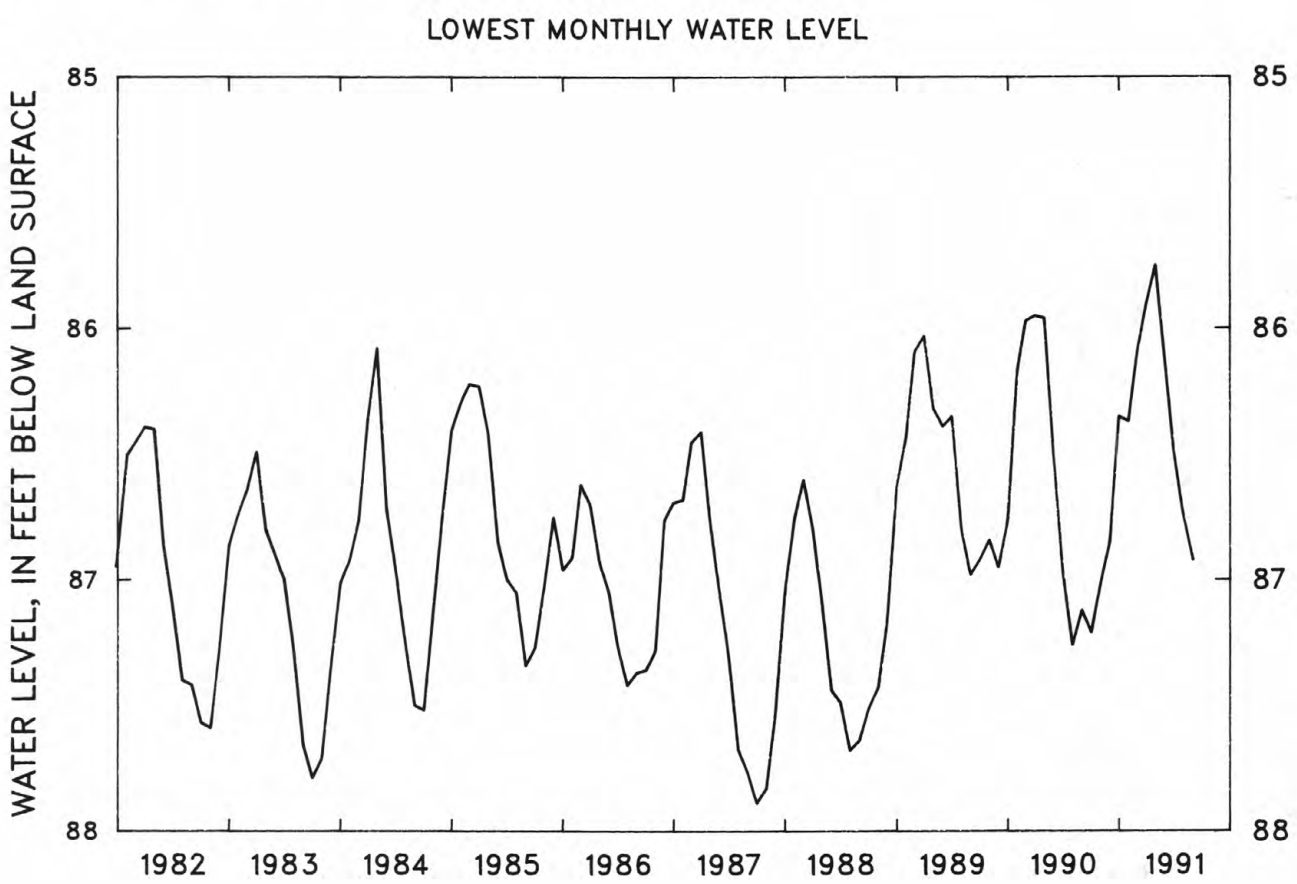
PERIOD OF RECORD.--February 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 84.31 ft below land-surface datum, May 25, 1983; lowest, 90.20 ft below land-surface datum, Nov. 25, 1968.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	87.13	86.96	86.74	85.89	86.24	85.72	85.80	85.70	---	---	86.67	86.67
10	86.96	86.89	86.71	85.82	86.12	86.01	85.89	85.62	---	86.02	86.44	86.68
15	87.07	86.94	86.67	85.88	86.08	86.07	85.76	85.46	---	86.09	86.47	86.77
20	87.00	86.91	86.30	86.04	85.56	86.01	85.63	85.63	---	86.26	86.54	86.89
25	86.95	86.89	86.20	86.20	85.52	86.07	85.70	85.74	---	86.34	86.66	86.74
EOM	87.00	86.91	85.88	86.35	85.60	85.86	85.72	---	---	86.50	86.62	86.92

WTR YR 1991 HIGHEST 85.29 MAY 29, 1991 LOWEST 87.21 OCT 3, 1990



LAUDERDALE COUNTY

353839089493500. Local number, Ld:F-4.

LOCATION.--Lat 35°38'39", long 89°49'35", Hydrologic Unit 08010208, 1.1 mi north of State Highway 87, at Fort Pillow State Park.
Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 8 to 6 to 3 in., depth 879 ft, cased to 869 ft, screened 869 to 879 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 437.05 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.80 ft above land-surface datum.

REMARKS.--No record December 24 to January 14, April 12 to 18. Records poor.

PERIOD OF RECORD.--April 1966 to current year.

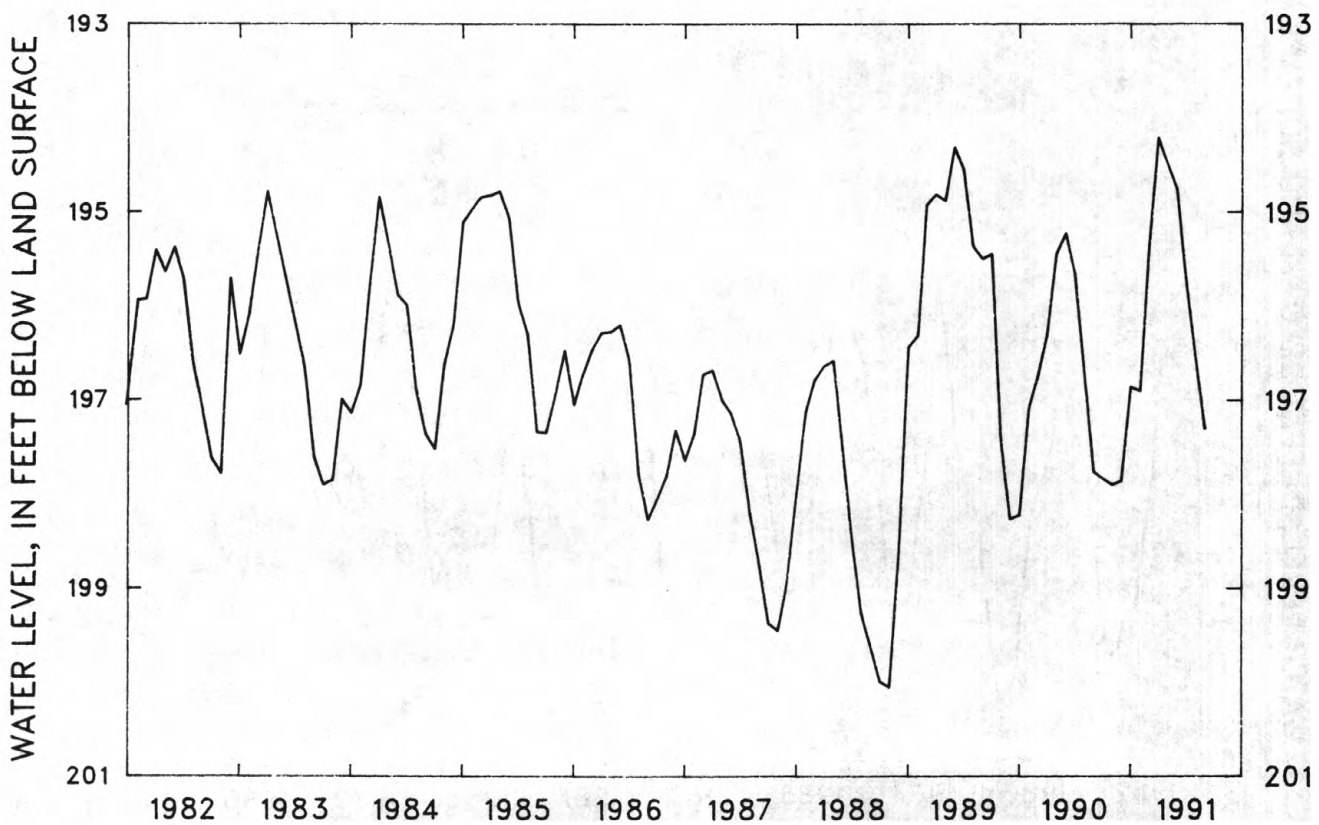
EXTREMES FOR PERIOD OF RECORD.--Highest water level, 187.76 ft below land-surface datum, Apr. 7, 1975; lowest, 200.05 ft below land-surface datum, November 11, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	197.80	197.47	197.61	---	196.45	193.81	193.59	194.36	193.81	194.78	195.87	196.70
10	197.76	197.64	197.41	---	196.22	195.30	193.70	194.34	194.50	195.00	196.00	196.81
15	197.72	197.82	197.28	192.79	195.62	195.21	---	193.68	194.61	195.15	196.15	196.94
20	197.66	197.72	197.13	193.63	195.26	195.03	193.89	193.96	194.70	195.20	196.26	197.11
25	197.58	197.71	---	195.39	193.76	194.68	193.68	194.30	194.66	195.41	196.44	197.12
EOM	197.59	197.86	---	196.72	193.60	194.11	194.06	193.93	194.74	195.69	196.53	197.29

WTR YR 1991 HIGHEST 192.79 JANUARY 15, 1991 LOWEST 197.90 NOVEMBER 30, 1990

LOWEST MONTHLY WATER LEVEL



LINCOLN COUNTY

350035086423100. Local number, Li:G-2.

LOCATION.--Lat 35°00'35", long 86°42'31", Hydrologic Unit 06030002, on west side of Pepper Road at Taft well field, 0.8 mi south of State Highway 110, at Taft.
Owner: Lincoln County Board of Public Utilities.

AQUIFER.--Fort Payne Formation of early Mississippian age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in, depth 85 ft, cased to 40 ft, open end.

INSTRUMENTATION.--Water-level recorder since March 1988.

DATUM.--Altitude of land-surface datum is 904.08. Measuring point: Top of casing, 2.48 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage from Taft well field for municipal water supply. Records good, Oct. 1 to Jan. 7, fair thereafter.

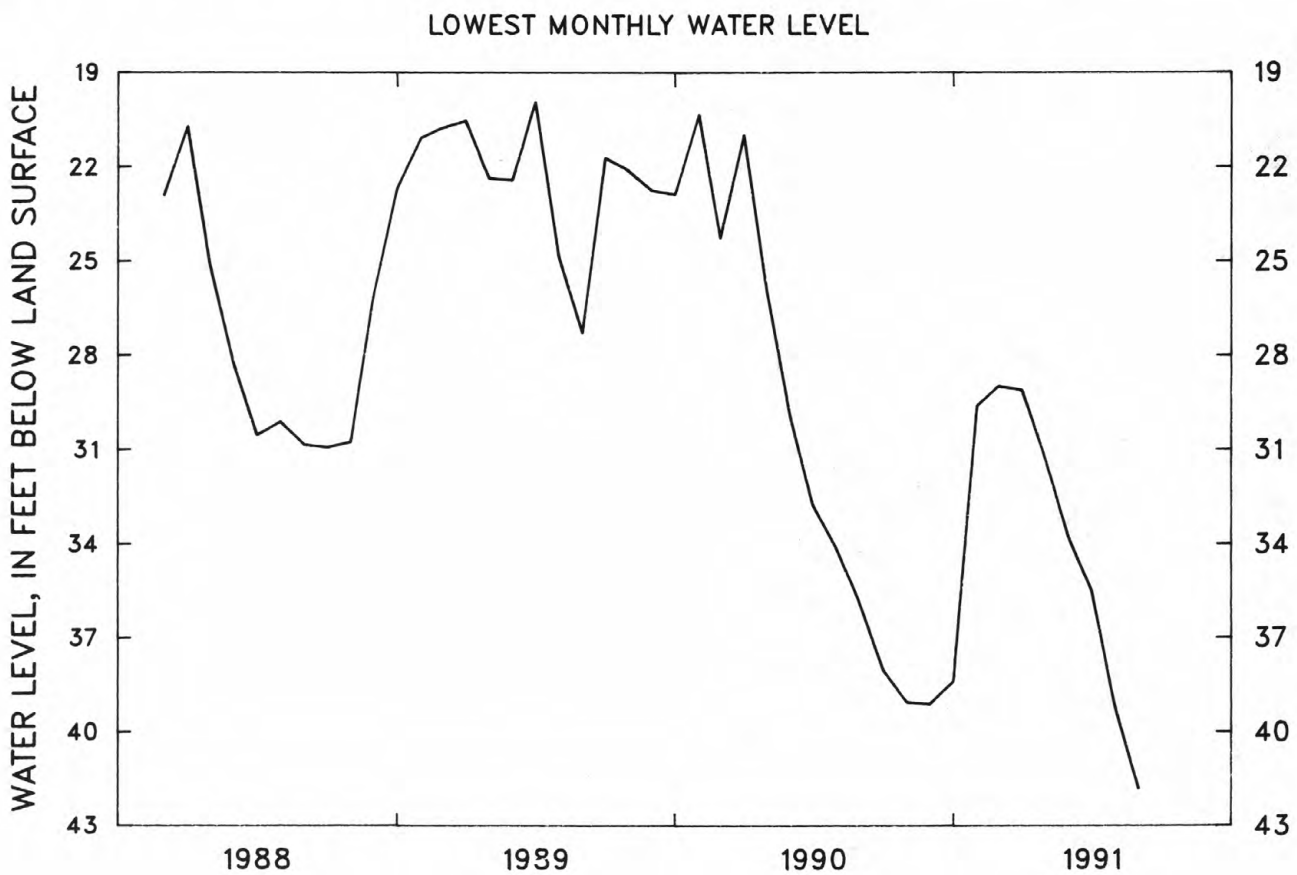
PERIOD OF RECORD.--March 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.75 ft below land-surface datum, Apr. 4, 1990; lowest, 41.81 ft below land-surface datum, Sept. 28, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	35.56	38.19	38.11	37.19	29.51	---	28.91	27.14	30.72	34.49	31.35	40.42
10	36.40	38.59	39.11	---	---	26.40	28.97	28.73	31.21	34.97	31.98	41.61
15	37.39	38.12	38.39	---	---	---	28.59	29.28	31.18	---	32.95	41.73
20	36.63	38.86	38.35	---	---	26.58	28.44	29.65	32.26	30.77	---	40.85
25	37.39	38.65	38.81	---	---	28.99	26.73	29.88	32.96	32.18	38.92	41.42
EOM	37.57	39.08	38.39	29.55	---	28.01	28.78	31.26	33.82	32.69	39.04	41.51

WTR YR 1991 HIGHEST 23.01 MAR 8, 1991 LOWEST 41.81 SEPT 28, 1991



354223088380200. Local number, Md:N-1.

LOCATION.--Lat 35°42'23", long 88°38'02", Hydrologic Unit 08010205, about 0.4 mi east of Claybrook. Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--McNairy Sand of late Cretaceous age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 to 4 in., depth 659 ft, cased to 639 ft, screened 639 to 659 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 562.70 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.80 ft above land-surface datum.

REMARKS.--No record December 30 to January 15, February 15-27. Records fair.

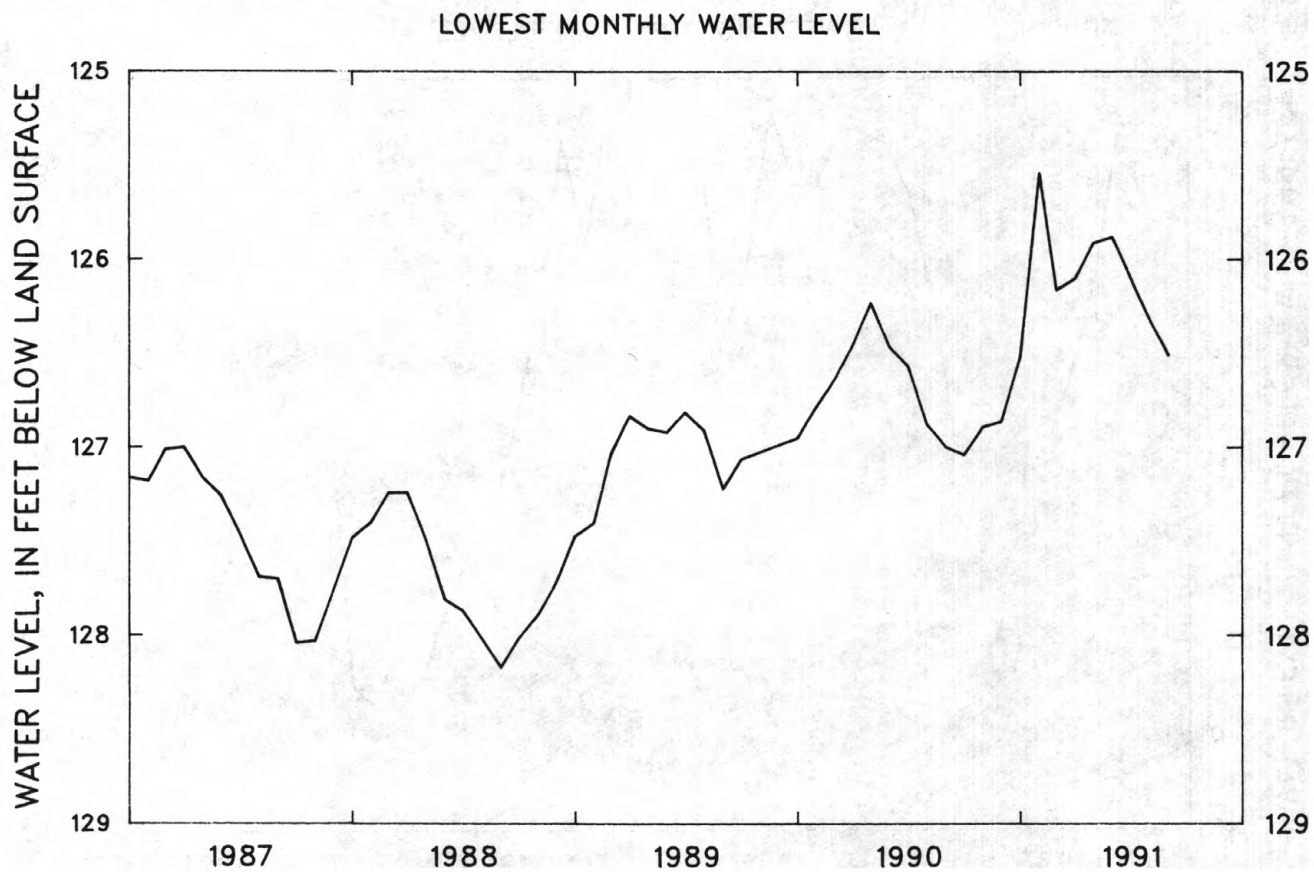
PERIOD OF RECORD.--June 1949 to current year. Analog record June 1949 to February 1971, periodic tape measurements or monthly maximum-minimum recorder March 1971 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 124.50 ft below land-surface datum, Mar. 10, 1952; lowest recorded, 129.13 ft below land-surface datum, Nov. 15, 1963; highest water level measured, 124.98 ft below land-surface datum, Apr. 8, 1980; lowest measured, 131.17 ft below land-surface datum, June 20, 1979.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	126.95	126.77	126.78	---	126.31	125.94	126.08	125.81	125.77	125.79	126.11	126.31
10	126.84	126.74	126.79	---	126.34	126.16	126.01	125.83	125.86	125.86	126.10	126.34
15	126.83	126.83	126.73	---	---	126.09	125.84	125.74	125.78	125.93	126.12	126.34
20	126.84	126.82	126.46	126.36	---	126.04	125.86	125.78	125.83	125.98	126.17	126.48
25	126.80	126.77	126.46	126.41	---	126.11	125.89	125.78	125.76	125.97	126.31	126.41
EOM	126.88	126.86	---	126.44	126.11	126.05	125.83	125.75	125.80	126.02	126.25	126.51

WTR YR 1991 HIGHEST 125.74 MAY 15,16,17-91 LOWEST 127.04 OCT 01, 1990



MORGAN COUNTY

360543084343101.--Local number, Mg:F-5.

LOCATION.--Lat 36°05'43", long 84°34'31", Hydrologic Unit 06010208, 1.0 mi southeast of Wartburg.
Owner: Plateau Utility District.

AQUIFER.--Sandstone of Pennsylvanian age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 394 ft, cased to 20 ft, open end.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 1,265 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of recorder shelter, 2.4 ft above land-surface datum.

REMARKS.--Highest water level readings may be influenced for short periods by surface inflow. No missing record. Records good.

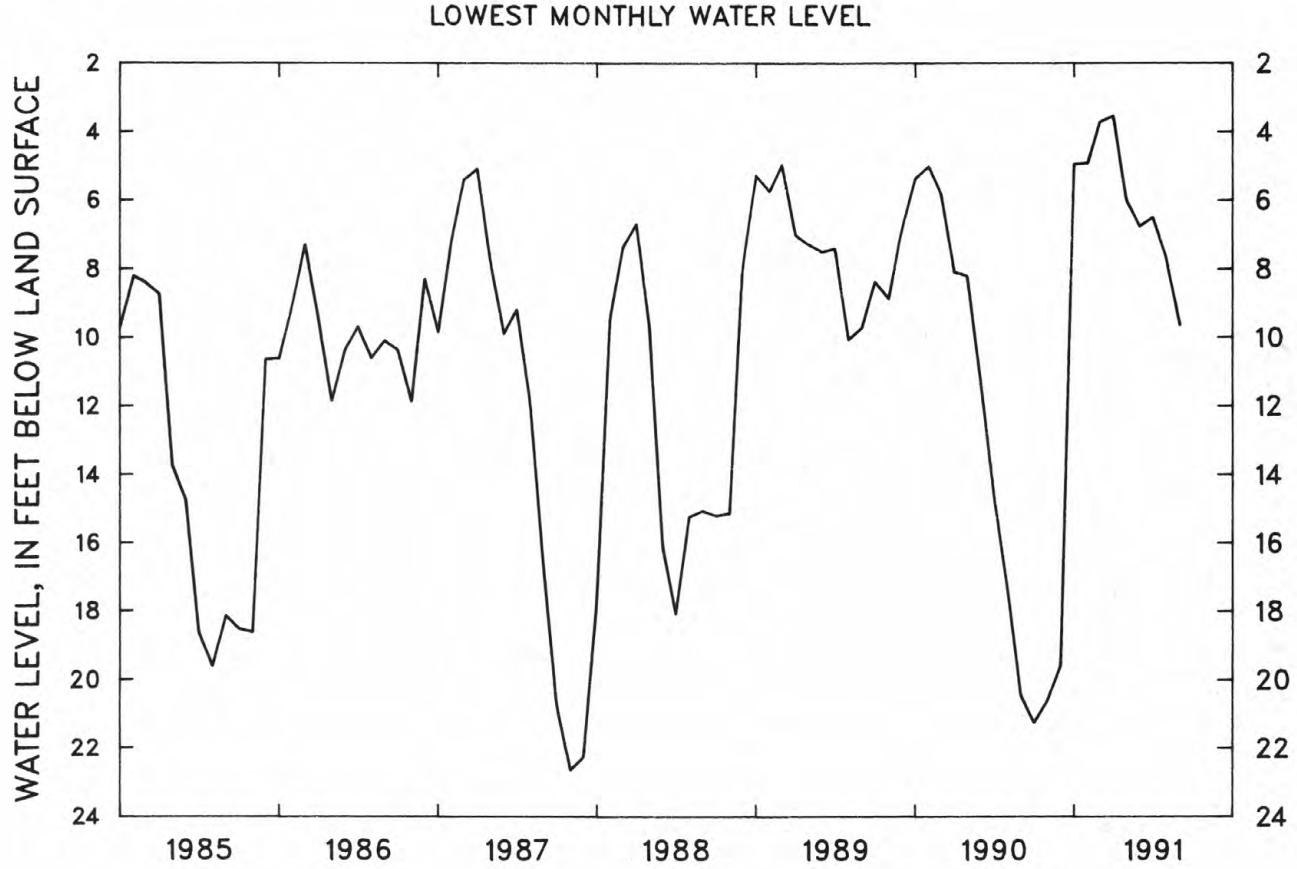
PERIOD OF RECORD.--November 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.48 ft below land-surface datum, June 15, 1989; lowest recorded, 22.75 ft below land-surface datum, Nov. 18, 1987, but may have been lower during period of no gage height record Oct. 21 to Nov. 18, 1987.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	20.98	20.56	14.02	4.58	4.82	2.08	2.73	3.57	5.64	5.97	6.75	8.31
10	21.17	20.59	13.90	3.44	4.57	3.24	1.96	4.13	6.46	5.97	6.98	8.92
15	21.24	20.14	13.77	3.78	3.68	3.07	1.81	4.49	6.57	5.98	7.02	9.49
20	21.26	19.77	10.30	4.20	1.83	2.66	2.00	5.26	6.77	6.23	6.45	9.46
25	21.01	19.63	4.81	4.70	3.06	2.15	3.16	5.71	5.98	6.11	7.35	8.74
EOM	20.60	19.62	3.12	4.94	3.68	1.86	2.69	5.17	5.99	6.05	7.69	8.56

WTR YR 1991 HIGHEST 0.66 APR 15, 1991 LOWEST 21.26 OCT 17-22, 1990



PUTNAM COUNTY

360521085432600. Local number, Pm:C-1.

LOCATION.--Lat 36°05'21", long 85°43'26", Hydrologic Unit 05130108, at Interstate 40 and State Highway 56, at Silver Point.
Owner: Tennessee Department of Transportation.

AQUIFER.--Fort Payne Formation of early Mississippian age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 6 in., depth 175 ft, cased to 60 ft, open end.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 1,030 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of instrument shelf, 2.88 ft above land surface datum.

REMARKS.--Records good. No record Apr. 8-23.

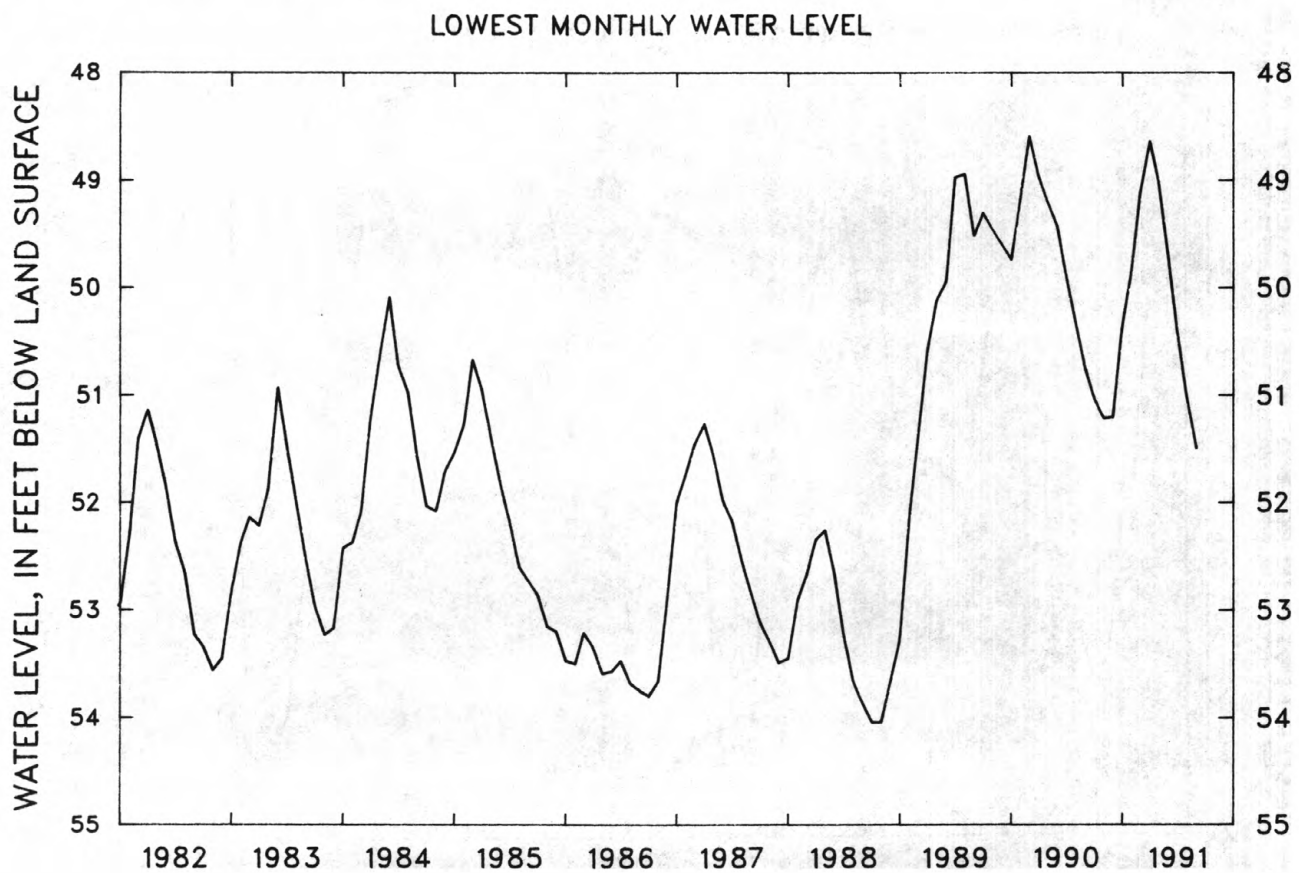
PERIOD OF RECORD.--March 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 48.00 ft below land-surface datum, Feb. 22, 1990; lowest, 54.04 ft below land-surface datum, Oct. 28, Nov. 10, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	50.84	51.02	51.16	50.15	49.56	49.05	48.45	48.59	49.20	49.89	50.54	51.12
10	50.88	51.05	51.12	49.98	49.65	49.07	---	48.79	49.31	49.99	50.64	51.21
15	50.98	51.11	51.14	49.64	49.83	49.04	---	48.75	49.37	50.14	50.73	51.29
20	50.98	51.08	51.10	49.60	49.50	48.89	---	48.86	49.50	50.24	50.84	51.38
25	50.98	51.10	50.77	49.61	49.23	48.84	48.49	48.87	49.66	50.32	50.91	51.34
EOM	51.00	51.18	50.59	49.74	49.18	48.74	48.63	49.03	49.72	50.43	51.03	51.48

WTR YR 1991 HIGHEST 48.25 MAR 29, 1991 LOWEST 51.49 SEPT 29, 1991



SEVIER COUNTY

353922083345600. Local number, Sv:E-2.

LOCATION.--Lat 35°39'22", long 83°34'56", Hydrologic Unit 06010201, 3.3 mi southwest of Great Smoky Mountains National Park Headquarters, near Gatlinburg.

AQUIFER.--Elkmont Sandstone of Precambrian age.

WELL CHARACTERISTICS.--Drilled unused water-table well in phyllite, sandstone, diameter 6 in., depth 220 ft, cased to 27 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 2,150 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of recorder shelter 1.5 ft above land-surface datum.

REMARKS.--Highest water level readings may be influenced for short periods by surface inflow. No missing record. Records good.

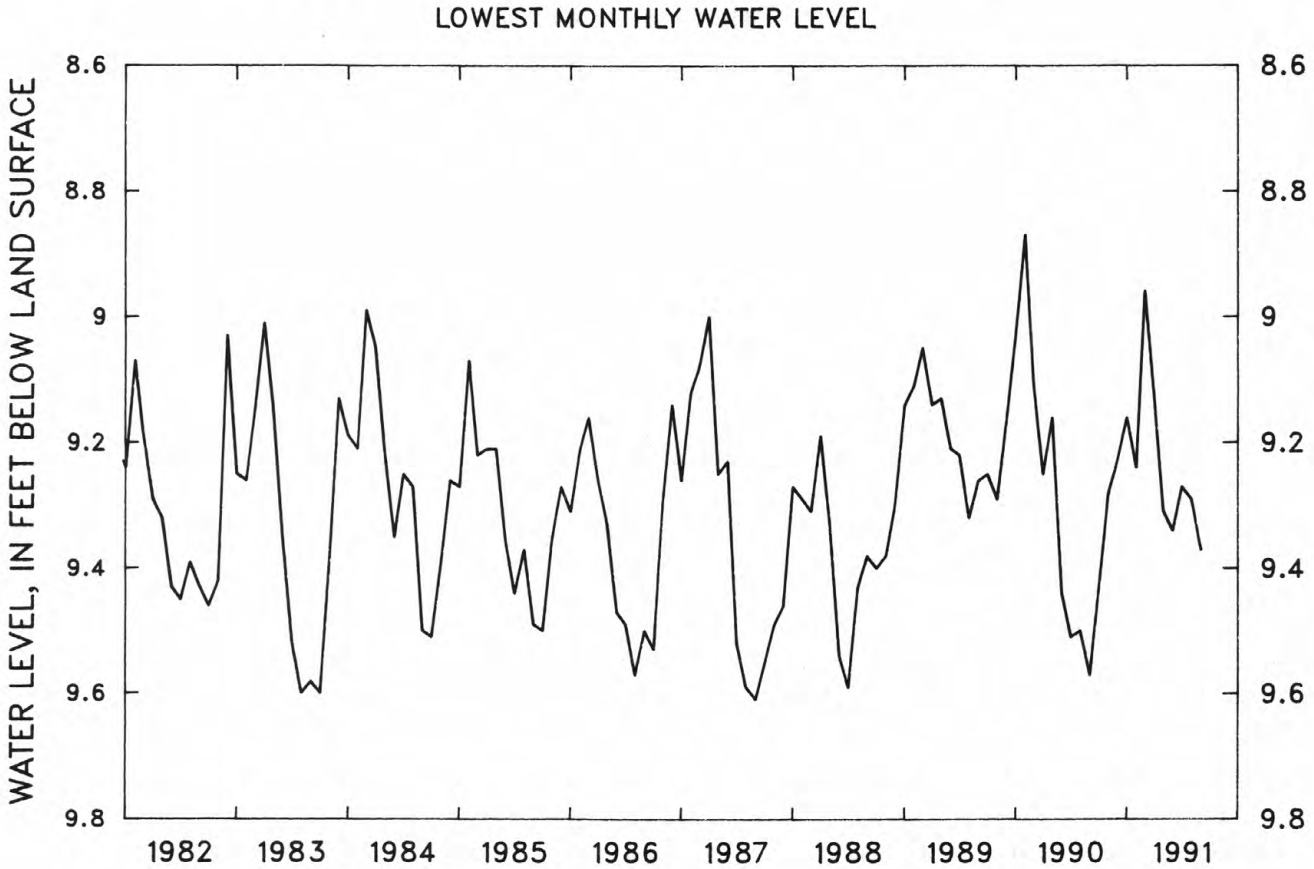
PERIOD OF RECORD.--May 1979 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.36 ft below land-surface datum, March 17, 1990; lowest, 9.68 ft below land-surface datum, Aug. 10, Sept. 16, 17, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	9.39	9.20	8.79	8.88	9.17	8.47	8.88	8.99	9.20	9.03	9.25	9.23
10	9.14	9.14	9.12	8.94	9.21	8.86	8.81	9.13	9.33	9.21	8.49	9.31
15	8.99	9.22	9.04	8.79	8.70	8.58	8.96	9.13	9.20	9.27	8.64	9.35
20	8.68	9.25	8.67	8.89	7.37	8.74	9.03	9.16	8.89	9.15	9.02	9.26
25	8.69	9.24	8.18	9.08	8.76	8.87	9.10	9.27	8.72	8.96	9.21	9.20
EOM	9.06	9.16	8.16	9.08	8.93	8.27	8.78	9.31	8.91	9.04	9.00	9.33

WTR YR 1991 HIGHEST 6.05 DEC. 23, 1990 LOWEST 9.43 OCT. 4, 1990



SHELBY COUNTY

350514089553700. Local number, Sh:K-75.

LOCATION.--Lat 35°05'14", long 89°55'37", Hydrologic Unit 08010211, at Willowview Avenue and Getwell Road, at Memphis.
Owner: Memphis Light, Gas and Water Division, City of Memphis.

AQUIFER.--Fluvial sand and gravel of Pleistocene age and possibly sand of Eocene age.

WELL CHARACTERISTICS.--Drilled observation water-table well, diameter 6 in., depth 91 ft, cased to 81 ft, screened 81 to 91 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 260 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.20 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage for Memphis municipal water supply. Records good.

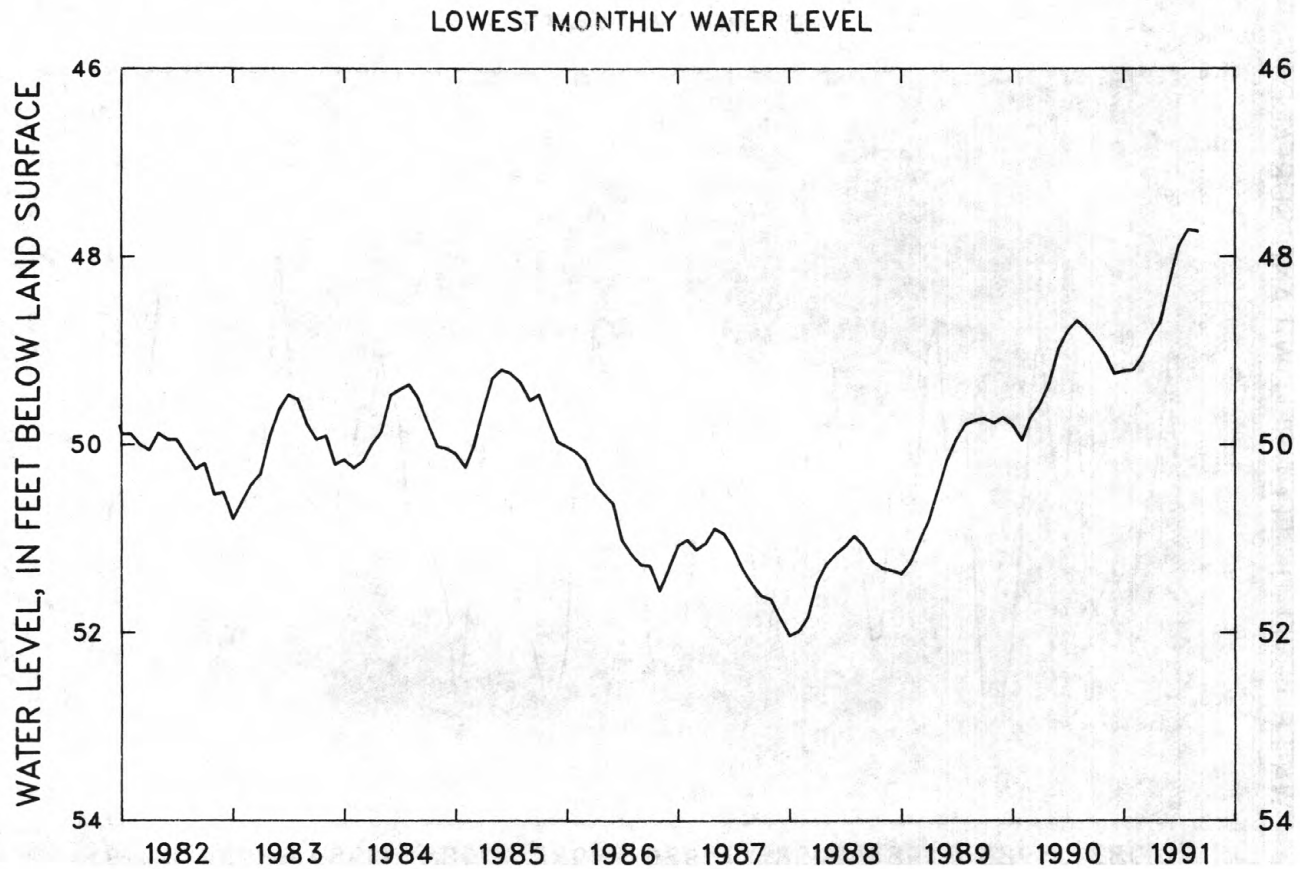
PERIOD OF RECORD.--August 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.28 ft below land-surface datum, April 2, 1950; lowest, 52.03 ft below land-surface datum, January 13, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	48.66	48.65	48.74	48.85	48.74	48.51	48.66	48.40	48.17	47.83	47.62	47.58
10	48.74	48.86	48.81	48.75	48.81	48.75	48.70	48.42	48.04	47.74	47.63	47.56
15	48.74	48.76	48.78	48.64	49.05	48.83	48.51	48.32	47.96	47.72	47.61	47.59
20	48.67	48.79	48.87	48.86	48.96	48.59	48.74	48.31	47.91	47.72	47.63	47.58
25	48.77	48.80	48.90	48.94	48.90	48.68	48.47	48.20	47.90	47.69	47.59	47.56
EOM	48.73	48.75	48.94	49.09	48.75	48.75	48.56	48.19	47.79	47.65	47.57	47.56

WTR YR 1991 HIGHEST 47.52 SEPT. 8, 24,1991 LOWEST 49.25 DEC. 30, 1990



SHELBY COUNTY--Continued

351435090005200. Local number, Sh:O-1.

LOCATION.--Lat 35°14'35", long 90°00'52", Hydrologic Unit 08010209, west side of O.K. Robertson Road, 0.4 mi north of U.S. Highway 51, at Memphis.
Owner: Memphis Light, Gas and Water Division, City of Memphis.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 434 ft, cased to 424 ft, screened 424 to 434 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 228.70 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 4.30 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage for municipal and industrial water supply in the Memphis area. Records fair. No record Oct. 31 to Nov. 4, Feb. 02-24.

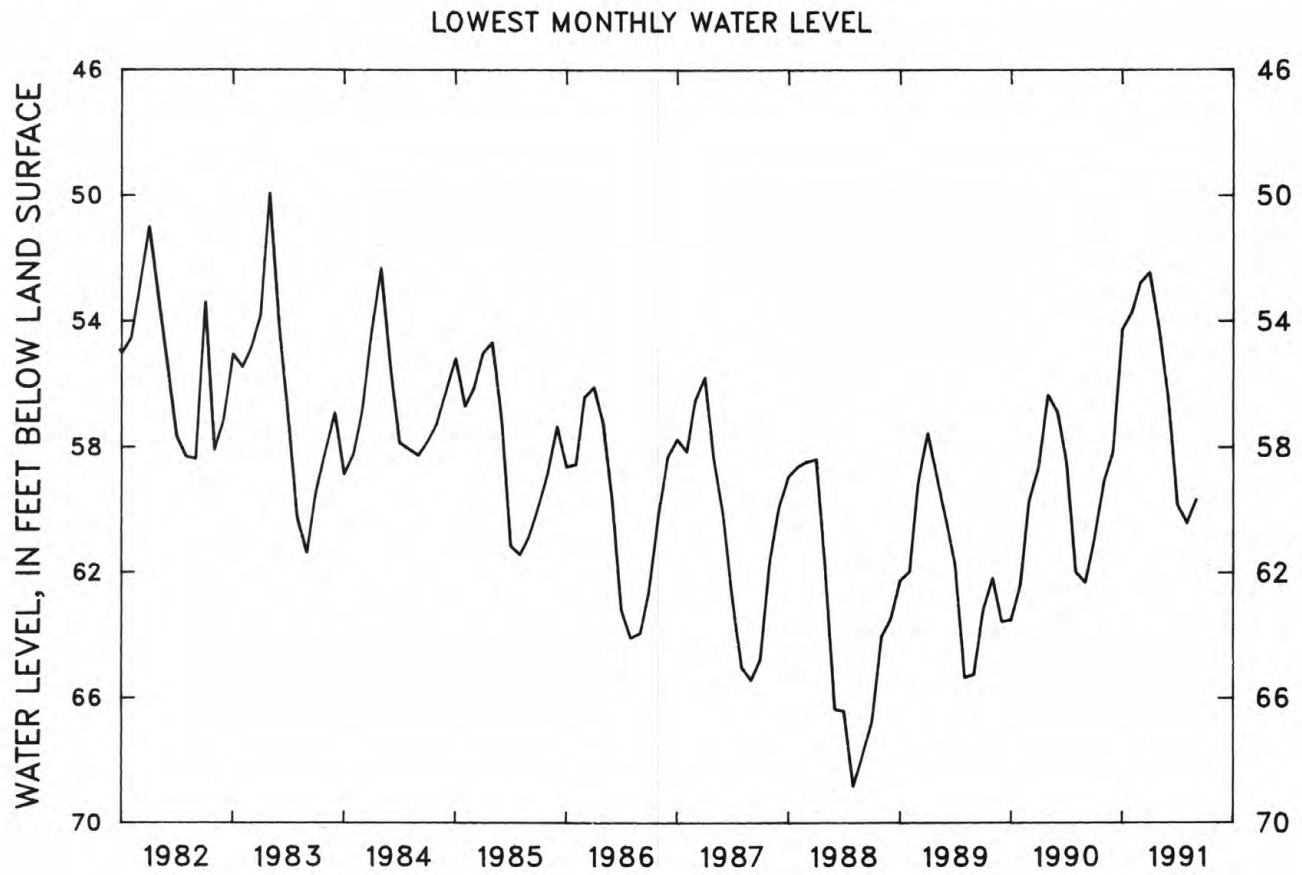
PERIOD OF RECORD.--September 1940 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.65 ft below land-surface datum, September 3, 1940; lowest, 68.82 ft below land-surface datum, August 24, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 30, 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	60.43	58.85	57.75	53.36	---	51.40	51.79	52.96	54.07	57.13	59.69	59.30
10	60.87	58.93	57.63	52.50	---	52.01	51.55	53.12	54.10	56.58	60.41	59.25
15	60.72	58.96	56.74	51.73	---	52.26	51.86	52.87	54.70	57.48	59.96	59.15
20	59.89	58.66	56.32	51.89	---	52.44	52.41	53.39	55.53	58.06	59.91	59.21
25	59.65	58.55	56.05	52.87	52.35	52.76	52.40	53.74	55.85	59.32	60.09	58.90
EOM	---	58.16	54.25	53.41	51.85	52.23	52.02	54.17	56.31	59.47	59.64	58.43

WTR YR 1991 HIGHEST 51.39 MARCH 6, 1991 LOWEST 60.91 OCT 10, 11, 1991



SHELBY COUNTY--Continued

350735089593300. Local number, Sh:P-76.

LOCATION.--Lat 35°07'35", long 89°59'33", Hydrologic Unit 08010210, at Central Avenue and Tanglewood Street, at Memphis.
Owner: Memphis Light, Gas and Water Division, City of Memphis.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 12 in., depth 488 ft, cased to 428 ft, screened 428 to 488 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 286.70 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.30 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage for municipal and industrial water supply in the Memphis area. Records good.

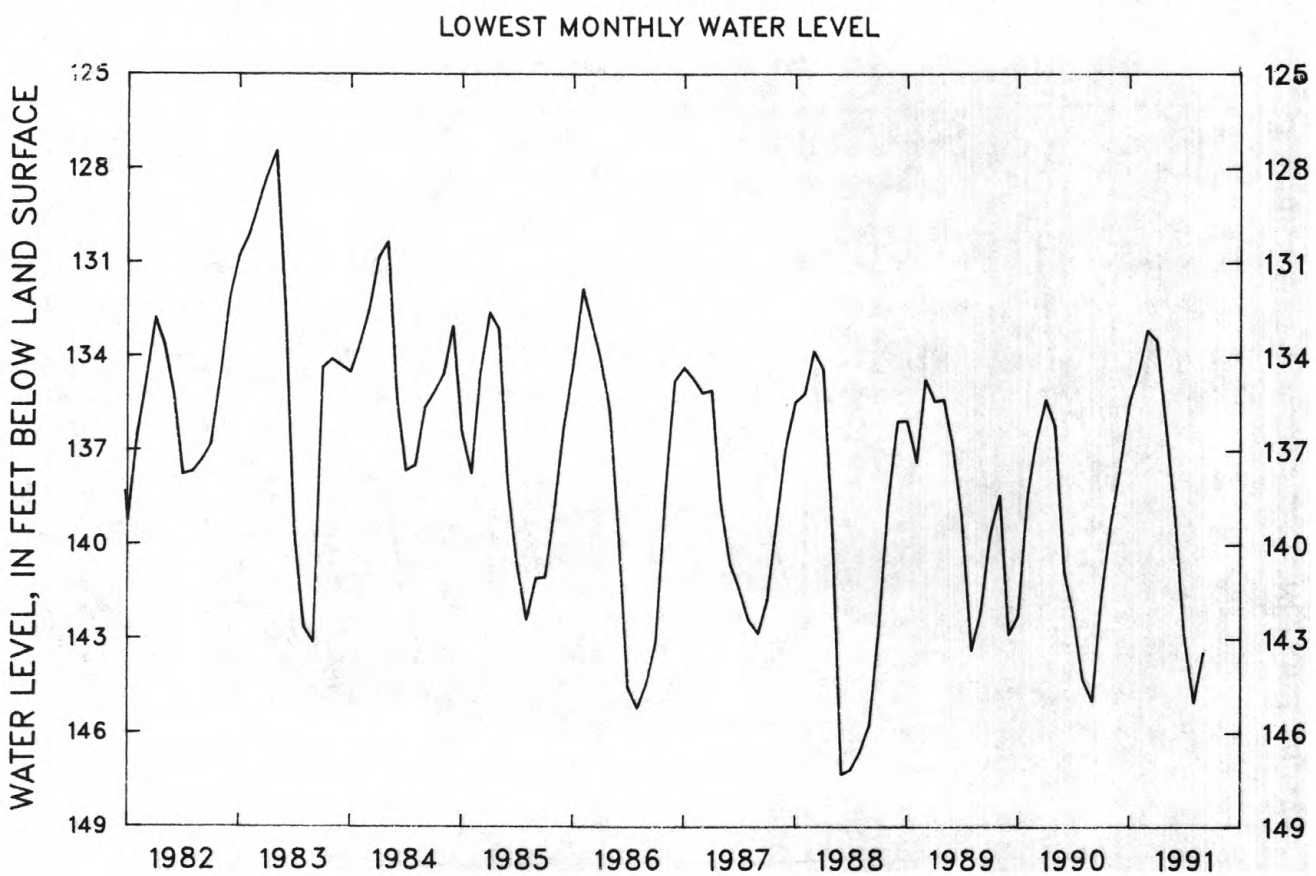
PERIOD OF RECORD.--October 1928 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 58.65 ft below land-surface datum, Apr. 3, 1933; lowest, 147.31 ft below land-surface datum, June 30, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	141.52	137.90	136.54	134.74	133.48	131.50	131.91	133.71	135.75	138.84	144.22	143.32
10	140.61	138.20	136.10	133.78	132.90	131.40	131.42	134.09	137.41	139.15	144.38	142.80
15	140.30	138.78	136.42	133.70	132.71	132.38	132.47	134.28	137.74	141.92	143.46	142.81
20	139.78	138.12	135.83	133.74	132.10	132.44	133.43	133.89	137.58	142.50	144.10	142.72
25	139.20	135.89	135.93	133.75	131.76	133.00	133.43	136.04	137.24	142.82	144.06	141.70
EOM	138.90	137.46	135.47	134.28	132.07	131.79	132.89	134.76	138.83	142.95	143.21	141.70

WTR YR 1991 HIGHEST 130.01 FEB. 26, MAR. 13, APR. 11, 1991 LOWEST 145.01 AUG. 09, 1991



SHELBY COUNTY--Continued

350900089482300. Local number, Sh:Q-1.

LOCATION.--Lat 35°09'00", long 89°48'23", Hydrologic Unit 08010210, south of Macon Road, 0.6 mi west of Germantown Road, near Memphis.
Owner: Memphis Light, Gas and Water Division, City of Memphis.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 384 ft, cased to 375 ft, screened 375 to 384 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 330.40 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.40 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage for municipal and industrial water supply in the Memphis area. Records good.

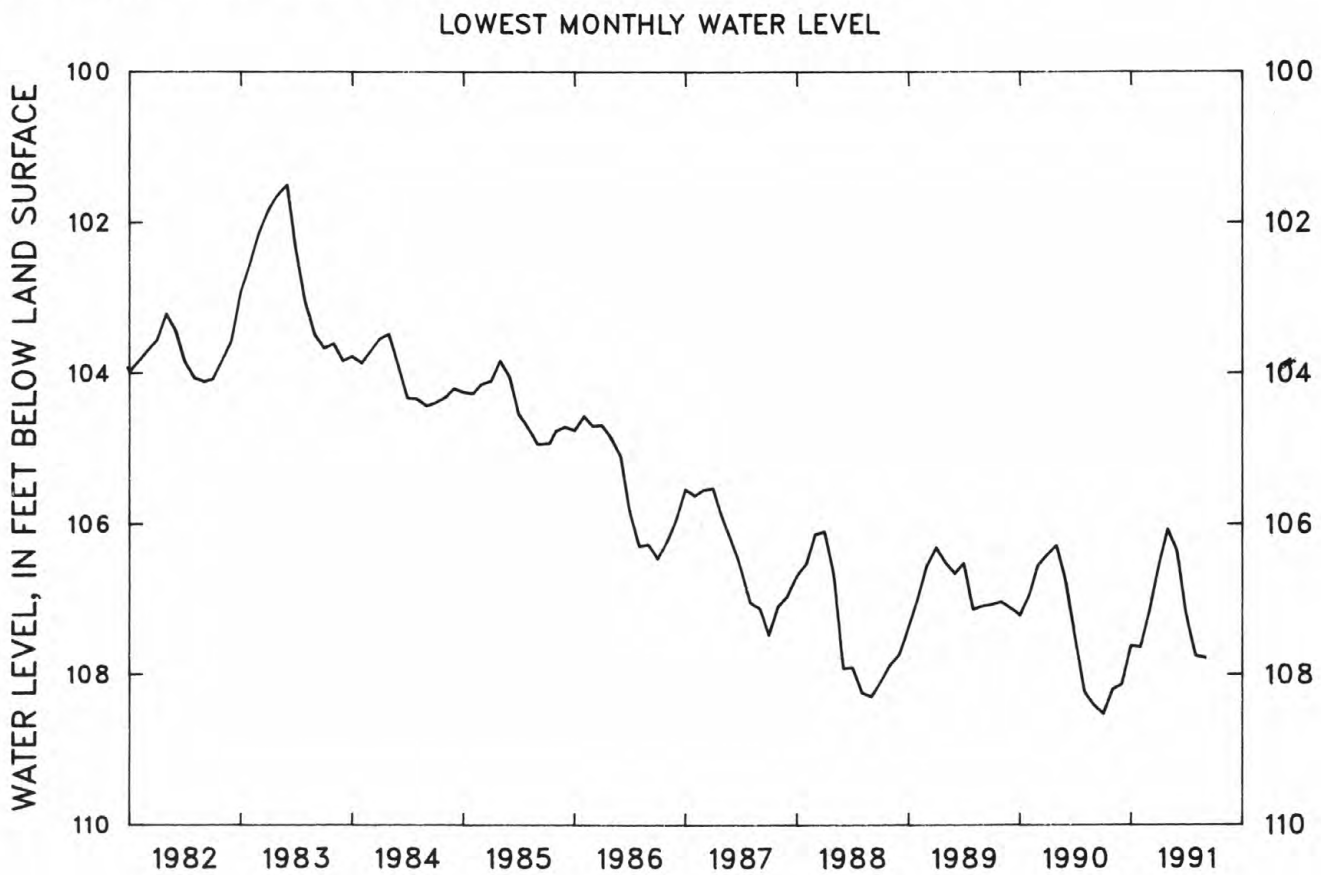
PERIOD OF RECORD.--October 1940 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 74.08 ft below land-surface datum, December 27, 1940; lowest 108.41 ft below land-surface datum, September 4, 1990.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	108.44	107.50	107.69	107.45	106.92	106.71	106.40	105.83	105.69	106.47	107.22	107.34
10	107.88	107.67	107.66	107.31	107.20	107.10	106.20	105.90	106.02	106.61	107.28	107.29
15	107.82	107.65	107.81	107.11	107.27	106.82	106.10	105.66	105.83	106.82	107.40	107.58
20	107.87	107.75	107.51	107.27	107.37	106.52	106.13	105.76	106.11	106.88	107.32	107.44
25	107.98	107.58	107.60	107.43	107.31	106.46	106.06	105.63	106.01	106.77	107.71	107.42
EOM	107.80	107.92	107.43	107.43	107.14	106.55	105.96	105.44	106.17	107.07	107.38	107.71

WTR YR 1991 HIGHEST 105.26 MAY 28, 1991 LOWEST 108.53 Oct. 05, 1990



CRITTENDEN COUNTY, AR

350344090130000. Local number, Ar:H-2.

LOCATION.--Lat 35°03'44", long 90°13'00", Hydrologic Unit 08020203, 0.7 mi east of Millers.
Owner: Memphis Light, Gas, and Water Division, City of Memphis, and U.S. Geological Survey.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 502 ft, cased to 482 ft, screened 482 to 502 ft.

INSTRUMENTATION.--Water-level recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 211 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Inside top of shelter base plate, 3.30 ft above land-surface datum.

REMARKS.--Well affected by pumpage in the Memphis, Tenn. area. No record Jan. 26 to 30. , Feb. 26, Records good.

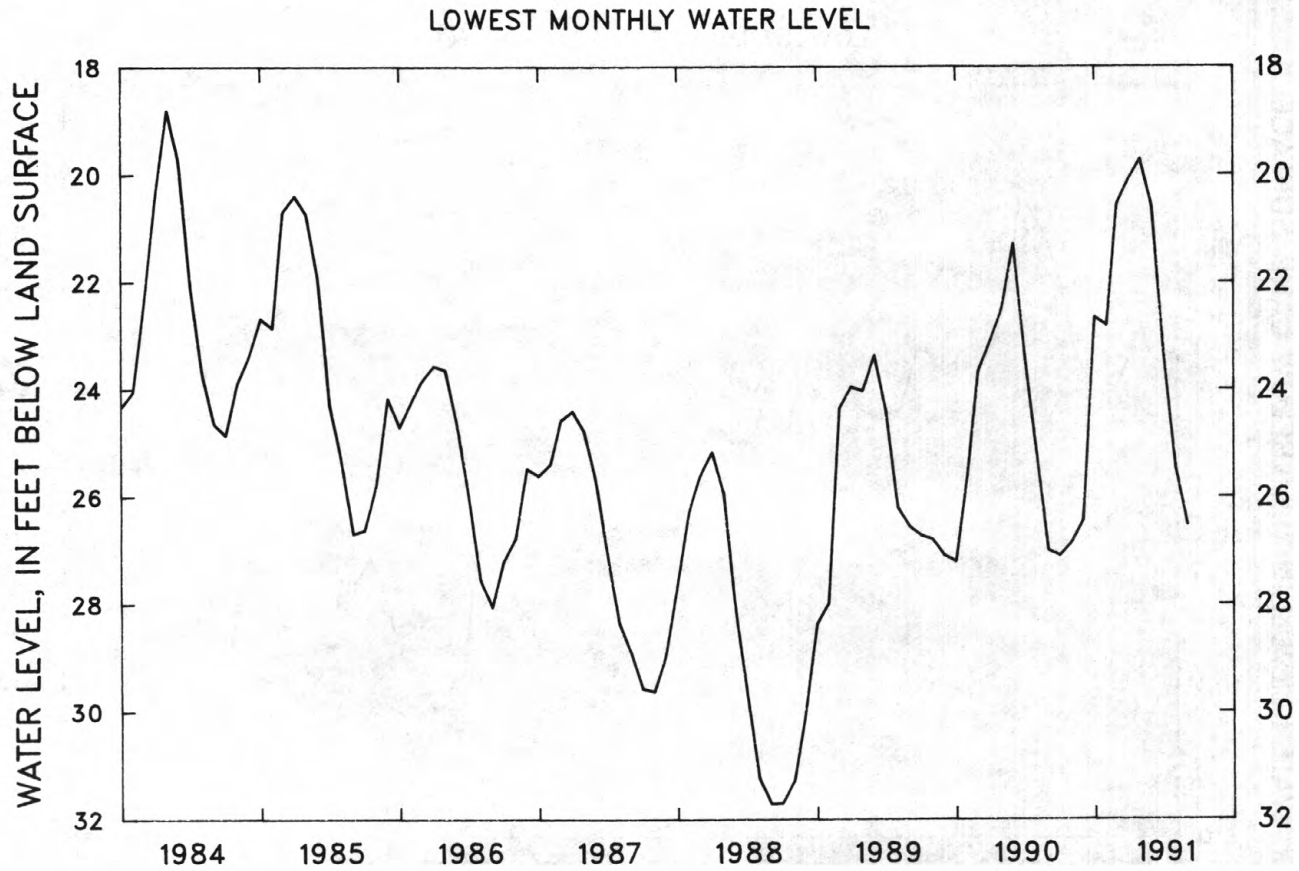
PERIOD OF RECORD.--May 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.28 ft below land-surface datum, May 30, 31, 1983; lowest, 31.71 ft below land-surface datum, September 21, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991
LOWEST WATER LEVEL FOR THE DAY

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
5	26.99	26.44	26.02	21.89	22.48	19.47	19.33	19.56	18.64	20.99	23.68	25.68
10	26.95	26.68	25.30	21.26	22.01	20.43	19.32	19.53	19.46	21.45	24.10	25.84
15	26.75	26.55	25.42	20.61	21.35	20.50	19.95	18.96	19.85	21.65	24.46	26.10
20	26.52	26.30	25.51	20.62	21.00	20.39	19.63	18.97	20.09	22.06	24.77	26.28
25	26.59	26.51	23.69	20.82	20.39	20.11	19.32	19.09	20.16	22.64	25.14	26.26
EOM	26.42	26.43	22.67	22.51	19.89	19.71	19.35	18.59	20.57	23.30	25.38	26.47

WTR YR 1991 HIGHEST 18.40 JUNE 2, 3, 1991 LOWEST 27.10 OCT 6, 1990



FAYETTE COUNTY

352226089330101. Local number, Fa:R-1.

LOCATION.--Lat 35°22'26", long 89°33'01", Hydrologic Unit 08010209, 80 ft south of State Highway 59, 1.2 mi southeast of U.S. Highway 70, near Braden.
Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--Fort Pillow Sand of Wilcox Group of early Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 to 4 in., depth 1,025 ft, cased to 1,008 ft, screened 1,008 to 1,025 ft.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 317.50 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.70 ft above land-surface datum.

PERIOD OF RECORD.--August 1949 to current year. Analog record August 1949 to December 1970, periodic tape measurements or monthly maximum-minimum recorder thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 64.89 ft below land-surface datum, Aug. 31, 1949; lowest recorded, 76.26 ft below land-surface datum, Dec. 5, 1970; highest water level measured, 73.61 ft below land-surface datum, Apr. 28, 1976; lowest measured, 86.95 ft below land-surface datum, Aug. 27, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	84.80	NOV 27	84.94	DEC 31	84.10	JAN 31	85.29	FEB 25	85.20	MAR 26	85.29
APR 26	85.35	MAY 28	85.47	JUN 25	85.82	JUL 30	86.54	AUG 27	86.95		

352226089330102. Local number, Fa:R-2.

LOCATION.--Lat 35°22'26", long 89°33'01", Hydrologic Unit 08010209, 80 ft south of State Highway 59, 1.1 mi southeast of U.S. Highway 70, near Braden.
Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 to 4 in., depth 365 ft, cased to 345 ft, screened 345 to 365 ft.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 317.20 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 4.20 ft above land-surface datum.

PERIOD OF RECORD.--October 1949 to current year. Analog record October 1949 to December 1970, periodic tape measurements or monthly maximum-minimum recorder thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 37.25 ft below land-surface datum, Mar. 10, 1952; lowest recorded, 42.12 ft below land-surface datum, Nov. 30, 1967; highest water level measured, 39.15 ft below land-surface datum, May 28, 1991; lowest measured, 41.75 ft below land-surface datum, October 4, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 29	40.88	NOV 27	40.57	DEC 31	40.50	JAN 31	40.40	FEB 25	39.92	MAR 26	39.93
APR 26	39.45	MAY 28	39.15	JUN 25	39.23	JUL 30	39.60	AUG 27	39.83		

SHELBY COUNTY

352112089571200. Local number, Sh:U-1.

LOCATION.--Lat 35°21'12", long 89°57'12", Hydrologic Unit 08010209, 3 mi west of Millington at Shelby Road and Shake Rag Road, Sloanville.
Owner: Mrs. T.S. Welch

AQUIFER.--Fort Pillow Sand of Wilcox Group of early Eocene age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 24 to 16 in., depth 1,558 ft, cased to 1,497 ft, screened 1,497 to 1,558 ft.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 264.20 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 0.60 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage at Millington and Memphis.

PERIOD OF RECORD.--August 1946 to current year. Analog record March 1948 to January 1971, periodic tape measurements or monthly maximum-minimum recorder thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 35.5 ft below land-surface datum, Apr. 11, 1948; lowest recorded, 60.42 ft below land-surface datum, Dec. 20, 1970; highest water level measured, 33.20 ft, Apr. 21, 1947; lowest measured, 77.92 ft below land-surface datum, August 27, 1991.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	76.52	NOV 27	76.39	DEC 26	75.97	JAN 31	76.46	FEB 25	76.08	MAR 26	75.70
APR 26	75.03	MAY 28	75.77	JUN 25	76.47	JUL 30	77.70	AUG 27	77.92		

352112089571300. Local number, Sh:U-2.

LOCATION.--Lat 35°21'12", long 89°57'13", Hydrologic Unit 08010209, 3 mi west of Millington at Shelby Road and Shake Rag Road, Sloanville.
Owner: Mrs. F.E. Byrd

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 18 to 12 in., depth 440 ft, cased to 360 ft, screened 360 to 440 ft.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 268.76 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.60 ft above land-surface datum.

REMARKS.--Water levels affected by pumpage for Memphis municipal water supply.

PERIOD OF RECORD.--June 1953 to current year. Analog record June 1953 to December 1970, periodic tape measurements or monthly maximum-minimum recorder thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 39.59 ft below land-surface datum, June 29, 1953; lowest, 63.74 ft below land-surface datum, Sept. 1, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 30	59.58	NOV 27	59.18	DEC 26	58.10	JAN 31	56.42	FEB 25	55.95	MAR 26	55.52
APR 26	54.93	MAY 28	55.04	JUN 25	55.78	JUL 30	57.33	AUG 27	57.98		

WILLIAMSON COUNTY

355505086541100. Local number, Wm:M-1.

LOCATION.--Lat 35°55'05", long 86°54'11", Hydrologic Unit 05130204, on Horton Lane, 0.8 mi west of Carter's Creek Road, near Franklin.
Owner: Tennessee Division of Geology and U.S. Geological Survey.

AQUIFER.--Knox Dolomite of late Cambrian and early Ordovician age.

WELL CHARACTERISTICS.--Drilled artesian test well, diameter 6 in., depth 1,160 ft, cased to 473 ft, open end.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 712 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing 2.80 ft above land-surface datum.

REMARKS.--Period of record low resulted from water-level measurements on the well during a 72 hour aquifer test.

PERIOD OF RECORD.--January 1950 to current year. Water-level recorder December 1951 to February 1971, periodic tape measurements thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level recorded, 84.21 ft below land-surface datum, Mar. 10, 1952; lowest recorded 87.11 ft below land-surface datum, Sept. 10, 1970; highest water level measured, 85.43 ft below land-surface datum, Feb. 19, 1974; lowest measured, 114.81 ft below land-surface datum, Jan. 31, 1950.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 16	92.32	NOV 14	92.59	JAN 3	85.72	JAN 28	91.69	MAR 4	92.32	APR 23	92.29
JUN 7	92.59	JUL 15	92.47	AUG 23	92.73	SEP 26	92.53				

CRITTENDEN COUNTY, AR

350958090173800. Local number, Ar:C-1.

LOCATION.--Lat 35°09'58", long 90°17'38", Hydrologic Unit 08020203, 450 ft west of Highway 147, 1.3 mi north of Lehi.
Owner: Memphis Light, Gas, and Water Division, City of Memphis, and U.S. Geological Survey.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 622 ft, cased to 602 ft, screened 602 to 622 ft.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 209 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Inside top of shelter base plate, 3.30 ft above land-surface datum.

REMARKS.--Well affected by pumpage in the Memphis, Tenn. area. Records good.

PERIOD OF RECORD.--May 1983 to current year. Analog record May 1983 to June 1989, periodic tape measurements thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.29 ft below land-surface datum, June 11, 12, 13, 1983; lowest, 25.31 ft below land-surface datum, October 5, 6, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	22.04	NOV 26	21.81	DEC 26	21.68	JAN 31	19.85	FEB 27	19.33	MAR 27	18.52
APR 29	17.66	MAY 29	17.54	JUN 26	17.94	JUL 31	19.52	AUG 29	19.63		

CRITTENDEN COUNTY, AR--Continued

351349090062800. Local number, Ar:O-1.

LOCATION.--Lat 35°13'49", long 90°06'28", Hydrologic Unit 08020203, 0.3 mi east of blacktop road, 0.8 mi north of St. Claire.
Owner: Memphis Light, Gas, and Water Division, City of Memphis, and U.S. Geological Survey.

AQUIFER.--Memphis Sand of Claiborne Group of middle Eocene age.

WELL CHARACTERISTICS.--Drilled observation artesian well, diameter 6 in., depth 497 ft, cased to 477 ft, screened 477 to 497 ft.

INSTRUMENTATION.--Periodic measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 217 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Inside top of shelter base plate, 3.60 ft above land-surface datum.

REMARKS.--Well affected by pumpage in the Memphis, Tenn. area.

PERIOD OF RECORD.--May 1983 to current year. Analog record May 1983 to June 1989, periodic tape measurements or monthly maximum-minimum recorder thereafter.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.42 ft below land surface datum, May 29, 30, 31, 1983; lowest, 41.68 ft below land-surface datum, Sept. 6, 1988.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 31	35.55	NOV 26	35.54	DEC 26	31.04	JAN 31	30.17	FEB 27	26.89	MAR 27	27.49
APR 29	27.18	MAY 29	28.94	JUN 26	30.74	JUL 31	34.30	AUG 29	35.94		

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

SHELBY COUNTY

350540090061700 - Sh:J-84

DATE	TIME	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)
AUG 06...	0925	17.5	30.0	193	6.7	80	0	19	7.8	8.5

DATE	SODIUM ADSORPTION RATIO	SODIUM PERCENT	POTASSIUM, DISSOLVED (MG/L AS K)	CHLORIDE, DISSOLVED (MG/L AS CL)	SULFATE DISSOLVED (MG/L AS SO4)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)
AUG 06...	0.4	19	0.80	3.9	2.6	0.10	9.9	<1	58	<1.0	<1

DATE	COBALT, DISSOLVED (UG/L AS CO)	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	ZINC, DISSOLVED (UG/L AS ZN)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	MERCURY DISSOLVED (UG/L AS HG)
AUG 06...	<50	<10	3100	<1	10	5	93	99	109	0.13	<0.1

350114090071701 - Sh:J-146 MLGW-DAVIS

DATE	TIME	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
AUG 08...	1225	17.5	31.5	155	6.3	63	0	14	6.7	8.3	0.5

DATE	SODIUM PERCENT	POTASSIUM, DISSOLVED (MG/L AS K)	CHLORIDE, DISSOLVED (MG/L AS CL)	SULFATE DISSOLVED (MG/L AS SO4)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
AUG 08...	22	1.0	3.8	2.7	0.20	15	<1	41	<1.0	<1	<50

DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	ZINC, DISSOLVED (UG/L AS ZN)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	MERCURY DISSOLVED (UG/L AS HG)	DEPTH OF WELL, TOTAL (FEET)
AUG 08...	<10	290	<1	4	<3	73	87	96	0.12	<0.1	446.00

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

SHELBY COUNTY--Continued

350446090013500 - Sh:J-154 MLGW-ALLEN

DATE	TIME	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
AUG 08...	0945	17.0	29.5	145	6.2	55	0	13	5.4	8.8	0.5

DATE	SODIUM PERCENT	POTASSIUM, DISSOLVED (MG/L AS K)	CHLORIDE, DISSOLVED (MG/L AS CL)	SULFATE DISSOLVED (MG/L AS SO4)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
AUG 08...	25	1.1	3.9	2.0	0.10	13	<1	67	<1.0	<1	<50

DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	ZINC, DISSOLVED (UG/L AS ZN)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	MERCURY DISSOLVED (UG/L AS HG)	DEPTH OF WELL, TOTAL (FEET)
AUG 08...	<10	640	2	14	4	66	80	88	0.11	<0.1	370.00

350642089555000 - Sh:K-142 MLGW 99 SHEAHAN WELL FIELD

DATE	TIME	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
AUG 02...	0950	17.5	30.5	101	6.1	30	0	7.0	3.1	8.4	0.7

DATE	SODIUM PERCENT	POTASSIUM, DISSOLVED (MG/L AS K)	CHLORIDE, DISSOLVED (MG/L AS CL)	SULFATE DISSOLVED (MG/L AS SO4)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
AUG 02...	37	0.60	4.6	4.3	<0.10	14	<1	20	<1.0	<1	<50

DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	ZINC, DISSOLVED (UG/L AS ZN)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	MERCURY DISSOLVED (UG/L AS HG)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
AUG 02...	<10	160	<1	8	<3	47	55	67	0.08	<0.1	278

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

SHELBY COUNTY--Continued

350218089511701 - Sh:L-36

DATE	TIME	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
AUG 02...	1315	18.0	37.0	84	6.3	36	0	9.2	3.1	3.6	0.3

DATE	SODIUM PERCENT	POTASSIUM, DISSOLVED (MG/L AS K)	CHLORIDE, DISSOLVED (MG/L AS CL)	SULFATE DISSOLVED (MG/L AS SO4)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
AUG 02...	18	0.50	2.0	3.0	0.10	10	<1	13	<1.0	<1	<50

DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	ZINC, DISSOLVED (UG/L AS ZN)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	MERCURY DISSOLVED (UG/L AS HG)
AUG 02...	<10	180	<1	4	<3	38	48	55	0.06	<0.1

350507089482401 - Sh:L-90-GERMANTOWN 7

DATE	TIME	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	TURBIDITY (NTU)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG 09...	0930	17.0	26.5	0.60	75	6.1	0.020	<0.010	<0.010	<0.010	<0.20

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
AUG 09...	0.110	0.110	<0.010	<0.010	<0.010	22	0	5.5	2.1	6.7	0.6

DATE	SODIUM PERCENT	POTASSIUM, DISSOLVED (MG/L AS K)	CHLORIDE, DISSOLVED (MG/L AS CL)	SULFATE DISSOLVED (MG/L AS SO4)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)
AUG 09...	39	0.60	3.9	2.0	<0.10	13	<1	18	<0.5	<1.0	<1

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

SHELBY COUNTY--Continued

350507089482401 - Sh:L-90-GERMANTOWN 7--Continued

DATE	COBALT, DIS-SOLVED (UG/L AS CO)	COPPER, DIS-SOLVED (UG/L AS CU)	IRON, DIS-SOLVED (UG/L AS FE)	LEAD, DIS-SOLVED (UG/L AS PB)	MANGA-NESE, DIS-SOLVED (UG/L AS MN)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO)	NICKEL, DIS-SOLVED (UG/L AS NI)	SILVER, DIS-SOLVED (UG/L AS AG)	STRON-TIUM, DIS-SOLVED (UG/L AS SR)	VANA-DIUM, DIS-SOLVED (UG/L AS V)	ZINC, DIS-SOLVED (UG/L AS ZN)
AUG 09...	<3	3	<3	<1	<1	<10	<1	<1.0	15	<6	8

DATE	ALUM-INUM, DIS-SOLVED (UG/L AS AL)	LITHIUM DIS-SOLVED (UG/L AS LI)	SELE-NIUM, DIS-SOLVED (UG/L AS SE)	DI-CHLORO-BROMO-METHANE TOTAL (UG/L)	CARBON-TETRA-CHLO-RIDE TOTAL (UG/L)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L)	BROMO-FORM TOTAL (UG/L)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L)	CHLORO-FORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)
AUG 09...	<10	<4	<1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

DATE	CHLORO-BENZENE TOTAL (UG/L)	CHLORO-ETHANE TOTAL (UG/L)	ETHYL-BENZENE TOTAL (UG/L)	METHYL-BROMIDE TOTAL (UG/L)	METHYL-CHLO-RIDE TOTAL (UG/L)	METHYL-ENE CHLO-RIDE TOTAL (UG/L)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L)
AUG 09...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

DATE	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L)	1,1,2,2 TETRA-CHLORO-ETHANE TOTAL (UG/L)	1,2-DI-CHLORO-BENZENE TOTAL (UG/L)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L)	1,2-TRANSDI CHLORO-ETHENE TOTAL (UG/L)	1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	1,3-DI-CHLORO-BENZENE TOTAL (UG/L)	1,4-DI-CHLORO-BENZENE TOTAL (UG/L)	2-CHLORO-ETHYL-VINYL-ETHER TOTAL (UG/L)	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L)
AUG 09...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

DATE	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3	VINYL CHLO-RIDE TOTAL (UG/L)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L)	SOLIDS, DIS-SOLVED (TONS PER AC-FT)	PHOS-PHORUS ORTHO TOTAL (MG/L AS P)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS NH4)	MERCURY DIS-SOLVED (UG/L AS HG)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
AUG 09...	<0.20	28	<0.20	<0.2	46	52	0.06	<0.010	0.03	<0.1	360

DATE	DEPTH OF WELL, TOTAL (FEET)	STYRENE TOTAL (UG/L)	1,2-DIBROMO ETHANE WATER WHOLE TOTAL (UG/L)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L)
AUG 09...	304.00	<0.2	<0.2	<0.2

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

SHELBY COUNTY--Continued

350449089480501 - Sh:L-92-GERMANTOWN 9

DATE	TIME	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	TURBIDITY (NTU)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	NITROGEN, AMMONIA DISSOLVED (MG/L AS N)	NITROGEN, AMMONIA TOTAL (MG/L AS N)	NITROGEN, NITRITE DISSOLVED (MG/L AS N)	NITROGEN, NITRITE TOTAL (MG/L AS N)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N)
AUG 09...	1110	17.0	27.5	0.20	65	6.0	0.020	<0.010	<0.010	<0.010	<0.20

DATE	NITROGEN, NO2+NO3 TOTAL (MG/L AS N)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N)	PHOSPHORUS TOTAL (MG/L AS P)	PHOSPHORUS DISSOLVED (MG/L AS P)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLVD FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
AUG 09...	0.120	0.110	<0.010	<0.010	<0.010	18	0	4.4	1.6	6.6	0.7

DATE	SODIUM PERCENT	POTASSIUM, DISSOLVED (MG/L AS K)	CHLORIDE, DISSOLVED (MG/L AS CL)	SULFATE DISSOLVED (MG/L AS SO4)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	BERYLLIUM, DISSOLVED (UG/L AS BE)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
AUG 09...	44	0.50	3.4	1.7	<0.10	13	<1	14	<0.5	<1.0	<1	<3

DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	MOLYBDENUM, DISSOLVED (UG/L AS MO)	NICKEL, DISSOLVED (UG/L AS NI)	SILVER, DISSOLVED (UG/L AS AG)	STRONTIUM, DISSOLVED (UG/L AS SR)	VANADIUM, DISSOLVED (UG/L AS V)	ZINC, DISSOLVED (UG/L AS ZN)	ALUMINUM, DISSOLVED (UG/L AS AL)	LITHIUM DISSOLVED (UG/L AS LI)
AUG 09...	2	3	<1	<1	<10	<1	<1.0	12	<6	5	<10	<4

DATE	SELENIUM, DISSOLVED (UG/L AS SE)	DICHLOROBROMOMETHANE TOTAL (UG/L)	CARBONTETRACHLORIDE TOTAL (UG/L)	1,2-DICHLOROETHANE TOTAL (UG/L)	BROMOFORM TOTAL (UG/L)	CHLORODIBROMOMETHANE TOTAL (UG/L)	CHLOROFORM TOTAL (UG/L)	TOLUENE TOTAL (UG/L)	BENZENE TOTAL (UG/L)	CHLOROBENZENE TOTAL (UG/L)	CHLOROETHANE TOTAL (UG/L)	ETHYLBENZENE TOTAL (UG/L)
AUG 09...	<1	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

DATE	METHYLBROMIDE TOTAL (UG/L)	METHYLCHLORIDE TOTAL (UG/L)	METHYLENE CHLORIDE TOTAL (UG/L)	TETRACHLOROETHYLENE TOTAL (UG/L)	TRICHLOROFLUOROMETHANE TOTAL (UG/L)	1,1-DICHLOROETHANE TOTAL (UG/L)	1,1-DICHLOROETHYLENE TOTAL (UG/L)	1,1,1-TRICHLOROETHANE TOTAL (UG/L)	1,1,2-TRICHLOROETHANE TOTAL (UG/L)	1,1,2,2 TETRACHLOROETHANE TOTAL (UG/L)	1,2-DICHLOROBENZENE TOTAL (UG/L)	1,2-DICHLOROPROPANE TOTAL (UG/L)
AUG 09...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

SHELBY COUNTY--Continued

350449089480501 - Sh:L-92-GERMANTOWN 9--Continued

DATE	1,2-TRANSDICHLOROETHENE TOTAL (UG/L)	1,3-DICHLOROPROPENE TOTAL (UG/L)	1,3-DICHLOROBENZENE TOTAL (UG/L)	1,4-DICHLOROBENZENE TOTAL (UG/L)	2-CHLOROETHYLVINYLETHER TOTAL (UG/L)	DICHLORODIFLUOROMETHANE TOTAL (UG/L)	TRANS-1,3-DICHLOROPROPENE TOTAL (UG/L)	CIS 1,3-DICHLOROPROPENE TOTAL (UG/L)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	VINYL CHLORIDE TOTAL (UG/L)	TRICHLOROETHYLENE TOTAL (UG/L)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)
AUG 09...	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	26	<0.20	<0.2	44

DATE	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	PHOSPHORUS ORTHO TOTAL (MG/L AS P)	NITROGEN, AMMONIA DISSOLVED (MG/L AS NH4)	MERCURY DISSOLVED (UG/L AS HG)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	DEPTH OF WELL, TOTAL (FEET)	STYRENE TOTAL (UG/L)	1,2-DIBROMOETHANE WATER WHOLE TOTAL (UG/L)	XYLENE TOTAL WATER WHOLE TOT REC (UG/L)
AUG 09...	47	0.06	<0.010	0.03	<0.1	380	309.00	<0.2	<0.2	<0.2

350913090100801 - Sh:O-207 MLGW #12C

DATE	TIME	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
AUG 06...	1230	17.5	34.0	143	6.2	57	0	14	5.4	8.7	0.5

DATE	SODIUM PERCENT	POTASSIUM, DISSOLVED (MG/L AS K)	CHLORIDE, DISSOLVED (MG/L AS CL)	SULFATE DISSOLVED (MG/L AS SO4)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
AUG 06...	25	0.60	3.1	2.3	0.10	14	<1	50	<1.0	<1	<50

DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	ZINC, DISSOLVED (UG/L AS ZN)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	MERCURY DISSOLVED (UG/L AS HG)	DEPTH OF WELL, TOTAL (FEET)
AUG 06...	<10	490	<1	8	5	68	78	90	0.11	<0.1	758.00

351440089572301 - Sh:P-134 MORTON WELL FIELD

DATE	TIME	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
AUG 05...	1100	17.5	35.5	125	6.4	47	0	11	4.7	5.5	0.3

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

SHELBY COUNTY--Continued

351440089572301 - Sh:P-134 MORTON WELL FIELD--Continued

DATE	SODIUM PERCENT	POTASSIUM, DISSOLVED (MG/L AS K)	CHLORIDE, DISSOLVED (MG/L AS CL)	SULFATE DISSOLVED (MG/L AS SO4)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
AUG 05...	20	1.3	2.6	3.3	0.10	9.8	<1	75	<1.0	<1	<50

DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	ZINC, DISSOLVED (UG/L AS ZN)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	MERCURY DISSOLVED (UG/L AS HG)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)	DEPTH OF WELL, TOTAL (FEET)
AUG 05...	<10	1400	<1	23	<3	57	66	74	0.09	<0.1	301	460.00

351109089512901 - Sh:Q-40

DATE	TIME	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
AUG 07...	1310	17.0	34.5	119	6.1	41	0	9.6	4.2	7.6	0.5

DATE	SODIUM PERCENT	POTASSIUM, DISSOLVED (MG/L AS K)	CHLORIDE, DISSOLVED (MG/L AS CL)	SULFATE DISSOLVED (MG/L AS SO4)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
AUG 07...	28	0.80	4.2	6.5	0.10	12	<1	58	<1.0	<1	<50

DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	ZINC, DISSOLVED (UG/L AS ZN)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	MERCURY DISSOLVED (UG/L AS HG)
AUG 07...	<10	1300	<1	19	6	45	69	73	0.09	<0.1

350835089434100 - Sh:R-29

DATE	TIME	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLV FLD. AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
AUG 07...	1000	18.0	35.0	49	5.9	16	0	4.1	1.5	3.8	0.4

WATER-QUALITY DATA, WATER YEAR OCTOBER 1990 TO SEPTEMBER 1991

SHELBY COUNTY--Continued

350835089434100 - Sh:R-29--Continued

DATE	SODIUM PERCENT	POTASSIUM, DISSOLVED (MG/L AS K)	CHLORIDE, DISSOLVED (MG/L AS CL)	SULFATE DISSOLVED (MG/L AS SO4)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
AUG 07...	33	0.50	1.9	1.2	<0.10	10	<1	7	<1.0	<1	<50

DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	ZINC, DISSOLVED (UG/L AS ZN)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	MERCURY DISSOLVED (UG/L AS HG)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
AUG 07...	<10	62	<1	2	7	22	29	36	0.04	<0.1	315

351703089575301 - Sh:U-20 GRACE CHEMICAL

DATE	TIME	TEMPERATURE WATER (DEG C)	TEMPERATURE AIR (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	HARDNESS TOTAL (MG/L AS CACO3)	HARDNESS NONCARB DISSOLVED AS CACO3 (MG/L)	CALCIUM DISSOLVED (MG/L AS CA)	MAGNESIUM, DISSOLVED (MG/L AS MG)	SODIUM, DISSOLVED (MG/L AS NA)	SODIUM ADSORPTION RATIO
AUG 05...	0910	19.0	29.5	304	6.5	130	0	29	15	9.3	0.3

DATE	SODIUM PERCENT	POTASSIUM, DISSOLVED (MG/L AS K)	CHLORIDE, DISSOLVED (MG/L AS CL)	SULFATE DISSOLVED (MG/L AS SO4)	FLUORIDE, DISSOLVED (MG/L AS F)	SILICA, DISSOLVED (MG/L AS SIO2)	ARSENIC DISSOLVED (UG/L AS AS)	BARIUM, DISSOLVED (UG/L AS BA)	CADMIUM DISSOLVED (UG/L AS CD)	CHROMIUM, DISSOLVED (UG/L AS CR)	COBALT, DISSOLVED (UG/L AS CO)
AUG 05...	13	2.4	0.90	2.6	0.20	9.1	<1	330	<1.0	<1	<50

DATE	COPPER, DISSOLVED (UG/L AS CU)	IRON, DISSOLVED (UG/L AS FE)	LEAD, DISSOLVED (UG/L AS PB)	MANGANESE, DISSOLVED (UG/L AS MN)	ZINC, DISSOLVED (UG/L AS ZN)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L)	SOLIDS, DISSOLVED (TONS PER AC-FT)	MERCURY DISSOLVED (UG/L AS HG)	DEPTH OF WELL, TOTAL (FEET)
AUG 05...	<10	4700	<1	99	<3	158	158	164	0.21	<0.1	551.00

00441400 HATCHIE NATIONAL WILDLIFE REFUGE RAIN GAGE AT HILLVILLE, TN (NATIONAL TRENDS NETWORK)

LOCATION.--Lat 35°28'08", long 89°10'14", Haywood County, Hydrologic Unit 08010208, 0.9 mi north of Hillville, 12 mi southeast of Brownsville.

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

INSTRUMENTATION.--An automatic wet-dry precipitation collector is used to collect 7-day accumulations. The collector is equipped with a precipitation sensor which activates a motor to operate the sample bucket cover. The sample bucket remains uncovered for the duration of each precipitation event and covered during dry periods. Dryfall samples are not collected. A standard 8.0-inch recording rain gage is used to obtain on-site precipitation records.

REMARKS.--These data are part of the data for this site verified by the National Atmospheric Deposition Program/National Trends Network (NADP/NTN) Coordinator. Additional data are available from the NADP/NTN Coordinator, Natural Resource Ecology Laboratory, Fort Collins, Colo. 80523. Data for all sites in the network are published quarterly by the NADP/NTN Coordinator's Office. Laboratory analyses were performed by the Central Analytical Laboratory of the Illinois State Water Survey.

NOTE.--Records for 1991 were not available in time for inclusion in this report. Data for 1991 will be published in "Water Resources Data for Tennessee, Water Year 1992."

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS

The following continuous-record surface-water discharge or stage-only stations (gaging stations) in Tennessee have been discontinued. Daily streamflow or stage records were collected and published for the period of record, expressed in water years, shown for each station. Those stations with an asterisk (*) after the station number are currently operated as crest-stage partial-record stations.

[Letters after station name designate type of data collected: (d) discharge, (e) elevation (stage only); Agency designations: USGS, U.S. Geological Survey; TVA, Tennessee Valley Authority]

Station name	Station number	Agency	Drainage area (mi^2)	Period of record
Red Boiling Spring at Red Boiling Springs (d)	03312250	USGS		1986
Crabapple Branch near La Follette (d)	03403718	USGS	1.07	1981-84
Indian Fork above Braytown (d)	03407804	USGS	4.32	1975-78
Green Branch near Hembree (d)	03407874	USGS	1.38	1976-78
Smoky Creek above Hembree (361240084245800) (d)	034078745	USGS	8.07	1982-83
Bills Branch near Hembree (d)	03407875	USGS	.67	1975-83
Shack Creek at Hembree (361341084253900) (d)	034078755	USGS	5.08	1982-84
Smoky Creek near Hembree (d)	03407876	USGS	17.2	1977-84
Bowling Branch above Smoky Junction (d)	03407877	USGS	2.19	1976-81
Anderson Branch near Montgomery (d)	03407881	USGS	.69	1976-80
Lowe Branch near Montgomery (d)	03407882	USGS	.92	1975-80
New River at Cordell (d)	03407908	USGS	198	10/75-77, 5/77-12/87
New River near New River (d)	03408000	USGS	314	1923-35
Long Branch near Grimsley (d)	03408600	USGS	1.11	1976-81
Crooked Creek tributary near Allardt (d)	03408810	USGS	.25	1976-79
Crooked Creek near Allardt (d)	03408815	USGS	3.62	1976-81
White Oak Creek at Sunbright (d)	03409000*	USGS	13.5	1932-33
White Oak Creek at Rugby (d)	03409400	USGS	98.0	1980-82
Pine Creek tributary at Oneida (d)	03410000	USGS	1.21	1932-33
South Fork Cumberland River at Leatherwood Ford (d)	03410210	USGS	806	1983-87
West Fork Obey River near Alpine (d)	03415000	USGS	115	1943-71, 1980-81
Obey River near Byrdstown (d)	03415500	USGS	445	1919-43
Obey River below Dale Hollow Dam (d)	03417000	USGS	936	1939-42, 1945-58
Roaring River near Hilham (d)	03418000	USGS	78.7	1932-75
Roaring River near Gainesboro (d)	03418188	USGS	276	1975
Caney Fork at Clifty (d)	03418500	USGS	111	1931-49
Bee Creek at Herbert (d)	03419000	USGS	101	1931-37
Calfkiller River at Sparta (d)	03419500	USGS	157	1932-41
Calfkiller River below Sparta (d)	03420000	USGS	175	1940-71
Barren Fork near Trousdale (d)	03420500	USGS	126	1932-57
Collins River near Rowland (d)	03421500	USGS	755	1916-24
Falling Water River near Cookeville (d)	03423000	USGS	67.0	1932-56
Caney Fork below Center Hill Dam, near Lancaster (d)	03424500	USGS	2,183	1923-58
Spring Creek near Lebanon (d)	03425500	USGS	35.3	1955-61
Town Creek at Maple Street at Gallatin (d)	03425646	USGS	4.74	1984
Drakes Creek above Hendersonville (d)	03426000	USGS	19.2	1955-61
Cumberland River at Dam 3, near Old Hickory (d)	03426210	USGS	11,688	1931-42, 1947-53
East Fork Stones River at Woodbury (d)	03426800*	USGS	39.1	1932-33, 1950, 1954, 1962-89
Bradley Creek at Lascassas (d)	03427000	USGS	37.0	1955-61
West Fork Stones River near Murfreesboro (d)	03428000	USGS	128	1932-69
Fox Camp Spring at Mankinville (d)	03428047	USGS		1978-80
West Fork Stones River at Manson Pike, at Murfreesboro (d)	03428070	USGS	165	1973-81
Stones River near Smyrna (d)	03429000	USGS	571	1925-67
Stewart Creek near Smyrna (Smyrna Airport) (d)	03429500	USGS	69.7	1953-58
Stones River below J. Percy Priest Dam (d)	03430100	USGS	892	1939-67

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS--Continued

[Letters after station name designate type of data collected: (d) discharge, (e) elevation (stage only); Agency designations: USGS, U.S. Geological Survey; TVA, Tennessee Valley Authority]

Station name	Station number	Agency	Drainage area (mi^2)	Period of record
Collins Creek at Bell Road, near Antioch (d)	03430800	USGS	3.61	1976-77
Mill Creek near Antioch (d)	03431000	USGS	64.0	1954-61, 1964-75
Browns Creek at State Fairgrounds, at Nashville (d)	03431300	USGS	11.8	1964-75
Cumberland River at Nashville (d)	03431500	USGS	12,856	1893-54
Cummings Branch at Lickton (d)	03431517	USGS	2.40	1976-90
Whites Creek at Tucker Road, near Bordeaux (d)	03431600	USGS	51.6	1965-75
Richland Creek at Charlotte Ave, at Nashville (d)	03431700	USGS	24.3	1964-90
West Harpeth River near Leipers Fork (d)	03432500	USGS	66.9	1955-61
Red River near Portland (d)	03435030	USGS	15.1	1967-75
Red River near Adams (d)	03435500	USGS	706	1920-69
Cumberland River at Clarksville (lock C) (d)	03436500	USGS	15,897	1925-44
Yellow Creek near Shiloh (d)	03436700*	USGS	124	1958-80
Cumberland River at Dover (gaging station) (d)	03437000	USGS	16,437	1938-65
Pigeon River at Hartford (d)	03461000	USGS	547	1925-48
Cosby Creek above Cosby (d)	03461200	USGS	10.1	1967-87
Pigeon River at Newport (d)	03461500	USGS	666	1900-29, 1945-46, 1948-82,
		TVA		1982-83
North Indian Creek near Unicoi (d)	03465000	USGS	15.9	1944-57
Nolichucky River below Nolichucky Dam (d) (e)	03466500	USGS	1,184	1902-09, 1919-26, 1946-73
Lick Creek at Mohawk (d)	03467000	USGS	220	1946-71
Nolichucky River near Morristown (d)	03467500	USGS	1,679	1921-57
Long Creek near White Pine (d)	03468050	TVA	30.8	1964-81
French Broad River below Douglas Dam (d)	03469000	USGS	4,543	1919-74
Millican Creek near Douglas Dam (d)	03469010	TVA	4.22	1942-62
Roaring Fork Creek at Hwy 441, at Gatlinburg (d)	03469282	TVA	7.23	1977-82
Dudley Creek at Gatlinburg (d)	03469390	TVA	8.84	1977-82
West Prong Little Pigeon River near Pigeon Forge (d)	03469500	USGS	76.2	1946-49
		TVA		1967-69
Little Pigeon River at Sevierville (d)	03470000	USGS	353	1921-82
South Fork Holston River below South Holston Dam (d)	03476500	USGS	703	1951-74
South Fork Holston River at Bluff City (d)	03477000	USGS	813	1900-53
Beaver Creek at Bristol (d)	03478500	USGS	44.8	1932-34
Beaver Creek at Buffalo School, near Bluff City (d)	03478620	TVA	108	1934-38
Watauga River at North Carolina-Tennessee State Line (d)	03479500	USGS	152	1943-55
Watauga River at Stump Knob (d)	03480000	USGS	171	1928-31, 1934-45
Roan Creek near Neva (d)	03482000	USGS	102	1942-55
Roan Creek at Butler (d)	03482500	USGS	166	1901-02, 1934-48
Watauga River at Butler (d)	03483000	USGS	427	1900-02, 1921-48
Watauga River below Wilbur Dam (d)	03484000	USGS	471	1903-09, 1948-82
Watauga River at Siam (d)	03484110	TVA	480	1946
Doe River at Old Hopson School (d)	03484490	TVA	59.3	1967-69
Doe River at Blevins (d)	03484500	USGS	60.8	1912-15
Laurel Fork above Braemar (d)	03484900	TVA	23.0	1945-51
Laurel Fork above Hampton (d)	03484910	TVA	25.3	1948-52
Doe River at Elizabethton (d)	03485500	USGS	137	1912-16, 1921-82

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS--Continued

[Letters after station name designate type of data collected: (d) discharge, (e) elevation (stage only);
Agency designations: USGS, U.S. Geological Survey; TVA, Tennessee Valley Authority]

Station name	Station number	Agency	Drainage area (mi^2)	Period of record
Watauga River at Elizabethton (d)	03486000	USGS	692	1926-49, 1953-82
Buffalo Creek at Milligan College (d)	03486200	TVA	28.1	1965-81
Brush Creek at Johnson City (Tennessee Street) (d)	03486490	TVA	6.78	1969-73
Brush Creek at Johnson City (Elm Street) (d)	03486495	TVA	9.58	1969-72
Brush Creek at Johnson City (d)	03486500	USGS	10.3	1932-34
Fall Creek near Fort Patrick Henry Dam (d)	03486900	TVA	13.1	1953-56
South Fork Holston River at Kingsport (d)	03487500	USGS	1,935	1926-77
South Fork Holston River at Kingsport (auxiliary channel) (d)	03487501	USGS	1.0	1953-77
Reedy Creek at Orebank (d)	03487550*	USGS	36.3	1963-89
South Fork Holston River near Ridgefields Bridge, at Kingsport (d)	03487640	TVA	2,047	1968-69
Holston River at Surgoinsville (d)	03490500	USGS	2,874	1941-88
Holston River near Rogersville (d)	03491500	USGS	3,035	1901-42
Poor Valley Creek near Mooresburg (near Spruce Pine School) (d)	03491800	USGS	32.3	1958-61
Poor Valley Creek near Mooresburg (d)	03491820	TVA	43.3	1959-60
Holston River near Morristown (d)	03492000	USGS	3,244	1937-42
Mossy Spring near Jefferson City (d)	03492500	USGS		1950-59
Mossy Creek at Jefferson City (d)	03493000	USGS	30.8	1932-34
Holston River near Jefferson City (d)	03494000	USGS	3,429	1937-74
Mill Spring near Jefferson City (d)	03494500	TVA		1941-48
		USGS		1951-59
First Creek at Mineral Springs Avenue, at Knoxville (d)	03496000	USGS	15.7	1945-63
First Creek above Powers Avenue, at Knoxville (d)	03496200	USGS	17.2	1964-70
First Creek at Fifth Avenue, at Knoxville (d)	03496500	USGS	21.1	1932-34, 1945-59
Tennessee River at Knoxville (Gay Street Bridge) (d)	03497000	USGS	8,934	1900-82
Fourth Creek at Knoxville (d)	03497110	TVA	9.65	1942-43
Little River at Walland (d)	03497500	USGS	175	1925-31
Little River near Walland (d)	03498000	USGS	192	1931-52
Pistol Creek at Maryville (d)	03499000	USGS	13.5	1932-33
Little River below Rockford Dam, at Rockford (d)	03499100	TVA	346	1940-44
Little River near Rockford (d)	03499110	TVA	352	1936-37
Ten Mile Creek near Ebenezer (d)	03499200	TVA	13.2	1941-45
Muddy Creek near Fort Loudon Dam (d)	03499600	TVA	10.7	1941-59
Little Tennessee River at Calderwood (d)	03518000	USGS	1,862	1912-19, 1921-57
Little Tennessee River below Chilhowee Dam (d)	03518300	USGS	1,987	1958-79
North Fork Citico Creek near Tellico Plains (d)	03518400	TVA	7.04	1960-71
Tellico River at Tellico Plains (d)	03518500	USGS	118	1925-82
Little Tennessee River at McGhee (d)	03519500	USGS	2,443	1905-69
Baker Creek near Greenback (d)	03519640*	USGS	16.0	1966-75
Tennessee River at Loudon (d)	03520000	USGS	12,220	1923-55
Sweetwater Creek below Sweetwater (d)	03520045	TVA	26.4	1970-81
Sweetwater Creek near Sweetwater (d)	03520050	TVA	28.2	1964-70
Big Sycamore Creek near Sneedville (d)	03528100	TVA	5.49	1935-45
Big Barren Creek near New Tazewell (d)	03528300	TVA	22.5	1935-45
White Creek near Sharps Chapel (d)	03528400	TVA	2.68	1935-72
Powell River near Arthur (d)	03532000	USGS	685	1920-82
Davis Creek near Speedwell (d)	03532100	TVA	31.2	1936-37
Big Creek near La Follette (d)	03532220	TVA	26.2	1936-38
Clinch River below Norris Dam (d)	03533000	USGS	2,913	1904-74
Clear Creek near Norris (d)	03533100	TVA	2.83	1934-38
Coal Creek at Lake City (d)	03534000*	USGS	24.5	1932-34
Buffalo Creek at Norris (d)	03534500	USGS	9.92	1947-51
Bullrun Creek near Halls Crossroads (d)	03535000	USGS	68.5	1957-86
Whiteoak Creek at ORNL, near Oak Ridge (d)	03536500	USGS	2.08	1950-55

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS--Continued

[Letters after station name designate type of data collected: (d) discharge, (e) elevation (stage only); Agency designations: USGS, U.S. Geological Survey; TVA, Tennessee Valley Authority]

Station name	Station number	Agency	Drainage area (mi^2)	Period of record
Whiteoak Creek below ORNL, near Oak Ridge (d)	03537000	USGS	3.62	1950-53, 1955-64
Melton Branch tributary (West Seven) near Oak Ridge (d)	03537300	USGS	.15	1987-89
Melton Branch near Oak Ridge (d)	03537500	USGS	1.48	1955-64
Whiteoak Creek at Whiteoak Dam, near Oak Ridge (d)	03538000	USGS	6.01	1953-55, 1960-64
Clinch River near Oak Ridge (d)	03538150	USGS	3,385	1937-64, 1968
Bear Creek tributary near Wheat (d)	035382677	USGS	.14	1986-89
Bear Creek tributary at Hwy 95 near Wheat (d)	03538272	USGS	.14	1986-89
Bear Creek near Oak Ridge (d)	03538275	USGS	7.15	1960-64
Emory River near Wartburg (d)	03538500	USGS	83.2	1934-57, 1966-68
Daddys Creek near Grassy Cove (d)	03539000	USGS	51.2	1925-30
Daddys Creek near Crab Orchard (d)	03539500	USGS	93.5	1931-58
Daddys Creek near Hebbertsburg (d)	03539600	USGS	139	1957-68
Clear Creek near Lancing (d)	03539750	USGS	153	1966-68
Obed River near Lancing (d)	03539800	USGS	518	1956-68, 1973-88
Crooked Fork near Wartburg (d)	03539860	USGS	50.3	1966-68
Emory River at Deermont (d)	03540000	USGS	704	1920-28
Crab Orchard Creek near Deermont (d)	03540100	USGS	33.7	1966-68
Bitter Creek near Oakdale (d)	03541300	USGS	12.6	1967-75
Kingston Creek at Kingston (d)	03541400	TVA	.74	1940-41
Whites Creek near Glen Alice (d)	03541500	USGS	108	1934-55
Whites Creek at Glen Alice (d)	03542000	USGS	120	1931-34
Piney River at Spring City (d)	03542500	USGS	95.9	1927-31
Tennessee River at Breedenton (d)	03544000	USGS	17,440	1934-40
Richland Creek near Dayton (d)	03544500	USGS	50.2	1927-31, 1934-55, 1979-82
Turtletown Creek at Turtletown (d)	03556000	USGS	26.9	1934-71
Hiwassee River near McFarland (d)	03556500	USGS	1,136	1943-81
Hiwassee River near Reliance (d)	03557000	USGS	1,233	1900-14, 1918-48
Ocoee River at Copperhill (d)	03559500	USGS	352	1903-14, 1943-70
North Potato Creek tributary, Copper Basin area 6, near Ducktown (d)	03560700	TVA	.01	1940-51
Burra-burra Creek tributary, Copper Basin area 5, near Ducktown (d)	03560800	TVA	.02	1940-51
North Potato Creek near Ducktown (d)	03561000	USGS	13.0	1934-70
North Potato Creek tributary No. 2, Copper Basin area 1-W, near Ducktown (d)	03561200	TVA	.01	1942-52
North Potato Creek tributary No. 3, Copper Basin area 1-E, near Ducktown (d)	03561300	TVA	.01	1942-52
Ocoee River at McHarg (d)	03561500	USGS	447	1917-43
Walkertown Branch tributary, Copper Basin area 4, near Ducktown (d)	03561700	TVA	.01	1940-45
Ocoee River tributary, Copper Basin area 3, near Ducktown (d)	03561800	TVA	.01	1940-51
Brush Creek near Ducktown (d)	03562000	USGS	14.4	1934-42
Hiwassee River above Charleston (d)	03565000	USGS	2,001	1954-76
Chestuee Creek above Englewood (d)	03565040	TVA	14.8	1944-57
Little Chestuee Creek below Wilson Station (d)	03565080	TVA	8.54	1947-57
Chestuee Creek at Zion Hill (d)	03565120	TVA	37.8	1944-62
Middle Creek below Hwy 39 near Englewood (d)	03565160	TVA	32.7	1944-62
Chestuee Creek near Athens (d)	03565200	TVA	77.9	1944-54
Chestuee Creek at Dentville (d)	03565250	USGS	114	1944-62
South Chestuee Creek near Benton (d)	03565300	USGS	31.8	1957-86

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS--Continued

[Letters after station name designate type of data collected: (d) discharge, (e) elevation (stage only); Agency designations: USGS, U.S. Geological Survey; TVA, Tennessee Valley Authority]

Station name	Station number	Agency	Drainage area (mi^2)	Period of record
Oostanaula Creek near Calhoun (d)	03565700	TVA	67.0	1940-44
Wolftever Creek near Ooltewah (d)	03566420*	USGS	18.8	1964-89
Long Savannah Creek near Snow Hill (d)	03566450	TVA	28.3	1939-44
North Chickamauga Creek at Upper Mill, near Hixson (d)	03566600	TVA	99.5	1937-43
North Chickamauga Creek near Hixson (d)	03566630	TVA	114	1937-43
South Chickamauga Creek near McCarty (d)	03567600	TVA	458	1937-45
Sequatchie River near College Station (d)	03570650	USGS	154	1966-68
Little Sequatchie River at Sequatchie (d)	03571500*	USGS	116	1932-34
Tennessee River at South Pittsburg (d)	03571850	USGS	22,640	1930-87
Elk River near Pelham (d)	03578000	USGS	65.6	1952-88
Bradley Creek near Prairie Plains (d)	03578500	USGS	41.3	1952-60
Elk River near Estill Springs (d)	03579100	USGS	275	1921-81
Boiling Fork Creek south of Cowan (d)	03580000	USGS	20.2	1932
Boiling Fork Creek above Winchester (d)	03580300	USGS	55.9	1962-70
Boiling Fork Creek at Winchester (d)	03580500	USGS	77.1	1932-34
Elk River below Tims Ford Dam (d)	03580750	USGS	534	1966-76
Jack Daniel Spring at Lynchburg (d)	03580990	USGS		1970-78
East Fork Mulberry Creek at Lynchburg (d)	03581000	USGS	23.1	1932
East Fork Mulberry Creek near Lynchburg (d)	03581100	TVA	29.5	1967-69
East Fork Mulberry Creek near Mulberry (d)	03581200	TVA	49.4	1967-69
West Fork Mulberry Creek near Booneville at Mt. Herman (d)	03581400	TVA	17.4	1967-69
West Fork Mulberry Creek at Mulberry (d)	03581500	USGS	41.2	1954-62, 1966-68
Elk River above Fayetteville (d)	03582000	USGS	827	1934-82
Union Branch below Belleville (d)	03582140	USGS	2.37	1977
Elk River near Fayetteville (d)	03582500	USGS	897	1926-34
Bradshaw Creek at Frankewing (d)	03583000	USGS	36.5	1955-61, 1966-68
Richland Creek near Cornersville (d)	03583300*	USGS	47.5	1961-68
Factory Creek (head of Big Creek) near Campbellsville (d)	03583330	USGS	38.2	1966-68
Yokley Creek near Campbellsville (d)	03583360	USGS	20.2	1966-68
Weakley Creek near Bodenham (d)	03583500	USGS	24.4	1955-61, 1966-68
Richland Creek near Pulaski (d)	03584000	USGS	366	1934-75
Chisholm Creek at Westpoint (d)	03588400	USGS	43.0	1962-88
Snake Creek near Adamsville (d)	03593300	TVA	49.4	1940-59
Holland Creek near Lowryville (d)	03593700	TVA	14.9	1965-78
Horse Creek near Savannah (d)	03594000	USGS	114	1929-34
Turkey Creek near Savannah (d)	03594040	TVA	53.7	1940-59
White Oak Creek near Milledgeville (d)	03594058	TVA	46.1	1940-59
White Oak Creek at Milledgeville (d)	03594110	TVA	49.2	1961-65
Middleton Creek near Milledgeville (d)	03594120	TVA	45.5	1940-59
Indian Creek near Cerro Gordo (d)	03594160	TVA	201	1940-59
Banjo Branch near Waynesboro (d)	03594164	USGS	2.14	1988-89
Beech River near Lexington (d)	03594415	TVA	15.9	1953-63
Wolf Creek at Graper Springs (d)	03594420	TVA	11.7	1953-55
Pine Tree Branch near Lexington (d)	03594425	TVA	.14	1941-78
Harmon Creek near Lexington (d)	03594430	TVA	6.87	1953-73
Piney Creek at Hwy 104 near Lexington (d)	03594435	TVA	19.2	1953-55, 1957-73
Cane Creek near Shady Hill (d)	03594437	TVA	20.7	1966-73
Haley Creek near Chesterfield (d)	03594441	TVA	8.30	1953-55
Beech River near Chesterfield (old channel before channelization) (d)	03594445	TVA	11.5	1940-54, 1960-65
Browns Creek near Chesterfield (d)	03594450	TVA	202	1953-63
Cane Creek near Shady Hill (d)	03594455	TVA	16.8	1953-64
Cane Creek near Chesterfield (old channel before channelization) (d)	03594460	TVA	222	1940-54
Beech River near Darden (old channel before channelization) (d)	03594465	TVA	165	1954-60
Flat Creek near Middleburg (d)	03594470	TVA	13.8	1953-55

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS--Continued

[Letters after station name designate type of data collected: (d) discharge, (e) elevation (stage only); Agency designations: USGS, U.S. Geological Survey; TVA, Tennessee Valley Authority]

Station name	Station number	Agency	Drainage area (mi^2)	Period of record
Big Creek near Darden (d)	03594475	TVA	10.6	1953-55, 1966-73
Turkey Creek near Decaturville (d)	03594480	TVA	8.40	1953-63
Turkey Creek at Middleburg Road, near Decaturville (d)	03594482	TVA	11.5	1964-73
Rushing Creek near Decaturville (d)	03594485	TVA	17.0	1953-55
Tennessee River at Perryville (d)	03594500	USGS	34,550	1931-32
Duck River near Manchester (d)	03595000	USGS	55.2	1932-34
Little Duck River at Manchester (d)	03595500	USGS	40.4	1932-34
Duck River below Manchester (d)	03596000	USGS	107	1934-88
Duck River at Normandy (d)	03596500	USGS	208	1920-31, 1972-75
Garrison Fork at Fairfield (d)	03597000	USGS	66.3	1953-58, 1966-68
Wartrace Creek at Bell Buckle (d)	03597500	USGS	16.3	1953-61, 1966-75
Wartrace Creek at Wartrace (d)	03597600	USGS	36.4	1966-68
Big Rock Creek at Lewisburg (d)	03599000	USGS	24.9	1953-61, 1966-68
Fountain Creek near Culleoka (d)	03599430	USGS	26.9	1966-68
Fountain Creek near Fountain Heights (d)	03599450	USGS	74.0	1966-68
Rutherford Creek near Carters Creek (d)	03600000	USGS	68.8	1953-58
Rutherford Creek (No. 4) near Columbia (d)	03600100	TVA	112	1948-53
Rutherford Creek (No. 3) near Columbia (d)	03600200	TVA	116	1948-49
Big Bigby Creek at Sandy Hook (d)	03600500	USGS	17.5	1953-87, 1988-89
Big Bigby Creek near Mount Pleasant (d)	03601000	USGS	25.8	1953-57
Big Bigby Creek at Cross Bridges (d)	03601500	USGS	112	1938-39
Duck River at Centerville (d)	03602000	USGS	2,048	1919-55
Hurricane Creek at Hurricane Mills (d)	03603500	USGS	75.1	1932-33
Coon Creek near Hohenwald (d)	03604100	USGS	10.0	1967-74
Buffalo River near Lobelville (d)	03604500	USGS	707	1987-89
Blue Creek at State Hwy 13 near Waverly (d)	03604600	TVA	24.8	1964-71
Birdsong Creek near Holladay (d)	03604800	TVA	44.9	1940-68
Trace Creek at Waverly (d)	03605500	USGS	20.1	1932-33
Cotton Creek near Camden (d)	03606400	TVA	.43	1941-45
Big Sandy River at Big Sandy (d)	03607000	USGS	379	1935-44
Tennessee River near Buchanan (d)	03607500	USGS	39,730	1930-43
Beaver Creek at Huntingdon (d)	07024300*	USGS	55.5	1946, 1948, 1952-54, 1958-88
South Fork Obion River near Greenfield (d)	07024500*	USGS	383	1929-89
Rutherford Fork Obion River near Bradford (d)	07025000	USGS	201	1929-57
North Fork Obion River near Union City (d)	07025500	USGS	480	1929-71
North Reelfoot Creek at State Hwy 22 near Clayton (d)	07026370	USGS	56.3	1980-83, 1984-89
South Reelfoot Creek near Clayton (d)	07026400	USGS	36.6	1984-89
Reelfoot Creek near Samburg (d)	07026500	USGS	110	1951-73
Reelfoot Lake near Phillippy (e)	07026690	USGS	240	1984-88
Indian Creek near Samburg (d)	07026795	USGS	8.01	1982-86
South Fork Forked Deer River at Jackson (d)	07027500	USGS	495	1929-73
South Fork Forked Deer River at Chestnut Bluff (d)	07028000	USGS	1,003	1929-57
North Fork Forked Deer River at Trenton (d)	07028500	USGS	73.5	1950-71
Middle Fork Forked Deer River near Alamo (d)	07029000	USGS	369	1929-73
Hatchie River near Stanton (d)	07030000	USGS	1,975	1929-58
Cane Creek at Three Point (d)	07030137	USGS	79.8	1985-87
Kelly Branch near Clopton (d)	07030245	USGS	7.79	1975-76

DISCONTINUED SURFACE-WATER DISCHARGE OR STAGE-ONLY STATIONS--Continued

[Letters after station name designate type of data collected: (d) discharge, (e) elevation (stage only); Agency designations: USGS, U.S. Geological Survey; TVA, Tennessee Valley Authority]

Station name	Station number	Agency	Drainage area (mi^2)	Period of record
Loosahatchie River tributary at New Allen Road at Memphis (d)	07030295	USGS	1.26	1977-83
Wolf River at Rossville (d)	07030500	USGS	503	1929-72
Marys Creek at Pisgah Road, near Fisherville (d)	07031500	USGS	13.6	1955-57
Fletcher Creek near Cordova (d)	07031680	USGS	1.45	1974-83
Fletcher Creek at Whitten Road at Memphis (d)	07031683	USGS	21.4	1978-82
Unnamed tributary at Charles Bryan Road, near Cordova (d)	07031685	USGS	3.18	1975-77
Lick Creek at Dickinson Street, at Memphis (d)	07031777	USGS	2.96	1975-83
Johns Creek tributary at Holmes Road, near Memphis (d)	07032222	USGS	5.83	1975-85
Johns Creek at Raines Road, at Memphis (d)	07032224	USGS	19.4	1975-82, 1985
Black Bayou at Southern Avenue, at Memphis (d)	07032241	USGS	.59	1975-83
Cane Creek at East Person Avenue, at Memphis (d)	07032248	USGS	4.98	1975-85
Cypress Creek at Neely Road, at Memphis (d)	07032260	USGS	3.18	1975-85

DISCONTINUED SURFACE-WATER-QUALITY STATIONS

The following stations were discontinued as continuous-record surface-water-quality stations prior to the 1991 water year. Water-quality data (daily or periodic samples with collection frequency not less than quarterly) were collected and published for the period of record shown for each station. Discontinued project stations with less than 3 years of record have not been included. Information regarding these stations may be obtained from the District Chief at the address given on the back of the title page of this report.

[Agency designations: USGS, U.S. Geological Survey; TVA, Tennessee Valley Authority.
Type of record: (B) biological, (C) chemical, (S) sediment, (T) temperature.]

Station name	Station number	Agency	Drainage area (mi^2)	Type of record	Period of record (water years)
Crabapple Branch near La Follette	03403718	USGS	1.07	C,T	1981-84
Indian Fork above Braytown	03407804	USGS	4.32	C	1975-81
New River at Stainville	03407850	USGS	66.0	C,S	1975-77, 1979-81
Green Branch near Hembree	03407874	USGS	1.38	C,S	1975-81
Smoky Creek above Hembree (361240084245800)	034078745	USGS	8.07	S	1982-83
Bills Branch near Hembree	03407875	USGS	.67	C,S	1975-83
		USGS		C,S,T	1980-83
Shack Creek at Hembree (361341084253900)	034078755	USGS	5.08	C,S,T	1982-84
Smoky Creek at Hembree	03407876	USGS	17.2	S	1978-84
		USGS		C,T	1980-84
Bowling Branch above Smoky Junction	03407877	USGS	2.19	C,S	1975-83
Smoky Creek at Smoky Junction	03407879	USGS	32.8	C,S	1975-77, 1979-81
Anderson Branch near Montgomery	03407881	USGS	.69	C	1975-81
Lowe Branch near Montgomery	03407882	USGS	.92	C	1975-81
New River at Cordell	03407908	USGS	198	C,S	1976-77, 1979-82
New River at New River	03408500	USGS	382	C,T	1977-86
		USGS		C,S	1965-67, 1975-77, 1979-81
Clear Fork near Robbins	03409500	USGS	272	T	1982-86
		USGS		C	1982, 1984-86
		USGS		C,S	1964-65, 1976-77, 1979-82, 1984
South Fork Cumberland River at Leatherwood Ford	03410210	USGS	806	C,S,T	1986
		USGS		C,S	1979-80, 1984-85
Roaring River near Hilham	03418000	USGS	78.7	T	1969-71
Roaring River above Gainesboro	03418070	USGS	210	C,S	1980-83
Collins River near McMinnville	03421000	USGS	640	C,S	1964-67,1979-82
Cumberland River at Carthage	03425000	USGS	10,690	C,T	1975-81
East Fork Stones River near Lascassas	03427500	USGS	262	C,T	1975-1990
West Fork Stones River near Murfreesboro	03428000	USGS	128	C	1964-68
West Fork Stones River at Manson Pike, at Murfreesboro	03428070	USGS	165	C,T	1973-82
West Fork Stones River near Smyrna	03428500	USGS	237	T	1974-1990
Richland Creek at Charlotte Avenue, at Nashville	03431700	USGS	24.3	C,S	1901, 1979-83
Harpeth River near Kingston Springs	03434500	USGS	681	C,S	1979-83
Sulphur Fork Red River near Greenbrier	03435637	USGS	34.9	T	1976-78
Sulphur Fork Red River above Beaverdam Creek, near Springfield	03435700	USGS	49.1	T	1975-77
Sulphur Fork Red River above Springfield	03435770	USGS	65.6	C,S	1976-83
Sulphur Fork Red River near Adams	03436000	USGS	186	C,S	1964, 1979-83
Red River at Port Royal	03436100	USGS	935	C,S	1979-83
Yellow Creek near Shiloh	03436700	USGS	124	C,S	1964-65, 1979-81
French Broad River below Hot Springs, NC	03454757	USGS	1,712	C	11970-73
French Broad River near Newport	03455000	TVA	1,858	C	1946-47, 1960-61, 1969-70, 1974-75, 1979-80
Nolichucky River at Embreeville	03465500	USGS	805	C,S	1979-82
Nolichucky River below Nolichucky Dam	03466500	TVA	1,184	C	1974-79
		TVA		T	1962
French Broad River at Douglas Dam (tailwater)	03468510	TVA	4,541	C	1975-80
Little Pigeon River at Sevierville	03470000	TVA	353	C	1967-68, 1970
		TVA		T	1969-74
		USGS		C,S	1979-82

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

[Agency designations: USGS, U.S. Geological Survey; TVA, Tennessee Valley Authority.
Type of record: (B) biological, (C) chemical, (S) sediment, (T) temperature.]

Station name	Station number	Agency	Drainage area (mi^2)	Type of record	Period of record (water years)
French Broad River near Knoxville	03470500	USGS	5,101	C,T	1975-82
		USGS		B,C,S,T	1975-86
South Fork Holston River at South Holston Dam	03476010	TVA	703	C	1975-80
Watauga River at Stump Knob	03480000	TVA	171	T	1962
Elk River at Elk Mills	03481450	TVA	74.0	C	1975-76
Roan Creek near Doeville	03482100	TVA	110	T	1962, 1971-74
		TVA		C	1975-76
Watauga River below Watauga Dam	03483950	TVA	468	C	1973, 1975-80
Doe River at Hampton	03484800	TVA	100	T	1968-73
Doe River at Elizabethton	03485500	TVA	137	C	1967-68, 1971
		TVA		T	1954-63
		USGS		C,S	1979-82
South Fork Holston River at Boone Dam (tailwater)	03486810	TVA	1,840	C	1975-78
South Fork Holston River at Ft. Patrick Henry Dam	03487010	TVA	1,903	C	1975-80
Reedy Creek at Orebank	03487550	TVA	36.3	T	1964-66
		TVA		C	1964-67
		USGS		C,S	1979-82
Holston River near Church Hill	03490350	TVA	2,819	C	1974-78
Holston River at Surgoinsville	03490500	USGS	2,874	T	1975-82
		TVA		C	1974-80
Big Creek near Rogersville	03491000	USGS	47.3	T	1972-75, 1977-79
Beech Creek at Kepler	03491300	TVA	47.0	T	1966-68
Holston River near Rogersville	03491500	TVA	3,035	T	1966-75
Holston River at Cherokee Dam (tailwater)	03493510	TVA	3,428	C	1975-80
First Creek above Powers Avenue, at Knoxville	03496200	USGS	17.2	T	1969-71
Tennessee River below Knoxville	03497100	TVA	8,963	T	1970-80
Little River above Townsend	03497300	USGS	106	T	1964-82
		USGS		C	1982
Little River near Maryville	03498500	TVA	269	C	1967-68
		USGS		C,S	1979-82
Tennessee River at Fort Loudon Dam (tailwater)	03499510	TVA	9,550	C	1975-80
Little Tennessee River at Calderwood Dam	03518210	TVA	1,977	C	1977-80
Little Tennessee River below Chilhowee Dam	03518300	TVA	1,987	T	1964-78
Tellico River at Tellico Plains	03518500	TVA	118	T	1964-78
		TVA		C	1969-70, 1973-76
		USGS		C,S	1979-82
Little Tennessee River at McGhee	03519500	TVA	2,443	T	1963
Little Tennessee River near Centersville	03519740	TVA		T	1976-79
Clinch River above Tazewell	03528000	TVA	1,474	T	1962-66, 1971-75
		TVA		C	1971-80
Powell River near Arthur	03532000	TVA	685	C,S	1965, 1969-72, 1974-82
		TVA		T	1963-66, 1971-75
Ollis Creek at Ivydell	03532190	TVA	13.3	C	1974-78
Clinch River below Norris Dam	03533000	TVA	2,913	C	1968-70, 1972-80
Clinch River at Coal Creek	03533500	TVA	2,921	T	1976-79
Clinch River near Clinton	03534100	TVA	2,980	C	1971-74, 1977
Clinch River at Edgemoor	03534900	TVA	3,089	C	1969-78
Bullrun Creek near Halls Crossroads	03535000	USGS	68.5	T	1967-74
Clinch River near Eaton Crossroads	03535915	TVA	3,346	T	1963-79
Poplar Creek near Oak Ridge	03538225	USGS	82.5	C,S	1961-65, 1979-81
		USGS		T	1962-65
East Fork Poplar Creek near Oak Ridge	03538250	USGS	19.5	T	1962-68
Bear Creek near Oak Ridge	03538275	USGS	7.15	T	1962-63
Emory River near Wartburg	03538500	TVA	83.2	C	1965-68, 1975-76
Obed River near Lancing	03539800	TVA	518	T	1965-66
		TVA		C	1965-68

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

[Agency designations: USGS, U.S. Geological Survey; TVA, Tennessee Valley Authority.
Type of record: (B) biological, (C) chemical, (S) sediment, (T) temperature.]

Station name	Station number	Agency	Drainage area (mi^2)	Type of record	Period of record (water years)
Crooked Fork near Wartburg	03539860	TVA	50.3	C	1965-68
		USGS		C,S	1979-81
Crab Orchard Creek near Deermont	03540100	TVA	33.7	C	1966-68
		TVA		T	1967-68
		USGS		C,S	1979-81
Emory River at Oakdale	03540500	TVA	764	C,S	1965-67, 1974-81
Tennessee River at Watts Bar Dam (tailwater)	03543005	USGS	17,310	B,C,S,T	1975-86
		USGS		T,C	1976-81
Richland Creek near Dayton	03544500	TVA	50.2	C	1966-67
		USGS		C,S	1979-82
Hiwassee River near Wetmore	03557050	TVA	1,233	C	1973-74, 1976
Hiwassee River at Patty	03557400	TVA	1,358	T	1976-78
Hiwassee River near Benton	03557405	TVA	1,362	C	1978-80
Ocoee River at Parksville	03564500	TVA	595	C	1971-72, 1976-80
Oostanaula Creek near Sanford	03565500	USGS	57.0	C,S	1979-82
Tennessee River at Sequoyah Nuclear Plant	03566404	TVA	20,630	C	1975-78
Tennessee River near Harrison Bay State Park	03566405	TVA	20,650	C	1969-73
Tennessee River at Chickamauga Dam (tailwater)	03566510	TVA	20,790	C	1975-80
Tennessee River at Nickajack Dam (tailwater gage)	03570525	TVA	21,849	C	1975-78
Sequatchie River near Dunlap	03570835	TVA	292	C	1975-78
Sequatchie River near Whitwell	03571000	TVA	402	T	1962-71
		TVA		C	1965,1970,1974-75
		USGS		C,S	1979-82
Sequatchie River at Whitwell Waterworks near Whitwell	03571200	TVA	410	C	1975-79
Tennessee River at South Pittsburg	03571850	USGS	22,640	T	1975-82
		USGS		C	1975-79, 1981
		USGS		B,C,S,T	1974-86
Elk River near Estill Springs	03579100	TVA	275	C	1974-78
		TVA		T	1971-77
Boiling Fork Creek near Decherd	03580110	TVA	37.7	T	1975-77
Elk River below Tims Ford Dam	03580750	TVA	534	T	1971-79
		TVA		C	1966-67, 1973
					1975-80
Elk River above Fayetteville	03582000	TVA	827	C	1974, 1977-80
		USGS		T	1961-64
Elk River at Fayetteville	03582400	TVA	895	T	1976-78
Cane Creek near Fayetteville	03582600	TVA	106	T	1969-73
Richland Creek near Pulaski	03584000	TVA	366	T	1965-73
Elk River near Prospect	03584500	TVA	1,784	T	1961-64
Shoal Creek at Iron City	03588500	TVA	348	C,S	1974-80
		USGS		C,S	1980-83
Tennessee River at Pickwick Landing Dam	03593005	USGS	32,820	C,T	1976-82
Beech River near Chesterfield	03594439	TVA	121	C	1969-71, 1976
Duck River below Manchester	03596000	TVA	107	C	1967-68, 1970-71
		TVA		T	1976-80
		USGS		C,S	1975, 1979-83
Duck River at Normandy	03596500	TVA	208	T	1969-75
Duck River at Shelbyville Waterworks	03597850	TVA	425	C	1975-80
Duck River near Shelbyville	03598000	TVA	481	T	1961-64, 1976-78
Duck River near Columbia	03599460	TVA	1,176	T	1974-82
Duck River at Columbia Waterworks	03599482	TVA	1,195	C	1975-80
Piney River at Vernon	03602500	TVA	193	T	1964-67
Duck River above Hurricane Mills	03603000	TVA	2,557	C	1966-67, 1974-80
		TVA		T	1961-64
Buffalo River near Flat Woods	03604000	TVA	447	T	1964-68
Buffalo River near Lobelville	03604500	TVA	707	T	1961-64
		TVA		C	1967-68, 1973-76

DISCONTINUED SURFACE-WATER-QUALITY STATIONS--Continued

[Agency designations: USGS, U.S. Geological Survey; TVA, Tennessee Valley Authority.
Type of record: (B) biological, (C) chemical, (S) sediment, (T) temperature.]

Station name	Station number	Agency	Drainage area (mi^2)	Type of record	Period of record (water years)
Trace Creek above Denver	03605555	USGS	31.9	C	1979-83
Big Sandy River at Bruceton	03606500	TVA	205	T	1971-78
		TVA		C	1968, 1970-72
		USGS		C,S	1976, 1979-83
North Reelfoot Creek at Clayton	07026360	USGS	54.7	C,S	1982-84
North Reelfoot Creek at State Hwy 22 near Clayton	07026370	USGS	56.3	C,S	1983-89
South Reelfoot Creek near Clayton	07026400	USGS	38.6	C,S	1984-89
Bayou Du Chien near Walnut Log	07026695	USGS	27.8	C,T	1986-88
Indian Creek near Samburg	07026795	USGS	8.01	C,S	1982-84
Reelfoot Lake Spillway near Tiptonville	07027002	USGS	240	C,T	1975-76, 1986-88
Mosses Creek near Pocahontas	07029410	USGS	47.6	C,S	1961,1963,1977-78
Hatchie River near Lacy	07029425	USGS	1033	C,S	1977-78
Big Muddy Creek at Stanton	07030010	USGS	84.4	C,S	1977-78
Cane Creek at Ripley	07030100	USGS	33.9	S	1985-87
Cane Creek at Three Point	07030137	USGS	79.8	S	1985-87
Loosahatchie River near Arlington	07030240	USGS	262	C,S	1979-82
Wolf River at Rossville	07030500	USGS	503	C	1961, 1963-68
Nonconnah Creek near Germantown	07032200	USGS	68.2	C,S	1979-82

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

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1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H.H. Stevens, Jr., J.F. Ficke, and G.F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.

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3-A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.

3-A11. *Measurement of discharge by moving-boat method*, by G.F. Smoot and C.E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.

3-A12. *Fluorometric procedures for dye tracing*, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS--TWRI Book 3, Chapter A12. 1986. 41 pages.

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

3-A18. *Determination of stream reaeration coefficients by use of tracers*, by F.A. Kilpatrick, R.E. Rathbun, N. Yotsukura, G.W. Parker, and L.L. DeLong: USGS--TWRI Book 3, Chapter A18. 1989. 52 pages.

3-A19. *Levels of streamflow gaging stations*, by E.J. Kennedy: USGS--TWRI Book 3, Chapter A19. 1990. 27 pages.

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

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

5-A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman: USGS--TWRI Book 5, Chapter A1. 1989. 545 pages.

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5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS--TWRI Book 5, Chapter A4. 1989. 363 pages.

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

5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L.C. Friedman and D.E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.

5-C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS--TWRI Book 5, Chapter C1. 1969, 58 pages.

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

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

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Flooding on Cumberland River at Nashville, March 15, 1975
(Photo by U.S. Army Corps of Engineers)

October 1, 1978

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

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

Multiply inch-pound units	By	To obtain SI units
	Length	
inches (in)	2.54×10^{1}	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^{0}	kilometers (km)
	Area	
acres	4.047×10^{3}	square meters (m^2)
	4.047×10^{-1}	square hectometers (hm^2)
	4.047×10^{-3}	square kilometers (km^2)
square miles (mi^2)	2.590×10^{0}	square kilometers (km^2)
	Volume	
gallons (gal)	3.785×10^{0}	liters (L)
	3.785×10^{0}	cubic decimeters (dm^3)
	3.785×10^{-3}	cubic meters (m^3)
million gallons	3.785×10^{3}	cubic meters (m^3)
	3.785×10^{-3}	cubic hectometers (hm^3)
cubic feet (ft^3)	2.832×10^{1}	cubic decimeters (dm^3)
	2.832×10^{-2}	cubic meters (m^3)
cfs-days	2.447×10^{3}	cubic meters (m^3)
	2.447×10^{-3}	cubic hectometers (hm^3)
acre-feet (acre-ft)	1.233×10^{3}	cubic meters (m^3)
	1.233×10^{-3}	cubic hectometers (hm^3)
	1.233×10^{-6}	cubic kilometers (km^3)
	Flow	
cubic feet per second (ft^3/s)	2.832×10^{1}	liters per second (L/s)
	2.832×10^{1}	cubic decimeters per second (dm^3/s)
	2.832×10^{-2}	cubic meters per second (m^3/s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm^3/s)
	6.309×10^{-5}	cubic meters per second (m^3/s)
million gallons per day	4.381×10^{1}	cubic decimeters per second (dm^3/s)
	4.381×10^{-2}	cubic meters per second (m^3/s)
	Mass	
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

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