SURFACE-WATER-QUALITY ASSESSMENT OF THE KENTUCKY RIVER BASIN, KENTUCKY: FIXED-STATION NETWORK AND SELECTED WATER-QUALITY DATA, APRIL 1987 THROUGH AUGUST 1991

By Michael S. Griffin, Gary R. Martin, and Kevin D. White

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CONVERSION FACTORS, VERTICAL DATUM, AND ABBREVIATED WATER-QUALITY UNITS

Multiply	By	To obtain
inch (in.)	25.4	millimeter
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
square mile (mi^2)	2.590	square kilometer
ounce, fluid (oz)	0.02957	liter
foot per second (ft/s)	0.3048	meter per second
cubic foot per second (ft^3/s)	0.02832	cubic meter per second
million gallons per day (Mgal/d)	0.04381	cubic meter per second

Temperature in degrees Fahrenheit (°F) can be converted to degrees Celsius (°C) as follows:

$$°C = (°F - 32)/1.8$$

Sea level: In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929--a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

Abbreviated water-quality units used in this report: Various measurements associated with water quality are given in metric units. Sample volumes are given in liters (L) and milliliters (mL). Descriptions of some sampling equipment are given in millimeters (mm), and pore sizes of filters are given in micrometers (μm). Chemical concentrations are given in milligrams per liter (mg/L) or micrograms per liter (μg/L). Milligrams per liter is a unit expressing the concentration of chemical constituents in solution as weight (milligrams) of solute per unit volume (liter) of water. One thousand micrograms per liter is equivalent to one milligram per liter. For concentrations less than 7,000 mg/L, the numerical value is the same as for concentrations in parts per million.

Specific conductance of water is expressed in microsiemens per centimeter at 25 degrees Celsius (μS/cm). This unit is equivalent to micromhos per centimeter at 25 degrees Celsius (μmho/cm), formerly used by the U.S. Geological Survey.

Densities of fecal-indicator bacteria are reported in colonies per 100 milliliters of water (col/100 mL).

Total analyses of constituent concentrations in the suspended-sediment fraction are reported either as a ratio of constituent weight in micrograms (μg) to sediment weight in grams (g) or as percentage by weight. Sediment-fraction surface area is reported as square meters (m^2) per gram (g) of sediment.

Water year: The 12-month period from October 1 through September 30. The water year is designated by the calendar year in which it ends.

COMPUTER DISKETTE INFORMATION

A personal-computer diskette that includes the fixed-station water-quality data set is available upon request. Please write to the Kentucky District office, U.S. Geological Survey, Water Resources Division, 2301 Bradley Avenue, Louisville, KY 40217, or phone 502-635-8000. Information on the contents and format of the diskette, are in the file named "README" on the diskette.

SURFACE-WATER-QUALITY ASSESSMENT OF THE KENTUCKY RIVER BASIN, KENTUCKY: FIXED-STATION NETWORK AND SELECTED WATER-QUALITY DATA, APRIL 1987 THROUGH AUGUST 1991

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ABSTRACT

This report presents a description of selected data-collection activities and the associated data collected during the Kentucky River Basin pilot study of the U.S. Geological Survey's National Water-Quality Assessment Program. The data are intended to provide a nationally consistent description and improved understanding of current water quality in the basin. The data were collected at seven fixed stations that represent stream cross sections where constituent transport and water-quality trends can be evaluated. The report includes descriptions of (1) the basin; (2) the design of the fixed-station network; (3) the fixed-station sites; (4) the physical and chemical measurements; (5) the methods of sample collection, processing, and analysis; and (6) the quality-assurance and quality-control procedures. Water-quality data collected at the fixed stations during routine periodic sampling and supplemental high-flow sampling from April 1987 through August 1991 are presented.

INTRODUCTION

The U.S. Geological Survey (USGS) began a National Water-Quality Assessment (NAWQA) Program in 1986. This program was designed to (1) provide a nationally consistent description of current water quality for a large part of the Nation's water resources (surface and ground water); (2) define trends in water quality and establish a baseline for evaluating future trends; and (3) identify, describe, and explain, where possible, the factors affecting observed water-quality conditions and trends. This information is needed to provide an improved scientific basis for evaluating the effectiveness of water-quality-management efforts and for predicting the probable effects of potential changes in land-use and water-management practices. The NAWQA Program is organized into study units related to known hydrologic systems (aquifers and river basins). The study units were selected to test and refine concepts and approaches before implementation of the full-scale program. Detailed concepts for the full-scale NAWQA Program are described by Hirsch and others (1988).

The NAWQA pilot study for the Kentucky River Basin consisted of a multicomponent design to address specific objectives. Initially, historical water-quality data from a variety of sources were compiled, evaluated, and used (where appropriate) to describe historical water quality and trends in water quality and to develop conceptual models that relate water quality to causative factors and potential sources of constituents. The results of this evaluation are described in Smoot and others (1991). Inconsistencies in sampling objectives, sample-collection methods, and laboratory analytical procedures limited the use of these historical data in formulating a complete and meaningful national assessment. To satisfy this objective, USGS

investigators collected additional data in a nationally consistent manner to determine temporal and spatial variation in water quality, as well as constituent loads, and to provide a basis for improved understanding of water quality and cause-and-effect relations. For the Kentucky River Basin pilot study, data-collection activities included (1) long-term, systematic sampling at a few key locations (fixed stations); (2) short-term synoptic sampling at many locations to provide a "snapshot" of water-quality conditions in most stream reaches; and (3) an intensive study of selected reaches to address specific water-quality issues at the subbasin scale. A diagram of the overall investigation design for a surface-water study unit (from Hirsch and others, 1988) is shown in figure 1.

Purpose and Scope

The purpose of this report is to (1) document the fixed-station water-quality-sampling network in the Kentucky River Basin, (2) describe the methods used during sampling at the fixed stations, and (3) present the water-quality data collected at the fixed stations during routine periodic sampling and supplemental high-flow sampling from April 1987 to August 1991. This report includes descriptions of the basin; fixed-station network design; fixed-station locations; constituents of interest; methods of sample collection, processing, and analysis; and quality-assurance and quality-control procedures.

Kentucky River Basin

The Kentucky River flows through east-central Kentucky and drains an area of about 7,000 mi^2 (fig. 2). The river originates in the Appalachian Mountains of southeastern Kentucky and flows northwestward to its mouth at the Ohio River at Carrollton, in north-central Kentucky. The main stem of the Kentucky River, including the North Fork, is 405 mi long (White and others, 1987). Principal tributaries include Middle Fork Kentucky River, South Fork Kentucky River, Dix River, Elkhorn Creek, and Eagle Creek. A series of 14 locks and dams on the main stem, which provide a minimum water depth of 6 ft, extend from a point just downstream from the confluence of the North, Middle, and South Forks of the river to the mouth at Carrollton. A detailed description of surface-water hydrology in the Kentucky River Basin is given in Smoot and others (1991).

The Kentucky River Basin lies within four distinct physiographic regions (fig. 3) that reflect underlying geology: the Inner Bluegrass, the Outer Bluegrass, the Knobs, and the Eastern Coal Field. Bedrock formations are sedimentary, consisting of Ordovician limestone (Inner and Outer Bluegrass Regions), Silurian limestone and shale (Knobs Region), Devonian shale (Knobs Region), Mississippian siltstone and sandstone (Knobs Region), and Pennsylvanian sandstone (Eastern Coal Field Region) (fig. 4). Typically, only a thin layer of unconsolidated material overlies the bedrock. Land-surface elevation above sea level ranges from 800 to 1,000 ft in the Inner Bluegrass Region, from 400 to 1,000 ft in the Outer Bluegrass Region, from 600 to 1,600 ft in the Knobs, and from 1,000 to 3,000 ft in the Eastern Coal Field.

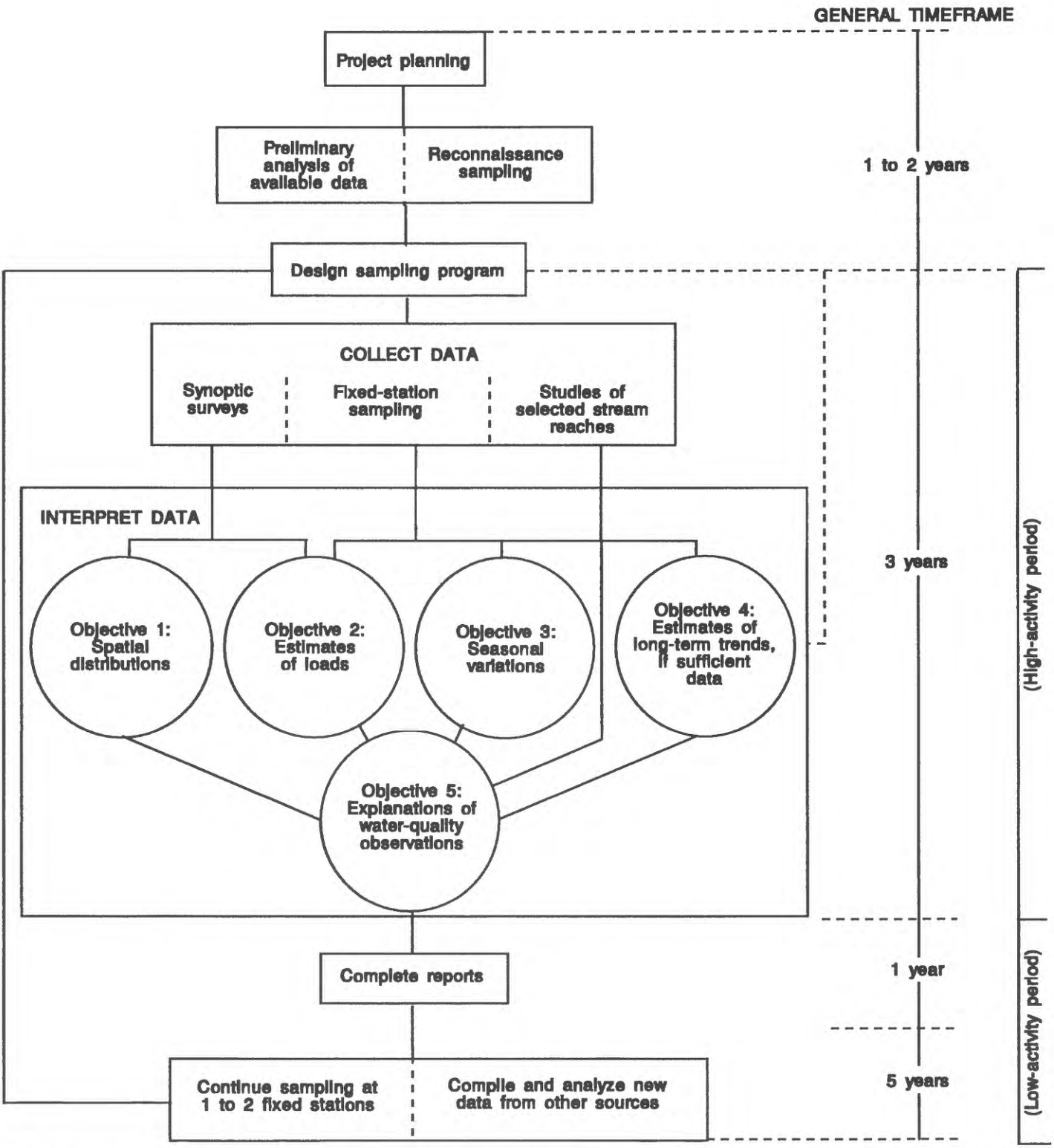


Figure 1. Overall investigation design for a surface-water study unit in the National Water-Quality Assessment Program. (From Hirsh and others, 1988, Fig.5.)

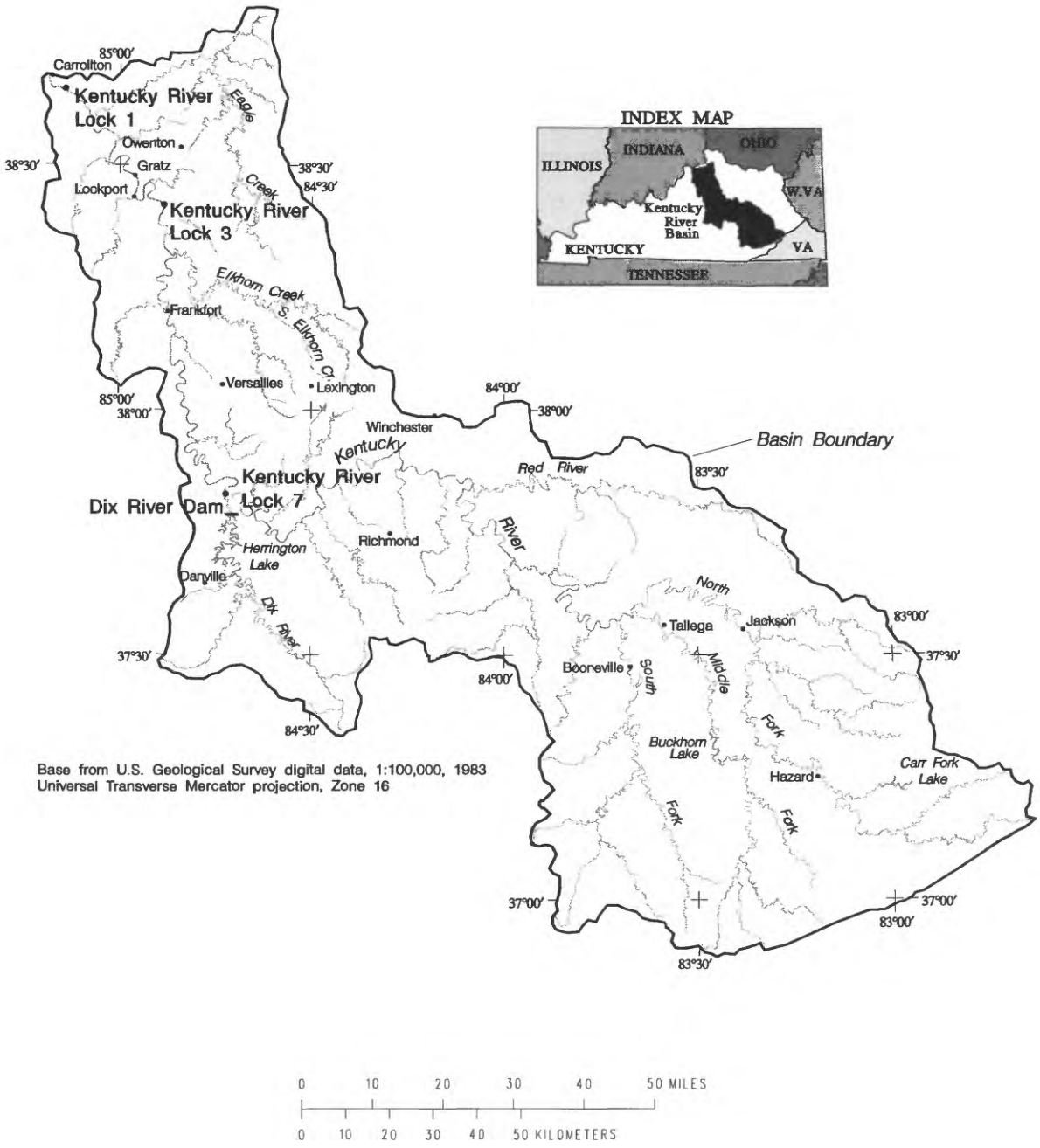


Figure 2. Kentucky River Basin.

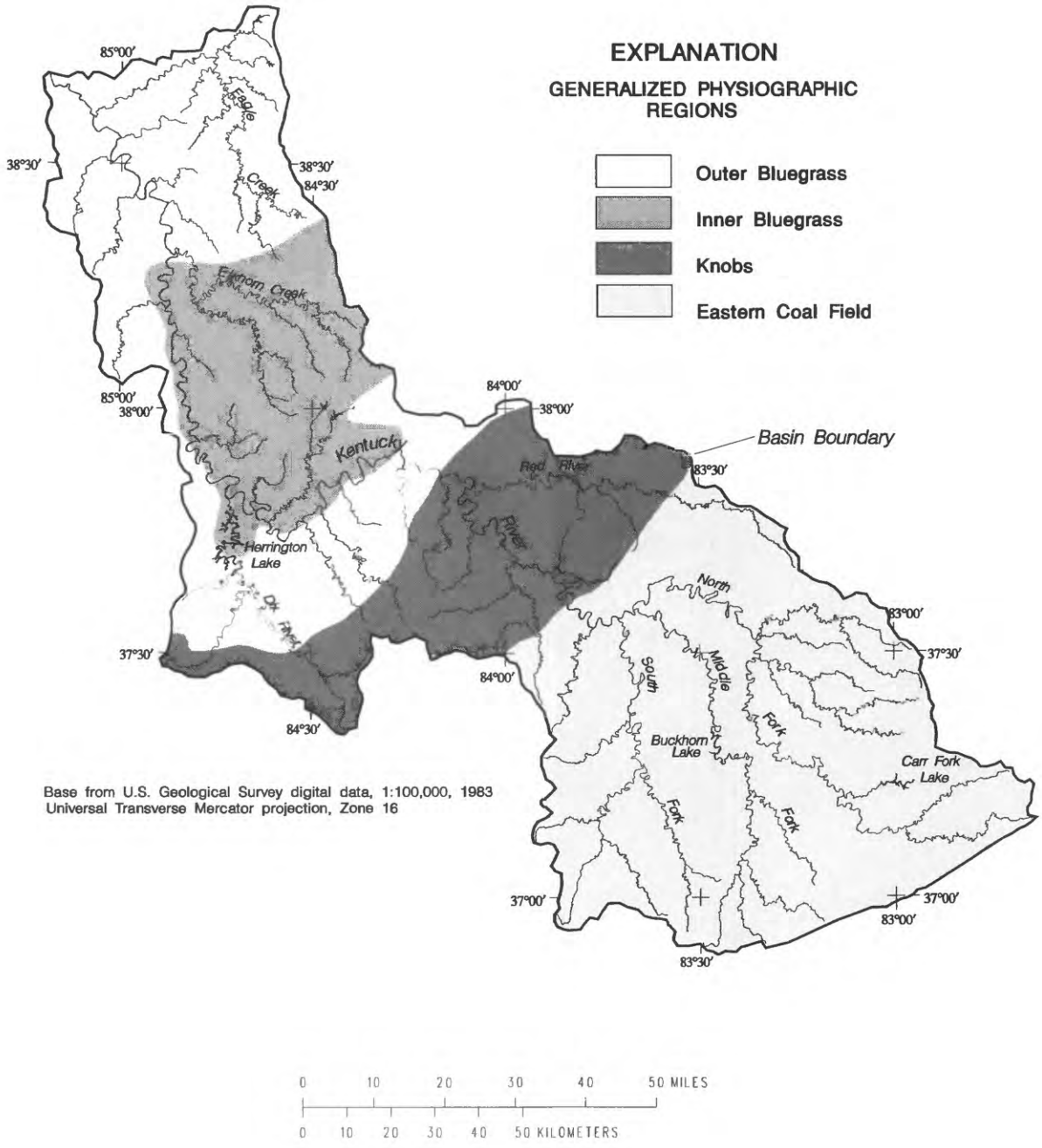


Figure 3. Physiographic regions of the Kentucky River Basin. (Modified from U.S. Department of Agriculture, 1975)

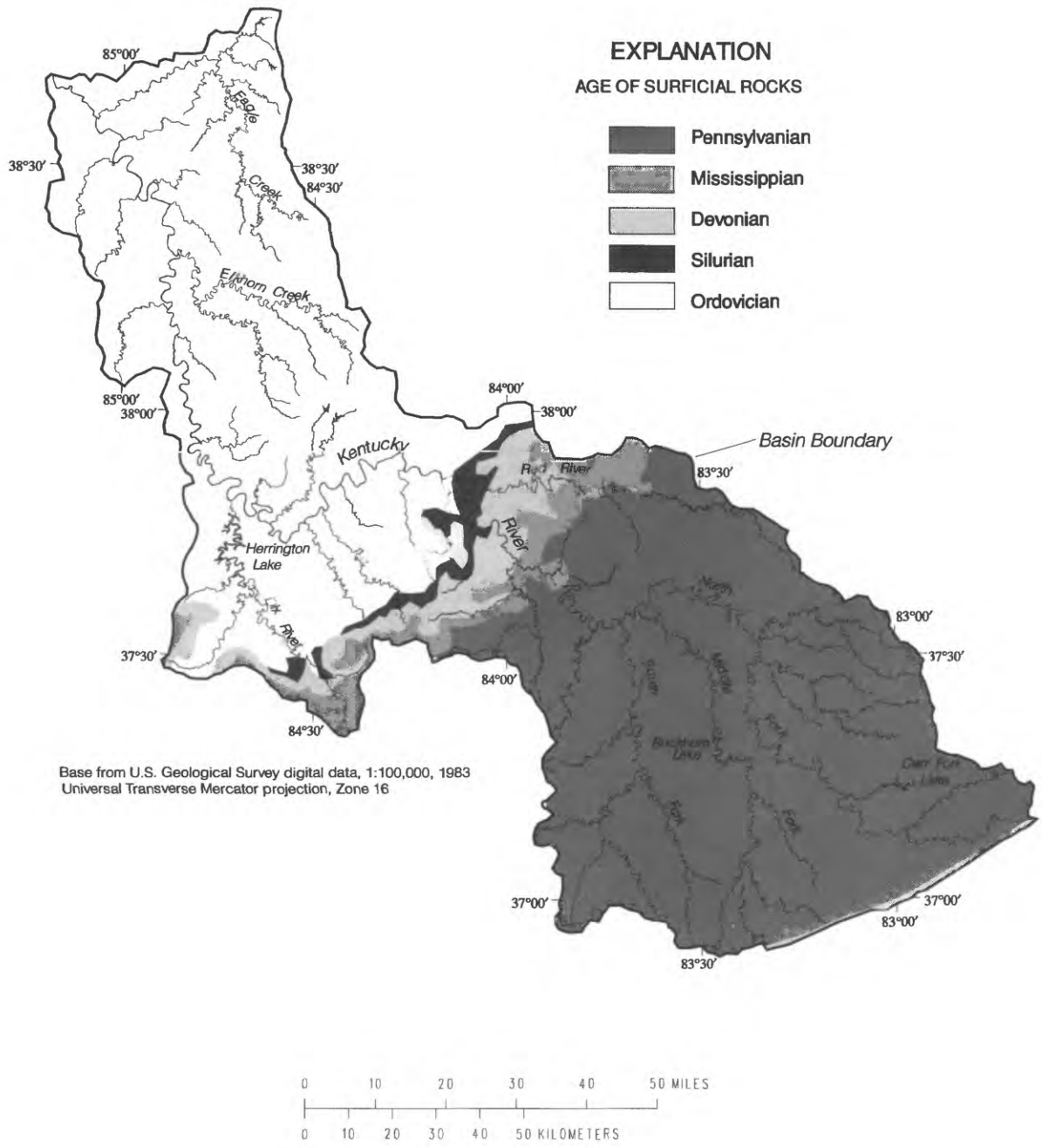


Figure 4. Generalized geology of the Kentucky River Basin. (Modified from Kentucky Geological Survey, 1979)

Variations in land use, population density, water-quality characteristics, and water-quality issues are attributed primarily to physiographic and geologic features (Smoot and others, 1991).

Land use in the Kentucky River Basin includes forest, agriculture, coal mines, oil and gas production, and urban areas (fig. 5). Forests, which cover about 50 percent of the land area in the basin, are concentrated in the Eastern Coal Field Region. Forty million tons of bituminous coal are mined annually in this region by surface and underground mining methods (Stanley, 1985). Approximately 40 percent of the land area in the basin is farmed, primarily in the rolling uplands of the Inner and the Outer Bluegrass Regions. Tobacco, livestock (including thoroughbred horses), and corn are the dominant agricultural products. Oil and gas (1 million barrels of oil in 1980 and 63 billion cubic feet of natural gas in 1981 (Stanley,1985)) are produced primarily within the Knobs Region of the basin. Urban centers are more numerous in the Inner and the Outer Bluegrass Regions than elsewhere in the basin. The population of the basin was approximately 632,000 in 1980 about one-third of which resided in the Lexington metropolitan area.

Climate in the Kentucky River Basin is classified as "moist continental" (Strahler and Strahler, 1979). Mean annual air temperature is 56°F (13°C). January and February are the coldest months, whereas July and August are the warmest. Annual precipitation averages about 46 in. but ranges from 40 in. in the northern part of the basin to more than 50 in. in the southern part (Elam and others, 1972).

Water use in the Kentucky River Basin averaged about 253 Mgal/d in 1985. Approximately 95 percent of this amount (240 Mgal/d) was from surface-water resources (Sholar, 1988; Sholar and Lee, 1988). About 64 percent of surface-water withdrawals was used for cooling in thermoelectric power generation. Public supplies accounted for about 28 percent (70.1 Mgal/d) of the surface-water withdrawals. Agricultural use, including irrigation, accounted for only 4 percent (9.6 Mgal/d) of surface-water withdrawals.

The quality of surface water in the Kentucky River Basin is affected by a variety of factors. The factors affecting water quality in the upper basin generally are different from those in the lower basin because of distinct differences in land use, geology, and topography. Coal mining and oil and gas production are the major activities affecting water quality in the upper basin. Agricultural and urban activities are major land uses affecting water quality in the lower basin (White and others, 1987). Generally, nonpoint sources contribute more of the contaminants discharged annually into the Kentucky River than do point sources (Gianessi, 1986); however, some significant point sources of contaminants have been identified (Kentucky Natural Resources and Environmental Protection Cabinet, 1986, 1990). A detailed description of basin characteristics, geology, climate, hydrology, land use, and water-quality issues can be found in White and others (1987) and Smoot and others (1991).

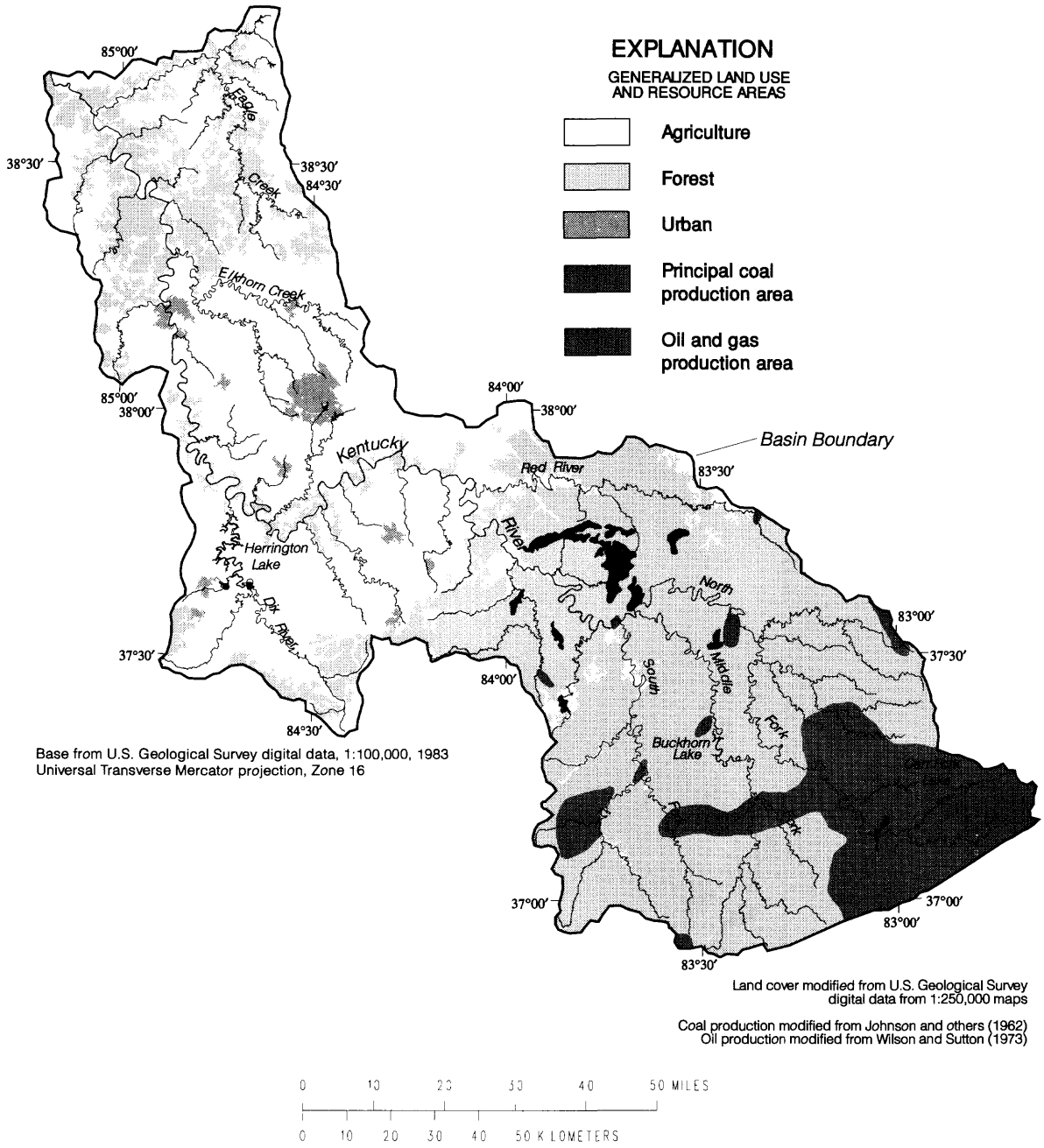


Figure 5. Generalized land use and major mineral-resource areas in the Kentucky River Basin.

FIXED-STATION NETWORK

The fixed-station network for surface-water-quality sampling in the Kentucky River Basin pilot study consists of seven stations (fig. 6): in downstream order, North Fork Kentucky River at Jackson (03280000), Middle Fork Kentucky River at Tallega (03281000), South Fork Kentucky River at Booneville (03281500), Kentucky River at Lock 10, near Winchester (03284000), Kentucky River at Lock 4, at Frankfort (03287500), Elkhorn Creek near Frankfort (03289500), and Kentucky River at Lock 2, at Lockport (03290500). Selected characteristics of each fixed station are listed in table 1.

Network Design

The objectives of the fixed-station network were to (1) determine the frequency of occurrence and seasonal variation of selected chemical constituents, (2) estimate constituent loads at stations, and (3) define trends in water quality or compile baseline information from which future trends can be defined. The locations of stations were determined by use of several criteria, including (1) the objectives of the NAWQA Program; (2) knowledge of the factors affecting water quality in various areas of the basin; and (3) the suitability of each site based on streamflow mixing, accessibility, and safety. Sites suitable for addressing the objectives of fixed-station sampling for the NAWQA Program include locations (1) at selected points on the main stem that account for a large part of basin streamflow; (2) upstream and downstream from reservoirs, urban areas, agricultural drainage, and other areas that potentially affect water quality; (3) on streams draining large areas of homogenous land use; and (4) near major public-water-supply intakes or other important water uses (Hirsch and others, 1988).

Initially, operating (or discontinued) streamflow-gaging or water-quality sampling stations and accessibility criteria were used to compile a list of sites that would potentially meet NAWQA sampling objectives. Sites were visited to document sampling viability for various rates of flow. The sampling cross section and safety considerations were then used to reduce the list of potential fixed-station sites. Final selection was then based on assessment objectives and local water-quality issues. Inclusion of stations operated as part of State monitoring activities or Federal programs, such as the USGS National Stream-Quality Accounting Network (NASQAN), also was considered so that historical data could be used to describe long-term water-quality trends.

Seven fixed stations (fig. 6) were selected to meet the fixed-station sampling objectives for the NAWQA pilot study. The North, Middle, and South Fork Kentucky River stations were selected to represent the effects of mining in each of the three major headwater tributaries. The Middle Fork Kentucky River station also represents the effects of Buckhorn Reservoir. The Kentucky River at Lock 10 station was selected because it is downstream from the major oil- and gas-production areas in the basin and upstream from the public-water-supply intake for Lexington. The Kentucky River at Lock 4 station was selected to estimate constituent loads from several tributaries draining agricultural and urban areas. The Elkhorn Creek at Frankfort station was

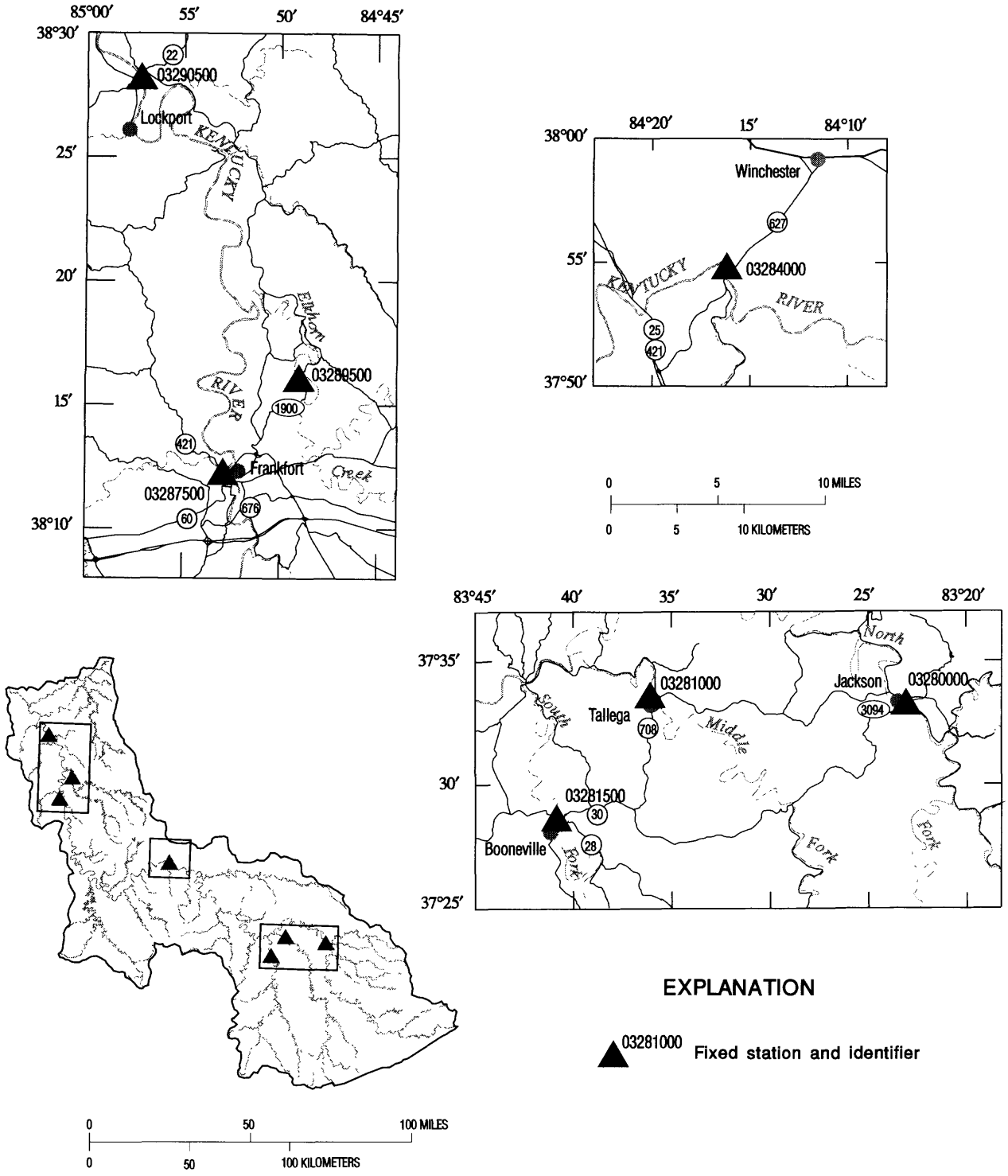


Figure 6. Fixed-station network in the Kentucky River Basin. (Station characteristics are listed in table 1)

Table 1. Selected characteristics of the fixed-station sampling sites in the Kentucky River Basin

[USGS, U.S. Geological Survey; mi^2, square miles; ft^3/s, cubic feet per second; lat, latitude; long, longitude]

Station number	USGS station name, latitude-longitude	Drainage area (mi^2)	Average annual streamflow[1] (ft^3/s)	Streamflow record[1] (years)	Water-quality record[1] (years)	Primary land use	Percentage of drainage area	Secondary land use	Percentage of drainage area
03280000	North Fork Kentucky River at Jackson lat 37°32'46", long 83°22'21"	1,101	1,355	56	34	Forest	95.2	Mining	4.2
03281000	Middle Fork Kentucky River at Tallega lat 37°33'18", long 83°35'38"	537	733	53	35	Forest	96.0	Mining	2.6
03281500	South Fork Kentucky River at Booneville lat 37°27'45", long 83°40'38"	722	1,053	58	34	Forest	92.8	Agriculture	5.9
03284000	Kentucky River at Lock 10 at Winchester lat 37°53'41", long 84°15'44"	3,955	5,285	84	5	Forest	84.5	Agriculture	12.3
03287500	Kentucky River at Lock 4 at Frankfort lat 38°12'06", long 84°52'54"	5,411	7,083	66	29	Forest	66.9	Agriculture	29.0
03289500	Elkhorn Creek near Frankfort lat 38°16'07", long 84°48'53"	473	625	50	5	Agriculture	84.4	Urban	13.4
03290500	Kentucky River at Lock 2 at Lockport lat 38°26'20", long 84°57'48"	6,180	8,276	66	17	Forest	60.7	Agriculture	34.4

[1]Through water year 1991

selected to provide information on the effect of the Lexington urban area and the adjacent agricultural land uses (most notably, thoroughbred horse farms) on water quality. This site is particularly important because it is in a watershed that is undergoing significant changes in land use associated with population growth and industrial development. The Kentucky River at Lock 2 station, which is also a NASQAN station, represents drainage from the entire river basin, except for the Eagle Creek Basin, and it is used to estimate constituent loads for the basin. All but one of the fixed stations were operating USGS streamflow-gaging stations. The Elkhorn Creek near Frankfort station was reactivated for the NAWQA study after being discontinued in August 1984.

Station Descriptions

The following are brief descriptions of the fixed stations including details concerning specific sampling procedures at each site.

North Fork Kentucky River at Jackson, Kentucky

The station at the North Fork Kentucky River at Jackson is located in Breathitt County and is adjacent to the city water plant. The drainage area of this station (1,101 mi^2) lies entirely within the Eastern Coal Field Region. The period of record for this USGS continuous-record streamflow-gaging station extends from June 1928 to September 1931, December 1936 to February 1937, and from April 1938 to the present (1993). The Kentucky Division of Water also operates an ambient-water-quality-monitoring station at this site as part of its network under the Basic State Water Monitoring Program. Streamflow has been regulated (since January 1976) by Carr Fork Lake, 72.1 mi upstream, and by the city of Jackson waterworks. The station is equipped with a manometer gage connected to a digital water-stage recorder and a data-collection platform (DCP). The DCP transmits data by way of a satellite data link. Transmitted data can be accessed remotely through a computer data base, generally after a 4-hour time lapse. The DCP also transmits rainfall information. The reference gage for the water-stage recorders is a series of vertical-staff gages near the water-treatment plant on the left bank.

At low stages, the North Fork of the Kentucky River at Jackson is sampled in a wading section 0.75 mi downstream from the gage. The wading section is about 200 ft downstream from riffles caused by a limestone rock outcrop and 100 ft upstream from the Jackson sewage-treatment plant. Depth of the approximately 80-ft-wide wading section is variable. Average velocity at the wading section is about 2 ft/s. The streambed consists of sand, gravel, and small boulders. At high stages, sampling is done from the State Highway 3094 bridge, 0.25 mi downstream from the station. Sampling is done routinely from the upstream side of the bridge but, during extremely high flow, sampling is done from the downstream side of the bridge. At the bridge, the width of the river ranges from 150 ft at medium stages to 275 ft when the river is at bankfull stage. Velocities during high stream stages are as great as

4.5 ft/s. A plan view of the river and details of the indicated sections are shown in figure 7. The water surfaces in the cross sections are based on the streamflow given in each figure.

Middle Fork Kentucky River at Tallega, Kentucky

Located in Lee County, the station at the Middle Fork Kentucky River at Tallega is 0.5 mi southwest of Tallega, at the State Highway 708 bridge about 8.3 mi upstream from the confluence with the North Fork of the Kentucky River, and 150 ft upstream from Lynam Creek. The drainage area (537 mi^2) lies entirely within the Eastern Coal Field Region. The period of record for this USGS continuous-record streamflow-gaging station extends from October 1930 to March 1932 and from October 1939 to the present (1993). The Kentucky Division of Water also collects ambient-water-quality-monitoring data here for its Basic State Water Monitoring Program. Flow has been regulated (since December 1960) by Buckhorn Lake, 35.0 mi upstream. The station is equipped with a manometer gage connected to a digital water-stage recorder and a DCP. The reference gage for the water-stage recorders is a wire-weight gage on the downstream side of the State Highway 708 bridge.

The Middle Fork of the Kentucky River is sampled at low stages at a wading section about 50 ft below a rock-dam control, 100 ft downstream from the station, and 40 ft downstream from the mouth of Lynam Creek, which generally did not flow when the Middle Fork could be waded (fig. 8). Depth of the approximately 60-ft-wide wading section is variable. Average velocity at the wading section is about 1.30 ft/s, and the streambed consists of sand and gravel. At high stages, sampling is done from the State Highway 708 bridge, 100 ft upstream from the station. Sampling is done from the downstream side of the bridge and does not include flow from Lynam Creek. At the bridge, the width of the river ranges from 110 ft at medium stages to 175 ft when the river is at bankfull stage. Velocities during high stages are as great as 3.0 ft/s. The water surfaces in the cross sections are based on the streamflow given in each figure.

South Fork Kentucky River at Booneville, Kentucky

Located in Owsley County, the station at the South Fork Kentucky River at Booneville is approximately 600 ft downstream from Buck Creek and 0.2 mi downstream from the State Highway 30 bridge at Booneville. The drainage area (722 mi^2) lies entirely within the Eastern Coal Field Region. The period of record for this USGS continuous-record streamflow-gaging station extends from March 1925 to September 1931 and from October 1939 to the present (1993). The Kentucky Division of Water also maintains an ambient-water-quality-monitoring station at this site as part of its Basic State Water Monitoring Program. The station is equipped with a 6-in-diameter ball float and steel tape used to indicate water stage, a digital water-stage recorder, and a DCP. The reference gage for the water-stage recorders is an electric-tape gage. Vertical-staff gages near the gage house are used as backup reference gages. The gage house is reached by ladder or cableway during high stages.

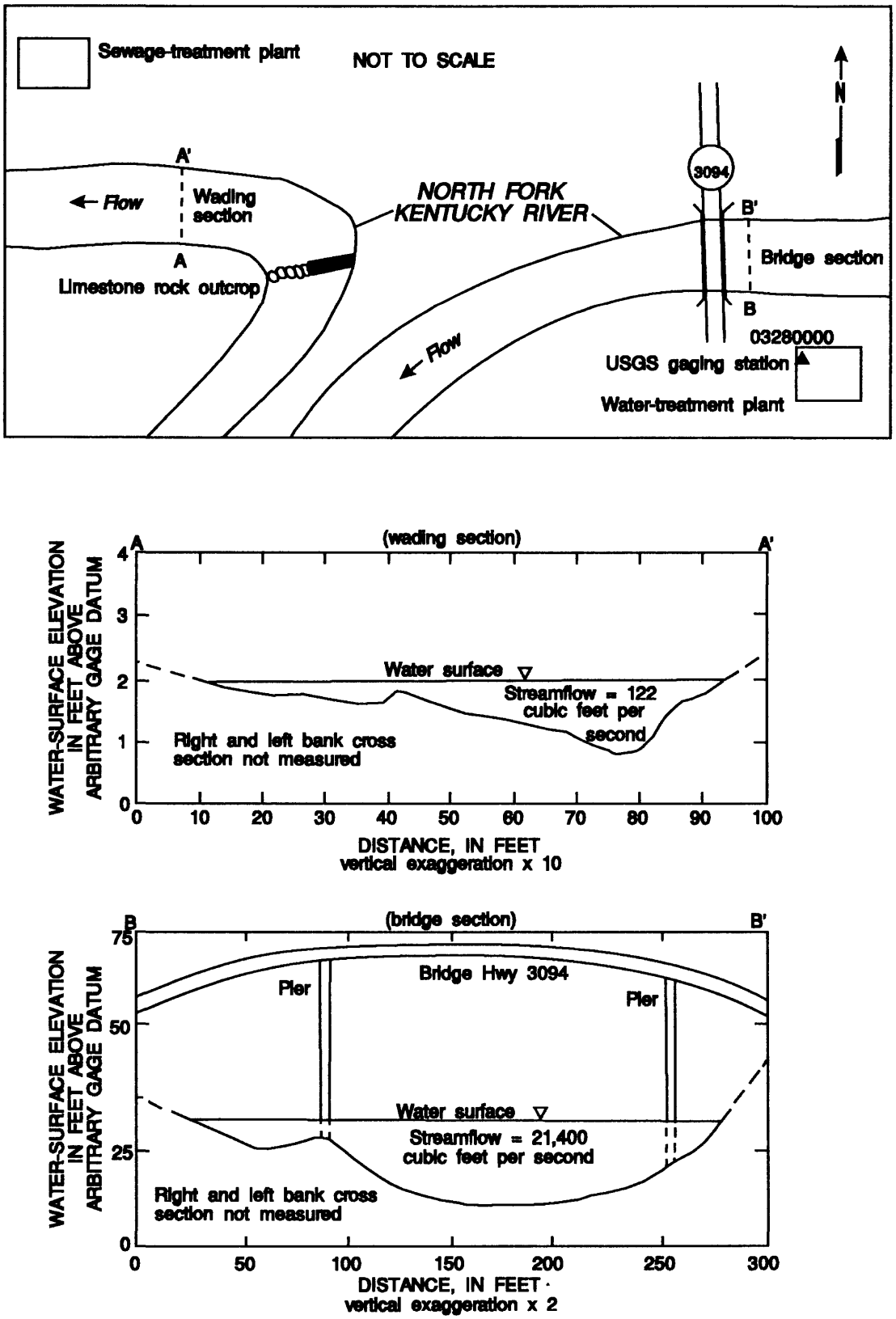


Figure 7. Plan view of North Fork Kentucky River at Jackson, Ky. (top), and details of wading and bridge sections.

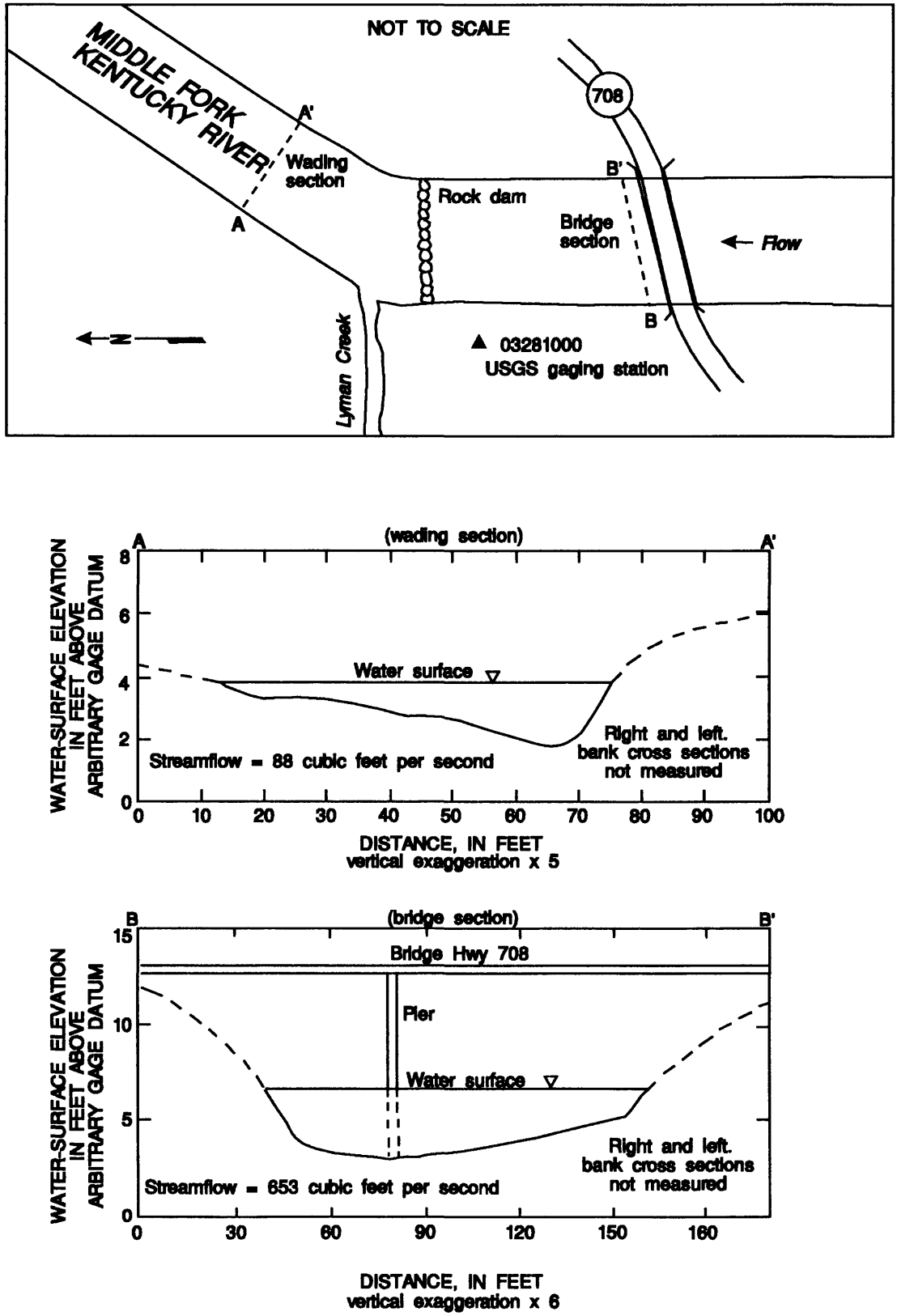


Figure 8. Plan view of Middle Fork Kentucky River at Tallega, Ky. (top), and details of wading and bridge sections.

The South Fork of the Kentucky River at Booneville is sampled at low stages in a wading section approximately 2,000 ft upstream from the gage and 200 ft upstream from the Booneville sewage-treatment plant (fig. 9). Depth of the approximately 60-ft-wide wading section is variable. Average velocity at the wading section is about 1.5 ft/s, and the streambed consists of sand and gravel. At high stages, sampling is done from the upstream side of the State Highway 28 bridge, 0.75 mi farther upstream. During high flow, discharge is adjusted for inflow from Buck Creek. At this bridge, the width of the river ranges from 90 ft at medium stages to 250 ft when the river is at bankfull stage. Velocities during high stages are as great as 4.2 ft/s.

Kentucky River at Lock 10, near Winchester, Kentucky

The station at the Kentucky River at Lock 10, near Winchester is approximately 8.0 mi southwest of Winchester and is located in Madison County in the Outer Bluegrass Region. The drainage area of this station is 3,955 mi^2. The period of record for this USGS continuous-record streamflow-gaging station extends from October 1907 to the present (1993). Flow at this station is regulated by Buckhorn Lake, 126 mi upstream, and by Carr Fork Lake, 200 mi upstream. The station is equipped with a manometer gage connected to a graphic water-stage recorder and a DCP. A rain gage is also at the site. The reference gages for the water-stage recorders are a series of vertical-staff gages in the upper pool at the lock and dam.

The Kentucky River at Lock 10, near Winchester is sampled at extremely low stages by wading the crest of the concrete dam; however, samples were most commonly collected by use of a boat about 500 ft downstream from the lock and dam (fig. 10). Depth of this approximately 320-ft-wide section is generally uniform. Average stream velocity when the boat is used is about 0.5 ft/s. At high stages, sampling is done from the downstream side of the bridge at Clay's Ferry Bridge, 5.0 mi downstream from Lock 10. At the bridge, the width of the river ranges from 325 ft at moderately high stages to 425 ft when the river is at bankfull stage. Velocities are as great as 4.5 ft/s near midchannel at this section.

Kentucky River at Lock 4, at Frankfort, Kentucky

The station at the Kentucky River at Lock 4, at Frankfort is about 0.8 mi upstream from the lock, on the downstream side of the Broadway Street Railway Bridge, and is located in Franklin County, in the Inner Bluegrass Region. The station is about 300 ft upstream from Benson Creek; the drainage area of this station is 5,411 mi^2. The period of record for this USGS continuous-record streamflow-gaging station extends from October 1925 to the present (1993). The Kentucky Division of Water also collects ambient-water-quality-monitoring data here as part of its Basic State Water Monitoring Program. Flow has been regulated by hydroelectric plants at Lock and Dam 7 in Highbridge, Ky. (51.2 mi upstream) and at the Dix River Dam at Herrington Lake (55.4 mi upstream). Flow is also regulated by Buckhorn Lake, 238 mi upstream, and by Carr Fork Lake, 312 mi upstream. The station is equipped with an electric-tape gage (reference gage), a continuous graphic water-stage recorder connected to a 6-in-diameter ball float, and a DCP. The floats are inside an

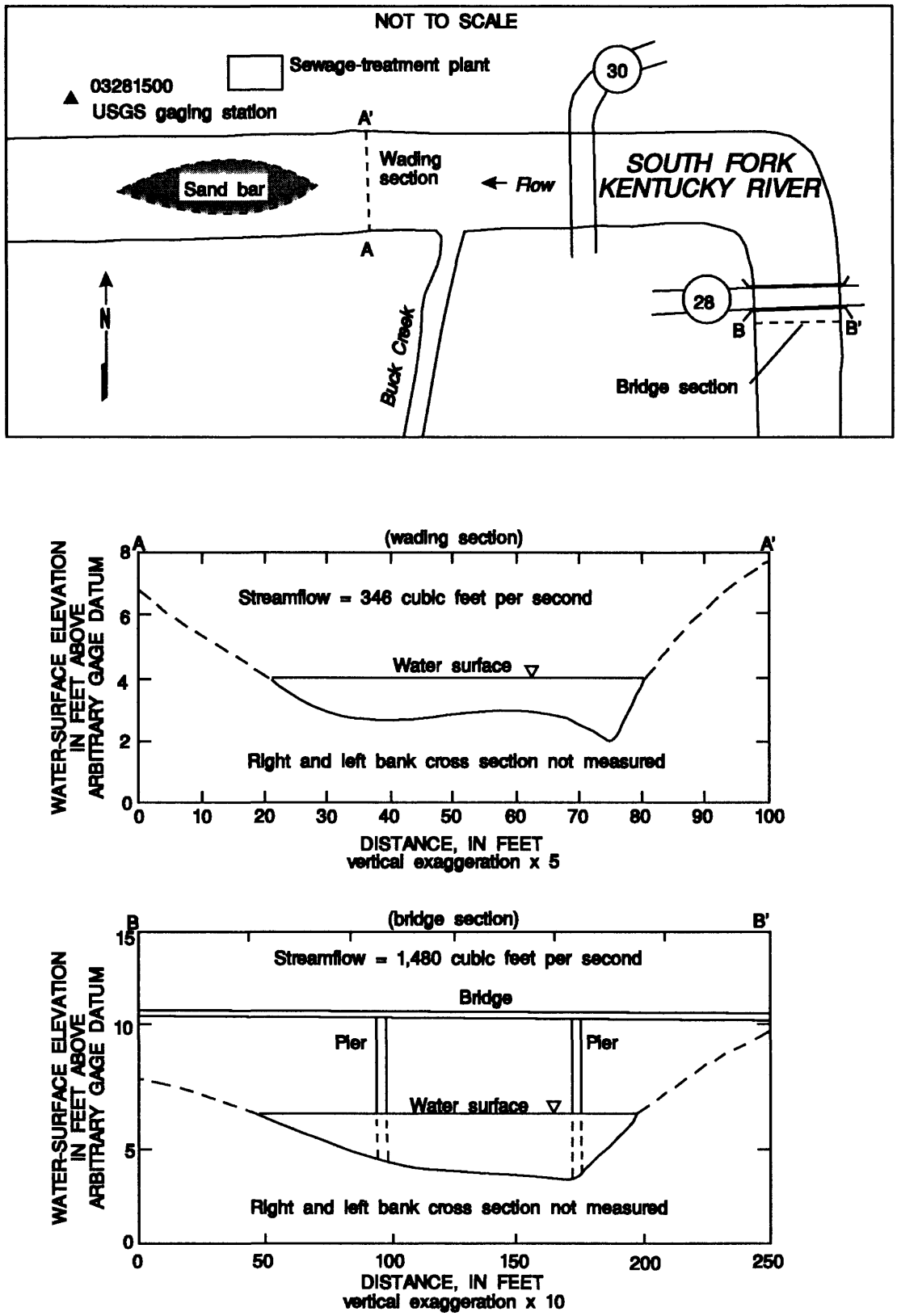
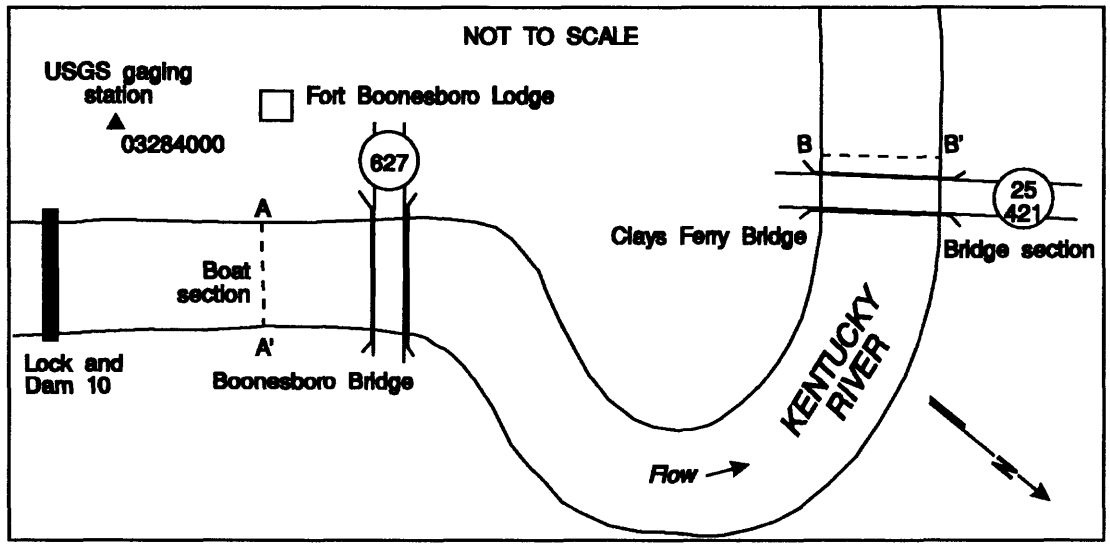


Figure 9. Plan view of South Fork Kentucky River at Booneville, Ky. (top), and details of wading and bridge sections.



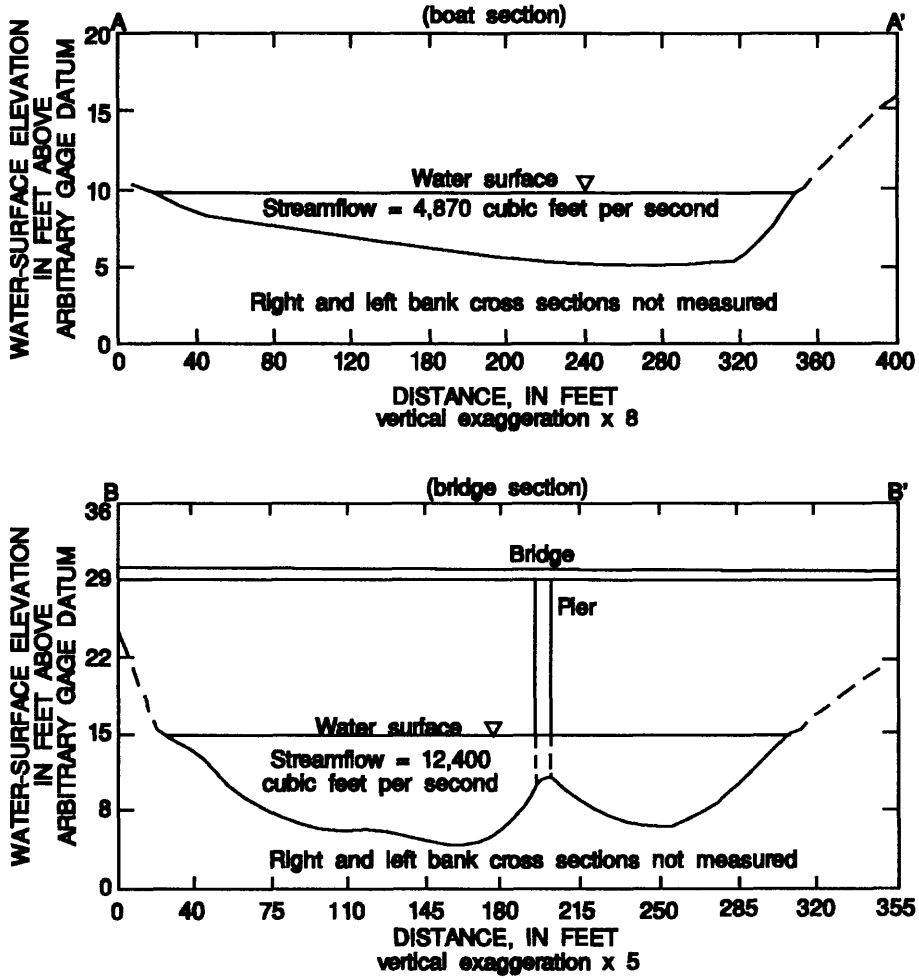


Figure 10. Plan view of Kentucky River Lock 10, near Winchester, Ky. (top), and details of boat and bridge sections.

18-in-diameter spirally welded pipe set in a 12-ft-deep concrete sump. A backup wire-weight gage is nearby on the downstream side of the Broadway Street Railway Bridge.

The Kentucky River at Lock 4, at Frankfort is sampled at low stages from a boat approximately 1,000 ft downstream from the lock and dam (fig. 11). Depth of this approximately 300-ft-wide sampling section is generally uniform. Average stream velocity when the boat is used is about 1.0 ft/s. At high stages, sampling is done from the downstream side of the Capitol Street Bridge, about 1 mi upstream from the station. During high flow, streamflow from Benson Creek must be included in the flow of the Kentucky River. The width of this section ranges from about 300 ft at moderately high stages to 375 ft when the river is at bankfull stage. Velocities at this site are as great as 5.3 ft/s. At extremely high stages, samples are collected from the Kentucky Highway 676 bridge, approximately 3.0 mi upstream from the station.

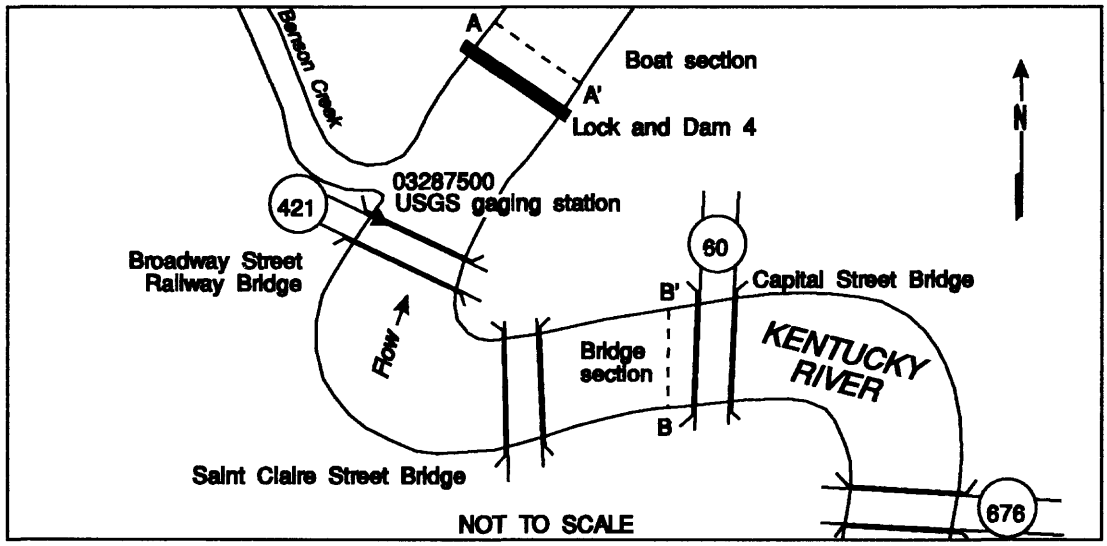
Elkhorn Creek near Frankfort, Kentucky

Located in Franklin County, in the Inner Bluegrass Region, the station at Elkhorn Creek near Frankfort is 4.2 mi northeast of Frankfort and 50 ft downstream from the State Highway 1900 bridge. The drainage area of this station is 473 mi^2. The period of record for this USGS continuous-record streamflow-gaging station extends from May 1915 to December 1920, from December 1939 to August 1984, and from October 1987 to the present (1993). Intrabasin transfers of water from the Kentucky River downstream from Lock 10 for municipal water supply in Lexington, subsequently discharged as treated wastewater into South Elkhorn Creek, augment the natural streamflow at this station. The station is equipped with a rain gage, a manometer gage, a continuous graphic water-stage recorder, and a DCP. The reference gage for the water-stage recorders is a wire-weight gage on the downstream side of the State Highway 1900 bridge.

Elkhorn Creek near Frankfort is sampled during low stages at a wading section about 200 ft upstream from the State Highway 1900 bridge (fig. 12). The wading section, on the right side of the main channel, is generally uniform in depth and is approximately 60 ft wide. The left side of the channel is always dry at low stages. Average velocity at the wading section is about 1.5 ft/s, and the streambed consists of bedrock and some sand and gravel. At high stages, sampling is done from the downstream side of the State Highway 1900 bridge. At the bridge, the width of the creek ranges from 150 ft at moderately high stages to 200 ft when the creek is at bankfull stage. Flow may occur in the left overbank during high stages; velocities are as great as 7.0 ft/s.

Kentucky River at Lock 2, at Lockport, Kentucky

Located in Henry County, in the Outer Bluegrass Region, the station at the Kentucky River at Lock 2, at Lockport is 11.0 mi downstream from Lock and Dam 3, 27.0 mi upstream from Lock and Dam 1, 31.0 mi upstream from the mouth at the Ohio River, and 0.1 mi downstream from Sixmile Creek (flow from Sixmile Creek is always included in the flow of the Kentucky River). The drainage



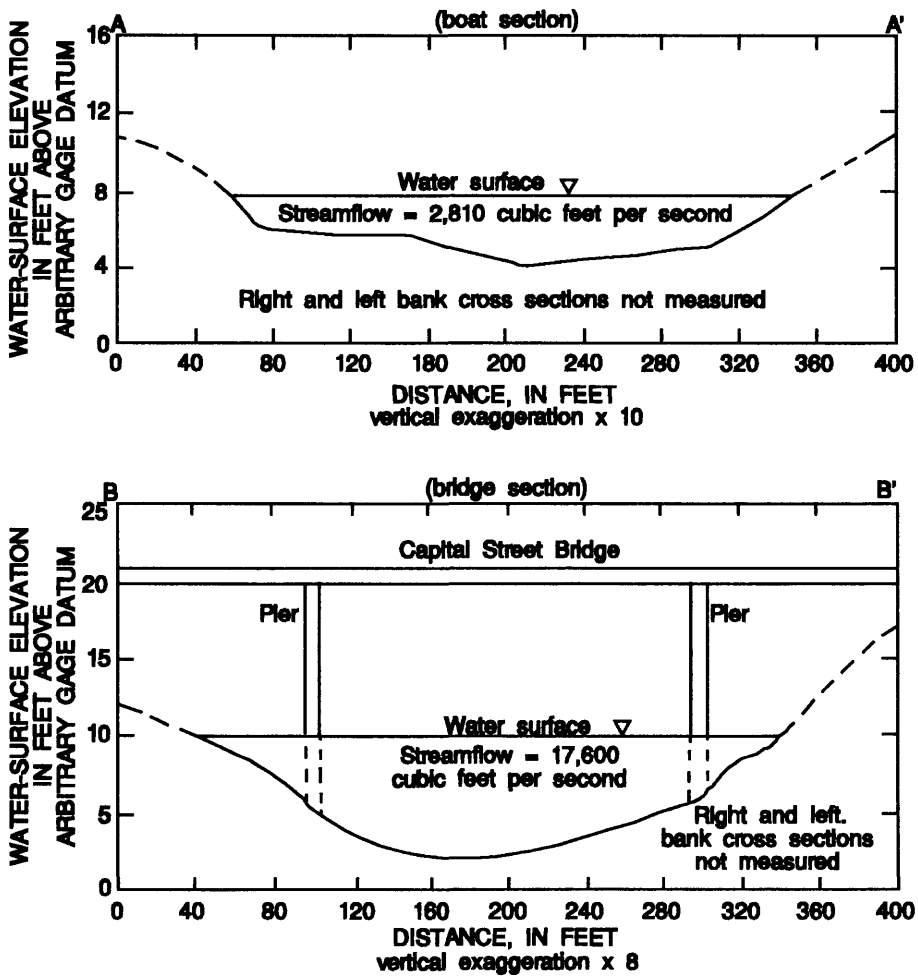
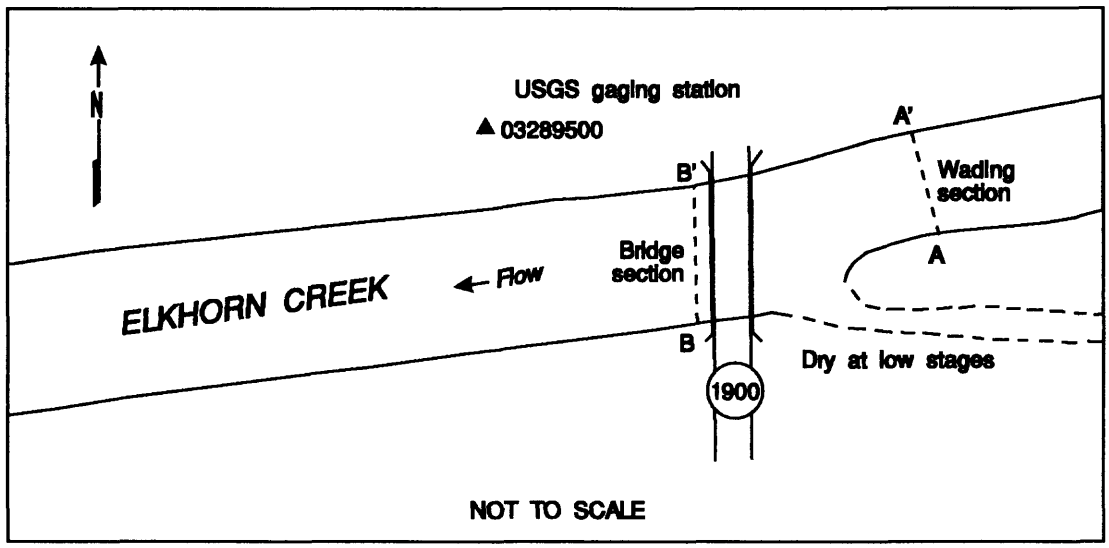


Figure 11. Plan view of Kentucky River Lock 4, at Frankfort Ky. (top), and details of wading and bridge sections.



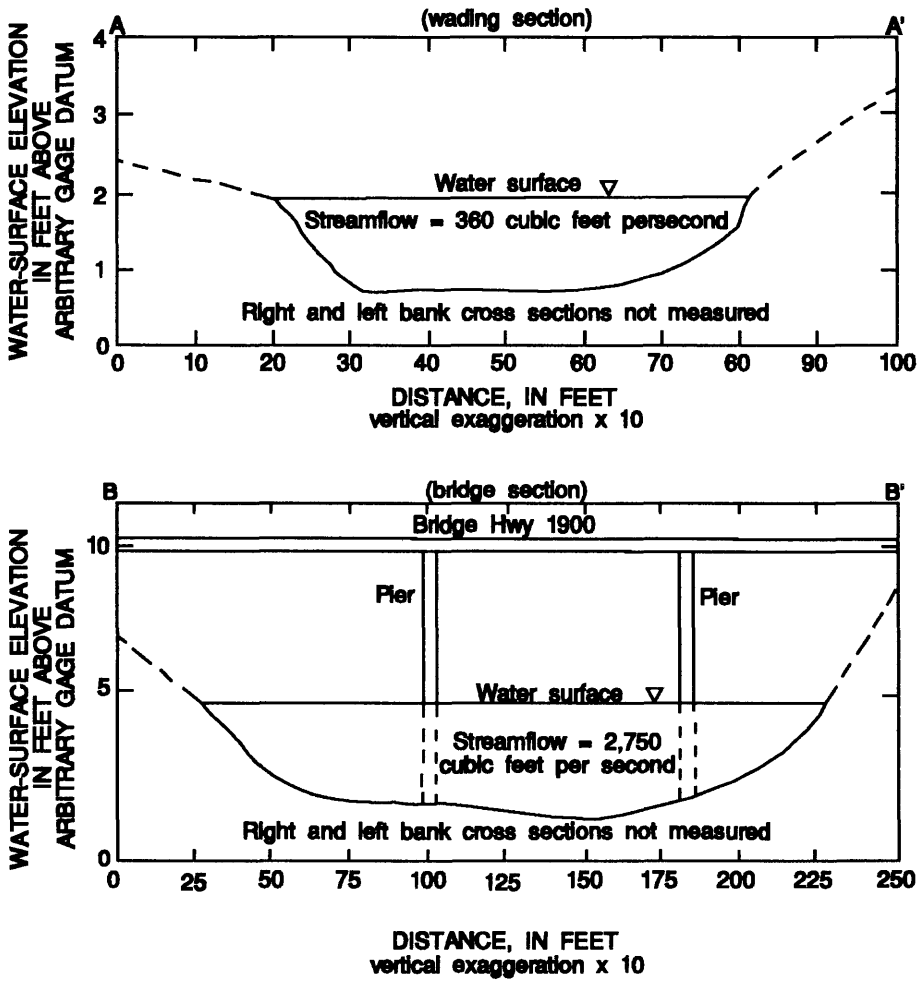


Figure 12. Plan view of Elkhorn Creek near Frankfort, Ky. (top), and details of wading and bridge sections.

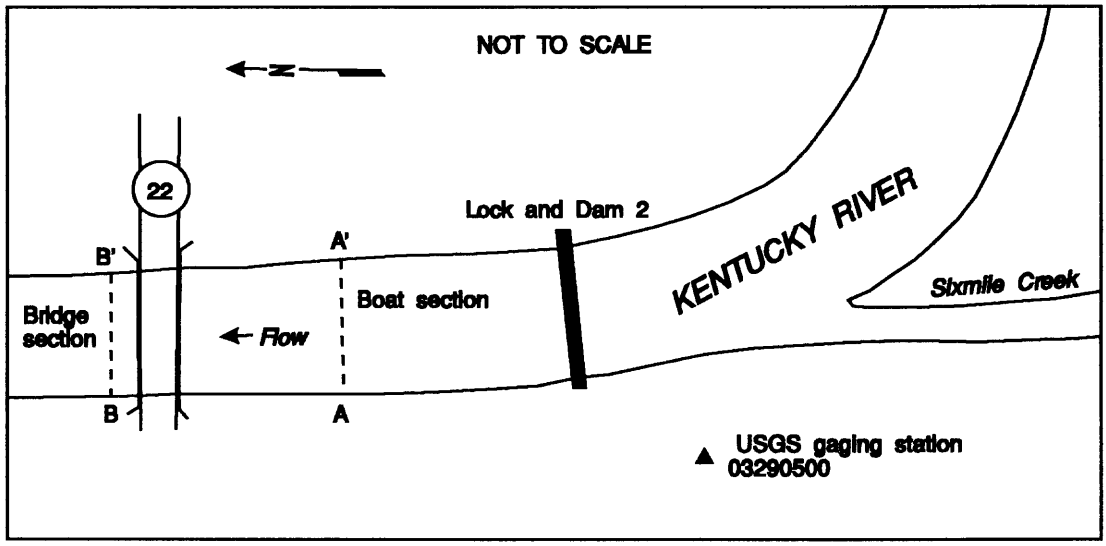
area of this station is 6,180 mi^2. The period of record for this USGS continuous-record streamflow-gaging station extends from October 1925 to the present (1993). This station is also a National Stream Quality Accounting Network (NASQAN) station where samples are collected bimonthly. Flow is regulated by Carr Fork Lake, 347 mi upstream; Buckhorn Lake, 273 mi upstream; Herrington Lake, 90.2 mi upstream; and the hydroelectric plant at Lock and Dam 7, 86 mi upstream. The station is equipped with a rain gage, a manometer gage, a continuous-graphic water-stage recorder, and a DCP. The reference gages for the water-stage recorder are a series of vertical-staff gages just upstream from the lock and dam.

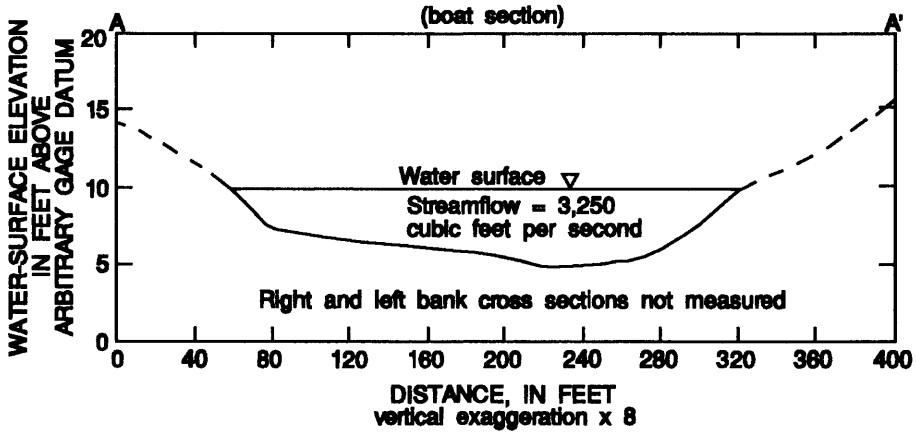
The Kentucky River at Lock 2, at Lockport is sampled at extremely low stages from the crest of the dam (fig. 13). The samples were most commonly collected from a boat about 1,000 ft downstream from the lock and dam. Depth of the approximately 275-ft-wide section is generally uniform. Average velocity for the boat section is about 1.0 ft/s. At high stages, sampling is done from the downstream side of the State Highway 22 bridge at Gratz, Ky., 2.0 mi downstream from Lock and Dam 2. At the bridge, the width of the river ranges from about 300 ft during moderately high stages to 400 ft when the river is flowing bankfull. Velocities are as great as 5.1 ft/s; overbank flow can occur on both sides of the channel.

Physical Properties and Chemical Constituents Selected for Measurement

Water samples collected at the fixed stations were analyzed in the field and the laboratory for a variety of physical properties and chemical constituents (table 2). Most of these analyses were prescribed in the NAWQA pilot program target-variable list (Hirsch and others, 1988), which included constituents relevant in a national-scale water-quality assessment. Some additional constituents--bromide, cobalt, lithium, silica, and strontium--were included in the target-variable list for the Kentucky River Basin. Analyses for water-quality constituents included determinations of the dissolved-fraction concentration (passing through a 0.45-μm pore-size filter), the total-recoverable concentration in a whole-water sample (unfiltered), and the total concentration in the suspended-sediment fraction.

During data collection for the pilot study, analyses for some physical properties and chemical constituents varied with respect to sampling method, frequency, and duration. Total-recoverable concentrations of selected metals and other trace elements were determined monthly during April through September 1987 and, thereafter, only during supplemental high-flow-event sampling, which generally was done when flows were in the upper 10 percent of flow duration. During April through September 1987, alkalinity (data-base parameter code 00410) was determined by fixed-end-point titration of whole-water samples. Beginning in October 1987, alkalinity (parameter code 00418) was determined by incremental titration of filtered samples. Suspended-sediment concentrations were determined from subsamples drawn from the composite sample in a churn splitter. At Kentucky River at Lock 2, at Lockport, suspended-sediment concentrations also were determined periodically by mathematically compositing the analyses of discrete flow-weighted samples from the cross section (parameter code 80154). During April 1987 through March 1990, samples for fecal-indicator bacteria were collected at three fixed





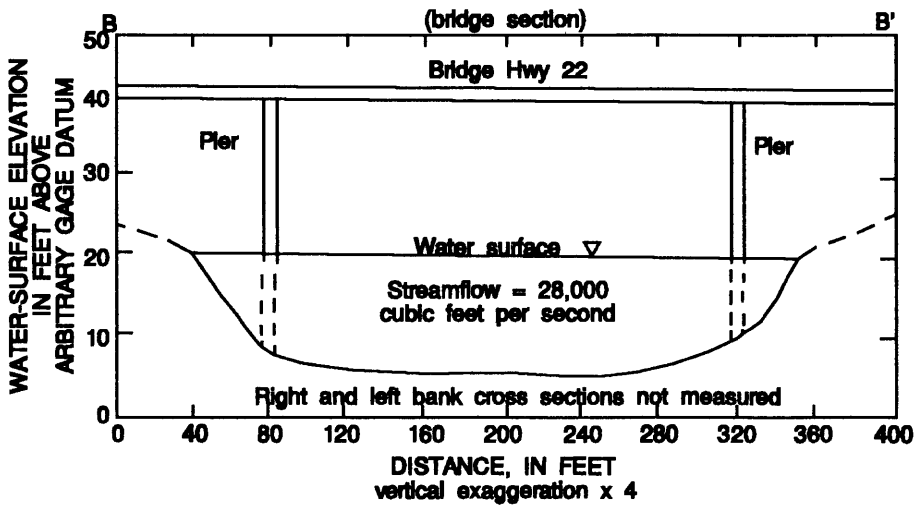


Figure 13. Plan view of Kentucky River Lock 2, at Lockport, Ky. (top), and details of wading and bridge sections.

Table 2. Properties and chemical constituents determined in field measurements and laboratory analyses of water samples collected at the fixed stations in the Kentucky River Basin

[mg/L, milligrams per liter; M, monthly; E, high-flow event; B, bimonthly; ft^3/s, cubic feet per second; µS/cm, microsiemens per centimeter at 25 degrees Celsius; °C, degrees Celsius; S, seasonally; µg/L, micrograms per liter; MF, membrane filter; col/100mL, colonies per 100 milliliters; µg/g, micrograms per gram; mm, millimeter; m^2/g, square meters per gram; pCi/L, picocuries per liter; ^{90}Sr, strontium-90; ^{90}Y, yttrium-90; ^{137}Cs, cesium-137. Footnotes are at end of table]

Constituent or property (units)	Data-base parameter code[1]	Reporting level[2]	Sampling frequency[3]
Field measurements			
Alkalinity (mg/L as $CaCO_3$), unfiltered/filtered	00410/00418	1	M,E,B
Alkalinity, carbonate (mg/L as CaO_3)	39086	1	M,E,B
Bicarbonate concentration (mg/L as HCO_3)	00453	1	M,E,B
Carbonate concentration (mg/L as CO_3)	00452	1	M,E,B
Discharge, instantaneous (ft^3/s)	00061	.01	M,E,B
Oxygen, dissolved (mg/L)	00300	.1	M,E,B
pH	00400	.1	M,E,B
Specific conductance (µS/cm)	00095	10	M,E,B
Temperature, air (°C)	00020	.5	M,E,B
Temperature, water (°C)	00010	.5	M,E,B
Major constituents			
Calcium, sediment, suspended (percent as Ca)	30240	.01	M,E,B
Calcium, dissolved (mg/L as Ca)	00915	.02	M,E,B
Chloride, dissolved (mg/L as Cl)	00940	.1	M,E,B
Fluoride, dissolved (mg/L as F)	00950	.1	S,E,B
Magnesium, dissolved (mg/L as Mg)	00925	.01	M,E,B
Magnesium, sediment, suspended (percent as Mg)	30277	.01	M,E,B
Potassium, dissolved (mg/L as K)	00935	.1	M,E,B
Potassium, sediment, suspended (percent as K)	30294	.1	M,E,B
Silica, dissolved (µg/L as Si)	00955	.01	M,E,B
Sodium, dissolved (mg/L as Na)	00930	.2	M,E,B
Sodium, sediment, suspended (percent as Na)	30304	.01	M,E,B
Solids, dissolved, residue on evaporation at 180°C (mg/L)	70300	1	M,E,B
Sulfate, dissolved (mg/L as SO_4)	00945	1	M,E,B
Bacteria[4]			
Coliform, fecal, MF (col/100 mL)	31616	1	M,B
Escherichia coli, MF (col/100 mL)[5]	31648	1	M,B
Streptococci, fecal, MF (col/100 mL)[6]	31673	1	M,B
Nutrients			
Nitrogen, nitrite, dissolved (mg/L as N)	00613	.01	M,E,B
Nitrogen, nitrite + nitrate, dissolved (mg/L as N)	00631	.1	M,E,B
Nitrogen, ammonia, dissolved (mg/L as N)	00608	.01	M,E,B
Nitrogen, total kjeldahl (mg/L as N)	00625	.2	M,E,B
Phosphorus, ortho, dissolved (mg/L as P)		.01	M,E,B

Table 2. Properties and chemical constituents determined in field measurements and laboratory analyses of water samples collected at the fixed stations in the Kentucky River Basin--Continued

[mg/L, milligrams per liter; M, monthly; E, high-flow event; B, bimonthly; ft^3/s, cubic feet per second; µS/cm, microsiemens per centimeter at 25 degrees Celsius; °C, degrees Celsius; S, seasonally; µg/L, micrograms per liter; MF, membrane filter; col/100mL, colonies per 100 milliliters; µg/g, micrograms per gram; mm, millimeter; m^2/g, square meters per gram; pCi/L, picocuries per liter; ^{90}Sr, strontium-90; ^{90}Y, yttrium-90; ^{137}Cs, cesium-137. Footnotes are at end of table]

Constituent or property (units)	Data-base parameter code[1]	Reporting level[2]	Sampling frequency[3]
Nutrients--continued			
Phosphorus, total (mg/L as P)	00665	0.01	M,E,B
Phosphorus, sediment, suspended (percent as P)	30292	.01	M,E,B
Trace metals and other trace elements[7]			
Aluminum, dissolved (µg/L as Al)	01106	10	M,E,B
Aluminum, total recoverable (µg/L as Al)	01105	10	M,E
Aluminum, sediment, suspended (percent as Al)	30221	.01	M,E,B
Antimony, dissolved (µg/L as Sb)	01095	1	S,E,B
Antimony, sediment, suspended (µg/g as Sb)	29816	.1	M,E,B
Arsenic, dissolved (µg/L as As)	01000	1	M,E,B
Arsenic, sediment, suspended (µg/g as As)	29818	.1	M,E,B
Barium, dissolved (µg/L as Ba)	01005	2	M,E,B
Barium, total recoverable (µg/L as Ba)	01007	100	M,E
Beryllium, dissolved (µg/L as Be)	01010	.5	M,E,B
Beryllium, total recoverable (µg/L as Be)	01012	10	M,E
Beryllium, sediment, suspended (µg/g as Be)	29822	2	M,E,B
Boron, dissolved (µg/L as B)	01020	10	M,E,B
Boron, total recoverable (µg/L as B)	01022	10	M,E
Cadmium, dissolved (µg/L as Cd)	01025	.1	M,E,B
Cadmium, total recoverable (µg/L as Cd)	01027	1	M,E
Cadmium, sediment, suspended (µg/g as Cd)	29826	.1	M,E,B
Chromium, dissolved (µg/L as Cr)	01030	.5	M,E,B
Chromium, total recoverable (µg/L as Cr)	01034	1	M,E
Chromium, sediment, suspended (µg/g as Cr)	29829	2	M,E,B
Cobalt, dissolved (µg/L as Co)	01035	3	M,E,B
Cobalt, sediment, suspended (µg/g as Co)	35031	2	M,E,B
Copper, dissolved (µg/L as Cu)	01040	.5	M,E,B
Copper, total recoverable (µg/L as Cu)	01042	10	M,E
Copper, sediment, suspended (µg/g as Cu)	29832	2	M,E,B
Iron, dissolved (µg/L as Fe)	01046	3	M,E,B
Iron, total recoverable (µg/L as Fe)	01045	10	M,E
Iron, sediment, suspended (percent as Fe)	30269	.01	M,E,B
Lead, dissolved (µg/L as Pb)	01049	.5	M,E,B
Lead, total recoverable (µg/L as Pb)	01051	5	M,E

Table 2. Properties and chemical constituents determined in field measurements and laboratory analyses of water samples collected at the fixed stations in the Kentucky River Basin--Continued

[mg/L, milligrams per liter; M, monthly; E, high-flow event; B, bimonthly; ft^3/s, cubic feet per second; µS/cm, microsiemens per centimeter at 25 degrees Celsius; °C, degrees Celsius; S, seasonally; µg/L, micrograms per liter; MF, membrane filter; col/100mL, colonies per 100 milliliters; µg/g, micrograms per gram; mm, millimeter; m^2/g, square meters per gram; pCi/L, picocuries per liter; ^{90}Sr, strontium-90; ^{90}Y, yttrium-90; ^{137}Cs, cesium-137. Footnotes are at end of table]

Constituent or property (units)	Data-base parameter code[1]	Reporting level[2]	Sampling frequency[3]
Trace metals and other trace elements--continued			
Lead, sediment, suspended (µg/g as Pb)	29836	0.1	M,E,B
Lithium, dissolved (µg/L as Li)	01130	4	M,E,B
Manganese, dissolved (µg/L as Mn)	01056	1	M,E,B
Manganese, total recoverable (µg/L as Mn)	01055	10	M,E
Manganese, sediment, suspended (µg/g as Mn)	29839	8	M,E,B
Mercury, dissolved (µg/L as Hg)	71890	.1	M,E,B
Mercury, total recoverable (µg/L as Hg)	71900	.1	M,E
Molybdenum, dissolved (µg/g as Mo)	01060	10	M,E,B
Molybdenum, total recoverable (µg/g as Mo)	01062	1	M,E
Molybdenum, sediment, suspended (µg/g as Mo)	29843	.1	M,E,B
Nickel, dissolved (µg/L as Ni)	01065	10	M,E,B
Nickel, total recoverable (µg/L as Ni)	01067	1	M,E
Nickel, sediment, suspended (µg/g as Ni)	29845	4	M,E,B
Selenium, dissolved (µg/L as Se)	01145	1	S,E,B
Silver, total recoverable (µg/L as Ag)	01077	1	M,E
Silver, sediment, suspended (µg/g as Ag)	29850	.1	M,E,B
Silver, dissolved (µg/L as Ag)	01075	1	M,E,B
Strontium, dissolved (µg/L as Sr)	01080	5	M,E,B
Thallium, sediment, suspended (µg/g as Tl)	--	.1	M,E,B
Titanium, sediment, suspended (percent as Ti)	30317	.01	M,E,B
Vanadium, dissolved (µg/L as V)	01085	6	M,E,B
Vanadium, sediment, suspended (µg/g as V)	29853	4	M,E,B
Zinc, dissolved (µg/L as Zn)	01090	3	M,E,B
Zinc, total recoverable (µg/L as Zn)	01092	10	M,E
Zinc, sediment, suspended (µg/g as Zn)	29855	4	M,E,B
Organic carbon			
Carbon, organic, dissolved (mg/L as C)	00681	.1	M,E,B
Carbon, organic, suspended (mg/L as C)	00689	.1	M,E,B
Herbicides[8]			
Alachlor, total recoverable (µg/L)	77825	.1	B
Ametryne, total recoverable (µg/L)	82184	.1	B
Atrazine, total recoverable (µg/L)	39630	.1	B
Bromacil, total recoverable (µg/L)	30234	.2	B
Butachlor, total recoverable (µg/L)	30235	.1	B

Table 2. Properties and chemical constituents determined in field measurements and laboratory analyses of water samples collected at the fixed stations in the Kentucky River Basin--Continued

[mg/L, milligrams per liter; M, monthly; E, high-flow event; B, bimonthly; ft^3/s, cubic feet per second; µS/cm, microsiemens per centimeter at 25 degrees Celsius; °C, degrees Celsius; S, seasonally; µg/L, micrograms per liter; MF, membrane filter; col/100mL, colonies per 100 milliliters; µg/g, micrograms per gram; mm, millimeter; m^2/g, square meters per gram; pCi/L, picocuries per liter; ^{90}Sr, strontium-90; ^{90}Y, yttrium-90; ^{137}Cs, cesium-137. Footnotes are at end of table]

Constituent or property (units)	Data-base parameter code[1]	Reporting level[2]	Sampling frequency[3]
Herbicides[8]--continued			
Butylate, total recoverable (µg/L)	30236	0.1	B
Carboxin, total recoverable (µg/L)	30245	.2	B
Cyanazine, total recoverable (µg/L)	81757	.1	B
Cycloate, total recoverable (µg/L)	30254	.1	B
Dicamba, total recoverable (µg/L)	82052	.01	B
De-isopropylatrazine, total recoverable (µg/L)	75980	.2	B
De-ethylatrazine, total recoverable (µg/L)	75981	.2	B
2,4-Dichlorophenoxy-acetic acid (2,4-D), total recoverable (µg/L)	39730	.01	B
2,4-Dichlorophenoxy-propionic acid (2,4-DP), total recoverable (µg/L)	82183	.01	B
Diphenamid, total recoverable (µg/L)	30255	.1	B
Hexazinone, total recoverable (µg/L)	30264	.2	B
Metolachlor, total recoverable (µg/L)	39356	.1	B
Metribuzin, total recoverable (µg/L)	81408	.1	B
Picloram, total recoverable (µg/L)	39720	.01	B
Prometone, total recoverable (µg/L)	39056	.1	B
Prometryne, total recoverable (µg/L)	39057	.1	B
Propachlor, total recoverable (µg/L)	30295	.1	B
Propazine, total recoverable (µg/L)	39024	.1	B
Silvex, total recoverable (µg/L)	39760	.01	B
Simazine, total recoverable (µg/L)	39055	.1	B
Simetryne, total recoverable (µg/L)	39054	.1	B
Terbacil, total recoverable (µg/L)	30311	.2	B
2,4,5-Trichlorophenol (2,4,5-T), total recoverable (µg/L)	39740	.01	B
Trifluralin, total recoverable (µg/L)	39030	.1	B
Vernolate, total recoverable (µg/L)	30324	.1	B
Sediment			
Percentage finer than 0.062 mm	70331	1	M,E,B
Surface area, sediment, suspended (m^2/g)	30334	.1	M,E,B
Suspended sediment (mg/L)	80154	1	M,E,B

Table 2. Properties and chemical constituents determined in field measurements and laboratory analyses of water samples collected at the fixed stations in the Kentucky River Basin--Continued

[mg/L, milligrams per liter; M, monthly; E, high-flow event; B, bimonthly; ft^3/s, cubic feet per second; µS/cm, microsiemens per centimeter at 25 degrees Celsius; °C, degrees Celsius; S, seasonally; µg/L, micrograms per liter; MF, membrane filter; col/100mL, colonies per 100 milliliters; µg/g, micrograms per gram; mm, millimeter; m^2/g, square meters per gram; pCi/L, picocuries per liter; ^{90}Sr, strontium-90; ^{90}Y, yttrium-90; ^{137}Cs, cesium-137. Footnotes are at end of table]

Constituent or property (units)	Data-base parameter code[1]	Reporting level[2]	Sampling frequency[3]
Radiochemicals			
Gross alpha, dissolved (µg/L as U, natural)	80030	0.4	M,E,B
Gross alpha, suspended (µg/L as U, natural)	80040	.4	M,E,B
Gross beta, dissolved (pCi/L as $^{90}Sr/^{90}Y$, natural)	80050	.4	M,E,B
Gross beta, suspended (pCi/L as $^{90}Sr/^{90}Y$, natural)	80060	.4	M,E,B
Gross beta, dissolved (pCi/L as ^{137}Cs)	03515	.4	M,E,B
Gross beta, suspended (pCi/L as ^{137}Cs)	03516	.4	M,E,B
Other constituents and properties			
Bromide, dissolved (mg/L as Br)	71870	.01	M,E,B
Cyanide, dissolved (µg/L as CN)	00723	.01	S,E,B
Hardness (Ca plus Mg) (mg/L as $CaCO_3$)	00900	5	M,E,B

[1]Number identifies parameter in the U.S. Geological Survey National WATer Data STOrage and RETrieval (WATSTORE) and the U.S. Environmental Protection Agency STOrage and RETrieval (STORET) water-quality data bases.

[2]Smallest unit results reported for given constituent or physical property.

[3]Monthly, seasonal, and supplemental high-flow-event sampling was done during the high-activity sampling period April 1987-March 1990. High-flow-event samples generally were collected when flows were in the upper 10 percent of flow duration. Bimonthly sampling at stations 03280000, 03284000, 03289500, and 03290500 was done during the low-activity sampling period beginning April 1990.

[4]Samples collected at stations 03284000, 03289500, and 03290500

[5]Samples collected beginning December 1990

[6]Discontinued August 1990

[7]Total-recoverable analyses were done monthly during April-September 1987; thereafter, only for high-flow-event samples.

[8]Samples collected routinely beginning October 1990

stations--Kentucky River at Lock 10, near Winchester; Elkhorn Creek near Frankfort; and Kentucky River at Lock 2, at Lockport. Samples for bacteria also were collected from the North Fork Kentucky River at Jackson during October 1990 through August 1991. These water samples were analyzed for fecal coliform, fecal streptococci (April 1987 through September 1990), and Escherichia coli (E. Coli) (December 1990 through August 1991). Samples were collected routinely at the fixed stations during October 1990 through August 1991 to determine concentrations of selected pesticides (herbicides). Samples were collected seasonally (quarterly) and during high flows to determine concentrations of radiochemicals and selected dissolved constituents (antimony, cyanide, fluoride, and selenium).

Sample Collection

The original sampling design of the NAWQA Program consisted of two distinct periods scheduled to recur over a 9-year cycle: a 3-year "high-activity" sampling period followed by a 6-year "low-activity" sampling period. During the 3-year high-activity period of the Kentucky River NAWQA pilot project (April 1987 through March 1990), samples were collected monthly at each of the seven fixed stations. During the low-activity period beginning in April 1990, samples were collected bimonthly at four of the seven fixed stations (North Fork Kentucky River at Jackson, Kentucky River at Lock 10, near Winchester, Elkhorn Creek at Frankfort, and Kentucky River at Lock 2, at Lockport). Bimonthly sampling during the low-activity period was discontinued in October 1991 because of fiscal limitations of the NAWQA Program. Reactivation of low-activity sampling has been proposed. To ensure that samples were collected randomly with respect to streamflow, field personnel routinely collected samples during the second or third week of each month. To ensure that samples were collected over the entire flow regime at each stream site, high-flow-event samples were collected to supplement the monthly data. These high-flow data were required to improve the accuracy of constituent-load estimates because constituent-load transport commonly is greatest during high-flow periods. High-flow-event samples generally were collected when streamflow exceeded a flow duration of 10 percent (the streamflow equaled or exceeded 10 percent of the time during the period of record for the station). Streamflow and storm progression were monitored by use of near-real-time data from the fixed-station DCP satellite data link, current weather information, and weather forecasts. This information was used to coordinate high-flow-event sampling.

Streamflow was measured routinely when a sample was collected at each fixed station. Streamflow hydrographs for the 3-year high-activity phase for each fixed station are shown in figures 14, 16, 18, 20, 22, 24, and 26 (at back of report). The hydrographs show the daily mean discharge and instantaneous discharge at the time of sampling. Flow-duration curves (Searcy, 1959) and the instantaneous discharge at the time of sampling are shown in figures 15, 17, 19, 21, 23, 25, and 27 (at back of report). Samples were collected over a wide range of streamflows at each station, and the timing of sample collection with respect to the streamflow hydrograph (rising limb, peak, and falling limb) varied.

Water at the fixed stations initially was sampled during two field trips. The upper-basin field trip included the stations at North Fork Kentucky River at Jackson, Middle Fork Kentucky River at Tallega, and South Fork Kentucky River at Booneville. The field trip required a two-person crew over a 2-day period. The lower-basin field trip included the stations at Kentucky River at Lock 10, near Winchester, Kentucky River at Lock 4, at Frankfort, Elkhorn Creek near Frankfort, and Kentucky River at Lock 2, at Lockport. This field trip required a three-person crew over a 3-day period. Beginning in June 1989, the upper- and lower-basin field trips were combined into a single 5-day field trip that required a three-person crew.

Sampling equipment and techniques specified by standard USGS procedures and "Techniques of Water-Resources Investigations" reports (listed below) were used to collect and process samples. Representative whole-water samples were collected by use of depth-integrating isokinetic-nozzled samplers (Edwards and Glysson, 1988; Ward and Harr, 1990). Open-mouth bottles were used to collect depth-integrated samples, when appropriate, at low stream velocities. The equal-width-increment (EWI) sample-collection technique was used to collect flow-proportioned composite samples. This technique consisted of lowering the samplers from the water surface to the streambed at a series of sampling positions (verticals) that were equally spaced across the sampling section. Lowering and raising the sampler at the same vertical transit rate at each sampling vertical resulted in a flow-proportioned composite sample of streamwater at the cross section. The number of verticals needed was determined from river stage and mixing conditions. During high-flow sampling, four to five verticals usually were sufficient because velocity was high and streamwater was well mixed. Wading samples required 20 to 25 verticals.

The type of depth-integrating sampler used was chosen on the basis of stream depth, stream velocity, and type of sample analysis. Samplers and their specifications are listed in table 3. In general, samples were collected at wading sections by use of a US DH-81 sampler with a 1-qt glass bottle attached to a 3-ft wading rod. Samples collected from a bridge were obtained by using an epoxy-painted brass, US D-77 sampler equipped with a 3-L plastic bottle. The US D-77 sampler was suspended from either a four-wheel-base- or a truck-mounted boom. The US D-77 sampler was used where the sampling depth was between 3 and 18 ft. For depths greater than 18 ft, an epoxy-painted brass collapsible-bag sampler (3-L capacity) was used. The collapsible-bag sampler was suspended from a four-wheel-base- or a truck-mounted boom. When samples to be analyzed for pesticides were collected, a Teflon[1] nozzle and cap with a Teflon or glass container was used instead of the standard plastic components of the samplers.

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[1]Use of brand, firm, or trade names in this report is for identification purposes only and does not constitute endorsement by the U.S. Geological Survey.

Table 3. Samplers used to collect water samples at the fixed stations

[<, less than; w, sample collected by wading; US DH-81, United States standard sampler depth integrating hand-held sampler developed in 1981; >, greater than; US D-77, United States standard sampler depth integrating sampler developed in 1977; b, sample collected from bridge; BAG, collapsible-bag sampler; c, sample collected from boat]

Station number	Station name	Approximate gage height (feet)	Sampler designation
03280000	North Fork Kentucky River at Jackson, Kentucky	<1.8	Open bottle (w)
		<3.0	US DH-81 (w)
		>3.0	US D-77 (b)
		>16.0	BAG (b)
03281000	Middle Fork Kentucky River at Tallega, Kentucky	<4.0	Open bottle (w)
		<5.0	US DH-81 (w)
		>5.0	US D-77 (b)
03281500	South Fork Kentucky River at Booneville, Kentucky	<1.5	Open bottle (w)
		<4.0	US DH-81 (w)
		>4.0	US D-77 (b)
		>20.0	BAG (b)
03284000	Kentucky River at Lock 10, at Winchester, Kentucky	<9.0	Open bottle (w or c)
		<9.5	US DH-81 (w)
		>9.5	US D-77 (c)
		<12.0	US D-77 (b)
		>12.0	BAG (b)
03287500	Kentucky River at Lock 4, at Frankfort, Kentucky	<7.5	Open bottle (c)
		<8.5	US D-77 (c)
		<9.0	US D-77 (b)
		>9.0	BAG (b)
03289500	Elkhorn Creek near Frankfort, Kentucky	<1.8	Open bottle (w)
		<3.0	US DH-81 (w)
		>3.0	US D-77 (b)
03290500	Kentucky River at Lock 2, at Lockport, Kentucky	<8.0	Open bottle (w or c)
		<8.5	US DH-81 (w)
		>8.5	US D-77 (c)
		<12.0	US D-77 (b)
		>12.0	BAG (b)

Two depth-integrated samples were collected at each vertical. The first sample was poured into a 14-L plastic churn splitter, from which individual subsamples for various physical and chemical measurements were drawn. The second sample was poured into a 20-L plastic bottle to provide a composite sample for determination of total concentrations of constituents in the suspended-sediment fraction. A Teflon-coated stainless-steel churn splitter was used to composite samples to be analyzed for pesticides. Water samples to be analyzed for bacteria were collected in a sterile glass bottle at the center and near the surface of the river. Samples for which dissolved-oxygen concentration was determined were collected in a sewage sampler, usually in a low-velocity section of the channel. Where stream depth was less than 2 ft, a peristaltic-pressure pump was used to collect the sample for dissolved-oxygen determination.

Sample Preparation

Whole-water subsamples for the determination of suspended-sediment concentration and total-recoverable concentrations of major constituents, nutrients, metals, other trace elements, and radiochemicals were drawn directly from the churn splitter. Subsamples for the determination of alkalinity, dissolved solids, and dissolved concentrations of the major constituents, nutrients, metals, other trace elements, and radiochemicals were drawn from the churn splitter and filtered through a 142-mm diameter, 0.45-μm-pore-size polycarbonate filter by use of a peristaltic-pressure pump. After the required preservative was added, samples for laboratory analysis were packed on ice in coolers for overnight shipment to the USGS National Water-Quality Laboratory in Arvada, Colo. Sample containers and preservatives for each designation of water sample are listed in table 4.

Subsamples from the churn splitter for dissolved- and suspended-organic-carbon analysis were filtered through a 47-mm diameter, 0.45-μm-pore-size silver-membrane filter mounted in a stainless-steel filter assembly. A sample volume of 200 mL of whole water was forced through the filter by compressed nitrogen gas.

Samples for bacteria determinations were prepared for analysis according to methods described by Britton and Greeson (1989). Samples for fecal-coliform determinations were prepared by use of a 0.7-μm-pore-size filter, and samples for fecal-streptococcus determinations were prepared by use of a 0.45-μm or 0.7-μm-pore-size filter. Samples for *E. coli* determinations were prepared for analysis according to methods described by the U.S. Environmental Protection Agency (1985).

The 20-L bottle containing the sample for determinations of total concentrations of constituents in the suspended-sediment fraction was transported to the USGS office in Louisville, Ky. The sample was not disturbed for a minimum of 3 days to allow the suspended sediments to settle to the bottom of the container. After adequate settling, the clear supernatant was withdrawn by use of a peristaltic-pressure pump. The remaining water-sediment mixture was poured into centrifuge bottles. After several cycles in the centrifuge, additional supernatant was removed, and the

Table 4. Sample containers and preservatives for water samples

[mL, milliliter; --, not applicable; FU, filtered untreated; °C, degrees Celsius; LC plus number, laboratory code; >, greater than; RC, raw chilled; FC, filtered chilled; RA, raw acidified; FA, filtered acidified; FAB, filtered, acidified, Teflon bottle; RAM, raw, acidified mercury; FAM, filtered, acidified mercury; L, liter; GCC, glass, cleaned, chilled; RU, raw, untreated]

Constituent or constituent group	Container volume and type	Preservative required	Sample designation
Sulfate, chloride, fluoride, and solids residue on evaporation at 180°C	250 mL, polyethylene	--	FU
Bromide	250 mL, polyethylene	--	FU
Cyanide	250 mL, polyethylene	Add sodium hydroxide to pH >12, chill to 4°C	LC0880
Bacteria	Petri dish	--	--
Nutrients	250 mL, brown, polyethylene	1 mL mercuric chloride, chill to 4°C	RC, FC
Metals	500 mL, polyethylene, acid rinsed	1 mL nitric acid	RA, FA
Metals (low level)	250 mL, Teflon, acid rinsed	1 mL ultra-pur nitric acid	FAB
Mercury	250 mL, glass, acid rinsed	10 mL nitric acid and potassium dichromate	RAM, FAM
Organic carbon, dissolved	100 mL, baked glass	Chill to 4°C	LC0113
Organic carbon, suspended	Petri dish	Chill to 4°C	LC0305
Herbicides	1 L, amber, baked glass	Chill to 4°C	GCC
Suspended sediment	500 mL, glass	--	--
Radiochemicals	1 L, polyethylene	--	RU

remaining 50 to 100 mL of concentrated suspended-sediment sample was poured into specimen cups, frozen, packaged with dry ice, and shipped to the USGS Sediment Partitioning Research Laboratory in Doraville, Ga.

Sample Analysis

Laboratory methods used by the USGS National Water-Quality Laboratory for determining nutrient, major constituents, metal, and other trace-element concentrations in the water samples are described by Fishman and Friedman (1989). Methods used for the determination of pesticide and organic-carbon concentrations in water samples are described by Wershaw and others (1987). Methods used for determining concentrations of radiochemical constituents are described by Thatcher and others (1977). Concentrations of suspended sediments and the percentage of fine particles (the portion passing through a 0.062-μm sieve) were determined at the USGS District Sediment Laboratory in Louisville, Ky., by using methods described by Guy (1969).

Suspended-sediment particle size and surface area were determined at the USGS Sediment Partitioning Research Laboratory after freeze-drying the concentrated suspended-sediment sample. These physical properties were determined according to methods described by Horowitz (1991). After the samples underwent acid digestion and drying at the USGS Geologic Division Branch of Geochemistry Laboratory in Menlo Park, Calif., concentrations of metals and other trace elements in the suspended-sediment fraction were determined at the Branch of Geochemistry Laboratory in Denver, Colo., according to methods described by Arbogast (1990).

Fecal-coliform and fecal-streptococcus bacteria densities were determined according to procedures described by Britton and Greeson (1989). *E. coli* bacteria densities were determined according to procedures described by the U.S. Environmental Protection Agency (1985).

Quality Assurance and Quality Control

A program of quality assurance and quality control (QA/QC) was implemented during the NAWQA pilot study. QA/QC activities include organizational procedures, documented protocols, supervision, training, methods of sample collection and analysis, and procedures for data review and reporting. As described in the QA/QC plan for the pilot NAWQA Program (Mattraw and others, 1989), all aspects of project planning, data collection, and reporting are subject to QA/QC procedures so that reliable and verifiable data are produced in a nationally consistent manner.

Types and Frequency of Quality-Assurance and Quality-Control Measures

The types of QA/QC measures used in this study can be classified broadly into organizational, sample-collection and sample-analysis, and data-storage and data-reporting components.

Organizational Component

Organizational QA/QC is simply project management. Several project-management activities that addressed QA/QC issues were used in the Kentucky River Basin NAWQA pilot study. Early in the pilot study, a comprehensive project work plan was prepared. In the work plan, specific project objectives were identified, and tasks, protocols, and timelines designed to accomplish these objectives were outlined. During the pilot study, objectives changed or otherwise evolved, and the work plan (and its revisions) were used to guide and direct project activities.

A liaison committee was established for each NAWQA pilot project to help ensure that scientific information produced by the project is relevant to State, regional, and local interests. Members of the committee included representatives of Federal, State, interstate, and local agencies and universities, as well as environmental and public-interest organizations.

Communication and coordination of activities is essential for organizational QA/QC. Data collection was coordinated among field personnel, the project chief, and the USGS District management staff to ensure efficient use of available personnel. Technical and managerial aspects of project activities (including objectives, protocols, timelines, and budget) were reviewed at several levels--project management, District technical specialists, District management, Regional technical specialists, laboratory specialists, and NAWQA Program management. The project chief also received technical assistance from the USGS National Water-Quality Laboratory, the USGS Branch of Quality Assurance, the USGS National Research Program, and the project liaison committee. During the project, formal project and data reviews were held quarterly by District management and specialists. Periodically, NAWQA Program representatives and Regional technical specialists participated in these and other program-specific technical reviews. In addition, data-collection procedures and results were presented to and reviewed by the project liaison committee. Finally, all project data were reviewed under standardized review procedures as part of the publication of the annual water-resources data report prepared by the USGS office in Louisville, Ky.

Project personnel received training concerning project objectives and data-collection protocols. When possible, inexperienced and experienced personnel were teamed together, particularly during field activities, to enhance their capabilities and to ensure that proper protocols were used. Formal training courses in statistics, hydrology, and water chemistry were provided routinely to project personnel, particularly when new protocols were to be used.

Sample-Collection and Sample-Analysis Component

QA/QC in sample collection and sample analysis are critical to ensure the quality of the hydrologic data. To minimize errors and variation in data associated with sample collection, field personnel must be properly (and consistently) trained in the use of appropriate equipment and protocols. USGS guidelines for collection, processing, handling, preservation, and analysis of

water samples are covered in District QA plans, as described by Ward and Harr (1990). These guidelines address (1) sampling-site selection; (2) sampling-equipment selection, use, and maintenance; (3) sample collection and treatment; (4) field techniques; and (5) reagents for field measurements.

Descriptions of field activities, such as sampling, processing, preservation, and shipping, have been described previously. Additional field QA/QC procedures, discussed below, involve cleaning of equipment, documentation of field conditions, and collection of QA/QC samples.

Sampling equipment was cleaned routinely before and during sample collection. Churn splitters and sample-collection containers were washed in detergent, soaked in acid for 10 to 12 hours, then rinsed with deionized water before sampling. This cleaning helps remove adsorbed or precipitated metals and other ionic species deposited on sample-holding containers during previous samplings. Churn splitters were "field rinsed" with native streamwater before sample collection. In addition, sample containers were rinsed with native streamwater (or with filtered stream water, if appropriate) before use. When sampling for herbicides, an additional rinse with either hexane or propanol was added to these cleaning procedures. Filtration equipment was rinsed with deionized water before and after each use. The initial filtrate (50 to 100 mL) was discarded to remove any residues that might have been on the filter or housing.

Documentation of field measurements and conditions that may affect analysis or interpretation also is critically important (Fishman and Friedman, 1989). The Kentucky River Basin NAWQA pilot study developed a Field Form (app. 1) to document field data and conditions during sampling. Information on this form includes the station name and number, date and time of sampling, personnel involved, equipment used, field calibration of equipment, results of field measurements and analysis, observations, and instructions for selected methods. The Analytical Services Request Form (app. 2) also includes sampling dates and times, site descriptions, observations, and field measurements and analyses. The Analytical Services Request Form was used to request specific analyses and to inform laboratory analysts of field conditions that could affect sample preparation or analysis. The Field Form contained information that could be useful for interpretation of data.

QA/QC samples included field blanks, duplicate samples, and standard reference samples. Field blanks consisted of deionized water that was processed in the churn splitter and filter apparatus as a normal stream sample would have been. Potential low-level contamination that could have been introduced into the deionized water or into the blanks during field and laboratory processing was indicated for a few constituents (table 5 in the "Selected Water-Quality Data" section at the end of the report). Constituents whose concentrations were at or near the minimum detection levels were total-recoverable lead and dissolved iron, magnesium, silver, and strontium. For one field blank, a dissolved boron concentration of 20 μg/L (twice the minimum reporting level) was reported. Dissolved-organic-carbon concentrations of 0.8 and 1.7 mg/L (compared with a reporting level of 0.1 mg/L) were reported. This potential contamination of samples with constituents that generally are present at small concentrations in streamwater (such as boron, lead, mercury, silver, and organic carbon) can hamper interpretations of data.

Eleven duplicates of water samples (table 5) were prepared as a QA/QC check of variability associated with sample collection and processing in the field. Duplicate samples are two water samples collected simultaneously from the stream cross section by use of identical equipment and techniques. Each sample is then processed as a unique sample. Separate Field Forms and Analytical Services Request Forms are completed, and separate sampling times are designated (generally 15 minutes apart) to distinguish the samples.

Basic statistics were generated from the results of analysis of duplicate samples (table 6) for use in assessing sample-collection variability. Average percentage differences were 25 percent or less for 56 of the 68 chemical constituents and physical properties measured. For some constituents, a large proportion of censored paired-sample values (less than the analytical reporting level) was found (see table 6). Average percentage differences for dissolved aluminum, bromide, cadmium, copper, gross alpha, iodide, iron, manganese, and zinc--as well as total phosphorous, suspended gross alpha, and suspended organic carbon--were between 25 and 53 percent. Differences exceeded 100 percent for some QA-sample pairs. For many of the pairs whose average percentage differences were greater than 25 percent, concentrations were very low (near the reporting level); small differences in absolute concentration resulted in large percentage differences.

USGS procedures for collecting and processing surface-water samples through water year 1991 resulted in the contamination of samples with certain trace elements. The contamination seems to be significant only for dissolved constituents; total-recoverable or suspended-sediment-phase concentrations are not affected. Recent evidence (Shiller and Boyle, 1987; Flegal and Coale, 1989; Windom and others, 1991), mostly from large rivers, indicates that dissolved-phase trace-element concentrations are within the range of tens to hundreds of nanograms per liter. Concentrations above the microgram-per-liter level should be viewed with caution. Although the data may actually represent elevated environmental concentrations from natural or human sources, such data could reflect contamination introduced during sampling, processing, or analysis.

The introduction of contamination is random, and the amount of contamination depends on many factors related to collection, compositing, filtering, and preservation of samples. Correction of the data is impossible because of the randomness of the contamination and the fact that these elements may be present in streamwater. Censored dissolved-trace-element concentrations, however, can be used with confidence. New trace-element-sampling protocols incorporating "ultraclean" techniques are planned in future data collection in the NAWQA Program.

The USGS has temporarily classified trace-element data (D.A. Rickert, U.S. Geological Survey, written commun., 1991) and assessed the probable magnitude of the contamination problem (W.E. Webb, U.S. Geological Survey, written commun., 1992) as follows:

1. Constituents for which samples probably are uncontaminated or minimally contaminated: barium, cobalt, lithium, molybdenum, nickel, silica, strontium, uranium, and vanadium.

Table 6. Comparison of the duplicate quality-assurance samples

[QA, quality assurance; °C, degrees Celsius; mm, millimeter; U, uranium; ^{90}Sr, strontium-90; ^{90}Y, yttrium-90; ^{137}Cs, cesium-137; Ca, calcium; Mg, magnesium]

Constituent or property	Data-base parameter code[1]	Number of QA-sample pairs	Average percentage difference[2]	Percentage of sample pairs censored
Field measurements				
Alkalinity	00410/00418	10	6.5	0
Alkalinity, carbonate	39086	10	5.9	0
Bicarbonate	00453	10	6.1	0
Major ions				
Calcium, dissolved	00915	11	1.3	0
Chloride, dissolved	00940	11	5.9	0
Fluoride, dissolved	00950	4	7.2	75
Magnesium, dissolved	00925	11	1.2	0
Potassium, dissolved	00935	11	3.4	0
Silica, dissolved	00955	11	2.1	0
Sodium, dissolved	00930	11	1.3	0
Solids, dissolved, residue on evaporation at 180°C	70300	11	10.1	0
Solids, dissolved, sum of constituents	70301	11	1.7	0
Sulfate, dissolved	00945	11	1.1	0
Nutrients				
Nitrogen, nitrite, dissolved	00613	10	6.7	65
Nitrogen, nitrite plus nitrate, dissolved	00631	11	3.2	0
Nitrogen, ammonia, dissolved	00608	10	11.1	0
Nitrogen, total kjeldahl	00625	10	15.8	15
Phosphorus, total	00665	10	38.6	5
Phosphorus, ortho, dissolved	00671	11	1.6	27
Trace metals and other trace elements				
Aluminum, dissolved	01106	11	34.6	32
Arsenic, dissolved	01000	11	.0	82
Barium, dissolved	01005	11	7.0	0
Boron, dissolved	01020	11	2.6	14
Cadmium, dissolved	01025	11	40.3	9
Cobalt, dissolved	01035	11	1.3	95
Copper, dissolved	01040	11	45.1	14
Iodide, dissolved	71865	1	33.3	0
Iron, dissolved	01046	11	52.8	0
Lithium, dissolved	01130	11	10.9	36

Table 6. Comparison of the duplicate quality-assurance samples--Continued

[QA, quality assurance; °C, degrees Celsius; mm, millimeter; U, uranium; ^{90}Sr, strontium-90; ^{90}Y, yttrium-90; ^{137}Cs, cesium-137; Ca, calcium; Mg, magnesium]

Constituent or property	Data-base parameter code[1]	Number of QA-sample pairs	Average percentage difference[2]	Percentage of sample pairs censored
Trace metals and other trace elements--continued				
Manganese, dissolved	01056	11	31.6	0
Mercury, dissolved	71890	11	18.2	36
Molybdenum, dissolved	01060	11	6.1	91
Nickel, dissolved	01065	11	.0	91
Silver, dissolved	01075	11	9.1	86
Strontium, dissolved	01080	11	.2	0
Zinc, dissolved	01090	11	45.7	23
Organic carbon				
Carbon, organic, dissolved	00681	11	24.0	0
Carbon, organic, suspended	00689	11	42.8	9
Herbicides				
Alachlor, total recoverable	77825	3	.0	100
Ametryne, total recoverable	82184	3	.0	100
Atrazine, total recoverable	39630	2	.0	100
Cyanazine, total recoverable	81757	3	.0	100
Dicamba, total recoverable	82052	2	.0	100
2,4-Dichlorophenoxy-acetic acid (2,4-D), total recoverable	39730	2	.0	100
2,4-Dichlorophenoxy-propionic acid (2,4-DP), total recoverable	82183	2	.0	100
Picloram, total recoverable	39720	2	.0	100
Prometone, total recoverable	39056	3	.0	100
Prometryne, total recoverable	39057	3	.0	100
Propazine, total recoverable	39024	3	.0	100
Silvex, total recoverable	39760	2	.0	100
Simazine, total recoverable	39055	3	.0	100
Simetryne, total recoverable	39054	3	.0	100
2,4,5-Trichlorophenol (2,4,5-T), total recoverable	39740	2	.0	100
Trifluralin, total recoverable	39030	3	.0	100

Table 6. Comparison of the duplicate quality-assurance samples--Continued

[QA, quality assurance; °C, degrees Celsius; mm, millimeter; U, uranium; ^{90}Sr, strontium-90; ^{90}Y, yttrium-90; ^{137}Cs, cesium-137; Ca, calcium; Mg, magnesium]

Constituent or property	Data-base parameter code[1]	Number of QA-sample pairs	Average percentage difference[2]	Percentage of sample pairs censored
	Sediment			
Percentage finer than 0.062 mm	70331	7	7.6	0
Suspended sediment	80154	7	11.0	0
	Radiochemicals			
Gross alpha, dissolved (as U)	80030	6	41.3	50
Gross alpha, suspended (as U)	80040	6	29.0	17
Gross beta, dissolved (as $^{90}Sr/^{90}Y$)	80050	6	24.0	0
Gross beta, suspended (as $^{90}Sr/^{90}Y$)	80060	6	13.6	17
Gross beta, dissolved (as ^{137}Cs)	03515	6	23.9	0
Gross beta, suspended (as ^{137}Cs)	03516	6	14.1	17
	Other constituents and properties			
Alkalinity, laboratory	90410	11	1.9	0
Bromide, dissolved	71870	11	30.3	27
Hardness, (Ca plus Mg)	00900	11	1.4	0
Specific conductance, laboratory	90095	11	.4	0

[1]Number identifies parameter in the U.S. Geological Survey National WATer Data STOrage and RETrieval (WATSTORE) and the U.S. Environmental Protection Agency STOrage and RETrieval water-quality data bases.

[2]Computed as the arithmetic average of percentage difference between quality-assurance paired-sample measurements. Percentage difference was computed as the absolute value of the difference between the paired-sample measurements divided by the average of the paired-sample measurements. Censored observations were set equal to their reporting level.

2. Constituents for which samples probably are significantly contaminated: by element (amount and frequency of contamination based on a few experiments):

[--, not determined]

Element	Range of concentration (µg/L)	Relative frequency
Arsenic	--	Low
Beryllium	--	Low
Boron	--	--
Cadmium	1-3	Low
Chromium	1-3	Low
Copper	1-4	High
Lead	1-3	Low
Mercury	1-2	Low
Zinc	3-15	High

3. Constituents for which differences in concentration probably result from filtration artifacts rather than from contamination: aluminum, iron, and manganese.

4. Constituents for which the likelihood of contamination is undetermined: selenium and silver.

Analyses of samples subject to contamination for a given constituent should be viewed as qualitative. To compare USGS data to data collected by other organizations, the user must determine that the sampling and processing procedures are the same as those described in this report.

Analytical QA/QC in the laboratory is described in detail by Friedman and Erdmann (1982) and by Fishman and Friedman (1989). QA/QC efforts at the USGS National Water-Quality Laboratory included weekly test samples, routine analysis of reference standards, site visits, review of laboratory QC data, and routine review of operations by laboratory management and by review teams. An unidentified standard-reference sample (table 5) obtained from the USGS National Water-Quality Laboratory in Ocala, Fla., was submitted for analysis.

Data-Storage and Data-Reporting Component

Water-quality data obtained during the Kentucky River Basin NAWQA pilot study are stored in the USGS National WATer STOrage and REtrieval System (WATSTORE), (Hutchison and others, 1975), a centralized data base. The data are managed by use of the National Water Information System--85.1 (NWIS) (Edwards and others, 1986), a distributed data base. Use of these data bases allows thorough, consistent documentation of data and makes data readily available for retrieval. Visual and automated QA/QC reviews of data are done before the data are stored.

In the laboratory, QA/QC procedures regarding sample handling, analytical equipment, and measurement accuracy were applied. National Water-Quality Laboratory procedures also require chemical-logic checks for each analysis. As the data were entered into the data base, an alert-limit system used to compare the concentrations of selected constituents to established water-quality criteria. Concentrations that exceeded these criteria were flagged for verification. Data consistency was verified as the data were entered. The analyses were examined for accurate coding of station identification, dates, times, and data-base parameter codes. Additional data evaluations included a review of the chemical-logic check for ionic balance, proper determination of calculated concentrations, valid relations between water-quality constituents, and a comparison of the entered data with the original data. Laboratory reruns were requested for questionable data. The fixed-station data were published in the USGS annual Water-Resources Data Reports for Kentucky by water year (Toms and others, 1988; Garcia and others, 1989, 1990; McClain and others, 1991, 1992). The water-quality data collected during this study are also available from the USEPA's STOrage and RETrieval system (STORET), a national multiple-user water-quality data management system. USGS water-quality data are added routinely to STORET for maximum availability to and use by the public.

SELECTED WATER-QUALITY DATA

Water-quality data collected at the seven fixed stations are listed in tables 5, 7, and 8, which follow. Quality-assurance data are listed in table 5. Data collected during routine monthly or bimonthly sampling and supplemental high-flow-event sampling are listed in table 7. A personal-computer diskette containing the data shown in table 7 is available upon request. (See page vi.) Data for paired surface-grab samples collected as part of a sampling-methods comparability study (Martin and others, 1992) are listed in table 8.

The following information is included as an aid to interpreting the data contained in tables 5, 7, and 8.

Date.--Dates are given in month-day-year format. For some stations, results are listed for more than one sample during a particular month. The additional samples were collected during high-flow-event sampling.

Time.--Sample-collection times are expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. QA/QC paired samples (table 5) have the same date, and the sample times generally are listed as 15 minutes apart.

Missing data.--Missing data are indicated in the data tables as dashes (--).

Parameter codes.--Column headings in the tables show the five-digit data-base parameter code used in the NWIS and STORET systems.

Remarks.--The value for a given constituent or property may be qualified by a remark. The remarks and the corresponding symbols used in the data tables are listed below.

Symbol	Remark
E	Estimated value
<	Actual value is known to be less than the value shown
>	Actual value is known to be greater than the value shown
K	Results based on colony count outside the acceptable range (20 to 80 colonies per plate) (nonideal colony count). For further information on counting bacteria samples refer to U.S. Environmental Protection Agency (1985).
L	Value determined by laboratory

Symbols and abbreviations used in tables 5, 7, and 8

AC-FT	acre-foot	K	potassium (K)
AG	silver (Ag)	LI	lithium (Li)
AL	aluminum (Al)	M2/G	square meter per gram
AS	arsenic (As)	MF	membrane filter
B	boron (B)	MG	magnesium (Mg)
BA	barium (Ba)	MG/L	milligram per liter
BE	beryllium (Be)	ML	milliliter
BR	bromide (Br)	MM	millimeter
CA	calcium (Ca)	MN	manganese (Mn)
CACO3	calcium carbonate ($CaCO_3$)	MO	molybdenum (Mo)
CD	cadmium (Cd)	N	nitrogen (N)
CL	chloride (Cl)	NA	sodium (Na)
CN	cyanide	NI	nickel (Ni)
CO	cobalt (Co)	NO2	nitrite (NO_2)
COL	colonies	NO3	nitrate (NO_3)
CR	chromium (Cr)	NTU	nephelometric turbidity units
CS-137	cesium-137	P	phosphorus (P)
CU	copper (Cu)	PB	lead (Pb)
DEG C	degrees Celcius	PCI/L	picocuries per liter
DIAM.	diameter	QA/QC	quality assurance/quality control
DIS	dissolved		
E. COLI	Escherichia coli	SB	antimony (Sb)
F	fluoride (F)	SE	selenium (Se)
FE	iron (Fe)	SED.	sediment
HCO3	bicarbonate (HCO_3)	SIO2	silica (SiO_2)
HG	mercury (Hg)	SO4	sulfate (SO_4)
INST.	instantaneous	SR	strontium (Sr)
IT	incremental titration	SUSP.	suspended

Symbols and abbreviations used in tables 5, 7, and 8--Continued

T/DAY	tons per day	WHLREC	whole, recoverable
TOT	total	YT-90	yttrium-90
U	uranium (U)	ZN	zinc (Zn)
U-NAT	uranium-natural	2,4-D	2,4-Dichlorophenoxy-acetic acid
UG/G	micrograms per gram		
UG/L	micrograms per liter	2,4-DP	2,4-Dichlorophenoxy-propionic acid
US/CM	microsiemens per centimeter at 25 degrees Celsius	2,4,5-T	2,4,5-Trichlorophenol
V	vanadium (V)	%	percentage
WAT	water		

Table 5. Results of quality-assurance and quality-control sampling for the Kentucky River Basin fixed-station network

TYPE OF QA/QC SAMPLE	STATION NUMBER	DATE	TIME	DIS-CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH, WATER, WHOLE, FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE, AIR (DEG C) (00020)	TEMPER-ATURE, WATER (DEG C) (00010)	HARD-NESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS-SOLVED (MG/L AS CA) (00915)
FIELD BLANK	--	08-30-89	1200	--	5	7.0	30.0	23.5	--	0.04
FIELD BLANK	--	03-08-90	1200	--	5	8.1	17.0	21.0	--	--
REFERENCE	--	08-20-90	1350	--	--	--	--	--	--	--
REFERENCE MPV[1]	--	--	--	--	--	--	--	--	--	--
REFERENCE SD[2]	--	--	--	--	--	--	--	--	--	--
	03280000	12-22-89	0900	356	601	7.3	-12.0	0	260	56
DUPLICATE		12-22-89	0915	356	604	7.2	-12.0	0	260	56
		08-20-90	1330	134	817	7.5	33.5	28.5	400	84
DUPLICATE		08-20-90	1345	134	820	7.5	33.0	29.0	400	84
	03281000	01-25-90	1245	653	209	7.7	13.5	8.0	76	16
DUPLICATE		01-25-90	1300	653	203	7.0	13.5	9.0	75	16
	03281500	02-15-90	0900	1,480	165	7.0	20.0	12.0	63	13
DUPLICATE		02-15-90	0915	1,480	165	6.7	20.0	12.0	63	13
	03284000	08-21-89	1200	2,580	375	8.5	28.0	25.0	150	37
DUPLICATE		08-21-89	1205	2,580	380	7.6	28.0	25.5	150	36
		12-18-90	1000	38,700	251	7.2	14.5	9.5	130	35
DUPLICATE		12-18-90	1015	38,700	252	7.3	14.5	10.0	120	33
	03287500	10-24-89	1315	13,200	225	7.5	20.0	16.5	110	29
DUPLICATE		10-24-89	1330	13,200	222	7.7	20.0	17.5	110	29
	03289500	09-19-89	0900	178	528	8.1	17.0	19.0	200	66
DUPLICATE		09-19-89	0915	178	528	8.2	17.0	19.0	200	67
		02-12-91	1500	1,020	411	7.9	12.5	10.0	210	76
DUPLICATE		02-12-91	1515	1,020	406	7.9	12.5	10.0	220	77
	03290500	11-15-89	0930	5,940	289	8.0	20.5	14.0	140	39
DUPLICATE		11-15-89	0945	5,940	287	8.0	20.5	14.5	140	38
		04-24-91	0930	7,730	255	7.9	14.0	13.5	110	31
DUPLICATE		04-24-91	0945	7,730	257	7.9	14.0	13.5	110	31

STATION NUMBER	DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM, (PERCENT) (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY, WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	BICAR-BONATE, WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKA-LINITY, WAT DIS TOT FET FIELD (MG/L AS CACO3) (00418)	SULFATE, DIS-SOLVED (MG/L AS SO4) (00945)
--	08-30-89	0.02	<0.20	--	--	<0.10	2	2	3	<1.0
--	03-08-90	--	--	--	--	--	--	--	--	--
--	08-20-90	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
03280000	12-22-89	29	19	14	0.5	3.0	58	71	59	200
	12-22-89	30	20	14	.5	2.8	80	97	80	200
	08-20-90	45	27	13	.6	5.2	112	137	112	320
	08-20-90	46	27	13	.6	5.3	110	134	112	320
03281000	01-25-90	8.6	5.9	14	.3	1.6	31	38	31	57
	01-25-90	8.5	5.9	14	.3	1.6	32	39	31	57
03281500	02-15-90	7.3	5.0	14	.3	1.3	19	23	18	47
	02-15-90	7.4	5.0	14	.3	1.4	19	24	19	47
03284000	08-21-89	14	15	17	.5	3.4	73	89	74	88
	08-21-89	14	15	18	.5	3.4	66	81	66	90
	12-18-90	9.1	4.7	7	.2	3.0	88	107	88	34
	12-18-90	8.8	4.9	8	.2	2.8	--	--	78	33
03287500	10-24-89	8.1	3.9	7	.2	2.4	63	77	62	43
	10-24-89	8.1	3.9	7	.2	2.6	62	76	64	43
03289500	09-19-89	7.8	24	20	.7	5.3	158	193	157	49
	09-19-89	7.8	24	20	.7	5.3	162	197	161	50
	02-12-91	5.6	6.3	6	.2	1.4	164	200	164	30
	02-12-91	5.6	6.4	6	.2	1.4	165	201	161	29
03290500	11-15-89	9.9	5.5	8	.2	2.8	89	109	90	49
	11-15-89	9.9	5.6	8	.2	2.8	96	117	--	50
	04-24-91	8.7	4.9	8	.2	1.7	71	87	73	43
	04-24-91	8.8	4.8	8	.2	1.6	71	87	73	43

Table 5. Results of quality-assurance and quality-control sampling for the Kentucky River Basin fixed-station network--Continued

STATION NUMBER	DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	BROMIDE, DISSOLVED (MG/L AS BR) (71870)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	NITROGEN, NITRATE, DISSOLVED (MG/L AS N) (00618)	NITROGEN, NITRITE, TOTAL (MG/L AS N) (00615)	NITROGEN, NITRITE, DISSOLVED (MG/L AS N) (00613)
--	08-30-89	0.10	<0.10	<0.010	0.02	<1	--	--	--	--	--	<0.010
--	03-08-90	--	--	--	--	--	--	--	--	--	--	--
--	08-20-90	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
03280000	12-22-89	8.9	--	.040	7.3	395	361	0.54	380	0.480	--	.010
	12-22-89	8.9	--	.010	7.3	395	376	.54	380	.490	--	.020
	08-20-90	10	<.10	.030	3.8	589	566	.80	213	--	--	--
	08-20-90	10	<.10	.020	3.8	602	566	.82	218	--	--	--
03281000	01-25-90	3.4	<.10	<.010	5.9	130	118	.18	229	--	--	<.010
	01-25-90	3.4	<.10	<.010	5.9	133	119	.18	234	--	--	<.010
03281500	02-15-90	2.7	--	<.010	7.4	105	97	.14	420	--	--	<.010
	02-15-90	2.9	--	<.010	7.4	105	98	.14	420	--	--	<.010
03284000	08-21-89	18	--	.12	5.5	203	227	.28	1,410	.390	--	.010
	08-21-89	18	--	.12	5.4	248	224	.34	1,730	.410	--	.010
	12-18-90	4.7	.30	.040	7.7	249	157	.34	26,000	--	--	<.010
	12-18-90	6.5	.40	.020	6.3	136	148	.18	14,000	--	--	<.010
03287500	10-24-89	3.7	.10	<.010	7.6	143	138	.19	5,100	--	--	<.010
	10-24-89	3.7	.10	<.010	7.7	134	138	.18	4,780	.420	--	.010
03289500	09-19-89	24	--	.020	5.1	284	287	.39	136	1.58	--	.020
	09-19-89	25	--	.030	5.1	325	292	.44	156	1.58	--	.020
	02-12-91	11	.30	.020	5.4	253	254	.34	697	--	--	<.010
	02-12-91	11	.30	.020	5.4	248	255	.34	683	--	--	<.010
03290500	11-15-89	5.9	--	.020	6.4	179	175	.24	2,870	--	--	<.010
	11-15-89	5.8	--	.020	6.4	178	179	.24	2,850	--	--	<.010
	04-24-91	2.7	<.10	.010	5.8	151	143	.21	3,150	--	0.020	<.010
	04-24-91	3.3	<.10	.020	5.8	143	144	.19	3,000	--	.030	<.010

STATION NUMBER	DATE	NITROGEN, AMMONIA, TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA, DISSOLVED (MG/L AS N) (00608)	NITROGEN, NO2+NO3, TOTAL (MG/L AS N) (00630)	NITROGEN, NO2+NO3, DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA + ORGANIC, TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO TOTAL (MG/L AS P) (70507)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)
--	08-30-89	--	<0.010	--	<0.100	<0.20	<0.010	--	--	<0.010	<10	<1
--	03-08-90	--	--	--	--	--	--	--	--	--	--	--
--	08-20-90	--	.200	--	.600	--	--	--	--	.350	--	--
--	--	--	.202	--	.580	--	--	--	--	.360	--	--
--	--	--	.037	--	.021	--	--	--	--	.015	--	--
03280000	12-22-89	--	.060	--	.490	<.20	<.010	--	--	<.010	<10	--
	12-22-89	--	.040	--	.510	.30	.010	--	--	<.010	<10	--
	08-20-90	--	--	--	.500	--	.020	--	--	<.010	30	<1
	08-20-90	--	--	--	.600	--	.050	--	--	.010	30	<1
03281000	01-25-90	--	.030	--	.210	.20	.010	--	--	.020	<10	<1
	01-25-90	--	.030	--	.220	.30	.030	--	--	.020	<10	<1
03281500	02-15-90	--	.060	--	.300	<.20	.010	--	--	<.010	20	--
	02-15-90	--	.040	--	.300	<.20	.020	--	--	<.010	10	--
03284000	08-21-89	--	.040	--	.400	.40	.050	--	--	.010	20	--
	08-21-89	--	.030	--	.420	.40	.050	--	--	<.010	30	--
	12-18-90	--	.060	--	.600	1.1	1.00	--	--	.110	1,200	<1
	12-18-90	--	.060	--	.600	1.0	1.00	--	--	.120	70	<1
03287500	10-24-89	--	.020	--	.430	.60	.090	--	--	.020	40	<1
	10-24-89	--	.020	--	.430	.50	.070	--	--	.020	50	<1
03289500	09-19-89	--	.770	--	1.60	1.3	.890	--	--	.760	20	--
	09-19-89	--	.750	--	1.60	1.3	.040	--	--	.720	<10	--
	02-12-91	--	.010	--	4.30	.60	.370	--	--	.290	<10	<1
	02-12-91	--	<.010	--	4.30	.60	.380	--	--	.280	<10	<1
03290500	11-15-89	--	.020	--	.500	.30	.110	--	--	.050	20	--
	11-15-89	--	.020	--	.500	.40	.110	--	--	.050	20	--
	04-24-91	0.030	.020	0.570	.550	.50	.120	0.050	0.060	.030	20	<1
	04-24-91	.030	.020	.580	.570	.40	.110	.050	.060	.030	30	<1

Table 5. Results of quality-assurance and quality-control sampling for the Kentucky River Basin fixed-station network--Continued

STATION NUMBER	DATE	ARSENIC, DIS-SOLVED (UG/L AS AS) (01000)	BARIUM, TOTAL RECOV-ERABLE (UG/L AS BA) (01007)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, TOTAL RECOV-ERABLE (UG/L AS BE) (01012)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM, TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)
--	08-30-89	<1	<100	<2	<10	<0.5	<10	20	<1	<0.1	<1	<0.5
--	03-08-90	--	--	--	--	--	--	<10	--	--	--	--
--	08-20-90	--	--	--	--	--	--	--	--	.1	--	<.5
--	--	--	--	--	--	--	--	--	--	.7	--	3.7
--	--	--	--	--	--	--	--	--	--	.7	--	3.7
03280000	12-22-89	<1	--	42	--	<.5	--	30	--	.2	--	<.5
	12-22-89	<1	--	41	--	<.5	--	30	--	.2	--	<.5
	08-20-90	<1	--	60	--	<.5	--	40	--	.8	--	<.5
	08-20-90	<1	--	60	--	<.5	--	40	--	.1	--	<.5
03281000	01-25-90	<1	--	26	--	<.5	--	<10	--	.1	--	<.5
	01-25-90	<1	--	25	--	<.5	--	10	--	.1	--	<.5
03281500	02-15-90	<1	--	24	--	<.5	--	<10	--	.2	--	<.5
	02-15-90	<1	--	24	--	<.5	--	<10	--	<.1	--	<.5
03284000	08-21-89	<1	--	45	--	<.5	--	40	--	.4	--	<.5
	08-21-89	<1	--	44	--	<.5	--	30	--	.3	--	<.5
	12-18-90	1	--	37	--	<.5	--	20	--	.6	--	.7
	12-18-90	1	--	20	--	<.5	--	20	--	1.4	--	1.1
03287500	10-24-89	<1	--	30	--	<.5	--	30	--	.1	--	<.5
	10-24-89	<1	--	30	--	<.5	--	30	--	<.1	--	<.5
03289500	09-19-89	1	--	25	--	<.5	--	90	--	.7	--	<.5
	09-19-89	1	--	26	--	<.5	--	90	--	.6	--	<.5
	02-12-91	<1	--	18	--	<.5	--	20	--	.3	--	<.5
	02-12-91	<1	--	18	--	<.5	--	20	--	.3	--	<.5
03290500	11-15-89	<1	--	29	--	<.5	--	20	--	.1	--	<.5
	11-15-89	<1	--	29	--	<.5	--	20	--	.3	--	<.5
	04-24-91	<1	--	21	--	<.5	--	10	--	.1	--	<.5
	04-24-91	<1	--	22	--	<.5	--	10	--	.1	--	1.4

STATION NUMBER	DATE	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, TOTAL RECOV-ERABLE (UG/L AS MO) (01062)
--	08-30-89	<3	<10	<0.5	<10	4	1	<0.5	<4	<10	<1	<1
--	03-08-90	--	--	--	--	--	--	--	--	--	--	--
--	08-20-90	--	--	--	--	<3	--	<.5	--	--	--	--
--	--	--	--	--	--	4.5	--	4.3	--	--	--	--
--	--	--	--	--	--	5.1	--	4.3	--	--	--	--
03280000	12-22-89	<3	--	1.3	--	16	--	<.5	13	--	260	--
	12-22-89	4	--	1.3	--	14	--	<.5	12	--	250	--
	08-20-90	<3	--	2.4	--	9	--	<.5	18	--	43	--
	08-20-90	<3	--	1.3	--	7	--	<.5	19	--	44	--
03281000	01-25-90	<3	--	<.5	--	31	--	<.5	<4	--	72	--
	01-25-90	<3	--	<.5	--	25	--	<.5	<4	--	72	--
03281500	02-15-90	<3	--	<.5	--	38	--	<.5	<4	--	71	--
	02-15-90	<3	--	.5	--	22	--	<.5	<4	--	73	--
03284000	08-21-89	<3	--	3.3	--	34	--	<.5	6	--	9	--
	08-21-89	<3	--	2.1	--	21	--	<.5	7	--	5	--
	12-18-90	<3	--	3.5	--	1,300	--	2.5	<4	--	270	--
	12-18-90	<3	--	7.0	--	100	--	<.5	<4	--	40	--
03287500	10-24-89	<3	--	.9	--	50	--	1.7	<4	--	4	--
	10-24-89	<3	--	.8	--	96	--	<.5	<4	--	5	--
03289500	09-19-89	<3	--	1.8	--	17	--	<.5	6	--	7	--
	09-19-89	<3	--	1.8	--	15	--	<.5	5	--	5	--
	02-12-91	<3	--	1.6	--	11	--	12.0	6	--	4	--
	02-12-91	<3	--	.7	--	8	--	<.5	5	--	4	--
03290500	11-15-89	<3	--	.6	--	36	--	<.5	5	--	6	--
	11-15-89	<3	--	2.6	--	31	--	<.5	5	--	5	--
	04-24-91	<3	--	1.7	--	6	--	<.5	4	--	7	--
	04-24-91	<3	--	1.8	--	27	--	<.5	7	--	13	--

Table 5. Results of quality-assurance and quality-control sampling for the Kentucky River Basin fixed-station network--Continued

STATION NUMBER	DATE	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SELE-NIUM, DIS-SOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOV-ERABLE (UG/L AS AG) (01077)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)
--	08-30-89	<10	<10	<1	<1	1.0	1	<6	<10	<3	<0.4	<0.4
--	03-08-90	--	--	--	--	--	--	--	--	--	--	--
--	08-20-90	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--	--	--
03280000	12-22-89	<10	<10	--	--	<1.0	550	<6	--	12	--	--
	12-22-89	<10	<10	--	--	<1.0	560	<6	--	8	--	--
	08-20-90	<10	<10	<1	--	1.0	830	<6	--	5	4.8	.9
	08-20-90	<10	<10	<1	--	2.0	830	<6	--	5	2.3	<.6
03281000	01-25-90	<10	<10	<1	--	<1.0	120	<6	--	9	<.6	1.7
	01-25-90	<10	10	<1	--	<1.0	120	<6	--	7	<.6	1.6
03281500	02-15-90	<10	<10	--	--	<1.0	110	<6	--	4	--	--
	02-15-90	<10	10	--	--	<1.0	110	<6	--	4	--	--
03284000	08-21-89	<10	<10	--	--	<1.0	410	<6	--	30	--	--
	08-21-89	<10	<10	--	--	<1.0	410	<6	--	10	--	--
	12-18-90	<10	<10	<1	--	<1.0	120	<6	--	11	.7	31
	12-18-90	<10	<10	<1	--	<1.0	120	<6	--	48	<.6	34
03287500	10-24-89	<10	<10	<1	--	<1.0	130	<6	--	<3	.8	4.6
	10-24-89	<10	<10	<1	--	<1.0	130	<6	--	<3	<.6	5.8
03289500	09-19-89	10	<10	--	--	2.0	170	<6	--	11	--	--
	09-19-89	20	<10	--	--	<1.0	170	<6	--	16	--	--
	02-12-91	<10	<10	<1	--	<1.0	110	<6	--	<3	<.6	<.6
	02-12-91	<10	<10	<1	--	<1.0	110	<6	--	4	.9	<.6
03290500	11-15-89	<10	<10	--	--	<1.0	160	<6	--	6	--	--
	11-15-89	<10	<10	--	--	<1.0	160	<6	--	<3	--	--
	04-24-91	<10	<1	<1	--	<1.0	140	<6	--	<3	<.6	1.2
	04-24-91	<10	<1	<1	--	<1.0	140	<6	--	11	<.6	.7

STATION NUMBER	DATE	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP. TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90) (80050)	GROSS BETA, SUSP. TOTAL (PCI/L AS SR/YT-90) (80060)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	CYANIDE, DIS-SOLVED (MG/L AS CN) (00723)	SEDI-MENT, SUS-PENDED (MG/L)	SED. SUSP., SIEVE DIAM. (% FINER THAN .062 MM)
--	08-30-89	<0.4	<0.4	<0.4	<0.4	1.7	<0.1	<0.01	--	--
--	03-08-90	--	--	--	--	.8	.1	--	--	--
--	08-20-90	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--	--
03280000	12-22-89	--	--	--	--	1.7	.3	--	4	55
	12-22-89	--	--	--	--	2.2	.8	--	5	41
	08-20-90	1.5	1.2	1.2	1.1	3.7	.6	<.01	15	85
	08-20-90	3.0	1.4	2.2	1.3	3.0	.5	<.01	18	86
03281000	01-25-90	2.7	1.5	2.2	1.2	1.3	.2	<.01	23	92
	01-25-90	2.1	1.4	1.7	1.2	1.4	.3	<.01	23	90
03281500	02-15-90	--	--	--	--	1.1	.2	--	16	74
	02-15-90	--	--	--	--	1.1	.1	--	15	70
03284000	08-21-89	--	--	--	--	3.3	.1	--	26	86
	08-21-89	--	--	--	--	3.6	.4	--	26	89
	12-18-90	3.1	16	2.4	15	4.9	>5.0	<.01	503	73
	12-18-90	3.7	14	2.9	13	4.7	>5.0	<.01	408	65
03287500	10-24-89	2.9	7.6	2.3	6.0	3.0	1.1	<.01	188	97
	10-24-89	3.7	8.9	3.0	7.0	3.2	1.3	<.01	206	94
03289500	09-19-89	--	--	--	--	4.9	.3	--	7	80
	09-19-89	--	--	--	--	5.0	.4	--	10	86
	02-12-91	2.1	<.6	1.5	<.6	44	.3	<.01	9	86
	02-12-91	1.9	<.6	1.3	<.6	2.2	.5	<.01	14	77
03290500	11-15-89	--	--	--	--	3.3	.6	--	26	94
	11-15-89	--	--	--	--	3.2	.4	--	27	92
	04-24-91	2.3	2.1	1.8	2.0	2.5	.6	<.01	36	98
	04-24-91	2.3	1.5	1.8	1.4	2.4	.6	<.01	34	98

[1]Most probable value

[2]Standard deviation

Table 7. Fixed-station water-quality data

DATE	TIME	DIS-CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH, WATER, WHOLE, FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE, AIR (DEG C) (00020)	TEMPER-ATURE, WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, .7 UM-MF (COL/ 100 ML) (31625)	E.COLI, MTEC,MF WATER, WHOLE, TOTAL (COL/ 100 ML) (31648)
North Fork Kentucky River at Jackson, Kentucky (03280000)										
04-20-87	1240	3,850	270	7.5	27.5	14.5	9.8	99	--	--
05-18-87	1230	420	580	7.9	31.0	23.0	8.7	104	--	--
06-15-87	1245	235	650	7.8	34.0	25.5	8.2	103	--	--
07-20-87	1330	203	460	--	36.0	26.0	7.6	95	--	--
08-17-87	1200	70	690	7.8	24.5	26.0	8.2	104	--	--
09-14-87	1300	426	788	8.3	32.0	25.0	7.4	91	--	--
10-13-87	1330	88	729	8.1	21.0	14.0	10.8	106	--	--
11-16-87	1345	122	703	8.1	27.0	8.0	11.4	98	--	--
12-14-87	1230	89	736	7.8	7.0	5.5	12.1	98	--	--
01-11-88	1400	308	607	7.8	6.5	.5	13.7	96	--	--
02-03-88	0830	785	470	7.8	7.5	8.0	11.1	95	--	--
02-16-88	1300	559	460	7.8	8.0	3.0	12.8	97	--	--
03-22-88	1230	417	455	8.3	15.0	8.5	12.0	104	--	--
04-07-88	1430	1,910	316	7.9	10.0	11.0	9.9	92	--	--
04-18-88	1430	680	393	7.7	11.0	13.0	9.2	90	--	--
05-16-88	1600	451	416	8.0	26.0	22.0	8.4	99	--	--
06-20-88	1530	92	729	8.1	29.0	27.0	7.7	98	--	--
07-18-88	1700	69	813	7.9	29.0	28.0	6.8	89	--	--
08-09-88	0905	133	791	7.2	32.0	26.0	7.1	90	--	2,725
09-19-88	1600	560	555	7.9	29.5	22.5	7.0	84	--	--
10-17-88	1615	73	810	8.1	27.0	13.0	11.1	109	--	--
11-14-88	1630	334	622	7.9	21.0	9.0	10.9	97	--	--
12-19-88	1545	153	762	8.2	7.0	1.0	13.8	100	--	--
01-12-89	1745	3,410	316	7.7	12.5	7.5	10.5	90	--	--
01-13-89	0800	10,700	L263	7.9	2.0	8.0	10.3	--	--	--
01-17-89	1600	3,170	303	7.5	6.0	6.0	11.4	94	--	--
02-15-89	1500	7,230	301	7.3	11.0	8.0	11.1	96	--	--
02-22-89	1545	16,900	236	6.9	.5	7.0	10.5	89	--	--
03-06-89	1630	21,400	222	6.9	4.0	9.0	11.5	103	--	--
03-20-89	1545	1,300	501	7.6	15.0	10.0	11.4	105	--	--
04-18-89	0800	1,220	470	7.8	14.0	14.0	9.4	94	--	--
05-10-89	0900	8,110	286	7.2	12.0	12.0	9.6	93	--	--
05-16-89	0830	2,910	443	7.5	11.0	14.0	9.0	90	--	--
06-15-89	1945	10,400	276	7.7	20.0	19.0	8.2	92	--	--
06-16-89	1445	31,500	188	7.2	22.0	18.5	7.9	87	--	--
06-23-89	0830	2,450	361	7.3	25.0	22.0	8.1	96	--	--
07-14-89	0830	444	629	7.8	22.0	23.5	7.6	94	--	--
08-25-89	0745	790	529	7.6	24.5	24.0	7.4	91	--	--
09-22-89	0900	443	502	7.6	21.5	20.5	7.6	90	--	--
10-17-89	2200	24,300	209	6.9	15.5	17.5	6.8	73	--	--
10-27-89	0900	1,640	482	7.4	9.0	12.5	9.5	91	--	--
11-17-89	0830	8,100	251	7.2	2.5	7.0	9.8	84	--	--
12-22-89	0900	356	601	7.3	-12.0	0.0	13.8	95	--	--
01-26-90	0745	983	449	7.4	1.0	4.5	11.1	89	--	--
02-16-90	0815	5,510	337	7.5	16.5	13.0	5.7	56	--	--
03-30-90	0900	1,450	411	7.4	21.0	11.0	10.1	94	--	--
04-16-90	1300	1,940	399	7.5	23.0	16.0	9.8	103	--	--
06-18-90	1300	732	508	7.9	35.5	25.5	7.4	94	--	--
08-20-90	1330	134	817	7.5	33.5	28.5	7.4	98	--	--
10-17-90	1030	268	658	8.1	21.0	16.5	9.1	97	490	--
12-17-90	1245	1,090	445	7.1	14.5	7.5	10.8	93	2,000	4,800
02-11-91	1230	2,080	343	7.4	22.0	6.0	11.5	96	820	640
04-22-91	1245	1,970	364	7.5	18.5	13.0	9.8	98	4,900	2,850
06-17-91	1245	401	690	8.0	33.5	26.5	7.2	94	1,100	875
08-26-91	1210	139	835	8.2	30.0	25.0	8.0	99	410	513

Table 7. Fixed-station water-quality data--Continued

DATE	HARDNESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DISSOLVED (MG/L AS CA) (00915)	CALCIUM, SED., SUSP. (PERCENT) (30240)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	MAGNESIUM, SEDIMENT, SUSP. (PERCENT) (30277)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM, SEDIMENT, SUSP. (PERCENT) (30304)	SODIUM (PERCENT) (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	POTASSIUM, SEDIMENT, SUSP. (PERCENT) (30294)
					North Fork Kentucky River at Jackson, Kentucky (03280000)--Continued						
04-20-87	130	28	--	15	--	7.9	--	11	0.3	2.3	--
05-18-87	270	58	--	30	--	19	--	13	.5	3.7	--
06-15-87	310	68	--	34	--	20	--	12	.5	4.4	--
07-20-87	230	51	--	25	--	14	--	11	.4	3.8	--
08-17-87	340	74	2.52	38	1.36	35	0.71	18	.8	5.6	2.6
09-14-87	390	82	2.93	44	1.16	25	.43	12	.6	6.1	2.7
10-13-87	320	70	3.75	35	2.09	36	1.54	19	.9	5.3	2.5
11-16-87	320	73	3.26	33	1.72	30	1.01	17	.7	5.4	2.5
12-14-87	330	73	8.53	36	4.79	32	2.86	17	.8	4.5	1.3
01-11-88	270	59	--	29	--	20	--	14	.5	3.7	--
02-03-88	220	48	5.63	24	.87	14	.26	12	.4	3.1	2.7
02-16-88	210	45	--	23	--	15	--	13	.5	3.2	--
03-22-88	200	43	3.15	22	1.90	17	1.12	16	.5	2.8	2.1
04-07-88	140	30	1.16	15	.78	8.9	.32	12	.3	1.5	2.7
04-18-88	170	37	1.38	18	1.25	11	.56	12	.4	2.5	2.6
05-16-88	140	49	1.41	4.8	1.21	12	.53	15	.4	1.7	2.6
06-20-88	310	67	3.61	35	2.18	32	1.45	18	.8	4.6	2.3
07-18-88	330	69	2.81	39	1.84	48	1.41	23	1	6.0	2.4
08-09-88	390	80	--	47	--	27	--	13	.6	6.8	--
09-19-88	250	57	.46	25	.90	17	.25	13	.5	4.8	3.2
10-17-88	370	78	3.78	43	2.17	34	1.22	16	.8	5.2	2.5
11-14-88	280	61	--	30	--	23	--	15	.6	4.5	--
12-19-88	330	71	--	37	--	28	--	15	.7	3.5	--
01-12-89	130	28	.80	14	.75	6.1	.35	9	.2	2.4	2.7
01-13-89	110	25	.36	12	.78	4.9	.33	8	.2	2.4	2.9
01-17-89	130	29	.47	14	.82	7.3	.40	11	.3	2.4	2.7
02-15-89	120	27	.39	13	.71	7.7	.39	12	.3	2.2	2.5
02-22-89	96	22	.39	9.9	.86	4.8	.35	10	.2	2.0	2.9
03-06-89	90	21	.23	9.2	.76	3.7	.30	8	.2	2.2	2.8
03-20-89	220	46	1.01	25	1.07	13	.53	11	.4	2.7	2.5
04-18-89	210	44	2.24	24	1.63	13	.82	12	.4	2.8	2.4
05-10-89	110	24	.36	13	.74	5.6	.32	9	.2	2.3	2.7
05-16-89	200	42	.41	22	.86	9.2	.29	9	.3	2.9	2.9
06-15-89	130	29	1.44	13	.71	5.2	.31	8	.2	2.4	2.6
06-16-89	80	20	.30	7.3	.79	2.7	.27	7	.1	2.5	3.0
06-23-89	160	36	.25	18	.78	7.8	.28	9	.3	2.9	3.0
07-14-89	310	66	3.01	34	2.02	16	.85	10	.4	4.0	2.5
08-25-89	240	53	.43	27	.90	11	.24	9	.3	4.2	3.3
09-22-89	230	52	1.05	25	1.00	13	.35	11	.4	3.3	2.9
10-17-89	89	22	.28	8.3	.77	3.1	.30	7	.1	3.1	2.9
10-27-89	220	48	1.33	23	1.21	14	.56	12	.4	3.4	2.5
11-17-89	98	23	.33	9.8	.79	5.6	.41	11	.2	2.4	2.7
12-22-89	260	56	--	29	--	19	--	14	.5	3.0	--
01-26-90	190	41	2.33	21	1.60	12	.77	12	.4	1.6	2.3
02-16-90	150	33	.56	17	.70	7.3	.47	9	.3	2.4	2.4
03-30-90	170	36	.93	19	1.02	10	.53	11	.3	2.5	2.5
04-16-90	180	37	--	20	--	10	--	11	.3	2.4	--
06-18-90	230	51	--	24	--	17	--	14	.5	3.4	--
08-20-90	400	84	--	45	--	27	--	13	.6	5.2	--
10-17-90	290	64	--	32	--	22	--	14	.6	4.9	--
12-17-90	200	42	--	23	--	10	--	10	.3	3.0	--
02-11-91	150	32	--	18	--	8.8	--	11	.3	2.3	--
04-22-91	170	34	--	20	--	9.3	--	11	.3	2.2	--
06-17-91	340	70	--	39	--	19	--	11	.5	2.3	--
08-26-91	390	83	--	45	--	22	--	11	.5	5.5	--

Table 7. Fixed-station water-quality data--Continued

DATE	ALKALINITY, WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKALINITY, WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	BICARBONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKALINITY, WAT DIS TOT FET FIELD (MG/L AS CACO3) (00418)	SULFATE, DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	BROMIDE, DISSOLVED (MG/L AS BR) (71870)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C, DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
North Fork Kentucky River at Jackson, Kentucky (03280000)--Continued											
04-20-87	39	--	--	--	98	3.1	0.10	<0.010	7.9	190	187
05-18-87	84	--	--	--	220	6.4	--	<.010	2.9	402	392
06-15-87	100	--	--	--	230	11	--	<.010	5.6	465	435
07-20-87	--	--	--	--	160	7.2	.20	.011	7.0	329	323
08-17-87	136	--	--	--	270	15	--	.016	1.7	538	522
09-14-87	107	--	--	--	300	12	--	.028	2.9	557	539
10-13-87	--	107	130	108	250	14	.30	.036	.38	498	476
11-16-87	--	107	131	107	230	17	--	.054	3.0	485	458
12-14-87	--	107	130	107	260	19	--	.041	.31	509	490
01-11-88	--	88	107	89	200	13	.20	.040	7.4	382	389
02-03-88	--	--	--	66	160	11	.20	.011	6.0	314	313
02-16-88	--	70	85	69	150	9.1	--	.030	6.1	305	296
03-22-88	--	66	80	66	160	11	--	.020	1.5	291	298
04-07-88	--	52	63	52	92	5.9	.10	.014	4.9	192	191
04-18-88	--	62	76	62	120	6.9	.20	.012	4.6	247	239
05-16-88	--	70	85	70	19	20	--	.083	4.3	187	153
06-20-88	--	104	127	105	240	14	--	.039	.98	474	457
07-18-88	--	107	130	104	290	19	.30	.045	1.4	565	538
08-09-88	--	--	--	--	340	15	--	.038	2.3	611	576
09-19-88	--	70	86	73	200	9.7	--	.016	3.9	368	363
10-17-88	--	120	147	122	280	16	.10	.030	1.4	553	532
11-14-88	--	98	120	99	190	14	--	.030	5.1	404	389
12-19-88	--	110	134	110	240	16	--	.046	3.0	481	468
01-12-89	--	44	54	45	86	4.3	.10	.024	6.5	176	176
01-13-89	--	34	44	35	81	4.0	.10	.022	6.3	141	159
01-17-89	--	40	49	39	92	4.7	<.10	.013	7.3	194	184
02-15-89	--	39	48	40	81	6.4	.10	.010	6.1	175	169
02-22-89	--	39	47	39	66	3.2	--	.010	6.6	137	140
03-06-89	--	27	33	28	64	2.7	.10	<.010	5.3	136	126
03-20-89	--	61	74	62	170	5.5	--	<.010	7.2	319	309
04-18-89	--	58	71	57	160	5.0	.10	.010	5.8	298	292
05-10-89	--	35	42	34	86	2.3	.10	<.010	7.4	156	163
05-16-89	--	50	61	50	150	3.4	--	<.010	7.4	270	270
06-15-89	--	48	58	47	81	2.0	.10	.010	7.2	165	170
06-16-89	--	30	37	30	52	1.5	.10	.060	6.1	133	112
06-23-89	--	49	60	50	120	2.8	--	.020	7.7	238	228
07-14-89	--	87	106	85	230	6.1	.20	.010	7.7	433	420
08-25-89	--	71	87	71	190	5.5	--	<.010	6.1	351	343
09-22-89	--	88	107	87	160	6.6	--	<.010	8.2	331	324
10-17-89	--	38	46	38	56	2.3	.10	<.010	4.9	124	124
10-27-89	--	80	97	79	150	4.3	.10	.020	8.1	300	302
11-17-89	--	45	55	45	67	2.8	--	.010	7.0	142	147
12-22-89	--	58	71	59	200	8.9	--	.040	7.3	395	361
01-26-90	--	62	76	61	150	5.6	.10	.010	5.8	289	277
02-16-90	--	50	61	50	110	3.1	--	.010	7.5	231	213
03-30-90	--	56	68	56	150	5.0	--	.010	6.6	273	264
04-16-90	--	52	63	52	130	4.2	<.10	<.010	6.3	248	243
06-18-90	--	86	105	87	170	7.7	<.10	<.010	7.1	276	335
08-20-90	--	112	137	112	320	10	<.10	.030	3.8	589	566
10-17-90	--	113	138	113	220	11	.20	.030	4.9	446	441
12-17-90	--	67	82	66	140	6.5	.50	.020	5.6	270	273
02-11-91	--	49	60	49	120	4.2	.10	.020	7.5	203	225
04-22-91	--	56	68	56	120	3.5	.10	.020	7.1	239	231
06-17-91	--	107	131	106	270	8.1	.20	.010	3.7	509	479
08-26-91	--	122	149	122	320	11	.20	.030	2.1	591	565

Table 7. Fixed-station water-quality data--Continued

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE, DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE, DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA, DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3, DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AM-MONIA + ORGANIC, TOTAL (MG/L AS N) (00625)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS, SEDI-MENT, SUSP. (PERCENT) (30292)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
North Fork Kentucky River at Jackson, Kentucky (03280000)--Continued											
04-20-87	0.26	1,980	--	<0.01	<0.01	0.33	0.4	0.02	0.02	--	1,500
05-18-87	.55	456	--	<.01	.04	.22	.5	.01	<.01	--	100
06-15-87	.63	295	--	<.01	.03	.31	1.0	.09	<.01	--	610
07-20-87	.45	180	--	<.01	.02	.52	.2	.04	<.01	--	810
08-17-87	.73	102	--	<.01	.07	.12	.4	.03	<.01	0.11	270
09-14-87	.76	641	--	<.01	.03	.52	.6	.02	<.01	.09	680
10-13-87	.68	118	--	<.01	.03	<.10	.3	.03	<.01	.12	40
11-16-87	.66	160	--	<.01	.04	.28	.3	.02	<.01	.15	--
12-14-87	.69	123	--	<.01	.02	.13	.2	.02	<.01	.08	--
01-11-88	.52	318	0.63	.01	.14	.64	.5	.01	<.01	--	--
02-03-88	.43	666	--	<.01	.04	.57	.3	.02	<.01	.07	1,600
02-16-88	.41	460	.50	.01	.09	.51	.2	.02	<.01	--	--
03-22-88	.40	328	--	<.01	.04	.12	<.2	.02	<.01	.11	--
04-07-88	.26	990	--	<.01	<.01	.26	.6	.09	<.01	.08	6,500
04-18-88	.34	453	--	<.01	.02	.24	.4	.02	<.01	.10	--
05-16-88	.25	228	--	<.01	.09	<.10	.3	.01	<.01	.10	--
06-20-88	.64	118	.15	.02	.06	.17	.3	.02	<.01	.09	--
07-18-88	.77	106	--	<.01	.03	<.10	<.2	.03	<.01	.13	--
08-09-88	.83	219	.54	.02	.08	.56	.7	.04	<.01	--	--
09-19-88	.50	556	.54	.02	.06	.56	.7	.02	<.01	.08	--
10-17-88	.75	109	--	<.01	.02	.20	.4	.02	<.01	.09	--
11-14-88	.55	364	.39	.01	.01	.40	.4	.02	<.01	--	--
12-19-88	.65	199	.49	.01	.06	.50	.3	.02	<.01	--	--
01-12-89	.24	1,620	--	<.01	.05	.35	.5	.03	<.01	.07	3,500
01-13-89	.19	4,070	--	<.01	.07	.35	.6	.06	<.01	.07	9,100
01-17-89	.26	1,660	--	<.01	.03	.52	.5	.02	<.01	.08	--
02-15-89	.24	3,420	.39	.01	.01	.40	.8	.16	.01	.07	4,500
02-22-89	.19	6,250	--	<.01	.03	.38	.6	.27	<.01	.07	--
03-06-89	.18	7,860	.32	.01	.04	.33	2.6	.44	<.01	.09	17,000
03-20-89	.43	1,120	.51	.03	.03	.54	.2	.03	.01	.08	--
04-18-89	.41	982	--	<.01	.02	.34	.2	.02	<.01	.08	--
05-10-89	.21	3,420	--	<.01	<.01	.31	.3	.03	<.01	.06	3,400
05-16-89	.37	2,120	--	<.01	.02	.47	.3	.04	<.01	.07	--
06-15-89	.22	4,630	--	<.01	.01	.33	.2	.07	<.01	.06	15,000
06-16-89	.18	11,300	--	<.01	.03	.27	.5	.06	<.01	.07	20,000
06-23-89	.32	1,570	.53	.01	.15	.54	.9	.02	<.01	.06	--
07-14-89	.59	519	--	<.01	.02	.56	.3	<.01	.01	.08	--
08-25-89	.48	749	--	<.01	.02	.57	.5	.06	<.01	.07	--
09-22-89	.45	396	--	<.01	.02	.69	.5	.02	<.01	.08	--
10-17-89	.17	8,140	.32	.01	.02	.33	.8	.34	<.01	.07	24,000
10-27-89	.41	1,330	--	<.01	.04	.60	.3	.04	<.01	.08	--
11-17-89	.19	3,110	--	<.01	.01	.34	.5	.11	<.01	.07	--
12-22-89	.54	380	.48	.01	.06	.49	<.2	<.01	<.01	--	--
01-26-90	.39	767	--	<.01	.03	.35	.3	<.01	.02	.08	--
02-16-90	.31	3,440	--	<.01	.03	.50	<.2	.03	<.01	.06	--
03-30-90	.37	1,070	--	<.01	<.01	.30	<.2	<.01	<.01	.08	--
04-16-90	.34	1,300	.29	.01	.02	.30	<.2	.01	<.01	--	--
06-18-90	.38	545	--	<.01	.02	.50	.8	.05	<.01	--	--
08-20-90	.80	213	--	--	--	.50	--	.02	<.01	--	--
10-17-90	.61	323	--	<.01	<.01	2.80	.5	.45	.44	--	--
12-17-90	.37	795	--	<.01	.05	.40	<.2	.05	<.01	--	--
02-11-91	.28	1,140	--	<.01	.02	.40	.4	.02	<.01	--	--
04-22-91	.33	1,270	--	<.01	<.01	.30	.3	.04	<.01	--	--
06-17-91	.69	551	--	<.01	<.01	.41	<.2	<.01	<.01	--	--
08-26-91	.80	222	--	<.01	<.01	.33	.3	.02	<.01	--	--

Table 7. Fixed-station water-quality data--Continued

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ALUMINUM, SED., SUSP. (PERCENT) (30221)	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ANTIMONY, SED., SUSP. (UG/G) (29816)	ARSENIC, DISSOLVED (UG/L AS AS) (01000)	ARSENIC, SED., SUSP. (UG/G) (29818)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BERYLLIUM, SED., SUSP. (UG/G) (29822)
North Fork Kentucky River at Jackson, Kentucky (03280000)--Continued											
04-20-87	20	--	<1	--	<1	--	100	32	<10	<0.5	--
05-18-87	50	--	--	--	<1	--	100	53	<10	<.5	--
06-15-87	--	--	--	--	<1	--	<100	58	<10	<.5	--
07-20-87	--	--	<1	--	<1	--	200	49	<10	<.5	--
08-17-87	--	9.65	--	0.66	<1	13.0	100	64	<10	<.5	3
09-14-87	90	10.4	--	.75	<1	11.1	100	65	<10	<.5	4
10-13-87	10	8.73	1	.70	<1	10.3	--	56	--	<.5	3
11-16-87	10	9.67	--	.60	<1	10.7	--	52	--	<.5	3
12-14-87	<10	3.42	--	.50	<1	4.1	--	51	--	<.5	<2
01-11-88	<10	--	<1	--	1	--	--	50	--	<.5	--
02-03-88	20	10.1	<1	.60	<1	9.0	100	39	<10	<.5	4
02-16-88	<10	--	--	--	<1	--	--	39	--	<.5	--
03-22-88	20	7.38	--	.70	<1	6.3	--	39	--	<.5	3
04-07-88	20	9.98	<1	.70	<1	7.7	<100	30	<10	<.5	4
04-18-88	10	9.64	<1	.70	<1	10.7	--	37	--	<.5	4
05-16-88	10	9.01	--	.70	1	9.6	--	29	--	<.5	3
06-20-88	20	7.53	--	.60	1	9.2	--	65	--	<.5	3
07-18-88	20	7.69	<1	.80	<1	10.1	--	71	--	<.5	3
08-09-88	30	--	--	--	<1	--	--	74	--	<.5	--
09-19-88	20	11.9	--	.60	<1	8.9	--	46	--	<.5	4
10-17-88	<10	8.57	<1	.70	1	9.3	--	57	--	<.5	3
11-14-88	30	--	--	--	<1	--	--	44	--	<.5	--
12-19-88	20	--	--	--	<1	--	--	46	--	<.5	--
01-12-89	20	9.52	<1	.40	<1	8.1	<100	23	<10	<.5	4
01-13-89	60	10.1	<1	.50	<1	6.9	100	24	<10	<.5	4
01-17-89	20	9.26	<1	.60	<1	10.5	--	29	--	<.5	4
02-15-89	30	8.90	<1	.40	1	7.6	<100	32	<10	<.5	4
02-22-89	90	10.3	--	.80	<1	8.6	--	24	--	<.5	4
03-06-89	50	10.1	<1	.70	<1	10.2	100	21	<10	<.5	4
03-20-89	30	9.11	--	.70	<1	8.2	--	38	--	<.5	4
04-18-89	30	8.28	<1	.70	<1	7.7	--	35	--	<.5	4
05-10-89	40	10.0	<1	.40	<1	7.2	100	26	<10	<.5	4
05-16-89	40	10.8	--	.40	<1	9.2	--	36	--	<.5	4
06-15-89	80	9.60	<1	.40	<1	7.0	100	23	<10	<.5	4
06-16-89	70	11.0	<1	.50	<1	9.5	100	22	<10	<.5	4
06-23-89	90	11.5	--	.30	<1	7.8	--	35	--	<.5	4
07-14-89	50	8.75	<1	.70	<1	7.9	--	49	--	<.5	3
08-25-89	30	12.6	--	.70	<1	13.1	--	39	--	<.5	4
09-22-89	20	10.5	--	.60	1	9.4	--	42	--	<.5	4
10-17-89	60	10.6	<1	.50	<1	7.2	<100	23	<10	<.5	4
10-27-89	20	9.30	<1	2.50	<1	9.2	--	44	--	<.5	4
11-17-89	90	9.49	--	3.30	<1	8.1	--	21	--	<.5	4
12-22-89	<10	--	--	--	<1	--	--	42	--	<.5	--
01-26-90	<10	7.99	<1	1.30	<1	8.2	--	32	--	<.5	3
02-16-90	50	9.10	--	.50	<1	7.7	--	31	--	<.5	4
03-30-90	20	9.50	--	.70	<1	10.3	--	30	--	.7	4
04-16-90	30	--	<1	--	<1	--	--	30	--	<.5	--
06-18-90	40	--	<1	--	<1	--	--	42	--	<.5	--
08-20-90	30	--	<1	--	<1	--	--	60	--	<.5	--
10-17-90	20	--	<1	--	<1	--	--	44	--	<.5	--
12-17-90	50	--	<1	--	<1	--	--	31	--	<.5	--
02-11-91	20	--	<1	--	<1	--	--	25	--	<.5	--
04-22-91	20	--	<1	--	<1	--	--	29	--	<.5	--
06-17-91	30	--	<1	--	<1	--	--	49	--	.7	--
08-26-91	20	--	<1	--	<1	--	--	56	--	<.5	--

Table 7. Fixed-station water-quality data--Continued

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM, TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CADMIUM, SED., SUSP. (UG/G) (29826)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	CHRO-MIUM, SED., SUSP. (UG/G) (29829)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COBALT, SEDI-MENT, SUSP. (UG/G) (35031)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
					North Fork Kentucky River at Jackson, Kentucky (03280000)--Continued						
04-20-87	10	20	<1	1.1	--	5	<5	--	<3	--	<10
05-18-87	<10	40	<1	.5	--	7	<1	--	<3	--	<10
06-15-87	50	--	<1	.7	--	1	<1	--	<3	--	<10
07-20-87	<10	--	<1	<.1	--	<1	<1	--	<3	--	10
08-17-87	60	--	<1	.1	0.7	18	<1	89	<3	26	20
09-14-87	70	50	<1	.1	.3	6	<1	88	<3	23	10
10-13-87	--	40	--	.2	.8	--	<1	75	<3	27	--
11-16-87	--	40	--	<.1	1.7	--	<1	91	<6	24	--
12-14-87	--	40	--	.2	.7	--	<1	30	<3	33	--
01-11-88	--	40	--	.1	--	--	<1	--	<3	--	--
02-03-88	20	20	1	.2	.9	2	<1	88	<3	21	20
02-16-88	--	20	--	.5	--	--	<1	--	<3	--	--
03-22-88	--	20	--	.2	1.1	--	<1	66	<3	30	--
04-07-88	<10	10	<1	.2	.9	<1	<1	85	<3	23	10
04-18-88	--	10	--	.4	1.7	--	<1	89	<3	27	--
05-16-88	--	20	--	.2	2.7	--	<1	140	<3	25	--
06-20-88	--	30	--	.2	1.3	--	<1	111	<3	23	--
07-18-88	--	40	--	.1	1.2	--	<1	119	<3	27	--
08-09-88	--	30	--	<.1	--	--	<1	--	<3	--	--
09-19-88	--	30	--	.2	.4	--	<1	105	<3	26	--
10-17-88	--	30	--	<.1	1.8	--	<1	73	<3	25	--
11-14-88	--	30	--	.6	--	--	<1	--	<3	--	--
12-19-88	--	20	--	.2	--	--	<1	--	<3	--	--
01-12-89	40	<10	<1	.6	.2	5	1	78	<3	22	10
01-13-89	40	10	<1	.2	.3	12	<1	86	<3	23	30
01-17-89	--	10	--	.2	.5	--	<1	79	<3	26	--
02-15-89	30	<10	1	<.1	.2	7	<1	75	<3	21	10
02-22-89	--	10	--	.2	.5	--	<1	91	<3	24	--
03-06-89	20	10	<1	.4	.2	22	<1	93	<3	25	40
03-20-89	--	20	--	.2	.9	--	<1	82	<3	34	--
04-18-89	--	20	--	<.1	.8	--	<1	71	<3	33	--
05-10-89	20	<10	<1	.2	.5	6	<1	129	<3	22	<10
05-16-89	--	20	--	<.1	.4	--	<1	145	<3	24	--
06-15-89	50	20	<1	<.1	.4	20	<1	124	<3	20	40
06-16-89	70	30	<1	<.1	.7	24	1	148	<3	21	40
06-23-89	--	20	--	.3	.3	--	1	146	<3	18	--
07-14-89	--	20	--	.1	3.9	--	<1	71	<3	22	--
08-25-89	--	20	--	.1	.7	--	2	98	<3	23	--
09-22-89	--	20	--	.2	.9	--	<1	87	<3	25	--
10-17-89	20	20	1	.2	.5	31	<1	86	<3	23	60
10-27-89	--	20	--	.3	.7	--	<1	76	<3	28	--
11-17-89	--	30	--	<.1	.3	--	<1	78	<3	23	--
12-22-89	--	30	--	.2	--	--	<1	--	<3	--	--
01-26-90	--	20	--	<.1	1.5	--	<1	68	<3	37	--
02-16-90	--	10	--	<.1	.2	--	<1	72	<3	21	--
03-30-90	--	20	--	.7	.9	--	<1	75	<3	33	--
04-16-90	--	20	--	.1	--	--	<1	--	<3	--	--
06-18-90	--	20	--	.2	--	--	<1	--	<3	--	--
08-20-90	--	40	--	.8	--	--	<1	--	<3	--	--
10-17-90	--	30	--	.5	--	--	1	--	<3	--	--
12-17-90	--	10	--	.3	--	--	<1	--	<3	--	--
02-11-91	--	40	--	.6	--	--	1	--	<3	--	--
04-22-91	--	20	--	.2	--	--	1	--	<3	--	--
06-17-91	--	30	--	.2	--	--	<1	--	<3	--	--
08-26-91	--	120	--	<.1	--	--	<1	--	<3	--	--

Table 7. Fixed-station water-quality data--Continued

DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	COPPER, SED., SUSP. (UG/G) (29832)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, SEDI-MENT, SUSP. (PERCENT) (30269)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, SED., SUSP. (UG/G) (29836)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
North Fork Kentucky River at Jackson, Kentucky (03280000)--Continued											
04-20-87	1	--	3,700	6	--	7	4	--	7	200	19
05-18-87	1	--	260	6	--	<5	1	--	23	60	32
06-15-87	1	--	730	4	--	<5	6	--	20	100	49
07-20-87	1	--	1,200	3	--	<5	<1	--	15	110	75
08-17-87	1	35	570	7	4.29	<5	<1	26.9	12	110	75
09-14-87	1	33	890	5	4.17	<5	<1	27.5	8	100	34
10-13-87	1	38	--	8	3.97	--	<1	25.8	20	--	45
11-16-87	<1	38	--	5	4.81	--	<1	44.2	16	--	50
12-14-87	1	22	--	3	2.47	--	<1	22.3	14	--	51
01-11-88	<1	--	--	7	--	--	<1	--	9	--	280
02-03-88	1	39	3,900	14	4.08	<5	1	34.7	5	270	130
02-16-88	2	--	--	8	--	--	1	--	5	--	170
03-22-88	1	29	--	8	3.85	--	<1	29.8	7	--	73
04-07-88	1	36	5,400	28	4.33	<5	<1	27.8	14	280	44
04-18-88	1	40	--	12	4.55	--	<1	26.5	7	--	40
05-16-88	2	35	--	77	4.55	--	<1	32.4	7	--	100
06-20-88	1	27	--	<3	3.64	--	<1	32.2	15	--	48
07-18-88	1	33	--	5	3.89	--	<1	42.1	17	--	54
08-09-88	<1	--	--	10	--	--	<1	--	15	--	85
09-19-88	2	35	--	6	4.43	--	<1	29.8	11	--	7
10-17-88	2	29	--	12	3.84	--	<1	34.8	15	--	67
11-14-88	<1	--	--	14	--	--	<1	--	14	--	60
12-19-88	1	--	--	10	--	--	<1	--	14	--	220
01-12-89	2	33	8,500	17	3.98	<5	<1	25.7	5	490	56
01-13-89	1	30	20,000	81	4.16	11	<1	28.6	5	1,300	130
01-17-89	1	34	--	24	4.34	--	<1	35.1	5	--	59
02-15-89	1	29	10,000	40	3.83	<5	<1	28.2	13	530	49
02-22-89	<1	38	--	130	4.37	--	<1	30.7	5	--	61
03-06-89	1	32	36,000	81	4.83	30	<1	28.5	5	1,500	72
03-20-89	1	63	--	18	4.38	--	1	38.1	13	--	110
04-18-89	<1	48	--	15	4.02	--	<1	30.3	12	--	56
05-10-89	1	33	8,000	59	3.97	8	<1	31.6	5	330	34
05-16-89	1	39	--	12	4.35	--	3	39.1	10	--	20
06-15-89	1	30	38,000	99	3.70	31	<1	30.0	5	770	35
06-16-89	1	36	33,000	110	4.39	27	<1	22.0	4	760	48
06-23-89	1	32	--	130	4.12	--	1	24.9	18	--	50
07-14-89	1	36	--	14	3.82	--	<1	37.1	15	--	41
08-25-89	1	217	--	38	4.32	--	<1	52.9	11	--	12
09-22-89	1	36	--	12	4.62	--	<1	35.7	8	--	44
10-17-89	2	32	65,000	82	4.24	57	1	25.6	<4	2,200	87
10-27-89	<1	38	--	23	4.59	--	<1	134.0	9	--	77
11-17-89	<1	34	--	120	4.34	--	<1	130.0	5	--	20
12-22-89	1	--	--	16	--	--	<1	--	13	--	260
01-26-90	<1	52	--	12	4.13	--	<1	37.5	9	--	120
02-16-90	1	30	--	46	3.85	--	<1	21.5	6	--	42
03-30-90	1	45	--	12	4.67	--	<1	34.0	8	--	45
04-16-90	1	--	--	<3	--	--	<1	--	9	--	26
06-18-90	1	--	--	8	--	--	<1	--	12	--	17
08-20-90	2	--	--	9	--	--	<1	--	18	--	43
10-17-90	1	--	--	8	--	--	<1	--	13	--	36
12-17-90	1	--	--	34	--	--	<1	--	6	--	73
02-11-91	3	--	--	17	--	--	<1	--	7	--	48
04-22-91	2	--	--	13	--	--	<1	--	8	--	27
06-17-91	2	--	--	13	--	--	<1	--	15	--	38
08-26-91	2	--	--	6	--	--	<1	--	14	--	57

Table 7. Fixed-station water-quality data--Continued

DATE	MANGANESE, SED., SUSP. (UG/G) (29839)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY, DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO) (01062)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	MOLYBDENUM, SED., SUSP. (UG/G) (29843)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	NICKEL, SED., SUSP. (UG/G) (29845)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)
				North Fork Kentucky River at Jackson, Kentucky (03280000)--Continued							
04-20-87	--	0.2	<0.1	<1	<10	--	<10	--	<1	<1	2.0
05-18-87	--	<.1	<.1	3	<10	--	<10	--	--	<1	<1.0
06-15-87	--	<.1	<.1	<4	<10	--	--	--	--	<1	--
07-20-87	--	.1	.2	<1	<10	--	--	--	<1	<1	--
08-17-87	4,920	.3	<.1	<1	<10	1.3	<10	50	--	<1	<1.0
09-14-87	2,430	<.1	.1	1	<10	.9	<10	46	--	<1	<1.0
10-13-87	6,410	--	<.1	--	<10	1.1	<10	48	<1	--	<1.0
11-16-87	4,850	--	<.1	--	<10	1.1	<10	61	--	--	<1.0
12-14-87	12,800	--	<.1	--	<10	.6	<10	56	--	--	<1.0
01-11-88	--	--	<.1	--	<10	--	<10	--	1	--	<1.0
02-03-88	1,550	<.1	<.1	2	<10	.9	<10	43	<1	1	<1.0
02-16-88	--	--	<.1	--	<10	--	<10	--	--	--	<1.0
03-22-88	6,840	--	<.1	--	<10	.7	<10	57	--	--	<1.0
04-07-88	1,750	--	--	1	<10	.8	<10	43	<1	1	<1.0
04-18-88	3,460	--	<.1	--	<10	.8	<10	51	<1	--	<1.0
05-16-88	2,870	--	<.1	--	<10	1.1	<10	54	--	--	<1.0
06-20-88	3,720	--	<.1	--	<10	1.1	<10	49	--	--	<1.0
07-18-88	5,620	--	<.1	--	<10	1.4	<10	60	<1	--	<1.0
08-09-88	--	--	<.1	--	<10	--	<10	--	--	--	<1.0
09-19-88	2,510	--	<.1	--	<10	.9	<10	53	--	--	<1.0
10-17-88	5,590	--	<.1	--	<10	1.2	<10	42	<1	--	<1.0
11-14-88	--	--	<.1	--	10	--	<10	--	--	--	1.0
12-19-88	--	--	<.1	--	<10	--	<10	--	--	--	<1.0
01-12-89	1,560	<.1	.8	2	<10	.6	<10	43	<1	<1	<1.0
01-13-89	1,590	<.1	<.1	1	<10	.7	<10	164	<1	<1	1.0
01-17-89	2,240	--	.2	--	<10	.7	<10	48	<1	--	<1.0
02-15-89	1,340	.1	<.1	8	<10	.6	<10	39	<1	<1	<1.0
02-22-89	1,480	--	<.1	--	<10	.8	<10	46	--	--	<1.0
03-06-89	1,450	<.1	<.1	4	<10	.7	<10	51	<1	<1	<1.0
03-20-89	3,470	--	<.1	--	<10	1.0	<10	83	--	--	<1.0
04-18-89	3,870	--	<.1	--	<10	.7	<10	70	1	--	2.0
05-10-89	1,250	<.1	<.1	4	<10	.7	<10	44	<1	<1	2.0
05-16-89	1,200	--	<.1	--	<10	.8	<10	59	--	--	<1.0
06-15-89	1,060	<.1	<.1	<1	<10	.7	10	40	<1	<1	<1.0
06-16-89	999	<.1	<.1	60	<10	1.0	<10	44	<1	<1	<1.0
06-23-89	722	--	<.1	--	<10	1.0	<10	42	--	--	9.0
07-14-89	2,320	--	--	--	<10	.8	<10	50	1	--	<1.0
08-25-89	1,380	--	--	--	<10	.9	<10	72	--	--	<1.0
09-22-89	2,390	--	2.1	--	<10	.8	<10	46	--	--	<1.0
10-17-89	1,210	.1	<.1	<1	<10	.7	<10	38	<1	<1	<1.0
10-27-89	2,730	--	<.1	--	<10	3.9	<10	55	1	--	<1.0
11-17-89	1,390	--	.4	--	10	3.5	<10	42	--	--	<1.0
12-22-89	--	--	.1	--	<10	--	<10	--	--	--	<1.0
01-26-90	5,570	--	<.1	--	<10	.9	<10	68	<1	--	<1.0
02-16-90	1,080	--	.7	--	<10	.7	<10	39	--	--	<1.0
03-30-90	3,220	--	<.1	--	<10	1.0	<10	76	--	--	<1.0
04-16-90	--	--	.1	--	<10	--	<10	--	<1	--	1.0
06-18-90	--	--	.7	--	<10	--	<10	--	<1	--	<1.0
08-20-90	--	--	.3	--	<10	--	<10	--	<1	--	1.0
10-17-90	--	--	--	--	<10	--	<10	--	<1	--	<1.0
12-17-90	--	--	.1	--	<10	--	<10	--	<1	--	1.0
02-11-91	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0
04-22-91	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0
06-17-91	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0
08-26-91	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0

Table 7. Fixed-station water-quality data--Continued

DATE	SILVER, SED., SUSP. (UG/G) (29850)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	VANADIUM, SED., SUSP. (UG/G) (29853)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	ZINC, SED., SUSP. (UG/G) (29855)	TITANIUM, SEDIMENT, SUSP. (PERCENT) (30317)	THALLIUM, SED., SUSP. (UG/G)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP., TOTAL (UG/L AS U-NAT) (80040)
North Fork Kentucky River at Jackson, Kentucky (03280000)--Continued											
04-20-87	--	250	<6	--	30	<3	--	--	--	<0.4	0.7
05-18-87	--	630	<6	--	<10	24	--	--	--	--	--
06-15-87	--	680	<6	--	20	17	--	--	--	--	--
07-20-87	--	440	<6	--	60	8	--	--	--	.7	<.4
08-17-87	0.6	800	<6	124	30	13	172	0.46	0.7	--	--
09-14-87	.1	800	<6	130	10	<3	152	.46	.9	--	--
10-13-87	.4	770	<6	111	--	<3	160	.39	.6	.9	.5
11-16-87	.4	690	<6	124	--	<3	176	.42	.5	--	--
12-14-87	.4	730	<6	41	--	6	130	.15	.2	--	--
01-11-88	--	490	<6	--	--	10	--	--	--	1.9	<.4
02-03-88	.2	370	<6	122	20	4	167	.47	1.0	.7	7.6
02-16-88	--	370	<6	--	--	12	--	--	--	--	--
03-22-88	.6	390	<6	90	--	<3	164	.36	.6	--	--
04-07-88	3.1	230	<6	119	30	<3	173	.50	.8	<.4	7.8
04-18-88	.3	310	<6	118	--	31	311	.48	.7	<.4	.6
05-16-88	12.5	120	<6	124	--	53	191	.48	1.2	--	--
06-20-88	.3	1	<6	100	--	10	147	.37	.9	--	--
07-18-88	.3	870	<6	107	--	4	177	.41	1.0	2.1	<.4
08-09-88	--	710	<6	--	--	5	--	--	--	--	--
09-19-88	.2	520	<6	147	--	14	167	.53	1.1	--	--
10-17-88	.2	760	<6	112	--	3	149	.39	.8	<.4	<.4
11-14-88	--	540	<6	--	--	54	--	--	--	--	--
12-19-88	--	640	<6	--	--	6	--	--	--	--	--
01-12-89	.1	180	<6	115	40	<3	136	.50	.8	<.6	31
01-13-89	.1	160	<6	123	100	26	145	.52	.9	<.6	11
01-17-89	.3	210	<6	113	--	13	166	.49	.8	<.6	6.7
02-15-89	.2	200	<6	107	80	7	167	.48	.7	1.7	15
02-22-89	.4	150	<6	126	--	3	161	.54	1.0	--	--
03-06-89	.3	120	<6	126	170	21	156	.53	.9	<.6	97
03-20-89	.6	430	<6	109	--	9	245	.47	.8	--	--
04-18-89	.4	430	<6	99	--	130	193	.42	.8	<.6	<.6
05-10-89	<.1	200	<6	120	40	5	139	.52	1.0	<.6	13
05-16-89	<.1	380	<6	133	--	4	180	.53	1.2	--	--
06-15-89	.1	190	<6	115	160	6	122	.51	.8	<.6	80
06-16-89	.1	120	<6	136	140	<3	150	.56	.7	<.6	87
06-23-89	.1	290	<6	137	--	10	116	.58	.8	--	--
07-14-89	1.7	650	<6	105	--	6	304	.43	.8	<.6	<.6
08-25-89	.5	440	<6	152	--	24	494	.58	1.0	--	--
09-22-89	.3	450	<6	131	--	4	194	.49	1.0	--	--
10-17-89	.3	130	<6	130	230	4	147	.51	.9	1.0	44
10-27-89	.3	440	<6	114	--	<3	175	.45	3.3	.8	1.4
11-17-89	.2	180	<6	117	--	7	148	.48	3.8	--	--
12-22-89	--	550	<6	--	--	12	--	--	--	--	--
01-26-90	1.5	380	<6	97	--	7	244	.40	.6	1.1	<.6
02-16-90	<.1	280	<6	102	--	5	129	.47	.6	--	--
03-30-90	.4	340	<6	108	--	<3	213	.45	.8	--	--
04-16-90	--	350	<6	--	--	4	--	--	--	.7	1.0
06-18-90	--	490	<6	--	--	<3	--	--	--	<.6	4.8
08-20-90	--	830	<6	--	--	5	--	--	--	4.8	.9
10-17-90	--	630	<6	--	--	6	--	--	--	<.6	<.6
12-17-90	--	340	<6	--	--	8	--	--	--	<.6	.9
02-11-91	--	280	<6	--	--	6	--	--	--	.7	<.6
04-22-91	--	310	<6	--	--	4	--	--	--	1.4	.8
06-17-91	--	660	<6	--	--	6	--	--	--	2.0	<.6
08-26-91	--	790	<6	--	--	<3	--	--	--	.6	<.6

Table 7. Fixed-station water-quality data--Continued

DATE	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP., TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90) (80050)	GROSS BETA, SUSP., TOTAL (PCI/L AS SR/YT-90) (80060)	CARBON, ORGANIC, DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC, SUS-PENDED, TOTAL (MG/L AS C) (00689)	CYANIDE, DIS-SOLVED (MG/L AS CN) (00723)	SURFACE AREA, SEDI-MENT, SUSP. (M2/G) (30334)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED., SUSP., SIEVE DIAM. (% FINER THAN .062 MM)
North Fork Kentucky River at Jackson, Kentucky (03280000)--Continued											
04-20-87	2.8	0.9	2.2	0.9	3.8	0.5	<0.01	--	150	1,560	60
05-18-87	--	--	--	--	1.9	.9	--	--	4	4.5	100
06-15-87	--	--	--	--	4.0	1.3	--	--	39	25	93
07-20-87	4.3	.6	3.2	.6	4.3	.4	<.01	--	30	16	92
08-17-87	--	--	--	--	3.9	.4	--	14.3	13	2.5	93
09-14-87	--	--	--	--	3.6	.5	--	16.3	31	36	82
10-13-87	7.0	.9	5.3	.9	3.8	.1	<.01	17.1	6	1.4	58
11-16-87	--	--	--	--	3.5	.3	--	17.6	17	5.6	38
12-14-87	--	--	--	--	3.7	<.1	--	21.2	6	1.4	79
01-11-88	5.1	<.4	3.9	<.4	2.1	.2	<.01	--	5	4.2	82
02-03-88	4.2	4.8	3.0	4.3	2.4	--	<.01	17.1	100	212	94
02-16-88	--	--	--	--	1.7	<.1	--	--	3	4.5	55
03-22-88	--	--	--	--	2.1	2.0	--	12.9	9	10	34
04-07-88	3.3	6.5	2.6	5.7	2.7	2.5	<.01	15.9	174	897	70
04-18-88	3.2	.7	2.4	.7	1.7	.3	<.01	15.1	16	29	73
05-16-88	--	--	--	--	2.0	.2	--	16.4	12	15	79
06-20-88	--	--	--	--	2.9	.2	--	12.6	8	2.0	66
07-18-88	11	<.4	8.0	<.4	3.6	.3	<.01	12.0	8	1.5	68
08-09-88	--	--	--	--	4.5	.1	--	--	29	10	77
09-19-88	--	--	--	--	3.2	1.8	--	21.6	174	263	95
10-17-88	8.5	.7	6.2	.7	2.8	.2	<.01	11.7	7	1.4	71
11-14-88	--	--	--	--	2.2	.2	--	17.3	10	9.0	83
12-19-88	--	--	--	--	1.7	.2	--	15.8	6	2.5	33
01-12-89	2.8	18	2.1	16	2.3	3.5	<.01	13.7	414	3,810	58
01-13-89	2.7	33	2.1	29	4.2	4.8	<.01	15.9	973	28,100	67
01-17-89	2.6	5.9	2.0	5.1	1.9	2.3	<.01	12.9	226	1,930	51
02-15-89	3.6	14	2.7	13	2.3	4.2	<.01	12.9	546	10,700	52
02-22-89	--	--	--	--	1.4	>5.1	--	16.5	825	37,600	81
03-06-89	2.7	71	2.2	60	2.7	>4.9	<.01	19.1	1,310	--	86
03-20-89	--	--	--	--	1.8	.5	--	15.3	26	91	62
04-18-89	4.6	<.6	3.5	<.6	1.5	.2	<.01	13.1	6	20	100
05-10-89	3.1	11	2.6	9.8	2.0	>2.5	<.01	15.1	339	7,420	67
05-16-89	--	--	--	--	1.9	>2.5	--	18.4	239	1,880	79
06-15-89	3.1	60	2.3	53	3.2	>2.5	<.01	15.5	1,500	42,100	72
06-16-89	2.7	71	2.1	63	3.7	>2.5	<.01	20.5	1,470	125,000	82
06-23-89	--	--	--	--	6.3	>2.4	--	18.0	1,260	8,330	96
07-14-89	6.6	.8	5.0	.8	2.8	.4	<.01	12.6	24	29	79
08-25-89	--	--	--	--	3.3	1.9	--	23.6	176	375	97
09-22-89	--	--	--	--	2.5	.4	--	19.9	50	60	81
10-17-89	3.9	55	3.1	51	5.0	>2.5	<.01	19.1	1,790	117,000	85
10-27-89	5.7	1.3	4.9	1.0	2.3	.8	<.01	13.8	47	208	100
11-17-89	--	--	--	--	3.1	>2.5	--	17.3	458	10,000	85
12-22-89	--	--	--	--	1.7	.3	--	--	4	3.8	55
01-26-90	4.1	.9	3.6	.8	1.8	.2	<.01	14.8	7	19	68
02-16-90	--	--	--	--	1.8	2.0	--	13.1	612	9,100	53
03-30-90	--	--	--	--	1.9	.2	--	12.8	13	51	69
04-16-90	3.2	1.4	2.4	1.1	2.8	.4	<.01	--	15	79	65
06-18-90	4.6	4.6	3.5	4.3	2.7	1.4	<.01	--	95	188	93
08-20-90	1.5	1.2	1.2	1.1	3.7	.6	<.01	--	15	5.4	85
10-17-90	6.6	<.6	5.0	<.6	3.2	.2	<.01	--	14	10	86
12-17-90	4.2	.9	3.1	.8	3.1	.8	.02	--	44	129	78
02-11-91	2.8	1.4	2.2	1.3	8.2	.5	<.01	--	16	90	27
04-22-91	3.2	1.7	2.4	1.6	3.3	.4	<.01	--	40	213	55
06-17-91	5.8	.9	4.4	.8	3.6	.4	<.01	--	16	17	83
08-26-91	5.2	<.6	3.9	<.6	3.9	.4	<.01	--	22	8.3	99

Table 7. Fixed-station water-quality data--Continued

North Fork Kentucky River at Jackson, Kentucky (03280000)--Continued

DATE	TIME	AME-TRYNE, TOTAL (UG/L) (82184)	ATRA-ZINE, TOTAL (UG/L) (39630)	CYAN-AZINE, TOTAL (UG/L) (81757)	DICAMBA (MED-IBEN) (BAN-VEL D), TOTAL (UG/L) (82052)	PICLO-RAM (TOR-DON) (AMDON), TOTAL (UG/L) (39720)	PROME-TONE, TOTAL (UG/L) (39056)	PROME-TRYNE, TOTAL (UG/L) (39057)	PRO-PAZINE, TOTAL (UG/L) (39024)
06-15-89	1945	<0.10	0.10	<0.10	<0.01	<0.01	<0.10	<0.10	<0.10
10-17-90	1030	<.10	<.10	<.10	<.01	<.01	<.10	<.10	<.10
12-17-90	1245	<.10	<.10	<.10	<.01	<.01	<.10	<.10	<.10
02-11-91	1230	<.10	<.10	<.20	<.01	<.01	<.20	<.10	<.10
04-22-91	1245	<.10	<.10	<.20	<.01	<.01	<.20	<.10	<.10
06-17-91	1245	<.10	<.10	<.20	<.01	<.01	<.20	<.10	<.10
08-26-91	1210	<.10	<.10	<.20	<.01	<.01	<.20	<.10	<.10

DATE	SILVEX, TOTAL (UG/L) (39760)	SIMA-ZINE, TOTAL (UG/L) (39055)	SIME-TRYNE, TOTAL (UG/L) (39054)	2,4-D, TOTAL (UG/L) (39730)	2,4-DP, TOTAL (UG/L) (82183)	2,4,5-T, TOTAL (UG/L) (39740)	ALA-CHLOR, TOTAL RECOVER (UG/L) (77825)	TRI-FLURA-LIN, TOTAL RECOVER (UG/L) (39030)	BROM-ACIL, WATER, WHLREC (UG/L) (30234)	BUTA-CHLOR, WATER, WHLREC (UG/L) (30235)	BUTYL-ATE, WATER, WHLREC (UG/L) (30236)
06-15-89	<0.01	<0.10	<0.10	<0.01	<0.01	<0.01	<0.10	<0.10	--	--	--
10-17-90	<.01	<.10	<.10	<.01	<.01	<.01	<.10	<.10	--	--	--
12-17-90	<.01	<.10	<.10	<.01	<.01	<.01	<.10	<.10	--	--	--
02-11-91	<.01	<.10	<.10	<.01	<.01	<.01	<.20	<.10	<0.20	<0.10	<0.10
04-22-91	<.01	<.10	<.10	<.01	<.01	<.01	<.20	<.10	<.20	<.10	<.10
06-17-91	<.01	<.10	<.10	.01	<.01	<.01	<.20	<.10	<.20	<.10	<.10
08-26-91	<.01	<.10	<.10	.17	<.01	<.01	<.10	<.10	<.20	<.10	<.10

DATE	CARBOX-IN, WATER, WHOLE, RECOV-ERABLE (UG/L) (30245)	CYCLO-ATE, WATER, WHOLE, RECOV-ERABLE (UG/L) (30254)	DE-ISO PROPYL ATRAZIN, WATER, WHOLE, TOTAL (UG/L) (75980)	DEETHYL ATRA-ZINE, WATER, WHOLE, TOTAL (UG/L) (75981)	DIPHEN-AMID, WATER, WHOLE, RECOV-ERABLE (UG/L) (30255)	HEXAZI-NONE, WATER, WHOLE, RECOV-ERABLE (UG/L) (30264)	METRI-BUZIN, WATER, WHOLE, TOT.REC (UG/L) (82611)	METOLA-CHLOR, WATER, WHOLE, TOT.REC (UG/L) (82612)	PROPA-CHLOR, WATER, WHOLE, RECOV. (UG/L) (30295)	TER-BACIL, WATER, WHOLE, RECOV. (UG/L) (30311)	VER-NOLATE, WATER, WHOLE, RECOV. (UG/L) (30324)
06-15-89	--	--	--	--	--	--	<0.10	<0.10	--	--	--
10-17-90	--	--	--	--	--	--	<.10	<.10	--	--	--
12-17-90	--	--	--	--	--	--	<.10	<.10	--	--	--
02-11-91	<0.20	<0.10	<0.20	<0.20	<0.10	<0.20	<.10	<.20	<0.10	<0.20	<0.10
04-22-91	<.20	<.10	<.20	<.20	<.10	<.20	<.10	<.20	<.10	<.20	<.10
06-17-91	<.20	<.10	<.20	<.20	<.10	<.20	<.10	<.20	<.10	<.20	<.10
08-26-91	<.20	<.10	<.20	<.20	<.10	<.20	<.10	<.10	<.10	<.20	<.10

Table 7. Fixed-station water-quality data--Continued

DATE	TIME	DISCHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH, WATER, WHOLE, FIELD (STANDARD UNITS) (00400)	TEMPERATURE, AIR (DEG C) (00020)	TEMPERATURE, WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	OXYGEN, DISSOLVED (PERCENT SATURATION) (00301)	E.COLI, MTEC,MF WATER, WHOLE, TOTAL (COL/ 100 ML) (31648)
				Middle Fork Kentucky River at Tallega, Kentucky (03281000)					
04-21-87	1345	2,260	140	7.8	26.5	13.0	10.4	102	--
05-19-87	1245	225	225	7.6	--	21.0	8.2	94	--
06-16-87	1415	88	238	7.6	31.5	25.0	7.7	95	--
07-21-87	1400	65	305	--	34.5	27.0	7.1	90	--
08-18-87	1200	64	330	7.3	31.0	25.0	6.6	81	--
09-15-87	1430	46	287	8.0	28.0	23.5	6.4	76	--
10-14-87	0900	45	293	7.3	5.0	10.5	9.0	81	--
11-17-87	1300	173	295	8.0	20.0	11.0	9.9	92	--
12-15-87	0900	107	301	7.6	15.0	9.0	10.6	95	--
01-12-88	0915	156	261	6.6	-4.0	0.0	13.9	97	--
02-03-88	1200	336	190	7.3	13.5	9.5	11.0	98	--
02-17-88	0900	226	205	7.3	-1.0	2.5	12.6	93	--
03-23-88	0900	88	234	7.5	7.5	8.5	9.6	83	--
04-08-88	1300	2,050	116	7.3	15.0	12.0	10.9	103	--
04-19-88	0830	218	163	7.1	10.0	11.0	9.3	87	--
05-17-88	0830	101	214	7.3	18.0	18.0	8.2	89	--
06-21-88	0800	48	260	7.5	22.0	23.5	6.5	78	--
07-19-88	0930	49	225	7.3	28.0	25.0	5.7	70	--
08-09-88	0815	48	235	7.8	25.0	24.5	6.4	79	25
09-20-88	0900	64	242	7.5	24.0	22.0	6.8	80	--
10-18-88	1320	36	306	7.5	19.0	14.0	8.1	81	--
11-15-88	0900	145	301	7.4	7.0	8.0	10.2	88	--
12-20-88	0830	166	324	7.6	10.0	3.0	12.3	94	--
01-11-89	1315	1,540	204	7.4	5.0	7.5	11.3	96	--
01-13-89	1420	2,190	136	7.5	17.0	7.0	9.7	80	--
01-18-89	0815	3,130	154	7.2	5.5	5.5	11.7	95	--
02-15-89	0900	3,460	109	7.1	11.0	7.0	11.4	96	--
02-23-89	0900	2,450	180	7.0	-4.0	3.5	11.5	88	--
03-07-89	0830	1,850	126	6.9	-1.0	5.5	11.3	92	--
03-21-89	0830	2410	177	7.1	5.0	8.5	9.6	84	--
04-17-89	1430	256	184	7.7	28.0	12.5	10.3	99	--
05-09-89	1915	4,620	166	7.0	14.5	13.0	9.5	93	--
05-15-89	1715	808	163	7.0	19.0	14.0	9.5	95	--
05-23-89	1545	3,700	130	7.2	23.0	15.0	9.2	95	--
06-16-89	1000	5,100	124	7.2	22.0	18.5	8.3	91	--
06-22-89	1345	4,240	134	7.1	30.0	23.0	8.7	105	--
07-13-89	1445	223	272	7.2	30.5	25.5	6.9	88	--
08-24-89	1300	129	239	7.2	27.0	22.5	7.1	84	--
09-21-89	0900	370	306	7.2	18.5	21.5	7.5	87	--
10-18-89	1000	1,850	98	6.8	10.0	16.0	8.1	84	--
10-26-89	0900	3,780	163	6.9	12.5	14.0	9.4	93	--
11-16-89	1400	2,270	188	6.8	8.5	11.0	10.1	96	--
12-21-89	1330	350	293	7.3	-2.5	0.0	13.6	95	--
01-25-90	1245	653	209	7.7	13.5	8.0	8.6	76	--
02-15-90	1400	3,480	130	6.8	21.5	12.0	10.9	104	--
03-29-90	1345	1,010	209	7.0	19.5	14.5	10.5	106	--

Table 7. Fixed-station water-quality data--Continued

DATE	HARDNESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DISSOLVED (MG/L AS CA) (00915)	CALCIUM, SED., SUSP. (PERCENT) (30240)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	MAGNESIUM, SEDIMENT, SUSP. (PERCENT) (30277)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM, SEDIMENT, SUSP. (PERCENT) (30304)	SODIUM (PERCENT) (00932)	SODDIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	POTASSIUM, SEDIMENT, SUSP. (PERCENT) (30294)
Middle Fork Kentucky River at Tallega, Kentucky (03281000)--Continued											
04-21-87	64	14	--	7.1	--	4.1	--	12	0.2	1.6	--
05-19-87	91	20	--	10	--	6.0	--	12	.3	2.0	--
06-16-87	100	23	--	11	--	8.3	--	15	.4	2.3	--
07-21-87	140	33	--	13	--	12	--	16	.4	2.8	--
08-18-87	120	29	0.91	12	0.97	9.9	0.42	15	.4	2.9	2.6
09-15-87	120	28	1.25	11	1.13	10	.55	15	.4	2.9	2.7
10-14-87	120	29	1.21	12	1.11	10	.56	15	.4	2.8	2.7
11-17-87	120	29	1.92	12	1.26	10	2.56	15	.4	2.7	2.1
12-15-87	120	29	.58	12	1.05	12	.30	17	.5	2.9	3.0
01-12-88	100	24	1.32	10	1.25	7.1	.44	13	.3	2.4	2.8
02-03-88	73	17	.72	7.4	.92	5.6	.34	14	.3	1.9	2.8
02-17-88	79	18	1.03	8.3	.77	6.1	.34	14	.3	2.2	2.3
03-23-88	93	21	1.15	9.8	1.08	8.1	.62	16	.4	1.9	2.4
04-08-88	45	9.5	.22	5.1	.77	2.8	.29	10	.2	7.0	2.9
04-19-88	65	15	.55	6.6	.94	4.9	.31	14	.3	1.6	2.9
05-17-88	87	20	--	9.0	--	6.5	--	14	.3	1.9	--
06-21-88	100	23	--	11	--	8.2	--	14	.4	2.2	--
07-19-88	91	21	.73	9.3	.91	6.9	.38	14	.3	2.1	2.6
08-09-88	98	23	--	9.7	--	7.9	--	15	.3	2.2	--
09-20-88	95	22	.36	9.6	.83	9.0	.26	17	.4	2.5	2.7
10-18-88	120	28	2.76	12	1.99	12	1.33	18	.5	2.7	2.3
11-15-88	120	28	2.91	12	1.63	11	.80	16	.4	2.5	2.6
12-20-88	130	31	1.38	13	1.01	9.1	.38	13	.3	2.8	2.3
01-11-89	81	18	.33	8.6	.83	5.1	.26	12	.2	2.0	2.9
01-13-89	55	12	.27	6.0	.71	2.8	.35	10	.2	1.7	2.6
01-18-89	63	14	.30	6.7	.65	2.9	.37	9	.2	1.8	2.4
02-15-89	41	8.5	.23	4.7	.74	2.5	.47	11	.2	1.5	2.6
02-23-89	70	14	.34	8.4	.76	3.3	.40	9	.2	1.5	2.6
03-07-89	46	9.5	.23	5.5	.82	2.2	.33	9	.1	1.5	3.0
03-21-89	65	14	.29	7.3	.77	4.7	.46	13	.3	1.6	2.7
04-17-89	72	15	1.09	8.3	1.16	4.5	.47	12	.2	1.6	2.7
05-09-89	61	14	.33	6.4	.78	3.8	.33	12	.2	1.7	2.7
05-15-89	64	14	.77	6.9	1.02	3.4	.39	10	.2	1.5	2.8
05-23-89	51	11	.25	5.7	.80	3.7	.41	13	.2	1.6	2.8
06-16-89	52	12	.28	5.4	.81	2.4	.30	9	.1	1.7	2.9
06-22-89	51	13	.27	4.5	.82	2.2	.21	8	.1	1.9	3.0
07-13-89	110	26	1.50	11	1.32	6.9	.54	12	.3	2.4	2.8
08-24-89	96	23	.51	9.4	.94	5.5	.25	11	.2	2.6	3.1
09-21-89	130	31	.93	13	1.01	11	.45	15	.4	2.2	2.8
10-18-89	40	8.7	.23	4.3	.84	1.7	.26	8	.1	2.0	3.1
10-26-89	66	16	.44	6.4	.87	3.8	.28	11	.2	2.2	2.9
11-16-89	70	16	.30	7.3	.79	5.0	.41	13	.3	2.0	2.7
12-21-89	100	23	2.19	11	1.44	8.9	.81	16	.4	1.5	2.4
01-25-90	76	16	.53	8.6	.96	5.9	.34	14	.3	1.6	2.9
02-15-90	53	12	.28	5.5	.79	2.5	.29	9	.1	1.5	2.8
03-29-90	73	14	.59	9.3	1.00	6.1	.38	15	.3	1.7	3.0

Table 7. Fixed-station water-quality data--Continued

DATE	ALKALINITY, WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKALINITY, WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	BICARBONATE, WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKALINITY, WAT DIS TOT FET FIELD (MG/L AS CACO3) (00418)	SULFATE, DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	BROMIDE, DISSOLVED (MG/L AS BR) (71870)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C, DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
Middle Fork Kentucky River at Tallega, Kentucky (03281000)--Continued											
04-21-87	21	--	--	--	47	2.3	<0.10	<0.010	6.1	96	96
05-19-87	23	--	--	--	67	4.0	--	<.010	5.0	128	129
06-16-87	43	--	--	--	72	11	--	.018	4.5	159	159
07-21-87	--	--	--	--	89	7.8	.10	.015	4.4	196	201
08-18-87	60	--	--	--	74	7.4	--	<.010	4.2	180	176
09-15-87	61	--	--	--	68	9.5	--	.040	5.0	164	172
10-14-87	--	82	100	79	74	7.1	.20	.020	2.9	174	188
11-17-87	--	56	68	56	81	16	--	.032	1.7	183	186
12-15-87	--	54	66	55	73	11	--	.047	2.7	184	176
01-12-88	--	35	42	35	72	7.5	.10	.027	5.4	148	152
02-03-88	--	--	--	25	49	7.6	.20	.015	6.1	107	113
02-17-88	--	34	41	33	52	6.7	--	.017	5.9	117	121
03-23-88	--	39	47	39	63	7.0	--	.026	3.0	143	138
04-08-88	--	16	20	16	32	2.9	.10	<.010	7.1	75	78
04-19-88	--	29	35	28	40	5.8	.10	.016	5.9	95	99
05-17-88	--	36	44	36	58	5.1	--	.019	4.6	125	128
06-21-88	--	40	49	42	62	7.2	--	.033	3.1	153	143
07-19-88	--	39	48	39	57	5.9	.10	.014	4.3	136	131
08-09-88	--	--	--	--	56	6.2	--	.017	4.7	143	138
09-20-88	--	47	57	47	51	8.2	--	.025	4.5	139	136
10-18-88	--	52	63	51	77	8.2	.10	.010	2.9	186	174
11-15-88	--	53	65	54	72	7.9	--	.020	2.7	175	169
12-20-88	--	48	58	48	82	8.0	--	.025	4.7	184	181
01-11-89	--	25	31	27	60	4.1	<.10	.020	5.6	125	120
01-13-89	--	21	26	21	41	2.5	.10	<.010	6.6	78	87
01-18-89	--	17	21	18	45	2.6	.10	<.010	5.9	95	91
02-15-89	--	14	17	14	30	2.2	.10	.010	6.4	65	66
02-23-89	--	18	22	19	54	2.7	--	.010	6.5	90	103
03-07-89	--	13	16	13	35	1.6	.10	<.010	6.5	77	71
03-21-89	--	22	27	22	48	3.4	--	<.010	6.7	104	100
04-17-89	--	25	31	25	49	3.8	.10	<.030	6.8	104	105
05-09-89	--	23	28	23	43	2.0	.10	.020	6.2	105	93
05-15-89	--	23	28	23	43	2.2	--	<.010	6.6	80	92
05-23-89	--	17	20	18	32	1.6	.10	.020	7.5	63	74
06-16-89	--	21	26	21	32	1.4	.10	.010	7.0	72	76
06-22-89	--	20	25	22	31	1.5	--	.030	5.6	93	73
07-13-89	--	44	54	43	73	4.2	.10	<.010	6.9	161	159
08-24-89	--	48	58	48	53	3.9	--	<.010	6.7	135	134
09-21-89	--	62	76	62	82	5.0	--	<.010	5.9	176	189
10-18-89	--	20	24	20	24	1.4	.10	<.010	7.6	64	63
10-26-89	--	30	37	30	40	2.0	.10	.020	5.9	88	96
11-16-89	--	34	41	33	48	2.5	--	.020	7.3	122	109
12-21-89	--	37	45	37	71	4.9	--	.030	5.8	161	150
01-25-90	--	31	38	31	57	3.4	<.10	<.010	5.9	130	118
02-15-90	--	16	19	16	36	1.6	--	.060	6.2	94	76
03-29-90	--	30	36	29	64	3.7	--	<.010	5.8	152	124

Table 7. Fixed-station water-quality data--Continued

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE, DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE, DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA, DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3, DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AM-MONIA + ORGANIC, TOTAL (MG/L AS N) (00625)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS, SEDI-MENT, SUSP. (PERCENT) (30292)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
Middle Fork Kentucky River at Tallega, Kentucky (03281000)--Continued											
04-21-87	0.13	586	--	<0.010	0.020	0.160	0.90	0.020	<0.010	--	630
05-19-87	.17	77.8	--	<.010	.030	.120	.90	.010	<.010	--	50
06-16-87	.22	37.8	--	<.010	.040	.200	1.1	.030	<.010	--	70
07-21-87	.27	34.2	--	<.010	.020	.160	.40	.020	.010	--	250
08-18-87	.24	30.9	--	<.010	.040	.120	.50	.040	<.010	0.11	170
09-15-87	.22	20.3	--	<.010	.030	.120	.20	<.010	<.010	.11	160
10-14-87	.24	21.2	--	<.010	.020	<.100	.20	.010	<.010	.11	30
11-17-87	.25	85.5	--	<.010	.010	<.100	.20	<.010	<.010	.12	--
12-15-87	.25	53.2	0.170	.010	.030	.180	.30	.030	<.010	.12	--
01-12-88	.20	62.3	.440	.010	.030	.450	.20	.020	<.010	.11	--
02-03-88	.15	97.1	--	<.010	.050	.440	.30	.020	<.010	.10	730
02-17-88	.16	71.4	--	<.010	.120	.340	.20	.020	<.010	.23	--
03-23-88	.19	33.8	--	<.010	.040	.140	.20	.010	.010	.09	--
04-08-88	.10	415	--	<.010	<.010	.280	.30	.080	<.010	.08	2,900
04-19-88	.13	55.9	--	<.010	.040	.240	.20	.020	<.010	.11	--
05-17-88	.17	34.1	--	<.010	.090	.170	.30	.010	<.010	--	--
06-21-88	.21	20.0	--	<.010	.500	.170	.30	.020	<.010	--	--
07-19-88	.18	17.9	--	<.010	.010	.150	<.20	.030	<.010	.12	--
08-09-88	.19	18.5	--	<.010	.040	.150	.30	.020	<.010	--	--
09-20-88	.19	24.0	--	<.010	<.010	.220	.40	.030	<.010	.12	--
10-18-88	.25	18.3	--	<.010	<.010	<.100	.30	.020	<.010	.11	--
11-15-88	.24	68.5	.110	.010	.040	.120	.50	.020	<.010	.12	--
12-20-88	.25	82.5	--	<.010	.020	.360	.30	.020	<.010	.15	--
01-11-89	.17	520	--	<.010	.060	.290	.60	.040	<.010	.08	1,600
01-13-89	.11	461	--	<.010	.020	.290	.30	.020	.020	.08	1,400
01-18-89	.13	803	--	<.010	.040	.300	.40	.020	<.010	.08	--
02-15-89	.09	607	.220	.020	<.010	.240	.60	.100	<.010	.07	3,600
02-23-89	.12	595	--	<.010	<.010	.280	.40	.040	<.010	.08	--
03-07-89	.10	385	--	<.010	<.010	.220	.30	.020	<.010	.08	2,200
03-21-89	.14	677	.190	.030	.020	.220	.50	.150	.010	.08	--
04-17-89	.14	71.9	--	<.010	.010	.170	<.20	.020	<.010	.11	--
05-09-89	.14	1,310	--	<.010	.020	.380	.70	.070	<.010	.08	4,100
05-15-89	.11	175	--	<.010	.020	.180	<.20	.020	<.010	.08	--
05-23-89	.09	629	--	<.010	.020	.140	.50	.030	<.010	.08	2,800
06-16-89	.10	991	--	<.010	.010	.180	.30	.030	<.010	.08	5,800
06-22-89	.13	1,060	--	<.010	.020	.180	.60	.050	.020	.08	--
07-13-89	.22	96.9	--	<.010	.030	.280	.20	.020	<.010	.09	--
08-24-89	.18	47.0	--	<.010	.050	.200	.50	.090	<.010	.10	--
09-21-89	.24	176	--	<.010	.050	.210	.40	<.010	<.010	.09	--
10-18-89	.09	320	--	<.010	<.010	.220	.50	.120	<.010	.08	3,300
10-26-89	.12	898	--	<.010	.020	.220	.40	.070	<.010	.08	--
11-16-89	.17	748	--	<.010	.030	.200	.40	.070	<.010	.08	--
12-21-89	.22	152	.170	.020	.030	.190	.20	<.010	<.010	.12	--
01-25-90	.18	229	--	<.010	.030	.210	.20	.010	.020	.08	--
02-15-90	.13	883	--	<.010	.010	.300	.40	.020	<.010	.07	--
03-29-90	.21	415	--	<.010	.010	.300	.30	<.010	<.010	.08	--

Table 7. Fixed-station water-quality data--Continued

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ALUMINUM, SED., SUSP. (PERCENT) (30221)	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ANTIMONY, SED., SUSP. (UG/G) (29816)	ARSENIC, DISSOLVED (UG/L AS AS) (01000)	ARSENIC, SED., SUSP. (UG/G) (29818)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BERYLLIUM, SED., SUSP. (UG/G) (29822)
					Middle Fork Kentucky River at Tallega, Kentucky (03281000)--Continued						
04-21-87	10	--	<1	--	<1	--	<100	25	<10	<0.5	--
05-19-87	30	--	--	--	<1	--	<100	35	<10	<.5	--
06-16-87	--	--	--	--	<1	--	<100	47	<10	<.5	--
07-21-87	--	--	<1	--	<1	--	200	50	<10	<.5	--
08-18-87	--	9.67	--	0.75	<1	11.9	<100	45	<10	<.5	3
09-15-87	20	10.00	--	.55	<1	14.4	<100	43	<10	<.5	4
10-14-87	20	10.30	<1	.62	<1	14.2	--	45	--	<.5	4
11-17-87	10	7.62	--	.50	<1	11.1	--	48	--	<.5	3
12-15-87	10	12.50	--	.60	<1	11.9	--	44	--	<.5	4
01-12-88	<10	11.80	<1	.80	<1	10.6	--	36	--	<.5	4
02-03-88	60	11.00	<1	.70	<1	10.7	<100	29	<10	<.5	4
02-17-88	20	8.20	--	.70	<1	9.0	--	32	--	<.5	3
03-23-88	<10	8.71	--	.70	<1	9.1	--	36	--	<.5	3
04-08-88	90	10.70	<1	.60	<1	8.5	<100	20	<10	<.5	4
04-19-88	<10	11.30	<1	.80	<1	14.4	--	32	--	<.5	4
05-17-88	<10	--	--	--	<1	--	--	38	--	<.5	--
06-21-88	<10	--	--	--	1	--	--	40	--	<.5	--
07-19-88	<10	9.32	<1	.70	<1	12.7	--	37	--	<.5	3
08-09-88	10	--	--	--	<1	--	--	35	--	<.5	--
09-20-88	<10	11.00	--	.60	<1	13.8	--	33	--	<.5	4
10-18-88	10	7.48	<1	.70	<1	11.5	--	41	--	<.5	<5
11-15-88	<10	9.92	--	1.10	<1	11.5	--	41	--	<.5	4
12-20-88	10	9.36	--	.90	<1	18.3	--	40	--	<.5	4
01-11-89	<10	11.20	<1	.50	<1	11.2	100	28	<10	<.5	4
01-13-89	70	9.45	<1	.50	<1	8.6	<100	20	<10	<.5	3
01-18-89	10	8.69	<1	.40	<1	7.6	--	24	--	<.5	3
02-15-89	60	9.15	<1	.40	<1	11.5	<100	17	<10	<.5	3
02-23-89	20	9.34	--	.40	<1	8.4	--	23	--	<.5	3
03-07-89	30	10.60	<1	.60	<1	8.4	<100	16	<10	<.5	4
03-21-89	40	9.49	--	.90	<1	8.6	--	22	--	<.5	4
04-17-89	<10	10.30	<1	.80	<1	9.6	--	27	--	<.5	4
05-09-89	50	10.30	<1	.50	<1	10.1	200	21	<10	<.5	4
05-15-89	10	10.60	--	.50	<1	10.7	--	24	--	<.5	4
05-23-89	50	10.20	<1	.40	<1	10.1	<100	19	<10	<.5	4
06-16-89	40	10.80	<1	.40	<1	9.4	<100	18	<10	<.5	4
06-22-89	100	12.40	--	.40	<1	10.7	--	20	--	<.5	4
07-13-89	10	10.80	<1	.80	<1	10.7	--	38	--	<.5	4
08-24-89	30	12.10	--	.70	<1	17.3	--	33	--	<.5	4
09-21-89	20	10.10	--	.60	<1	11.7	--	42	--	<.5	4
10-18-89	40	11.40	<1	.60	<1	8.4	<100	17	<10	<.5	4
10-26-89	20	11.50	<1	2.40	<1	9.7	--	26	--	<.5	4
11-16-89	30	9.69	--	2.20	<1	9.0	--	23	--	<.5	4
12-21-89	<10	9.00	--	10.30	<1	11.9	--	31	--	<.5	3
01-25-90	<10	11.20	<1	1.00	<1	10.4	--	26	--	<.5	4
02-15-90	40	11.10	--	.70	<1	9.7	--	19	--	<.5	4
03-29-90	30	12.10	--	1.20	<1	9.7	--	27	--	.7	4

Table 7. Fixed-station water-quality data--Continued

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM, TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CADMIUM, SED., SUSP. (UG/G) (29826)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	CHRO-MIUM, SED., SUSP. (UG/G) (29829)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COBALT, SEDI-MENT, SUSP. (UG/G) (35031)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
Middle Fork Kentucky River at Tallega, Kentucky (03281000)--Continued											
04-21-87	<10	20	<1	0.3	--	<1	<5.0	--	<3	--	<10
05-19-87	--	10	<1	.4	--	4	<.5	--	<3	--	<10
06-16-87	260	--	<1	<.1	--	<1	<.5	--	<3	--	<10
07-21-87	<10	--	<1	<.1	--	<1	<.5	--	<3	--	<10
08-18-87	30	--	<1	<.1	0.7	10	<.5	94	<3	24	10
09-15-87	80	30	1	.1	.3	2	<.5	91	<3	26	20
10-14-87	--	30	--	.1	.7	--	<.5	92	<3	26	--
11-17-87	--	30	--	<.1	.9	--	<.5	75	<3	25	--
12-15-87	--	40	--	<.1	.5	--	<.5	116	<3	24	--
01-12-88	--	20	--	<.1	.4	--	<.5	110	<3	24	--
02-03-88	20	20	1	.4	.6	1	<.5	100	<3	22	20
02-17-88	--	20	--	.9	1.20	--	<.5	80	<3	18	--
03-23-88	--	10	--	.2	.6	--	<.5	79	<3	25	--
04-08-88	<10	<10	<1	.1	.3	<1	<.5	92	<3	22	10
04-19-88	--	<10	--	.2	.5	--	<.5	111	<3	25	--
05-17-88	--	<10	--	.2	--	--	<.5	-	<3	--	--
06-21-88	--	<10	--	<.1	--	--	<.5	-	<3	--	--
07-19-88	--	20	--	.3	.5	--	<.5	144	<3	23	--
08-09-88	--	20	--	.3	--	--	.7		<3	--	--
09-20-88	--	20	--	.2	.4	--	<.5	107	<3	23	--
10-18-88	--	20	--	<.1	3.30	--	<.5	77	<3	24	--
11-15-88	--	10	--	.7	2.00	--	<.5	86	<3	29	--
12-20-88	--	10	--	<.1	.7	--	<.5	87	<3	30	--
01-11-89	40	<10	<1	.1	.4	3	<.5	95	<3	22	<10
01-13-89	10	<10	1	<.1	.3	4	<.5	82	<3	20	<10
01-18-89	--	<10	--	.2	.2	--	.7	73	<3	22	--
02-15-89	30	<10	<1	<.1	.1	7	<.5	81	<3	18	10
02-23-89	--	<10	--	.2	.4	--	.9	84	<3	21	--
03-07-89	<10	<10	1	.2	.4	3	<.5	94	<3	22	<10
03-21-89	--	<10	--	.3	.2	--	<.5	85	<3	21	--
04-17-89	--	<10	--	<.1	.9	--	<.5	93	<3	30	--
05-09-89	190	<10	<1	.4	.5	6	<.5	144	<3	22	10
05-15-89	--	10	--	<.1	.5	--	<.5	148	<3	21	--
05-23-89	<10	<10	<1	.2	.4	4	<.5	136	<3	19	<10
06-16-89	50	10	<1	<.1	.5	10	.6	147	<3	22	11
06-22-89	--	20	--	.2	.6	--	<.5	164	<3	21	--
07-13-89	--	10	--	.3	.5	--	<.5	90	<3	24	--
08-24-89	--	40	--	.2	.6	--	<.5	106	<3	22	--
09-21-89	--	20	--	.2	1.2	--	<.5	85	<3	23	--
10-18-89	<10	20	<1	<.1	.3	4	<.5	95	<3	22	<10
10-26-89	--	10	--	.2	.3	--	<.5	97	<3	23	--
11-16-89	--	10	--	.2	.3	--	.9	84	<3	19	--
12-21-89	--	10	--	.2	1.9	--	<.5	97	<3	20	--
01-25-90	--	<10	--	.1	.5	--	<.5	90	<3	23	--
02-15-90	--	<10	--	<.1	.3	--	<.5	88	<3	22	--
03-29-90	--	20	--	.2	.4	--	<.5	96	<3	25	--

Table 7. Fixed-station water-quality data--Continued

DATE	COPPER, DISSOLVED (UG/L AS CU) (01040)	COPPER, SED., SUSP. (UG/G) (29832)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	IRON, DISSOLVED (UG/L AS FE) (01046)	IRON, SEDIMENT, SUSP. (PERCENT) (30269)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	LEAD, DISSOLVED (UG/L AS PB) (01049)	LEAD, SED., SUSP. (UG/G) (29836)	LITHIUM, DISSOLVED (UG/L AS LI) (01130)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)
					Middle Fork Kentucky River at Tallega, Kentucky (03281000)--Continued						
04-21-87	1.3	--	1,500	50	--	<5	7.9	--	<4	90	20
05-19-87	1.7	--	210	42	--	<5	.6	--	6	40	34
06-16-87	7.2	--	350	38	--	<5	<.5	--	5	60	56
07-21-87	.6	--	620	29	--	12	<.5	--	8	160	130
08-18-87	.5	31	470	37	4.92	<5	<.5	20.5	<4	100	73
09-15-87	1.0	51	480	56	5.49	85	<.5	29.7	<4	110	76
10-14-87	1.0	39	--	83	5.35	--	<.5	20.4	11	--	71
11-17-87	<.5	30	--	17	4.52	--	<.5	53.6	<4	--	35
12-15-87	.8	36	--	10	5.97	--	<.5	40.6	<4	--	65
01-12-88	.7	37	--	42	5.64	--	<.5	49.6	<4	--	100
02-03-88	.7	35	1,800	100	5.08	<5	<.5	35.9	<4	150	98
02-17-88	2.2	28	--	94	4.65	--	<.5	44.3	<4	--	140
03-23-88	1.0	30	--	36	5.40	--	<.5	26.0	<4	--	140
04-08-88	.8	34	6,900	110	4.65	<5	<.5	23.5	13	300	31
04-19-88	2.8	40	--	18	6.53	--	.9	27.8	<4	--	120
05-17-88	2.0	--	--	87	--	--	<.5	--	<4	--	84
06-21-88	.7	--	--	30	--	--	<.5	--	<4	--	59
07-19-88	2.1	60	--	29	5.06	--	<.5	32.3	<4	--	72
08-09-88	1.5	--	--	50	--	--	<.5	--	<4	--	64
09-20-88	.9	36	--	44	5.57	--	<.5	35.7	<4	--	42
10-18-88	3.1	32	--	54	4.37	--	<.5	39.5	7	--	48
11-15-88	<.5	38	--	39	4.93	--	<.5	42.6	6	--	37
12-20-88	1.3	42	--	51	8.60	--	<.5	41.6	7	--	89
01-11-89	.7	31	3,300	24	4.69	<5	<.5	30.8	<4	240	120
01-13-89	.8	25	2,900	79	4.21	<5	<.5	30.9	<4	160	42
01-18-89	.5	25	--	31	4.07	--	1.0	24.3	<4	--	60
02-15-89	.9	26	8,400	98	4.46	5	<.5	26.7	<4	290	26
02-23-89	1.1	32	--	26	4.33	--	<.5	26.0	<4	--	52
03-07-89	.8	34	4,400	59	4.77	<5	<.5	26.1	<4	140	36
03-21-89	1.1	31	--	69	4.62	--	5.5	27.1	<4	--	78
04-17-89	<.5	50	--	91	6.17	--	<.5	33.9	<4	--	110
05-09-89	2.0	31	7,400	110	4.66	6	.6	36.6	<4	230	24
05-15-89	2.5	41	--	29	4.99	--	<.5	30.0	<4	--	44
05-23-89	.7	32	6,700	76	4.56	8	<.5	31.1	<4	230	18
06-16-89	1.1	33	13,000	81	4.70	8	<.5	27.6	<4	420	21
06-22-89	1.2	36	--	170	5.08	--	<.5	22.4	12	--	21
07-13-89	.8	35	--	17	5.63	--	<.5	34.8	<4	--	85
08-24-89	.7	36	--	49	5.63	--	<.5	35.0	4	--	120
09-21-89	<.5	59	--	45	5.04	--	<.5	33.0	<4	--	130
10-18-89	.8	41	6,300	79	5.07	7	<.5	27.3	<4	180	31
10-26-89	.8	34	--	47	5.11	--	<.5	124	<4	--	13
11-16-89	<.5	30	--	42	4.44	--	<.5	91.4	<4	--	63
12-21-89	.8	112	--	31	6.88	--	<.5	334	4	--	130
01-25-90	<.5	32	--	31	5.24	--	<.5	32.8	<4	--	72
02-15-90	.5	28	--	120	4.69	--	<.5	25.4	<4	--	22
03-29-90	1.0	34	--	27	5.22	--	<.5	38.1	<4	--	43

Table 7. Fixed-station water-quality data--Continued

DATE	MANGANESE, SED., SUSP. (UG/G) (29839)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY, DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO) (01062)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	MOLYBDENUM, SED., SUSP. (UG/G) (29843)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	NICKEL, SED., SUSP. (UG/G) (29845)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)
				Middle Fork Kentucky River at Tallega, Kentucky (03281000)--Continued							
04-21-87	--	2.0	1.0	<1	<10	--	<10	--	<1	<1	<1.0
05-19-87	--	<.10	<.1	3	<10	--	<10	--	--	<1	<1.0
06-16-87	--	<.10	<.1	2	<10	--	--	--	--	<1	--
07-21-87	--	.30	.2	3	<10	--	--	--	<1	<1	--
08-18-87	6,190	.20	<.1	<1	<10	1.3	<10	48	--	1	<1.0
09-15-87	6,610	<.10	<.1	<1	<10	1.0	<10	45	--	<1	<1.0
10-14-87	7,990	--	<.1	--	<10	1.0	<10	46	<1	--	<1.0
11-17-87	6,340	--	<.1	--	<10	.7	<10	54	--	--	<1.0
12-15-87	2,480	--	<.1	--	<10	.5	<10	53	--	--	<1.0
01-12-88	2,610	--	<.1	--	<10	1.4	<10	58	<1	--	<1.0
02-03-88	2,540	<.10	<.1	3	<10	.9	<10	47	<1	1	<1.0
02-17-88	2,000	--	<.1	--	<10	.9	<10	37	--	--	<1.0
03-23-88	4,860	--	<.1	--	<10	.8	<10	38	--	--	<1.0
04-08-88	1,620	--	--	1	<10	.7	<10	40	<1	1	<1.0
04-19-88	3,350	--	<.1	--	<10	1.5	<10	51	<1	--	<1.0
05-17-88	--	--	<.1	--	<10	--	<10	--	--	--	<1.0
06-21-88	--	--	<.1	--	<10	--	<10	--	--	--	2.0
07-19-88	5,320	--	.4	--	<10	1.2	<10	55	<1	--	<1.0
08-09-88	--	--	<.1	--	<10	--	<10	--	--	--	<1.0
09-20-88	3,080	--	<.1	--	<10	1.0	<10	51	--	--	<1.0
10-18-88	10,400	--	<.1	--	<10	1.3	<10	45	<1	--	<1.0
11-15-88	5,910	--	<.1	--	<10	1.2	<10	76	--	--	2.0
12-20-88	12,200	--	<.1	--	<10	1.3	<10	61	--	--	<1.0
01-11-89	2,580	<.10	<.1	3	<10	.9	<10	49	<1	<1	<1.0
01-13-89	1,730	<.10	.1	4	<10	.7	<10	39	<1	<1	1.0
01-18-89	2,150	--	<.1	--	<10	.6	10	41	<1	--	2.0
02-15-89	1,060	<.10	<.1	4	<10	.6	<10	37	<1	<1	<1.0
02-23-89	1,640	--	<.1	--	<10	.8	<10	42	--	--	<1.0
03-07-89	1,140	<.10	<.1	4	<10	.8	<10	42	<1	<1	<1.0
03-21-89	1,270	--	<.1	--	<10	.7	<10	42	--	--	<1.0
04-17-89	3,710	--	<.1	--	<10	1.1	<10	52	<1	--	3.0
05-09-89	1,450	<.10	<.1	3	<10	.7	<10	47	<1	<1	<1.0
05-15-89	1,700	--	<.1	--	<10	.9	<10	49	--	--	<1.0
05-23-89	1,060	<.10	<.1	3	<10	.5	<10	41	1	<1	1.0
06-16-89	1,360	<.10	<.1	<1	<10	.8	<10	45	<1	<1	2.0
06-22-89	1,080	--	<.1	--	<10	1.0	<10	47	--	--	8.0
07-13-89	3,850	--	--	--	<10	1.1	<10	49	<1	--	<1.0
08-24-89	3,480	--	<.1	--	<10	.9	<10	52	--	--	<1.0
09-21-89	5,800	--	.1	--	<10	.7	<10	43	--	--	<1.0
10-18-89	1,150	.20	.1	<1	<10	.7	<10	41	<1	<1	<1.0
10-26-89	1,480	--	.1	--	<10	3.9	<10	47	<1	--	3.0
11-16-89	1,540	--	1.0	--	<10	2.7	<10	39	--	--	<1.0
12-21-89	1,400	--	.8	--	<10	4.6	<10	53	--	--	<1.0
01-25-90	1,850	--	<.1	--	<10	.8	<10	44	<1	--	<1.0
02-15-90	1,340	--	.1	--	<10	.9	<10	41	--	--	1.0
03-29-90	2,060	--	<.1	--	<10	.9	<10	51	--	--	<1.0

Table 7. Fixed-station water-quality data--Continued

DATE	SILVER, SED., SUSP. (UG/G) (29850)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	VANA-DIUM, SED., SUSP. (UG/G) (29853)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	ZINC, SED., SUSP. (UG/G) (29855)	TITA-NIUM, SEDI-MENT, SUSP. (PERCENT) (30317)	THAL-LIUM, SED., SUSP. (UG/G)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP., TOTAL (UG/L AS U-NAT) (80040)
					Middle Fork Kentucky River at Tallega, Kentucky (03281000)--Continued						
04-21-87	--	88	<6	--	20	<3	--	--	--	<0.4	0.5
05-19-87	--	150	<6	--	<10	<3	--	--	--	--	--
06-16-87	--	190	<6	--	<10	6	--	--	--	--	--
07-21-87	--	250	<6	--	30	8	--	--	--	<.4	<.4
08-18-87	0.2	220	<6	127	<10	<3	170	0.47	0.60	--	--
09-15-87	.1	210	<6	131	<10	4	157	.47	.90	--	--
10-14-87	.1	210	<6	133	--	<3	163	.48	.60	1.2	<.4
11-17-87	.3	210	<6	100	--	<3	151	.40	.40	--	--
12-15-87	.1	230	<6	164	--	<3	178	.57	.90	--	--
01-12-88	.3	160	<6	153	--	79	193	.49	.70	.5	.4
02-03-88	.2	110	<6	139	10	17	166	.51	1.0	.4	1.1
02-17-88	.2	120	<6	103	--	18	150	.46	1.0	--	--
03-23-88	.2	150	<6	109	--	5	141	.41	.60	--	--
04-08-88	3.8	55	<6	129	130	<3	147	.53	.80	.7	11
04-19-88	.2	100	<6	147	--	3	175	.49	.80	<.4	<.4
05-17-88	--	140	<6	--	--	<3	--	--	--	--	--
06-21-88	--	180	<6	--	--	16	--	--	--	--	--
07-19-88	.2	160	<6	125	--	8	158	.47	1.0	.5	<.4
08-09-88	--	170	<6	--	--	39	--	--	--	--	--
09-20-88	.1	180	<6	142	--	4	154	.52	.90	--	--
10-18-88	.2	220	<6	99	--	23	217	.37	.70	<.4	<.4
11-15-88	.3	210	<6	129	--	10	199	.42	.90	--	--
12-20-88	.2	210	<6	137	--	4	184	.40	.80	--	--
01-11-89	.2	120	<6	141	<10	14	155	.53	.90	<.6	6.1
01-13-89	.1	68	<6	118	20	6	139	.50	.90	<.6	1.4
01-18-89	.1	85	<6	107	--	9	123	.44	.70	<.6	3.8
02-15-89	.2	47	<6	116	40	16	116	.48	.80	<.6	16
02-23-89	.3	83	<6	115	--	5	148	.50	.90	--	--
03-07-89	.4	54	<6	131	30	23	142	.55	1.0	<.6	6.4
03-21-89	.3	95	<6	117	--	6	134	.51	.80	--	--
04-17-89	.3	100	<6	131	--	8	192	.47	.90	<.6	<.6
05-09-89	<.1	92	<6	131	30	3	145	.53	1.1	<.6	9.1
05-15-89	.1	89	<6	135	--	3	163	.51	.90	--	--
05-23-89	.1	74	<6	126	40	3	134	.53	1.0	<.6	12
06-16-89	<.1	66	<6	136	40	<3	139	.57	.90	<.6	13
06-22-89	.1	68	<6	155	--	22	147	.61	.70	--	--
07-13-89	.5	180	<6	138	--	19	244	.49	.90	<.6	1.0
08-24-89	.4	140	<6	155	--	21	245	.57	1.0	--	--
09-21-89	.2	230	<6	128	--	6	254	.46	.80	--	--
10-18-89	.2	44	<6	144	100	4	143	.54	.90	.9	2.5
10-26-89	.2	100	<6	146	--	<3	152	.54	3.8	.6	4.4
11-16-89	.1	110	<6	122	--	10	135	.47	3.1	--	--
12-21-89	.7	170	<6	117	--	4	300	.44	2.7	--	--
01-25-90	.3	120	<6	140	--	9	175	.51	.80	<.6	1.7
02-15-90	.1	72	<6	131	--	3	134	.53	.90	--	--
03-29-90	<.1	130	<6	142	--	3	162	.53	.80	--	--

Table 7. Fixed-station water-quality data--Continued

DATE	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP., TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90) (80050)	GROSS BETA, SUSP., TOTAL (PCI/L AS SR/YT-90) (80060)	CARBON, ORGANIC, DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC, SUS-PENDED, TOTAL (MG/L AS C) (00689)	CYANIDE, DIS-SOLVED (MG/L AS CN) (00723)	SURFACE AREA, SEDI-MENT, SUSP. (M2/G) (30334)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED., SUSP., SIEVE DIAM. (% FINER THAN .062 MM)
Middle Fork Kentucky River at Tallega, Kentucky (03281000)--Continued											
04-21-87	2.2	0.8	1.8	0.8	1.8	0.4	<0.01	--	52	317	82
05-19-87	--	--	--	--	2.7	--	--	--	2	1.2	100
06-16-87	--	--	--	--	4.1	--	--	--	5	1.2	92
07-21-87	3.8	<.4	3.1	<.4	3.4	.3	<.01	--	20	3.5	59
08-18-87	--	--	--	--	3.3	.3	--	19.0	20	3.4	70
09-15-87	--	--	--	--	3.4	.3	--	20.9	8	.99	75
10-14-87	2.9	<.4	2.4	<.4	3.2	<.1	<.01	21.8	6	.73	49
11-17-87	--	--	--	--	3.0	.1	--	14.1	6	2.8	56
12-15-87	--	--	--	--	4.2	.4	--	26.2	43	12	88
01-12-88	2.6	.7	2.0	.7	2.4	.3	<.01	28.9	22	9.3	85
02-03-88	2.1	1.4	1.8	1.3	2.4	--	<.01	21.1	33	30	84
02-17-88	--	--	--	--	1.4	.2	--	19.3	14	8.5	48
03-23-88	--	--	--	--	1.3	.2	--	15.6	9	2.1	70
04-08-88	1.7	8.2	1.5	7.3	3.6	3.4	<.01	18.6	212	1,170	83
04-19-88	1.7	.9	1.5	.9	1.6	.3	<.01	30.1	16	9.4	90
05-17-88	--	--	--	--	1.6	.2	--	17.1	5	1.4	70
06-21-88	--	--	--	--	2.1	.1	--	12.5	6	.78	59
07-19-88	2.9	<.4	2.4	<.4	2.4	.4	<.01	19.3	11	1.4	74
08-09-88	--	--	--	--	--	--	--	--	9	1.2	63
09-20-88	--	--	--	--	3.0	--	--	25.2	20	3.5	92
10-18-88	4.0	<.4	3.1	<.4	2.4	.2	<.01	11.0	4	.39	46
11-15-88	--	--	--	--	1.8	.2	--	21.1	4	1.6	40
12-20-88	--	--	--	--	1.6	.2	--	35.0	6	2.7	59
01-11-89	2.4	4.3	1.9	3.9	1.6	.8	<.01	21.0	92	383	85
01-13-89	1.7	2.4	1.5	2.2	2.4	.9	<.01	14.2	96	568	71
01-18-89	2.2	3.2	1.8	2.9	2.0	.9	<.01	14.8	148	1,250	41
02-15-89	1.6	11	1.5	10	2.8	2.1	<.01	15.1	276	2,580	76
02-23-89	--	--	--	--	2.7	.8	--	16.3	87	576	73
03-07-89	1.9	4.9	1.7	4.3	1.9	1.0	<.01	16.8	117	584	91
03-21-89	--	--	--	--	2.2	1.7	--	16.7	277	1,800	70
04-17-89	2.0	<.6	1.7	<.6	1.4	.2	<.01	23.0	6	4.1	39
05-09-89	1.7	6.7	1.5	6.0	2.0	1.3	<.01	19.6	221	2,760	61
05-15-89	--	--	--	--	1.6	.2	--	18.3	49	107	50
05-23-89	2.9	10	2.2	9.0	3.0	>2.0	<.01	18.1	247	2,470	74
06-16-89	2.2	12	1.9	11	3.3	>2.5	<.01	19.1	302	4,160	74
06-22-89	--	--	--	--	5.3	.8	--	25.1	292	3,340	98
07-13-89	2.7	1.0	2.0	1.0	2.3	.4	<.01	21.8	22	13	86
08-24-89	--	--	--	--	3.0	--	--	29.0	39	14	83
09-21-89	--	--	--	--	3.0	.3	--	21.4	28	28	78
10-18-89	3.8	5.2	3.0	4.1	3.7	1.7	<.01	21.0	140	699	94
10-26-89	3.3	5.8	2.6	4.6	3.1	1.5	<.01	23.5	155	1,580	83
11-16-89	--	--	--	--	2.8	1.6	--	20.3	115	705	94
12-21-89	--	--	--	--	1.5	.2	--	29.3	68	64	11
01-25-90	2.7	1.5	2.2	1.2	1.3	.2	<.01	20.6	23	41	92
02-15-90	--	--	--	--	1.6	.4	--	21.7	172	1,620	59
03-29-90	--	--	--	--	1.6	.2	--	20.7	33	90	83

Table 7. Fixed-station water-quality data--Continued

Middle Fork Kentucky River at Tallega, Kentucky (03281000)--Continued

DATE	TIME	AME-TRYNE, TOTAL (UG/L) (82184)	ATRA-ZINE, TOTAL (UG/L) (39630)	CYAN-AZINE, TOTAL (UG/L) (81757)	DICAMBA (MED-IBEN) (BAN-VEL D), TOTAL (UG/L) (82052)	PICLO-RAM (TOR-DON) (AMDON), TOTAL (UG/L) (39720)	PROME-TONE, TOTAL (UG/L) (39056)	PROME-TRYNE, TOTAL (UG/L) (39057)	PRO-PAZINE, TOTAL (UG/L) (39024)
06-16-89	1000	<0.10	0.10	<0.10	<0.01	<0.01	<0.10	<0.10	<0.10

DATE	SILVEX, TOTAL (UG/L) (39760)	SIMA-ZINE, TOTAL (UG/L) (39055)	SIME-TRYNE, TOTAL (UG/L) (39054)	2,4-D, TOTAL (UG/L) (39730)	2,4-DP, TOTAL (UG/L) (82183)	2,4,5-T, TOTAL (UG/L) (39740)	ALA-CHLOR, TOTAL RECOVER (UG/L) (77825)	TRI-FLURA-LIN, TOTAL RECOVER (UG/L) (39030)	METRI-BUZIN, WATER, WHOLE, TOT.REC (UG/L) (82611)	METOLA-CHLOR, WATER, WHOLE, TOT.REC (UG/L) (82612)
06-16-89	<0.01	<0.10	<0.10	<0.01	<0.01	<0.01	<0.10	<0.10	<0.10	<0.10

Table 7. Fixed-station water-quality data--Continued

DATE	TIME	DIS-CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	E.COLI, MTEC,MF WATER WHOLE TOTAL (COL/ 100 ML) (31648)
South Fork Kentucky River at Booneville, Kentucky (03281500)									
04-21-87	0855	1,440	133	7.0	26.5	16.0	9.2	96	--
05-19-87	0900	178	275	7.4	22.0	22.5	7.7	91	--
06-16-87	1000	88	265	7.8	29.0	26.5	7.2	92	--
07-21-87	0900	115	270	7.0	23.0	26.0	6.9	86	--
08-18-87	0830	72	450	7.1	25.0	24.5	6.0	74	--
09-15-87	0900	131	573	7.9	21.0	22.5	5.6	66	--
10-14-87	1330	14	720	7.5	18.5	12.0	8.2	77	--
11-17-87	0830	54	593	7.8	17.5	9.0	9.6	84	--
12-15-87	1230	114	471	7.8	10.0	7.5	10.8	93	--
01-12-88	1400	235	291	7.0	7.0	.5	13.7	96	--
02-03-88	1515	718	255	7.2	14.5	9.5	11.3	101	--
02-17-88	1300	403	244	7.4	15.0	3.0	12.7	96	--
03-23-88	1300	346	220	7.5	28.0	10.0	9.8	88	--
04-08-88	0900	7,700	109	7.2	12.0	9.5	10.7	95	--
04-19-88	1300	712	239	7.2	15.0	13.5	9.4	92	--
05-17-88	1245	313	222	7.4	25.0	21.0	7.6	87	--
06-21-88	1230	34	438	7.5	29.0	27.0	6.5	83	--
07-19-88	1530	49	624	7.6	30.0	27.0	6.7	86	--
08-09-88	0830	15	505	7.4	21.0	25.5	4.4	56	85
09-20-88	1300	215	489	7.5	29.5	22.5	6.9	82	--
10-18-88	0900	16	265	7.3	21.0	14.0	8.4	84	--
11-15-88	1230	270	275	7.5	20.0	9.0	10.1	90	--
12-20-88	1315	117	386	7.6	18.0	3.5	13.0	101	--
01-13-89	0900	12,500	121	6.6	3.0	6.5	8.4	69	--
01-18-89	1315	1,790	168	7.1	13.0	5.0	12.0	97	--
02-14-89	1815	4,340	138	6.8	8.0	6.0	11.4	93	--
02-23-89	1315	4040	145	6.5	-4.5	4.0	11.6	90	--
03-07-89	1330	16,500	100	6.8	2.0	7.0	11.0	93	--
03-21-89	1245	6,690	130	6.9	6.0	9.0	9.1	81	--
04-17-89	0900	818	212	7.4	14.5	11.5	10.5	99	--
05-10-89	1515	2,740	136	7.1	18.0	12.5	9.2	89	--
05-15-89	1400	923	182	7.2	22.0	14.5	9.7	98	--
05-23-89	1930	5,030	122	7.1	22.0	15.0	8.8	90	--
06-15-89	1530	4,900	118	8.2	20.0	19.0	8.4	94	--
06-22-89	0845	1,150	199	7.2	25.5	23.0	8.3	100	--
07-13-89	0945	627	187	7.1	26.0	24.0	7.9	97	--
08-24-89	0900	219	294	7.3	24.5	24.0	7.3	90	--
09-21-89	1230	371	211	7.0	31.5	22.5	7.8	93	--
10-17-89	1445	19,100	82	7.1	22.5	17.0	7.2	76	--
10-26-89	1400	651	210	7.1	26.5	15.5	9.5	98	--
11-16-89	1000	4,800	121	6.7	7.0	10.5	9.2	86	--
12-21-89	0930	283	263	7.0	3.5	0.0	12.4	87	--
01-25-90	0900	1,080	158	7.5	14.0	9.0	11.4	103	--
02-15-90	0900	1,480	165	7.0	20.0	12.0	9.7	93	--
03-29-90	0900	1,100	153	6.9	15.5	13.0	10.6	103	--

Table 7. Fixed-station water-quality data--Continued

DATE	HARDNESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DISSOLVED (MG/L AS CA) (00915)	CALCIUM, SED., SUSP. (PERCENT) (30240)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	MAGNESIUM SEDIMENT, SUSP. (PERCENT) (30277)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM, SEDIMENT, SUSP. PERCENT (30304)	SODIUM PERCENT (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	POTASSIUM, SEDIMENT, SUSP. (PERCENT) (30294)
South Fork Kentucky River at Booneville, Kentucky (03281500)--Continued											
04-21-87	59	12	--	6.9	--	5.2	--	16	0.3	1.4	--
05-19-87	100	22	--	11	--	14	--	23	.6	2.3	--
06-16-87	110	24	--	11	--	15	--	23	.6	2.4	--
07-21-87	110	26	--	11	--	15	--	22	.6	2.7	--
08-18-87	130	28	0.38	14	0.88	28	0.27	32	1	3.2	2.8
09-15-87	160	35	.74	17	.95	59	.88	44	2	4.5	2.6
10-14-87	190	43	--	19	--	74	--	46	2	5.1	--
11-17-87	150	36	5.89	15	1.15	57	3.34	44	2	4.8	1.2
12-15-87	160	36	.62	16	1.01	34	.43	31	1	4.2	2.8
01-12-88	100	22	--	11	--	15	--	24	.7	2.1	--
02-03-88	91	20	.30	10	.63	12	.45	22	.5	1.9	2.2
02-17-88	87	19	--	9.6	--	12	--	23	.6	2.1	--
03-23-88	79	17	1.78	8.8	1.24	11	.98	23	.5	1.7	1.7
04-08-88	41	9.2	.25	4.4	.69	3.1	.33	13	.2	2.3	2.5
04-19-88	84	18	1.51	9.5	1.45	13	1.26	25	.6	1.7	2.4
05-17-88	82	18	.52	8.9	.84	10	.44	21	.5	1.8	2.6
06-21-88	140	30	2.12	15	1.53	31	.87	33	1	2.6	2.7
07-19-88	180	38	.44	20	.98	56	.39	40	2	3.7	3.2
08-09-88	150	33	--	17	--	39	--	35	1	3.7	--
09-20-88	160	34	.56	17	.94	37	.47	33	1	4.3	2.8
10-18-88	120	28	2.06	13	1.79	18	1.39	23	.7	3.3	2.6
11-15-88	100	22	.77	11	1.02	12	.35	20	.5	2.8	2.7
12-20-88	130	29	--	14	--	21	--	26	.8	1.8	--
01-13-89	41	8.8	.25	4.5	.67	2.6	.34	12	.2	1.7	2.4
01-18-89	64	13	.47	7.5	.73	5.1	.40	15	.3	1.6	2.3
02-14-89	49	10	.22	5.9	.69	4.4	.38	16	.3	1.4	2.5
02-23-89	54	11	.21	6.3	.57	3.7	.40	13	.2	1.4	2.1
03-07-89	36	7.9	.33	4.0	.77	2.1	.33	11	.2	1.5	2.9
03-21-89	47	9.7	.24	5.4	.77	3.5	.50	14	.2	1.5	2.8
04-17-89	78	16	.72	9.2	.72	7.7	.72	17	.4	1.7	1.7
05-10-89	49	10	.59	5.8	.84	3.9	.45	14	.2	1.5	2.4
05-15-89	66	14	1.25	7.5	1.07	6.8	.60	18	.4	1.4	2.4
05-23-89	44	9.5	.22	4.8	.68	3.3	.32	14	.2	1.5	2.5
06-15-89	46	9.9	.28	5.1	.71	3.3	.34	13	.2	1.4	2.5
06-22-89	77	17	.78	8.4	.96	6.0	.48	14	.3	1.8	2.6
07-13-89	72	16	.48	7.7	.89	6.2	.35	15	.3	1.9	2.8
08-24-89	100	23	.72	11	1.01	15	.54	23	.6	2.8	2.9
09-21-89	83	19	.56	8.6	.88	7.7	.36	16	.4	2.2	2.7
10-17-89	29	6.8	.20	3.0	.70	2.3	.36	13	.2	2.4	2.5
10-26-89	82	18	2.02	8.9	1.24	6.9	.83	15	.3	1.9	1.4
11-16-89	43	9.4	.24	4.7	.71	3.2	.32	13	.2	2.0	2.5
12-21-89	87	19	--	9.5	--	9.4	--	19	.4	1.5	--
01-25-90	56	12	1.37	6.4	1.29	4.9	.79	16	.3	1.3	2.2
02-15-90	63	13	.67	7.3	.93	5.0	.47	14	.3	1.3	2.5
03-29-90	52	10	--	6.6	--	4.6	--	16	.3	1.3	--

Table 7. Fixed-station water-quality data--Continued

DATE	ALKALINITY, WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKALINITY, WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	BICARBONATE, WATER DIS IT FIELD (MG/L AS HCO3) (00453)	ALKALINITY, WAT DIS TOT FET FIELD (MG/L AS CACO3) (00418)	SULFATE, DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	BROMIDE, DISSOLVED (MG/L AS BR) (71870)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C, DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
South Fork Kentucky River at Booneville, Kentucky (03281500)--Continued											
04-21-87	21	--	--	--	44	3.3	<0.10	<0.010	6.9	88	93
05-19-87	39	--	--	--	77	11	--	.043	3.7	163	166
06-16-87	46	--	--	--	83	14	--	.045	5.3	184	184
07-21-87	--	--	--	--	59	16	.10	.050	5.2	174	169
08-18-87	56	--	--	--	94	32	--	.12	3.9	176	240
09-15-87	66	--	--	--	99	93	--	.35	2.1	339	351
10-14-87	--	127	155	127	120	98	.20	.41	2.9	425	440
11-17-87	--	70	85	69	89	85	--	.32	1.8	338	331
12-15-87	--	62	76	61	98	38	--	.12	2.5	283	268
01-12-88	--	32	39	32	63	19	.10	.093	6.8	166	161
02-03-88	--	--	--	33	69	13	.20	.042	6.5	151	154
02-17-88	--	25	31	25	61	12	--	.049	6.1	139	140
03-23-88	--	27	33	28	57	9.4	--	.040	3.0	129	125
04-08-88	--	17	21	18	29	2.5	.10	.010	6.6	69	68
04-19-88	--	30	36	29	63	13	.10	.052	4.6	140	142
05-17-88	--	32	39	33	57	8.7	--	.031	3.1	126	128
06-21-88	--	50	61	48	91	36	--	.16	1.7	248	239
07-19-88	--	56	68	56	140	69	.20	.27	2.3	369	364
08-09-88	--	--	--	--	110	39	.20	.14	2.6	290	281
09-20-88	--	52	63	53	120	35	--	.12	3.7	297	284
10-18-88	--	50	61	49	79	17	.10	.050	5.2	203	196
11-15-88	--	41	50	42	69	10	--	.030	6.4	162	160
12-20-88	--	44	54	45	95	21	--	.093	4.5	216	215
01-13-89	--	16	13	16	33	2.1	.10	.025	6.5	66	67
01-18-89	--	17	21	18	50	3.7	.10	.011	7.3	88	101
02-14-89	--	8	10	7	38	4.6	.10	.012	6.5	89	78
02-23-89	--	14	17	15	42	2.4	--	.012	6.7	81	84
03-07-89	--	11	13	12	28	1.6	.10	<.010	6.0	67	59
03-21-89	--	13	16	14	37	2.3	--	<.010	6.5	73	75
04-17-89	--	28	34	28	62	4.6	.10	<.020	5.6	123	125
05-10-89	--	19	23	20	35	2.2	.10	<.010	<7.3	69	71
05-15-89	--	22	26	22	48	3.7	--	.020	6.5	104	102
05-23-89	--	17	21	17	29	2.1	.10	.020	7.2	74	69
06-15-89	--	16	20	18	29	1.9	.10	.010	8.1	73	70
06-22-89	--	30	36	29	57	3.9	--	.020	8.2	130	122
07-13-89	--	37	45	36	46	4.5	.10	.020	8.7	105	115
08-24-89	--	55	67	52	60	15	--	.060	5.6	160	166
09-21-89	--	41	50	40	50	5.4	--	.020	8.0	135	128
10-17-89	--	16	20	17	18	2.6	.10	<.010	5.8	50	52
10-26-89	--	35	43	35	53	4.7	.10	.020	8.5	112	125
11-16-89	--	21	26	21	28	2.4	--	.020	7.0	71	71
12-21-89	--	25	30	25	63	7.3	--	.050	6.5	138	133
01-25-90	--	26	32	26	41	3.4	<.10	<.010	6.6	106	93
02-15-90	--	19	23	18	47	2.7	--	<.010	7.4	105	97
03-29-90	--	25	30	25	40	3.6	--	<.010	6.2	105	88

Table 7. Fixed-station water-quality data--Continued

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE, DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE, DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA, DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3, DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA + ORGANIC, TOTAL (MG/L AS N) (00625)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS, SEDI-MENT, SUSP. (PERCENT) (30292)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
				South Fork Kentucky River at Booneville, Kentucky (03281500)--Continued							
04-21-87	0.12	342	--	<0.010	0.010	0.100	0.60	0.020	<0.010	--	190
05-19-87	.22	78.3	--	<.010	.040	.160	.50	.010	<.010	--	80
06-16-87	.25	43.7	--	<.010	.050	.280	.50	.040	<.010	--	270
07-21-87	.24	54.0	--	<.010	.020	.220	.40	.020	<.010	--	390
08-18-87	.24	34.3	--	<.010	.040	.220	.40	.070	<.010	0.11	1,100
09-15-87	.46	120	--	<.010	.100	.110	.90	.020	<.010	.10	280
10-14-87	.58	15.8	--	<.010	.040	.110	.50	.030	<.010	--	80
11-17-87	.46	49.5	--	<.010	.030	<.100	.30	.010	<.010	.43	--
12-15-87	.38	87.1	--	<.010	.030	.280	.40	.060	<.010	.13	--
01-12-88	.23	105	0.580	.020	.050	.600	<.20	.010	<.010	--	--
02-03-88	.21	293	--	<.010	.050	.570	.70	.020	<.010	.07	330
02-17-88	.19	151	.480	.010	.090	.490	.20	.020	<.010	--	--
03-23-88	.18	121	--	<.010	.090	.130	<.20	.010	<.010	.15	--
04-08-88	.09	1,430	--	--	--	--	.80	.230	--	.09	2,900
04-19-88	.19	269	--	<.010	.020	.150	.30	.020	<.010	.09	--
05-17-88	.17	106	--	<.010	.140	.180	.20	.020	<.010	.10	--
06-21-88	.34	23.0	--	<.010	.110	.150	<.20	.020	<.010	.15	--
07-19-88	.50	49.1	--	<.010	.050	.110	.40	.030	<.010	.11	--
08-09-88	.39	11.7	--	<.010	.030	<.100	.70	.040	<.010	--	--
09-20-88	.40	172	--	<.010	.020	.300	.30	.030	<.010	.12	--
10-18-88	.28	8.82	--	<.010	<.010	.360	.40	.020	<.010	.12	--
11-15-88	.22	118	--	<.010	.030	.410	.30	.030	<.010	.16	--
12-20-88	.29	68.2	.420	.010	.030	.430	<.20	.010	<.010	--	--
01-13-89	.09	2,230	--	<.010	.030	.240	.60	.180	<.010	.08	5,800
01-18-89	.12	425	--	<.010	.020	.410	<.20	.010	<.010	.10	--
02-14-89	.12	1,040	.300	.020	.040	.320	.30	.120	.030	.08	3,200
02-23-89	.11	884	--	<.010	<.010	.350	.70	.040	<.010	.07	--
03-07-89	.09	2,980	.190	.010	.020	.200	.50	.160	<.010	.07	4,100
03-21-89	.10	1,320	--	<.010	.030	.180	.50	.120	.010	.09	--
04-17-89	.17	272	--	<.010	<.010	.140	.20	.010	<.010	.05	--
05-10-89	.09	510	--	<.010	<.010	.130	<.20	.020	<.010	.09	460
05-15-89	.14	259	--	<.010	.010	.140	.30	.020	<.010	.13	--
05-23-89	.10	1,000	--	<.010	<.010	.240	<.20	.030	<.010	.08	3,600
06-15-89	.10	966	--	<.010	.020	.260	.30	.020	.010	.08	2,100
06-22-89	.18	404	--	<.010	.020	.360	<.20	<.010	<.010	.09	--
07-13-89	.14	178	--	<.010	.040	.290	.20	.020	<.010	.10	--
08-24-89	.22	94.6	--	<.010	.020	<.100	.40	.060	<.010	.10	--
09-21-89	.18	135	--	<.010	.030	.370	.30	.010	<.010	.11	--
10-17-89	.07	2,580	--	<.010	.010	.160	1.0	.360	<.010	.08	13,000
10-26-89	.15	197	--	<.010	.030	.290	.20	.020	.030	.06	--
11-16-89	.10	920	--	<.010	.010	.180	.60	.180	<.010	.09	--
12-21-89	.19	105	.360	.010	.010	.370	<.20	<.010	<.010	--	--
01-25-90	.14	309	--	<.010	.010	.230	.20	<.010	.020	.09	--
02-15-90	.14	420	--	<.010	.060	.300	<.20	.010	<.010	.09	--
03-29-90	.14	312	--	<.010	.010	.100	.20	<.010	<.010	--	--

Table 7. Fixed-station water-quality data--Continued

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ALUMINUM, SED., SUSP. (PERCENT) (30221)	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ANTIMONY, SED., SUSP. (UG/G) (29816)	ARSENIC, DISSOLVED (UG/L AS AS) (01000)	ARSENIC, SED., SUSP. (UG/G) (29818)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BERYLLIUM, SED., SUSP. (UG/G) (29822)
South Fork Kentucky River at Booneville, Kentucky (03281500)--Continued											
04-21-87	<10	--	<1	--	<1	--	<100	25	<10	<0.5	--
05-19-87	10	--	--	--	<1	--	<100	49	<10	<.5	--
06-16-87	--	--	--	--	<1	--	<100	46	<10	<.5	--
07-21-87	--	--	<1	--	<1	--	200	46	<10	<.5	--
08-18-87	--	12.20	--	0.73	<1	15.4	<100	55	<10	<.5	4
09-15-87	10	10.10	--	.59	<1	15.6	100	79	<10	<.5	3
10-14-87	<10	--	1	--	<1	--	--	110	--	<.5	--
11-17-87	<10	2.03	--	1.30	<1	4.9	--	92	--	<.5	<2
12-15-87	<10	12.00	--	.70	<1	12.2	--	71	--	<.5	4
01-12-88	<10	--	<1	--	<1	--	--	49	--	<.5	--
02-03-88	<10	8.03	<1	.50	<1	11.2	<100	43	<10	<.5	3
02-17-88	<10	--	--	--	<1	--	--	43	--	<.5	--
03-23-88	<10	5.93	--	.50	<1	6.7	--	37	--	<.5	2
04-08-88	20	9.31	<1	.50	<1	9.8	100	20	<10	<.5	3
04-19-88	<10	8.60	<1	.50	<1	9.0	--	44	--	<.5	3
05-17-88	20	9.27	--	.50	<1	12.1	--	40	--	<.5	3
06-21-88	<10	9.33	--	.90	1	21.1	--	61	--	<.5	3
07-19-88	<10	12.20	<1	.60	1	13.5	--	76	--	<.5	4
08-09-88	<10	--	--	--	<1	--	--	72	--	<.5	--
09-20-88	10	10.90	--	.60	<1	13.5	--	91	--	<.5	4
10-18-88	<10	9.24	<1	.70	<1	12.5	--	50	--	<.5	3
11-15-88	30	11.50	--	1.40	<1	18.5	--	37	--	<.5	4
12-20-88	10	--	--	--	<1	--	--	51	--	<.5	--
01-13-89	100	8.95	<1	.80	<1	10.8	100	18	<10	<.5	3
01-18-89	30	8.72	<1	.40	<1	11.0	--	25	--	<.5	4
02-14-89	120	9.08	<1	.40	<1	12.1	<100	17	<10	<.5	3
02-23-89	30	7.55	--	.40	<1	8.6	--	22	--	<.5	3
03-07-89	20	10.40	<1	.60	<1	7.9	100	16	<10	<.5	4
03-21-89	80	10.30	--	.80	<1	10.6	--	17	--	<.5	4
04-17-89	10	5.87	<1	.40	<1	5.4	--	28	--	<.5	2
05-10-89	20	8.88	<1	.50	<1	9.6	100	19	<10	<.5	4
05-15-89	10	8.67	--	.60	<1	10.4	--	26	--	<.5	3
05-23-89	50	9.68	<1	.40	<1	11.0	100	16	<10	<.5	3
06-15-89	40	9.27	<1	.40	<1	10.4	<100	16	<10	<.5	3
06-22-89	20	9.41	--	2.00	<1	10.6	--	30	--	<.5	4
07-13-89	110	10.60	<1	.60	<1	9.8	--	25	--	<.5	4
08-24-89	20	10.70	--	1.20	<1	16.6	--	38	--	<.5	4
09-21-89	20	10.30	--	1.80	<1	10.3	--	31	--	<.5	3
10-17-89	90	9.48	<1	.60	<1	8.9	<100	15	<10	<.5	3
10-26-89	10	4.54	<1	3.90	1	6.2	--	35	--	<.5	<3
11-16-89	100	9.61	--	2.60	<1	10.0	--	16	--	<.5	4
12-21-89	<10	--	--	--	<1	--	--	33	--	<.5	--
01-25-90	20	8.01	<1	6.00	<1	9.2	--	21	--	<.5	3
02-15-90	20	9.71	--	1.00	<1	11.2	--	24	--	<.5	4
03-29-90	20	--	--	--	<1	--	--	20	--	.7	--

Table 7. Fixed-station water-quality data--Continued

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM, TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CADMIUM, SED., SUSP. (UG/G) (29826)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	CHRO-MIUM, SED., SUSP. (UG/G) (29829)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COBALT, SEDI-MENT, SUSP. (UG/G) (35031)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
South Fork Kentucky River at Booneville, Kentucky (03281500)--Continued											
04-21-87	10	10	<1	3.7	--	8	<5.0	--	<3	--	<10
05-19-87	--	30	<1	.1	--	5	<.5	--	<3	--	<10
06-16-87	30	--	<1	.2	--	2	<.5	--	<3	--	<10
07-21-87	40	--	<1	<.1	--	<1	<.5	--	<3	--	10
08-18-87	50	--	<1	.2	0.3	7	<.5	122	<3	25	20
09-15-87	60	50	<1	.1	.2	<1	<.5	97	<3	28	100
10-14-87	--	40	--	.1	--	--	<.5	--	<3	--	--
11-17-87	--	40	--	<.1	.9	--	<.5	27	<3	10	--
12-15-87	--	40	--	<.1	.5	--	<.5	123	<3	23	--
01-12-88	--	20	--	<.1	--	--	<.5	--	<3	--	--
02-03-88	30	<10	1	.2	.7	<1	<.5	80	<3	22	20
02-17-88	--	20	--	.4	--	--	<.5	--	<3	--	--
03-23-88	--	<10	--	.2	2.7	--	<.5	59	<3	31	--
04-08-88	<10	<10	<1	.1	.3	5	<.5	84	<3	26	10
04-19-88	--	10	--	.1	.6	--	<.5	83	<3	26	--
05-17-88	--	<10	--	.2	.4	--	<.5	146	<3	22	--
06-21-88	--	20	--	.3	.7	--	<.5	156	<3	33	--
07-19-88	--	30	--	.1	1.4	--	<.5	190	<3	21	--
08-09-88	--	30	--	.2	--	--	<.5	--	<3	--	--
09-20-88	--	30	--	<.1	.5	--	<.5	112	<3	25	--
10-18-88	--	20	--	<.1	1.3	--	<.6	89	<3	30	--
11-15-88	--	20	--	.1	4.1	--	<.5	116	<3	29	--
12-20-88	--	20	--	<.1	--	--	<.5	--	<3	--	--
01-13-89	20	<10	<1	.2	.4	10	.9	83	<3	23	10
01-18-89	--	<10	--	<.1	.5	--	<.5	81	<3	34	--
02-14-89	40	<10	<1	.1	.3	4	1.1	86	<3	23	10
02-23-89	--	<10	--	.2	.2	--	<.5	73	<3	24	--
03-07-89	30	<10	<1	.3	.3	6	<.5	87	<3	23	10
03-21-89	--	10	--	.2	<.1	--	<.5	104	<3	29	--
04-17-89	--	10	--	<.1	.2	--	<.5	54	<3	20	--
05-10-89	20	<10	<1	.1	.5	2	<.5	134	<3	32	<10
05-15-89	--	20	--	<.1	1.1	--	<.5	131	<3	31	--
05-23-89	<10	20	<1	<.1	.4	6	<.5	146	<3	26	<10
06-15-89	50	30	<1	<.1	.5	1	<.5	135	<3	22	<10
06-22-89	--	<10	--	<.1	.8	--	<.5	139	<3	25	--
07-13-89	--	10	--	<.1	.7	--	<.5	98	<3	24	--
08-24-89	--	10	--	.2	1.3	--	<.5	101	<3	24	--
09-21-89	--	20	--	.4	.9	--	<.5	96	<3	28	--
10-17-89	20	20	1	.2	1.2	19	<.5	88	<3	24	40
10-26-89	--	<10	--	.2	2.4	--	<.5	45	<3	27	--
11-16-89	--	<10	--	.2	.4	--	<.5	92	<3	26	--
12-21-89	--	10	--	.2	--	--	<.5	--	<3	--	--
01-25-90	--	<10	--	.1	1.5	--	<.5	82	<3	43	--
02-15-90	--	<10	--	.2	1.4	--	<.5	88	<3	36	--
03-29-90	--	10	--	.1	--	--	<.5	--	<3	--	--

Table 7. Fixed-station water-quality data--Continued

DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	COPPER, SED., SUSP. (UG/G) (29832)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, SEDI-MENT, SUSP. (PERCENT) (30269)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, SED., SUSP. (UG/G) (29836)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
South Fork Kentucky River at Booneville, Kentucky (03281500)--Continued											
04-21-87	1.5	--	500	38	--	<5	4.0	--	9	70	48
05-19-87	.8	--	260	26	--	<5	<.5	--	7	70	63
06-16-87	1.0	--	640	20	--	<5	<.5	--	7	160	130
07-21-87	.7	--	820	34	--	<5	<.5	--	9	170	150
08-18-87	1.6	38	2,200	850	5.17	<5	1.4	21.7	<4	230	230
09-15-87	.7	30	740	25	5.00	6	<.5	29.7	<4	300	260
10-14-87	.9	--	--	50	--	--	<.5	--	5	--	170
11-17-87	<.5	33	--	38	1.17	--	<.5	235.0	17	--	56
12-15-87	1.2	40	--	11	5.43	--	<.5	45.2	<4	--	53
01-12-88	<.5	--	--	35	--	--	2.1	--	<4	--	180
02-03-88	1.2	33	1,000	14	3.98	<5	<.5	22.8	<4	190	150
02-17-88	.9	--	--	56	--	--	.5	--	4	--	170
03-23-88	.6	30	--	32	3.60	--	<.5	18.9	4	--	84
04-08-88	2.0	29	12,000	48	4.52	<5	<.5	19.7	14	630	50
04-19-88	<.5	30	--	17	4.34	--	<.5	20.8	5	--	59
05-17-88	1.8	28	--	36	5.03	--	<.5	26.5	4	--	55
06-21-88	.6	134	--	4	4.91	--	<.5	37.0	10	--	110
07-19-88	1.1	41	--	56	4.76	--	<.5	26.4	5	--	76
08-09-88	1.1	--	--	10	--	--	<.5	--	<4	--	69
09-20-88	.8	35	--	15	5.02	--	<.5	29.8	<4	--	24
10-18-88	1.4	31	--	74	4.88	--	<.5	36.2	4	--	100
11-15-88	<.5	45	--	74	6.39	--	<.5	61.9	5	--	41
12-20-88	.9	--	--	30	--	--	<.5	--	8	--	150
01-13-89	1.0	27	7,900	150	4.30	5	.5	32.0	<4	710	93
01-18-89	.6	33	--	55	4.55	--	<.5	29.1	<4	--	100
02-14-89	1.6	28	6,900	73	4.34	<5	<.5	25.2	<4	360	90
02-23-89	.9	28	--	39	3.90	--	<.5	22.6	<4	--	97
03-07-89	1.1	33	8,500	75	4.11	9	<.5	27.7	<4	380	98
03-21-89	1.0	33	--	130	5.17	--	.5	29.4	<4	--	84
04-17-89	<.5	25	--	37	3.09	--	<.5	19.3	<4	--	84
05-10-89	1.6	34	910	29	4.42	2	<.5	33.7	<4	80	41
05-15-89	.7	44	--	39	4.40	--	<.5	30.8	<4	--	58
05-23-89	.5	29	8,300	76	4.54	8	<.5	28.8	<4	360	24
06-15-89	.7	31	3,900	38	4.29	3	<.5	27.5	<4	160	19
06-22-89	.9	43	--	47	4.60	--	<.5	22.0	11	--	68
07-13-89	<.5	34	--	87	4.94	--	<.5	31.1	<4	--	49
08-24-89	.9	626	--	17	5.02	--	<.5	160.0	<4	--	25
09-21-89	.8	1,010	--	76	5.12	--	<.5	305.0	<4	--	97
10-17-89	2.6	31	32,000	170	4.61	22	.8	25.7	<4	950	160
10-26-89	<.5	37	--	63	2.73	--	<.5	83.2	7	--	130
11-16-89	1.2	27	--	160	4.70	--	2.7	97.3	<4	--	49
12-21-89	1.1	--	--	64	--	--	<.5	--	4	--	180
01-25-90	.5	62	--	34	4.39	--	<.5	79.5	<4	--	88
02-15-90	<.5	40	--	38	5.01	--	<.5	39.1	<4	--	71
03-29-90	.7	--	--	36	--	--	<.5	--	<4	--	54

Table 7. Fixed-station water-quality data--Continued

DATE	MANGANESE, SED., SUSP. (UG/G) (29839)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY, DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO) (01062)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	MOLYBDENUM, SED., SUSP. (UG/G) (29843)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	NICKEL, SED., SUSP. (UG/G) (29845)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)
South Fork Kentucky River at Booneville, Kentucky (03281500)--Continued											
04-21-87	--	0.20	<0.1	1	<10	--	<10	--	<1	<1	1.0
05-19-87	--	<.10	<.1	3	<10	--	<10	--	--	<1	<1.0
06-16-87	--	<.10	<.1	<2	<10	--	--	--	--	<1	--
07-21-87	--	2.3	<.1	<1	<10	--	--	--	<1	<1	--
08-18-87	3,730	.20	<.1	<2	<10	0.9	<10	56	--	<1	<1.0
09-15-87	8,750	<.10	<.1	<1	<10	1.0	<10	52	--	<1	<1.0
10-14-87	--	--	<.1	--	<10	--	<10	--	<1	--	1.0
11-17-87	1,320	--	<.1	--	<10	11.1	<10	24	--	--	<1.0
12-15-87	2,430	--	<.1	--	<10	1.6	<10	57	--	--	<1.0
01-12-88	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0
02-03-88	2,180	<.10	<.1	<1	<10	.7	<10	49	<1	<1	<1.0
02-17-88	--	--	<.1	--	<10	--	<10	--	--	--	<1.0
03-23-88	7,610	--	<.1	--	<10	.6	<10	95	--	--	<1.0
04-08-88	2,000	--	--	1	<10	.6	<10	48	<1	1	<1.0
04-19-88	3,730	--	<.1	--	<10	.6	<10	53	<1	--	<1.0
05-17-88	2,390	--	<.1	--	<10	.9	<10	53	--	--	<1.0
06-21-88	8,690	--	<.1	--	<10	4.2	<10	76	--	--	1.0
07-19-88	3,150	--	.1	--	<10	1.1	<10	63	<1	--	<1.0
08-09-88	--	--	--	--	<10	--	<10	--	--	--	<1.0
09-20-88	3,130	--	<.1	--	<10	1.1	<10	68	--	--	<1.0
10-18-88	9,690	--	<.1	--	<10	1.5	<10	56	<1	--	<1.0
11-15-88	4,860	--	.5	--	<10	1.7	<10	98	--	--	<1.0
12-20-88	--	--	<.1	--	<10	--	<10	--	--	--	<1.0
01-13-89	1,710	<.10	<.1	2	<10	.6	<10	50	2	<1	<1.0
01-18-89	3,490	--	.1	--	<10	.6	<10	69	<1	--	<1.0
02-14-89	1,490	.10	<.1	4	<10	.6	<10	50	<1	<1	<1.0
02-23-89	1,620	--	<.1	--	<10	.6	<10	47	--	--	<1.0
03-07-89	1,160	<.10	<.1	3	<10	.8	<10	42	<1	1	<1.0
03-21-89	1,540	--	<.1	--	<10	.7	<10	57	--	--	1.0
04-17-89	1,730	--	<.1	--	<10	.4	10	42	<1	--	3.0
05-10-89	2,640	<.10	<.1	3	<10	.6	<10	61	<1	<1	5.0
05-15-89	3,720	--	<.1	--	<10	.8	<10	65	--	--	<1.0
05-23-89	1,470	<.10	<.1	3	<10	.6	<10	52	<1	<1	<1.0
06-15-89	1,680	<.10	<.1	<1	<10	.6	<10	51	<1	<1	<1.0
06-22-89	2,300	--	<.1	--	<10	.8	<10	61	--	--	4.0
07-13-89	2,280	--	<.1	--	<10	.7	<10	57	<1	--	2.0
08-24-89	3,460	--	<.1	--	<10	.9	<10	148	--	--	<1.0
09-21-89	3,500	--	.7	--	<10	.7	<10	303	--	--	<1.0
10-17-89	1,360	.10	.2	<1	<10	.6	<10	44	<1	<1	<1.0
10-26-89	5,110	--	<.1	--	<10	2.9	10	75	<1	--	<1.0
11-16-89	1,580	--	.1	--	<10	2.9	<10	52	--	--	<1.0
12-21-89	--	--	.2	--	<10	--	<10	--	--	--	<1.0
01-25-90	4,320	--	<.1	--	<10	.9	<10	77	<1	--	<1.0
02-15-90	3,410	--	<.1	--	<10	.8	<10	72	--	--	<1.0
03-29-90	--	--	<.1	--	<10	--	<10	--	--	--	<1.0

Table 7. Fixed-station water-quality data--Continued

DATE	SILVER, SED., SUSP. (UG/G) (29850)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	VANADIUM, SED., SUSP. (UG/G) (29853)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	ZINC, SED., SUSP. (UG/G) (29855)	TITANIUM, SEDIMENT, SUSP. (PERCENT) (30317)	THALLIUM, SED., SUSP. (UG/G)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP., TOTAL (UG/L AS U-NAT) (80040)
South Fork Kentucky River at Booneville, Kentucky (03281500)--Continued											
04-21-87	--	99	<6	--	20	11	--	--	--	<0.4	<0.4
05-19-87	--	220	<6	--	40	46	--	--	--	--	--
06-16-87	--	220	<6	--	<10	17	--	--	--	--	--
07-21-87	--	210	<6	--	30	11	--	--	--	.4	.7
08-18-87	0.2	280	<6	164	20	12	150	0.58	0.80	--	--
09-15-87	.2	450	<6	134	<10	<3	147	.48	.90	--	--
10-14-87	--	570	<6	--	--	6	--	--	--	.5	<.4
11-17-87	.6	480	<6	36	--	<3	152	.15	.20	--	--
12-15-87	.2	350	<6	159	--	5	189	.51	.80	--	--
01-12-88	--	180	<6	--	--	8	--	--	--	<.4	<.4
02-03-88	.2	170	<6	99	30	11	152	.47	.60	<.4	.7
02-17-88	--	160	<6	--	--	12	--	--	--	--	--
03-23-88	.2	140	<6	74	--	7	163	.31	.40	--	--
04-08-88	8.8	62	<6	113	50	<3	154	.49	.60	<.4	36
04-19-88	.3	170	<6	108	--	4	150	.42	.60	<.4	.4
05-17-88	4.0	160	<6	121	--	34	142	.46	.90	--	--
06-21-88	.3	320	<6	150	--	4	232	.45	1.2	--	--
07-19-88	.2	500	<6	163	--	<3	155	.49	1.2	<.4	1.4
08-09-88	--	420	<6	--	--	6	--	--	--	--	--
09-20-88	.1	380	<6	140	--	26	166	.48	.90	--	--
10-18-88	.3	240	<6	125	--	4	166	.40	.90	<.4	<.4
11-15-88	.3	170	<6	155	--	5	228	.50	1.4	--	--
12-20-88	--	250	<6	--	--	4	--	--	--	--	--
01-13-89	.1	59	<6	113	60	<3	146	.48	.80	<.6	22
01-18-89	.2	110	<6	106	--	36	183	.44	.70	<.6	<.6
02-14-89	.2	72	<6	114	40	12	140	.49	.70	<.6	9.8
02-23-89	.3	83	<6	93	--	6	132	.43	.60	--	--
03-07-89	.5	50	<6	125	40	19	138	.54	.90	<.6	7.1
03-21-89	.4	67	<6	127	--	4	162	.57	.90	--	--
04-17-89	.3	150	<6	69	--	7	107	.34	.50	<.6	< .6
05-10-89	<.1	78	<6	110	20	<3	170	.48	.90	<.6	1.1
05-15-89	.2	120	<6	108	--	6	204	.45	.80	--	--
05-23-89	.1	65	<6	121	40	<3	143	.52	.80	<.6	13
06-15-89	<.1	64	<6	118	20	8	141	.52	.80	<.6	5.2
06-22-89	.1	140	<6	118	--	9	168	.50	.60	--	--
07-13-89	.5	120	<6	134	--	6	244	.54	.90	<.6	1.7
08-24-89	.6	190	<6	138	--	6	1,890	.51	.90	--	--
09-21-89	.6	130	<6	132	--	5	868	.49	.90	--	--
10-17-89	.2	40	<6	119	110	5	148	.48	.70	<.6	20
10-26-89	.1	140	<6	56	--	12	207	.25	1.5	<.6	<.6
11-16-89	.2	59	<6	122	--	14	151	.48	2.8	--	--
12-21-89	--	160	<6	--	--	9	--	--	--	--	--
01-25-90	.6	95	<6	100	--	12	296	.42	.60	.8	.6
02-15-90	.3	110	<6	115	--	4	199	.48	.70	--	--
03-29-90	--	99	<6	--	--	3	--	--	--	--	--

Table 7. Fixed-station water-quality data--Continued

DATE	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP., TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90) (80050)	GROSS BETA, SUSP., TOTAL (PCI/L AS SR/YT-90) (80060)	CARBON, ORGANIC, DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC, SUS-PENDED, TOTAL (MG/L AS C) (00689)	CYANIDE, DIS-SOLVED (MG/L AS CN) (00723)	SURFACE AREA, SEDI-MENT, SUSP. (M2/G) (30334)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED., SUSP., SIEVE DIAM. (% FINER THAN .062 MM)
South Fork Kentucky River at Booneville, Kentucky (03281500)--Continued											
04-21-87	1.1	<0.4	1.0	<0.4	2.2	0.3	<0.01	--	22	86	44
05-19-87	--	--	--	--	4.0	--	--	--	4	1.9	100
06-16-87	--	--	--	--	4.0	.3	--	--	16	3.8	99
07-21-87	3.2	.8	2.5	.8	3.0	.4	<.01	--	20	6.2	79
08-18-87	--	--	--	--	4.1	.4	--	28.1	74	14	79
09-15-87	--	--	--	--	3.2	.4	--	22.1	17	6.0	70
10-14-87	6.2	<.4	4.7	<.4	3.3	.1	<.01	13.0	8	.30	52
11-17-87	--	--	--	--	4.0	.4	--	4.08	5	.73	100
12-15-87	--	--	--	--	4.7	.6	--	25.9	32	9.8	88
01-12-88	2.3	<.4	1.9	<.4	1.3	.2	<.01	--	8	5.1	52
02-03-88	2.2	.7	1.8	.6	1.8	--	<.01	14.5	32	62	73
02-17-88	--	--	--	--	1.3	.2	--	--	6	6.5	19
03-23-88	--	--	--	--	1.3	.3	--	11.4	7	6.5	56
04-08-88	1.6	38	1.4	33	2.3	4.4	<.01	17.1	421	8,750	62
04-19-88	2.4	1.1	2.0	1.1	1.9	.2	<.01	11.6	9	17	80
05-17-88	--	--	--	--	1.7	.2	--	25.5	8	6.8	84
06-21-88	--	--	--	--	2.5	.2	--	15.5	5	.46	91
07-19-88	5.5	1.5	4.2	1.5	3.1	.4	<.01	27.1	31	4.1	84
08-09-88	--	--	--	--	3.4	.5	--	--	12	.49	83
09-20-88	--	--	--	--	3.1	--	--	22.2	28	16	81
10-18-88	4.1	<.4	3.1	<.4	2.7	.2	<.01	15.8	8	.35	46
11-15-88	--	--	--	--	1.6	.1	--	34.1	10	7.3	100
12-20-88	--	--	--	--	1.1	.2	--	16.5	2	.63	59
01-13-89	3.0	25	2.7	22	2.4	>2.7	<.01	17.5	460	15,500	73
01-18-89	1.4	.6	1.2	.6	1.2	.3	<.01	12.2	11	53	100
02-14-89	1.7	7.2	1.5	6.5	2.1	2.0	<.01	16.8	283	3,320	73
02-23-89	--	--	--	--	1.9	.9	--	16.0	84	916	77
03-07-89	1.7	8.6	1.6	8.1	2.2	2.2	<.01	15.7	210	9,360	90
03-21-89	--	--	--	--	2.1	>2.4	--	16.8	380	6,860	76
04-17-89	2.4	.7	2.0	.8	1.3	.1	<.01	7.92	2	4.4	76
05-10-89	1.7	1.2	1.5	1.1	1.3	.2	<.01	14.1	26	192	70
05-15-89	--	--	--	--	1.2	.2	--	12.2	7	17	80
05-23-89	1.7	12	1.6	10	2.6	>2.0	<.01	21.6	266	3,610	76
06-15-89	1.5	4.0	1.4	3.5	1.9	1.2	<.01	16.8	88	1,160	80
06-22-89	--	--	--	--	1.8	.2	--	14.3	25	78	83
07-13-89	1.7	2.0	1.5	1.9	2.3	.2	<.01	19.8	35	59	88
08-24-89	--	--	--	--	2.7	.2	--	20.5	26	15	85
09-21-89	--	--	--	--	2.6	.4	--	25.0	23	23	93
10-17-89	3.1	35	2.5	32	4.8	>2.5	<.01	19.8	760	39,200	76
10-26-89	3.2	<.6	2.5	<.6	1.8	.3	<.01	--	13	23	55
11-16-89	--	--	--	--	2.9	>2.5	--	20.9	410	5,310	72
12-21-89	--	--	--	--	1.3	.1	--	--	2	1.5	100
01-25-90	2.3	.8	1.9	.8	1.2	.2	<.01	12.8	5	15	94
02-15-90	--	--	--	--	1.1	.2	--	19.7	16	64	74
03-29-90	--	--	--	--	1.2	.2	--	16.1	6	18	84

Table 7. Fixed-station water-quality data--Continued

South Fork Kentucky River at Booneville, Kentucky (03281500)--Continued

DATE	TIME	AME-TRYNE, TOTAL (82184)	ATRA-ZINE, TOTAL (UG/L) (39630)	CYAN-AZINE, TOTAL (UG/L) (81757)	DICAMBA (MED-IBEN) (BAN-VEL D), TOTAL (UG/L) (82052)	PICLO-RAM (TOR-DON) (AMDON), TOTAL (UG/L) (39720)	PROME-TONE, TOTAL (UG/L) (39056)	PROME-TRYNE, TOTAL (UG/L) (39057)	PRO-PAZINE, TOTAL (UG/L) (39024)	SILVEX, TOTAL (UG/L) (39760)
06-15-89	1530	<0.10	0.10	<0.10	<0.01	<0.01	<0.10	<0.10	<0.10	<0.01

DATE	SIMA-ZINE, TOTAL (UG/L) (39055)	SIME-TRYNE, TOTAL (UG/L) (39054)	2,4-D, TOTAL (UG/L) (39730)	2,4-DP, TOTAL (UG/L) (82183)	2,4,5-T, TOTAL (UG/L) (39740)	ALA-CHLOR, TOTAL RECOVER (UG/L) (77825)	TRI-FLURA-LIN, TOTAL RECOVER (UG/L) (39030)	METRI-BUZIN, WATER, WHOLE, TOT.REC (UG/L) (82611)	METOLA-CHLOR, WATER, WHOLE, TOT.REC (UG/L) (82612)
06-15-89	0.10	<0.10	<0.01	<0.01	<0.01	<0.10	<0.10	<0.10	<0.10

Table 7. Fixed-station water-quality data--Continued

DATE	TIME	DIS-CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH, WATER, WHOLE, FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE, AIR (DEG C) (00020)	TEMPER-ATURE, WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, .7 UM-MF (COL/ 100 ML) (31625)
				Kentucky River at Lock 10, near Winchester, Kentucky (03284000)						
04-22-87	0945	9,360	200	7.4	30.5	15.0	--	10.3	105	450
05-18-87	1215	1,350	310	6.7	29.0	23.0	--	6.1	73	K22
06-15-87	1145	602	390	6.9	33.5	26.0	--	6.5	83	K2
07-20-87	1130	806	300	7.9	32.0	26.5	--	7.4	94	47
08-17-87	1230	E220	340	7.9	31.0	28.5	--	7.4	98	K2
09-16-87	1130	280	388	7.9	30.0	26.0	--	7.4	94	K2
10-13-87	1220	185	454	8.0	13.0	20.0	--	9.3	104	K3,500
11-16-87	1215	739	730	8.1	23.0	14.5	--	10.1	101	K8
12-14-87	1300	268	650	8.3	11.0	9.0	--	11.1	98	K8
12-29-87	1100	10,700	230	8.2	2.5	8.0	--	11.6	99	--
01-11-88	1430	1,170	290	7.9	4.5	3.5	--	10.0	77	K900
02-03-88	0900	7,760	249	7.8	6.5	7.5	--	11.8	102	--
02-16-88	1200	2,460	375	8.5	-.5	3.0	--	13.0	99	1,000
03-22-88	1230	1,930	312	7.3	19.5	10.0	--	11.8	107	20
04-08-88	1130	19,500	272	7.6	13.5	14.5	--	10.4	105	--
04-19-88	0900	4,000	204	7.6	5.0	13.0	--	9.8	96	5,800
05-17-88	1100	1,680	243	7.6	16.0	19.5	--	9.0	101	K12
06-22-88	0950	190	355	7.6	31.0	27.5	--	2.6	34	K17
07-18-88	1245	349	345	7.9	29.5	32.0	--	4.4	62	250
08-10-88	0725	226	395	7.4	--	28.0	2.4	8.3	108	--
09-19-88	1215	1,180	445	7.8	32.0	25.0	--	7.5	93	K15
10-17-88	1130	191	533	7.7	22.0	18.5	--	7.1	77	K10
11-14-88	1500	2,330	508	7.9	16.5	12.0	--	10.1	96	K200
11-21-88	1400	65,100	269	6.9	17.0	10.5	--	8.2	74	--
12-19-88	1140	619	333	7.9	16.0	5.5	--	12.4	100	K2
01-13-89	1630	26,600	270	7.8	4.0	8.0	--	11.5	99	--
01-17-89	1430	21,800	191	7.5	12.0	7.0	--	11.4	95	2,500
02-15-89	2100	77,600	160	8.4	10.5	7.5	--	11.9	102	--
02-22-89	1400	51,300	115	7.3	8.0	7.0	--	12.5	105	--
03-20-89	1200	5,230	258	7.7	13.5	10.5	--	11.8	108	K170
04-17-89	1245	5,270	261	7.6	25.5	17.5	--	10.4	111	--
05-11-89	1345	24,500	206	8.7	17.0	14.0	--	10.4	103	--
05-15-89	1245	6,460	221	7.5	18.0	15.5	--	10.5	108	K120
05-24-89	1430	24,000	296	7.5	23.0	17.0	--	9.1	97	--
06-17-89	1000	36,400	188	7.4	25.0	18.5	--	8.9	97	--
06-19-89	1430	36,500	188	7.2	26.0	21.0	--	9.6	110	990
07-10-89	1200	6,430	335	7.3	30.5	28.0	--	7.9	103	K86
08-21-89	1200	2,580	375	8.5	28.0	25.0	--	8.0	98	K190
09-18-89	1145	14,000	173	7.4	23.0	22.0	--	8.5	99	2,900
10-18-89	1500	47,300	124	6.8	11.5	15.0	--	7.2	73	--
10-23-89	1330	12,400	200	7.5	19.5	15.0	--	10.3	103	840
11-13-89	1300	4,870	263	7.4	22.5	14.0	--	10.4	103	230
12-18-89	1315	1,840	297	7.8	4.5	1.5	--	12.4	90	K40
01-05-90	1330	13,400	231	6.5	7.0	4.0	--	11.1	87	--
01-22-90	1230	9,990	268	8.3	8.5	8.5	--	11.2	97	K1,500
02-12-90	1230	41,200	166	7.1	10.5	9.5	--	11.5	102	1,800
03-26-90	1215	6,010	213	6.9	14.0	12.0	--	11.1	104	490
04-17-90	1000	5,600	264	7.1	11.5	11.0	--	10.5	98	390
06-19-90	1015	3,410	267	7.7	23.5	23.5	--	7.4	90	500
08-21-90	1000	379	393	7.3	27.5	27.5	--	7.4	96	96
10-16-90	0930	1,170	514	7.6	13.5	18.5	--	8.5	92	K160
12-18-90	1000	38,700	251	7.2	14.5	9.5	--	11.0	100	9,800
02-12-91	0930	7,190	268	7.3	0.0	5.5	--	12.4	101	510
04-23-91	0930	6,560	225	7.4	17.0	15.5	--	9.8	102	K120
06-18-91	0930	3,470	270	7.6	23.0	25.5	--	7.3	92	860
08-27-91	0930	494	380	7.9	23.0	26.0	--	7.1	88	K7

Table 7. Fixed-station water-quality data--Continued

DATE	STREPTOCOCCI, FECAL, KF AGAR (COL/ 100 ML) (31673)	E.COLI, MTEC,MF WATER, WHOLE, TOTAL (COL/ 100 ML) (31648)	HARDNESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DISSOLVED (MG/L AS CA) (00915)	CALCIUM, SED., SUSP. (PERCENT) (30240)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	MAGNESIUM SEDIMENT, SUSP. (PERCENT) (30277)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM, SEDIMENT, SUSP. (PERCENT) (30304)	SODIUM (PERCENT) (00932)	SODIUM ADSORPTION RATIO (00931)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)
					Kentucky River at Lock 10, near Winchester, Kentucky (03284000)-Continued							
04-22-87	170	--	86	20	--	8.7	--	5.9	--	13	0.3	1.8
05-18-87	K23	--	120	30	--	12	--	10	--	15	.4	2.3
06-15-87	20	--	150	37	--	14	--	17	--	19	.6	3.0
07-20-87	160	--	110	31	--	9.0	--	15	--	22	.6	2.9
08-17-87	30	--	130	34	1.03	11	1.05	16	0.46	21	.6	3.1
09-16-87	25	--	150	37	2.38	13	1.39	20	1.16	22	.7	3.6
10-13-87	<1	--	200	48	1.45	19	1.29	32	.84	26	1	4.1
11-16-87	K7	--	270	63	2.20	26	1.52	49	1.59	28	1	5.1
12-14-87	22	--	220	54	.77	21	.96	43	.34	29	1	4.5
12-29-87	--	--	97	25	.45	8.4	.84	8.7	.26	16	.4	2.9
01-11-88	50	--	120	30	2.18	11	1.37	12	1.82	17	.5	2.6
02-03-88	--	--	120	32	.76	10	1.05	5.8	.22	9	.2	2.4
02-16-88	150	--	110	29	.61	10	.96	9.3	.26	15	.4	2.1
03-22-88	K7	--	120	31	2.14	11	1.37	16	1.05	22	.6	1.9
04-08-88	--	--	120	30	.67	10	.85	11	.33	17	.4	1.9
04-19-88	31	--	92	23	.90	8.3	.99	7.5	.37	15	.3	1.7
05-17-88	20	--	99	24	.95	9.5	1.04	8.2	.39	15	.4	1.8
06-22-88	32	--	150	35	2.97	14	1.74	15	2.08	18	.5	2.4
07-18-88	100	--	160	38	1.51	15	1.26	20	.69	21	.7	3.0
08-10-88	--	K70	160	40	--	14	--	20	--	21	.7	3.1
09-19-88	23	--	160	40	.26	15	.44	31	.53	29	1	3.6
10-17-88	K10	--	200	47	2.78	19	1.98	31	1.70	25	1	4.1
11-14-88	580	--	200	49	1.64	18	1.25	28	.89	23	.9	3.6
11-21-88	--	--	100	27	.51	8.5	.84	12	.30	20	.5	2.8
12-19-88	K2	--	140	34	4.04	13	2.08	14	1.60	18	.5	2.4
01-13-89	--	--	100	26	.95	9.2	.87	6.1	.29	11	.3	2.0
01-17-89	2,000	--	81	20	.63	7.5	.89	4.6	.37	11	.2	1.8
02-15-89	--	--	69	19	.73	5.2	.85	3.8	.28	10	.2	2.0
02-22-89	--	--	52	13	.36	4.6	.75	3.5	.31	12	.2	1.6
03-20-89	64	--	120	28	.70	12	1.02	6.8	.29	11	.3	1.9
04-17-89	K36	--	120	29	1.22	11	1.03	7.0	.45	11	.3	1.8
05-11-89	--	--	84	21	.42	7.7	.78	6.5	.32	14	.3	1.6
05-15-89	830	--	95	23	.66	9.0	.94	5.6	.29	11	.3	1.8
05-24-89	--	--	120	29	.42	12	.90	7.9	.36	12	.3	2.2
06-17-89	--	--	77	19	.45	7.1	.79	5.2	.34	13	.3	1.8
06-19-89	>20,000	--	81	20	.36	7.4	.81	3.3	.30	8	.2	2.0
07-10-89	8,900	--	140	32	.60	14	.94	10	.32	13	.4	2.7
08-21-89	K290	--	150	37	.88	14	1.06	15	.39	17	.5	3.4
09-18-89	3,900	--	64	17	.29	5.2	.74	4.6	.23	13	.3	2.5
10-18-89	--	--	46	12	.33	3.9	.74	2.4	.32	10	.2	2.5
10-23-89	1,400	--	91	23	.35	8.2	.85	4.3	.29	9	.2	2.3
11-13-89	K160	--	120	30	.73	11	.97	7.9	.29	12	.3	2.5
12-18-89	K20	--	120	30	1.35	12	1.10	8.6	.43	13	.3	1.9
01-05-90	--	--	94	23	.61	8.9	.95	6.2	.31	12	.3	1.5
01-22-90	4,000	--	120	31	1.30	9.1	.89	5.5	.29	9	.2	2.1
02-12-90	1,800	--	67	16	.33	6.6	.78	3.3	.36	9	.2	1.6
03-26-90	K100	--	72	14	.47	8.9	.94	5.3	.26	14	.3	1.7
04-17-90	240	--	110	27	--	11	--	6.6	--	11	.3	1.7
06-19-90	520	--	110	32	--	7.8	--	5.9	--	10	.2	2.3
08-21-90	92	--	170	40	--	16	--	14	--	15	.5	3.2
10-16-90	--	--	230	52	--	24	--	18	--	14	.5	4.2
12-18-90	--	9,600	130	35	--	9.1	--	4.7	--	7	.2	3.0
02-12-91	--	567	120	29	--	11	--	6.6	--	11	.3	1.8
04-23-91	--	K79	96	23	--	9.2	--	5.3	--	11	.2	1.7
06-18-91	--	1,225	120	28	--	11	--	6.1	--	10	.2	2.5
08-27-91	--	K20	150	37	--	14	--	11	--	13	.4	3.3

Table 7. Fixed-station water-quality data--Continued

DATE	POTASSIUM, SEDIMENT, SUSP. (PERCENT) (30294)	ALKALINITY, WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKALINITY, WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	BICARBONATE, WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CARBONATE, WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKALINITY, WAT DIS TOT FET FIELD (MG/L AS CACO3) (00418)	SULFATE, DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	BROMIDE, DISSOLVED (MG/L AS BR) (71870)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C, DISSOLVED (MG/L) (70300)
Kentucky River at Lock 10, near Winchester, Kentucky (03284000)--Continued												
04-22-87	--	36	--	--	--	--	51	5.6	<0.10	0.024	7.2	122
05-18-87	--	52	--	--	--	--	79	11	--	.053	6.2	180
06-15-87	--	--	--	--	--	--	100	24	--	.13	4.9	248
07-20-87	--	57	--	--	--	--	53	20	.20	.10	5.5	196
08-17-87	2.8	68	--	--	--	--	65	24	--	.12	5.0	200
09-16-87	2.5	75	--	--	--	--	70	28	.20	.16	4.4	221
10-13-87	3.0	--	77	94	--	75	110	54	.20	.36	3.3	333
11-16-87	2.4	--	89	108	--	87	160	85	--	.65	2.4	439
12-14-87	2.7	--	81	99	--	80	130	72	--	.46	2.2	395
12-29-87	2.8	--	46	56	--	46	49	12	.20	.050	5.3	157
01-11-88	2.2	--	50	61	--	52	64	--	.20	.080	5.9	176
02-03-88	3.2	--	--	--	--	71	44	9.4	.20	.021	6.7	156
02-16-88	3.0	--	58	--	--	58	51	12	--	.050	5.9	165
03-22-88	2.5	--	52	64	--	56	58	25	--	.18	4.9	189
04-08-88	2.6	--	64	78	--	64	50	17	.10	.093	5.4	169
04-19-88	2.8	--	48	59	--	48	47	9.4	.10	.041	6.2	133
05-17-88	2.9	--	45	55	--	45	57	9.5	--	.045	5.9	145
06-22-88	2.8	--	65	79	--	65	77	17	--	.10	4.3	218
07-18-88	2.9	--	72	88	--	72	87	22	.20	.13	2.8	241
08-10-88	--	--	--	--	--	--	80	25	.10	.15	3.7	247
09-19-88	1.7	--	78	95	--	81	79	52	--	.33	4.0	284
10-17-88	2.6	--	75	91	--	75	120	40	.10	.21	4.3	327
11-14-88	2.7	--	98	120	--	97	93	44	--	.25	5.5	306
11-21-88	2.7	--	50	61	--	50	48	19	.10	.10	5.0	166
12-19-88	2.1	--	66	81	--	68	68	16	--	.12	6.2	200
01-13-89	2.4	--	52	64	--	53	59	7.4	.10	.027	6.4	157
01-17-89	2.8	--	43	53	--	45	49	5.1	.10	.023	7.0	108
02-15-89	2.5	--	43	52	--	43	26	6.7	.10	.025	4.7	101
02-22-89	2.6	--	25	30	--	25	30	4.9	--	.017	5.1	78
03-20-89	3.0	--	42	51	--	41	66	6.5	--	<.010	6.5	164
04-17-89	2.5	--	57	69	--	56	61	7.3	.10	<.060	6.9	158
05-11-89	2.6	--	65	57	11	65	42	8.7	.10	.020	6.7	132
05-15-89	2.9	--	43	53	--	44	52	5.6	--	.030	7.1	124
05-24-89	3.1	--	47	57	--	46	76	6.3	.10	.020	6.4	169
06-17-89	2.6	--	36	44	--	34	40	5.7	.10	.020	7.6	107
06-19-89	2.8	--	48	59	--	48	43	2.4	--	<.010	7.6	121
07-10-89	2.9	--	50	61	--	49	98	9.6	.10	.060	7.2	223
08-21-89	3.0	--	73	89	--	74	88	18	--	.12	5.5	203
09-18-89	2.7	--	43	53	--	43	26	5.9	--	.020	6.6	88
10-18-89	2.6	--	30	37	--	31	21	3.0	.10	.010	5.6	81
10-23-89	2.9	--	48	58	--	48	44	4.1	.10	.020	8.0	124
11-13-89	2.8	--	58	71	--	58	59	8.2	--	.040	6.9	150
12-18-89	2.4	--	59	72	--	59	70	7.9	--	.040	6.7	183
01-05-90	3.0	--	--	--	--	49	51	5.8	.10	.020	6.5	142
01-22-90	2.7	--	71	87	--	73	44	6.4	.10	--	6.5	170
02-12-90	2.7	--	31	38	--	31	39	2.5	--	<.010	6.5	101
03-26-90	3.0	--	44	54	--	44	52	4.8	--	.020	6.6	137
04-17-90	--	--	65	79	--	65	51	5.5	<.10	<.010	6.3	143
06-19-90	--	--	76	93	--	76	39	8.2	<.10	<.010	5.7	155
08-21-90	--	75	74	90	--	75	100	12	.10	.060	5.9	252
10-16-90	--	--	102	125	--	102	150	13	.20	.040	4.6	335
12-18-90	--	--	88	107	--	88	34	4.7	.30	.040	7.7	249
02-12-91	--	--	57	69	--	56	62	5.7	<.10	.030	6.8	159
04-23-91	--	--	48	59	--	49	56	4.2	<.10	.020	6.6	127
06-18-91	--	--	62	76	--	61	64	5.6	.10	.020	6.8	153
08-27-91	--	--	78	95	--	77	80	8.4	.20	.030	4.8	211

Table 7. Fixed-station water-quality data--Continued

DATE	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE, DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE, DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA, TOTAL (MG/L AS N) (00610)	NITRO-GEN, AMMONIA, DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3, DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AM-MONIA + ORGANIC, TOTAL (MG/L AS N) (00625)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)
Kentucky River at Lock 10, near Winchester, Kentucky (03284000)--Continued												
04-22-87	123	0.17	3,080	--	<0.010	--	0.020	0.200	2.1	0.020	--	<0.010
05-18-87	184	.24	656	--	<.010	--	.030	.280	.80	.020	--	<.010
06-15-87	238	.34	403	0.360	.030	--	.080	.390	.40	.050	--	<.010
07-20-87	172	.27	427	--	.010	--	.070	<.100	.70	.050	--	.040
08-17-87	201	.27	--	.230	.020	--	.050	.250	.80	.040	--	<.010
09-16-87	222	.30	167	.090	.020	--	.050	.110	.30	<.010	--	<.010
10-13-87	319	.45	166	.180	.020	--	.040	.200	.70	.030	--	<.010
11-16-87	446	.60	876	--	<.010	--	<.010	<.100	.50	.010	--	<.010
12-14-87	378	.54	286	--	<.010	--	.040	.140	.20	.030	--	<.010
12-29-87	143	.21	4,540	--	<.010	--	.260	.730	.20	.110	--	<.010
01-11-88	--	--	--	.710	.010	--	.040	.720	<.20	.040	--	<.010
02-03-88	160	.21	3,270	.770	.030	--	.100	.800	.50	.100	--	.080
02-16-88	154	.22	1,100	--	.010	--	.030	<.100	.30	<.010	--	<.010
03-22-88	181	.26	985	.240	.010	--	.050	.250	.20	.020	--	<.010
04-08-88	166	.23	8,900	--	<.010	--	.030	.270	.40	.180	--	<.010
04-19-88	134	.18	1,440	--	<.010	--	.070	.340	.30	.040	--	.020
05-17-88	144	.20	658	--	<.010	--	.010	.220	<.20	.020	--	.020
06-22-88	205	.30	112	.250	.020	--	.020	.270	.30	.030	--	<.010
07-18-88	232	.33	227	--	<.010	--	<.010	<.100	.30	.050	--	.010
08-10-88	233	.34	151	.130	.020	0.010	.040	.150	.80	.050	0.030	<.010
09-19-88	273	.39	905	.160	.030	--	<.010	.190	.40	.120	--	.020
10-17-88	313	.44	169	.390	.030	--	.040	.420	.40	.010	--	.020
11-14-88	303	.42	1,930	.370	.010	--	.040	.380	1.1	.040	--	.020
11-21-88	156	.23	29,200	.480	.040	--	.090	.520	1.9	.040	--	.040
12-19-88	196	.27	334	.440	.020	--	.030	.460	.30	.020	--	<.010
01-13-89	150	.21	11,300	--	<.010	--	.030	.400	.40	.030	--	.020
01-17-89	124	.15	6,360	--	<.010	--	.030	.510	.70	.030	--	.020
02-15-89	96	.14	21,200	.430	.020	--	<.010	.450	1.1	.440	--	.020
02-22-89	79	.11	10,800	--	<.010	--	.020	.300	1.1	.340	--	.010
03-20-89	155	.22	2,320	.380	.020	--	.030	.400	.40	.040	--	.020
04-17-89	160	.21	2,250	.270	.010	--	.040	.280	<.20	.030	--	<.010
05-11-89	135	.18	8,730	--	<.010	--	.020	.290	.30	.110	--	<.010
05-15-89	132	.17	2,160	--	<.010	--	.020	.270	.30	.040	--	.010
05-24-89	170	.23	11,000	--	<.010	--	.040	.300	.40	.030	--	.020
06-17-89	110	.15	10,500	--	<.010	--	.040	.310	.50	.060	--	<.010
06-19-89	117	.16	11,900	--	<.010	--	.040	.330	.20	<.010	--	<.010
07-10-89	206	.30	3,870	--	<.010	--	.040	.430	.30	.020	--	.020
08-21-89	227	.28	1,410	.390	.010	--	.040	.400	.40	.050	--	.010
09-18-89	95	.12	3,330	--	<.010	--	.030	.260	.50	.040	--	<.010
10-18-89	71	.11	10,300	.200	.010	--	.030	.210	2.0	.270	--	<.010
10-23-89	124	.17	4,150	--	<.010	--	.010	.350	.40	.030	--	<.010
11-13-89	162	.20	1,970	--	<.010	--	.020	.220	.20	.040	--	<.010
12-18-89	174	.25	909	--	<.010	--	.030	.260	.20	.030	--	<.010
01-05-90	134	.19	5,140	--	<.010	--	.050	.520	.40	.060	--	.010
01-22-90	151	.23	4,590	--	<.010	--	.030	.620	.70	.040	--	.020
02-12-90	96	.14	11,200	--	<.010	--	.020	.300	.30	.930	--	<.010
03-26-90	121	.19	2,220	--	<.010	--	.020	.300	.40	.030	--	<.010
04-17-90	149	.19	2,160	.190	.010	--	.020	.200	.40	.030	--	<.010
06-19-90	149	.21	1,430	--	<.010	--	.040	.400	<.20	.080	--	.010
08-21-90	238	.34	258	.380	.020	--	.020	.400	.30	.030	--	.010
10-16-90	330	.46	1,060	.290	.010	--	.090	.300	.50	.020	--	.010
12-18-90	157	.34	26,000	--	<.010	--	.060	.600	1.1	1.00	--	.110
02-12-91	159	.22	3,090	--	<.010	--	.020	.400	.50	.050	--	<.010
04-23-91	136	.17	2,250	--	<.010	--	.010	.200	.30	.020	--	<.010
06-18-91	164	.21	1,430	.350	.040	--	<.010	.390	.50	.100	--	<.010
08-27-91	208	.29	281	.430	.020	--	<.010	.450	.30	.030	--	<.010

Table 7. Fixed-station water-quality data--Continued

DATE	PHOSPHORUS, SEDIMENT, SUSP. (PERCENT) (30292)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ALUMINUM, SED., SUSP. (PERCENT) (30221)	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ANTIMONY, SED., SUSP. (UG/G) (29816)	ARSENIC, DISSOLVED (UG/L AS AS) (01000)	ARSENIC, SED., SUSP. (UG/G) (29818)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)
Kentucky River at Lock 10, near Winchester, Kentucky (03284000)--Continued												
04-22-87	--	810	20	--	<1	--	<1	--	100	30	<10	<0.5
05-18-87	--	<10	20	--	--	--	<1	--	<100	51	<10	<.5
06-15-87	--	300	--	--	--	--	<1	--	<100	65	<10	<.5
07-20-87	--	2,300	--	--	<1	--	<1	--	200	71	<10	<.5
08-17-87	0.13	250	--	9.78	--	0.84	<1	21.1	<100	59	<10	<.5
09-16-87	.15	170	<10	8.49	<1	.89	<1	27.7	<100	70	<10	<.5
10-13-87	.13	--	--	10.70	1	1.46	1	26.4	--	110	--	<.5
11-16-87	.20	--	--	8.18	--	.70	<1	15.2	--	130	--	<.5
12-14-87	.11	--	<10	11.70	--	.80	<1	14.2	--	100	--	<.5
12-29-87	.10	2,600	40	10.90	<1	3.10	<1	13.8	<100	40	<10	<.5
01-11-88	.11	--	10	6.82	<1	.70	<1	12.0	--	47	--	<.5
02-03-88	.16	2,200	360	9.30	<1	.70	<1	14.7	100	32	<10	<.5
02-16-88	.12	--	10	12.20	--	.90	<1	13.7	--	37	--	<.5
03-22-88	.13	--	20	9.17	--	.80	<1	13.6	--	51	--	<.5
04-08-88	.10	--	30	8.29	<1	.70	<1	12.4	<100	42	<10	<.5
04-19-88	.12	--	20	9.86	<1	.90	<1	13.8	--	39	--	<.5
05-17-88	.13	--	<10	9.61	--	1.10	1	19.3	--	42	--	<.5
06-22-88	.13	--	<10	7.35	--	.50	1	9.9	--	65	--	<.5
07-18-88	.24	--	20	8.89	<1	1.00	2	18.6	--	73	--	<.5
08-10-88	--	--	240	--	--	--	--	--	--	67	--	<.5
09-19-88	.06	--	<10	5.71	--	.40	<1	8.6	--	67	--	<.5
10-17-88	.13	--	<10	8.31	<1	1.20	<1	15.9	--	76	--	<.5
11-14-88	.12	--	<10	8.92	--	1.00	<1	21.1	--	96	--	<.5
11-21-88	.08	11,000	50	9.49	<1	.80	1	13.2	200	50	<10	<.5
12-19-88	.22	--	<10	7.33	--	1.50	<1	18.5	--	48	--	<.5
01-13-89	.11	3,600	70	7.58	<1	.60	<1	11.5	<100	24	<10	<.5
01-17-89	.08	--	90	9.88	<1	.80	<1	10.6	--	29	--	<.5
02-15-89	.11	5,300	140	8.12	<1	.60	<1	12.8	100	16	<10	<.5
02-22-89	.08	--	80	9.46	--	.60	1	10.3	--	17	--	<.5
03-20-89	.10	--	20	11.90	--	.60	<1	12.0	--	32	--	<.5
04-17-89	.11	--	170	9.05	<1	.60	<1	12.7	--	32	--	<.5
05-11-89	.08	2,500	50	9.82	<1	1.40	<1	12.6	<100	25	<10	<.5
05-15-89	.10	--	20	11.10	--	1.20	<1	11.5	--	26	--	<.5
05-24-89	.09	4,800	40	12.00	<1	.60	<1	11.7	100	31	<10	<.5
06-17-89	.08	9,900	40	9.41	<1	.80	<1	10.4	<100	22	<10	<.5
06-19-89	.07	--	40	10.50	--	.50	<1	10.3	--	27	--	<.5
07-10-89	.09	--	20	11.10	<1	.60	<1	9.3	--	39	--	<.5
08-21-89	.12	--	20	10.40	--	1.40	<1	20.7	--	45	--	<.5
09-18-89	.08	--	50	10.30	--	.50	<1	9.4	--	23	--	<.5
10-18-89	.08	11,000	100	9.51	<1	.50	<1	9.6	<100	22	10	<.5
10-23-89	.08	--	50	10.90	<1	2.40	<1	9.5	--	29	--	<.5
11-13-89	.11	--	20	11.00	--	3.50	<1	13.8	--	34	--	<.5
12-18-89	.17	--	<10	9.82	--	5.90	<1	27.0	--	31	--	<.5
01-05-90	.09	1,600	30	11.50	<1	1.20	<1	10.6	<100	22	<10	<.5
01-22-90	.23	--	30	8.26	<1	.60	<1	9.6	--	23	--	<.5
02-12-90	.08	--	60	10.50	--	.50	<1	9.6	--	18	--	<.5
03-26-90	.10	--	<10	12.70	--	.70	<1	12.8	--	24	--	<.5
04-17-90	--	--	60	--	<1	--	<1	--	--	26	--	<.5
06-19-90	--	--	30	--	<1	--	<1	--	--	40	--	<.5
08-21-90	--	--	<10	--	<1	--	1	--	--	49	--	<.5
10-16-90	--	--	20	--	<1	--	<1	--	--	49	--	<.5
12-18-90	--	--	1200	--	<1	--	1	--	--	37	--	<.5
02-12-91	--	--	20	--	<1	--	<1	--	--	24	--	<.5
04-23-91	--	--	20	--	<1	--	<1	--	--	24	--	<.5
06-18-91	--	--	<10	--	<1	--	<1	--	--	31	--	<.5
08-27-91	--	--	<10	--	<1	--	<1	--	--	42	--	<.5

Table 7. Fixed-station water-quality data--Continued

DATE	BERYLLIUM, SED., SUSP. (UG/G) (29822)	BORON, TOTAL RECOVERABLE (UG/L AS B) (01022)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM, TOTAL RECOVERABLE (UG/L AS CD) (01027)	CADMIUM, DISSOLVED (UG/L AS CD) (01025)	CADMIUM, SED., SUSP. (UG/G) (29826)	CHROMIUM, TOTAL RECOVERABLE (UG/L AS CR) (01034)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	CHROMIUM, SED., SUSP. (UG/G) (29829)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COBALT, SEDIMENT, SUSP. (UG/G) (35031)	COPPER, TOTAL RECOVERABLE (UG/L AS CU) (01042)
Kentucky River at Lock 10, near Winchester, Kentucky (03284000)--Continued												
04-22-87	--	10	20	<1	0.7	--	<1	<5.0	--	<3	--	<10
05-18-87	--	--	20	<1	.3	--	<1	<.5	--	<3	--	<10
06-15-87	--	30	--	<1	.4	--	<1	<.5	--	<3	--	<10
07-20-87	--	90	--	1	.5	--	<2	<.5	--	<3	--	10
08-17-87	4	<10	--	1	1.1	0.7	5	<.5	101	<3	27	20
09-16-87	3	50	40	1	.6	2.5	<1	<.5	81	<3	28	20
10-13-87	4	--	--	--	<.4	1.5	--	<.5	107	<3	29	--
11-16-87	3	--	50	--	.2	.6	--	<.5	75	<3	24	--
12-14-87	4	--	50	--	1.4	.9	--	<.5	108	<3	29	--
12-29-87	4	30	30	<1	<.3	.5	5	<.5	117	<3	23	20
01-11-88	3	--	20	--	.3	.8	--	<.5	64	<3	20	--
02-03-88	3	<10	10	1	.2	.4	5	.9	89	<3	20	20
02-16-88	4	--	20	--	.3	1.2	--	<.5	124	<3	28	--
03-22-88	3	--	10	--	.1	1.0	--	<.5	92	<3	33	--
04-08-88	3	20	20	<1	.1	.5	<1	<.5	82	<3	22	10
04-19-88	4	--	10	--	.3	1.1	--	<.5	100	<3	29	--
05-17-88	3	--	20	--	.2	.8	--	<.5	161	<3	30	--
06-22-88	2	--	20	--	.4	.5	--	<.5	114	<3	29	--
07-18-88	3	--	30	--	.6	1.2	--	<.5	140	<3	27	--
08-10-88	--	--	--	--	2.0	--	--	<5.0	--	<3	--	--
09-19-88	2	--	30	--	.3	.3	--	2.1	51	<3	14	--
10-17-88	<3	--	40	--	.6	2.2	--	<.7	86	<3	26	--
11-14-88	3	--	30	--	.2	1.7	--	<.5	94	<3	22	--
11-21-88	3	60	30	<1	<.1	.1	14	<.5	90	<3	24	20
12-19-88	3	--	10	--	.3	1.6	--	<.5	79	<3	55	--
01-13-89	3	50	10	1	<.1	.5	6	<.5	72	<3	18	10
01-17-89	4	--	<10	--	.2	.5	--	<.5	87	<3	25	--
02-15-89	3	20	10	<1	1.3	.4	9	2.5	81	<3	19	10
02-22-89	3	--	<10	--	.3	.6	--	<.5	95	<3	23	--
03-20-89	4	--	<10	--	.3	.8	--	<.5	108	<3	28	--
04-17-89	3	--	10	--	<.1	1.7	--	<.5	138	<3	28	--
05-11-89	4	80	<10	2	.3	5.4	4	<.5	144	<3	25	20
05-15-89	4	--	<10	--	.1	.9	--	<.5	157	<3	27	--
05-24-89	4	40	30	1	.2	5.0	8	<.5	182	<3	27	20
06-17-89	4	30	20	<1	<.1	1.8	12	<.5	139	<3	23	30
06-19-89	4	--	30	--	.2	.4	--	1.1	144	<3	23	--
07-10-89	4	--	20	--	2.9	.5	--	<.5	97	<3	22	--
08-21-89	4	--	40	--	.4	2.4	--	<.5	105	<3	25	--
09-18-89	3	--	40	--	1.1	.4	--	<.5	96	<3	21	--
10-18-89	3	40	20	<1	.2	.4	15	.8	85	<3	22	30
10-23-89	4	--	10	--	.2	.5	--	<.5	93	<3	24	--
11-13-89	4	--	20	--	.4	1.6	--	<.5	104	<3	27	--
12-18-89	4	--	<10	--	.7	2.1	--	.8	96	<3	30	--
01-05-90	4	<10	20	<1	.2	2.7	2	.8	101	<3	23	10
01-22-90	3	--	10	--	2.1	.6	--	1.3	75	<3	20	--
02-12-90	4	--	<10	--	.1	.3	--	<.5	87	<3	24	--
03-26-90	5	--	10	--	.3	1.2	--	<.5	105	<3	29	--
04-17-90	--	--	20	--	.2	--	--	<.5	--	<3	--	--
06-19-90	--	--	20	--	.2	--	--	<.5	--	<3	--	--
08-21-90	--	--	30	--	.3	--	--	<.5	--	<3	--	--
10-16-90	--	--	20	--	8.7	--	--	3.3	--	<3	--	--
12-18-90	--	--	20	--	.6	--	--	.7	--	<3	--	--
02-12-91	--	--	20	--	.7	--	--	<.5	--	<3	--	--
04-23-91	--	--	20	--	.2	--	--	<.5	--	<3	--	--
06-18-91	--	--	20	--	.1	--	--	<.5	--	<3	--	--
08-27-91	--	--	90	--	<.1	--	--	<.5	--	<3	--	--

Table 7. Fixed-station water-quality data--Continued

DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	COPPER, SED., SUSP. (UG/G) (29832)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, SEDI-MENT, SUSP. (PERCENT) (30269)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, SED., SUSP. (UG/G) (29836)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
Kentucky River at Lock 10, near Winchester, Kentucky (03284000)--Continued											
04-22-87	1.5	--	1,900	56	--	7	4.7	--	<4	90	26
05-18-87	2.5	--	740	8	--	<5	<.5	--	9	200	150
06-15-87	3.1	--	720	5	--	5	<.5	--	12	130	50
07-20-87	2.9	--	2,900	7	--	8	.9	--	5	90	20
08-17-87	2.4	76	580	7	4.99	<5	<.5	23.0	7	80	8
09-16-87	3.5	102	350	18	4.49	<5	<.5	34.6	<4	140	42
10-13-87	3.4	99	--	5	5.46	--	<.5	37.7	14	--	220
11-16-87	1.7	51	--	7	4.24	--	<.5	51.2	10	--	9
12-14-87	2.5	46	--	<3	5.28	--	<.5	39.5	8	--	29
12-29-87	2.0	31	6,100	110	4.68	<5	5.8	59.2	<4	260	87
01-11-88	1.1	49	--	61	3.48	--	4.7	42.7	<4	--	95
02-03-88	2.7	36	4,000	410	5.08	<5	2.0	28.3	<4	210	100
02-16-88	1.5	64	--	26	5.72	--	<.5	49.5	5	--	67
03-22-88	1.8	50	--	21	5.27	--	.8	30.4	<4	--	130
04-08-88	.7	32	5,900	48	4.25	<5	<.5	16.4	5	310	45
04-19-88	1.3	76	--	32	5.01	--	.7	33.9	5	--	87
05-17-88	1.2	79	--	29	5.17	--	6.4	47.1	5	--	110
06-22-88	3.0	27	--	<3	4.34	--	<.5	26.6	7	--	140
07-18-88	2.7	90	--	4	4.85	--	<.5	38.7	7	--	6
08-10-88	10.0	--	--	210	--	--	5.0	--	8	--	140
09-19-88	2.7	19	--	5	3.06	--	3.6	14.5	5	--	30
10-17-88	2.2	64	--	26	4.37	--	<.5	45.8	8	--	26
11-14-88	<.5	37	--	23	4.81	--	<.5	47.7	7	--	11
11-21-88	2.7	29	19,000	110	4.56	7	<.5	31.5	<4	1,000	350
12-19-88	1.9	121	--	21	6.86	--	<.5	44.6	4	--	140
01-13-89	1.2	27	7,000	79	3.73	<5	<.5	28.1	7	370	48
01-17-89	1.9	32	--	88	4.45	--	<.5	34.6	5	--	25
02-15-89	3.5	29	11,000	120	4.13	16	2.6	27.5	<4	570	65
02-22-89	1.0	30	--	130	4.39	--	<.5	26.3	<4	--	99
03-20-89	1.3	49	--	41	5.50	--	<.5	44.8	<4	--	61
04-17-89	.7	40	--	350	4.79	--	<.5	37.4	4	--	93
05-11-89	2.8	44	5,500	68	4.62	10	<.5	58.5	8	240	10
05-15-89	.8	45	--	42	5.20	--	<.5	55.4	6	--	21
05-24-89	3.6	64	11,000	50	5.24	16	<.5	40.1	9	470	4
06-17-89	<.5	45	19,000	54	4.31	21	<.5	48.1	<4	670	12
06-19-89	<.5	35	--	85	4.64	--	<.5	24.2	<4	--	39
07-10-89	2.0	38	--	50	4.76	--	<.5	34.5	6	--	25
08-21-89	3.3	672	--	34	5.02	--	<.5	216.0	6	--	9
09-18-89	2.6	33	--	110	4.42	--	.7	24.0	<4	--	29
10-18-89	1.7	25	31,000	300	4.37	25	.6	24.3	<4	1,400	390
10-23-89	.9	45	--	98	4.89	--	<.5	129.0	<4	--	17
11-13-89	1.2	50	--	46	5.63	--	1.3	173.0	5	--	52
12-18-89	3.3	89	--	13	8.10	--	<.5	326.0	6	--	130
01-05-90	2.7	73	3,400	51	4.92	7	<.5	50.2	10	110	28
01-22-90	4.9	27	--	44	4.45	--	1.6	30.9	5	--	37
02-12-90	.6	31	--	74	4.57	--	<.5	23.1	<4	--	13
03-26-90	4.9	45	--	27	5.85	--	<.5	36.2	<4	--	38
04-17-90	1.4	--	--	95	--	--	<.5	--	5	--	41
06-19-90	1.6	--	--	38	--	--	<.5	--	6	--	4
08-21-90	3.5	--	--	7	--	--	<.5	--	6	--	3
10-16-90	8.7	--	--	16	--	--	<.5	--	9	--	8
12-18-90	3.5	--	--	1,300	--	--	2.5	--	<4	--	270
02-12-91	1.5	--	--	40	--	--	<.5	--	5	--	32
04-23-91	1.8	--	--	22	--	--	<.5	--	4	--	42
06-18-91	1.9	--	--	8	--	--	<.5	--	4	--	79
08-27-91	5.4	--	--	4	--	--	<.5	--	5	--	22

Table 7. Fixed-station water-quality data--Continued

DATE	MANGANESE, SED., SUSP. (UG/G) (29839)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY, DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO) (01062)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	MOLYBDENUM, SED., SUSP. (UG/G) (29843)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	NICKEL, SED., SUSP. (UG/G) (29845)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)
					Kentucky River at Lock 10, near Winchester, Kentucky (03284000)--Continued						
04-22-87	--	0.40	0.1	<1	<10	--	<10	--	<1	<1	<1.0
05-18-87	--	<.10	<.1	3	<10	--	<10	--	--	<1	<1.0
06-15-87	--	<.10	<.1	<2	<10	--	--	--	--	<1	--
07-20-87	--	.10	.2	<1	<10	--	--	--	<1	<1	--
08-17-87	4,280	.10	<.1	<1	<10	2.3	<10	63	--	<1	<1.0
09-16-87	13,800	<.10	.1	1	<10	3.9	<10	67	<1	<1	<1.0
10-13-87	5,010	--	<.1	--	<10	3.0	<10	64	<1	--	<1.0
11-16-87	4,890	--	.1	--	<10	2.2	<10	54	--	--	<1.0
12-14-87	3,750	--	.1	--	<10	1.4	<10	63	--	--	<1.0
12-29-87	1,570	.20	.3	1	<10	2.1	20	62	<1	<1	<1.0
01-11-88	4,450	--	1.8	--	<10	2.0	<10	53	<1	--	<1.0
02-03-88	1,680	.30	.3	1	<10	2.0	<10	43	<1	<1	<1.0
02-16-88	2,010	--	.1	--	<10	2.4	<10	72	--	--	2.0
03-22-88	6,220	--	<.1	--	<10	2.0	<10	67	--	--	<1.0
04-08-88	1,590	<.10	<.1	2	<10	3.2	<10	51	<1	1	<1.0
04-19-88	3,850	--	.1	--	<10	2.1	<10	62	<1	--	<1.0
05-17-88	5,200	--	<.1	--	<10	3.4	<10	69	--	--	<1.0
06-22-88	11,700	--	.1	--	<10	.8	<10	60	--	--	<1.0
07-18-88	6,720	--	.3	--	<10	2.9	<10	69	<1	--	<1.0
08-10-88	--	--	--	--	<10	--	<10	--	--	--	1.0
09-19-88	1,820	--	.2	--	<10	1.3	<10	31	--	--	4.0
10-17-88	5,450	--	.2	--	<10	3.7	<10	61	<1	--	<1.0
11-14-88	3,470	--	<.1	--	<10	4.2	<10	71	--	--	<1.0
11-21-88	1,470	<.10	<.1	6	<10	3.1	<10	51	<1	<1	<1.0
12-19-88	19,500	--	.1	--	<10	2.7	<10	119	--	--	<1.0
01-13-89	1,450	<.10	<.1	3	<10	2.7	<10	498	1	<1	<1.0
01-17-89	2,080	--	.2	--	<10	1.0	<10	48	<1	--	<1.0
02-15-89	1,210	.20	.3	4	<10	2.6	<10	62	<1	1	<1.0
02-22-89	1,200	--	<.1	--	<10	1.5	<10	51	--	--	<1.0
03-20-89	2,060	--	.2	--	<10	1.4	<10	66	--	--	<1.0
04-17-89	3,400	--	.2	--	<10	2.1	<10	67	<1	--	<1.0
05-11-89	1,670	.20	.2	2	<10	1.6	<10	55	<1	<1	2.0
05-15-89	1,920	--	<.1	--	<10	1.3	<10	62	--	--	<1.0
05-24-89	1,790	.10	<.1	4	<10	1.0	<10	65	<1	<1	<1.0
06-17-89	1,420	<.10	<.1	<1	<10	1.2	<10	49	<1	<1	<1.0
06-19-89	1,330	--	1.5	--	<10	.9	<10	49	--	--	<1.0
07-10-89	1,460	--	.3	--	<10	1.2	<10	52	<1	--	1.0
08-21-89	2,760	--	--	--	<10	2.9	<10	159	--	--	<1.0
09-18-89	1,280	--	.5	--	<10	.9	<10	47	--	--	<1.0
10-18-89	1,320	.20	.3	<1	<10	1.0	<10	44	<1	<1	<1.0
10-23-89	1,490	--	.1	--	<10	3.6	<10	48	<1	--	<1.0
11-13-89	2,790	--	.3	--	<10	8.8	<10	78	--	--	<1.0
12-18-89	2,550	--	.1	--	<10	6.4	<10	71	--	--	<1.0
01-05-90	1,310	.40	.1	<1	<10	1.5	<10	53	<1	<1	<1.0
01-22-90	1,930	--	.2	--	<10	1.2	<10	36	<1	--	<1.0
02-12-90	1,330	--	.1	--	<10	1.0	10	51	--	--	<1.0
03-26-90	2,250	--	<.1	--	<10	1.3	10	67	--	--	<1.0
04-17-90	--	--	.2	--	<10	--	<10	--	<1	--	<1.0
06-19-90	--	--	.2	--	<10	--	<10	--	<1	--	2.0
08-21-90	--	--	.3	--	<10	--	<10	--	<1	--	<1.0
10-16-90	--	--	.2	--	<10	--	<10	--	<1	--	<1.0
12-18-90	--	--	.4	--	<10	--	<10	--	<1	--	<1.0
02-12-91	--	--	<.1	--	<10	--	<10	--	<1	--	1.0
04-23-91	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0
06-18-91	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0
08-27-91	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0

Table 7. Fixed-station water-quality data--Continued

DATE	SILVER, SED., SUSP. (UG/G) (29850)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	VANA-DIUM, SED., SUSP. (UG/G) (29853)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	ZINC, SED., SUSP. (UG/G) (29855)	TITA-NIUM, SEDI-MENT, SUSP. (PERCENT) (30317)	THAL-LIUM, SED., SUSP. (UG/G)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP., TOTAL (UG/L AS U-NAT) (80040)
		Kentucky River at Lock 10, near Winchester, Kentucky (03284000)--Continued									
04-22-87	--	150	<6	--	20	3	--	--	--	<0.4	<0.4
05-18-87	--	280	<6	--	<10	12	--	--	--	--	--
06-15-87	--	450	<6	--	20	9	--	--	--	--	--
07-20-87	--	350	<6	--	10	<3	--	--	--	.6	1.4
08-17-87	0.2	360	<6	154	<10	5	212	0.48	0.70	--	--
09-16-87	.2	420	<6	131	10	9	261	.42	.80	--	--
10-13-87	.3	760	<6	171	--	6	266	.49	.80	1.0	<.4
11-16-87	.2	1,200	<6	126	--	10	193	.40	.70	--	--
12-14-87	.2	970	<6	155	--	7	197	.52	.70	--	--
12-29-87	.2	190	<6	147	30	6	162	.54	.80	.6	5.8
01-11-88	.1	260	<6	98	--	13	162	.37	.50	1.0	1.4
02-03-88	.1	130	<6	131	20	10	128	.55	.90	<.4	3.8
02-16-88	.2	190	<6	159	--	8	256	.56	1.2	--	--
03-22-88	.3	380	<6	132	--	<3	213	.46	.70	--	--
04-08-88	4.6	270	<6	126	40	4	154	.47	.60	<.4	10
04-19-88	.3	170	<6	141	--	<3	199	.49	.80	<.4	.4
05-17-88	12.9	200	<6	152	--	<3	188	.48	1.2	--	--
06-22-88	.2	360	<6	98	--	8	138	.38	.70	--	--
07-18-88	.3	410	<6	134	--	5	244	.52	.90	<.4	<.4
08-10-88	--	420	<6	--	--	15	--	--	--	--	--
09-19-88	<.1	620	<6	72	--	11	85	.34	.50	--	--
10-17-88	.2	610	<6	136	--	6	210	.41	.90	.9	<.4
11-14-88	.2	620	<6	156	--	11	196	.44	1.3	--	--
11-21-88	.1	270	<6	148	90	9	154	.51	1.1	<.4	12
12-19-88	.3	290	<6	117	--	5	272	.34	.70	--	--
01-13-89	.1	150	<6	109	30	11	120	.47	.90	<.6	6.3
01-17-89	.2	120	<6	124	--	<3	160	.51	.90	<.6	15
02-15-89	.2	90	<6	122	80	82	124	.51	.80	<.6	30
02-22-89	.4	83	<6	129	--	4	138	.54	.90	--	--
03-20-89	.4	190	<6	155	--	10	196	.55	1.2	--	--
04-17-89	.2	200	<6	126	--	<3	195	.55	.80	<.6	.7
05-11-89	.2	170	<6	132	20	7	188	.51	.90	<.6	10
05-15-89	.2	170	<6	145	--	<3	190	.53	1.2	--	--
05-24-89	.2	230	<6	154	60	17	215	.60	.90	1.1	18
06-17-89	.1	140	<6	122	90	4	202	.51	.90	<.6	48
06-19-89	.2	120	<6	132	--	5	148	.54	.70	--	--
07-10-89	.6	330	<6	142	--	9	246	.54	.90	<.6	1.7
08-21-89	.6	410	<6	165	--	30	1,810	.51	1.1	--	--
09-18-89	.2	110	<6	136	--	<3	146	.50	.80	--	--
10-18-89	.2	72	<6	124	90	9	128	.48	.80	<.6	26
10-23-89	.1	130	<6	137	--	4	173	.53	3.6	<.6	6.0
11-13-89	.2	200	<6	156	--	7	210	.51	3.7	--	--
12-18-89	.6	220	<6	138	--	3	296	.44	3.4	--	--
01-05-90	.3	130	<6	149	40	7	282	.52	.90	1.4	3.2
01-22-90	.3	120	<6	112	--	<3	132	.52	.70	<.6	4.1
02-12-90	<.1	94	<6	125	--	<3	141	.50	.80	--	--
03-26-90	.1	140	<6	156	--	4	208	.55	1.0	--	--
04-17-90	--	150	<6	--	--	<3	--	--	--	.7	1.1
06-19-90	--	160	<6	--	--	4	--	--	--	<.6	5.1
08-21-90	--	340	<6	--	--	4	--	--	--	.7	<.6
10-16-90	--	440	<6	--	--	8	--	--	--	1.3	1.1
12-18-90	--	120	<6	--	--	11	--	--	--	.7	31
02-12-91	--	170	<6	--	--	<3	--	--	--	<.6	2.4
04-23-91	--	140	<6	--	--	<3	--	--	--	.7	<.6
06-18-91	--	180	<6	--	--	<3	--	--	--	<.6	2.9
08-27-91	--	290	<6	--	--	<3	--	--	--	2.2	1.4

Table 7. Fixed-station water-quality data--Continued

DATE	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP., TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90) (80050)	GROSS BETA, SUSP., TOTAL (PCI/L AS SR/YT-90) (80060)	CARBON, ORGANIC, DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC, SUS-PENDED, TOTAL (MG/L AS C) (00689)	CYANIDE, DIS-SOLVED (MG/L AS CN) (00723)	SURFACE AREA, SEDI-MENT, SUSP. (M2/G) (30334)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED., SUSP., SIEVE DIAM. (% FINER THAN .062 MM)
					Kentucky River at Lock 10, near Winchester, Kentucky (03284000)--Continued						
04-22-87	2.0	0.8	1.6	0.7	2.9	0.5	<0.01	--	42	1,060	98
05-18-87	--	--	--	--	2.2	.4	--	--	14	51	100
06-15-87	--	--	--	--	3.1	.3	--	--	20	33	92
07-20-87	4.4	2.2	3.3	2.2	6.0	.1	<.01	--	41	89	91
08-17-87	--	--	--	--	4.2	.4	--	21.7	26	--	71
09-16-87	--	--	--	--	3.4	.3	--	21.2	9	6.8	63
10-13-87	5.4	.4	4.1	.4	--	.2	<.01	27.2	14	7.0	83
11-16-87	--	--	--	--	3.8	.5	--	19.8	9	18	75
12-14-87	--	--	--	--	4.5	.2	--	30.3	12	8.7	56
12-29-87	3.2	6.0	2.6	5.5	6.7	1.5	<.01	22.4	157	4,540	94
01-11-88	3.1	1.6	2.3	1.5	2.2	.5	<.01	10.1	30	95	86
02-03-88	2.2	4.1	1.7	3.7	3.5	1.3	<.01	28.7	91	1,910	99
02-16-88	--	--	--	--	4.0	.3	--	25.2	20	133	85
03-22-88	--	--	--	--	1.7	.3	--	24.6	14	73	72
04-08-88	2.1	7.2	1.7	6.3	2.6	.8	<.01	20.7	174	9,160	90
04-19-88	2.5	1.0	2.0	.9	1.6	.3	<.01	23.3	19	205	89
05-17-88	--	--	--	--	1.9	.4	--	22.4	14	64	92
06-22-88	--	--	--	--	2.2	--	--	20.9	13	6.7	82
07-18-88	4.1	.7	3.0	.6	3.3	.6	<.01	22.8	10	9.4	63
08-10-88	--	--	--	--	--	--	--	--	12	7.3	65
09-19-88	--	--	--	--	3.7	1.1	--	12.6	162	516	41
10-17-88	6.8	.4	5.1	.4	3.0	.2	<.01	13.8	7	3.6	70
11-14-88	--	--	--	--	3.0	.2	--	21.8	15	94	65
11-21-88	3.6	18	2.8	16	2.8	>2.6	<.01	20.4	736	129,000	81
12-19-88	--	--	--	--	1.6	.2	--	25.8	10	17	54
01-13-89	2.3	8.3	1.7	7.3	2.5	4.5	<.01	17.8	268	19,200	83
01-17-89	1.9	11	1.6	9.2	2.5	2.6	<.01	13.2	172	10,100	88
02-15-89	2.2	20	1.9	18	3.4	>2.5	<.01	18.8	557	117,000	71
02-22-89	--	--	--	--	2.9	>2.5	--	19.2	654	90,600	81
03-20-89	--	--	--	--	1.7	.5	--	27.1	44	621	80
04-17-89	1.6	.8	1.5	.8	1.9	.5	<.01	18.7	14	199	98
05-11-89	2.4	7.7	2.0	6.8	3.2	1.7	<.01	21.1	155	10,300	84
05-15-89	--	--	--	--	2.0	.4	--	21.7	31	541	100
05-24-89	2.8	18	2.1	16	2.8	>2.5	<.01	22.3	339	22,000	87
06-17-89	2.3	28	1.8	25	2.9	>2.5	<.01	18.3	615	60,400	88
06-19-89	--	--	--	--	3.0	--	--	18.5	398	39,200	90
07-10-89	4.1	2.8	3.1	2.6	2.9	.4	<.01	21.0	51	885	94
08-21-89	--	--	--	--	3.3	.1	--	26.5	26	181	86
09-18-89	--	--	--	--	4.9	1.9	--	23.5	242	9,150	94
10-18-89	3.2	33	2.5	29	5.2	>2.5	<.01	20.5	1,040	132,000	73
10-23-89	3.1	10	2.4	8.1	2.7	1.0	<.01	21.3	176	5,890	98
11-13-89	--	--	--	--	2.6	.4	--	28.8	24	316	100
12-18-89	--	--	--	--	1.6	.2	--	37.9	3	15	100
01-05-90	3.0	3.6	2.4	2.8	2.9	1.4	<.01	20.0	73	2,640	97
01-22-90	3.1	5.0	2.6	4.0	3.6	.5	<.01	23.6	75	2,020	100
02-12-90	--	--	--	--	2.2	>2.5	--	17.8	358	39,800	87
03-26-90	--	--	--	--	2.4	.4	--	29.2	31	503	86
04-17-90	2.3	1.5	1.8	1.3	2.7	.4	<.01	--	39	590	77
06-19-90	3.6	4.1	2.8	3.8	4.1	1.2	<.01	--	95	875	95
08-21-90	4.4	.7	3.3	<.6	3.4	.6	<.01	--	11	11	77
10-16-90	5.9	<.6	4.5	<.6	2.7	.3	<.01	--	16	51	76
12-18-90	3.1	16	2.4	15	4.9	>5.0	<.01	--	503	52,600	73
02-12-91	2.3	1.9	1.8	1.8	5.1	.5	<.01	--	35	679	96
04-23-91	2.1	<.6	1.7	<.6	15	.4	<.01	--	--	--	--
06-18-91	3.0	3.5	2.2	3.3	6.2	.8	<.01	--	66	618	97
08-27-91	7.6	1.9	5.7	1.8	3.5	.2	<.01	--	11	15	97

Table 7. Fixed-station water-quality data--Continued

Kentucky River at Lock 10, near Winchester, Kentucky (03284000)--Continued

DATE	TIME	AME-TRYNE, TOTAL (82184)	ATRA-ZINE, TOTAL (UG/L) (39630)	CYAN-AZINE, TOTAL (UG/L) (81757)	DICAMBA (MED-IBEN) (BAN-VEL D), TOTAL (UG/L) (82052)	PICLO-RAM (TOR-DON) (AMDON), TOTAL (UG/L) (39720)	PROME-TONE, TOTAL (UG/L) (39056)	PROME-TRYNE, TOTAL (UG/L) (39057)	PRO-PAZINE, TOTAL (UG/L) (39024)
06-17-89	1000	<0.10	0.20	<0.10	<0.01	<0.01	<0.10	<0.10	<0.10
10-16-90	0930	<.10	<.10	<.10	<.01	<.01	<.10	<.10	<.10
12-18-90	1000	<.10	<.10	<.10	<.01	<.01	<.10	<.10	<.10
02-12-91	0930	<.10	<.10	<.20	<.01	<.01	<.20	<.10	<.10
04-23-91	0930	<.10	<.10	<.20	<.01	<.01	<.20	<.10	<.10
06-18-91	0930	<.10	.10	<.20	<.01	<.01	<.20	<.10	<.10
08-27-91	0930	<.10	<.10	<.20	<.01	<.01	<.20	<.10	<.10

DATE	SILVEX, TOTAL (UG/L) (39760)	SIMA-ZINE, TOTAL (UG/L) (39055)	SIME-TRYNE, TOTAL (UG/L) (39054)	2,4-D, TOTAL (UG/L) (39730)	2,4-DP, TOTAL (UG/L) (82183)	2,4,5-T, TOTAL (UG/L) (39740)	ALA-CHLOR, TOTAL RECOVER (UG/L) (77825)	TRI-FLURA-LIN, TOTAL RECOVER (UG/L) (39030)	BROM-ACIL, WATER, WHLREC (UG/L) (30234)	BUTA-CHLOR, WATER, WHLREC (UG/L) (30235)	BUTYL-ATE, WATER, WHLREC (UG/L) (30236)
06-17-89	<0.01	0.10	<0.10	<0.01	<0.01	<0.01	<0.10	<0.10	--	--	--
10-16-90	<.01	<.10	<.10	.02	<.01	<.01	<.10	<.10	--	--	--
12-18-90	<.01	<.10	<.10	.01	<.01	<.01	<.10	<.10	--	--	--
02-12-91	<.01	<.10	<.10	<.01	<.01	<.01	<.20	<.10	<0.20	<0.10	<0.10
04-23-91	<.01	<.10	<.10	<.01	<.01	<.01	<.20	<.10	<.20	<.10	<.10
06-18-91	<.01	.10	<.10	<.01	<.01	<.01	<.20	<.10	<.20	<.10	<.10
08-27-91	<.01	<.10	<.10	.10	<.01	<.01	<.10	<.10	<.20	<.10	<.10

DATE	CARBOX-IN, WATER, WHOLE, RECOV-ERABLE (UG/L) (30245)	CYCLO-ATE, WATER, WHOLE, RECOV-ERABLE (UG/L) (30254)	DE-ISO PROPYL ATRAZIN, WATER, WHOLE, TOTAL (UG/L) (75980)	DEETHYL ATRA-ZINE, WATER, WHOLE, TOTAL (UG/L) (75981)	DIPHEN-AMID, WATER, WHOLE, RECOV-ERABLE (UG/L) (30255)	HEXAZI-NONE, WATER, WHOLE, RECOV-ERABLE (UG/L) (30264)	METRI-BUZIN, WATER, WHOLE, TOT.REC (UG/L) (82611)	METOLA-CHLOR, WATER, WHOLE, TOT.REC (UG/L) (82612)	PROPA-CHLOR, WATER, WHOLE, RECOV. (UG/L) (30295)	TER-BACIL, WATER, WHOLE, RECOV. (UG/L) (30311)	VER-NOLATE, WATER, WHOLE, RECOV. (UG/L) (30324)
06-17-89	--	--	--	--	--	--	<0.10	<0.10	--	--	--
10-16-90	--	--	--	--	--	--	<.10	<.10	--	--	--
12-18-90	--	--	--	--	--	--	<.10	<.10	--	--	--
02-12-91	<0.20	<0.10	<0.20	<0.20	<0.10	<0.20	<.10	<.20	<0.10	<0.20	<0.10
04-23-91	<.20	<.10	<.20	<.20	<.10	<.20	<.10	<.20	<.10	<.20	<.10
06-18-91	<.20	<.10	<.20	<.20	<.10	<.20	<.10	<.20	<.10	<.20	<.10
08-27-91	<.20	<.10	<.20	<.20	<.10	<.20	<.10	<.10	<.10	<.20	<.10

Table 7. Fixed-station water-quality data--Continued

DATE	TIME	DIS-CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH, WATER, WHOLE, FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE, AIR (DEG C) (00020)	TEMPER-ATURE, WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, .7 UM-MF (COL/ 100 ML) (31625)	STEP-TOCOCCI, FECAL, KF AGAR (COL/ 100 ML) (31673)
Kentucky River at Lock 4, at Frankfort, Kentucky (03287500)										
04-23-87	0805	10,100	190	7.3	18.0	14.0	10.0	100	--	--
05-19-87	0845	1,440	290	7.4	25.0	22.5	8.9	106	--	--
06-17-87	0830	755	325	8.1	23.0	26.5	6.8	86	--	--
07-21-87	0800	1,030	445	8.0	27.0	28.0	7.5	97	--	--
08-18-87	0950	489	340	8.0	25.0	28.5	6.7	88	M76	8
09-17-87	0830	350	357	7.8	27.0	24.5	6.3	78	--	--
10-14-87	1015	264	337	8.0	11.0	15.5	7.6	77	--	--
11-17-87	0900	725	360	8.1	17.0	12.0	9.5	91	--	--
12-15-87	0900	876	460	8.1	11.0	8.0	10.7	93	--	--
12-29-87	0900	17,900	452	7.3	1.0	6.0	11.7	95	--	--
01-12-88	0900	1,690	290	8.0	4.0	3.5	13.0	100	--	--
02-17-88	1000	4,170	390	8.0	.5	4.0	14.0	109	--	--
03-23-88	0900	2,630	312	7.4	18.5	7.0	11.7	98	--	--
04-08-88	1330	14,400	340	7.7	13.5	13.0	10.2	98	--	--
04-18-88	1000	3,860	233	7.7	9.5	12.0	10.5	101	--	--
05-16-88	1045	2,140	306	7.8	28.0	21.0	8.8	102	--	--
06-21-88	1300	280	291	8.2	32.5	30.0	7.6	103	--	--
07-19-88	0900	685	304	7.7	26.5	27.5	5.7	74	--	--
08-12-88	0735	394	316	7.3	25.0	28.5	9.6	127	--	--
09-20-88	1145	1,370	345	8.0	25.0	22.5	7.1	82	--	--
10-18-88	0930	361	504	7.6	17.0	16.5	7.9	82	--	--
11-15-88	1200	2,920	568	8.2	16.0	13.0	9.8	95	--	--
11-21-88	1200	58,300	205	7.4	12.0	10.0	7.3	65	--	--
12-20-88	1145	1,090	337	8.3	16.5	6.0	12.0	98	--	--
01-09-89	1300	17,800	286	7.9	2.0	7.0	11.6	96	--	--
01-14-89	0845	29,700	353	8.0	2.0	6.0	12.0	98	--	--
01-18-89	1300	23,500	222	7.9	15.0	7.5	11.4	97	--	--
02-14-89	1500	62,100	238	8.6	8.0	6.5	12.0	99	--	--
02-16-89	1745	109,000	200	7.6	--	--	--	--	--	--
02-23-89	1330	58,000	178	7.9	-3.0	5.5	11.3	90	--	--
03-21-89	1400	17,600	254	8.3	4.0	9.5	11.2	99	--	--
04-18-89	1250	6,870	244	6.9	23.0	16.0	10.8	111	--	--
05-11-89	1935	27,000	227	8.0	17.0	13.5	12.3	120	--	--
05-16-89	1410	7,340	240	7.6	23.0	19.5	10.3	114	--	--
05-25-89	1000	23,000	326	7.9	23.0	18.0	8.9	97	--	--
06-20-89	1315	35,300	164	7.5	26.5	23.5	8.5	103	--	--
07-11-89	1315	6,460	256	7.4	32.5	25.5	7.6	94	--	--
08-22-89	1300	2,810	347	7.9	32.0	26.5	7.1	90	--	--
09-19-89	1245	13,400	325	7.7	24.5	24.5	8.0	98	--	--
10-19-89	0915	51,000	308	6.8	10.0	13.5	7.8	77	--	--
10-24-89	1315	13,200	225	7.5	20.0	16.5	9.8	102	--	--
11-14-89	1300	6,360	288	8.0	19.0	13.5	10.3	101	--	--
12-19-89	1400	2,210	322	7.5	0.0	0.0	12.9	90	--	--
01-23-90	1315	12,400	316	8.4	9.5	8.5	10.7	94	--	--
02-13-90	1315	41,700	176	7.3	20.0	12.5	8.7	84	--	--
03-27-90	1315	5,470	234	7.1	11.5	15.0	10.6	106	--	--

Table 7. Fixed-station water-quality data--Continued

DATE	E.COLI, MTEC,MF WATER, WHOLE, TOTAL (COL/ 100 ML) (31648)	HARD-NESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS-SOLVED (MG/L AS CA) (00915)	CALCIUM, SED., SUSP. (PERCENT) (30240)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MAGNES-IUM, SEDI-MENT, SUSP. (PERCENT) (30277)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM, SEDI-MENT, SUSP. (PERCENT) (30304)	SODIUM (PERCENT) (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	POTAS-SIUM, SEDI-MENT, SUSP. (PERCENT (30294)
					Kentucky River at Lock 4, at Frankfort, Kentucky (03287500)--Continued							
04-23-87	--	98	26	--	8.0	--	5.3	--	10	0.2	2.0	--
05-19-87	--	130	35	--	11	--	8.2	--	12	.3	2.4	--
06-17-87	--	140	36	--	11	--	11	--	15	.4	2.5	--
07-21-87	--	180	44	--	17	--	20	--	19	.6	3.3	--
08-18-87	--	140	38	1.68	11	1.00	17	0.56	20	.6	3.2	2.2
09-17-87	--	140	38	2.11	10	1.12	15	.68	19	.6	3.5	2.4
10-14-87	--	140	40	2.18	10	1.15	14	.73	17	.5	3.3	2.5
11-17-87	--	150	44	2.45	10	1.11	13	.70	15	.5	3.2	2.2
12-15-87	--	160	45	1.31	12	1.03	21	.36	22	.7	3.8	2.7
12-29-87	--	170	46	.66	13	.90	26	.33	25	.9	3.7	2.8
01-12-88	--	140	39	8.01	9.5	2.48	9.4	3.86	13	.4	2.7	1.7
02-17-88	--	150	42	1.29	11	.98	14	.43	17	.5	2.3	2.7
03-23-88	--	150	42	2.65	9.8	1.21	10	.60	13	.4	1.9	2.5
04-08-88	--	160	50	1.24	8.1	.79	9.5	.35	11	.3	1.8	2.3
04-18-88	--	100	28	.93	7.9	.92	6.2	.30	11	.3	2.0	2.7
05-16-88	--	130	34	1.49	11	1.09	12	.56	16	.5	2.1	2.5
06-21-88	--	130	34	3.88	10	1.74	9.5	1.08	14	.4	2.3	2.2
07-19-88	--	130	36	1.80	9.8	.99	9.7	.37	14	.4	3.4	2.2
08-12-88	1,450	140	41	--	9.0	--	11	--	14	.4	2.9	--
09-20-88	--	160	48	1.34	10	.84	13	.22	15	.4	3.3	2.3
10-18-88	--	190	50	7.12	15	2.80	29	3.60	25	.9	3.6	2.0
11-15-88	--	220	58	4.72	17	1.93	32	2.53	24	1	4.0	2.2
11-21-88	--	130	37	1.36	8.3	.90	10	.34	14	.4	3.6	2.6
12-20-88	--	160	46	2.39	11	1.06	9.9	.49	12	.3	2.2	2.3
01-09-89	--	130	40	1.31	7.7	.72	6.4	.30	9	.2	2.2	2.2
01-14-89	--	130	38	1.08	8.9	.78	7.1	.31	10	.3	2.1	2.4
01-18-89	--	100	29	.50	7.2	.82	4.3	.28	8	.2	1.9	2.9
02-14-89	--	120	35	1.42	7.2	.71	5.3	.36	9	.2	2.1	2.1
02-16-89	--	92	29	1.02	4.8	.76	2.8	.32	6	.1	2.2	2.4
02-23-89	--	77	21	.52	5.9	.81	4.0	.33	10	.2	1.6	2.8
03-21-89	--	120	35	.86	7.9	.83	4.9	.27	8	.2	1.9	2.6
04-18-89	--	110	31	1.56	8.1	1.02	4.9	.36	9	.2	1.7	2.5
05-11-89	--	110	31	.79	7.9	.91	3.8	.29	7	.2	2.0	2.8
05-16-89	--	97	26	.82	7.7	.92	4.4	.26	9	.2	1.7	2.8
05-25-89	--	140	38	.81	12	.83	7.2	.33	10	.3	2.0	2.5
06-20-89	--	70	19	.39	5.4	.80	2.6	.27	7	.1	2.2	2.8
07-11-89	--	110	28	.71	8.9	.93	5.5	.30	10	.2	2.1	2.9
08-22-89	--	160	43	1.54	12	1.06	9.6	.44	12	.3	2.9	2.7
09-19-89	--	130	34	.44	11	.83	9.7	.26	14	.4	3.4	2.8
10-19-89	--	130	33	.56	11	.80	7.6	.33	11	.3	3.2	2.5
10-24-89	--	110	29	.41	8.1	.82	3.9	.27	7	.2	2.4	2.8
11-14-89	--	140	37	.80	11	.99	6.1	.23	9	.2	2.9	2.9
12-19-89	--	130	34	--	12	--	9.4	--	13	.4	2.0	--
01-23-90	--	150	44	2.46	8.5	.62	5.8	.26	8	.2	2.2	1.8
02-13-90	--	69	18	.48	5.9	.79	3.7	.36	10	.2	1.8	2.7
03-27-90	--	100	26	.62	8.4	.98	5.6	.28	11	.2	1.8	3.0

Table 7. Fixed-station water-quality data--Continued

DATE	ALKALINITY, WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKALINITY, WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	BICARBONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CARBONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKALINITY, WAT DIS TOT FET FIELD (MG/L AS CACO3) (00418)	SULFATE, DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	BROMIDE, DISSOLVED (MG/L AS BR) (71870)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C, DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
Kentucky River at Lock 4, at Frankfort, Kentucky (03287500)--Continued												
04-23-87	55	--	--	--	--	43	5.4	0.10	<0.010	6.5	133	132
05-19-87	72	--	--	--	--	61	9.7	--	.014	5.2	188	178
06-17-87	--	--	--	--	--	73	14	--	.050	1.9	190	195
07-21-87	75	--	--	--	--	110	27	.20	.15	4.7	276	274
08-18-87	84	--	--	--	--	62	26	--	.12	2.8	209	212
09-17-87	84	--	--	--	--	51	19	.20	.10	2.8	200	191
10-14-87	--	86	105	--	86	46	20	.20	.076	1.2	196	188
11-17-87	--	111	136	--	111	47	20	--	.071	1.3	191	209
12-15-87	--	94	114	--	96	68	29	--	.12	3.0	249	243
12-29-87	--	73	89	--	73	80	43	.20	.25	3.7	271	266
01-12-88	--	72	88	--	71	50	15	.20	.052	5.8	189	183
02-17-88	--	84	102	--	82	53	25	--	.15	5.6	210	204
03-23-88	--	88	107	--	86	51	14	--	.058	4.7	191	191
04-08-88	--	97	118	--	98	45	14	.20	.045	4.5	208	199
04-18-88	--	57	69	--	57	46	7.7	.20	.021	5.7	148	142
05-16-88	--	74	90	--	74	63	16	--	.069	4.1	187	188
06-21-88	--	74	90	--	70	54	10	--	.047	.67	173	166
07-19-88	--	84	102	--	84	50	11	.20	.050	1.2	173	173
08-12-88	--	--	--	--	--	50	13	.20	<.010	1.3	198	185
09-20-88	--	113	138	--	110	50	16	--	.051	1.5	220	214
10-18-88	--	98	119	--	95	81	47	.10	.29	4.4	295	292
11-15-88	--	116	141	--	116	99	52	--	.28	4.0	334	340
11-21-88	--	41	50	--	44	41	16	.10	.060	4.8	166	151
12-20-88	--	88	103	--	91	52	13	--	.044	5.4	187	196
01-09-89	--	88	107	--	89	38	9.2	.20	.042	5.6	172	168
01-14-89	--	78	95	--	78	50	9.7	.10	.033	6.0	175	174
01-18-89	--	62	76	--	62	43	5.5	<.10	.017	6.4	131	139
02-14-89	--	77	94	--	76	40	5.8	.10	.013	5.4	163	152
02-16-89	--	67	82	--	68	25	4.6	.10	.010	4.3	112	118
02-23-89	--	48	58	--	49	36	4.8	--	.022	5.6	105	110
03-21-89	--	63	73	2	64	52	5.5	--	<.010	5.7	156	155
04-18-89	--	66	81	--	63	41	5.8	.10	.030	5.6	147	141
05-11-89	--	76	93	--	76	36	3.2	.10	<.010	6.0	136	138
05-16-89	--	57	70	--	59	41	4.1	--	.010	6.7	129	128
05-25-89	--	70	85	--	72	68	6.4	.10	.030	6.7	179	185
06-20-89	--	39	48	--	40	33	1.8	--	<.010	6.5	107	97
07-11-89	--	55	67	--	54	53	5.8	.10	.020	6.3	150	146
08-22-89	--	92	112	--	92	70	10	--	.050	4.7	221	209
09-19-89	--	72	88	--	71	61	11	--	.040	5.4	175	181
10-19-89	--	74	90	--	74	61	7.7	.10	.030	7.0	240	177
10-24-89	--	63	77	--	62	43	3.7	.10	<.010	7.6	143	138
11-14-89	--	84	102	--	84	52	6.7	--	.020	6.8	179	175
12-19-89	--	73	89	--	73	64	8.4	--	.040	6.3	177	183
01-23-90	--	--	--	--	95	42	6.9	.10	--	6.1	179	179
02-13-90	--	43	53	--	44	33	3.2	--	<.010	6.3	122	100
03-27-90	--	56	68	--	55	48	3.9	--	<.010	6.2	147	137

Table 7. Fixed-station water-quality data--Continued

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE, DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE, DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA, DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3, DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN,AM-MONIA + ORGANIC, TOTAL (MG/L AS N) (00625)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS, SEDI-MENT, SUSP. (PERCENT) (30292)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
Kentucky River at Lock 4, at Frankfort, Kentucky (03287500)--Continued											
04-23-87	0.18	3,630	--	<0.010	0.020	0.460	0.80	0.040	0.010	--	1,300
05-19-87	.26	731	--	<.010	.020	.530	.90	.060	.020	--	<10
06-17-87	.26	387	0.190	.010	.120	.200	.90	.170	.020	--	450
07-21-87	.38	768	.330	.020	.030	.350	1.0	.070	.020	--	320
08-18-87	.28	276	.160	.020	.120	.180	1.0	.070	.010	0.32	200
09-17-87	.27	189	--	<.010	.090	<.100	.50	.040	<.010	.29	110
10-14-87	.27	140	--	<.010	.030	.280	.50	.050	<.010	.31	--
11-17-87	.26	374	.600	.010	.070	.610	.30	.030	.020	.33	--
12-15-87	.34	589	--	<.010	.010	.900	.50	.170	.110	.14	--
12-29-87	.37	13,100	--	<.010	.060	1.20	.80	.150	.010	.12	5,000
01-12-88	.26	862	1.58	.020	.040	1.60	.40	.100	.030	.13	--
02-17-88	.29	2,360	--	.010	.030	<.100	.30	.080	.040	.18	--
03-23-88	.26	1,360	1.09	.010	.010	1.10	.20	.060	.050	.21	--
04-08-88	.28	8,090	--	<.010	.020	1.60	.40	.270	.110	.23	2,400
04-18-88	.20	1,540	.730	.010	.040	.740	.30	.060	.270	.14	--
05-16-88	.25	1,080	--	<.010	<.010	.280	<.20	.040	.020	.20	--
06-21-88	.24	131	.120	.010	.060	.130	.40	.060	.020	.29	--
07-19-88	.24	320	--	<.010	.140	<.100	.50	.060	<.010	.39	--
08-12-88	.27	204	.410	.150	.120	.560	.70	.100	.020	--	--
09-20-88	.30	814	.700	.100	.070	.800	.80	.120	.040	.34	--
10-18-88	.40	288	--	<.010	.030	.540	.50	.070	.040	.18	--
11-15-88	.45	2,630	.710	.010	.030	.720	.50	.150	.080	.22	--
11-21-88	.23	26,100	--	<.010	.070	1.00	2.5	1.00	.050	.21	11,000
12-20-88	.25	550	1.18	.020	.020	1.20	.30	.070	.050	.26	--
01-09-89	.23	8,270	1.19	.010	.080	1.20	.70	.190	.110	.32	4,500
01-14-89	.24	14,000	--	<.010	.020	1.00	<.20	.090	.060	.18	1,700
01-18-89	.18	8,310	--	<.010	.010	.790	.40	.050	.030	.10	--
02-14-89	.22	27,300	--	<.010	.030	.980	1.1	.960	.140	.31	4,400
02-16-89	.15	33,000	.950	.020	.020	.970	1.4	.940	.080	.21	6,800
02-23-89	.14	16,400	--	<.010	.020	.510	.70	.350	.020	.10	--
03-21-89	.21	7,410	.750	.020	.040	.770	.70	.290	.070	.22	--
04-18-89	.20	2,730	--	<.010	.020	.650	.20	.080	.040	.17	--
05-11-89	.18	9,910	.420	.010	.030	.430	.30	.120	.040	.13	6,500
05-16-89	.18	2,560	--	<.010	.040	.370	<.20	.050	.020	.11	--
05-25-89	.24	11,100	.460	.010	.040	.470	.80	.090	.040	.15	2,600
06-20-89	.15	10,200	.420	.030	.040	.450	.30	.470	.050	.09	--
07-11-89	.20	2,620	.550	.020	.020	.570	<.20	.040	.020	.12	--
08-22-89	.30	1,680	.280	.010	.120	.290	.30	.120	.050	.20	--
09-19-89	.24	6,330	--	<.010	.010	.360	.60	.050	.020	.10	--
10-19-89	.33	33,000	--	<.010	.020	.470	2.0	.490	.010	.10	11,000
10-24-89	.19	5,100	--	<.010	.020	.430	.60	.090	.020	.09	--
11-14-89	.24	3,070	--	<.010	.030	.500	.50	.090	.030	.13	--
12-19-89	.24	1,060	--	<.010	.030	.510	<.20	.050	.040	--	--
01-23-90	.24	5,990	--	<.010	.040	1.10	.60	.170	.090	.48	--
02-13-90	.17	13,700	--	<.010	.010	.500	.50	.100	.020	.10	--
03-27-90	.20	2,170	--	<.010	.020	.800	.20	.030	.020	.12	--

Table 7. Fixed-station water-quality data--Continued

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ALUMINUM, SED., SUSP. (PERCENT) (30221)	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ANTIMONY, SED., SUSP. (UG/G) (29816)	ARSENIC, DISSOLVED (UG/L AS AS) (01000)	ARSENIC, SED., SUSP. (UG/G) (29818)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BERYLLIUM, SED., SUSP. (UG/G) (29822)
Kentucky River at Lock 4, at Frankfort, Kentucky (03287500)--Continued											
04-23-87	20	--	<1	--	<1	--	100	28	<10	<0.5	--
05-19-87	30	--	--	--	<1	--	<100	42	<10	<.5	--
06-17-87	--	--	--	--	<1	--	<100	44	<10	.5	--
07-21-87	--	--	<1	--	<1	--	100	65	<10	.9	--
08-18-87	--	7.33	--	0.76	1	20.0	<100	55	<10	<.5	3
09-17-87	<10	8.32	<1	1.39	<1	16.3	<100	58	<10	<.5	3
10-14-87	--	8.06	1	--	1	--	--	49	--	<.5	3
11-17-87	--	7.40	--	2.30	1	15.4	--	47	--	<.5	3
12-15-87	<10	10.90	--	3.50	1	16.5	--	51	--	<.5	4
12-29-87	20	9.34	<1	1.20	2	17.7	100	73	<10	<.5	3
01-12-88	20	3.32	<1	89.90	<1	<.1	--	37	--	<.5	<2
02-17-88	10	10.40	--	.80	<1	18.7	--	39	--	<.5	4
03-23-88	<10	8.61	--	.90	<1	16.0	--	39	--	<.5	3
04-08-88	10	7.60	<1	.60	<1	12.8	100	37	<10	<.5	3
04-18-88	10	10.30	<1	1.80	<1	15.2	--	37	--	<.5	4
05-16-88	10	8.24	--	2.40	1	12.3	--	46	--	<.5	3
06-21-88	20	6.84	--	.90	1	13.3	--	40	--	<.5	2
07-19-88	20	7.53	<1	.90	2	28.1	--	52	--	.8	3
08-12-88	20	--	<1	--	6	--	--	43	--	<.5	--
09-20-88	<10	8.34	--	1.00	1	14.5	--	43	--	<.5	3
10-18-88	<10	4.65	<1	.60	1	8.5	--	61	--	<.5	<4
11-15-88	<10	5.98	--	1.40	<1	13.0	--	63	--	<.5	<4
11-21-88	60	7.87	<1	.70	1	9.9	200	32	<10	<.5	3
12-20-88	<10	8.05	--	1.50	1	15.5	--	42	--	<.5	3
01-09-89	20	7.30	<1	.50	<1	9.9	100	21	<10	<.5	3
01-14-89	40	7.47	<1	.60	<1	10.8	<100	24	<10	<.5	3
01-18-89	60	10.30	<1	.50	<1	11.7	--	23	--	<.5	4
02-14-89	80	6.44	<1	.40	<1	10.3	100	19	<10	<.5	2
02-16-89	80	7.10	<1	.90	1	10.8	100	16	<10	<.5	3
02-23-89	90	9.43	--	.70	<1	11.4	--	20	--	<.5	3
03-21-89	70	9.63	--	3.40	<1	9.3	--	22	--	<.5	3
04-18-89	30	9.44	<1	.80	<1	13.1	--	23	--	<.5	4
05-11-89	70	9.18	<1	.60	<1	10.2	<100	21	<10	<.5	3
05-16-89	30	10.60	--	.60	<1	11.9	--	22	--	<.5	4
05-25-89	40	8.37	<1	.50	<1	11.2	<100	30	<10	<.5	3
06-20-89	30	10.50	--	.40	1	10.5	--	21	--	<.5	4
07-11-89	20	10.70	<1	.70	<1	10.2	--	28	--	<.5	4
08-22-89	20	8.84	--	.70	<1	14.5	--	37	--	<.5	3
09-19-89	30	10.10	--	.60	<1	10.4	--	37	--	<.5	3
10-19-89	40	8.69	<1	.50	<1	9.6	<100	37	<10	<.5	3
10-24-89	40	10.40	<1	2.50	<1	9.6	--	30	--	<.5	4
11-14-89	30	10.40	--	5.50	<1	18.0	--	31	--	<.5	4
12-19-89	<10	--	--	--	<1	--	--	30	--	<.5	--
01-23-90	30	6.15	<1	.40	<1	6.7	--	21	--	<.5	2
02-13-90	50	10.10	--	.60	<1	12.1	--	17	--	<.5	4
03-27-90	20	12.70	--	.70	<1	11.5	--	21	--	<.5	5

Table 7. Fixed-station water-quality data--Continued

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM, TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CADMIUM, SED., SUSP. (UG/G) (29826)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	CHRO-MIUM, SED., SUSP. (UG/G) (29829)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COBALT, SEDI-MENT, SUSP. (UG/G) (35031)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
Kentucky River at Lock 4, at Frankfort, Kentucky (03287500)--Continued											
04-23-87	40	20	<1	0.6	--	<1	<5.0	--	<3	--	<10
05-19-87	--	30	<1	.5	--	3	<.5	--	<3	--	<10
06-17-87	40	--	<1	.4	--	<1	<.5	--	<3	--	<10
07-21-87	80	--	<1	.4	--	<1	<.5	--	<3	--	<10
08-18-87	30	--	<1	1.3	1.6	5	<.5	72	<3	22	20
09-17-87	30	50	<1	.7	1.2	4	<.5	86	<3	25	20
10-14-87	--	--	--	.4	--	--	<.5	86	<3	23	--
11-17-87	--	--	--	.6	5.1	--	<.5	74	<3	23	--
12-15-87	--	60	--	.9	10.6	--	<.5	121	<3	24	--
12-29-87	70	40	<1	<.1	.7	9	<.5	99	<3	24	20
01-12-88	--	30	--	<.5	4.0	--	<.5	34	<3	7	--
02-17-88	--	30	--	.3	.9	--	<.5	103	<3	26	--
03-23-88	--	20	--	<.1	.7	--	<.5	88	<3	25	--
04-08-88	40	20	<1	<.1	.5	3	<.5	72	<3	20	<10
04-18-88	--	20	--	.4	5.2	--	<.5	120	<3	23	--
05-16-88	--	20	--	.5	2.9	--	<.5	136	<3	22	--
06-21-88	--	30	--	.3	1.2	--	<.5	109	<3	23	--
07-19-88	--	30	--	<.1	1.6	--	<.5	123	<3	33	--
08-12-88	--	30	--	<.1	--	--	<.5	--	<3	--	--
09-20-88	--	50	--	.4	4.7	--	<.5	101	<3	26	--
10-18-88	--	40	--	.2	2.6	--	<5.0	51	<3	15	--
11-15-88	--	40	--	2.8	3.6	--	<5.0	67	<3	19	--
11-21-88	60	20	1	.4	<.1	13	<.5	69	<3	21	30
12-20-88	--	20	--	.3	1.2	--	<.5	82	<3	27	--
01-09-89	20	20	<1	.3	.3	7	<.5	77	<3	15	20
01-14-89	30	20	<1	<.1	.4	4	<.5	71	<3	18	<10
01-18-89	--	10	--	<.1	.4	--	<.5	93	<3	25	--
02-14-89	40	10	<1	.2	.4	7	2.1	64	<3	15	10
02-16-89	30	10	<1	.3	.7	10	<.5	72	<3	17	100
02-23-89	--	<10	--	.1	.9	--	<.5	97	<3	23	--
03-21-89	--	10	--	.1	1.3	--	<.5	90	<3	21	--
04-18-89	--	10	--	<.1	1.6	--	<.5	139	<3	24	--
05-11-89	80	<10	<1	.3	1.0	8	<.5	126	<3	21	20
05-16-89	--	10	--	.1	1.0	--	<.5	152	<3	23	--
05-25-89	70	10	<1	<.1	2.3	4	<.5	121	<3	21	10
06-20-89	--	20	--	.5	.5	--	<.5	145	<3	22	--
07-11-89	--	20	--	.5	.7	--	.7	93	<3	22	--
08-22-89	--	20	--	.6	.7	--	<.5	80	<3	22	--
09-19-89	--	50	--	.9	.4	--	<.5	95	<3	22	--
10-19-89	50	30	<1	.2	.4	15	<.5	77	<3	22	20
10-24-89	--	30	--	.1	.5	--	<.5	90	<3	24	--
11-14-89	--	20	--	.3	2.5	--	<.5	104	<3	24	--
12-19-89	--	20	--	.6	--	--	<.5	--	<3	--	--
01-23-90	--	10	--	.2	2.0	--	<.5	64	<3	15	--
02-13-90	--	10	--	<.1	.4	--	<.5	88	<3	23	--
03-27-90	--	20	--	.2	.5	--	<.5	106	<3	26	--

Table 7. Fixed-station water-quality data--Continued

DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	COPPER, SED., SUSP. (UG/G) (29832)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, SEDI-MENT, SUSP. (PERCENT) (30269)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, SED., SUSP. (UG/G) (29836)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
Kentucky River at Lock 4, at Frankfort, Kentucky (03287500)--Continued											
04-23-87	<1.0	--	2,900	9	--	<5	<0.5	--	<4	130	3
05-19-87	<2.4	--	610	7	--	5	1.5	--	9	70	<6
06-17-87	2.7	--	620	7	--	5	<.5	--	8	60	26
07-21-87	2.2	--	450	<3	--	<5	1.1	--	10	50	<1
08-18-87	2.7	40	380	5	3.91	<5	<.5	24.9	5	230	130
09-17-87	2.3	105	210	5	4.61	<5	<.5	38.9	<4	90	29
10-14-87	2.1	66	--	<3	4.38	--	<.5	--	12	--	2
11-17-87	2.5	51	--	6	4.07	--	<.5	160.0	<4	--	5
12-15-87	1.8	105	--	<3	4.93	--	3.1	209.0	6	--	14
12-29-87	2.0	33	11,000	46	4.71	7	<.5	43.2	<4	570	9
01-12-88	1.5	128	--	42	1.82	--	<.5	500.0	<4	--	18
02-17-88	1.3	40	--	11	5.21	--	<.5	45.0	7	--	64
03-23-88	1.0	43	--	5	4.74	--	<.5	44.4	<4	--	42
04-08-88	1.0	26	3,300	17	4.04	<5	<.5	18.8	4	160	4
04-18-88	4.7	187	--	39	4.93	--	<.5	104.0	7	--	15
05-16-88	2.9	45	--	6	4.36	--	7.8	99.8	4	--	4
06-21-88	2.7	108	--	3	3.79	--	<.5	64.2	5	--	58
07-19-88	.6	42	--	17	5.11	--	<.5	43.0	4	--	490
08-12-88	<.5	--	--	8	--	--	<.5	--	21	--	280
09-20-88	1.2	52	--	7	4.65	--	<.5	64.1	7	--	110
10-18-88	2.2	27	--	5	2.59	--	<.5	71.6	7	--	3
11-15-88	<.5	33	--	8	3.35	--	<.5	63.9	11	--	6
11-21-88	2.3	28	18,000	95	4.27	7	<.5	33.1	4	1,300	72
12-20-88	.8	41	--	6	4.86	--	<.5	49.7	8	--	67
01-09-89	1.1	23	6,500	23	3.66	5	<.5	31.2	<4	490	<1
01-14-89	1.4	26	3,200	52	3.89	<5	<.5	31.4	8	220	19
01-18-89	.9	30	--	140	4.57	--	<.5	33.0	<4	--	15
02-14-89	1.2	21	7,400	19	3.42	<5	<.5	25.7	5	550	13
02-16-89	4.4	162	12,000	37	3.83	44	.6	101.0	5	690	16
02-23-89	.9	31	--	150	4.42	--	<.5	27.6	<4	--	21
03-21-89	1.4	37	--	110	4.65	--	<.5	90.1	5	--	23
04-18-89	1.0	39	--	44	4.91	--	.5	49.3	5	--	32
05-11-89	2.3	34	11,000	100	4.46	12	.6	36.8	6	470	5
05-16-89	.9	39	--	38	4.90	--	<.5	40.7	4	--	6
05-25-89	2.1	49	5,500	18	4.18	8	<.5	39.0	9	320	<1
06-20-89	1.3	33	--	45	4.64	--	<.5	26.6	<4	--	3
07-11-89	1.2	35	--	22	4.88	--	<.5	34.4	<4	--	6
08-22-89	1.3	36	--	9	4.32	--	<.5	37.0	5	--	9
09-19-89	2.3	28	--	58	4.58	--	<.5	24.3	<4	--	7
10-19-89	1.3	25	31,000	80	4.12	19	1.0	23.9	5	1,600	22
10-24-89	.9	34	--	50	4.71	--	1.7	126.0	<4	--	4
11-14-89	3.0	69	--	58	5.56	--	<.5	159.0	5	--	4
12-19-89	1.4	--	--	9	--	--	<.5	--	5	--	66
01-23-90	1.4	25	--	24	3.63	--	<.5	49.0	4	--	2
02-13-90	1.1	30	--	66	4.66	--	<.5	27.6	<4	--	4
03-27-90	1.4	41	--	26	5.60	--	<.5	35.5	<4	--	9

Table 7. Fixed-station water-quality data--Continued

DATE	MANGANESE, SED., SUSP. (UG/G) (29839)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY, DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO) (01062)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	MOLYBDENUM, SED., SUSP. (UG/G) (29843)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	NICKEL, SED., SUSP. (UG/G) (29845)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)
Kentucky River at Lock 4, at Frankfort, Kentucky (03287500)--Continued											
04-23-87	--	0.10	<0.1	<1	<10	--	<10	--	<1	<1	<1.0
05-19-87	--	<.10	<.1	4	<10	--	<10	--	--	<1	<1.0
06-17-87	--	<.10	<.1	<2	<10	--	--	--	--	<1	--
07-21-87	--	.10	.2	<1	<10	--	--	--	<1	<1	--
08-18-87	13,700	<.10	<.1	<1	<10	2.2	<10	45	--	<1	<1.0
09-17-87	11,700	<.10	<.1	1	<10	2.9	<10	54	1	<1	<1.0
10-14-87	5,830	--	<.1	--	<10	--	<10	51	<1	--	<1.0
11-17-87	6,860	--	.1	--	<10	2.4	<10	46	--	--	<1.0
12-15-87	2,120	--	<.1	--	<10	4.3	<10	67	--	--	<1.0
12-29-87	1,810	<.10	<.1	2	<10	3.8	<10	58	<1	<1	<1.0
01-12-88	2,630	--	1.8	--	<10	.5	<10	27	<1	--	<1.0
02-17-88	2,980	--	.1	--	<10	2.1	<10	61	--	--	1.0
03-23-88	5,160	--	<.1	--	<10	2.7	<10	59	--	--	<1.0
04-08-88	2,450	--	.2	2	<10	1.9	<10	41	<1	<1	<1.0
04-18-88	2,300	--	.2	--	<10	1.7	<10	136	<1	--	<1.0
05-16-88	2,920	--	.2	--	<10	2.6	<10	58	--	--	<1.0
06-21-88	8,790	--	.1	--	<10	3.2	<10	59	--	--	<1.0
07-19-88	37,100	--	<.1	--	<10	5.8	<10	62	<1	--	<1.0
08-12-88	--	--	.1	--	<10	--	<10	--	<1	--	<1.0
09-20-88	13,200	--	.1	--	<10	2.9	<10	61	--	--	<1.0
10-18-88	3,100	--	.1	--	<10	3.1	<10	34	<1	--	<1.0
11-15-88	3,880	--	<.1	--	10	3.0	<10	49	--	--	<1.0
11-21-88	2,010	<.10	<.1	6	<10	1.7	<10	37	<1	<1	<1.0
12-20-88	12,200	--	<.1	--	<10	3.2	<10	66	--	--	<1.0
01-09-89	1,930	<.10	<.1	2	<10	1.3	<10	37	<1	<1	<1.0
01-14-89	1,880	<.10	.2	3	<10	1.8	<10	52	<1	<1	<1.0
01-18-89	1,810	--	.4	--	<10	1.3	<10	50	<1	--	<1.0
02-14-89	1,650	<.10	<.1	3	<10	1.1	10	36	<1	<1	<1.0
02-16-89	1,530	.20	.1	4	<10	1.8	<10	38	<1	<1	<1.0
02-23-89	1,360	--	<.1	--	<10	2.5	<10	53	--	--	<1.0
03-21-89	1,540	--	.1	--	<10	1.3	<10	47	--	--	<1.0
04-18-89	3,140	--	<.1	--	<10	2.0	<10	59	<1	--	1.0
05-11-89	1,490	<.10	<.1	4	<10	1.0	<10	43	<1	<1	1.0
05-16-89	1,730	--	<.1	--	<10	1.4	<10	57	--	--	2.0
05-25-89	1,880	.20	.1	4	<10	1.6	<10	47	<1	<1	<1.0
06-20-89	1,230	--	<.1	--	<10	1.0	<10	47	--	--	1.0
07-11-89	1,670	--	--	--	<10	1.4	<10	49	<1	--	<1.0
08-22-89	2,470	--	--	--	<10	1.4	<10	45	--	--	<1.0
09-19-89	1,570	--	.2	--	<10	1.9	<10	50	--	--	3.0
10-19-89	1,590	.20	.2	1	<10	1.5	<10	42	<1	<1	<1.0
10-24-89	1,630	--	.1	--	<10	4.4	<10	49	<1	--	<1.0
11-14-89	1,880	--	<.1	--	<10	22.8	<10	68	--	--	<1.0
12-19-89	--	--	<.1	--	<10	--	<10	--	--	--	<1.0
01-23-90	2,610	--	<.1	--	<10	.7	<10	27	<1	--	<1.0
02-13-90	1,420	--	<.1	--	<10	1.3	<10	48	--	--	<1.0
03-27-90	1,540	--	.1	--	<10	1.2	<10	60	--	--	<1.0

Table 7. Fixed-station water-quality data--Continued

DATE	SILVER, SED., SUSP. (UG/G) (29850)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	VANADIUM, SED., SUSP. (UG/G) (29853)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	ZINC, SED., SUSP. (UG/G) (29855)	TITANIUM, SEDIMENT, SUSP. (PERCENT) (30317)	THALLIUM, SED., SUSP. (UG/G)	GROSS ALPHA, DISSOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP. TOTAL (UG/L AS U-NAT) (80040)
					Kentucky River at Lock 4, at Frankfort, Kentucky (03287500)--Continued						
04-23-87	--	130	<6	--	30	6	--	--	--	<0.4	0.5
05-19-87	--	210	<6	--	<10	24	--	--	--	--	--
06-17-87	--	260	<6	--	<10	4	--	--	--	--	--
07-21-87	--	490	<6	--	<10	<3	--	--	--	2.4	.5
08-18-87	1.2	360	<6	107	<10	7	173	0.39	0.50	--	--
09-17-87	.5	300	<6	121	<10	7	187	.41	.70	--	--
10-14-87	--	280	<6	118	--	4	289	.44	--	<.4	<.4
11-17-87	.4	240	<6	106	--	9	225	.43	.50	--	--
12-15-87	.3	330	<6	146	--	6	312	.52	.90	--	--
12-29-87	.2	540	<6	157	50	<3	165	.52	.80	<.4	14
01-12-88	3.2	240	<6	40	--	5	197	.16	2.3	.5	.7
02-17-88	.2	330	<6	142	--	5	194	.51	1.2	--	--
03-23-88	.3	210	<6	129	--	<3	195	.43	.80	--	--
04-08-88	4.6	210	<6	101	30	7	127	.46	.50	<.4	.7
04-18-88	.3	140	<6	141	--	15	359	.49	.80	<.4	<.4
05-16-88	7.4	260	<6	122	--	3	175	.45	1.1	--	--
06-21-88	.3	210	<6	105	--	4	185	.30	1.0	--	--
07-19-88	.3	210	<6	116	--	5	171	.41	.90	1.5	.5
08-12-88	--	190	<6	--	--	6	--	--	--	--	--
09-20-88	.2	220	<6	120	--	12	238	.45	.80	--	--
10-18-88	.2	560	<6	67	--	8	122	.29	.50	.7	<.4
11-15-88	.3	660	<6	85	--	12	157	.36	.80	--	--
11-21-88	.2	210	<6	112	80	4	124	.51	.80	1.8	7.5
12-20-88	.3	200	<6	122	--	34	199	.41	.80	--	--
01-09-89	.2	140	<6	95	30	38	111	.50	.80	1.4	9.0
01-14-89	.2	170	<6	104	20	7	117	.48	.80	<.6	5.9
01-18-89	.2	110	<6	133	--	6	156	.52	.90	<.6	6.1
02-14-89	.2	120	<6	85	--	5	97	.44	.60	.6	13
02-16-89	.2	71	<6	102	70	<3	138	.51	.80	<.6	28
02-23-89	.4	92	<6	140	--	4	146	.57	1.0	--	--
03-21-89	.4	130	<6	126	--	<3	158	.52	1.0	--	--
04-18-89	.2	130	<6	133	--	10	179	.49	.80	<.6	1.4
05-11-89	.1	120	<6	119	40	11	144	.52	.90	.9	18
05-16-89	.1	130	<6	140	--	<3	169	.53	1.2	--	--
05-25-89	.2	210	<6	115	30	9	169	.49	.80	1.1	8.3
06-20-89	.1	95	<6	134	--	<3	145	.55	.80	--	--
07-11-89	.6	170	<6	139	--	19	235	.57	1.0	<.6	4.4
08-22-89	.4	260	<6	117	--	4	214	.50	.80	--	--
09-19-89	.2	260	<6	149	--	5	154	.49	.90	--	--
10-19-89	.2	200	<6	120	100	4	131	.46	.80	<.6	31
10-24-89	.2	130	<6	134	--	<3	156	.52	3.9	.8	4.6
11-14-89	.2	170	<6	175	--	4	266	.49	4.1	--	--
12-19-89	--	210	<6	--	--	6	--	--	--	--	--
01-23-90	1.2	140	<6	79	--	17	156	.39	.60	1.4	3.1
02-13-90	.1	88	<6	125	--	<3	158	.50	.90	--	--
03-27-90	.1	140	<6	155	--	5	260	.55	1.0	--	--

Table 7. Fixed-station water-quality data--Continued

DATE	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP., TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90) (80050)	GROSS BETA, SUSP., TOTAL (PCI/L AS SR/YT-90) (80060)	CARBON, ORGANIC, DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC, SUS-PENDED, TOTAL (MG/L AS C) (00689)	CYANIDE, DIS-SOLVED (MG/L AS CN) (00723)	SURFACE AREA, SEDI-MENT, SUSP. (M2/G) (30334)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED., SUSP., SIEVE DIAM. (% FINER THAN .062 MM)
				Kentucky River at Lock 4, at Frankfort, Kentucky (03287500)--Continued							
04-23-87	1.7	1.0	1.3	1.0	2.6	0.5	<0.01	--	74	2,020	100
05-19-87	--	--	--	--	3.0	.6	--	--	17	66	88
06-17-87	--	--	--	--	3.3	.5	--	--	16	33	89
07-21-87	5.1	.7	3.9	.6	3.8	.7	<.01	--	14	39	77
08-18-87	--	--	--	--	3.9	.8	--	16.4	13	17	79
09-17-87	--	--	--	--	3.7	.5	--	26.0	6	5.7	84
10-14-87	3.9	<.4	3.1	<.4	--	.1	<.01	15.5	6	4.3	86
11-17-87	--	--	--	--	3.4	.2	--	18.0	3	5.9	50
12-15-87	--	--	--	--	4.1	.2	--	20.0	20	47	34
12-29-87	4.3	11	3.2	9.2	6.0	3.8	<.01	22.0	352	17,000	89
01-12-88	2.8	1.2	2.1	1.2	3.0	.7	<.01	--	27	123	89
02-17-88	--	--	--	--	1.9	.3	--	23.2	14	158	83
03-23-88	--	--	--	--	2.1	.3	--	23.1	15	107	75
04-08-88	2.0	1.5	1.5	1.4	4.1	.7	<.01	19.9	26	1,010	84
04-18-88	1.3	<.4	1.0	<.4	2.1	.3	<.01	24.6	26	271	88
05-16-88	--	--	--	--	2.6	.5	--	17.5	14	81	87
06-21-88	--	--	--	--	2.8	.3	--	16.6	12	9.1	42
07-19-88	3.6	.7	2.7	.7	3.3	.8	<.01	39.0	15	28	26
08-12-88	--	--	--	--	4.7	.4	--	--	11	11	68
09-20-88	--	--	--	--	3.2	.7	--	28.4	14	52	72
10-18-88	5.7	<.4	4.4	<.4	3.2	.3	<.01	9.80	9	8.8	52
11-15-88	--	--	--	--	2.6	.2	--	14.5	6	47	100
11-21-88	4.2	7.5	3.2	6.8	30	--	<.01	18.5	753	119,000	73
12-20-88	--	--	--	--	1.9	.3	--	17.9	6	18	64
01-09-89	2.6	11	2.0	9.7	1.8	4.5	<.01	20.6	246	11,800	94
01-14-89	2.8	4.4	2.1	3.9	2.2	1.7	<.01	18.6	132	10,600	81
01-18-89	2.3	6.7	1.8	5.9	2.4	>2.7	<.01	17.5	230	14,600	89
02-14-89	2.4	11	1.9	9.7	2.6	2.2	<.01	18.9	348	58,300	81
02-16-89	1.9	16	1.6	15	--	--	<.01	18.7	454	134,000	87
02-23-89	--	--	--	--	2.5	>2.5	--	19.3	458	71,700	87
03-21-89	--	--	--	--	2.6	1.8	--	25.3	95	4,510	87
04-18-89	2.6	1.5	2.0	1.3	2.2	.6	<.01	22.6	13	241	100
05-11-89	2.8	15	2.2	13	3.7	>2.5	<.01	22.1	290	21,100	87
05-16-89	--	--	--	--	2.5	.3	--	18.9	41	813	97
05-25-89	4.1	8.0	3.2	7.1	2.4	>2.5	<.01	21.7	176	10,900	87
06-20-89	--	--	--	--	3.0	>2.4	--	19.8	627	59,800	94
07-11-89	2.9	3.9	2.2	3.6	2.8	.7	<.01	22.5	56	977	94
08-22-89	--	--	--	--	2.7	.6	--	23.4	26	197	86
09-19-89	--	--	--	--	5.2	.8	--	25.9	300	10,900	96
10-19-89	4.4	27	3.6	25	3.8	>2.5	<.01	21.1	1,030	142,000	66
10-24-89	2.9	7.6	2.3	6.0	3.0	1.1	<.01	21.4	188	6,700	97
11-14-89	--	--	--	--	4.0	.3	--	32.9	28	481	100
12-19-89	--	--	--	--	1.8	.2	--	16.1	3	18	100
01-23-90	2.7	4.5	2.2	3.6	2.7	1.0	<.01	21.0	73	2,440	91
02-13-90	--	--	--	--	2.2	1.5	--	20.5	319	35,900	87
03-27-90	--	--	--	--	2.3	.4	--	27.8	45	665	93

Table 7. Fixed-station water-quality data--Continued

DATE	TIME	DIS-CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH, WATER, WHOLE, FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE, AIR (DEG C) (00020)	TEMPER-ATURE, WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, .7 UM-MF (COL/ 100 ML) (31625)	STREP-TOCOCCI, FECAL, KF AGAR (COL/ 100 ML) (31673)
Elkhorn Creek near Frankfort, Kentucky (03289500)										
04-23-87	1305	456	400	8.3	20.5	18.0	11.5	125	K21	160
05-19-87	1300	101	420	7.9	30.0	25.0	10.0	125	260	76
06-17-87	1300	152	445	--	30.0	26.0	7.1	90	24	270
07-21-87	1300	99	450	8.5	32.5	28.0	8.2	107	K5	170
08-18-87	1555	37	435	8.7	30.0	27.5	12.0	156	K170	69
09-17-87	1315	31	690	8.2	30.5	23.0	8.1	98	K11	180
10-14-87	1600	29	739	8.6	16.5	12.5	11.7	113	3,800	K25
11-17-87	1430	53	570	8.3	18.0	12.0	10.6	102	K66	160
12-15-87	1305	78	790	8.5	4.5	5.5	12.1	99	25	100
01-12-88	1500	252	460	8.0	5.0	.5	12.7	91	K1,200	K41
02-02-88	1415	4,310	235	7.5	9.0	10.0	9.5	85	--	--
02-17-88	1345	1,190	635	8.3	16.0	6.5	14.9	124	K28	K31
03-23-88	1300	248	384	8.6	25.0	14.0	14.6	145	K6	K10
04-07-88	1130	2,710	355	7.6	12.5	11.0	9.9	93	--	--
04-18-88	1600	387	432	8.3	8.0	14.0	10.7	108	--	580
05-16-88	1500	138	427	8.8	31.0	24.0	12.5	154	40	780
06-21-88	0800	33	564	8.2	28.0	25.0	4.9	60	42	370
07-19-88	1345	32	647	8.1	29.5	28.0	6.1	80	K230	K400
08-12-88	1020	59	431	7.5	26.0	27.5	6.0	77	--	--
09-20-88	0815	59	671	8.0	19.0	21.0	6.6	76	K76	270
10-18-88	1430	31	799	8.1	18.5	16.0	9.8	102	86	180
11-15-88	0830	128	575	8.4	6.5	8.0	10.3	89	43	63
11-20-88	1540	E1,500	446	7.5	10.5	11.0	9.6	90	--	--
12-20-88	0845	82	580	8.3	13.5	3.5	11.1	85	8	45
12-28-88	1315	1,800	382	8.6	- .5	7.5	10.3	87	--	--
01-12-89	1315	3,510	315	8.3	13.0	8.5	11.9	103	--	--
01-18-89	0900	1,930	388	8.2	5.5	6.0	11.1	91	K170	500
02-03-89	1245	3,370	319	7.9	0.0	5.5	11.1	90	--	--
02-14-89	1100	14,900	244	8.0	7.5	6.0	12.1	98	--	--
02-23-89	0900	2,820	328	8.1	-3.5	6.0	11.0	89	--	--
03-21-89	0915	3,280	291	8.3	5.0	8.5	9.2	80	>6,000	>10,000
04-18-89	0845	607	386	7.8	18.0	15.5	8.1	82	K78	K54
05-16-89	0900	501	432	7.7	15.0	17.0	9.4	99	170	>6,000
06-15-89	1300	1,360	375	8.2	22.0	21.5	8.0	93	--	--
06-20-89	0900	1,210	392	8.2	23.5	21.5	8.5	98	8,600	--
07-11-89	0830	93	491	7.6	29.0	27.5	6.0	77	K60	>20,000
08-22-89	0900	360	376	8.1	25.0	22.5	7.5	88	600	1,000
09-19-89	0900	178	528	8.1	17.0	19.0	8.2	91	470	270
10-24-89	0915	386	487	8.1	13.0	12.0	9.7	91	7,200	200
11-14-89	0830	247	500	8.2	16.5	13.0	9.5	93	K110	K56
12-19-89	0930	133	664	8.6	1.0	.5	5.6	40	K80	K30
01-23-90	0815	2,220	420	8.6	3.5	8.0	10.9	95	1,100	1,200
02-13-90	0825	1,730	406	7.8	17.0	10.5	7.8	72	K480	K150
03-27-90	0845	289	467	8.3	11.5	10.5	11.0	99	220	K47
04-17-90	1530	246	488	8.3	12.5	13.5	12.3	120	97	K46
06-19-90	1530	291	437	8.6	34.5	26.5	9.3	119	K230	140
08-21-90	1600	80	591	7.7	27.5	26.0	7.6	97	1,800	3,700
10-16-90	1515	293	454	8.3	25.0	17.0	10.5	112	K200	--
12-19-90	1000	14,000	260	7.2	8.0	10.0	10.0	91	2,300	--
02-12-91	1500	1,020	411	7.9	12.5	10.0	11.9	108	K13	--
04-23-91	1515	388	435	8.4	19.0	14.0	11.4	115	K84	--
06-18-91	1600	1,520	355	7.8	28.5	23.5	7.6	93	5,600	--
08-27-91	1545	94	560	8.6	31.0	27.0	8.8	112	150	--

Table 7. Fixed-station water-quality data--Continued

DATE	E.COLI, MTEC,MF WATER, WHOLE, TOTAL (COL/ 100 ML) (31648)	HARD-NESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DIS-SOLVED (MG/L AS CA) (00915)	CALCIUM, SED., SUSP. (PERCENT) (30240)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	MAGNES-IUM, SEDI-MENT, SUSP. (PERCENT) (30277)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	SODIUM, SEDI-MENT, SUSP. (PERCENT) (30304)	SODIUM (PERCENT) (00932)	SODIUM AD-SORP-TION RATIO (00931)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	POTAS-SIUM, SEDI-MENT, SUSP. (PERCENT) (30294)
					Elkhorn Creek near Frankfort, Kentucky (03289500)--Continued							
04-23-87	--	210	74	--	6.2	--	9.3	--	9	0.3	1.6	--
05-19-87	--	200	69	--	7.3	--	25	--	21	.8	4.1	--
06-17-87	--	180	63	--	6.6	--	18	--	17	.6	4.0	--
07-21-87	--	200	70	--	7.0	--	19	--	17	.6	3.8	--
08-18-87	--	200	69	4.12	7.7	0.76	26	0.93	21	.8	5.1	1.5
09-17-87	--	200	65	5.52	10	1.06	58	2.93	37	2	9.6	2.0
10-14-87	--	240	75	--	12	--	64	--	36	2	9.0	--
11-17-87	--	210	66	2.27	10	1.46	37	.85	27	1	6.2	2.5
12-15-87	--	280	87	11.50	14	1.93	55	7.06	30	1	8.2	1.4
01-12-88	--	250	88	7.95	7.5	1.11	16	1.63	12	.4	3.1	1.7
02-02-88	--	100	36	1.39	3.0	.56	3.9	.27	7	.2	3.3	2.0
02-17-88	--	200	70	2.89	5.4	.71	15	.39	14	.5	2.3	2.0
03-23-88	--	220	78	6.62	6.5	.85	15	1.07	13	.4	2.3	1.7
04-07-88	--	--	--	1.90	--	.68	--	.26	--	--	1.8	2.1
04-18-88	--	210	73	4.93	5.8	.79	12	.80	11	.4	1.8	1.7
05-16-88	--	190	66	--	6.9	--	22	--	20	.7	3.4	--
06-21-88	--	190	63	5.03	8.5	.99	41	2.51	31	1	6.3	1.7
07-19-88	--	180	55	4.72	9.8	.87	53	1.76	38	2	10	2.9
08-12-88	K80	160	53	--	7.0	--	26	--	25	.9	4.7	--
09-20-88	--	230	74	5.44	11	1.08	48	2.52	30	1	7.5	1.8
10-18-88	--	250	81	15.30	12	2.46	65	12.60	35	2	8.2	1.8
11-15-88	--	240	79	4.35	9.1	.86	32	.83	22	.9	5.4	1.6
11-20-88	--	170	58	2.75	6.4	.68	20	.24	20	.7	2.9	1.7
12-20-88	--	250	87	--	8.8	--	29	--	20	.8	4.1	--
12-28-88	--	200	71	2.22	5.5	.69	7.1	.26	7	.2	2.1	1.9
01-12-89	--	160	57	1.64	4.5	.72	5.3	.25	7	.2	2.3	2.3
01-18-89	--	190	69	2.56	4.9	.63	6.7	.27	7	.2	1.8	1.8
02-03-89	--	150	54	1.78	4.5	.71	5.4	.26	7	.2	2.2	2.2
02-14-89	--	120	41	2.10	3.4	.58	6.0	.29	10	.2	2.9	1.8
02-23-89	--	160	56	2.46	4.0	.63	5.0	.28	6	.2	1.7	1.8
03-21-89	--	150	52	1.69	4.4	.72	5.7	.26	8	.2	2.1	2.3
04-18-89	--	190	68	--	5.3	--	8.9	--	9	.3	1.6	--
05-16-89	--	200	70	--	6.1	--	9.9	--	10	.3	2.1	--
06-15-89	--	170	61	5.68	5.3	.55	10	.21	11	.3	2.8	1.6
06-20-89	--	190	68	1.99	5.3	.64	6.0	.25	6	.2	2.8	1.8
07-11-89	--	210	74	5.21	6.9	.91	19	1.35	16	.6	3.7	1.7
08-22-89	--	170	59	3.20	5.5	.73	12	.41	13	.4	4.6	1.9
09-19-89	--	200	66	3.34	7.8	.64	24	.56	20	.7	5.3	1.5
10-24-89	--	250	89	5.72	7.4	.85	11	.72	9	.3	3.1	1.6
11-14-89	--	260	93	9.13	7.5	1.22	13	1.38	10	.3	3.5	1.5
12-19-89	--	280	96	14.70	8.6	1.61	29	4.33	18	.8	4.0	1.3
01-23-90	--	200	72	.52	5.3	.91	6.2	.30	6	.2	2.2	2.9
02-13-90	--	200	73	2.70	5.3	.67	5.7	.31	6	.2	1.6	1.8
03-27-90	--	200	69	5.41	7.6	.86	17	1.15	15	.5	2.5	1.2
04-17-90	--	220	76	--	7.6	--	19	--	16	.6	2.5	--
06-19-90	--	210	75	--	6.3	--	9.6	--	9	.3	2.4	--
08-21-90	--	210	70	--	8.8	--	40	--	28	1	6.4	--
10-16-90	--	210	73	--	7.0	--	12	--	11	.4	4.1	--
12-19-90	4,667	120	42	--	3.6	--	3.0	--	5	.1	3.7	--
02-12-91	K20	210	76	--	5.6	--	6.3	--	6	.2	1.4	--
04-23-91	K68	220	76	--	6.3	--	10	--	9	.3	1.7	--
06-18-91	2,400	170	60	--	5.1	--	8.3	--	9	.3	4.4	--
08-27-91	276	220	72	--	9.1	--	31	--	23	.9	5.6	--

Table 7. Fixed-station water-quality data--Continued

DATE	ALKALINITY, WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKALINITY, WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	BICARBONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CARBONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKALINITY, WAT DIS TOT FET FIELD (MG/L AS CACO3) (00418)	SULFATE, DISSOLVED (MG/L AS SO4) (00945)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	BROMIDE, DISSOLVED (MG/L AS BR) (71870)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C, DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
Elkhorn Creek near Frankfort, Kentucky (03289500)--Continued												
04-23-87	156	--	--	--	--	36	16	0.30	<0.010	0.30	240	254
05-19-87	152	--	--	--	--	49	30	--	<.010	.90	287	294
06-17-87	--	--	--	--	--	45	27	--	<.010	6.2	267	267
07-21-87	146	--	--	--	--	44	28	.50	.016	4.9	289	278
08-18-87	143	--	--	--	--	46	36	--	<.010	6.0	314	294
09-17-87	128	--	--	--	--	74	69	1.2	.068	6.9	413	403
10-14-87	--	141	--	--	141	84	86	1.1	.13	5.5	457	460
11-17-87	--	132	161	--	131	58	52	--	.052	2.1	331	333
12-15-87	--	150	--	--	150	100	76	--	.11	1.2	478	463
01-12-88	--	152	185	--	151	55	26	.40	.040	6.4	335	325
02-02-88	--	--	--	--	75	24	7.1	.30	.014	5.6	165	142
02-17-88	--	117	--	--	122	40	27	--	<.010	4.5	270	267
03-23-88	--	154	188	--	154	46	23	--	.022	190	289	478
04-07-88	--	126	154	--	126	33	11	.30	.010	--	229	--
04-18-88	--	142	173	--	142	41	17	.40	.016	.25	256	258
05-16-88	--	138	--	--	137	49	29	--	.020	.19	276	274
06-21-88	--	131	160	--	128	64	51	--	.046	4.4	355	342
07-19-88	--	112	137	--	111	80	60	1.3	.042	11	372	377
08-12-88	--	--	--	--	--	50	32	.60	.027	5.8	258	256
09-20-88	--	252	307	--	252	82	59	--	.070	5.8	411	471
10-18-88	--	141	172	--	138	93	87	2.0	.12	2.2	483	478
11-15-88	--	--	--	--	178	67	41	--	.040	2.7	348	347
11-20-88	--	117	142	--	116	47	28	.40	.020	3.8	244	248
12-20-88	--	158	181	6	159	68	35	--	.036	2.2	372	365
12-28-88	--	139	165	2	146	36	11	.30	.018	5.8	256	246
01-12-89	--	121	136	6	126	31	9.1	.20	.032	5.6	195	207
01-18-89	--	150	183	--	150	35	11	.20	.010	6.1	230	251
02-03-89	--	111	135	--	110	43	11	.20	.17	4.6	411	203
02-14-89	--	87	106	--	85	26	9.5	.20	.011	4.2	155	159
02-23-89	--	110	134	--	111	30	8.5	--	.015	5.5	196	198
03-21-89	--	92	112	--	91	31	8.5	--	<.010	4.1	184	173
04-18-89	--	136	166	--	136	34	13	.30	<.010	.41	230	229
05-16-89	--	152	186	--	153	37	12	--	.010	3.2	230	245
06-15-89	--	--	--	--	141	32	12	.40	.050	3.5	263	211
06-20-89	--	148	180	--	147	28	8.5	--	.010	5.7	238	227
07-11-89	--	162	198	--	157	45	22	.60	.020	3.2	298	290
08-22-89	--	138	168	--	137	35	13	--	.030	4.9	245	227
09-19-89	--	158	193	--	157	49	24	--	.020	5.1	284	287
10-24-89	--	194	237	--	195	38	13	.40	.020	7.1	317	302
11-14-89	--	202	191	28	203	39	14	--	.020	4.4	294	311
12-19-89	--	213	216	22	213	54	41	--	.030	1.1	397	393
01-23-90	--	151	184	--	151	30	11	<.10	--	6.3	253	237
02-13-90	--	155	189	--	155	30	9.7	--	<.010	6.0	253	243
03-27-90	--	--	--	--	143	42	20	--	.010	.04	290	259
04-17-90	--	--	--	--	161	42	24	.50	<.010	.11	294	281
06-19-90	--	--	--	--	179	31	16	.50	<.010	4.8	263	257
08-21-90	--	144	176	--	142	62	50	.60	.030	4.4	361	351
10-16-90	--	174	212	--	173	37	17	.60	.010	6.0	277	263
12-19-90	--	95	116	--	94	21	5.8	.30	<.010	5.2	144	153
02-12-91	--	164	200	--	164	30	11	.30	.020	5.4	253	254
04-23-91	--	--	--	--	170	32	7.1	.70	.020	2.0	256	251
06-18-91	--	138	168	--	138	25	11	.60	.020	4.4	213	216
08-27-91	--	158	183	5	158	69	38	.90	.040	3.0	340	337

Table 7. Fixed-station water-quality data--Continued

DATE	SOLIDS, DIS-SOLVED (TONS PER AC-FT) (70303)	SOLIDS, DIS-SOLVED (TONS PER DAY) (70302)	NITRO-GEN, NITRATE, DIS-SOLVED (MG/L AS N) (00618)	NITRO-GEN, NITRITE, DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA, DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NO2+NO3, DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AM-MONIA + ORGANIC, TOTAL (MG/L AS N) (00625)	PHOS-PHORUS, TOTAL (MG/L AS P) (00665)	PHOS-PHORUS, ORTHO, DIS-SOLVED (MG/L AS P) (00671)	PHOS-PHORUS, SEDI-MENT, SUSP. (PERCENT) (30292)	ALUM-INUM, TOTAL RECOV-ERABLE (UG/L AS AL) (01105)
					Elkhorn Creek near Frankfort, Kentucky (03289500)--Continued						
04-23-87	0.33	295	3.49	0.010	0.020	3.50	0.60	0.390	0.320	--	30
05-19-87	.39	78.3	3.27	.030	.040	3.30	1.3	1.30	.970	--	70
06-17-87	.36	110	2.88	.020	.030	2.90	.90	1.10	.670	--	400
07-21-87	.39	77.5	2.59	.010	.050	2.60	1.3	.740	.510	--	350
08-18-87	.43	31.3	--	<.010	.030	2.20	1.2	1.20	.940	0.69	230
09-17-87	.56	34.5	--	<.010	.050	6.10	2.0	2.20	1.70	.72	230
10-14-87	.62	35.5	7.38	.020	.060	7.40	1.2	2.10	1.80	--	150
11-17-87	.45	47.7	4.08	.020	.040	4.10	--	1.10	1.10	.13	--
12-15-87	.65	100	6.35	.050	.050	6.40	1.4	1.60	1.30	.61	--
01-12-88	.46	228	6.46	.040	.840	6.50	1.7	.570	.450	.46	--
02-02-88	.22	1920	2.77	.030	.070	2.80	.80	.620	.300	.30	12,000
02-17-88	.37	868	5.68	.020	.030	5.70	.70	.400	.260	.47	--
03-23-88	.39	194	5.28	.020	.020	5.30	.30	.540	.410	.46	--
04-07-88	--	--	4.27	.030	.040	4.30	.70	.570	.240	.41	--
04-18-88	.35	267	4.69	.010	.030	4.70	.40	.420	.320	.40	--
05-16-88	.38	103	2.07	.030	.020	2.10	.60	.700	.620	--	--
06-21-88	.48	31.2	3.97	.030	.030	4.00	1.2	1.20	2.30	.55	--
07-19-88	.51	32.0	5.26	.040	.050	5.30	1.1	2.20	1.90	.77	--
08-12-88	.35	41.1	--	<.010	.040	1.20	.70	.910	.830	--	--
09-20-88	.56	65.8	6.39	.010	.030	6.40	1.4	1.40	1.10	.62	--
10-18-88	.66	40.6	8.49	.010	.020	8.50	1.3	1.70	1.40	.33	--
11-15-88	.47	120	2.39	.010	.020	2.40	1.5	.920	.850	.86	--
11-20-88	.33	--	2.18	.020	.090	2.20	2.8	5.70	.370	.65	5,000
12-20-88	.51	82.8	7.36	.040	.020	7.40	.40	1.10	.950	--	--
12-28-88	.35	1,240	5.19	.010	.040	5.20	.50	.350	.260	.50	1,200
01-12-89	.27	1,850	3.99	.010	.050	4.00	1.2	.840	.270	.38	--
01-18-89	.31	1,200	5.59	.010	.050	5.60	.70	.520	.280	.51	--
02-03-89	.56	3,740	--	<.010	.100	2.30	1.6	1.30	.270	.38	4,900
02-14-89	.21	6,240	2.68	.020	.490	2.70	3.4	.520	.320	.46	10,000
02-23-89	.27	1,490	--	<.010	.030	4.50	1.0	.580	.260	.52	--
03-21-89	.25	1,630	2.08	.020	.020	2.10	1.1	.790	.200	.41	--
04-18-89	.31	377	3.28	.020	.020	3.30	.70	.340	.280	--	--
05-16-89	.31	311	2.78	.020	.030	2.80	.70	.420	.330	--	--
06-15-89	.36	966	2.09	.010	.040	2.10	.70	.500	.360	1.3	1,400
06-20-89	.32	778	2.98	.020	.110	3.00	.80	.410	.310	.49	--
07-11-89	.41	74.5	3.58	.020	.060	3.60	.70	.720	.650	.47	--
08-22-89	.33	238	--	<.010	.020	1.90	.80	.680	.500	.52	--
09-19-89	.39	136	1.58	.020	.770	1.60	1.3	.890	.760	.49	--
10-24-89	.43	330	3.39	.010	.030	3.40	.50	.460	.380	.50	--
11-14-89	.40	196	--	<.010	.030	2.90	.40	.510	.420	.43	--
12-19-89	.54	143	--	<.010	.100	6.30	1.5	.900	.800	.32	--
01-23-90	.34	1,520	2.79	.010	.050	2.80	.80	.370	.260	.09	--
02-13-90	.34	1,180	3.89	.010	.030	3.90	.60	.030	.260	.47	--
03-27-90	.39	226	--	<.010	<.010	3.30	.90	.510	.400	.77	--
04-17-90	.40	195	2.49	.010	<.010	2.50	.40	.610	.570	--	--
06-19-90	.36	207	--	<.010	.030	3.20	7.1	.470	.390	--	--
08-21-90	.49	78.2	4.19	.010	.080	4.20	1.1	1.10	1.10	--	--
10-16-90	.38	219	--	<.010	<.010	.400	.50	.030	.010	--	--
12-19-90	.20	5,440	--	<.020	.110	2.30	.80	.700	.300	--	--
02-12-91	.34	697	--	<.010	.010	4.30	.60	.370	.290	--	--
04-23-91	.35	268	--	<.010	.010	3.10	.50	.350	.280	--	--
06-18-91	.29	874	2.87	.030	.060	2.90	1.2	.600	.350	--	--
08-27-91	.46	86.3	2.39	.010	.030	2.40	.60	.780	.720	--	--

Table 7. Fixed-station water-quality data--Continued

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ALUMINUM, SED., SUSP. (PERCENT) (30221)	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ANTIMONY, SED., SUSP. (UG/G) (29816)	ARSENIC, DISSOLVED (UG/L AS AS) (01000)	ARSENIC, SED., SUSP. (UG/G) (29818)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BERYLLIUM, SED., SUSP. (UG/G) (29822)
Elkhorn Creek near Frankfort, Kentucky (03289500)--Continued											
04-23-87	20	--	<1	--	<1	--	<100	23	<10	<0.5	--
05-19-87	--	--	--	--	2	--	<100	28	<10	<.5	--
06-17-87	--	--	--	--	1	--	<100	26	<10	.9	--
07-21-87	--	--	<1	--	1	--	200	26	<10	1	--
08-18-87	--	4.94	--	0.59	2	6.9	<100	24	<10	<.5	<2
09-17-87	20	5.43	<1	.84	2	8.6	<100	25	<10	<.5	2
10-14-87	<10	--	1	--	2	--	--	20	--	<.5	--
11-17-87	<10	8.34	--	.60	1	12.5	--	20	--	<.5	3
12-15-87	10	1.53	--	5.00	1	3.1	--	24	--	<.5	<2
01-12-88	<10	4.75	<1	.70	1	4.1	--	25	--	<.5	<2
02-02-88	280	6.11	<1	.40	1	8.1	100	21	<10	<.5	2
02-17-88	10	6.78	--	.80	<1	7.9	--	23	--	<.5	2
03-23-88	10	4.98	--	.70	5	5.8	--	22	--	<.5	<2
04-07-88	20	6.83	<1	.40	1	7.4	<100	--	<10	--	2
04-18-88	10	5.55	<1	.70	<1	5.5	--	24	--	<.5	<2
05-16-88	20	--	--	--	2	--	--	25	--	<.5	--
06-21-88	<10	4.61	--	1.00	2	7.5	--	22	--	<.5	<2
07-19-88	<10	5.11	<1	1.00	3	5.5	--	26	--	<.5	2
08-12-88	20	--	<1	--	2	--	--	22	--	<.5	--
09-20-88	<10	5.31	--	.80	2	7.7	--	24	--	<.5	2
10-18-88	<10	.14	<1	1.00	2	3.0	--	23	--	<.5	<3
11-15-88	<10	6.02	--	2.50	1	14.8	--	23	--	<.5	<6
11-20-88	140	6.48	<1	.30	1	7.7	200	21	<10	<.5	2
12-20-88	<10	--	--	--	1	--	--	27	--	<.5	--
12-28-88	20	7.00	<1	.40	<1	7.4	100	19	<10	<.5	2
01-12-89	20	7.26	<1	.50	<1	8.9	--	20	--	<.5	3
01-18-89	20	6.24	<1	.40	<1	9.2	--	28	--	<.5	2
02-03-89	20	6.86	<1	.40	<1	9.4	<100	16	10	<.5	2
02-14-89	220	5.81	<1	.30	2	8.1	100	13	<10	<.5	2
02-23-89	40	6.23	--	.60	<1	7.7	--	16	--	<.5	2
03-21-89	110	7.15	--	.50	<1	7.6	--	15	--	<.5	2
04-18-89	20	--	<1	--	<1	--	--	18	--	<.5	--
05-16-89	10	--	--	--	<1	--	--	21	--	<.5	--
06-15-89	30	5.36	<1	.20	<1	10.7	100	22	<10	<.5	3
06-20-89	30	7.05	--	.60	<1	10.4	--	22	--	<.5	3
07-11-89	20	5.17	1	.70	1	5.7	--	28	--	<.5	2
08-22-89	10	6.50	--	.70	<1	10.7	--	24	--	<.5	2
09-19-89	20	4.93	--	.50	1	5.5	--	25	--	<.5	2
10-24-89	10	5.27	<1	.60	<1	6.6	--	25	--	<.5	<2
11-14-89	10	4.45	--	2.90	<1	6.2	--	25	--	<.5	<3
12-19-89	20	2.69	--	3.70	<1	3.5	--	20	--	<.5	<2
01-23-90	10	9.33	<1	.80	<1	13.7	--	19	--	<.5	3
02-13-90	20	6.66	--	.70	<1	8.1	--	19	--	<.5	2
03-27-90	10	3.49	--	.60	1	6.5	--	16	--	<.5	<2
04-17-90	10	--	<1	--	<1	--	--	20	--	<.5	--
06-19-90	20	--	<1	--	<1	--	--	25	--	.6	--
08-21-90	20	--	<1	--	1	--	--	27	--	<.5	--
10-16-90	20	--	<1	--	<1	--	--	24	--	<.5	--
12-19-90	80	--	<1	--	1	--	--	19	--	<.5	--
02-12-91	<10	--	<1	--	<1	--	--	18	--	<.5	--
04-23-91	<10	--	<1	--	<1	--	--	21	--	<.5	--
06-18-91	20	--	<1	--	2	--	--	21	--	<.5	--
08-27-91	<10	--	<1	--	1	--	--	27	--	<.5	--

Table 7. Fixed-station water-quality data--Continued

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM, TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CADMIUM, SED., SUSP. (UG/G) (29826)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	CHRO-MIUM, SED., SUSP. (UG/G) (29829)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COBALT, SEDI-MENT, SUSP. (UG/G) (35031)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
					Elkhorn Creek near Frankfort, Kentucky (03289500)--Continued						
04-23-87	40	30	<1	0.5	--	7	<5.0	--	<3	--	<10
05-19-87	--	--	<1	.4	--	8	<.5	--	<3	--	<10
06-17-87	40	--	<1	.4	--	<1	<.5	--	<3	--	10
07-21-87	80	--	<1	.5	--	<1	<.5	--	<3	--	10
08-18-87	90	--	<1	.8	1.3	9	<.5	62	<3	14	20
09-17-87	200	160	4	3.1	.8	9	<.5	67	<3	17	30
10-14-87	--	150	--	<.4	--	--	<.5	--	<3	--	--
11-17-87	--	100	--	.6	2.8	--	<.5	84	<3	23	--
12-15-87	--	130	--	.9	1.3	--	<.5	33	<3	6	--
01-12-88	--	50	--	.3	1.6	--	<.5	66	<3	13	--
02-02-88	30	20	1	<.1	.3	14	<.5	62	<3	15	30
02-17-88	--	30	--	.3	1.3	--	.6	81	<3	16	--
03-23-88	--	40	--	.1	1.5	--	<.5	61	<3	14	--
04-07-88	10	20	<1	.3	.8	<1	<.5	69	--	15	<10
04-18-88	--	30	--	.3	1.4	--	<.5	62	<3	14	--
05-16-88	--	50	--	.1	--	--	<.5	--	<3	--	--
06-21-88	--	100	--	.6	1.3	--	<.5	86	<3	16	--
07-19-88	--	120	--	.5	1.0	--	<.5	99	<3	19	--
08-12-88	--	70	--	<.1	--	--	<.5	--	<3	--	--
09-20-88	--	110	--	.6	1.4	--	2.4	78	<3	17	--
10-18-88	--	140	--	.4	1.6	--	<1.1	5	<3	4	--
11-15-88	--	80	--	.2	4.7	--	.8	95	<3	21	--
11-20-88	60	40	1	.5	1.9	9	<.5	77	<3	15	20
12-20-88	--	50	--	.2	--	--	.7	--	<3	--	--
12-28-88	30	20	<1	.2	.8	2	.9	73	<3	14	<10
01-12-89	--	10	--	.3	.4	--	.6	74	<3	16	--
01-18-89	--	20	--	.1	1.6	--	<.5	71	<3	16	--
02-03-89	20	20	1	<.1	.5	7	.8	67	<3	15	10
02-14-89	50	20	2	.4	1.0	17	2.2	66	<3	14	20
02-23-89	--	10	--	.3	2.0	--	<.5	72	<3	16	--
03-21-89	--	<10	--	.1	.5	--	<.5	71	<3	16	--
04-18-89	--	20	--	<.1	--	--	.6	--	<3	--	--
05-16-89	--	40	--	.2	--	--	<.5	--	<3	--	--
06-15-89	30	30	<1	.3	3.7	2	.6	104	<3	18	<10
06-20-89	--	20	--	.4	1.2	--	<.5	109	<3	15	--
07-11-89	--	50	--	.6	2.6	--	<.5	53	<3	13	--
08-22-89	--	40	--	.4	1.8	--	<.5	65	<3	16	--
09-19-89	--	90	--	.7	1.0	--	<.5	53	<3	13	--
10-24-89	--	40	--	.4	1.3	--	<.5	56	<3	13	--
11-14-89	--	40	--	.3	1.2	--	<.5	52	<3	12	--
12-19-89	--	60	--	5.5	1.4	--	<.5	34	<3	7	--
01-23-90	--	20	--	.7	.7	--	.5	92	<3	21	--
02-13-90	--	20	--	<.1	1.1	--	<.5	63	<3	16	--
03-27-90	--	40	--	.2	1.7	--	<.5	43	<3	9	--
04-17-90	--	40	--	.2	--	--	<.5	--	<3	--	--
06-19-90	--	40	--	.2	--	--	<.5	--	<3	--	--
08-21-90	--	110	--	.9	--	--	<.5	--	<3	--	--
10-16-90	--	40	--	.4	--	--	<.5	--	<3	--	--
12-19-90	--	20	--	.3	--	--	<.5	--	<3	--	--
02-12-91	--	20	--	.3	--	--	<.5	--	<3	--	--
04-23-91	--	30	--	.4	--	--	.6	--	<3	--	--
06-18-91	--	30	--	.3	--	--	<.5	--	<3	--	--
08-27-91	--	90	--	.2	--	--	<.5	--	<3	--	--

Table 7. Fixed-station water-quality data--Continued

DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	COPPER, SED., SUSP. (UG/G) (29832)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, SEDI-MENT, SUSP. (PERCENT) (30269)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, SED., SUSP. (UG/G) (29836)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
Elkhorn Creek near Frankfort, Kentucky (03289500)--Continued											
04-23-87	2.6	--	<10	4	--	<5	1.3	--	16	<10	4
05-19-87	2.7	--	260	7	--	34	<.5	--	10	50	14
06-17-87	4.0	--	480	7	--	<5	<.5	--	9	110	25
07-21-87	2.4	--	330	<3	--	<5	<.5	--	8	50	10
08-18-87	4.6	28	320	5	2.89	<5	3.3	29.2	<4	90	2
09-17-87	9.0	26	250	10	3.31	<5	2.5	40.3	<4	40	10
10-14-87	2.8	--	--	29	--	--	<.5	--	9	--	4
11-17-87	1.8	39	--	15	5.11	--	.8	43.4	6	--	5
12-15-87	3.3	26	--	12	1.12	--	3.0	247.0	8	--	5
01-12-88	1.0	45	--	7	2.59	--	<.5	64.8	5	--	18
02-02-88	1.1	20	18,000	360	3.52	21	<.5	30.2	5	1,400	71
02-17-88	.8	32	--	13	3.94	--	<.5	67.0	6	--	11
03-23-88	1.6	33	--	4	3.09	--	<.5	41.3	8	--	6
04-07-88	1.9	24	2,700	--	3.98	<5	<.5	42.6	--	180	--
04-18-88	1.8	31	--	6	3.05	--	<.5	38.5	7	--	5
05-16-88	2.2	--	--	8	--	--	.9	--	7	--	5
06-21-88	2.4	32	--	39	2.75	--	.5	44.1	6	--	18
07-19-88	2.1	26	--	7	3.43	--	<.5	32.1	7	--	36
08-12-88	<.5	--	--	10	--	--	<.5	--	7	--	16
09-20-88	2.7	32	--	6	3.06	--	5.3	52.7	5	--	9
10-18-88	3.4	7	--	10	.10	--	.8	8.7	10	--	7
11-15-88	<.5	52	--	13	4.07	--	<.5	88.8	8	--	4
11-20-88	1.4	39	6,800	120	3.82	15	<.5	94.2	7	720	38
12-20-88	1.9	--	--	10	--	--	<.5	--	7	--	9
12-28-88	.9	25	1,600	20	4.14	<5	<.5	46.7	7	140	7
01-12-89	2.3	23	--	71	4.21	--	<.5	39.0	7	--	8
01-18-89	--	32	--	14	3.78	--	10.0	65.5	7	--	7
02-03-89	1.7	20	6,700	190	4.03	<5	<.5	39.0	<4	500	18
02-14-89	2.4	24	15,000	79	3.44	29	.9	54.3	6	1,500	26
02-23-89	1.0	32	--	41	3.89	--	<.5	55.4	6	--	8
03-21-89	1.1	22	--	140	4.13	--	<.5	38.9	5	--	8
04-18-89	1.8	--	--	7	--	--	<.5	--	4	--	3
05-16-89	1.3	--	--	10	--	--	<.5	--	6	--	5
06-15-89	1.5	26	2,100	20	4.95	6	<.5	37.1	<4	200	4
06-20-89	.7	27	--	11	4.00	--	<.5	41.5	5	--	2
07-11-89	1.7	26	--	10	2.94	--	<.5	46.1	6	--	9
08-22-89	2.0	32	--	11	3.74	--	<.5	60.2	4	--	5
09-19-89	1.8	23	--	17	2.94	--	<.5	41.5	6	--	7
10-24-89	1.4	28	--	11	3.06	--	<.5	43.1	6	--	9
11-14-89	2.2	29	--	10	2.77	--	<.5	353.0	5	--	7
12-19-89	29.0	32	--	3	1.48	--	3.5	149.0	7	--	10
01-23-90	2.4	27	--	15	4.55	--	<.5	24.5	5	--	5
02-13-90	2.3	36	--	7	3.73	--	<.5	46.6	<4	--	4
03-27-90	1.8	34	--	6	2.14	--	<.5	38.2	<4	--	3
04-17-90	1.9	--	--	5	--	--	<.5	--	4	--	2
06-19-90	1.3	--	--	<3	--	--	<.5	--	6	--	4
08-21-90	5.9	--	--	12	--	--	<.5	--	5	--	11
10-16-90	2.5	--	--	18	--	--	<.5	--	6	--	6
12-19-90	1.2	--	--	98	--	--	<.5	--	<4	--	29
02-12-91	1.6	--	--	11	--	--	12.0	--	6	--	4
04-23-91	2.2	--	--	6	--	--	<.5	--	4	--	6
06-18-91	3.0	--	--	18	--	--	<.5	--	7	--	4
08-27-91	4.2	--	--	13	--	--	<.5	--	5	--	6

Table 7. Fixed-station water-quality data--Continued

DATE	MANGANESE, SED., SUSP. (UG/G) (29839)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY, DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO) (01062)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	MOLYBDENUM, SED., SUSP. (UG/G) (29843)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	NICKEL, SED., SUSP. (UG/G) (29845)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)
					Elkhorn Creek near Frankfort, Kentucky (03289500)--Continued						
04-23-87	--	0.20	<0.1	3	<10	--	<10	--	<1	<1	1.0
05-19-87	--	<.10	<.1	17	20	--	--	--	--	<1	--
06-17-87	--	<.10	<.1	8	<10	--	--	--	--	<1	--
07-21-87	--	.10	<.1	5	<10	--	--	--	<1	<1	--
08-18-87	4,590	.20	<.1	6	<10	3.4	<10	35	--	<1	<1.0
09-17-87	4,700	<.10	.2	18	20	9.3	<10	39	<1	<1	1.0
10-14-87	--	--	.2	--	20	--	10	--	<1	--	<1.0
11-17-87	8,450	--	<.1	--	20	1.0	<10	49	--	--	<1.0
12-15-87	1,090	--	<.1	--	20	17.3	<10	15	--	--	<1.0
01-12-88	2,490	--	.1	--	<10	3.2	<10	28	<1	--	<1.0
02-02-88	1,800	.20	<.1	2	<10	0.7	<10	23	<1	<1	<1.0
02-17-88	2,720	--	.2	--	<10	1.1	<10	36	--	--	<1.0
03-23-88	2,130	--	.1	--	<10	2.1	<10	29	--	--	<1.0
04-07-88	2,080	.20	.2	1	--	.8	--	30	<1	1	--
04-18-88	2,530	--	.1	--	<10	1.5	<10	31	<1	--	<1.0
05-16-88	--	--	.2	--	<10	--	<10	--	--	--	<1.0
06-21-88	4,660	--	.3	--	20	15.5	<10	46	--	--	<1.0
07-19-88	5,490	--	.1	--	30	11.9	<10	42	<1	--	<1.0
08-12-88	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0
09-20-88	3,640	--	.1	--	30	12.1	20	38	--	--	<1.0
10-18-88	110	--	.1	--	30	74.1	10	14	<1	--	<1.0
11-15-88	4,690	--	<.1	--	10	7.0	<10	60	--	--	<1.0
11-20-88	3,030	.20	<.1	11	<10	2.2	<10	32	<1	1	<1.0
12-20-88	--	--	<.1	--	<10	--	<10	--	--	--	<1.0
12-28-88	2,450	<.10	.1	2	<10	1.0	<10	33	<1	<1	<1.0
01-12-89	1,890	--	<.1	--	<10	1.0	<10	33	<1	--	<1.0
01-18-89	2,630	--	.2	--	<10	.9	<10	33	<1	--	<1.0
02-03-89	1,920	.50	.6	4	<10	.9	<10	30	<1	<1	<1.0
02-14-89	2,130	<.10	.3	4	<10	.9	<10	29	<1	2	<1.0
02-23-89	2,550	--	<.1	--	<10	.9	<10	33	--	--	<1.0
03-21-89	1,810	--	.2	--	<10	1.0	<10	32	--	--	<1.0
04-18-89	--	--	.2	--	10	--	<10	--	<1	--	<1.0
05-16-89	--	--	<.1	--	<10	--	<10	--	--	--	<1.0
06-15-89	2,710	.10	.1	5	<10	1.0	<10	34	<1	<1	<1.0
06-20-89	2,500	--	.2	--	<10	1.1	<10	35	--	--	<1.0
07-11-89	2,630	--	.2	--	10	5.3	<10	30	<1	--	1.0
08-22-89	2,860	--	.2	--	<10	1.8	<10	34	--	--	<1.0
09-19-89	2,850	--	.1	--	10	2.1	<10	26	--	--	2.0
10-24-89	2,930	--	.1	--	<10	1.5	<10	27	<1	--	1.0
11-14-89	2,380	--	.1	--	<10	14.8	<10	24	--	--	<1.0
12-19-89	1,040	--	<.1	--	10	53.1	<10	15	--	--	<1.0
01-23-90	1,250	--	<.1	--	<10	3.0	<10	54	<1	--	<1.0
02-13-90	2,460	--	<.1	--	<10	.9	<10	33	--	--	<1.0
03-27-90	2,860	--	.1	--	<10	3.0	10	24	--	--	<1.0
04-17-90	--	--	<.1	--	<10	--	10	--	<1	--	<1.0
06-19-90	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0
08-21-90	--	--	.2	--	20	--	10	--	<1	--	2.0
10-16-90	--	--	--	--	<10	--	<10	--	<1	--	<1.0
12-19-90	--	--	.4	--	<10	--	<10	--	<1	--	<1.0
02-12-91	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0
04-23-91	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0
06-18-91	--	--	--	--	<10	--	<10	--	<1	--	<1.0
08-27-91	--	--	<.1	--	10	--	<10	--	<1	--	<1.0

Table 7. Fixed-station water-quality data--Continued

DATE	SILVER, SED., SUSP. (UG/G) (29850)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	VANA-DIUM, SED., SUSP. (UG/G) (29853)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	ZINC, SED., SUSP. (UG/G) (29855)	TITA-NIUM, SEDI-MENT, SUSP. (PERCENT) (30317)	THAL-LIUM, SED., SUSP. (UG/G)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP., TOTAL (UG/L AS U-NAT) (80040)
					Elkhorn Creek near Frankfort, Kentucky (03289500)--Continued						
04-23-87	--	120	<6	--	<10	4	--	--	--	<0.4	<0.4
05-19-87	--	150	<6	--	<10	<3	--	--	--	--	--
06-17-87	--	150	<6	--	30	8	--	--	--	--	--
07-21-87	--	170	<6	--	10	5	--	--	--	<.4	<.4
08-18-87	1.8	180	<6	62	20	5	179	0.25	0.30	--	--
09-17-87	1.6	220	<6	68	30	24	199	.32	.40	--	--
10-14-87	--	260	<6	--	--	11	--	--	--	.6	<.4
11-17-87	.1	270	<6	120	--	10	259	.42	.50	--	--
12-15-87	1.0	350	<6	19	--	15	176	.10	.10	--	--
01-12-88	5.3	160	<6	57	--	8	220	.34	.30	.6	1.1
02-02-88	.3	61	<6	79	60	19	85	.45	.60	<.4	31
02-17-88	1.1	120	<6	85	--	<3	177	.36	.80	--	--
03-23-88	1.0	130	<6	65	--	10	216	.35	.50	--	--
04-07-88	5.7	--	--	85	10	--	143	.41	.50	.6	1.7
04-18-88	11.0	120	<6	69	--	<3	170	.37	.50	<.4	<.4
05-16-88	--	140	<6	--	--	4	--	--	--	--	--
06-21-88	1.3	170	<6	61	--	10	145	.32	.60	--	--
07-19-88	1.3	180	<6	72	--	11	172	.51	.50	<.4	<.4
08-12-88	--	150	<6	--	--	<3	-	--	--	--	--
09-20-88	2.0	220	<6	65	--	34	231	.31	.50	--	--
10-18-88	<.1	280	<6	<6	--	26	54	<.01	<.10	<.4	<.4
11-15-88	2.0	220	<6	80	--	22	300	.36	.60	--	--
11-20-88	2.7	140	<6	80	50	7	206	.36	.80	<.4	18
12-20-88	--	170	<6	--	--	54	--	--	--	--	--
12-28-88	.7	110	<6	88	10	4	154	.40	.70	<.4	2.0
01-12-89	.5	87	<6	96	--	7	125	.48	.70	<.6	1.7
01-18-89	1.6	110	<6	78	--	<3	169	.34	.60	.6	1.1
02-03-89	.4	90	<6	91	40	39	111	.43	.70	<.6	6.8
02-14-89	1.1	68	<6	73	110	7	130	.35	.60	<.6	33
02-23-89	1.4	86	<6	80	--	<3	165	.45	.70	--	--
03-21-89	.7	86	<6	95	--	<3	122	.49	.70	--	--
04-18-89	--	110	<6	--	--	4	--	--	--	<.6	<.6
05-16-89	--	130	<6	--	--	<3	--	--	--	--	--
06-15-89	.9	110	<6	76	20	5	155	.35	.30	1.1	3.2
06-20-89	.5	110	<6	95	--	7	137	.53	.70	--	--
07-11-89	1.3	150	<6	64	--	9	250	.34	.50	<.6	.7
08-22-89	1.2	130	<6	82	--	4	278	.43	.70	--	--
09-19-89	1.0	170	<6	63	--	11	173	.32	.50	--	--
10-24-89	1.3	160	<6	65	--	10	201	.33	.50	<.6	<.6
11-14-89	1.0	160	<6	58	--	4	316	.27	1.7	--	--
12-19-89	.6	160	<6	35	--	83	184	.15	1.0	--	--
01-23-90	.2	110	<6	166	--	<3	167	.53	.90	4.0	1.4
02-13-90	.8	110	<6	78	--	<3	168	.39	.60	--	--
03-27-90	1.0	130	<6	42	--	8	257	.19	.30	--	--
04-17-90	--	140	<6	--	--	11	--	--	--	<.6	<.6
06-19-90	--	130	<6	--	--	9	--	--	--	<.6	<.6
08-21-90	--	170	<6	--	--	16	--	--	--	.7	<.6
10-16-90	--	150	<6	--	--	7	--	--	--	<.6	<.6
12-19-90	--	67	<6	--	--	5	--	--	--	<.6	18
02-12-91	--	110	<6	--	--	<3	--	--	--	<.6	<.6
04-23-91	--	130	<6	--	--	6	--	--	--	<.6	<.6
06-18-91	--	100	<6	--	--	11	--	--	--	<.6	5.7
08-27-91	--	170	<6	--	--	15	--	--	--	<.6	<.6

Table 7. Fixed-station water-quality data--Continued

DATE	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP., TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90) (80050)	GROSS BETA, SUSP., TOTAL (PCI/L AS SR/YT-90) (80060)	CARBON, ORGANIC, DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC, SUS-PENDED, TOTAL (MG/L AS C) (00689)	CYANIDE, DIS-SOLVED (MG/L AS CN) (00723)	SURFACE AREA, SEDI-MENT, SUSP. (M2/G) (30334)	SEDI-MENT, SUS-PENDED (MG/L)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY)	SED., SUSP., SIEVE DIAM. (% FINER THAN .062 MM)
					Elkhorn Creek near Frankfort, Kentucky (03289500)--Continued						
04-23-87	2.4	<0.4	1.9	<0.4	2.9	0.3	<0.01	--	6	7.4	100
05-19-87	--	--	--	--	4.2	1.0	--	--	5	1.4	79
06-17-87	--	--	--	--	4.7	.6	--	--	18	7.4	68
07-21-87	5.0	1.4	3.8	1.4	4.3	.5	<.01	--	16	4.3	62
08-18-87	--	--	--	--	7.5	--	--	10.1	16	1.6	44
09-17-87	--	--	--	--	8.2	.3	--	22.7	7	.58	64
10-14-87	10	<.4	7.4	<.4	8.0	.1	<.01	12.1	7	.54	47
11-17-87	--	--	--	--	6.9	.3	--	15.4	4	.58	20
12-15-87	--	--	--	--	8.4	.5	--	--	10	2.1	56
01-12-88	3.0	1.9	2.3	1.8	2.7	.4	<.01	14.1	8	5.4	74
02-02-88	2.8	21	2.1	20	5.2	>3.3	<.01	20.7	800	9,310	82
02-17-88	--	--	--	--	2.2	--	--	17.4	30	96	40
03-23-88	--	--	--	--	2.8	.3	--	14.3	12	8.0	58
04-07-88	2.5	2.9	1.9	2.6	3.6	1.2	<.01	24.5	74	541	83
04-18-88	1.8	<.4	1.4	<.4	2.6	.3	<.01	14.7	6	6.3	59
05-16-88	--	--	--	--	4.8	.3	--	12.6	5	1.9	58
06-21-88	--	--	--	--	5.6	.3	--	13.0	7	.61	37
07-19-88	17	.5	13	.5	7.5	.4	<.01	20.6	10	.86	38
08-12-88	--	--	--	--	5.9	.2	--	--	10	1.6	64
09-20-88	--	--	--	--	5.4	.4	--	19.8	10	1.6	48
10-18-88	12	<.4	8.7	<.4	6.4	.1	<.01	<9.14	3	.25	22
11-15-88	--	--	--	--	3.9	.1	--	22.8	1	.35	100
11-20-88	5.8	8.6	4.4	7.6	3.5	>5.2	<.01	20.4	274	--	86
12-20-88	--	--	--	--	3.0	.2	--	8.40	2	.44	42
12-28-88	2.0	3.1	1.7	2.9	1.9	1.1	<.01	24.4	60	292	55
01-12-89	3.1	2.9	2.3	2.7	3.7	>2.7	<.01	25.7	152	1,440	94
01-18-89	2.2	1.0	1.6	1.0	1.8	.8	<.01	19.1	37	193	84
02-03-89	2.9	7.3	2.2	6.4	3.9	>5.0	<.01	24.7	255	2,320	90
02-14-89	2.9	33	2.3	29	3.9	>2.5	<.01	19.9	757	30,500	81
02-23-89	--	--	--	--	2.1	1.4	--	22.9	103	784	68
03-21-89	--	--	--	--	3.9	>2.4	--	26.0	142	1,260	90
04-18-89	1.9	<.6	1.4	<.6	2.2	.4	<.01	8.91	6	9.8	74
05-16-89	--	--	--	--	2.8	.2	--	14.6	6	8.1	90
06-15-89	4.4	2.2	3.3	2.0	3.3	2.2	<.01	26.5	86	316	81
06-20-89	--	--	--	--	3.1	2.3	--	25.8	129	421	93
07-11-89	5.1	<.6	3.9	<.6	3.9	.3	<.01	16.0	8	2.0	44
08-22-89	--	--	--	--	4.2	.7	--	27.2	27	26	93
09-19-89	--	--	--	--	4.9	.3	--	25.5	7	3.4	80
10-24-89	4.0	<.6	3.1	<.6	3.0	.2	<.01	19.4	3	3.1	63
11-14-89	--	--	--	--	3.6	.2	--	18.7	3	2.0	100
12-19-89	--	--	--	--	3.9	.6	--	--	3	1.1	90
01-23-90	2.4	2.1	2.0	1.7	2.3	.7	<.01	20.4	56	336	95
02-13-90	--	--	--	--	1.8	.4	--	24.3	40	187	86
03-27-90	--	--	--	--	3.3	>2.5	--	9.42	9	7.0	47
04-17-90	2.9	.7	2.2	<.6	3.5	.2	<.01	--	1	.66	38
06-19-90	3.5	<.6	2.6	<.6	2.8	.4	<.01	--	14	11	80
08-21-90	1.0	<.6	.7	<.6	5.8	.5	<.01	--	--	--	--
10-16-90	4.1	<.6	3.0	<.6	8.1	.3	<.01	--	11	8.7	81
12-19-90	4.5	10	3.6	9.1	4.6	>5.0	<.01	--	262	9,900	78
02-12-91	2.1	<.6	1.5	<.6	44	.3	<.01	--	9	25	86
04-23-91	.9	<.6	.7	<.6	2.3	.2	<.01	--	4	4.2	100
06-18-91	4.9	3.7	3.6	3.4	5.5	--	<.01	--	106	435	77
08-27-91	7.3	<.6	5.3	<.6	5.2	.2	<.01	--	1	.25	100

Table 7. Fixed-station water-quality data--Continued

Elkhorn Creek near Frankfort, Kentucky (03289500)--Continued

DATE	TIME	AME-TRYNE, TOTAL (82184)	ATRA-ZINE, TOTAL (UG/L) (39630)	CYAN-AZINE, TOTAL (UG/L) (81757)	DICAMBA (MED-IBEN) (BAN-VEL D), TOTAL (UG/L) (82052)	PICLO-RAM (TOR-DON) (AMDON), TOTAL (UG/L) (39720)	PROME-TONE, TOTAL (UG/L) (39056)	PROME-TRYNE, TOTAL (UG/L) (39057)	PRO-PAZINE, TOTAL (UG/L) (39024)
10-16-90	1515	<0.10	0.10	<0.10	0.01	<0.01	<0.10	<0.10	<0.10
12-19-90	1000	<.10	<.10	<.10	<.01	<.01	<.10	<.10	<.10
02-12-91	1500	<.10	<.10	<.20	<.01	<.01	<.20	<.10	<.10
04-23-91	1515	<.10	<.10	<.20	--	--	<.20	<.10	<.10
06-18-91	1600	<.10	.40	<.20	.03	<.01	<.20	<.10	<.10
08-27-91	1545	<.10	<.10	<.20	<.01	.06	.20	<.10	<.10

DATE	SILVEX, TOTAL (UG/L) (39760)	SIMA-ZINE, TOTAL (UG/L) (39055)	SIME-TRYNE, TOTAL (UG/L) (39054)	2,4-D, TOTAL (UG/L) (39730)	2,4-DP, TOTAL (UG/L) (82183)	2,4,5-T, TOTAL (UG/L) (39740)	ALA-CHLOR, TOTAL RECOVER (UG/L) (77825)	TRI-FLURA-LIN, TOTAL RECOVER (UG/L) (39030)	BROM-ACIL, WATER, WHLREC (UG/L) (30234)	BUTA-CHLOR, WATER, WHLREC (UG/L) (30235)	BUTYL-ATE, WATER, WHLREC (UG/L) (30236)
10-16-90	<0.01	<0.10	<0.10	0.16	<0.01	<0.01	<0.10	<0.10	--	--	--
12-19-90	<.01	<.10	<.10	.03	<.01	<.01	<.10	<.10	--	--	--
02-12-91	<.01	<.10	<.10	<.01	<.01	<.01	<.20	<.10	<0.20	<0.10	<0.10
04-23-91	--	<.10	<.10	--	--	--	<.20	<.10	<.20	<.10	<.10
06-18-91	<.01	.10	<.10	.04	<.01	<.01	<.20	<.10	<.20	<.10	<.10
08-27-91	<.01	<.10	<.10	.07	<.01	<.01	<.10	<.10	<.20	<.10	<.10

DATE	CARBOX-IN, WATER, WHOLE, RECOV-ERABLE (UG/L) (30245)	CYCLO-ATE, WATER, WHOLE, RECOV-ERABLE (UG/L) (30254)	DE-ISO PROPYL ATRAZIN, WATER, WHOLE, TOTAL (UG/L) (75980)	DEETHYL ATRA-ZINE, WATER, WHOLE, TOTAL (UG/L) (75981)	DIPHEN-AMID, WATER, WHOLE, RECOV-ERABLE (UG/L) (30255)	HEXAZI-NONE, WATER, WHOLE, RECOV-ERABLE (UG/L) (30264)	METRI-BUZIN, WATER, WHOLE, TOT.REC (UG/L) (82611)	METOLA-CHLOR, WATER, WHOLE, TOT.REC (UG/L) (82612)	PROPA-CHLOR, WATER, WHOLE, RECOV. (UG/L) (30295)	TER-BACIL, WATER, WHOLE, RECOV. (UG/L) (30311)	VER-NOLATE, WATER, WHOLE, RECOV. (UG/L) (30324)
10-16-90	--	--	--	--	--	--	<0.10	<0.10	--	--	--
12-19-90	--	--	--	--	--	--	<.10	<.10	--	--	--
02-12-91	<0.20	<0.10	<0.20	<0.20	<0.10	<0.20	<.10	<.20	<0.10	<0.20	<0.10
04-23-91	<.20	<.10	<.20	<.20	<.10	<.20	<.10	<.20	<.10	<.20	<.10
06-18-91	<.20	<.10	<.20	.20	<.10	<.20	<.10	<.20	<.10	<.20	<.10
08-27-91	<.20	<.10	<.20	<.20	<.10	<.20	<.10	<.10	<.10	<.20	<.10

Table 7. Fixed-station water-quality data--Continued

DATE	TIME	DIS-CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH, WATER, WHOLE, FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE, AIR (DEG C) (00020)	TEMPER-ATURE, WATER (DEG C) (00010)	TUR-BID-ITY (NTU) (00076)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	COLI-FORM, FECAL, .7 UM-MF (COL/ 100 ML) (31625)
				Kentucky River at Lock 2, at Lockport, Kentucky (03290500)						
04-24-87	0910	9,950	235	8.0	14.0	14.5	50	9.9	99	280
05-20-87	0930	1,780	295	7.4	25.0	24.0	--	8.6	105	22
06-16-87	0915	989	325	--	34.0	27.5	9.3	6.3	82	K5
07-22-87	1045	1,000	360	8.6	29.5	28.5	--	7.7	101	<1
08-19-87	0945	407	435	8.1	28.0	28.5	--	6.5	86	--
09-18-87	1000	496	416	8.0	28.0	25.0	--	5.6	70	K1
10-15-87	1000	356	397	8.0	11.5	16.5	4.9	7.9	82	K3
11-18-87	1000	712	340	8.3	9.0	11.0	--	9.6	88	860
12-16-87	1000	1,260	425	8.1	7.0	5.0	2.9	10.7	85	K7
12-29-87	1245	22,900	381	7.4	--	7.5	--	12.0	102	--
01-13-88	1000	1,750	330	7.8	-1.0	2.0	--	13.1	96	35,000
02-02-88	1545	25,800	230	8.5	--	--	--	--	--	--
02-18-88	0900	5,320	390	8.4	6.5	4.5	27	13.4	105	170
03-24-88	1000	2,780	310	7.8	27.5	7.0	--	11.6	97	K10
04-08-88	1800	18,900	360	7.8	20.5	14.0	--	10.7	106	--
04-20-88	0900	4,880	242	8.0	9.0	13.0	21	9.9	96	110
05-18-88	0900	1,940	205	7.7	19.0	19.0	--	8.5	94	K15
06-20-88	1130	422	334	7.8	25.5	25.5	5.2	6.4	80	K56
07-20-88	1020	2,690	330	8.1	25.0	27.5	--	6.3	81	K380
08-12-88	0900	539	315	7.9	25.0	28.0	2.5	7.7	100	10
09-21-88	0950	1,590	345	8.0	18.0	23.0	--	7.8	91	K16
10-19-88	1000	344	379	6.7	13.5	15.0	4.8	6.4	64	K12
11-16-88	0915	2,570	481	8.2	16.5	12.0	--	10.0	95	K12
11-22-88	1045	46,900	259	8.4	4.5	10.5	--	8.5	76	--
12-21-88	0930	1,460	343	8.0	9.0	6.0	3.5	11.8	95	76
01-09-89	1120	23,100	325	7.4	3.5	7.0	--	12.1	100	--
01-14-89	0900	31,900	312	8.0	1.5	5.5	--	12.3	98	--
01-19-89	0930	17,000	238	7.7	9.0	6.0	--	12.4	101	K1,400
02-15-89	0945	92,300	212	8.4	9.5	7.0	--	11.7	97	--
02-17-89	1100	108,000	206	7.8	2.0	6.5	--	--	--	--
02-24-89	1045	59,400	232	7.5	-5.0	6.0	280	12.0	96	--
03-22-89	1030	28,000	271	8.5	7.5	9.0	--	11.3	98	7,400
04-19-89	0930	7,680	294	7.3	8.5	11.5	12	10.9	101	130
05-12-89	1035	30,900	234	7.5	16.0	13.5	--	10.5	103	--
05-17-89	1000	8,170	262	7.1	17.5	17.5	--	10.1	107	K79
05-25-89	1130	28,300	274	7.1	28.5	24.0	--	9.9	121	--
06-21-89	1000	25,400	186	7.4	25.5	21.5	--	8.7	101	>12,000
07-12-89	0930	6,070	278	8.1	26.5	25.0	44	7.9	97	K40
08-23-89	0945	3,250	317	7.9	30.5	27.0	12	7.1	90	1,400
09-20-89	0930	9,180	391	7.8	18.0	21.5	--	8.3	96	280
10-20-89	1015	52,300	164	7.0	13.5	13.0	--	6.8	67	--
10-25-89	1000	12,600	229	7.5	14.5	13.0	.30	10.1	98	730
11-15-89	0930	5,940	289	8.0	20.5	14.0	--	10.3	102	K56
12-20-89	1000	1,940	332	7.6	6.0	0.0	3.5	13.5	93	K28
01-24-90	1000	12,600	325	8.0	17.5	9.0	--	11.6	103	360
02-14-90	0930	30,000	191	7.3	13.0	10.5	96	9.4	86	K2,700
03-28-90	0940	6,060	279	7.2	13.5	13.0	--	11.3	109	K110
04-18-90	1000	6,830	325	7.5	11.5	11.5	6.2	10.7	98	67
06-20-90	1015	4,140	275	7.8	17.5	23.5	41	8.1	98	260
08-22-90	1030	1,200	378	7.5	25.5	26.5	4.5	8.3	106	500
10-15-90	1200	3,150	379	7.8	20.5	20.5	15	7.9	90	K120
12-20-90	1000	75,800	251	7.0	7.5	9.0	240	9.1	81	K19,000
02-13-91	0915	11,400	292	7.4	13.5	8.0	40	12.1	106	200
04-24-91	0930	7,730	255	7.9	14.0	13.5	31	9.8	96	490
06-19-91	0930	7,570	330	7.9	32.5	28.0	28	5.9	77	530
08-28-91	0930	574	345	8.1	26.0	26.5	3.2	8.0	100	K23

Table 7. Fixed-station water-quality data--Continued

DATE	STREPTOCOCCI, FECAL, KF AGAR (COL/ 100 ML) (31673)	E.COLI, MTEC,MF WATER, WHOLE, TOTAL (COL/ 100 ML) (31648)	HARDNESS, TOTAL (MG/L AS CACO3) (00900)	CALCIUM, DISSOLVED (MG/L AS CA) (00915)	CALCIUM, SED., SUSP. (PERCENT) (30240)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	MAGNESIUM, SEDIMENT, SUSP. (PERCENT) (30277)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	SODIUM, SEDIMENT, SUSP. (PERCENT) (30304)	SODIUM (PERCENT) (00932)	SODIUM ADSORPTION RATIO (00931)
					Kentucky River at Lock 2, at Lockport, Kentucky (03290500)--Continued						
04-24-87	490	--	100	28	--	8.1	--	5.6	--	10	0.2
05-20-87	K9	--	150	39	--	12	--	9.1	--	12	.3
06-16-87	K7	--	140	36	--	11	--	11	--	15	.4
07-22-87	K10	--	160	44	--	13	--	15	--	16	.5
08-19-87	57	--	170	44	1.92	14	1.16	22	0.79	22	.7
09-18-87	K3	--	160	44	1.82	12	1.08	93	.67	55	3
10-15-87	K10	--	150	43	1.70	11	.98	20	.70	22	.7
11-18-87	20	--	160	45	2.24	11	1.11	20	.86	21	.7
12-16-87	36	--	170	50	1.28	10	1.00	19	.35	19	.6
12-29-87	--	--	160	46	.95	11	.94	15	.31	17	.5
01-13-88	K12	--	150	45	2.55	8.6	1.05	9.7	.91	12	.3
02-02-88	--	--	110	36	.89	5.9	.83	4.6	.29	8	.2
02-18-88	830	--	150	47	2.68	8.3	1.19	11	.56	13	.4
03-24-88	K20	--	150	46	2.15	8.8	1.07	11	.49	13	.4
04-08-88	--	--	160	49	1.32	9.2	.79	9.8	.31	12	.3
04-20-88	120	--	110	33	1.09	7.4	.93	5.9	.29	10	.2
05-18-88	K18	--	140	38	1.34	11	.98	12	.40	16	.4
06-20-88	K6	--	140	38	2.47	10	1.28	15	.77	19	.6
07-20-88	1,900	--	140	40	1.52	10	.84	13	.41	16	.5
08-12-88	330	K14	130	37	--	9.5	--	12	--	16	.5
09-21-88	39	--	150	45	1.93	8.8	.98	12	.54	15	.4
10-19-88	K12	--	160	46	--	11	--	17	--	18	.6
11-16-88	23	--	190	53	3.57	13	1.31	26	1.59	23	.8
11-22-88	--	--	120	35	1.01	7.2	.92	6.8	.30	11	.3
12-21-88	180	--	160	47	--	10	--	9.5	--	11	.3
01-09-89	--	--	140	42	1.32	7.5	.79	7.1	.31	10	.3
01-14-89	--	--	150	43	1.28	9.3	.78	8.0	.33	10	.3
01-19-89	12,000	--	110	33	.54	7.1	.82	4.5	.28	8	.2
02-15-89	--	--	99	32	1.27	4.7	.73	3.2	.33	6	.1
02-17-89	--	--	94	30	1.06	4.5	.80	3.0	.31	6	.1
02-24-89	--	--	70	20	.44	4.9	.76	3.9	.29	11	.2
03-22-89	10,000	--	130	40	1.20	7.2	.77	5.4	.30	8	.2
04-19-89	K32	--	130	38	1.93	8.2	1.02	5.3	.43	8	.2
05-12-89	--	--	110	33	.71	7.7	.86	4.1	.29	7	.2
05-17-89	8,400	--	100	29	.83	7.2	.88	4.6	.30	9	.2
05-25-89	--	--	130	37	.98	9.6	.76	6.2	.32	9	.2
06-21-89	1,400	--	81	23	.43	5.6	.82	2.8	.28	7	.1
07-12-89	9,700	--	120	34	.83	9.4	.93	6.1	.29	10	.2
08-23-89	K25	--	150	43	1.29	9.5	.92	8.5	.35	11	.3
09-20-89	300	--	160	40	.56	14	.88	13	.26	15	.5
10-20-89	--	--	67	19	.49	4.8	.75	3.4	.31	9	.2
10-25-89	730	--	110	30	.49	7.8	.85	4.0	.28	7	.2
11-15-89	K72	--	140	39	1.04	9.9	1.00	5.5	.27	8	.2
12-20-89	K8	--	140	37	2.91	12	1.51	10	.76	13	.4
01-24-90	1,900	--	150	48	1.46	7.8	.88	5.7	.29	7	.2
02-14-90	1,700	--	74	20	.51	5.9	.80	3.7	.35	10	.2
03-28-90	K31	--	120	33	.81	9.4	.95	5.9	.28	9	.2
04-18-90	330	--	140	38	--	12	--	8.8	--	12	.3
06-20-90	130	--	120	36	--	7.6	--	5.1	--	8	.2
08-22-90	360	--	170	46	--	13	--	12	--	13	.4
10-15-90	K58	--	170	53	--	10	--	8.5	--	9	.3
12-20-90	7,400	3,000	120	37	--	5.9	--	3.3	--	6	.1
02-13-91	250	370	140	42	--	8.6	--	5.0	--	7	.2
04-24-91	K120	1,600	110	31	--	8.7	--	4.9	--	8	.2
06-19-91	520	480	150	45	--	10	--	6.9	--	9	.2
08-28-91	K35	K37	150	43	--	11	--	9.8	--	12	.3

Table 7. Fixed-station water-quality data--Continued

DATE	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	POTASSIUM, SEDIMENT, SUSP. (PERCENT) (30294)	ALKALINITY, WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKALINITY, CARBONATE IT FIELD (MG/L AS CAC03) (99430)	BICARBONATE IT FIELD (MG/L AS HCO3) (99440)	CARBONATE IT FIELD (MG/L AS CO3) (99445)	ALKALINITY, WAT DIS TOT IT FIELD (MG/L AS CACO3) (39086)	BICARBONATE WATER DIS IT FIELD (MG/L AS HCO3) (00453)	CARBONATE WATER DIS IT FIELD (MG/L AS CO3) (00452)	ALKALINITY, WAT DIS TOT FET FIELD (MG/L AS CACO3) (00418)	SULFATE, DISSOLVED (MG/L AS SO4) (00945)
					Kentucky River at Lock 2, at Lockport, Kentucky (03290500)--Continued						
04-24-87	1.6	--	56	54	66	0	--	--	--	--	46
05-20-87	2.4	--	77	74	90	0	--	--	--	--	71
06-16-87	2.5	--	--	--	--	--	--	--	--	--	72
07-22-87	3.2	--	82	--	--	--	--	--	--	--	81
08-19-87	4.0	2.4	95	96	117	0	--	--	--	--	94
09-18-87	3.9	2.5	93	--	--	--	--	--	--	--	59
10-15-87	3.9	2.3	--	--	--	--	96	117	--	97	55
11-18-87	4.0	2.3	--	--	--	--	100	122	--	100	51
12-16-87	4.1	2.9	--	--	--	--	112	137	--	112	52
12-29-87	3.5	2.7	--	--	--	--	84	103	--	84	61
01-13-88	2.9	2.2	--	--	--	--	85	104	--	84	50
02-02-88	2.5	2.9	--	--	--	--	--	--	--	--	41
02-18-88	2.5	2.8	--	--	--	--	91	161	--	91	51
03-24-88	2.0	2.6	--	--	--	--	103	126	--	102	43
04-08-88	1.9	2.5	--	--	--	--	111	136	--	108	46
04-20-88	1.7	2.7	--	--	--	--	67	82	--	69	45
05-18-88	1.2	2.7	--	--	--	--	76	93	--	77	59
06-20-88	2.4	3.3	--	--	--	--	103	126	--	103	54
07-20-88	2.7	2.5	--	--	--	--	82	100	--	87	55
08-12-88	2.8	--	--	--	--	--	--	--	--	--	46
09-21-88	3.7	2.6	--	--	--	--	105	128	--	104	45
10-19-88	4.2	--	--	--	--	--	91	111	--	91	61
11-16-88	4.1	2.2	--	--	--	--	116	141	--	116	68
11-22-88	3.3	2.7	--	--	--	--	80	97	--	81	36
12-21-88	2.3	--	--	--	--	--	102	116	4	104	51
01-09-89	3.1	2.4	--	--	--	--	86	105	--	87	42
01-14-89	2.2	2.4	--	--	--	--	95	116	--	95	52
01-19-89	1.9	2.9	--	--	--	--	77	94	--	78	38
02-15-89	2.4	2.4	--	--	--	--	111	135	--	109	27
02-17-89	2.3	2.5	--	--	--	--	67	82	--	69	24
02-24-89	1.6	2.7	--	--	--	--	34	42	--	34	29
03-22-89	2.0	2.4	--	--	--	--	70	83	1	72	50
04-19-89	1.7	2.6	--	--	--	--	79	96	--	80	41
05-12-89	2.1	2.8	--	--	--	--	81	99	--	84	37
05-17-89	1.7	2.8	--	--	--	--	64	78	--	62	40
05-25-89	2.0	2.4	--	--	--	--	76	93	--	78	52
06-21-89	2.2	2.9	--	--	--	--	53	65	--	53	32
07-12-89	2.2	2.9	--	--	--	--	67	82	--	66	53
08-23-89	3.1	2.6	--	--	--	--	99	121	--	99	49
09-20-89	3.5	2.9	--	--	--	--	80	98	--	80	77
10-20-89	2.7	2.6	--	--	--	--	47	57	--	46	23
10-25-89	2.6	2.9	--	--	--	--	63	77	--	64	42
11-15-89	2.8	2.8	--	--	--	--	89	109	--	90	49
12-20-89	2.0	2.3	--	--	--	--	83	101	--	83	65
01-24-90	2.2	2.7	--	--	--	--	97	118	--	97	40
02-14-90	1.6	2.7	--	--	--	--	50	61	--	50	33
03-28-90	2.0	2.9	--	--	--	--	70	86	--	70	49
04-18-90	1.9	--	--	--	--	--	76	93	--	75	67
06-20-90	2.4	--	--	--	--	--	86	105	--	86	39
08-22-90	3.4	--	--	--	--	--	98	119	--	98	80
10-15-90	3.5	--	--	--	--	--	137	167	--	135	53
12-20-90	2.9	--	--	--	--	--	92	112	--	92	24
02-13-91	1.7	--	--	--	--	--	98	120	--	98	39
04-24-91	1.7	--	--	--	--	--	71	87	--	73	43
06-19-91	2.7	--	--	--	--	--	101	123	--	101	60
08-28-91	3.3	--	--	--	--	--	95	116	--	97	64

Table 7. Fixed-station water-quality data--Continued

DATE	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)	BROMIDE, DISSOLVED (MG/L AS BR) (71870)	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C, DISSOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)	SOLIDS, DISSOLVED (TONS PER AC-FT) (70303)	SOLIDS, DISSOLVED (TONS PER DAY) (70302)	NITROGEN, NITRATE, DISSOLVED (MG/L AS N) (00618)	NITROGEN, NITRITE, TOTAL (MG/L AS N) (00615)	NITROGEN, NITRITE, DISSOLVED (MG/L AS N) (00613)
Kentucky River at Lock 2, at Lockport, Kentucky (03290500)--Continued											
04-24-87	5.8	0.10	<0.010	6.4	140	137	0.19	3,760	--	--	<0.010
05-20-87	11	--	.016	3.9	198	195	.27	952	0.290	--	.010
06-16-87	15	.20	.055	3.3	195	197	.27	521	.430	--	.010
07-22-87	19	.20	.055	3.8	224	231	.30	605	--	--	<.010
08-19-87	26	--	.11	1.2	267	265	.36	293	.300	--	.050
09-18-87	30	.20	.15	3.1	244	303	.33	327	.220	--	.030
10-15-87	29	.30	.10	1.9	231	225	.31	222	.600	--	.040
11-18-87	29	--	.086	1.2	230	227	.31	442	1.09	--	.010
12-16-87	26	.30	.067	2.1	243	239	.33	827	1.48	--	.020
12-29-87	24	.20	.10	4.4	230	225	.31	14,200	--	--	<.010
01-13-88	14	.20	.033	5.6	206	198	.28	973	2.18	--	.020
02-02-88	8.8	.20	.37	24	408	178	.55	28,400	1.45	--	.050
02-18-88	19	.20	.049	5.4	205	234	.28	2,940	2.19	--	.010
03-24-88	16	--	.053	4.1	199	201	.27	1,490	--	--	<.010
04-08-88	14	.20	.055	4.1	202	208	.27	10,300	--	--	<.010
04-20-88	7.8	.20	.023	5.4	150	151	.20	2,980	--	--	<.010
05-18-88	17	--	.066	3.3	190	189	.26	995	--	--	<.010
06-20-88	17	.30	.068	1.0	201	201	.27	229	.080	--	.020
07-20-88	17	.30	.052	.48	193	189	.26	1,400	--	--	<.010
08-12-88	15	.20	<.010	.57	193	175	.26	281	.100	--	.040
09-21-88	15	--	.034	2.6	204	199	.28	876	.690	--	.060
10-19-88	22	.20	.075	4.3	227	225	.31	211	.940	--	.010
11-16-88	40	--	.17	4.1	276	286	.38	1,920	1.69	--	.010
11-22-88	10	.20	.030	4.8	161	157	.22	20,400	1.17	--	.030
12-21-88	12	.20	.033	5.8	206	207	.28	812	1.58	--	.020
01-09-89	10	.10	.036	5.7	185	176	.25	11,500	1.49	--	.010
01-14-89	10	.10	.033	6.2	185	195	.25	15,900	1.49	--	.010
01-19-89	5.9	.10	.016	6.4	158	149	.21	7,250	1.19	--	.010
02-15-89	4.8	.10	<.010	4.6	115	153	.16	28,700	1.48	--	.020
02-17-89	4.9	.10	.010	4.5	109	120	.15	31,800	1.18	--	.020
02-24-89	6.4	.10	.033	5.3	97	95	.13	15,600	--	--	<.010
03-22-89	6.6	--	<.010	5.4	165	164	.22	12,500	1.08	--	.020
04-19-89	6.3	.10	.020	5.3	161	157	.22	3,340	--	--	<.010
05-12-89	3.5	.10	<.010	5.9	143	145	.19	11,900	.470	--	.020
05-17-89	4.8	--	.010	6.3	130	134	.18	2,870	--	--	<.010
05-25-89	6.0	.10	.020	6.4	165	169	.22	12,600	.690	--	.010
06-21-89	1.9	--	.010	6.5	117	108	.16	8,020	.460	--	.010
07-12-89	7.4	.10	.020	6.0	168	162	.23	2,750	.740	--	.020
08-23-89	9.2	.20	.020	4.4	197	189	.27	1,730	.490	--	.010
09-20-89	13	--	.060	5.7	182	217	.25	4,510	.430	--	.010
10-20-89	4.1	.10	.020	5.6	100	93	.14	14,100	--	--	<.010
10-25-89	3.9	.10	.030	7.3	138	138	.19	4,690	--	--	<.010
11-15-89	5.9	--	.020	6.4	179	175	.24	2,870	--	--	<.010
12-20-89	9.3	.10	.040	6.3	195	195	.27	1,020	--	--	<.010
01-24-90	6.9	.10	--	6.1	193	182	.26	6,570	1.49	--	.010
02-14-90	3.6	.10	<.010	6.4	127	107	.17	10,300	--	--	<.010
03-28-90	5.6	--	<.010	5.6	174	156	.24	2,850	--	--	<.010
04-18-90	10	.10	.030	5.2	192	190	.26	3,540	.280	--	.020
06-20-90	7.0	.50	.010	5.9	158	159	.21	1,770	.780	--	.020
08-22-90	14	.30	.030	2.2	232	232	.32	752	.370	--	.030
10-15-90	6.7	<.10	.010	5.6	226	227	.31	1,920	.870	0.030	.030
12-20-90	5.3	<.10	.010	5.6	143	145	.19	29,300	1.19	.020	.010
02-13-91	5.7	.10	.020	6.2	169	173	.23	5,200	--	.020	<.010
04-24-91	2.7	<.10	.010	5.8	151	143	.21	3,150	--	.020	<.010
06-19-91	9.1	.20	.020	5.2	190	206	.26	3,880	1.37	.040	.030
08-28-91	12	.30	.030	3.2	198	206	.27	307	.480	.040	.040

Table 7. Fixed-station water-quality data--Continued

DATE	NITROGEN, AMMONIA, TOTAL (MG/L AS N) (00610)	NITROGEN, AMMONIA, DISSOLVED (MG/L AS N) (00608)	NITROGEN, NO2+NO3, TOTAL (MG/L AS N) (00630)	NITROGEN, NO2+NO3, DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA + ORGANIC, TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS, DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS, ORTHO TOTAL (MG/L AS P) (70507)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	PHOSPHORUS, SEDIMENT, SUSP. (PERCENT) (30292)	ALUMINUM, TOTAL RECOVERABLE (UG/L AS AL) (01105)
Kentucky River at Lock 2, at Lockport, Kentucky (03290500)--Continued											
04-24-87	0.030	<0.010	--	0.500	2.1	0.050	0.030	--	0.020	--	1,200
05-20-87	--	.100	--	.300	.20	.080	--	--	.030	--	100
06-16-87	.030	.020	--	.440	.50	.130	.070	--	.040	--	210
07-22-87	--	<.010	--	.370	.90	.130	--	--	.050	--	430
08-19-87	--	.050	--	.350	.80	.140	--	--	.060	0.27	210
09-18-87	--	.090	--	.250	1.0	.050	--	--	.050	.30	220
10-15-87	.020	.010	--	.640	.60	.100	.070	--	.060	.38	--
11-18-87	--	.050	--	1.10	.50	.380	--	--	.170	.38	--
12-16-87	.020	.040	--	1.50	.50	.280	.240	--	.200	.14	--
12-29-87	--	.050	--	1.80	.80	.180	--	--	.040	.17	5,000
01-13-88	--	.090	--	2.20	.50	.160	--	--	.060	.47	--
02-02-88	--	.180	--	1.50	.50	.210	--	--	.250	.19	6,600
02-18-88	.070	.030	--	2.20	.30	.170	.120	--	.090	.22	--
03-24-88	--	<.010	--	1.60	.20	.100	--	--	.070	.24	--
04-08-88	--	.020	--	1.40	.40	.210	--	--	.070	.27	--
04-20-88	.030	.030	--	.940	.40	.080	.050	--	.050	.18	--
05-18-88	--	.030	--	.310	<.20	.060	--	--	.040	.29	--
06-20-88	.080	.100	--	.100	.50	.050	.040	--	.020	.31	--
07-20-88	--	.060	--	.120	.60	.180	--	--	.070	.26	--
08-12-88	.050	.030	--	.140	.50	.050	.030	--	.020	--	--
09-21-88	--	.080	--	.750	.60	.130	--	--	.060	.28	--
10-19-88	.030	.020	--	.950	.50	.160	.120	--	.100	--	--
11-16-88	--	.020	--	1.70	.60	.240	--	--	.200	.25	--
11-22-88	--	.040	--	1.20	2.1	.620	--	--	.050	.20	7,700
12-21-88	.050	.050	--	1.60	.30	.120	.100	--	.080	--	--
01-09-89	--	.030	--	1.50	1.3	.170	--	--	.110	.26	3,400
01-14-89	--	.030	--	1.50	.50	.250	--	--	.070	.21	1,500
01-19-89	--	.030	--	1.20	.40	.070	--	--	.050	.11	--
02-15-89	--	.050	--	1.50	1.1	1.00	--	--	.150	.27	8,200
02-17-89	--	.050	--	1.20	.60	.820	--	--	.320	.24	6,400
02-24-89	.060	.030	--	.630	1.1	.390	.020	--	.020	.10	--
03-22-89	--	.040	--	1.10	.70	.440	--	--	.110	.28	--
04-19-89	.010	.010	--	.850	.30	.110	.070	--	.060	.18	--
05-12-89	--	.020	--	.490	.30	.470	--	--	.050	.15	5,400
05-17-89	--	.020	--	.480	<.20	.090	--	--	.040	.13	--
05-25-89	--	.030	--	.700	1.0	.090	--	--	.050	.19	2,700
06-21-89	.210	.090	--	.470	1.2	.030	.020	--	.010	.10	--
07-12-89	.030	.020	--	.760	.50	.120	.070	--	.040	.14	--
08-23-89	.100	.090	--	.500	.60	.160	.090	--	.080	.22	--
09-20-89	--	.020	--	.440	.30	.060	--	--	.030	.13	--
10-20-89	--	.020	--	.320	1.5	.200	--	--	.010	.11	12,000
10-25-89	.040	.020	--	.530	.60	.170	.020	--	.030	.10	--
11-15-89	--	.020	--	.500	.30	.110	--	--	.050	.15	--
12-20-89	.040	.030	--	.670	<.20	.140	.040	--	.050	.24	--
01-24-90	--	.040	--	1.50	.50	.220	--	--	.130	.27	--
02-14-90	.020	.020	--	.630	1.0	.170	.040	--	.030	.11	--
03-28-90	--	.010	--	.600	.20	.050	--	--	.040	.15	--
04-18-90	<.010	.010	--	.300	.30	.050	.030	--	.020	--	--
06-20-90	.050	.030	--	.800	3.0	.250	.080	--	.090	--	--
08-22-90	.070	.040	--	.400	1.2	.070	.020	--	.030	--	--
10-15-90	.050	--	0.900	.900	.60	.210	.120	0.140	.130	--	--
12-20-90	.070	.100	1.10	1.20	.50	.890	.080	.120	.070	--	--
02-13-91	.030	.020	1.10	1.10	.40	.160	.060	.070	.060	--	--
04-24-91	.030	.020	.570	.550	.50	.120	.050	.060	.030	--	--
06-19-91	.040	.040	1.40	1.40	.50	.240	.180	.150	.110	--	--
08-28-91	.040	.060	.550	.520	.60	.090	.060	.020	.020	--	--

Table 7. Fixed-station water-quality data--Continued

DATE	ALUMINUM, DISSOLVED (UG/L AS AL) (01106)	ALUMINUM, SED., SUSP. (PERCENT) (30221)	ANTIMONY, DISSOLVED (UG/L AS SB) (01095)	ANTIMONY, SED., SUSP. (UG/G) (29816)	ARSENIC, DISSOLVED (UG/L AS AS) (01000)	ARSENIC, SED., SUSP. (UG/G) (29818)	BARIUM, TOTAL RECOVERABLE (UG/L AS BA) (01007)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, TOTAL RECOVERABLE (UG/L AS BE) (01012)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BERYLLIUM, SED., SUSP. (UG/G) (29822)
Kentucky River at Lock 2, at Lockport, Kentucky (03290500)--Continued											
04-24-87	30	--	<1	--	<1	--	100	25	<10	<0.5	--
05-20-87	30	--	--	--	<1	--	<100	40	<10	<.5	--
06-16-87	<10	--	<1	--	<1	--	<100	47	<10	<.5	--
07-22-87	--	--	<1	--	1	--	200	50	<10	<.5	--
08-19-87	--	7.38	--	0.70	2	11.7	<100	56	<10	<.5	3
09-18-87	10	8.15	<1	.79	<1	17.3	<100	54	<10	<.5	3
10-15-87	<10	6.95	<1	.68	1	13.6	--	49	--	<.5	3
11-18-87	<10	7.60	--	.70	1	9.6	--	45	--	<.5	3
12-16-87	<10	11.70	--	.90	1	11.6	--	40	--	<.5	4
12-29-87	40	9.08	<1	.70	<1	14.8	200	56	<10	<.5	3
01-13-88	20	6.72	<1	2.60	1	7.8	--	35	--	<.5	2
02-02-88	900	8.44	<1	1.40	1	10.3	100	44	<10	<.5	3
02-18-88	40	9.45	--	1.90	<1	15.1	--	30	--	<.5	3
03-24-88	10	9.01	--	1.30	5	14.5	--	40	--	<.5	3
04-08-88	<10	7.43	<1	.50	<1	9.4	<100	33	<10	<.5	3
04-20-88	20	10.10	1	.90	<1	11.5	--	34	--	<.5	4
05-18-88	10	8.04	--	1.00	1	11.2	--	43	--	<.5	3
06-20-88	10	7.84	--	.70	1	10.2	--	38	--	<.5	3
07-20-88	30	7.29	<1	.70	2	12.1	--	45	--	<.5	2
08-12-88	30	--	--	--	1	--	--	39	--	<.5	--
09-21-88	<10	7.71	--	.60	1	11.2	--	39	--	<.5	3
10-19-88	<10	--	<1	--	1	--	--	41	--	<.5	--
11-16-88	<10	5.74	--	1.30	1	11.7	--	47	--	<.5	<3
11-22-88	50	8.42	<1	.70	1	12.4	200	33	<10	<.5	3
12-21-88	10	--	--	--	1	--	--	34	--	<.5	--
01-09-89	40	7.89	<1	.50	<1	9.4	<100	23	10	<.5	3
01-14-89	50	7.43	<1	.50	<1	10.9	<100	26	<10	<.5	3
01-19-89	80	10.30	<1	.50	<1	11.9	--	22	--	<.5	4
02-15-89	70	6.84	<1	.50	<1	10.1	<100	15	<10	<.5	2
02-17-89	80	7.80	<1	.60	<1	11.9	100	17	<10	<.5	3
02-24-89	100	9.61	--	.60	<1	10.9	--	18	--	<.5	3
03-22-89	80	8.32	--	.50	<1	8.7	--	21	--	<.5	3
04-19-89	30	8.74	<1	6.80	<1	9.8	--	22	--	<.5	3
05-12-89	50	9.24	<1	.90	<1	9.9	<100	21	<10	<.5	3
05-17-89	20	10.00	--	.70	<1	12.3	--	22	--	<.5	4
05-25-89	30	8.03	<1	.40	<1	10.8	<100	27	<10	<.5	3
06-21-89	50	10.70	--	.50	<1	9.6	--	23	--	<.5	4
07-12-89	20	10.70	<1	.70	<1	10.3	--	30	--	<.5	4
08-23-89	20	8.63	--	.60	<1	15.0	--	32	--	<.5	3
09-20-89	20	10.00	--	.70	<1	10.3	--	45	--	<.5	3
10-20-89	110	9.16	<1	.50	<1	9.7	<100	22	<10	<.5	3
10-25-89	50	10.60	<1	2.50	<1	9.3	--	28	--	<.5	4
11-15-89	20	10.40	--	3.00	<1	12.5	--	29	--	<.5	4
12-20-89	10	8.69	--	42.30	<1	15.6	--	29	--	<.5	3
01-24-90	20	8.35	<1	.70	<1	9.0	--	21	--	<.5	3
02-14-90	40	10.10	--	1.10	<1	11.4	--	17	--	<.5	4
03-28-90	10	12.00	--	.70	<1	11.0	--	22	--	<.5	4
04-18-90	10	--	<1	--	<1	--	--	29	--	<.5	--
06-20-90	40	--	<1	--	<1	--	--	25	--	.5	--
08-22-90	<10	--	<1	--	<1	--	--	41	--	<.5	--
10-15-90	10	--	<1	--	<1	--	--	30	--	<.5	--
12-20-90	80	--	<1	--	1	--	--	22	--	<.5	--
02-13-91	20	--	<1	--	<1	--	--	20	--	<.5	--
04-24-91	20	--	<1	--	<1	--	--	21	--	<.5	--
06-19-91	20	--	<1	--	<1	--	--	26	--	<.5	--
08-28-91	30	--	<1	--	<1	--	--	35	--	<.5	--

Table 7. Fixed-station water-quality data--Continued

Kentucky River at Lock 2, at Lockport, Kentucky (03290500)--Continued

DATE	BORON, TOTAL RECOV-ERABLE (UG/L AS B) (01022)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM, TOTAL RECOV-ERABLE (UG/L AS CD) (01027)	CADMIUM, DIS-SOLVED (UG/L AS CD) (01025)	CADMIUM, SED., SUSP. (UG/G) (29826)	CHRO-MIUM, TOTAL RECOV-ERABLE (UG/L AS CR) (01034)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	CHRO-MIUM, SED., SUSP. (UG/G) (29829)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COBALT, SEDI-MENT, SUSP. (UG/G) (35031)	COPPER, TOTAL RECOV-ERABLE (UG/L AS CU) (01042)
04-24-87	10	--	<2	0.4	--	12	<1.0	--	<3	--	<10
05-20-87	--	30	<1	.7	--	8	<.5	--	<3	--	<10
06-16-87	20	20	1	.3	--	<1	<1.0	--	<3	--	<10
07-22-87	10	--	<1	1.4	--	<1	<.5	--	<3	--	10
08-19-87	60	--	1	.2	1.0	2	<.5	75	<3	21	20
09-18-87	70	50	1	.6	.5	9	<.5	79	<3	24	20
10-15-87	--	--	--	2.0	1.8	--	<1.0	67	<3	19	--
11-18-87	--	60	--	.1	.6	--	<.5	73	<3	24	--
12-16-87	--	70	--	.4	.9	--	<.5	110	<3	24	--
12-29-87	70	60	<1	<.1	.4	9	<.5	93	<3	23	20
01-13-88	--	30	--	.2	.7	--	<.5	72	<3	19	--
02-02-88	30	20	1	.3	3.7	10	1.7	88	<3	20	30
02-18-88	--	30	--	.3	2.1	--	<.5	102	<3	22	--
03-24-88	--	30	--	.4	1.4	--	<.5	93	<3	24	--
04-08-88	20	20	1	.9	.4	<1	<.5	72	<3	19	10
04-20-88	--	20	--	.2	1.5	--	<.5	99	<3	23	--
05-18-88	--	20	--	.1	.7	--	<.5	129	<3	22	--
06-20-88	--	20	--	1.1	.5	--	<5.0	129	<3	26	--
07-20-88	--	30	--	.5	.7	--	<.5	116	<3	19	--
08-12-88	--	40	--	.6	--	--	<.5	--	<3	--	--
09-21-88	--	40	--	1.4	.6	--	<.5	78	<3	23	--
10-19-88	--	30	--	.1	--	--	.7	--	<3	--	--
11-16-88	--	50	--	.3	1.9	--	<.5	61	<3	18	--
11-22-88	40	20	<1	.3	<.1	10	<.5	77	<3	22	20
12-21-88	--	20	--	.1	--	--	<.5	--	<3	--	--
01-09-89	20	20	<1	.1	.9	7	<.5	74	<3	17	10
01-14-89	30	20	1	<.1	.5	5	<.5	73	<3	18	10
01-19-89	--	20	--	<.1	.5	--	<.5	92	<3	24	--
02-15-89	40	20	<1	.1	.3	13	1.5	66	<3	17	20
02-17-89	40	10	<1	.2	.9	8	<.5	74	<3	18	20
02-24-89	--	<10	--	.1	.6	--	<.5	97	<3	23	--
03-22-89	--	10	--	.1	1.1	--	<.5	80	<3	20	--
04-19-89	--	20	--	<.1	2.2	--	.8	85	<3	22	--
05-12-89	90	<10	<1	<.1	.8	8	<.5	127	<3	21	10
05-17-89	--	20	--	.4	1.2	--	<.5	142	<3	23	--
05-25-89	30	<10	<1	.2	1.1	5	1.5	115	<3	20	<10
06-21-89	--	20	--	.8	.4	--	<.5	147	<3	23	--
07-12-89	--	30	--	.4	.8	--	<.5	94	<3	23	--
08-23-89	--	40	--	7.9	1.0	--	<.5	78	<3	22	--
09-20-89	--	20	--	.6	.8	--	<.5	91	<3	23	--
10-20-89	50	10	<1	.1	.3	15	<.5	82	<3	21	20
10-25-89	--	--	--	.1	.3	--	<.5	91	<3	24	--
11-15-89	--	20	--	.1	.7	--	<.5	95	<3	23	--
12-20-89	--	--	--	1.1	4.2	--	<.5	112	<3	28	--
01-24-90	--	20	--	.4	.7	--	<.5	75	<3	20	--
02-14-90	--	10	--	.5	.4	--	<1.0	89	<3	25	--
03-28-90	--	20	--	.1	.5	--	<.5	101	<3	25	--
04-18-90	--	20	--	<.1	--	--	<.5	--	<3	--	--
06-20-90	--	30	--	.1	--	--	.6	--	<3	--	--
08-22-90	--	30	--	.6	--	--	<.5	--	<3	--	--
10-15-90	--	30	--	.2	--	--	1.0	--	<3	--	--
12-20-90	--	10	--	.2	--	--	<.5	--	<3	--	--
02-13-91	--	20	--	.3	--	--	<.5	--	<3	--	--
04-24-91	--	10	--	.1	--	--	<.5	--	<3	--	--
06-19-91	--	30	--	.1	--	--	<.5	--	<3	--	--
08-28-91	--	30	--	.5	--	--	<.5	--	<3	--	--

Table 7. Fixed-station water-quality data--Continued

DATE	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	COPPER, SED., SUSP. (UG/G) (29832)	IRON, TOTAL RECOV-ERABLE (UG/L AS FE) (01045)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	IRON, SEDI-MENT, SUSP. (PERCENT) (30269)	LEAD, TOTAL RECOV-ERABLE (UG/L AS PB) (01051)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LEAD, SED., SUSP. (UG/G) (29836)	LITHIUM, DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, TOTAL RECOV-ERABLE (UG/L AS MN) (01055)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)
Kentucky River at Lock 2, at Lockport, Kentucky (03290500)--Continued											
04-24-87	0.7	--	2,600	28	--	<10	0.6	--	14	130	3
05-20-87	1.3	--	170	7	--	<5	<.5	--	10	40	<1
06-16-87	2.0	--	450	5	--	6	<.5	--	10	50	2
07-22-87	2.2	--	500	4	--	7	.8	--	12	50	<1
08-19-87	2.9	31	330	<3	4.06	<5	7.5	20.9	<4	50	2
09-18-87	2.7	36	310	6	4.60	6	<.5	26.7	<4	80	2
10-15-87	1.0	27	--	16	3.78	--	<5.0	21.6	<4	--	1
11-18-87	1.3	29	--	5	4.26	--	<.5	59.4	5	--	10
12-16-87	2.4	41	--	5	5.05	--	<.5	55.0	9	--	8
12-29-87	1.0	34	11,000	70	4.68	17	1.0	28.5	4	590	9
01-13-88	1.2	31	--	46	3.79	--	<.5	134.0	<4	--	13
02-02-88	6.9	39	11,000	1,500	4.32	11	5.8	49.6	7	560	300
02-18-88	1.3	45	--	50	5.05	--	<.5	68.9	<4	--	38
03-24-88	1.5	35	--	7	4.82	--	.9	27.0	6	--	36
04-08-88	3.0	27	1,600	5	4.18	5	<.5	21.7	<4	140	3
04-20-88	1.0	61	--	13	4.89	--	<.5	46.0	7	--	13
05-18-88	1.4	33	--	4	4.33	--	<.5	40.6	4	--	<1
06-20-88	1.5	47	--	9	4.38	--	<.5	34.8	8	--	8
07-20-88	1.2	32	--	3	4.04	--	<.5	40.1	7	--	15
08-12-88	3.2	--	--	5	--	--	<.5	--	6	--	2
09-21-88	2.2	27	--	<3	4.30	--	<.5	28.1	6	--	5
10-19-88	1.7	--	--	8	--	--	<.5	--	13	--	30
11-16-88	<.5	22	--	9	3.24	--	<.5	43.7	11	--	14
11-22-88	3.4	29	13,000	85	4.55	8	<.5	40.2	5	960	30
12-21-88	1.6	--	--	9	--	--	<.5	--	8	--	49
01-09-89	.9	29	5,900	73	4.02	11	<.5	32.6	5	340	4
01-14-89	1.0	25	2,600	63	3.94	<5	<.5	30.3	<4	160	14
01-19-89	1.5	31	--	100	4.60	--	<.5	33.1	<4	--	4
02-15-89	.8	22	14,000	100	3.75	18	<.5	33.0	4	980	20
02-17-89	1.3	30	10,000	110	4.27	26	<.5	37.8	<4	590	20
02-24-89	1.2	31	--	160	4.47	--	<.5	28.4	<4	--	15
03-22-89	3.2	35	--	100	4.23	--	<.5	40.3	5	--	8
04-19-89	.8	57	--	26	4.38	--	.8	243.0	5	--	22
05-12-89	2.5	36	10,000	57	4.45	18	<.5	69.0	<4	490	3
05-17-89	.9	37	--	24	4.75	--	<.5	40.7	4	--	8
05-25-89	1.4	29	5,100	24	4.04	14	.7	30.3	6	270	2
06-21-89	1.7	35	--	97	4.76	--	<.5	31.1	<4	--	5
07-12-89	1.1	38	--	34	4.91	--	<.5	35.3	4	--	6
08-23-89	3.7	36	--	13	4.36	--	<.5	38.6	4	--	5
09-20-89	1.8	109	--	22	4.62	--	<.5	56.6	6	--	4
10-20-89	1.5	26	33,000	240	4.27	23	<.5	24.9	5	1,000	40
10-25-89	.8	33	--	34	4.75	--	<.5	130.0	<4	--	3
11-15-89	.6	38	--	36	5.46	--	<.5	156.0	5	--	6
12-20-89	3.4	65	--	<3	5.97	--	<.5	2,610.0	5	--	64
01-24-90	1.8	24	--	13	4.45	--	<.5	46.3	<4	--	2
02-14-90	.5	31	--	53	4.75	--	<.5	40.1	<4	--	2
03-28-90	1.3	40	--	14	5.35	--	<.5	40.8	<4	--	11
04-18-90	1.1	--	--	6	--	--	<.5	--	5	--	3
06-20-90	1.4	--	--	3	--	--	<.5	--	4	--	9
08-22-90	1.8	--	--	5	--	--	<.5	--	6	--	2
10-15-90	4.3	--	--	8	--	--	<.5	--	8	--	8
12-20-90	5.1	--	--	93	--	--	<.5	--	4	--	25
02-13-91	.9	--	--	27	--	--	<.5	--	5	--	16
04-24-91	1.7	--	--	6	--	--	<.5	--	4	--	7
06-19-91	2.5	--	--	7	--	--	<.5	--	5	--	<1
08-28-91	1.8	--	--	5	--	--	<.5	--	5	--	<1

Table 7. Fixed-station water-quality data--Continued

DATE	MANGANESE, SED., SUSP. (UG/G) (29839)	MERCURY, TOTAL RECOVERABLE (UG/L AS HG) (71900)	MERCURY, DISSOLVED (UG/L AS HG) (71890)	MOLYBDENUM, TOTAL RECOVERABLE (UG/L AS MO) (01062)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	MOLYBDENUM, SED., SUSP. (UG/G) (29843)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	NICKEL, SED., SUSP. (UG/G) (29845)	SELENIUM, DISSOLVED (UG/L AS SE) (01145)	SILVER, TOTAL RECOVERABLE (UG/L AS AG) (01077)	SILVER, DISSOLVED (UG/L AS AG) (01075)
				Kentucky River at Lock 2, at Lockport, Kentucky (03290500)--Continued							
04-24-87	--	0.20	<0.1	<1	<10	--	<1	--	<1	<2	<1.0
05-20-87	--	<.10	<.1	3	<10	--	<10	--	--	<1	<1.0
06-16-87	--	<.10	<.1	1	<10	--	<1	--	<1	<1	<1.0
07-22-87	--	<.10	<.1	<2	<10	--	--	--	<1	<1	--
08-19-87	3,860	.10	<.1	1	<10	1.6	<10	41	--	<1	<1.0
09-18-87	7,640	<.10	.2	3	<10	2.2	<10	45	<1	<1	6.0
10-15-87	3,580	--	<.1	--	<10	2.5	<1	37	<1	--	1.0
11-18-87	6,120	--	<.1	--	<10	3.0	<10	42	--	--	<1.0
12-16-87	1,770	--	<.1	--	<10	1.5	<10	57	<1	--	<1.0
12-29-87	2,000	<.10	<.1	6	<10	2.7	<10	51	<1	<1	<1.0
01-13-88	4,460	--	.2	--	<10	2.9	<10	39	<1	--	<1.0
02-02-88	1,410	--	.6	3	<10	1.1	<10	41	<1	<1	<1.0
02-18-88	2,360	--	<.1	--	<10	1.9	<10	51	--	--	<1.0
03-24-88	4,490	--	.2	--	<10	2.5	<10	56	--	--	<1.0
04-08-88	2,020	<.10	.1	2	<10	1.2	<10	36	1	1	<1.0
04-20-88	2,140	--	.1	--	<10	1.5	<1	55	<1	--	<1.0
05-18-88	3,260	--	<.1	--	<10	1.9	<10	62	--	--	<1.0
06-20-88	5,820	--	.1	--	<10	2.4	<10	57	<1	--	<1.0
07-20-88	2,800	--	.1	--	<10	1.9	<10	40	<1	--	<1.0
08-12-88	--	--	.3	--	<10	--	20	--	--	--	<1.0
09-21-88	4,740	--	<.1	--	<10	1.8	<10	42	--	--	<1.0
10-19-88	--	--	.5	--	<10	--	2	--	<1	--	<1.0
11-16-88	3,360	--	<.1	--	<10	3.1	<10	38	--	--	<1.0
11-22-88	1,810	<.10	<.1	<1	<10	3.2	<10	41	<1	<1	1.0
12-21-88	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0
01-09-89	1,680	<.10	<.1	5	<10	1.1	<10	40	<1	1	<1.0
01-14-89	1,880	<.10	.2	4	<10	2.1	<10	87	<1	<1	2.0
01-19-89	1,840	--	<.1	--	<10	1.3	<10	50	<1	--	<1.0
02-15-89	1,630	<.10	--	4	<10	1.2	<10	34	<1	<1	<1.0
02-17-89	1,570	.20	<.1	3	<10	1.7	<10	39	<1	<1	<1.0
02-24-89	1,270	--	<.1	--	<10	1.8	<10	52	--	--	<1.0
03-22-89	1,610	--	.1	--	<10	1.2	<10	40	--	--	1.0
04-19-89	2,190	--	<.1	--	<10	1.6	6	49	<1	--	<1.0
05-12-89	1,540	.20	.2	3	<10	1.0	<10	44	<1	<1	1.0
05-17-89	1,570	--	.1	--	<10	1.5	<10	52	--	--	2.0
05-25-89	1,790	.30	.2	6	<10	1.2	<10	39	<1	<1	<1.0
06-21-89	1,310	--	.5	--	<10	1.0	<10	47	<1	--	<1.0
07-12-89	1,600	--	.2	--	<10	1.3	<1	49	<1	--	<1.0
08-23-89	2,630	--	.2	--	<10	1.3	<10	45	--	--	<1.0
09-20-89	1,750	--	.1	--	<10	1.9	<10	84	--	--	<1.0
10-20-89	1,370	.10	.2	<1	<10	1.0	<10	44	<1	<1	<1.0
10-25-89	1,540	--	.3	--	<10	4.5	2	47	<1	--	<1.0
11-15-89	2,030	--	.1	--	<10	9.0	<10	54	--	--	<1.0
12-20-89	5,390	--	.1	--	<10	9.3	1	58	<1	--	<1.0
01-24-90	1,890	--	.1	--	<10	1.0	<10	35	<1	--	<1.0
02-14-90	1,490	--	<.1	--	<10	1.2	<1	47	--	--	<1.0
03-28-90	1,690	--	<.1	--	<10	1.3	<10	58	--	--	<1.0
04-18-90	--	--	<.1	--	<10	--	1	--	<1	--	<1.0
06-20-90	--	--	.2	--	<10	--	1	--	<1	--	<1.0
08-22-90	--	--	.2	--	<10	--	<10	--	<1	--	<1.0
10-15-90	--	--	--	--	<10	--	1	--	<1	--	<1.0
12-20-90	--	--	.2	--	<10	--	3	--	<3	--	<1.0
02-13-91	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0
04-24-91	--	--	<.1	--	<10	--	<1	--	<1	--	<1.0
06-19-91	--	--	<.1	--	<10	--	2	--	<1	--	<1.0
08-28-91	--	--	<.1	--	<10	--	<10	--	<1	--	<1.0

Table 7. Fixed-station water-quality data--Continued

DATE	SILVER, SED., SUSP. (UG/G) (29850)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	VANA-DIUM, SED., SUSP. (UG/G) (29853)	ZINC, TOTAL RECOV-ERABLE (UG/L AS ZN) (01092)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	ZINC, SED., SUSP. (UG/G) (29855)	TITA-NIUM, SEDI-MENT, SUSP. (PERCENT) (30317)	THAL-LIUM, SED., SUSP. (UG/G)	GROSS ALPHA, DIS-SOLVED (UG/L AS U-NAT) (80030)	GROSS ALPHA, SUSP., TOTAL (UG/L AS U-NAT) (80040)
					Kentucky River at Lock 2, at Lockport, Kentucky (03290500)--Continued						
04-24-87	--	130	<6	--	20	5	--	--	--	<0.4	0.5
05-20-87	--	230	<6	--	<10	13	--	--	--	--	--
06-16-87	--	260	<6	--	<10	<3	--	--	--	--	--
07-22-87	--	310	<6	--	10	7	--	--	--	.6	.6
08-19-87	0.2	400	<6	106	10	11	125	0.43	0.50	--	--
09-18-87	.2	360	<6	120	10	7	137	.45	.70	--	--
10-15-87	.1	310	<6	100	--	6	132	.39	.50	.6	<.4
11-18-87	.3	290	<6	105	--	16	149	.41	.50	--	--
12-16-87	.3	250	<6	156	--	8	201	.53	.80	--	--
12-29-87	.2	320	<6	135	50	4	148	.52	.70	.5	17
01-13-88	.3	200	<6	92	--	13	191	.38	.50	<.4	<.4
02-02-88	.2	100	<6	112	50	5	213	.54	.70	<.4	16
02-18-88	.3	200	<6	131	--	5	207	.48	.90	--	--
03-24-88	.3	200	<6	139	--	3	177	.46	.70	--	--
04-08-88	10.3	220	<6	99	20	<3	128	.48	.50	<.4	1.9
04-20-88	4.2	140	<6	139	--	34	196	.52	.90	.4	.9
05-18-88	25.7	260	<6	116	--	<3	167	.45	.90	--	--
06-20-88	.2	260	<6	121	--	12	206	.47	.80	--	--
07-20-88	.1	230	<6	103	--	<3	125	.50	.90	1.0	.9
08-12-88	--	180	<6	--	--	<3	--	--	--	--	--
09-21-88	.3	200	<6	107	--	4	131	.47	.70	--	--
10-19-88	--	300	<6	--	--	7	--	--	--	<.4	<.4
11-16-88	.3	430	<6	78	--	55	116	.37	.60	--	--
11-22-88	.1	150	<6	130	60	11	136	.52	1.1	<.4	17
12-21-88	--	180	<6	--	--	<3	--	--	--	--	--
01-09-89	.2	140	<6	104	30	8	117	.51	.80	<.6	11
01-14-89	.2	170	<6	108	20	3	145	.47	.80	<.6	3.1
01-19-89	.2	110	<6	135	--	9	158	.52	.90	<.6	7.2
02-15-89	.3	86	<6	91	70	<3	103	.48	.70	<.6	8.6
02-17-89	.2	71	<6	112	50	37	130	.51	.80	<.6	41
02-24-89	.3	91	<6	133	--	<3	141	.55	.90	--	--
03-22-89	.5	120	<6	108	--	7	144	.49	.80	--	--
04-19-89	.5	130	<6	119	--	5	227	.49	.90	<.6	.7
05-12-89	.1	130	<6	118	40	13	141	.52	1.1	<.6	30
05-17-89	.1	130	<6	134	--	<3	166	.50	.90	--	--
05-25-89	.2	180	<6	105	30	6	128	.47	.80	<.6	7.8
06-21-89	.1	100	<6	136	--	<3	148	.56	.90	--	--
07-12-89	.6	180	<6	138	--	3	236	.56	1.0	<.6	2.8
08-23-89	.5	200	<6	115	--	10	265	.48	.80	--	--
09-20-89	.2	320	<6	144	--	5	259	.50	.90	--	--
10-20-89	.2	95	<6	122	90	7	132	.48	.80	<.6	22
10-25-89	.2	130	<6	136	--	<3	150	.52	3.8	<.6	4.6
11-15-89	.3	160	<6	146	--	6	170	.49	3.8	--	--
12-20-89	.5	210	<6	122	--	5	335	.43	3.1	--	--
01-24-90	.3	140	<6	110	--	<3	133	.51	.60	<.6	2.8
02-14-90	.1	92	<6	125	--	3	140	.50	.80	--	--
03-28-90	.1	140	<6	147	--	4	333	.54	.90	--	--
04-18-90	--	230	<6	--	--	6	--	--	--	.6	<.6
06-20-90	--	130	<6	--	--	<3	--	--	--	<.6	2.4
08-22-90	--	260	<6	--	--	10	--	--	--	<.6	<.6
10-15-90	--	180	<6	--	--	17	--	--	--	1.3	<.6
12-20-90	--	94	<6	--	--	12	--	--	--	<.6	24
02-13-91	--	120	<6	--	--	10	--	--	--	.8	2.8
04-24-91	--	140	<6	--	--	<3	--	--	--	<.6	1.2
06-19-91	--	170	<6	--	--	4	--	--	--	<.6	.7
08-28-91	--	190	<6	--	--	<3	--	--	--	1.3	<.6

Table 7. Fixed-station water-quality data--Continued

DATE	GROSS BETA, DIS-SOLVED (PCI/L AS CS-137) (03515)	GROSS BETA, SUSP., TOTAL (PCI/L AS CS-137) (03516)	GROSS BETA, DIS-SOLVED (PCI/L AS SR/YT-90) (80050)	GROSS BETA, SUSP., TOTAL (PCI/L AS SR/YT-90) (80060)	CARBON, ORGANIC, DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC, SUS-PENDED, TOTAL (MG/L AS C) (00689)	CYANIDE, DIS-SOLVED (MG/L AS CN) (00723)	SURFACE AREA, SEDI-MENT, SUSP. (M2/G) (30334)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	SEDI-MENT, DIS-CHARGE, SUS-PENDED (T/DAY) (80155)	SED., SUSP., SIEVE DIAM. (% FINER THAN .062 MM) (70331)
					Kentucky River at Lock 2, at Lockport, Kentucky (03290500)--Continued						
04-24-87	1.8	0.7	1.4	0.7	2.4	0.6	<0.01	--	70	1,880	100
05-20-87	--	--	--	--	2.8	.6	--	--	9	43	95
06-16-87	--	--	--	--	2.9	.6	<.01	--	14	37	92
07-22-87	4.7	1.0	3.5	1.0	3.9	1.6	<.01	--	18	49	70
08-19-87	--	--	--	--	3.8	.6	--	15.2	13	14	70
09-18-87	--	--	--	--	4.1	.5	--	20.6	9	12	73
10-15-87	4.6	<.4	3.6	<.4	4.1	.2	<.01	17.8	14	13	65
11-18-87	--	--	--	--	4.3	.5	--	26.5	8	15	60
12-16-87	--	--	--	--	4.5	.5	--	24.6	14	48	52
12-29-87	4.1	9.9	3.1	8.5	6.0	4.7	<.01	23.6	333	20,600	85
01-13-88	4.0	<.4	3.0	<.4	3.2	.7	<.01	21.1	31	146	95
02-02-88	2.2	11	1.7	9.9	6.7	2.0	<.01	19.6	333	23,200	90
02-18-88	--	--	--	--	2.9	--	<.01	23.4	25	359	80
03-24-88	--	--	--	--	2.5	.3	--	25.1	17	128	87
04-08-88	2.5	2.8	1.9	2.6	2.8	.4	<.01	22.4	78	3,980	84
04-20-88	2.0	2.1	1.5	2.1	2.2	.3	--	23.6	31	408	93
05-18-88	--	--	--	--	2.4	.6	--	18.0	9	47	88
06-20-88	--	--	--	--	3.5	5.0	<.01	19.5	10	11	50
07-20-88	7.9	1.5	5.8	1.5	3.3	1.1	<.01	19.0	33	240	82
08-12-88	--	--	--	--	4.3	1.2	--	--	5	7.3	50
09-21-88	--	--	--	--	3.7	.6	--	16.6	12	52	67
10-19-88	5.5	.8	4.0	.8	3.5	.3	<.01	9.04	7	6.5	89
11-16-88	--	--	--	--	2.8	.2	--	11.8	13	90	63
11-22-88	3.8	17	2.9	15	3.1	>2.6	<.01	21.6	--	--	--
12-21-88	--	--	--	--	1.9	.2	--	14.7	5	20	87
01-09-89	2.4	5.8	1.8	5.0	2.6	2.1	<.01	22.0	208	13,000	94
01-14-89	2.7	3.2	2.0	3.0	2.3	.9	<.01	18.7	95	8,180	82
01-19-89	2.1	7.6	1.7	6.6	2.3	2.4	<.01	18.5	202	9,270	91
02-15-89	2.8	6.6	2.1	5.7	3.7	>2.5	<.01	20.4	463	115,000	95
02-17-89	2.8	19	2.3	17	--	--	<.01	19.3	369	108,000	86
02-24-89	--	--	--	--	2.9	>2.5	--	20.0	468	75,100	89
03-22-89	--	--	--	--	5.2	>2.4	--	22.6	160	12,100	86
04-19-89	2.3	1.1	1.8	1.1	4.4	.6	<.01	18.2	18	373	94
05-12-89	2.3	15	1.8	13	6.0	>2.5	<.01	22.4	298	24,900	93
05-17-89	--	--	--	--	2.8	.4	--	23.1	42	926	94
05-25-89	2.8	6.9	2.2	6.1	2.1	>2.5	<.01	22.7	--	--	--
06-21-89	--	--	--	--	3.0	>2.4	--	20.2	595	40,800	96
07-12-89	3.2	3.0	2.4	2.8	2.6	.6	<.01	22.5	56	921	97
08-23-89	--	--	--	--	3.7	.6	--	25.0	18	161	91
09-20-89	--	--	--	--	3.6	>2.5	--	26.9	108	2,680	92
10-20-89	2.9	31	2.3	27	4.6	>2.5	<.01	21.2	818	116,000	78
10-25-89	3.5	8.9	2.8	7.1	3.0	1.2	<.01	20.7	168	5,720	94
11-15-89	--	--	--	--	3.3	.6	--	30.7	26	417	94
12-20-89	--	--	--	--	2.0	.2	--	23.0	3	16	92
01-24-90	2.9	3.9	2.4	3.1	3.3	1.6	<.01	23.8	77	2,620	93
02-14-90	--	--	--	--	2.2	1.3	--	20.7	262	21,200	91
03-28-90	--	--	--	--	2.5	.7	--	25.9	35	573	93
04-18-90	2.4	.8	2.0	.6	1.9	.3	<.01	--	13	240	85
06-20-90	3.6	2.8	2.7	2.6	2.9	.5	<.01	--	55	615	96
08-22-90	5.3	.6	3.8	<.6	4.2	.8	<.01	--	7	23	60
10-15-90	5.0	1.4	3.6	1.4	6.1	.4	<.01	--	31	264	83
12-20-90	3.9	20	3.0	19	4.2	3.4	<.01	--	512	105,000	83
02-13-91	3.0	3.1	2.3	2.5	7.0	.6	<.01	--	56	1720	91
04-24-91	2.3	2.1	1.8	2.0	2.5	.6	<.01	--	36	751	98
06-19-91	4.0	2.0	2.9	1.8	4.0	.7	<.01	--	43	879	92
08-28-91	4.7	<.6	3.5	<.6	10	.8	<.01	--	--	--	--

Table 7. Fixed-station water-quality data--Continued

Kentucky River at Lock 2, at Lockport, Kentucky (03290500)--Continued

DATE	TIME	AME-TRYNE, TOTAL (UG/L) (82184)	ATRA-ZINE, TOTAL (UG/L) (39630)	CYAN-AZINE, TOTAL (UG/L) (81757)	DICAMBA (MED-IBEN) (BAN-VEL D), TOTAL (UG/L) (82052)	PICLO-RAM (TOR-DON) (AMDON), TOTAL (UG/L) (39720)	PROME-TONE, TOTAL (UG/L) (39056)	PROME-TRYNE, TOTAL (UG/L) (39057)	PRO-PAZINE, TOTAL (UG/L) (39024)
10-15-90	1200	<0.10	<0.10	<0.10	<0.01	<0.01	<0.10	<0.10	<0.10
12-20-90	1000	<.10	<.10	<.10	<.01	<.01	<.10	<.10	<.10
02-13-91	0915	<.10	<.10	<.20	<.01	<.01	<.20	<.10	<.10
04-24-91	0930	<.10	<.10	<.20	--	--	<.20	<.10	<.10
06-19-91	0930	<.10	.20	<.20	.02	<.01	<.20	<.10	<.10
08-28-91	0930	<.10	<.10	<.20	<.01	.04	<.20	<.10	<.10

DATE	SILVEX, TOTAL (UG/L) (39760)	SIMA-ZINE, TOTAL (UG/L) (39055)	SIME-TRYNE, TOTAL (UG/L) (39054)	2,4-D, TOTAL (UG/L) (39730)	2,4-DP, TOTAL (UG/L) (82183)	2,4,5-T, TOTAL (UG/L) (39740)	ALA-CHLOR, TOTAL RECOVER (UG/L) (77825)	TRI-FLURA-LIN, TOTAL RECOVER (UG/L) (39030)	BROM-ACIL, WATER, WHLREC (UG/L) (30234)	BUTA-CHLOR, WATER, WHLREC (UG/L) (30235)	BUTYL-ATE, WATER, WHLREC (UG/L) (30236)
10-15-90	<0.01	<0.10	<0.10	0.02	<0.01	<0.01	<0.10	<0.10	--	--	--
12-20-90	<.01	<.10	<.10	.02	<.01	<.01	<.10	<.10	--	--	--
02-13-91	<.01	<.10	<.10	<.01	<.01	<.01	<.20	<.10	<0.20	<0.10	<0.10
04-24-91	--	<.10	<.10	--	--	--	<.20	<.10	<.20	<.10	<.10
06-19-91	<.01	.10	<.10	.06	<.01	<.01	<.20	<.10	<.20	<.10	<.10
08-28-91	<.01	<.10	<.10	<.01	<.01	<.01	<.10	<.10	<.20	<.10	<.10

DATE	CARBOX-IN, WATER, WHOLE, RECOV-ERABLE (UG/L) (30245)	CYCLO-ATE, WATER, WHOLE, RECOV-ERABLE (UG/L) (30254)	DE-ISO PROPYL ATRAZIN, WATER, WHOLE, TOTAL (UG/L) (75980)	DEETHYL ATRA-ZINE, WATER, WHOLE, TOTAL (UG/L) (75981)	DIPHEN-AMID, WATER, WHOLE, RECOV-ERABLE (UG/L) (30255)	HEXAZI-NONE, WATER, WHOLE, RECOV-ERABLE (UG/L) (30264)	METRI-BUZIN, WATER, WHOLE, TOT.REC (UG/L) (82611)	METOLA-CHLOR, WATER, WHOLE, TOT.REC (UG/L) (82612)	PROPA-CHLOR, WATER, WHOLE, RECOV. (UG/L) (30295)	TER-BACIL, WATER, WHOLE, RECOV. (UG/L) (30311)	VER-NOLATE, WATER, WHOLE, RECOV. (UG/L) (30324)
10-15-90	--	--	--	--	--	--	<0.10	<0.10	--	--	--
12-20-90	--	--	--	--	--	--	<.10	<.10	--	--	--
02-13-91	<0.20	<0.10	<0.20	<0.20	<0.10	<0.20	<.10	<.20	<0.10	<0.20	<0.10
04-24-91	<.20	<.10	<.20	<.20	<.10	<.20	<.10	<.20	<.10	<.20	<.10
06-19-91	<.20	<.10	<.20	<.20	<.10	<.20	<.10	<.20	<.10	<.20	<.10
08-28-91	<.20	<.10	<.20	<.20	<.10	<.20	<.10	<.10	<.10	<.20	<.10

Table 8. Paired surface-grab-sample water-quality data

DATE	DIS-CHARGE, INST. (CUBIC FEET PER SECOND) (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH, WATER, WHOLE, FIELD (STAND-ARD UNITS) (00400)	CALCIUM, DIS-SOLVED (MG/L AS CA) (00915)	ALKA-LINITY, WAT WH TOT FET FIELD (MG/L AS CACO3) (00410)	ALKA-LINITY, WAT DIS TOT FET FIELD (MG/L AS CACO3) (00418)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE, DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, AMMONIA, DIS-SOLVED (MG/L AS N) (00608)
North Fork Kentucky River at Jackson, Kentucky (03280000)										
06-15-87	235	670	7.8	66	99	--	11	463	<0.01	0.03
07-20-87	203	460	--	61	--	--	7.1	326	<.01	.01
08-17-87	70	680	7.8	76	103	--	15	540	<.01	.07
09-14-87	426	777	7.9	73	107	--	12	550	<.01	.05
10-13-87	88	730	8.5	71	--	98	14	506	<.01	.03
11-16-87	122	702	8.1	--	--	105	--	--	--	--
01-11-88	308	607	7.6	56	--	89	14	380	<.01	.13
02-03-88	785	480	7.8	47	--	74	11	316	<.01	.13
04-18-88	680	390	7.3	40	--	61	7.0	244	<.01	.02
07-18-88	69	832	7.6	71	--	105	19	574	<.01	.02
10-17-88	73	815	7.9	69	--	121	16	554	<.01	<.01
01-13-89	10,700	262	7.9	25	--	37	4.1	155	<.01	.06
01-17-89	3,170	306	7.4	29	--	38	5.4	188	<.01	.02
03-06-89	21,400	225	6.9	20	--	31	3.7	134	.01	.12
05-10-89	8,110	291	7.5	24	--	36	2.4	156	<.01	<.01
Middle Fork Kentucky River at Tallega, Kentucky (03281000)										
06-16-87	88	245	7.7	22	43	--	11	151	<.01	.04
07-21-87	65	320	--	34	--	--	11	205	<.01	.01
08-18-87	64	325	7.2	30	58	--	7.1	178	<.01	.04
09-15-87	46	281	7.7	27	57	--	8.0	171	<.01	.03
10-14-87	45	288	7.2	31	--	64	7.4	178	<.01	<.01
11-17-87	173	292	7.9	--	--	54	--	--	--	--
01-12-88	156	257	7.5	24	--	34	7.3	148	<.01	.03
04-19-88	218	167	6.7	16	--	27	4.8	97	<.01	.03
07-19-88	49	227	6.7	20	--	39	6.0	142	<.01	.02
10-18-88	36	305	7.4	31	--	53	8.3	184	<.01	.01
01-11-89	1,540	204	7.2	18	--	39	4.1	114	<.01	.10
01-13-89	2,190	133	7.6	11	--	19	2.5	89	<.01	.02
01-18-89	3,130	153	7.3	14	--	19	2.7	98	<.01	.02
03-07-89	1,850	127	6.9	9.2	--	12	1.7	78	.01	.05
05-09-89	4,620	164	7.5	14	--	24	2.0	102	<.01	.03
South Fork Kentucky River at Booneville, Kentucky (03281500)										
06-16-87	88	270	7.8	24	43	--	15	185	<.01	.04
07-21-87	115	275	7.1	29	--	--	12	162	<.01	.03
08-18-87	72	440	7.0	26	56	--	31	305	<.01	.04
09-15-87	131	590	7.9	29	67	--	92	350	<.01	.07
10-14-87	14	740	7.4	47	--	115	100	421	<.01	.05
11-17-87	54	593	7.6	--	--	68	--	--	--	--
01-12-88	235	284	7.0	19	--	33	19	167	.01	.06
04-19-88	712	240	6.9	18	--	30	13	139	.01	.03
07-19-88	49	645	7.2	39	--	56	77	380	<.01	.02
10-18-88	16	332	7.1	25	--	47	17	190	<.01	<.01
01-13-89	12,500	106	6.9	9.0	--	16	15	73	<.01	.04
01-18-89	1,790	170	7.2	12	--	19	3.8	92	<.01	.02
03-07-89	16,500	101	6.7	7.3	--	11	1.7	64	.01	.03
05-10-89	2,740	136	7.6	10	--	17	2.2	80	<.01	<.01
Kentucky River at Lock 4, at Frankfort, Kentucky (03287500)										
06-17-87	755	325	8.1	33	--	--	13	195	.01	.03
07-21-87	1,030	440	8.2	48	73	--	28	298	.01	.04
08-18-87	489	345	8.1	33	82	--	26	204	.02	.07
09-17-87	350	344	7.7	34	82	--	21	200	.01	.06
10-14-87	264	324	8.0	40	--	87	20	196	<.01	.03
12-29-87	17,900	452	7.3	41	--	74	44	277	<.01	.06
01-12-88	1,690	335	7.8	39	--	71	15	224	.02	.06
02-17-88	4,170	390	7.6	42	--	75	25	211	.01	.03
04-18-88	3,860	233	7.7	29	--	63	8.1	135	<.01	.04
07-19-88	685	289	7.8	33	--	71	11	161	<.01	.02
08-12-88	394	297	8.0	36	--	--	13	178	.07	.03
10-18-88	361	491	7.7	44	--	93	46	293	<.01	.03
11-21-88	58,300	205	7.4	36	--	--	16	172	.01	.09
01-09-89	17,800	290	7.9	40	--	88	9.4	162	.03	.03
01-14-89	29,700	355	8.1	37	--	77	12	180	<.01	.02
01-18-89	23,500	224	7.8	28	--	70	5.6	136	<.01	.03
04-18-89	6,870	243	7.0	30	--	68	5.7	146	<.01	.03
05-11-89	27,000	228	7.9	30	--	88	3.3	134	.01	.02
10-19-89	51,000	304	6.8	32	--	77	7.6	184	<.01	.04

Table 8. Paired surface-grab-sample water-quality data--Continued

DATE	NITROGEN, NO2+NO3, DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA + ORGANIC, TOTAL (MG/L AS N) (00625)	PHOSPHORUS, TOTAL (MG/L AS P) (00665)	PHOSPHORUS, ORTHO, DISSOLVED (MG/L AS P) (00671)	IRON, TOTAL RECOVERABLE (UG/L AS FE) (01045)	LEAD, TOTAL RECOVERABLE (UG/L AS PB) (01051)	MANGANESE, TOTAL RECOVERABLE (UG/L AS MN) (01055)	ZINC, TOTAL RECOVERABLE (UG/L AS ZN) (01092)	SEDIMENT, SUSPENDED (MG/L)	SED. SUSP. SIEVE DIAM. (% FINER THAN .062 MM)
North Fork Kentucky River at Jackson, Kentucky (03280000)										
06-15-87	0.34	0.8	0.07	<0.01	400	8	90	20	31	90
07-20-87	.51	.3	.04	<.01	870	14	110	60	27	88
08-17-87	.14	.3	.02	<.01	420	<5	90	<10	14	71
09-14-87	.50	.7	.02	<.01	740	<5	70	<10	26	86
10-13-87	<.10	.3	.02	<.01	260	<5	40	20	5	57
11-16-87	--	--	--	--	--	--	--	--	5	53
01-11-88	.63	.8	.01	<.01	350	<5	280	30	6	57
02-03-88	.67	.2	.05	<.01	3,200	<5	250	40	98	90
04-18-88	.24	.3	.02	<.01	620	<5	60	40	18	77
07-18-88	<.10	<.2	.02	<.01	50	<5	20	<10	4	69
10-17-88	.19	.3	.02	<.01	310	<5	80	50	7	78
01-13-89	.36	.8	.04	<.01	13,000	5	770	70	454	95
01-17-89	.49	.5	.02	<.01	3,300	<5	270	20	69	94
03-06-89	.37	.4	.21	.02	32,000	25	1,200	150	1,090	93
05-10-89	.31	.3	.02	<.01	5,900	6	230	30	202	93
Middle Fork Kentucky River at Tallega, Kentucky (03281000)										
06-16-87	.21	.4	.03	<.01	280	6	60	20	7	73
07-21-87	.14	.6	.01	<.01	--	--	130	--	13	87
08-18-87	.14	.5	.02	<.01	430	<5	90	<10	13	78
09-15-87	.12	.3	<.01	<.01	390	11	100	10	8	79
10-14-87	<.10	<.2	.01	<.01	250	<5	40	<10	4	43
11-17-87	--	--	--	--	--	--	--	--	6	36
01-12-88	.45	.2	.01	<.01	1,100	<5	110	30	18	97
04-19-88	.23	.2	.02	<.01	1,100	<5	130	10	16	94
07-19-88	<.10	<.2	.02	<.01	400	<5	90	<10	6	89
10-18-88	<.10	.3	.02	<.01	180	<5	50	<10	1	100
01-11-89	.29	.4	.02	<.01	3,000	<5	220	20	82	93
01-13-89	.26	.5	.02	.02	2,100	<5	100	20	52	92
01-18-89	.26	.3	.02	<.01	2,500	<5	190	20	63	87
03-07-89	.23	.4	.04	.01	4,300	6	130	20	105	95
05-09-89	.15	.4	.03	<.01	5,600	34	150	40	114	100
South Fork Kentucky River at Booneville, Kentucky (03281500)										
06-16-87	.25	.7	.04	<.01	600	19	130	20	16	89
07-21-87	.21	.5	.02	<.01	540	<5	160	<10	12	94
08-18-87	.21	.5	.07	<.01	2,000	<5	240	20	69	89
09-15-87	.10	<.2	.02	<.01	590	9	260	<10	13	84
10-14-87	.12	.2	.03	<.01	390	<5	180	10	8	57
11-17-87	--	--	--	--	--	--	--	--	7	91
01-12-88	.61	<.2	.01	<.01	400	8	160	10	3	83
04-19-88	.19	<.2	.01	<.01	400	<5	70	20	9	73
07-19-88	<.10	.3	.01	<.01	230	<5	160	30	7	74
10-18-88	.36	.4	.02	<.01	340	<5	90	30	6	66
01-13-89	.24	.6	.07	.01	5,200	7	260	30	--	--
01-18-89	.39	.2	.01	<.01	770	5	130	10	15	86
03-07-89	.21	.4	.13	<.01	7,600	<5	320	30	181	93
05-10-89	.13	<.2	.03	<.01	600	2	60	120	12	80
Kentucky River at Lock 4, at Frankfort, Kentucky (03287500)										
06-17-87	.18	.9	.11	<.01	220	12	20	20	9	85
07-21-87	.33	.7	.06	.02	200	12	40	20	10	68
08-18-87	.14	.8	.07	.01	430	<5	60	<10	13	57
09-17-87	.10	.5	<.01	<.01	160	11	40	20	4	87
10-14-87	.30	.6	.06	<.01	220	<5	50	10	5	67
12-29-87	1.20	.4	.04	.02	9,500	<5	750	50	310	92
01-12-88	1.60	.2	.08	.03	--	<5	60	--	27	89
02-17-88	<.10	.3	.06	.04	630	6	80	<10	14	83
04-18-88	.73	.4	.05	.03	830	<5	40	30	19	96
07-19-88	<.10	.6	.05	.01	110	<5	30	<10	2	55
08-12-88	.29	.6	.07	.02	260	<5	40	10	--	--
10-18-88	.55	.4	.07	.05	140	<5	30	20	4	75
11-21-88	1.10	1.6	.92	.05	9,800	<5	570	50	--	--
01-09-89	1.30	.8	.15	.09	4,200	10	280	30	162	94
01-14-89	1.00	.2	.10	.06	1,800	<5	80	40	30	93
01-18-89	.80	.5	.05	.04	4,600	<5	250	40	121	94
04-18-89	.66	.3	.08	.05	580	6	50	20	--	--
05-11-89	.43	.4	.22	.04	4,800	14	140	20	75	96
10-19-89	.39	.9	.23	.01	4,900	10	340	30	876	81

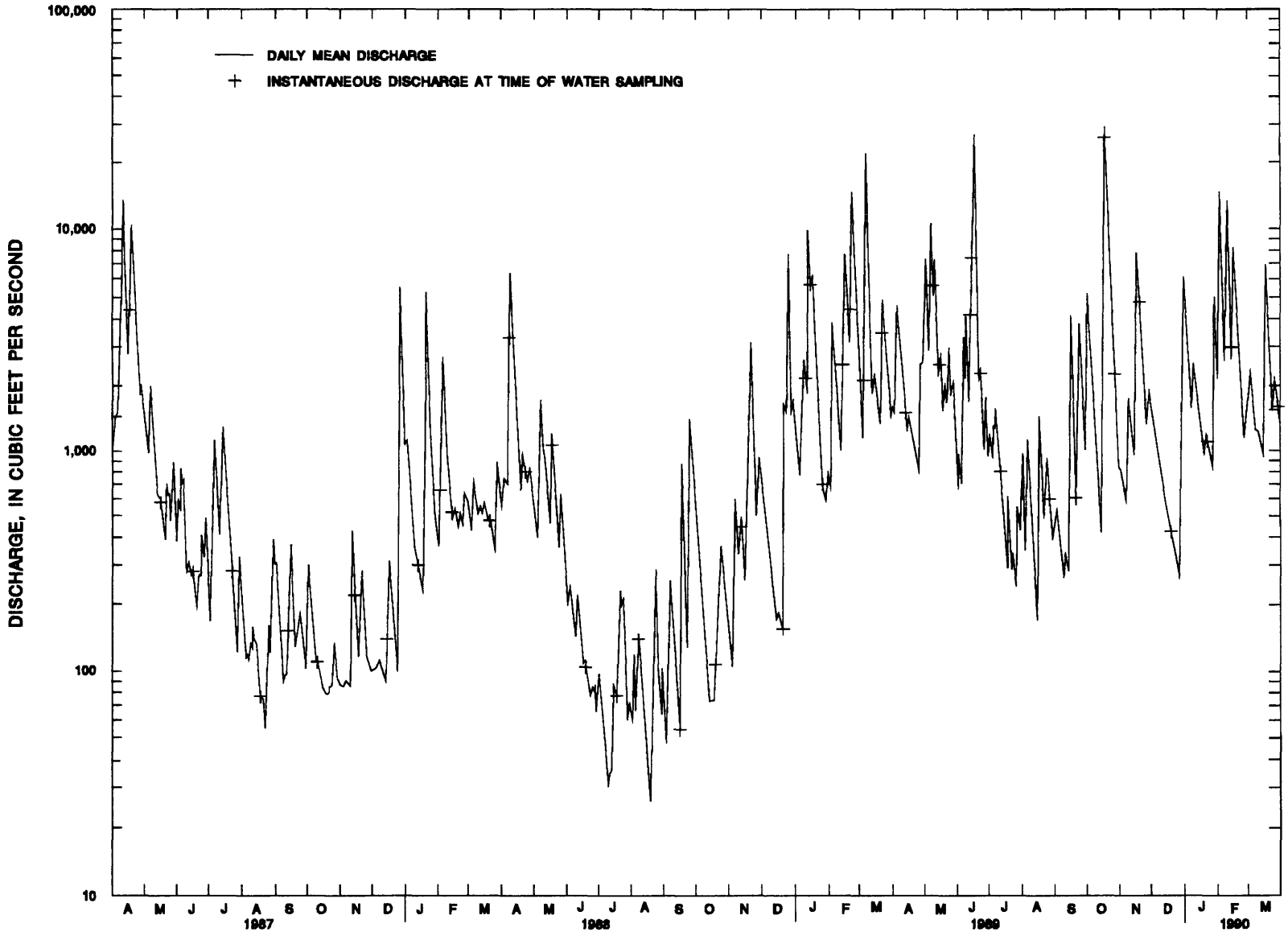

Figure 14. Daily mean discharge and instantaneous discharge at time of sampling for the North Fork Kentucky River at Jackson, Ky.

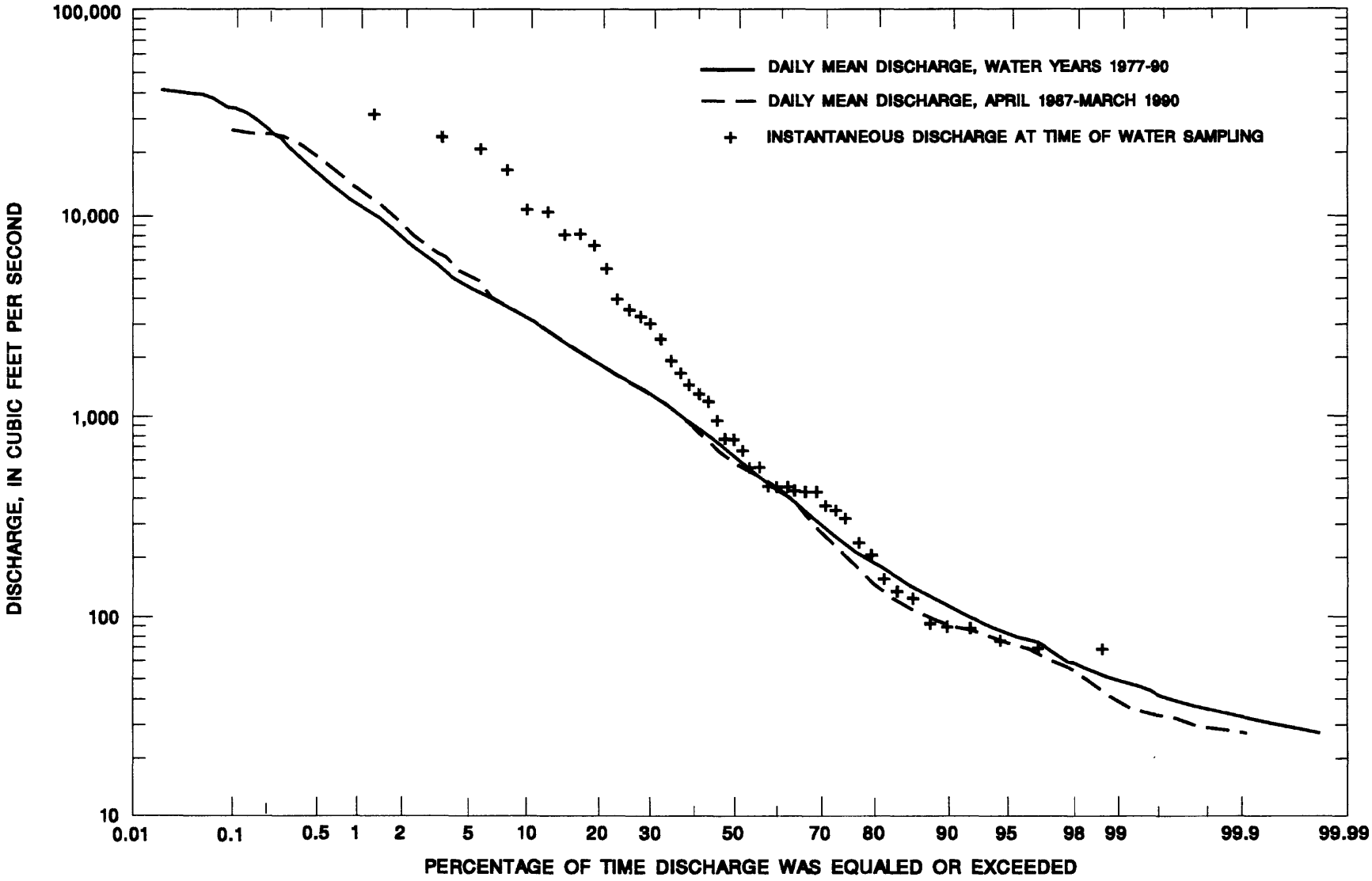

Figure 15. Flow-duration curves and instantaneous discharge at time of sampling for the North Fork Kentucky River at Jackson, Ky.

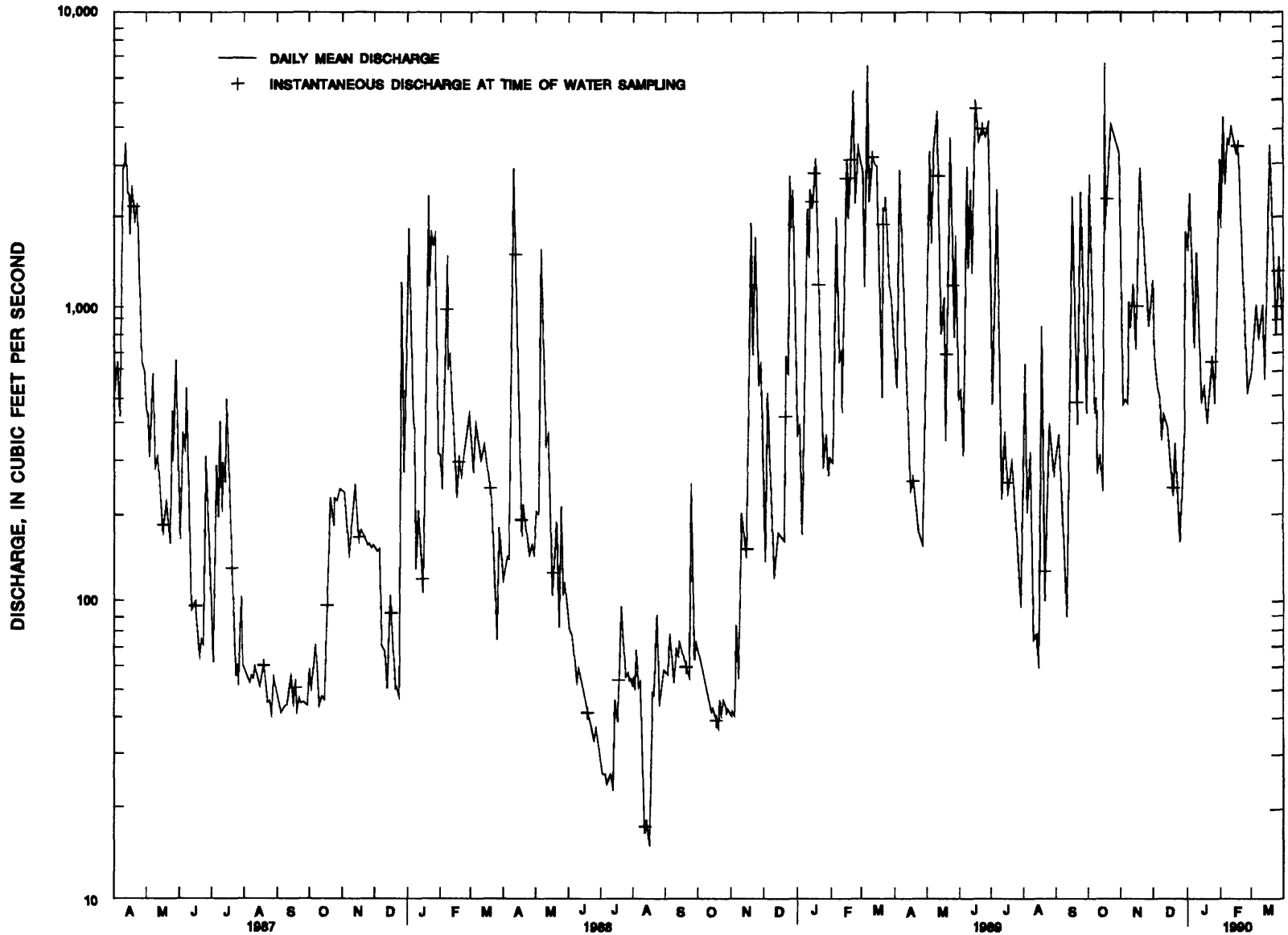

Figure 16. Daily mean discharge and instantaneous discharge at time of sampling for the Middle Fork Kentucky River at Tallega, Ky.

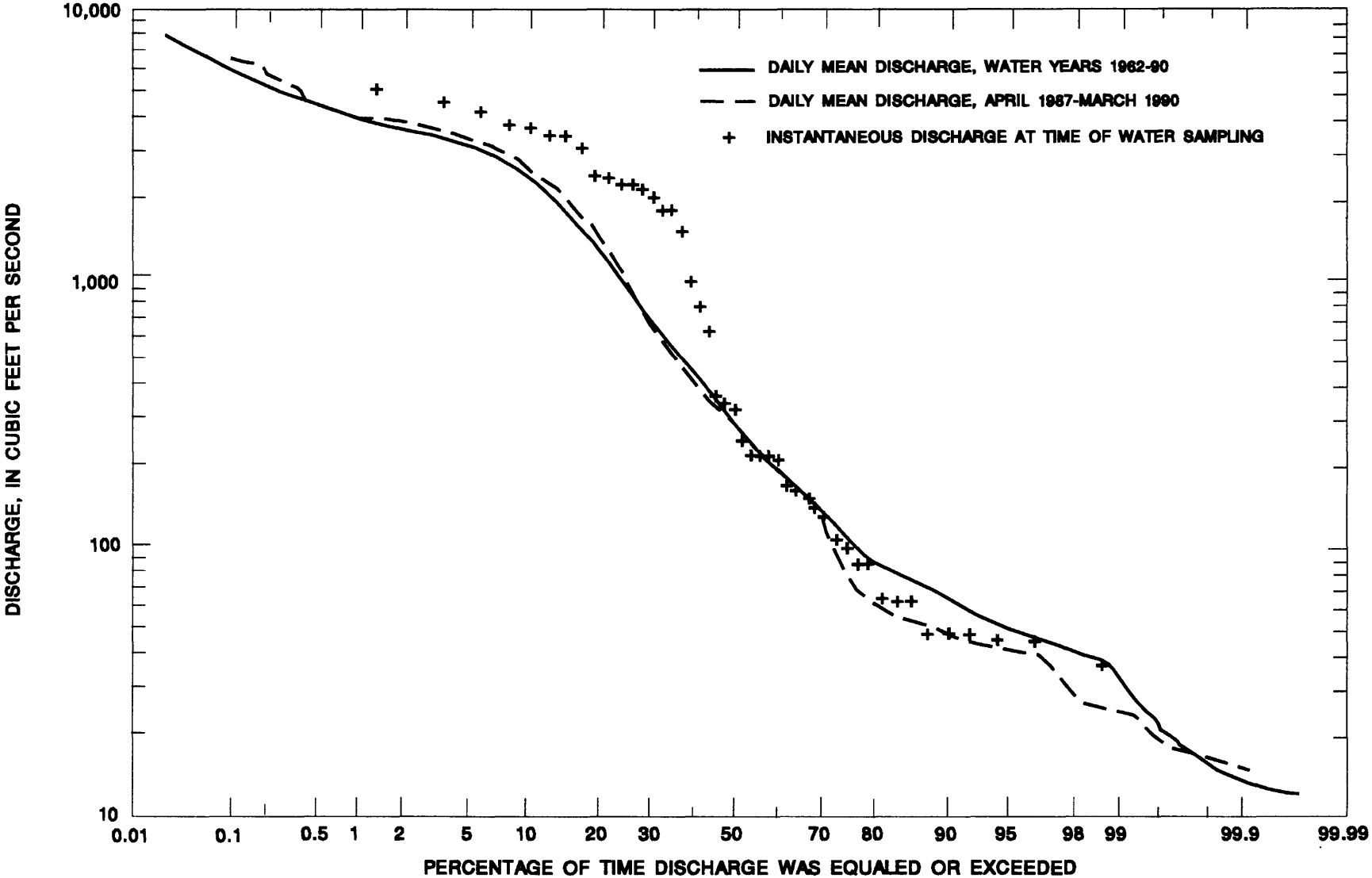

Figure 17. Flow-duration curves and instantaneous discharge at time of sampling for the Middle Fork Kentucky River at Tallega, Ky.

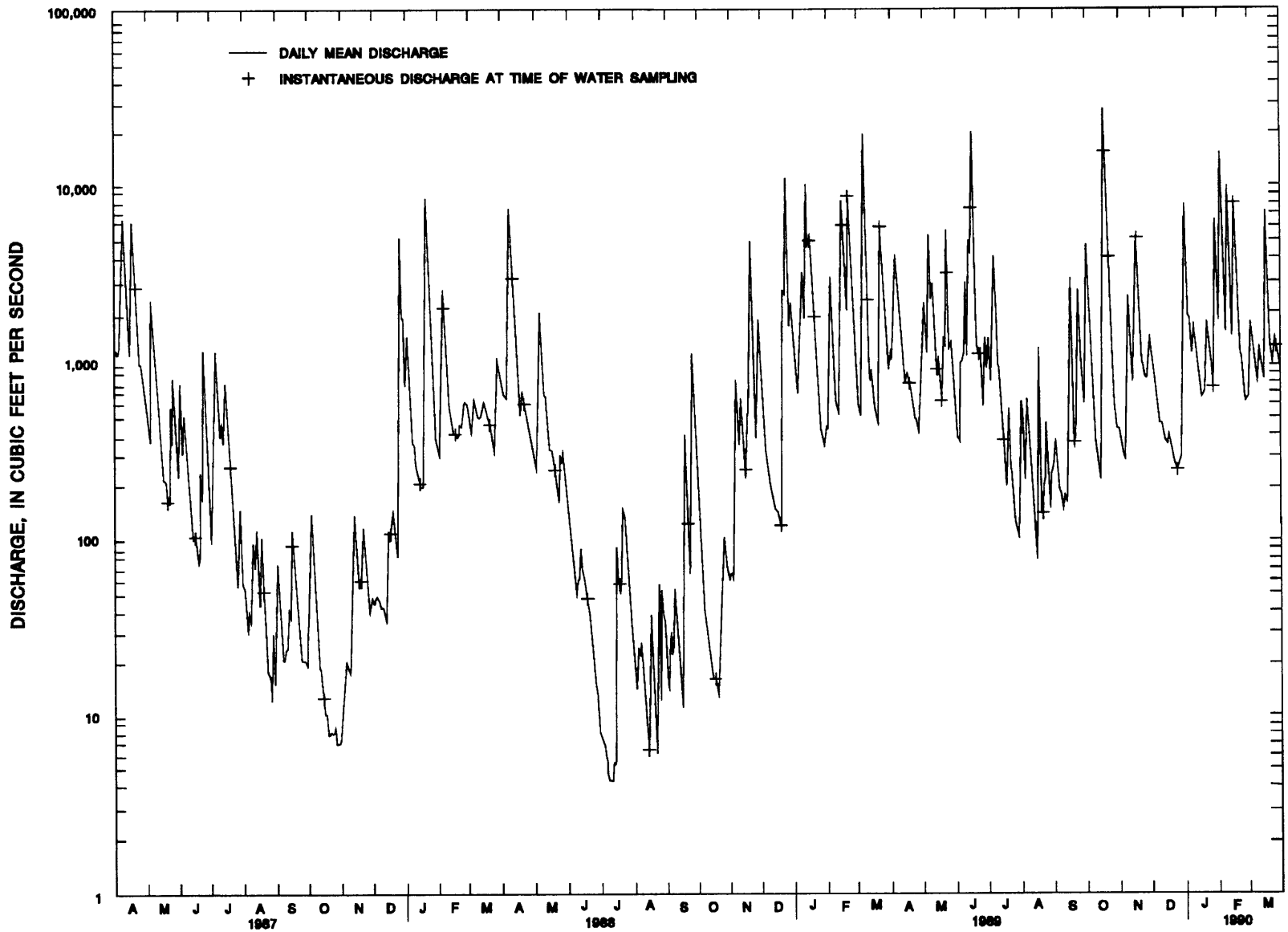

Figure 18. Daily mean discharge and instantaneous discharge at time of sampling for the South Fork Kentucky River at Booneville, Ky.

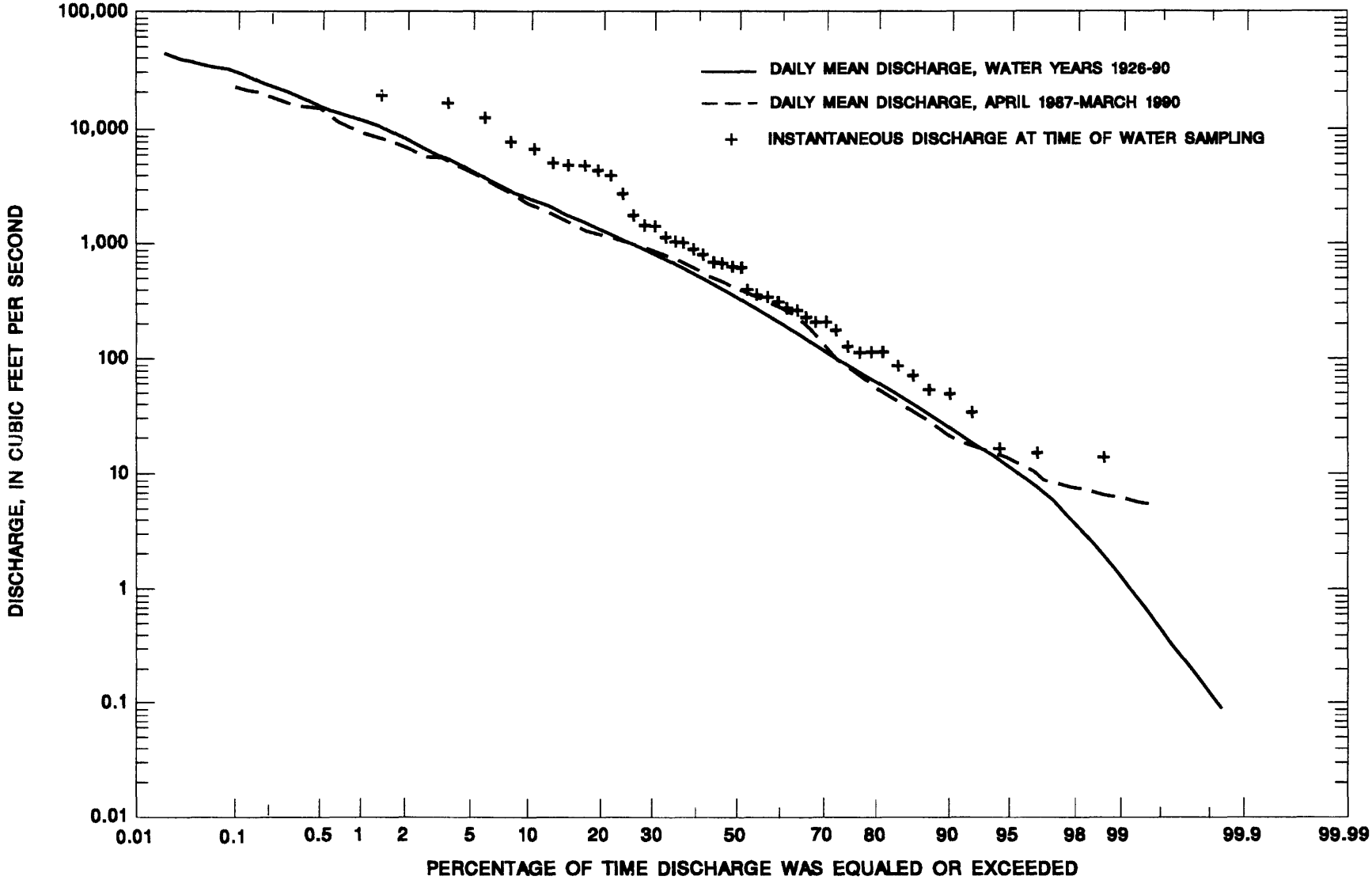

Figure 19. Flow-duration curves and instantaneous discharge at time of sampling for the South Fork Kentucky River at Booneville, Ky.

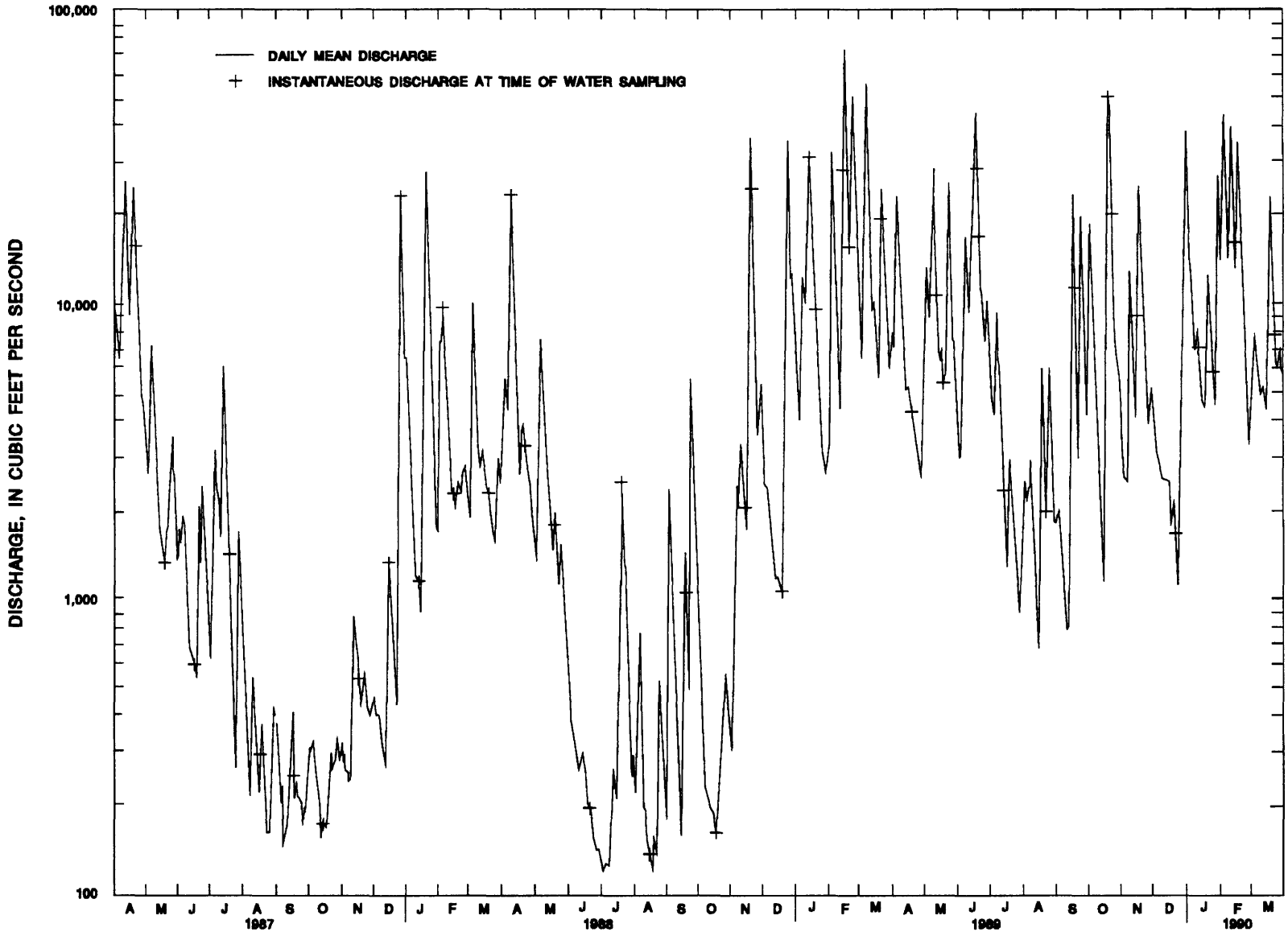

Figure 20. Daily mean discharge and instantaneous discharge at time of sampling for the Kentucky River at Lock 10, near Winchester, Ky.

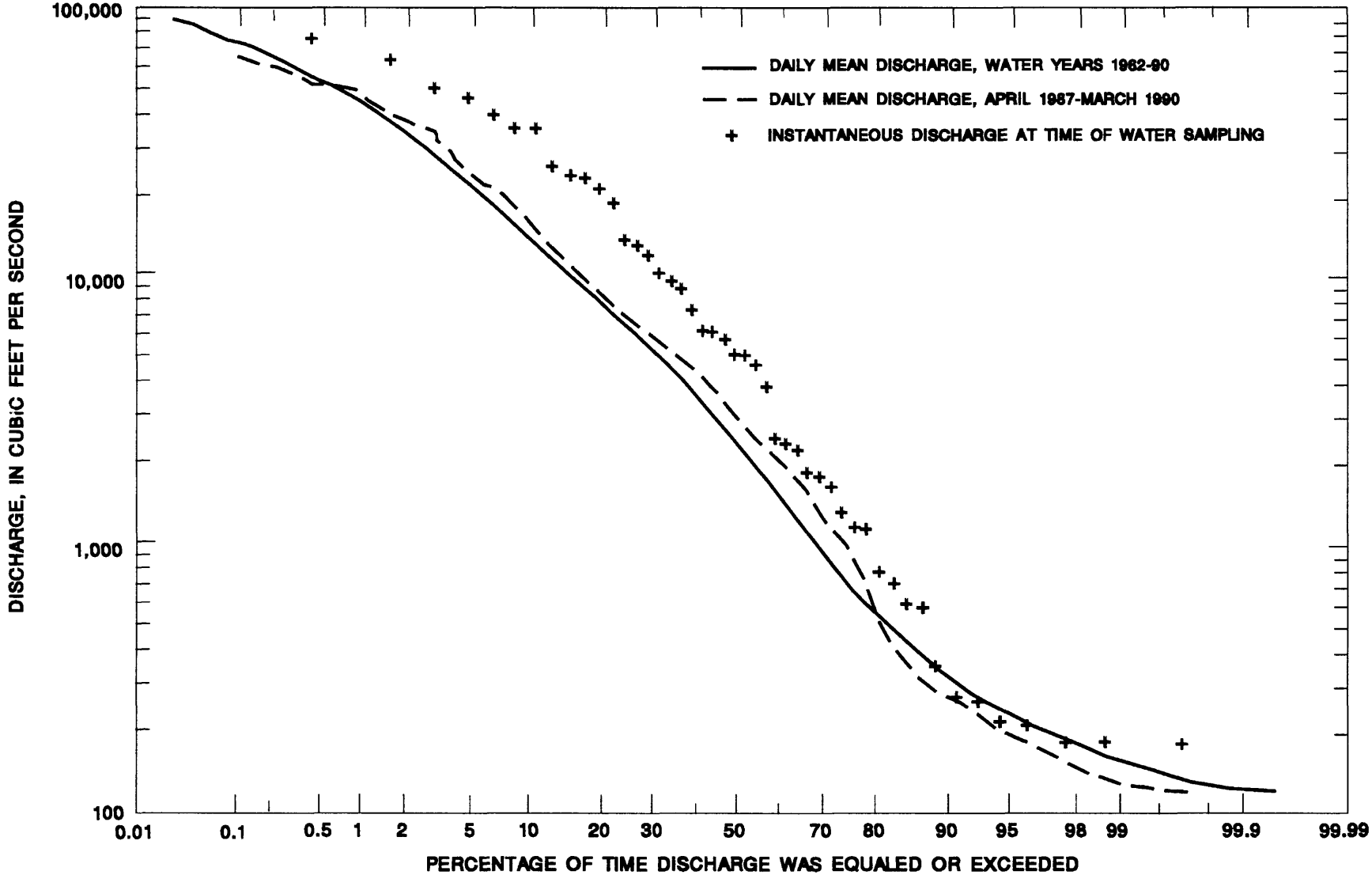

Figure 21. Flow-duration curves and instantaneous discharge at time of sampling for the Kentucky River at Lock 10, near Winchester, Ky.

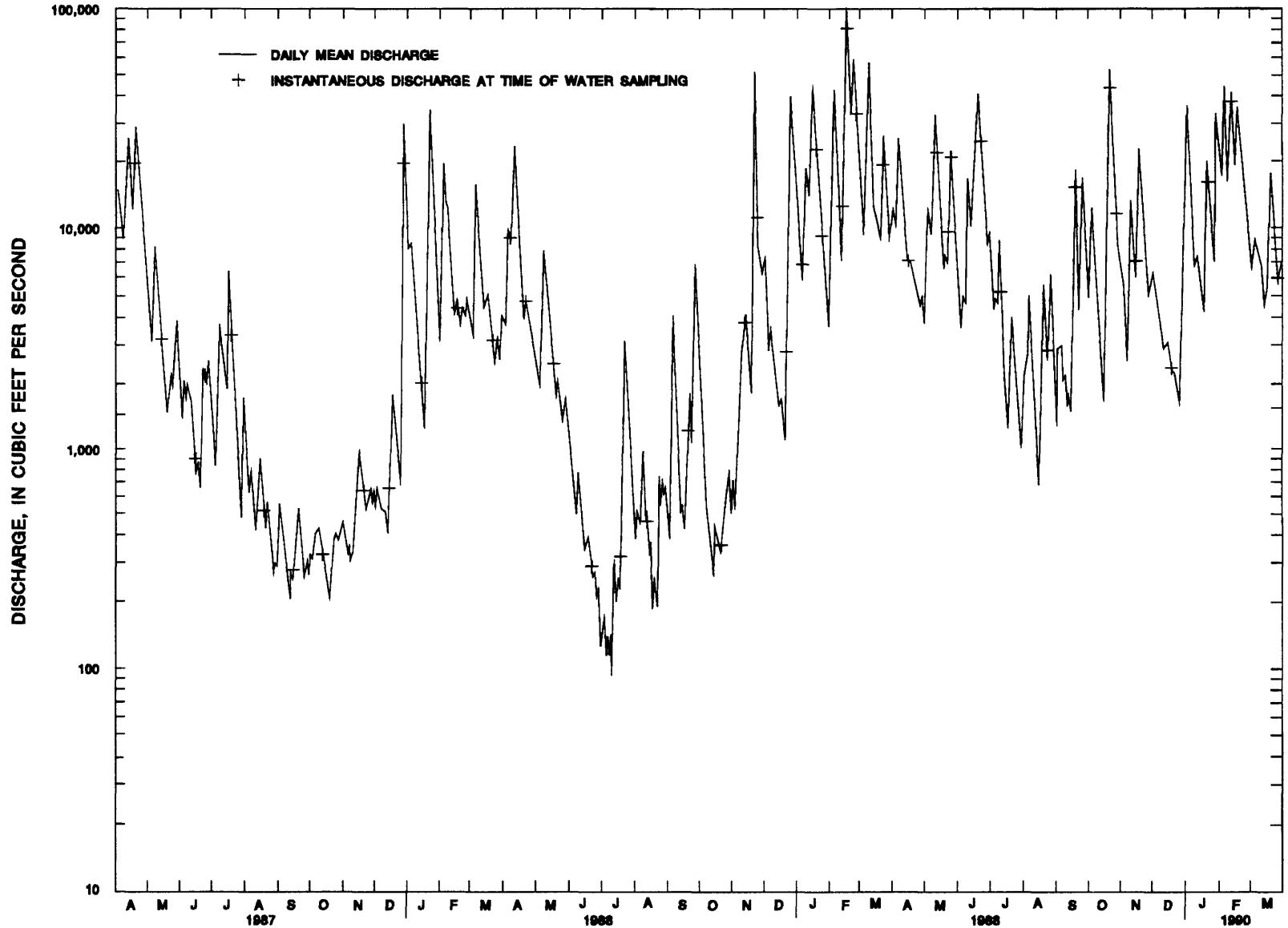

Figure 22. Daily mean discharge and instantaneous discharge at time of sampling for the Kentucky River at Lock 4, at Frankfort, Ky.

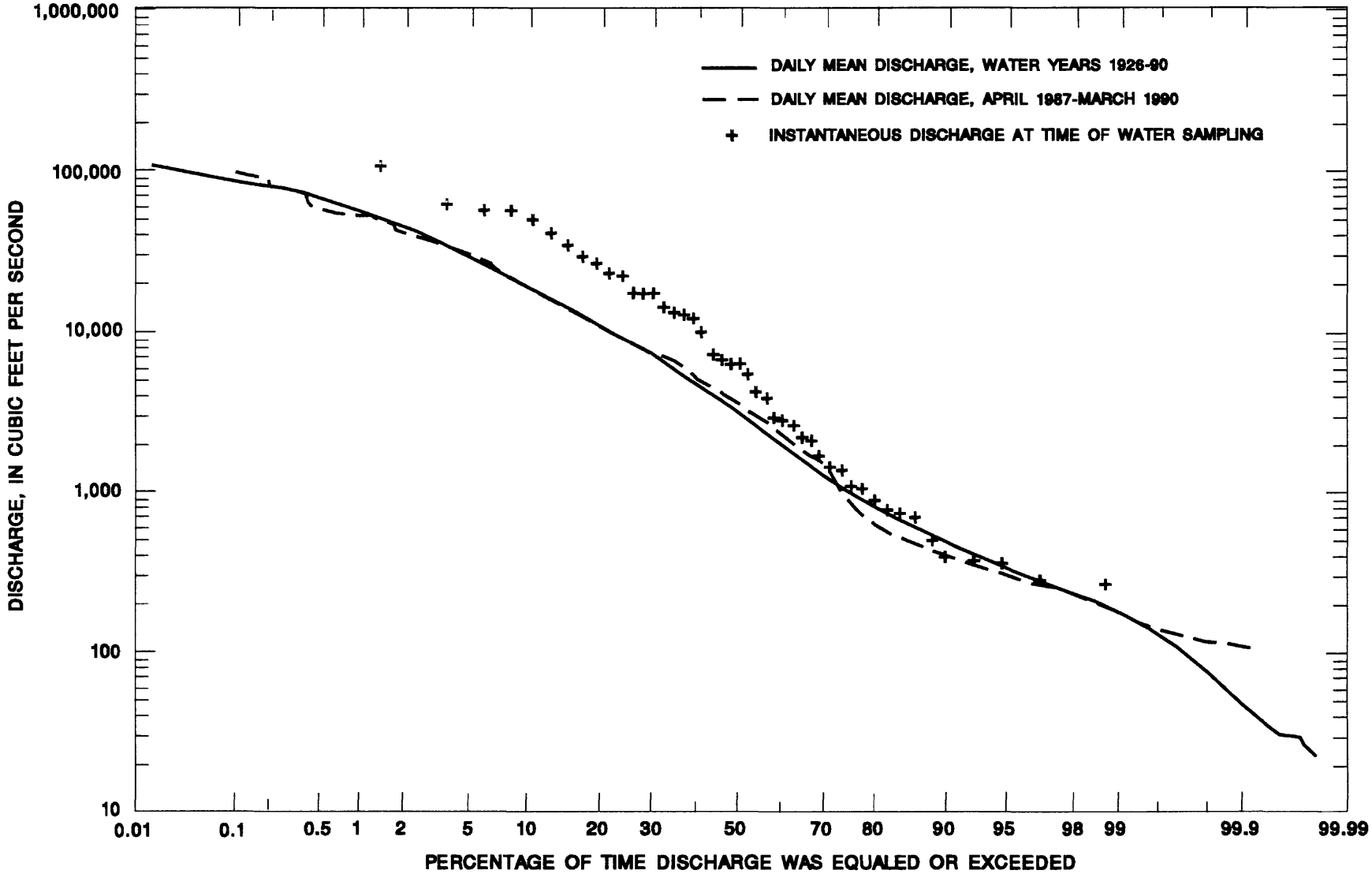

Figure 23. Flow-duration curves and instantaneous discharge at time of sampling for the Kentucky River at Lock 4, at Frankfort, Ky.

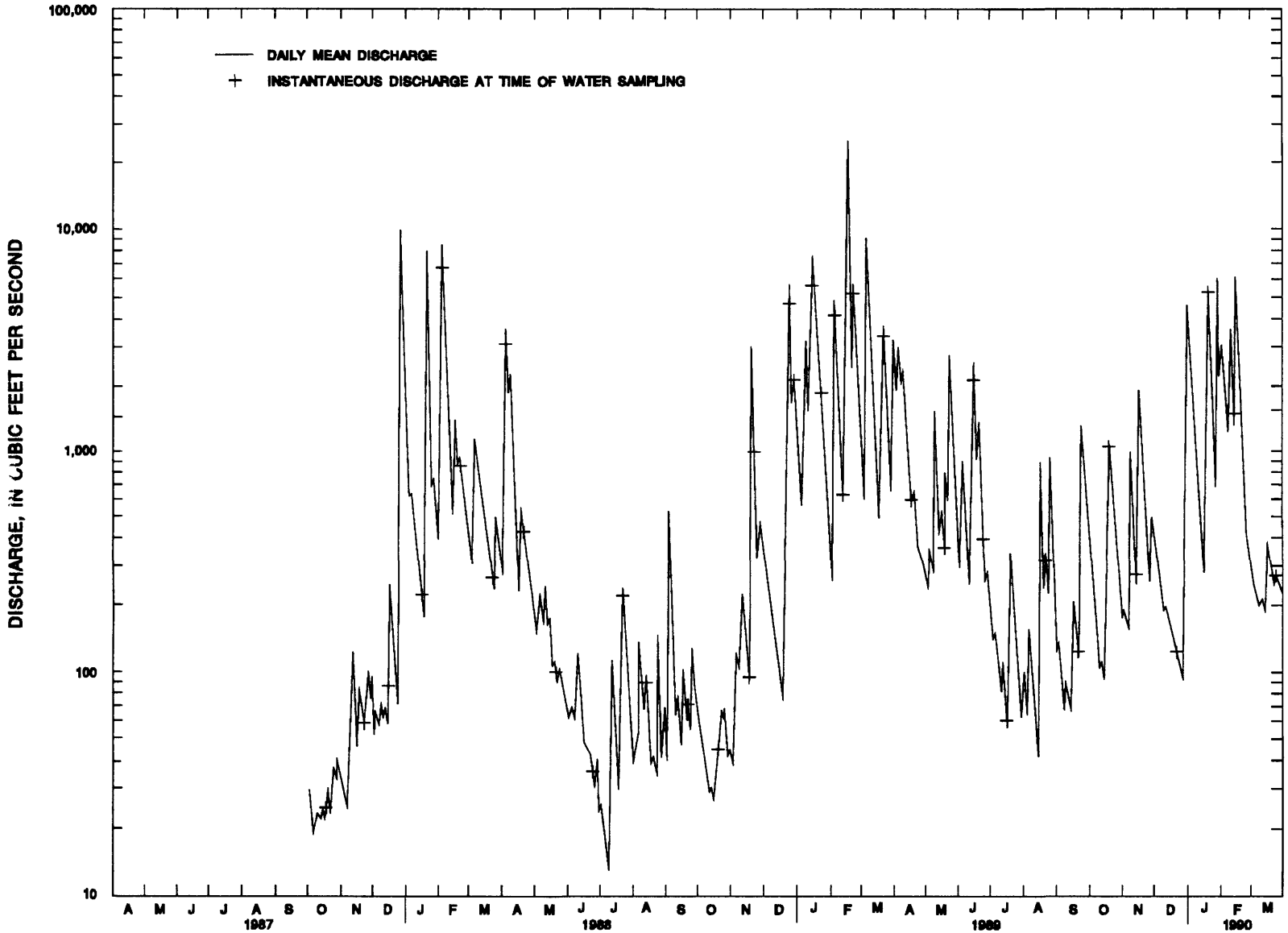

Figure 24. Daily mean discharge and instantaneous discharge at time of sampling for Elkhorn Creek near Frankfort, Ky.

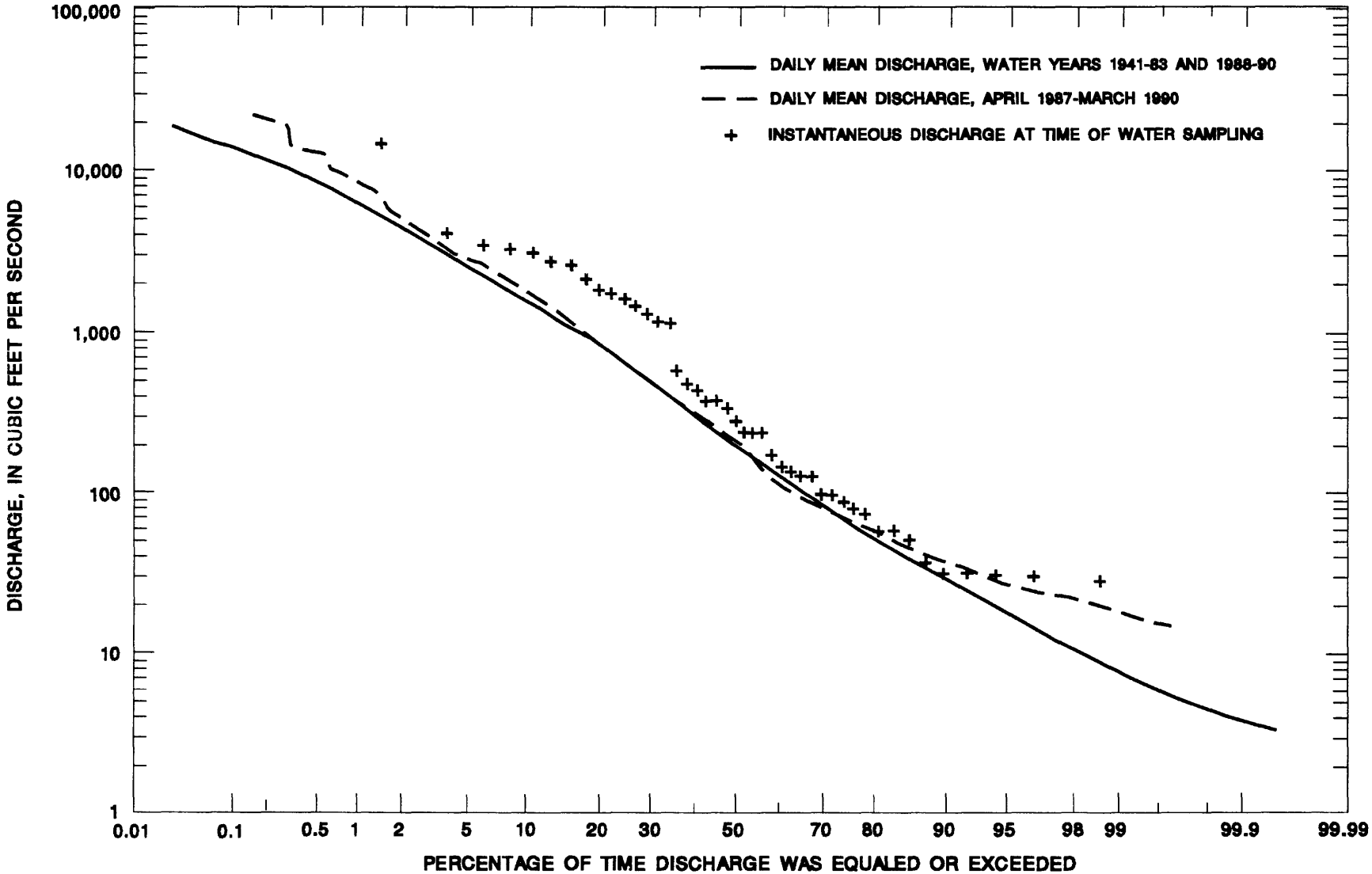

Figure 25. Flow-duration curves and instantaneous discharge at time of sampling for the Elkhorn Creek near Frankfort, Ky.

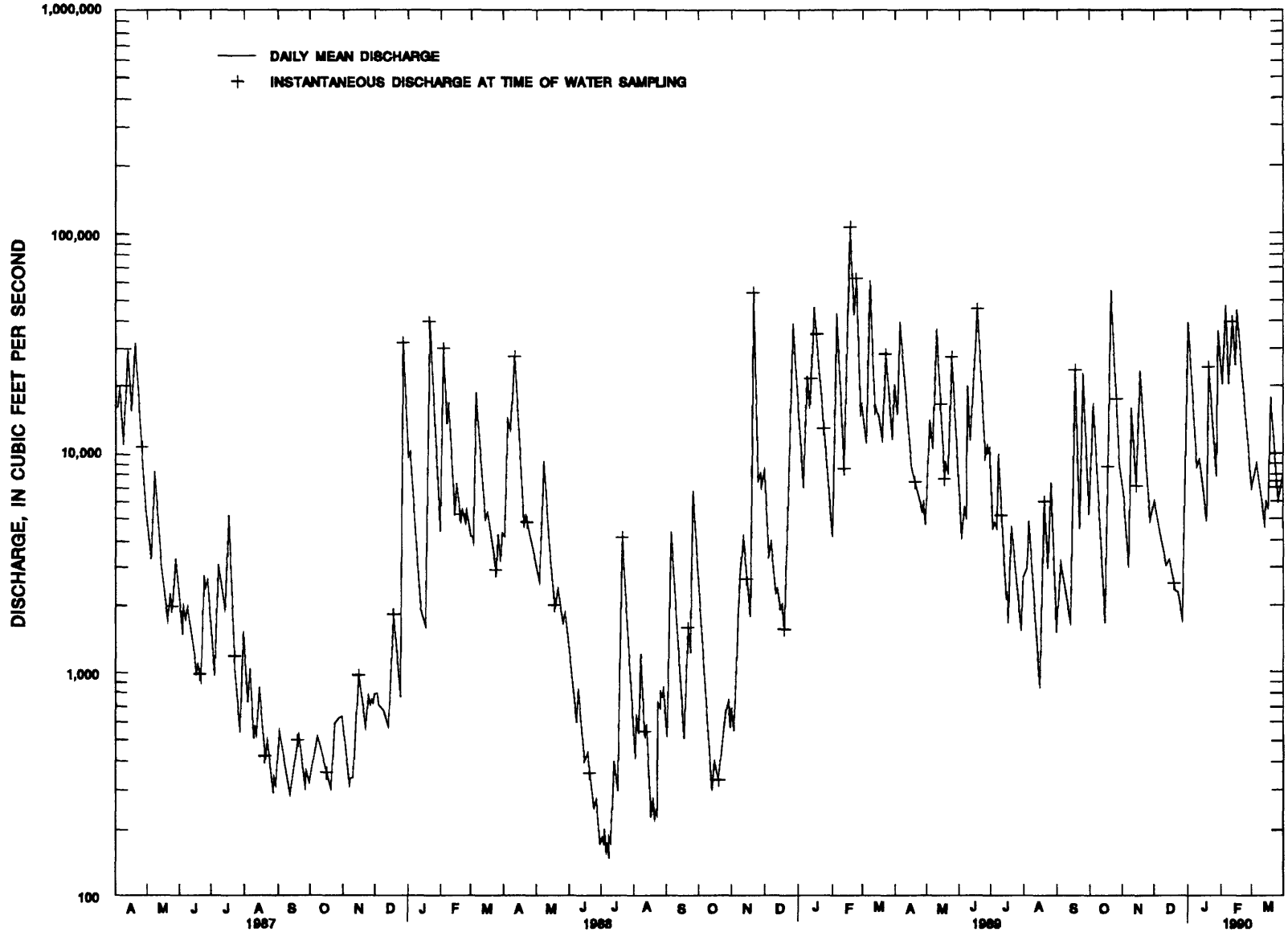

Figure 26. Daily mean discharge and instantaneous discharge at time of sampling for the Kentucky River at Lock 2, at Lockport, Ky.

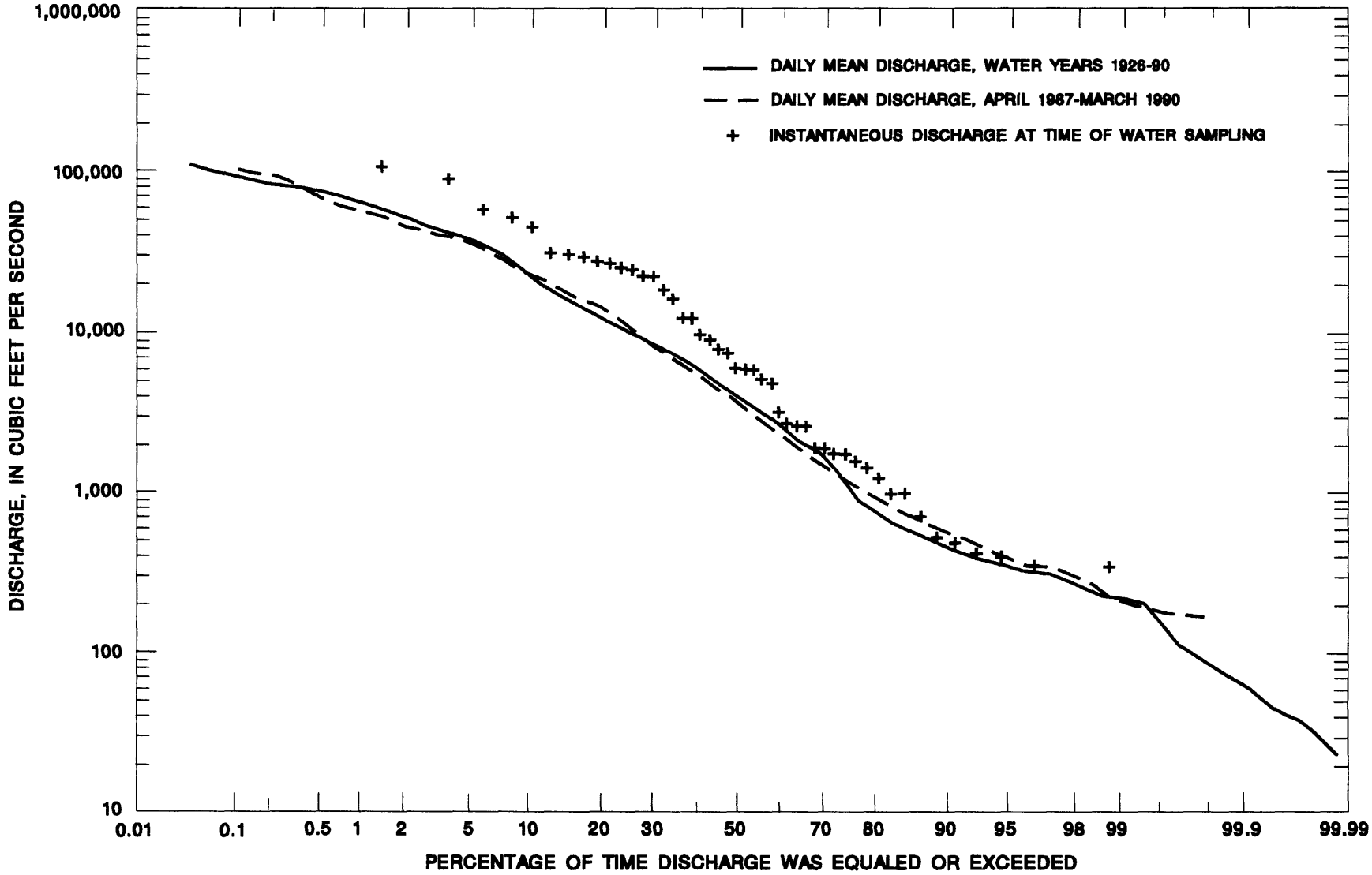

Figure 27. Flow-duration curves and instantaneous discharge at time of sampling for the Kentucky River at Lock 2, at Lockport, Ky.

REFERENCES CITED

Arbogast, B.F., ed., 1990, Quality assurance manual for the Branch of Geochemistry, U.S. Geological Survey: U.S. Geological Survey Open-File Report 90-668, 184 p.

Britton, L.J., and Greeson, P.E., eds., 1989, Methods for collection and analysis of aquatic biological and microbiological samples: U.S. Geological Survey Techniques of Water-Resources Investigations, book 5, chap. A4, 363 p.

Edwards, T.K., and Glysson, G.D., 1988, Field methods for measurement of fluvial sediment: U.S. Geological Survey Open-File Report 86-531, 118 p.

Edwards, M.D., Putnam, A.L., and Hutchison, N.E., 1986, Conceptual design for the National Water Information System: U.S. Geological Survey Open-File Report 86-604, 37 p.

Elam, A.B., Jr., Haan, C.T., Barfield, B.J., and Bridges, T.C., 1972, Precipitation probabilities for Kentucky: Lexington, Ky., University of Kentucky College of Agriculture, Progress Report 202, 55 p.

Fishman, M.J., and Friedman, L.C., eds., 1989, Methods for determination of inorganic substances in water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, book 5, chap. A1, 545 p.

Flegal, A.R., and Coale, K.H., 1989, Discussion--Trends in lead concentration in major U.S. rivers and their relation to historical changes in gasoline-lead consumption by R.B. Alexander and R.A. Smith: Water Resources Bulletin, v. 25, p. 1275-1277.

Friedman, L.C., and Erdmann, D.E., 1982, Quality assurance practices for the chemical and biological analyses of water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, book 5, chap. A6, 181 p.

Garcia, Rene, Scholar, C.J., and Toms, S.G., 1989, Water-resources data, Kentucky, water year 1988: U.S. Geological Survey Water-Data Report KY-88-1, 569 p.

_____1990, Water-resources data, Kentucky, water year 1989: U.S. Geological Survey Water-Data Report KY-89-1, 461 p.

Gianessi, L.P., 1986, Water pollutant discharge and pesticide usage estimates for NAWQA surface-water study regions: Resources for the Future, Renewable Resources Division, 19 p.

Guy, H.P., 1969, Laboratory theory and methods for sediment analysis: U.S. Geological Survey Techniques of Water-Resources Investigations, book 5, chap. C1, 58 p.

Hirsch, R.M., Alley, W.M., and Wilber, W.G., 1988, Concepts for a national water-quality assessment program: U.S. Geological Survey Circular 1021, 42 p.

Horowitz, A.J., 1991, A primer on sediment-trace element chemistry: Chelsea, Mich., Lewis Publishers, 136 p.

Hutchison, N.E., Shope, W.G., Jr., Morgan, C.O., Williams, O.O., Wilson, T.A., Stuthmann, N.G., Booker, R.E., Price, W.E., Jr., and Meeks, W.C., 1975, WATSTORE--National Water Data Storage and Retrieval System of the U.S. Geological Survey--User's Guide: U.S. Geological Survey Open-File Report 75-426, 7 v., 791 p.

Johnson, J.H., Stapleton, J.M., and McGrain, P., compilers, 1962, Mineral resources and mineral industries of Kentucky: Kentucky Department of Commerce, scale 1:500,000, 1 sheet.

Kentucky Geological Survey, 1979, Generalized geologic map of Kentucky: Kentucky Geological Survey State map, scale 1:1,000,000, 1 sheet.

Kentucky Natural Resources and Environmental Protection Cabinet, 1986, 1986 Kentucky report to Congress on water-quality: Division of Water, 192 p.

_____1990, 1990 Kentucky report to Congress on water-quality: Division of Water, 187 p.

Martin, G.R., Smoot, J.L., and White, K.D., 1992, A comparison of surface-grab and cross sectionally integrated stream-water-quality sampling methods: Water Environment Research, v. 64, no. 7, p. 866-876.

Mattraw, H.C., Jr., Wilber, W.G., and Alley, W.M., 1989, Quality-assurance plan for the pilot national water-quality assessment program: U.S. Geological Survey Open-File Report 88-726, 21 p.

McClain, D.L., Byrd, F.D., and Brown, A.C., 1991, Water-resources data, Kentucky, water year 1990: U.S. Geological Survey Water-Data Report KY-90-1, 425 p.

_____1992, Water-resources data, Kentucky, water year 1991: U.S. Geological Survey Water-Data Report KY-91-1, 404 p.

Searcy, J.K., 1959, Flow duration curves--Manual of hydrology; Part 2, Low-flow techniques: U.S. Geological Survey Water-Supply Paper 1542-A, 33 p.

Shiller, A.M., and Boyle, E.A., 1987, Variability of dissolved trace metals in the Mississippi River: Geochimica et Cosmochimica Acta, v. 51, p. 3273-3277.

Sholar, C.J., 1988, Water use in Kentucky, 1985, with emphasis on the Kentucky River Basin, *in* Symposium on water-use data for water resources management, Proceedings: Bethesda, Md., American Water Resources Association, p. 85-92.

Sholar, C.J., and Lee, V.D., 1988, Water use in Kentucky, 1985: U.S. Geological Survey Water-Resources Investigations Report 88-4043, 53 p.

Smoot, J.L., Liebermann, T.D., Evaldi, R.D., and White, K.D., 1991, Surface water quality assessment of the Kentucky River Basin, Kentucky--Analysis of available water-quality data through 1986: U.S. Geological Survey Open-File Report 90-360, 209 p.

Stanley, Willard, 1985, Annual report: Kentucky Department of Mines and Minerals, 186 p.

Strahler, A.N., and Strahler, A.H., 1979, Elements of physical geography (2d ed.): New York, John Wiley and Sons, 560 p.

Thatcher, L.L., Janzer, V.J., and Edwards, K.W., 1977, Methods for determination of radioactive substances in water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, book 5, chap. A5, 95 p.

Toms, S.G., Scholar, C.J., and Zettwoch, D.D., 1988, Water-resources data, Kentucky, water year 1987: U.S. Geological Survey Water-Data Report KY-87-1, 356 p.

U.S. Department of Agriculture, 1975, General soil map-Kentucky: Lexington, Ky., Soil Conservation Service, scale 1:750,000, 1 sheet.

U.S. Environmental Protection Agency, 1985, Test methods for Escherichia coli and enterococci in water by the membrane filter procedure: Cincinnati, Ohio, Environmental Monitoring and Support Laboratory, 12 p.

Ward, J.R., and Harr, C.A., eds., 1990, Methods for the collection and processing of surface-water and bed-material samples for physical and chemical analysis: U.S. Geological Survey Open-File Report 90-140, 71 p.

Wershaw, R.L., Fishman, M.J., Grabbe, R.R., and Lowe, L.E., eds., 1987, Methods for the determination of organic substances in water and fluvial sediments: U.S. Geological Survey Techniques of Water-Resources Investigations, book 5, chap. A3, 80 p.

White, K.D., Smoot, J.L., Jackson, J.K., and Choquette, A.F., 1987, Surface-water quality assessment of the Kentucky River Basin, Kentucky--Project description: U.S. Geological Survey Open-File Report 87-234, 39 p.

Wilson, E.N., and Sutton, D.G., 1973, Oil and gas map of Kentucky: Kentucky Geological Survey, ser. 10, scale 1:250,000, 4 sheets.

Windom, H.L., Byrd, J.T., Smith, R.G., Jr., and Huan, Feng, 1991, Inadequacy of NASQAN data for assessing metal trends in the Nation's rivers: Environmental Science & Technology, v. 25, no. 6, p. 1137-1142.

KENTUCKY DISTRICT FIELD FORM

STATION NAME: _____ NO: _____

DATE: ___/___/___ (yy mm dd) Sampling begin time (82073): _____ Sampling end time (82074): _____

PARTY: _____ PROJECT: _____

Field Measurements

Gage Ht	(00065)	_____	ft
Q. Inst.	(00061)	_____	CFS } Meas. Rate Est.
Temp. Water	(00010)	_____	°C
Temp. Air	(00020)	_____	°C
Sp. Cond.	(00095)	_____	uS/cm 25°C
pH (whole)	(00400)	_____	units
Dis. Oxygen	(00300)	_____	mg/L
DO % Sat.	(00301)	_____	%
Baro. Pressure	(00025)	_____	mm Hg
Alkalinity (filtered)	(00418)	_____	mg/L
Incr. Alk.	(39086)	_____	mg/L
Incr. HCO_3	(00453)	_____	mg/L
Incr. CO_3	(00452)	_____	mg/L
Incr. OH	(71834)	_____	mg/L
Acidity	(71825)	_____	mg/L
Fecal Coli	(31613)	_____	col/100 mL
Fecal Strep	(31673)	_____	col/100 mL
Sample Purpose	(71999)	_____	(from p.2)

WEATHER (00041):
Cloudless (0) Partly Cloudy (1)
Cloudy (2) Overcast (3)
Fog (40) Drizzle (50)
Rain (60) Snow or Sleet (70)

STREAM MIXING: Excellent Good Fair Poor

STREAM COLOR: Brown Brown-Green Green Blue Clear Other_____

OBSERVATIONS (Codes: 0=none 1=mild 2=moderate 3=serious 4=extreme):

Floating debris	(01345):	0	1	2	3	4
Floating garbage	(01320):	0	1	2	3	4
Algae mats	(01325):	0	1	2	3	4
Fish kill	(01340):	0	1	2	3	4
Detergent suds	(01305):	0	1	2	3	4
Turbidity	(01350):	0	1	2	3	4
Odor	(01330):	0	1	2	3	4
Oil-Grease	(01300):	0	1	2	3	4

FLORA/FAUNA: _____

OTHER OBSERVATIONS: _____

PHOTOGRAPHS: Upstream Downstream X-Section Other _____
Photo doc. form filled out? Yes / No

COMMENTS: _____

Surface-Water Measurements

Flow Condition (01351): Dry (1) Low (2) Normal (3) Above Normal (5) Flood (4)

Hydrologic Cond. (stage): Stable, Low (4) Falling (5) Stable, High (6) Peak (7) Rising (8) Stable, Normal (9)

Hydrologic Event: Drought (1) Regulated flow (3) Flood (7) Routine sample (9) Storm (J) Other: _____

X-Section Location (if different from sampling): _____

KENTUCKY DISTRICT FIELD FORM

Water-Quality/Sediment Sampling

Sample Purpose (71999): NASQAN (20) SW Network (40) NAWQA (15)
Other: _____ Monthly Seasonal Event

Sample Type: composite (H) spike (1) reference (3) duplicate (5) replicate (7) regular (9)

Method (82398): EDI (2) EWI (10) Single Verticle (30) Grab (70)
Other: _____ Number of Verticals: _____

Sampler: D-77 Bag P-61 D-74 DH-48 DH-81 DH-59 Open Bottle Other: _____

Sampling Location: Wading Cable Boat Bridge (upstream/downstream side)

Sample X-Section Location (from gage): _____ft downstream (72104) or _____ft upstream (72105)

Cross-Section Characteristics: Width (00004): _____ft
Mean Depth (area/width) (00064): _____ft Mean Velocity (00055): _____ft/s
Maximum Depth: _____ft Maximum Velocity: _____ft/s

Suspended-Sediment Chemical Analysis: Carboy No._____

Sediment Concentration Sample Source: Churn Sediment Sampler

Suspended-Sediment Discharge Measurement Information

Sampler: D-77 P-61 D-74 DH-48 DH-81 DH-59 Open Bottle Other: _____
Sampler number _____ Color code _____
Air line/exhuast opening clear? Yes / No Gasket condition: _____

Nozzle: Size (inches): _____ Color: _____ Condition: _____

Sampling begin time: _____ (WATSTORE/QW file time) End time: _____
Were replicate samples taken? Yes / No

Method	Time[1]	Gage Height	# of Verticals	# of Bottles	Stations

1. For X-Section samples, put the mean (plotting) time for the set. Time marked on bottle will be to the nearest 5 minutes of actual sample collection.

Observer contacted? Yes / No / NA Obs. samples inspected/shipped? Yes / No / NA
Obs. book inspected/initialed? Yes / No / NA Any obs. replicates? Yes / No
Obs. sampler type(s): _____ Obs. sampler(s) inspected? Yes / No / NA
Obs. sampler nozzles: 1/4"_____cond. 3/16"_____cond. 1/8"_____cond.

Pumping Sampler: Inspected? Yes / No / NA Samples inspected/shipped? Yes / No / NA

KENTUCKY DISTRICT FIELD FORM

ALKALINITY
(incremental titration)

H SO Normality =

Volume of Sample =

pH	buret reading	vol. acid added

Total Alkalinity = 50,000 x N x mL acid / mL sample

DISSOLVED OXYGEN

PAO Normality = _____	1	2
Initial buret reading		
Final buret reading (mL)		
Titrant used (A)		
Vo. of Sample (B)		
D.O. (mg/L) = A x 200/B		

Baro. Press. = _____mm Water Temp.____°C

D.O. Sat. = _____ Cond. K = _____

(D.O. Sat) x (Cond K) = Cor D.O. Sat_____

% Sat = (D.O./Cor D.O. Sat) x 100 =_____

INSTRUMENT CALIBRATION

Parm	Mtr W#	Std/Mtr	Std/Mtr	Std/Mtr
pH				
Cond.				

BACTERIA ANALYSIS AND COLLECTION

Date collected: ___/___/___ Time collected: _____

Time filtered: _____

Sample method: EDI EWI Single Vertical Grab_____

Verticals_____

FECAL COLIFORM

Incubation period: 20-24 hrs Ideal Colony Count: 20-60

In Incubator @ 44.5°C: Out Incubator:

Date:___/___/___ Time:_____ Date:___/___/___ Time:_____

(mL volume sequences 100, 30, 10, 3, 1, 0.3, 0.1, etc.)

Volume	Count	Use	No Use	Remarks
Blank				

Colonies (per 100 ml) = 100 x colonies counted / ml sample filtered = _____ (31613)*

FECAL STREPTOCOCCI

Incubation period: 46-50 hrs Ideal Colony Count: 20-100

In Incubator @ 35°C: Out Incubator:

Date:___/___/___ Time:_____ Date:___/___/___ Time:_____

(mL volume sequences 100, 25, 5, 1, 0.2, etc.)

Volume	Count	Use	No Use	Remarks
Blank				

Colonies (per 100 ml) = 100 x colonies counted / ml sample filtered = _____ (31673)*

* For multiple counts within or all outside the ideal range, use the averaging procedure per TWRI Book 5, Chapter A4 (OF 88-190).

KENTUCKY DISTRICT FIELD FORM

X-SECTION SURVEY

Station							
Temperature							
Condition							
pH							
DO							

ACIDITY
(heated, titration to pH 8.3)*

NaOH Normality =		
Volume of Sample =		
pH	buret reading	vol. acid added
		0
Acidity as H = $\frac{\text{mL base}}{\text{mL sample}}$ x N x 1008		

* Procedure in TWRI Book 5, Chapter A1.

MISCELLANEOUS OBSERVATIONS:

Appendix 2

CENTRAL LABORATORIES ANALYTICAL SERVICES REQUEST FORM

Special Handling (circle as appropriate and explain in record 5)

Hazardous Material

Site Type (circle one)
SW - Surface Water LK - Lake
GW - Ground Water ES - Estuary
ME - Meteorological SP - Spring
SS - Special Source

Field ID

Station Name | Field Office | Project | Collector | Phone

File Deposition* (circle one)
Q - WATSTORE
X - Lab File

For Laboratory Use Only

Record 1 — Sample identification

Station ID or Unique Number* | Project Account #

Year* | Month* | Day* | Time* (BEGIN DATE) | Month | Day | Time (COMPOSITE END DATE) | State Code* | District/ User Code* | County Code

Record 2 — Analysis level codes and schedules

Sample Medium** | Geologic Unit | Analysis Status** (H or 9) | Analysis Source** | Hydrologic Condition** | Sample Type** | Hydrologic Event**

Schedule #1 | Schedule #2 | Schedule #3 | Schedule #4 | Schedule #5

Record 3 — Laboratory codes to be added to (A) or deleted from (D) above schedules

Code | A/D | Code | A/D | Code | A/D | Code | A/D | Code | A/D | Code | A/D | Code | A/D | Code | A/D

Code | A/D | Code | A/D | Code | A/D | Code | A/D | Code | A/D | Code | A/D | Code | A/D | Code | A/D

Record 4 — Field values to be added to analysis

WATSTORE/ Lab Code	Value	Rmk Code	QA Code	Meth Code	WATSTORE/ Lab Code	Value	Rmk Code	QA Code	Meth Code	WATSTORE/ Lab Code	Value	Rmk Code	QA Code	Meth Code
00027 / 83 Collecting Agency					82398 / 1201 Sampling Method Code					00061 / 61 Discharge, Instantaneous (cfs)				
72019 / 312 Depth to Water (BLS) (ft)					00020 / 65 Air Temperature (°C)					00010 / 64 Water Temperature (°C)				
00095 / 21 Specific Conductance (µmhos)					00400 / 51 pH, Field					00025 / 1167 Barometric Pressure (mm Hg)				
00300 / 25 Dissolved Oxygen (mg/L)					00410 / 2 Alkalinity, Field (mg/L)					/				
/					/					/				

Records 5, 6 — Comments (limit to 138 characters)

Record 5

Record 6

Total number of sample bottles for this request: _____

* — Mandatory for acceptance for laboratory analysis.
** — Mandatory for storage in WATSTORE