DATA-COLLECTION METHODS AND DATA SUMMARY FOR THE ASSESSMENT OF WATER QUALITY IN CEDAR CREEK, WEST-CENTRAL ILLINOIS

by R. D. McFarlane, W. O. Freeman, and A. R. Schmidt

U.S. GEOLOGICAL SURVEY

Open-File Report 87-543

Prepared in cooperation with

ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

Urbana, Illinois

1987

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ERRATA SHEET

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U.S. Geological Survey Water-Resources Investigations

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Page 6 paragraph 2, last sentence should read: The study reach drains 66.9 mi^2..

Page 92 Table 8: Site number 21-2 should be 21-1

Results for site number 22-1 for the samples collected 08-19-86 at 1000 and 1100 hours should be for site number 11-1

Results for site number 23-1 for the samples collected 08-30-86 at 1000 and 1100 hours should be for site number 10-1

Page 144 - Table 14:	for July 2, 1986 Flow	C30 = Y
	for July 10, 1986 Flow	C33 = Y
		C35 = Y
		C36 = Y
		C41 = Y
		C47 = Y
Page 145 - Table 14:	for August 8, 1986 Flow	C35 = Y
		C36 = Y
		C41 = Y
		C47 = Y
Page 146 - Table 14:	for September 25, 1986 Flow	C42 = Y
		C50 = Y
	for October 1, 1986 Flow	C50 = Y
Page 147 - Table 14:	for October 8, 1986 Flow	C40 = Y

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CONVERSION FACTORS AND ABBREVIATIONS

For the convenience of readers who may want to use metric (International System) units, the inch-pound values in this report may be converted by using the following factors:

Mulitiply inch-pound unit	By	To obtain metric unit
inch (in.)	25.4	millimeter (mm)
foot (ft)	0.3048	meter (m)
square foot (ft^2)	0.09290	square meter (m^2)
mile (mi)	1.609	kilometer (km)
square mile (mi^2)	2.590	square kilometer (km^2)
cubic foot per second (ft^3/s)	0.02832	cubic meter per second (m^3/s)
million gallons per day (Mgal/d)	0.04381	cubic meter per second (m^3/s)
	3,785	cubic meter per day (m^3/d)

- -

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

$$°F = 1.8 \times °C + 32$$

- -

Sea level: In this report, "sea level" refers to the National Geodetic Vertical Datum of 1929 (NGVD 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 "Mean Sea Level of 1929."

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ABSTRACT

A water-quality, data-collection network on a 26.2-mile reach of Cedar Creek in west-central Illinois was operated from May through December 1985 and from March through October 1986. The study reach drains a 60.8-square-mile area of predominantly agricultural land. However, the city of Galesburg contributes combined- and storm-sewer discharge to the creek that can affect the water quality.

This report presents the streamflow and water-quality data collected and describes the methods and instrumentation used. Continuous discharge data were determined at eight gaging stations--five on the main stem and three on tributaries of Cedar Creek. Flows ranged from 0 to 1,200 cubic feet per second. A total of 8 storm sewers and 51 combined sewers were monitored or inspected as part of the study.

Continuous precipitation data were collected at five sites. The maximum hourly precipitation intensity during the study period was 1.97 inches per hour. The maximum total precipitation for a storm during the study period was 4.16 inches.

Sediment-oxygen-demand rates were measured at 45 locations in the creek. The measured sediment-oxygen-demand rates ranged from 0.4 to 9.1 grams of oxygen per square meter per day. Ninety-seven bottom-material samples were collected and analyzed for chemical oxygen demand, percentage of volatile organic constituents, and concentrations of total organic plus ammonia nitrogen, arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, and zinc.

Traveltime and reaeration rates were determined for 15 subreaches of Cedar Creek during various flow conditions. The reaeration rates ranged from 3.10 to 20.8 per day.

Three intensive diel (24-hour) data collections were conducted during low-flow conditions. Data included dissolved oxygen concentration, biochemical oxygen demand, nutrient concentrations, and metal concentrations.

During storm-related high-flow conditions, water-quality samples were collected at 5 main-stem sites, 3 tributary sites, the Galesburg wastewater-treatment-facility outfall, and 15 sewer outfalls. These samples were analyzed for nutrients and metals, suspended solids, chemical oxygen demands, and biochemical oxygen demands.

This report describes methods for measuring stage, discharge, precipitation, sediment oxygen demand, traveltime, and reaeration rate. Collection methods for bottom-material samples, diel water-quality data and samples, combined-sewer overflow frequency and duration, and storm-related sampling of combined sewers, storm sewers, and streams are described. A brief discussion of streamflow computation methods also is presented.

INTRODUCTION

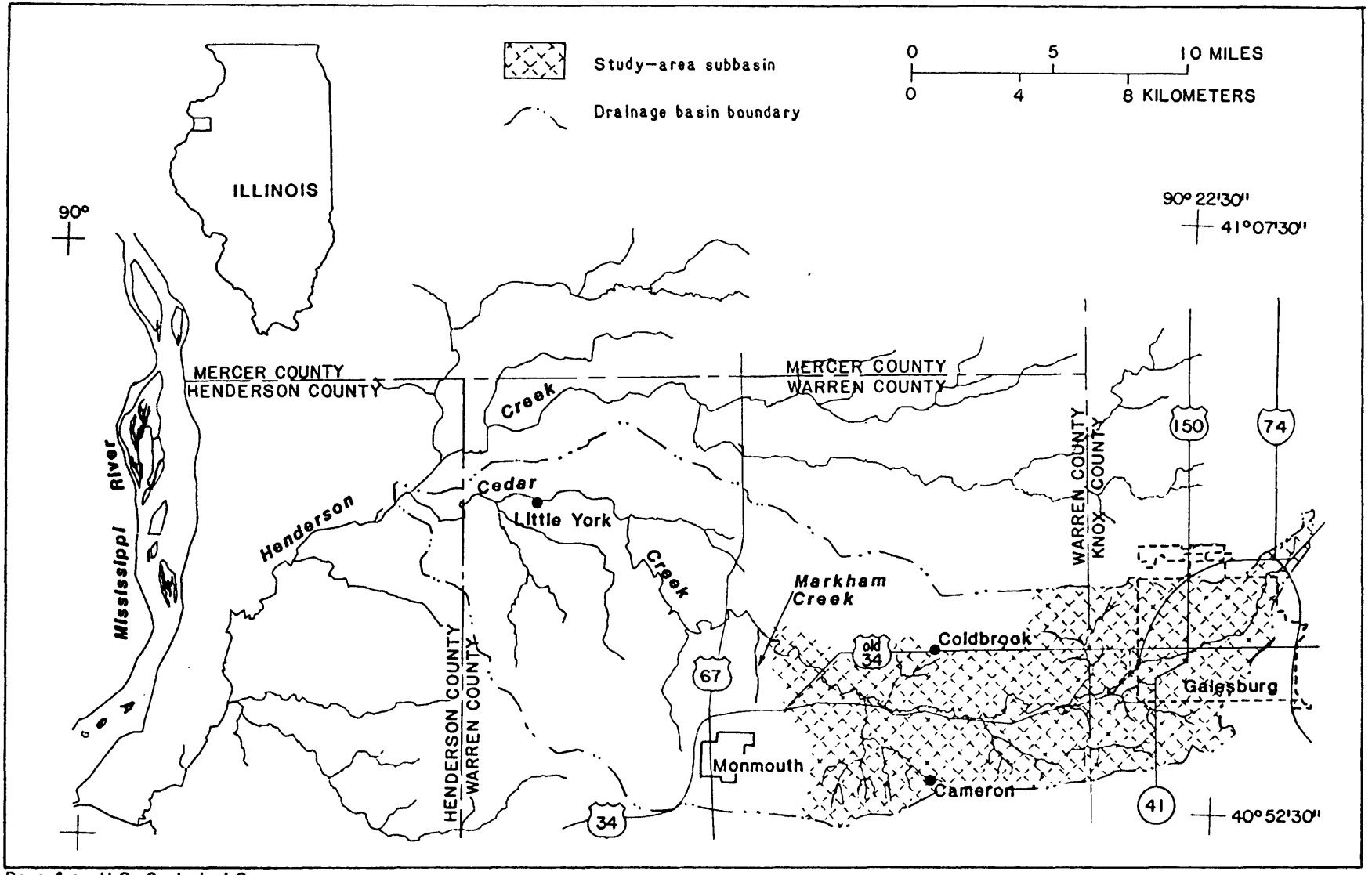
In 1982, the Survey (U.S. Geological Survey) and the IEPA (Illinois Environmental Protection Agency) entered into a cooperative agreement that initiated a series of studies to assess the water quality of streams with known or suspected water-quality problems. The fourth in this series of studies is a water-quality assessment of Cedar Creek in west-central Illinois (fig. 1). The previous three studies were designed to assess stream water quality during periods of low flow. For this fourth study, the scope was expanded to include assessment of the effect of storm-related discharges on stream water quality.

Specific objectives of this study were to (1) describe the water quality of Cedar Creek during low-flow periods; (2) identify creek subreaches that do not meet the Illinois general-use, water-quality standards during low-flow periods; (3) describe the cause and effect relations of processes that contribute to the degraded water quality in those subreaches failing to meet standards, through the use of a calibrated low-flow model; (4) describe the frequency of combined-sewer overflows in relation to characteristics of the storm events monitored; and (5) identify the effect of combined-sewer overflows and storm-sewer discharges on the water quality of Cedar Creek.

Since initiation of the NURP (Nationwide Urban Runoff Program) in 1978, studies to characterize the constituents of combined-sewer overflows and storm-sewer discharges have been conducted. Many of the NURP studies have shown that the impact on receiving waters is usually localized and short-termed during storm-related, high-flow periods. As flows return to prestorm levels, solids drop out causing deposits that can have high constituent concentrations and/or high oxygen demands (Blake-Coleman, 1984). These deposits have their largest effect (elevated constituent concentrations and oxygen demands) during subsequent low-flow conditions.

Stream quality generally is most stressed during low-flow periods, because there is less dilution of constituents in the stream and less dilution of pollutant loads entering the stream. Warmer temperatures usually accompany summertime low-flow periods and reduce the water's ability to retain DO (dissolved oxygen). Also, there is less water to supply the DO needed to satisfy oxygen demands from sediments, plants, algae, and suspended materials.

Water-quality data for Cedar Creek have been collected by the IEPA and the GSD (Galesburg Sanitary District) (Ken Newman, Illinois Environmental Protection Agency, written commun., 1985) and by Clark, Dietz, and Associates (1980). The data show that some of the State water-quality standards (Illinois Pollution Control Board, 1986), especially those for dissolved oxygen, have not been met in several subreaches of the creek.



Base from U.S. Geological Survey
1:24,000 quadrangles

Figure 1.--Location of the Cedar Creek basin in west-central Illinois.

According to the U.S. Public Health Service (1964) "fifty percent of the sewered population in the United States is served totally or partially by combined-sewer systems." This figure may be outdated, but many cities in Illinois are still served by combined-sewer systems. Overflows from these systems can have an undesirable effect on the receiving stream.

Galesburg, Illinois, the largest community in the study area (population 35,305, U.S. Census Bureau, 1980) (fig. 1) is served primarily by combined sewers. The sewer system consists of private sewers dating back to 1870, public sewers dating back to 1892, and the GSD sewers, which comprise the majority of the system, dating back to 1924. Most of the system is vitrified clay pipe that has many cracks and separations, which make infiltration to the sewers a problem (Huff and others, 1981).

Several separate storm sewers were installed in Galesburg as early as 1930. The major part of the current storm-sewer system was constructed after 1967 (Clark, Dietz, and Associates, 1972). A large part of the city is now served by separate storm sewers. However, drainage connections to the combined-sewer system from house foundations, roofs, streets, and catch basins still existed in 1981 (Huff and others, 1981). The GSD has been actively reducing the number of these connections, but overloading and resulting overflows still (1986) occur from those that still exist and from inflow of storm water to the system.

The GSD has been increasing weir elevations and installing new weir structures in sewers to reduce the number of combined-sewer overflows. Overflow structures are essentially weirs and overflow pipes that were installed as release devices to prevent sewers from backing up into basements. Figure 2 shows a diagram of a typical overflow structure in Galesburg. Most of the overflow structures discharge to Cedar Creek or to storm sewers that discharge to Cedar Creek.

Purpose and Scope

The purpose of this report is to describe data-collection methods and instrumentation used to meet the study objectives and to present a summary of the data collected.

The scope of this report is restricted to describing the data-collection methods and presenting the data collected during the periods June through November 1985 and March through October 1986. During the first period, data were collected to describe low-flow discharge, channel characteristics, and the water quality of the study reach. Data also were collected to describe the frequency of combined-sewer overflows. During the second period, combined-sewer overflow data were collected that included quantity and quality of overflows to Cedar Creek and the resulting effects on Cedar Creek. The effects of storm-sewer and tributary discharges on stream quality also were considered. Precipitation data were collected during both of these time periods.

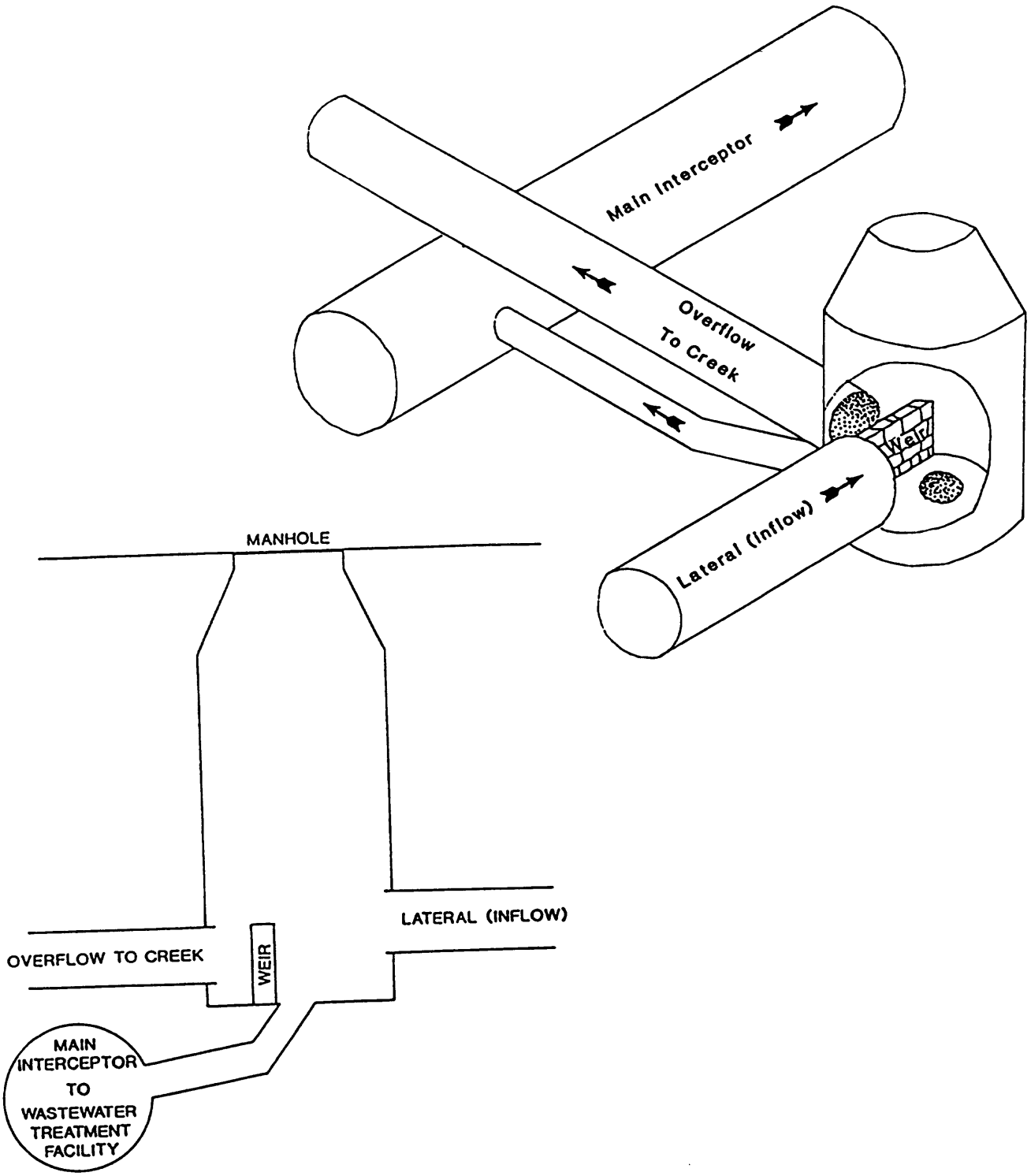


Figure 2.--Typical combined-sewer overflow structure in Galesburg.

Because of the large amounts of data presented in this report, data-collection methods are presented in one section and summaries of data are presented in another. This arrangement should facilitate continuity and usability of the data.

Study Area

Cedar Creek drains 165 mi^2 (square miles) in Knox, Warren, and Henderson Counties in west-central Illinois (fig. 1). The study reach extends 26.2 river miles from near the headwaters of Cedar Creek to the confluence of Markham Creek with Cedar Creek (fig. 3). All river mileages stated in this report are based on the channel prior to recent modifications caused by the construction of U.S. Highway 34. The study reach drains 60.8 mi^2 of predominantly agricultural land except for the upstream part, which includes the city of Galesburg.

Within the study basin, Cedar Creek follows a meandering channel, although several subreaches have been channelized. A channelized reach from RM (river mile) 44 through most of the city of Galesburg to RM 42 is concrete lined. Due to the construction of U.S. Highway 34, five channel modifications were made in the study reach. The first channel modification, near RM 39.5, is a high-flow diversion. During low and medium flows, all the water follows the original channel, but during periods of high flow, some of the water follows the diversion. The second modification, near RM 37.4, is essentially a channel-straightening modification, but the old channel is still used for a tributary that discharges to it. The three remaining channel modifications, near RM 34.2, 30.7, and 27.4, were channel-straightening modifications. These channel modifications are shown in figure 4. There are numerous minor tributaries to Cedar Creek, six of which were sampled during three low-flow periods in 1985. Three of these six were monitored continuously for stage during the 8-month period in 1986. Table 1 lists the data-collection sites referred to in figure 3 along with the period of record, type and frequency of data collected, and type of gage or sampling method used.

Figures 5 through 8 show locations of the 8 storm sewers and 51 combined sewers monitored or inspected during this study. Table 2 gives a description of the sewers shown in figures 5 through 8 and the monitoring methods used.

Acknowledgments

The authors wish to acknowledge the assistance provided by the Illinois Environmental Protection Agency in helping organize and conduct this study, especially during the diel sampling periods. Acknowledgment is also given to the Galesburg Sanitary District for providing information about, and access to, their facilities. We wish to thank the city of Galesburg and local residents for granting permission for the Survey to access sites and install equipment for sampling. We also wish to thank Knox College for the short-term use of one of their laboratories.

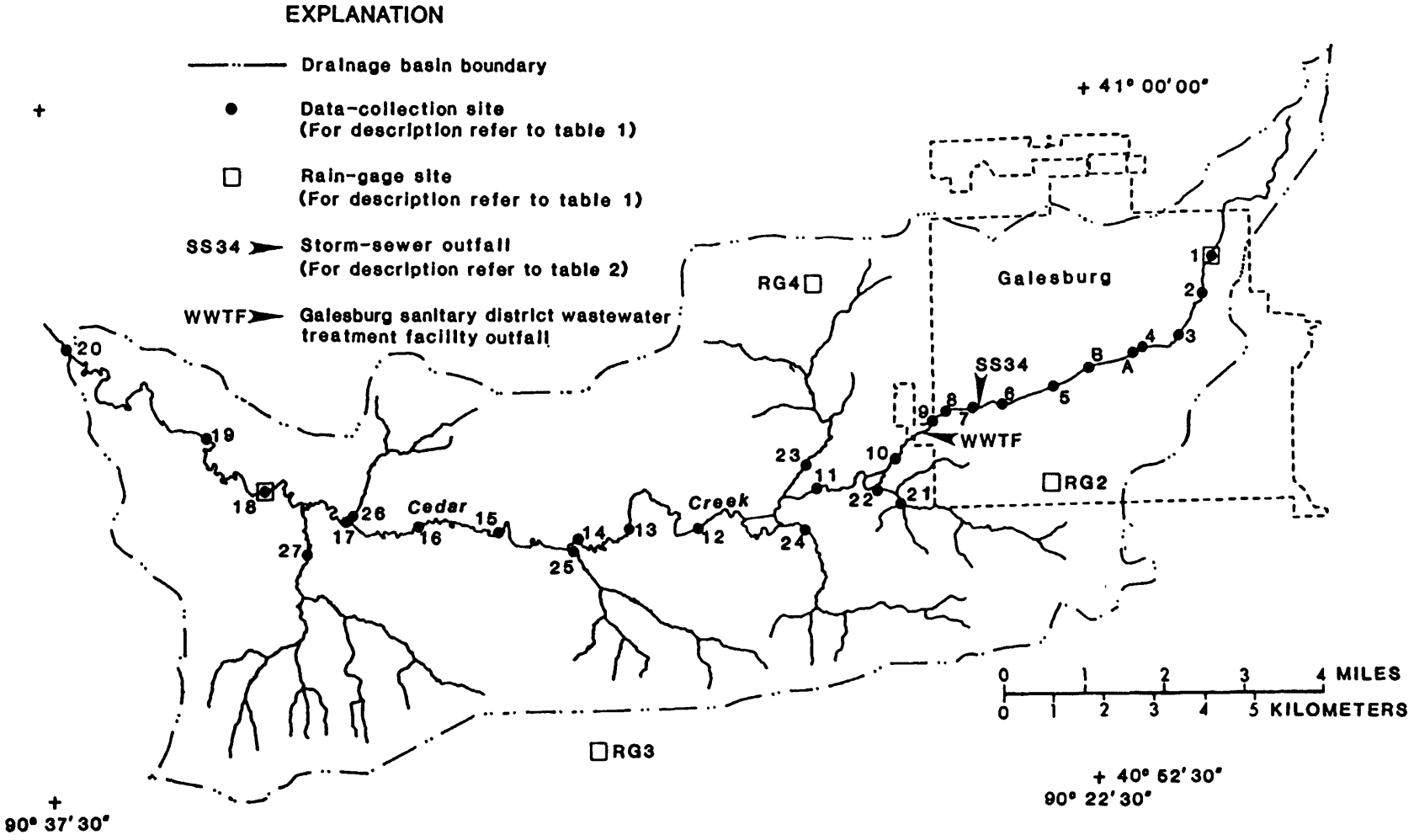


Figure 3.--Locations of the data-collection sites, wastewater-treatment-facility outfall, and rain gages in the Cedar Creek study basin.

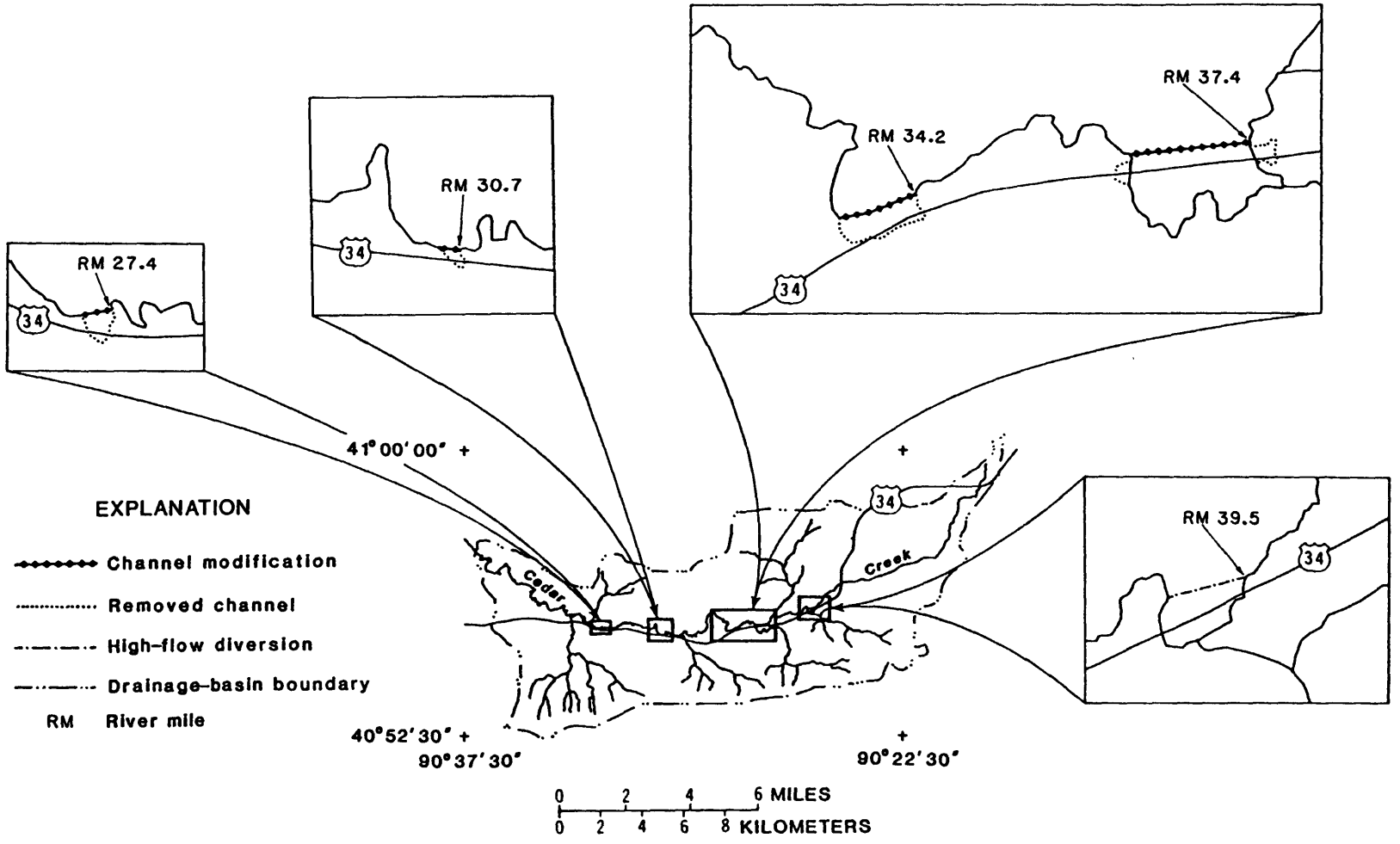


Figure 4.--Locations of channel modifications to Cedar Creek.

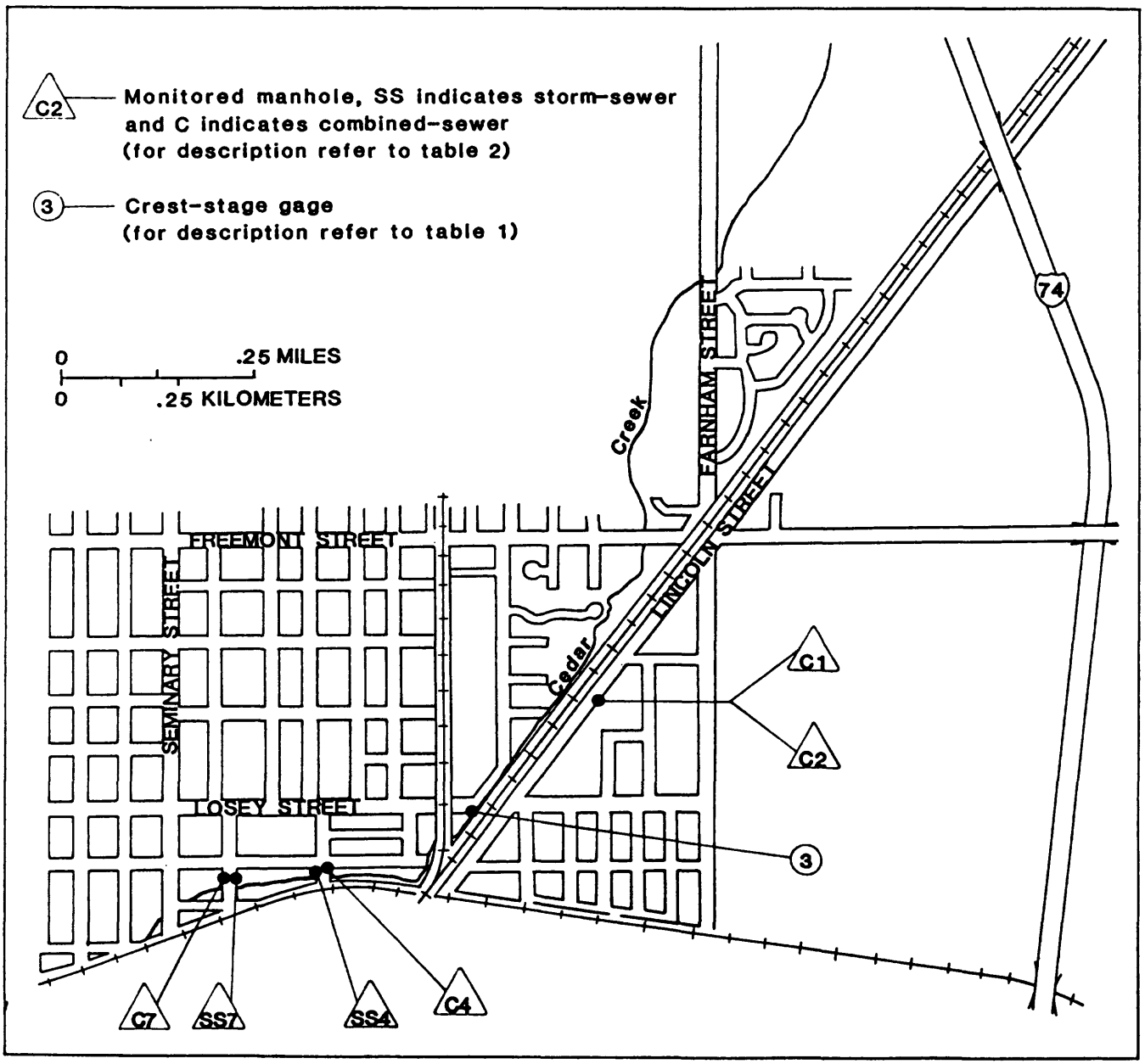


Figure 5.--Locations of selected storm sewers, combined sewers, and crest-stage gages in the northeastern quarter of Galesburg.

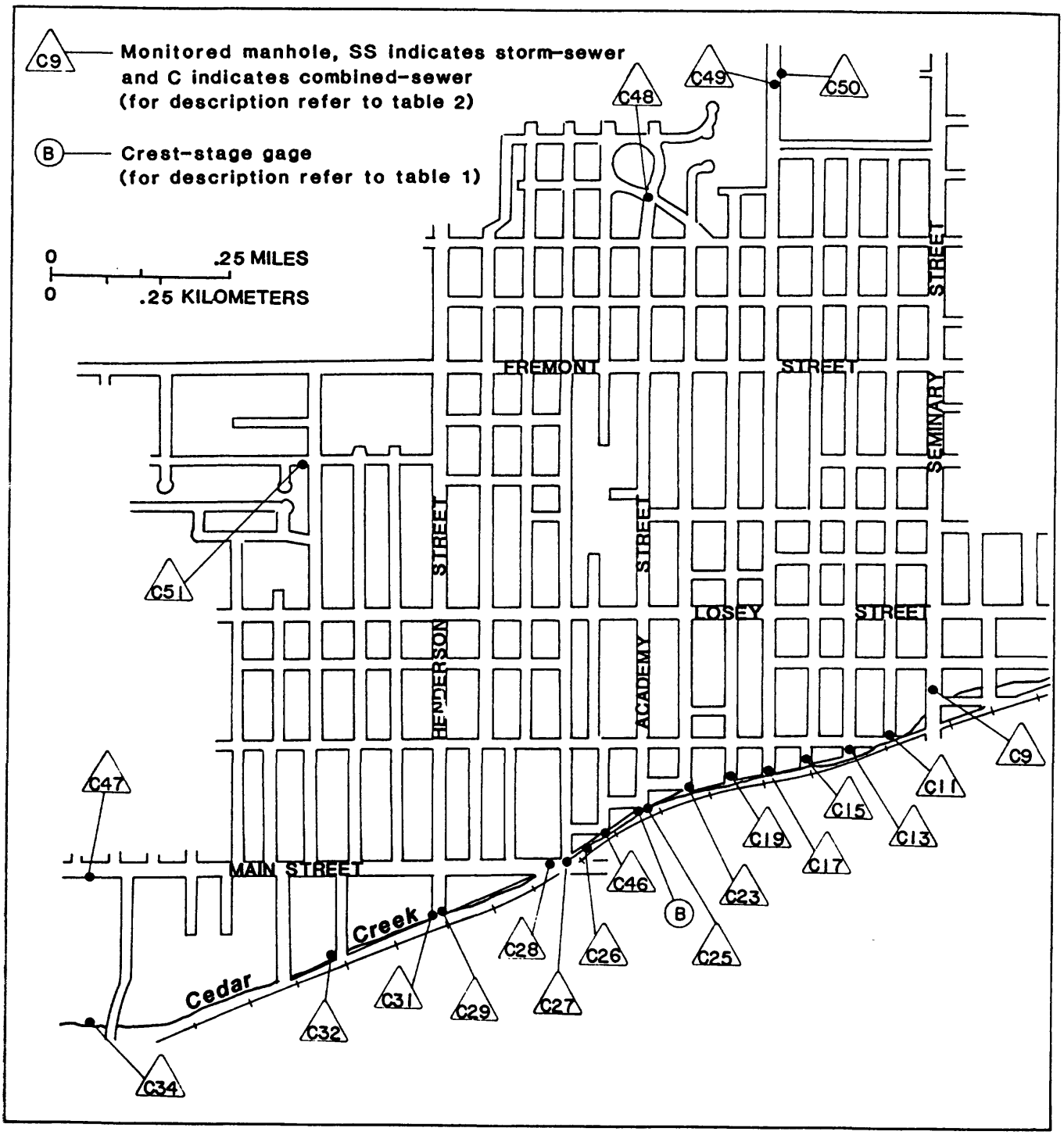


Figure 6.--Locations of selected storm sewers, combined sewers, and crest-stage gages in the northwestern quarter of Galesburg.

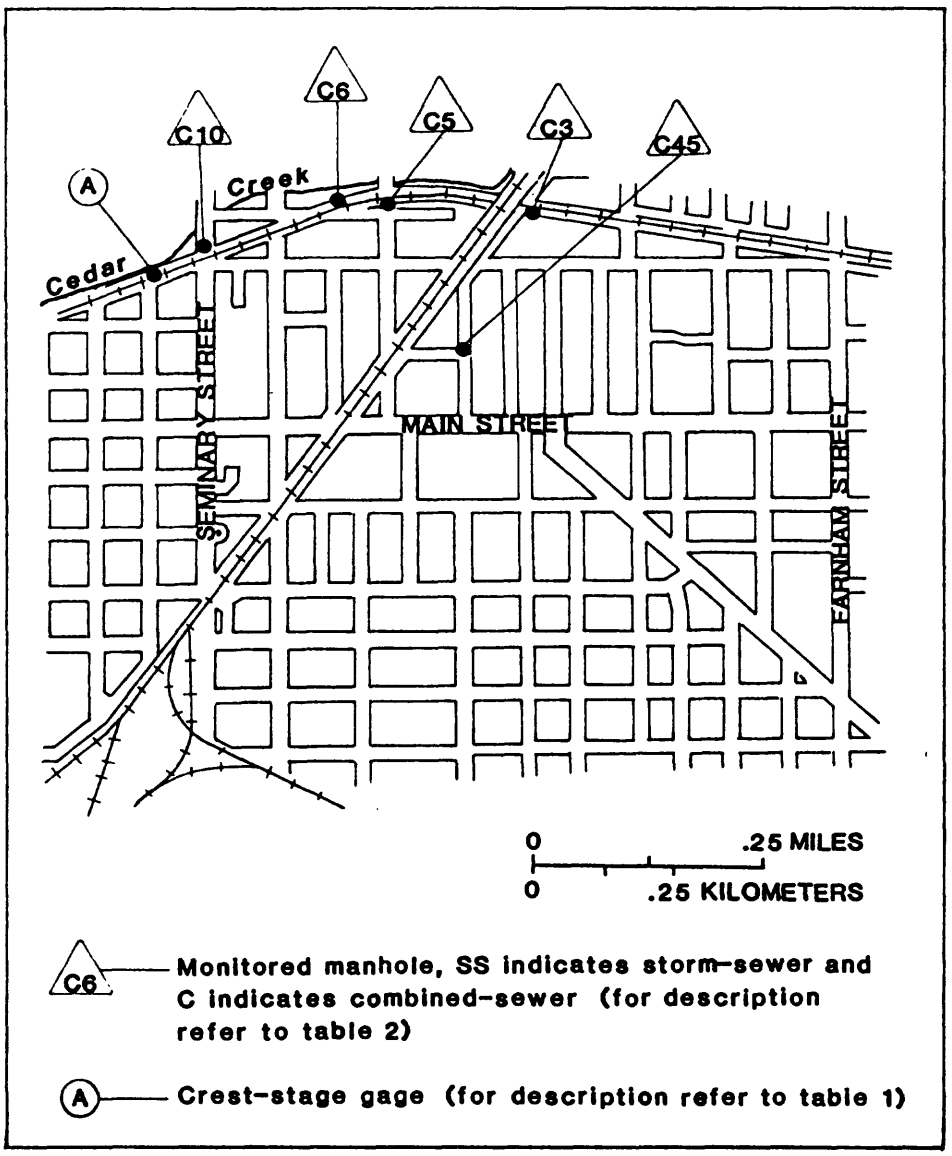


Figure 7.--Locations of selected storm sewers, combined sewers, and crest-stage gages in the southeastern quarter of Galesburg.

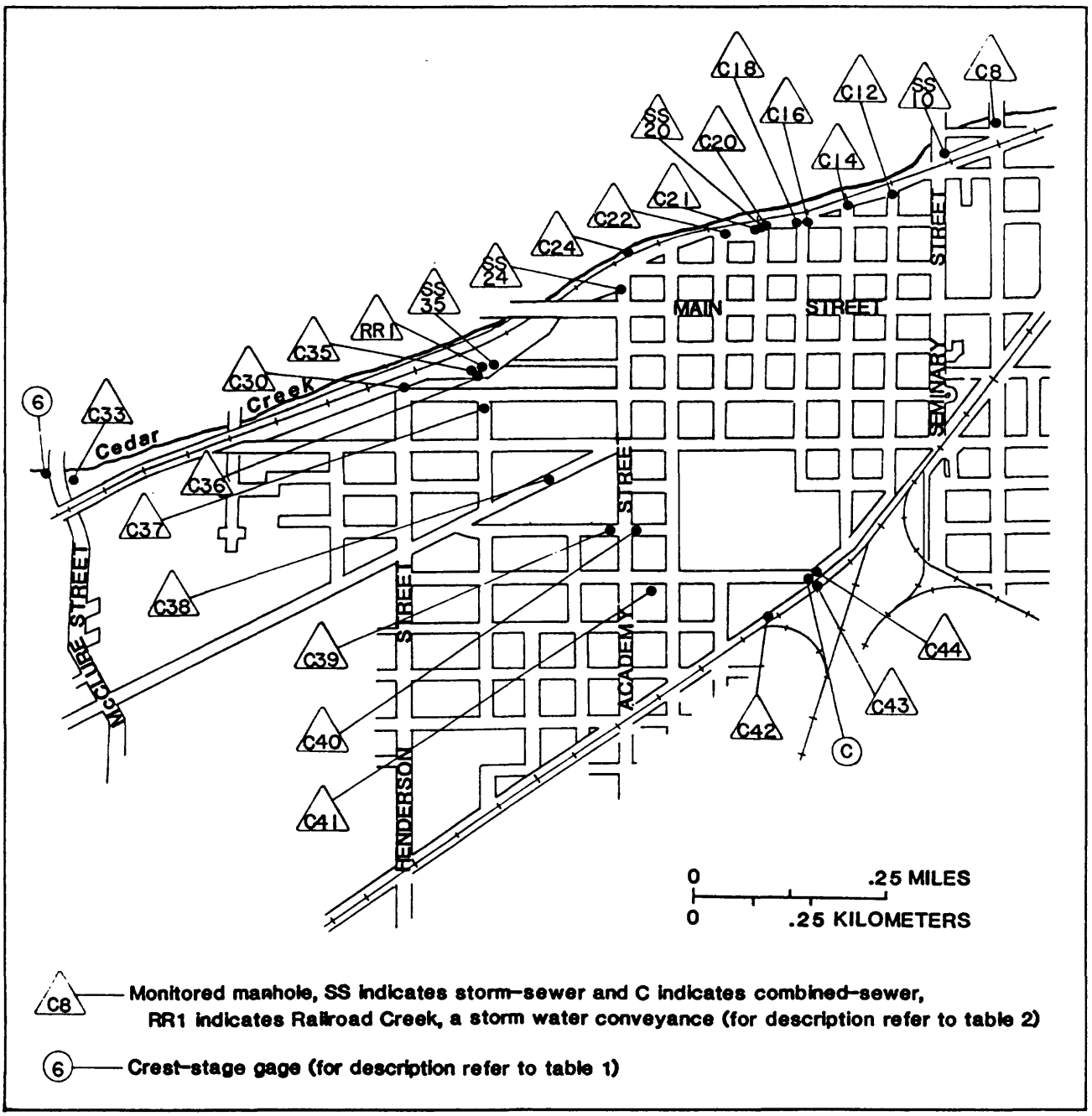


Figure 8.--Locations of selected storm sewers, combined sewers, and crest-stage gages in the southwestern quarter of Galesburg.

DATA-COLLECTION METHODS

This section of the report describes the data-collection methods used for this study. Data referred to in this section are presented in a later section of this report.

Streamflow

Stream-stage data were collected to provide needed information for establishing stage-discharge relations, modeling, and determining reaeration rates and traveltimes. Three sensing methods were used in conjunction with recorders to obtain continuous-stage record: (1) a float in a stilling well, (2) a gas-purge system that transmits the pressure head of water in the stream to a pressure-sensing device, and (3) an ultrasonic stage-sensing device.

The stilling-well system is a vertical pipe housing a suspended float that is in direct contact with the stream. The stilling well (vertical pipe) is to dampen the affects of wind and stream turbulence. The float follows changes in stage that can be transferred to a recorder (Rantz and others, 1982).

In the gas-purge system, nitrogen (a relatively inert gas) is fed through a tube and bubbled freely at a constant rate through a submerged orifice at a fixed elevation in the stream. The water level above the orifice is related to the gas pressure in the tube. Two types of pressure-sensing devices were used with the gas-purge system--manometers and pressure transducers. Manometers are devices that sense pressure and mechanically convert the pressure into recordable data (Rantz and others, 1982). Pressure transducers provide an electrical output that is linearly proportional to the applied gas-pressure head (Gray, 1984).

Ultrasonic stage sensors use a transceiver suspended above the water surface at a known elevation. The transceiver transmits an ultrasonic pulse that is reflected off the water surface, and the time span between the pulse transmission and the reception of the returning echo is converted into distance and, thus, stage.

Two types of data recorders were used to record stage data--analog recorders and microprocessors. Analog recorders are activated by a solid-state timer and mechanically convert stage data into a coded punch tape suitable for input to a computer. Microprocessors detect and record electric potentials generated directly by a sensing device such as a pressure transducer, or by means of a mechanical link between a potentiometer and a sensing device such as a manometer.

In addition to the three types of stage recording gages, two nonrecording stage measuring methods were used--direct reading of staff gages, which are graduated, porcelain-enameled, steel plates positioned in the stream, and/or direct measurements from a reference point of known elevation to the water surface using a graduated steel tape or wooden rule. Also, peak stages during storms were obtained using crest-stage gages at 9 open-channel sites and in 24 combined sewers. The crest-stage gages consist of a vertical pipe, capped at

both ends, containing a wooden staff, which is held in a fixed position with relation to a known elevation. The top cap is vented and the bottom cap has intake holes situated to allow the true water surface to be represented inside the pipe. The staff has a basket attached near the bottom containing regranulated cork (Rantz and others, 1982). As water rises inside the pipe, the cork floats on the water surface. When the water reaches its peak stage and starts receding, cork adheres to the staff, thus marking the peak stage. One open-channel (site C) and one combined sewer (site C44) crest-stage gages were used in relation to each other. All other crest-stage gages, reference points, and elevations are in relation to feet above sea level.

Discharge data were obtained by one of the following four methods: current meter, volumetric, dye-dilution, or indirectly by use of a stage-discharge relation. Theoretical peak discharges also were estimated for flow over the weirs in the combined-sewer structures (fig. 2) (Chow, 1959; Bureau of Reclamation, 1974; and Kania, 1986). Current-meter measurements were the primary means of directly measuring discharge in the open-channel reaches of the creek (Rantz and others, 1982). Volumetric measurements were made at some sites where the use of a current meter was not feasible (Rantz and others, 1982). Dye-dilution techniques (Kilpatrick and Cobb, 1984) were used primarily to measure flow rates in the combined and storm sewers due to the physical constraints of measuring flow through pipes. Table 3 lists selected discharge measurements and related data obtained during this study for use in determining traveltimes and reaeration rates and for modeling purposes.

The computation of daily discharge at continuous-recording stage stations depends on defining a relation between stage and discharge (Rantz and others, 1982). The results of individual discharge measurements were plotted against corresponding stages to develop the stage-discharge-relation curves. From these curves, rating tables were prepared indicating the approximate discharge for any stage within the range of stages of the measurements. To define extremes of discharge outside the measured range of stage, the curves were extended using logarithmic extrapolation (Rantz and others, 1982).

Daily mean discharges were computed by applying the stage-discharge tables to the recorded stages (gage heights) and computing the mean of those incremental discharges. If the stage-discharge relation was subject to change because of frequent or continual physical change of the control or due to aquatic growth or debris on the control, the daily mean discharge was determined by the shifting-control method (Rantz and others, 1982). Adjustment factors, based on individual discharge measurements and notes by the personnel making the measurements, were prorated over time and/or stage to the gage heights. Discharges were then determined from the rating tables using the adjusted gage heights.

At some stage-recording stations, there were periods when no gage-height record was obtained or the recorded gage height was so faulty, due to equipment malfunction, that it could not be used to compute daily discharge. For such periods, daily discharges were estimated from the recorded range-in-stage, previous or following stage record, discharge measurements, weather records, and comparison with stage record from other gages in the study area (Stahl and others, 1986).

The accuracy of streamflow records depends on (1) the stability of the stage-discharge relation, (2) the frequency of discharge measurements, (3) the accuracy of stage and discharge measurements, and (4) interpretation of records. The accuracy attributed to the streamflow records in table 4 is indicated under "REMARKS" for each site. "Excellent" means that about 95 percent of the daily discharges are within 5 percent of the true value, "good" within 10 percent, and "fair" within 15 percent. Records that do not meet the criteria mentioned are rated "poor." Different accuracy may be attributed to different periods of a given record. Table 4 includes streamflow records for sites 1, 8, 11, 14, 18, 21, 23, and 24.

Precipitation

Precipitation intensity and duration information were collected to relate to combined-sewer overflow frequency and duration. Precipitation data were collected by means of a network of five tipping-bucket rain gages (fig. 3). The data were recorded at each site by a microprocessor that records switch closures. In this case, each switch closure indicated a bucket tip and was equivalent to 0.01 inch of precipitation. The areal coverage was estimated by utilizing the Theissen method (Linsley and Franzini, 1964). Total accummulations, intensities, and durations for selected storms are presented in table 5.

Bottom Material

Sediment-oxygen-demand rates were used to measure the effect of bottom materials on DO concentrations. Measurements of SOD (sediment oxygen demand) were made 70 times at 45 locations from June through September 1985 and from May through September 1986. Figures 9 and 10 show the locations of SOD measurement sites, and the results of these measurements are given in table 6.

Measurements of SOD involved seating a flanged open-bottomed steel box firmly on the streambed, effectively isolating that portion of the streambed and the water confined inside the box from the rest of the stream. Clamped to the inside of the box was a calibrated DO sensor and stirrer that were used to measure the change in DO concentration inside the box over a period of time ranging from 2 to 10 hours (average of 4 hours). Concentrations of DO were obtained at regular time intervals until a substantial change in DO concentration occurred or readings were terminated due to other circumstances. The first several readings were not utilized for data analysis because of unstable conditions, such as the presence of resuspended bottom material.

To determine SOD rates, the differences between successive instantaneous DO field measurements were accumulated to determine the DO consumed during the measurement period; an example is tabulated in table 7. These cummulative DO values were then plotted as a function of time (fig. 11). These plots normally indicate a stable linear relation after conditions in the submerged box stabilize. The slope of the relation was determined by the least-squares method.

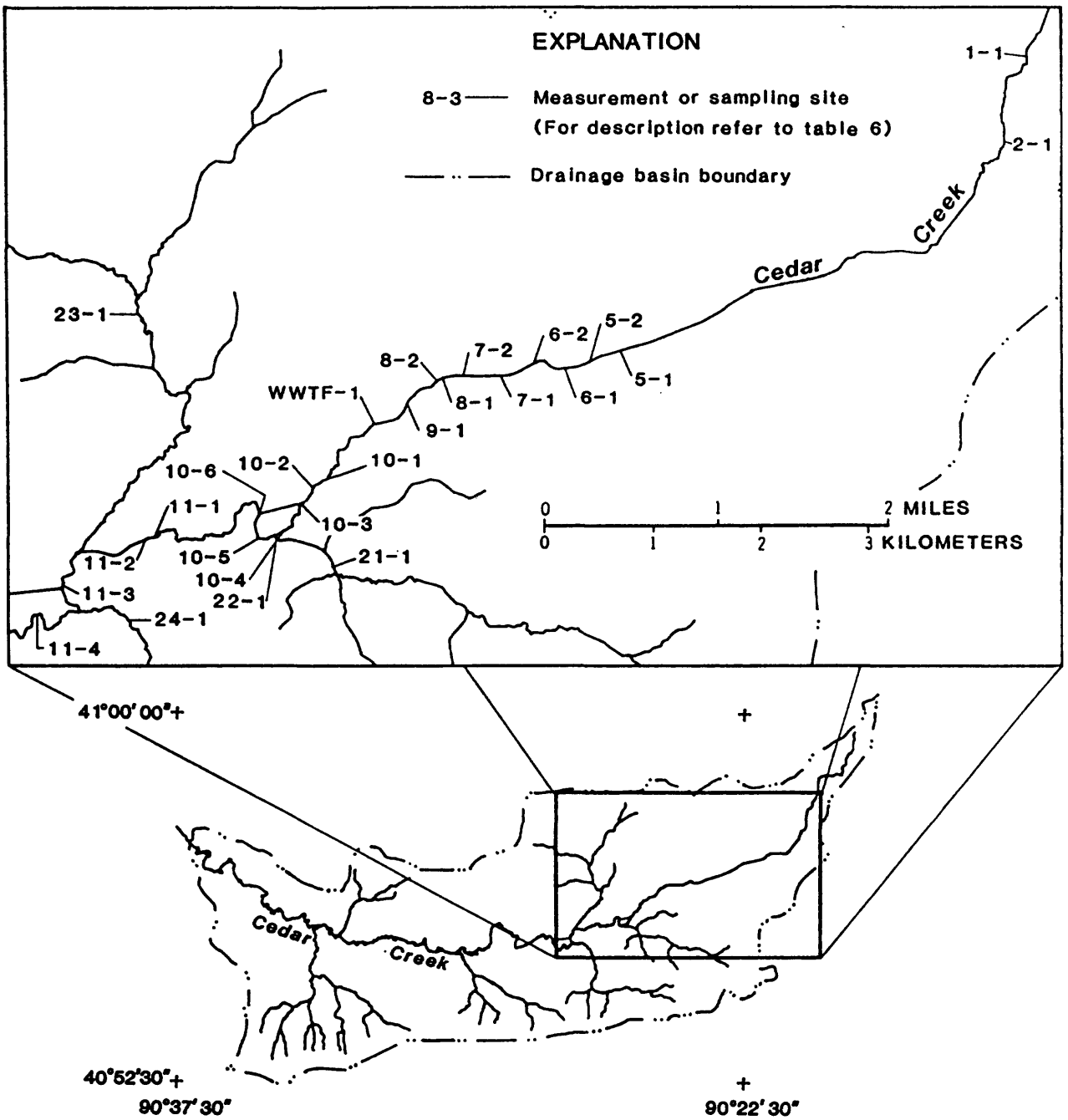


Figure 9.--Sediment-oxygen-demand measurement and bottom-material sampling sites in the upper part of the Cedar Creek study basin.

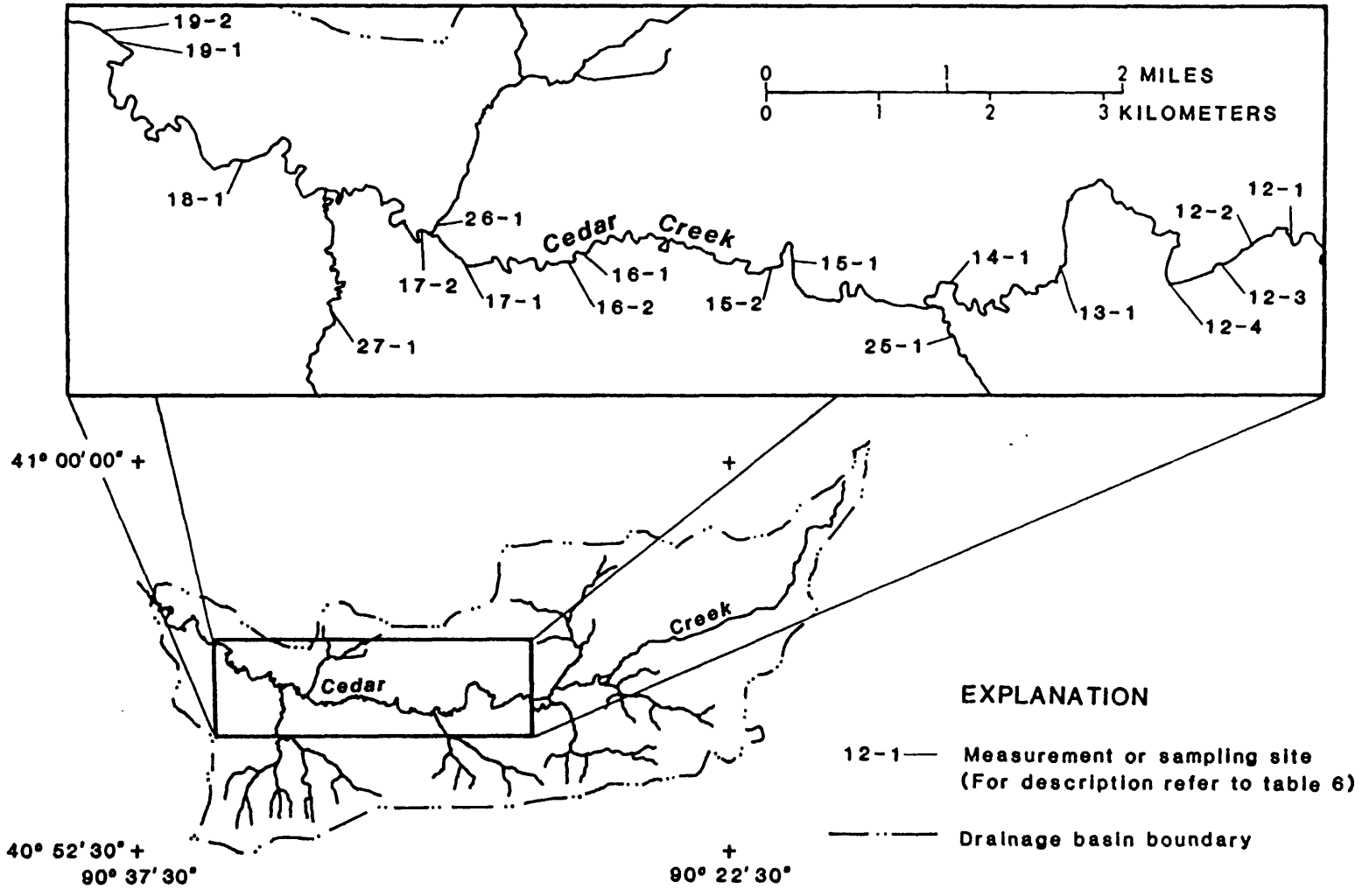


Figure 10.--Sediment-oxygen-demand measurement and bottom-material sampling sites in the lower part of the Cedar Creek study basin.

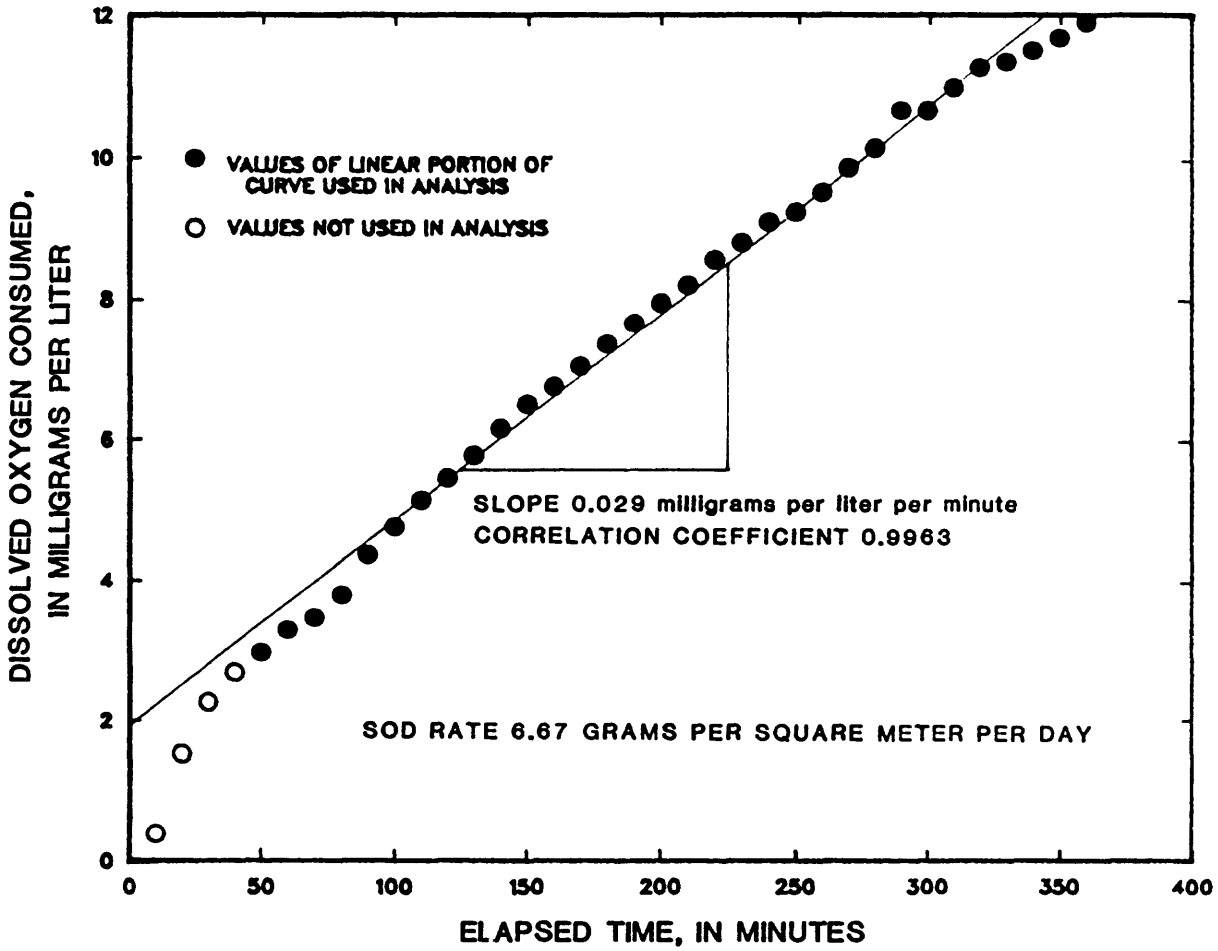


Figure 11.--Dissolved oxygen consumed as a function of time for the sediment-oxygen-demand measurement made on August 19, 1986, at Cedar Creek at County Line Road near Galesburg (site 11-1).

The SOD rates computed for each measurement were expressed in terms of grams of oxygen consumed per square meter per day from the formula (Butts, 1974)

$$SOD = (1{,}440\ SV)/1{,}000\ A, \qquad (1)$$

where SOD is sediment oxygen demand, in grams per square meter per day;
S is slope of the linear part of DO usage plot, in milligrams per liter per minute;
V is volume of the box, in liters;
A is area of the bottom of the box, in square meters;
1,440 converts minutes to days; and
1,000 converts liters to cubic meters.

The specific formula for the sampler used is SOD = 228.2 S.

Bottom-material samples were collected at many of the sites where SOD measurements were made. Due to the depth of water at a few sites, the following method was used to collect samples: A 3.5-foot length of 1.5-inch PVC (polyvinylchloride) pipe was pushed into the streambed, withdrawn, and all but the top 1 to 2 inches of material was discarded. The remaining material was placed in a container, chilled, sent to the IEPA laboratory in Champaign, Illinois, and analyzed using IEPA laboratory methods (1986). At most sites, where the above method was not necessary, samples were simply scooped into a bottle, chilled, and submitted for analysis.

All 97 bottom-material samples were analyzed for the following constituents: percent volatiles, total organic plus ammonia nitrogen (total kjeldahl nitrogen), chemical oxygen demand, arsenic, cadmium, chromium, copper, iron, lead, manganese, mercury, and zinc. The results of these analyses are presented in table 8, and bottom-material sampling sites are shown in figures 9 and 10. Selected samples also were analyzed for several organic constituents; however, the results of these analyses were not available at the time of publication and are not presented in this report.

Traveltime and Reaeration Rate

Traveltime through any subreach is the time required for the peak concentration of a cloud of conservative, water-soluble, tracer dye to travel the length of the subreach. Traveltime helps define the residence time of dissolved solutes in a subreach and is used to calculate reaeration rates.

Reaeration rate is the rate of change of DO concentration with time and is equal to the product of reaeration coefficient and DO deficit. Atmospheric reaeration is the physical transfer of oxygen between the atmosphere and stream water. The driving force of this process is the DO deficit, which is the difference between the concentration of DO at saturation and the actual DO concentration in the stream. The reaeration coefficient, which quantifies the process, is dependent on stream characteristics such as depth, flow velocity, and temperature.

Traveltimes and reaeration rates for Cedar Creek were measured using a modified-tracer technique described by Rathbun (1979). In this technique, a fluorescent water-soluble dye solution (rhodamine WT) and a low molecular-weight hydrocarbon gas (propane) were injected into the stream at constant rates for a predetermined time (approximately 30 minutes). Samples were collected at two or more sites downstream from the injection site and analyzed to determine the concentration of the gas and dye with respect to the time of sample collection. Selection of gas and dye quantities and injection periods were based on methods described by Rathbun (1979), which utilize streamflow characteristics (velocity and discharge), river basin characteristics (channel width, depth, slope, and reach length), detection limits for the gas and dye, Survey guidelines for the maximum concentrations of gas and dye, estimates of traveltime and reaeration-rate coefficient for the reach, and equipment limitations.

The technique is based on research by Rathbun (1979) from which the reaeration-rate coefficient was found to be directly proportional to the propane desorption-rate coefficient, with a constant of proportionality of 1.39. This constant was used to calculate reaeration coefficients from measurements of the loss rate of propane from the stream, assuming that all propane lost was through desorption to the atmosphere. Reaeration rates were calculated based on the upstream-to-downstream changes in peak gas concentrations and adjusted to represent the reaeration rate at 20°C for comparison purposes.

Propane was injected through two porous diffuser plates (3.5 feet in length) placed on the streambed, at the center of and perpendicular to the flow. The gas was fed from a pressurized cylinder equipped with a two-stage regulator and a rotameter to regulate the propane injection rate.

The dye solution was injected at the center of streamflow by pumping the solution through tubing using a battery-operated, constant-rate, positive-displacement pump to insure a constant injection rate.

Samples analyzed for gas and dye concentrations were collected at two or more sites downstream from the injection site. As many as 63 samples for analysis of dye concentration and 6 samples for analysis of gas concentration were collected at each site. A fluorometer was used to measure dye concentrations. Gas samples were preserved with formalin and analyzed, using gas chromatography, at the Survey's laboratory in Doraville, Georgia. The results of traveltime and reaeration work are presented in table 9.

Low-Flow Water Quality

The primary purposes of collecting low-flow data were to identify subreaches with poor water quality, to obtain data for modeling, and to describe the enviromental processes involved with water-quality degradation.

Water temperature, specific conductance, pH, and DO concentration were monitored continuously at five sites (1, 8, 11, 14, and 18; table 1, fig. 3) on the main stem of Cedar Creek from June through October 1985 using Survey minimonitors. Because of many equipment malfunctions, fouling of the sensor probes, and failure to hold calibration, especially the pH and DO probes, minimonitor data were unreliable and generally not used.

The three intensive diel data collections were conducted on July 9-10, August 7-8, and August 27-28, 1985. Sampling for each 24-hour period started at 1800 hours on the first day and ended at 1800 hours on the second day. A 24-hour composite of hourly samples was collected at two sites on each of the 4 days prior to the diel sampling periods. One of these two sites sampled the effluent of the GSD wastewater-treatment-facility outfall (site WWTF), and the second sampled the discharge from a storm sewer that contained effluent from nearby industries. This storm sewer (site SS34) is located at the southeast side of the Linwood Street bridge in Galesburg. Composite samples were collected to identify any large changes in effluent quality that might affect the water quality within the study reach during the diel sampling periods. These

samples were analyzed for the following constituents: total organic plus ammonia nitrogen (total kjeldahl nitrogen); total suspended solids; ultimate carbonaceous BOD (biochemical oxygen demand); and total and dissolved ammonia nitrogen, nitrite plus nitrate nitrogen, and phosphorus. These data are presented in table 10.

Two pure-oxygen, stream-aeration devices installed by the GSD were monitored to assure proper representation of the devices in the model. To accomplish this, a vibration-activated totalizing timer was attached to each aeration device 4 days prior to a diel data-collection period and the initial timer display reading and corresponding watch time were recorded. The timers and corresponding watch times were read daily prior to, and at approximately 6-hour intervals during, the diel sampling periods. These readings determined whether or not the aerators were operating continuously. If operation was interupted, the readings indicated during which time interval operation was interupted and for how long.

During the diel sampling periods, 6 water samples were collected at each of 21 selected sites on the main stem of Cedar Creek having measurable flow. Six tributaries, when flowing, also were sampled. Each tributary was sampled twice--once in the early morning prior to the beginning of the diel sampling period, 0200 to 0600 hours (the time period normally associated with minimum DO concentrations), and again in the late afternoon just prior to or shortly after the end of the diel sampling period, 1400 to 1800 hours (the time period normally associated with maximum DO concentrations).

In addition to the collection of water samples for analysis, stage measurements and measurements of air and water temperature, specific conductance, pH, and DO were obtained each time a site was visited. Measurements of stream discharge and of water clarity using a secchi disc were obtained once during the 24-hour period.

The third diel data collection on August 27-28 was not as extensive as the first two diel data collections. The number of sites, samples, and constituents analyzed for were reduced.

The procedures for the intensive diel sampling were as follows:

1. The hand-held, water-quality meter used to measure water temperature, specific conductance, pH, and DO was calibrated.

2. A stage measurement was obtained upon arrival at the sampling site.

3. A thermometer was placed out of direct sunlight and in a well-ventilated location to obtain an accurate air-temperature reading.

4. Water temperature, specific conductance, pH, and DO were measured by suspending the sensing probe unit in the center of flow and allowing sufficient time for the sensing unit to equilibrate to ambient stream conditions.

5. A grab sample of sufficient volume to meet the requirements for laboratory analyses was collected from the center of flow. Part of each sample to be analyzed for dissolved constituents was filtered using a 0.45-micrometer filter.

6. Sample bottles were filled and labeled and placed on ice in a cooler.

7. Equipment was rinsed and stored for use at the next site.

8. The next sampling site was visited and steps 2 through 8 were repeated.

9. After completing the selected sampling sites, if time allowed, steps 2 and 4 were repeated at each site.

10. During a round of sampling, if judged necessary by the operator, and after completing every round of sampling, the water-quality meter's calibration was checked and adjusted.

The above procedures were repeated on succeeding rounds until the diel data-collection period had ended.

One variation of this procedure was used at the five main-stem sites and at the WWTF (wastewater-treatment facility). At these sites, the sample was collected by the automatic sampler and the hand-held, water-quality probe was placed in the vicinity of the minimonitor's probes for comparison purposes.

All samples collected during the diel period were chilled with ice, transported to the IEPA laboratory in Champaign, Illinois, within 8 hours of being collected, and analyzed using IEPA laboratory methods (1986). Each water sample was analyzed to determine the concentrations of total suspended solids, total organic plus ammonia nitrogen (total kjeldahl nitrogen), total and dissolved ammonia nitrogen, total and dissolved nitrite plus nitrate nitrogen, and total and dissolved phosphorus. Approximately 5 percent of the samples were duplicated during each of the first two diel sampling periods as a quality assurance check of the sample collectors' techniques and the laboratory analysis techniques.

Data used to determine ultimate carbonaceous BOD and the decay rate were collected by IEPA laboratory personnel for all samples. Ultimate carbonaceous BOD refers to the total amount of DO used by heterotrophic microbes in oxidizing all of the biologically oxidizable carbonaceous material in a specified volume. It is expressed as milligrams of DO consumed per liter of sample. The decay rate is the rate at which oxygen is consumed. Ultimate carbonaceous BOD and its decay rate were determined using methods described by Stamer and others (1983). This method involves incubation of the samples in the dark at 20°C and periodic determination of the amount of DO consumed. The ultimate carbonaceous BOD and its decay rate are then calculated from this time-series data by using a nonlinear, least-squares method. A small amount of nitrapyrin was added to most of the BOD samples to inhibit nitrification. Those without nitrapyrin were used to determine the ultimate total (carbonaceous plus nitrogenous) BOD.

Residual chlorine concentrations were measured by IEPA personnel in all BOD samples. Appropriate amounts of sodium sulfite were added to neutralize the chlorine residual. The BOD samples were then seeded using 1 milliliter of raw sewage obtained from the Champaign, Illinois, Sewage Treatment Works, in order to introduce microbe populations that may have been killed by the chlorine. The contribution of BOD from the seed was measured and found to be negligible.

Two samples from each site--one collected in the early morning and one in the late afternoon--were analyzed for chlorophyll-a (corrected). One sample from each site also was analyzed for 54 other properties and constituents including turbidity; chemical oxygen demand; total alkalinity; total acidity; volatile suspended solids; cyanide; hardness; chloride; sulfate; fluoride; arsenic; phenol; total dissolved solids; mercury; and total and dissolved calcium, magnesium, sodium, potassium, lead, manganese, nickel, silver, barium, boron, beryllium, cadmium, strontium, vanadium, zinc, chromium, copper, cobalt, aluminum, and iron.

The water-quality analyses on the samples collected for the three diel data collections are presented in tables 11 and 12. Discharge measurements obtained during the diel data collections are presented in table 3.

High-Flow Water Quality

One of the objectives of this study was to identify the effect of combined-sewer overflows on the water quality of Cedar Creek. To do this, it was necessary to determine the frequency, duration, and quality of overflow from combined sewers during storm-related, high-flow conditions.

The system has 51 combined-sewer overflow structures with various configurations (refer to table 2). Two of these (C34 and C38) were no longer in use by the second phase of this study. All 49 remaining combined-sewer overflow structures were monitored to determine how often they overflowed. One of these 49 was a pump station and the frequency of overflow was determined by monitoring the power company's electrical meter connected to the pump. The monitoring procedure used on the remaining 48 was to paint the outfall pipes with a mixture of water and powdered chalk that would wash off relatively easily when an overflow occurred. Removal of chalk indicated that the combined sewer had overflowed and the remaining chalk, if any, gave an indication of the peak stage of flow at the outfall. Problems associated with this method were (1) backwater from the stream could wash away the chalk, (2) several weeks of dry weather made the chalk much more difficult to wash off, (3) peak stages were often hard to distinguish from the chalk remaining in the outfall pipe, (4) humid conditions and seepage around the manhole cover sometimes made it difficult to determine if overflow had occurred, and (5) several combined sewers have storm sewers intercepting the overflow discharge pipe before reaching the stream channel making it difficult to distinguish combined-sewer overflow from storm-sewer discharge. Overflows confined to Railroad Creek, Pine Street, and West Street storm sewers were monitored by chalking the crests

of weirs instead of the outfall pipes. The problem of storm sewers intercepting the overflow discharge pipes was also solved by chalking the weirs instead of the outfalls. Many of the combined sewers were chalked in two or three locations to provide more reliable results.

The removal of chalk by backwater from the stream could not be prevented; however, crest-stage gages were installed at five locations on Cedar Creek in Galesburg (sites 3, A, B, 5, and 6; figs. 5-8) and monitored to indicate during which storms backwater may have occurred. Table 13 summarizes the crest-stage-gage data collected at these five locations.

Crest-stage gages were installed in 24 combined-sewer manholes to help determine if there had been flow over the weir and the peak stage that had occurred. The frequency and peak elevations of combined-sewer overflows are tabulated in table 14.

Attempts were made to measure the duration of overflow in the combined sewers. Instrumentation, consisting of a timer that would start when a sensor was wetted and terminate when the stage dropped below the sensor, was developed and installed in 23 combined sewers. Readings from the timers before and after a storm were intended to document the duration of flow in that pipe. Problems with the timers included (1) occasionally debris would catch on the sensor and retain enough moisture after the stage dropped below the sensor to keep the timer activated; (2) in some combined sewers, continual splashing would keep the timer activated; and (3) heat, humidity, and leakage shorted out the timers' circuitry. As a result, much of the overflow duration data was unreliable and, therefore, are not reported. The GSD modified the timer design and installed modified timers in all of the combined sewers. Results from their timers were more reliable.

Water-sampling locations for the high-flow phase of the study were confined to the five initial main-stem monitoring sites on Cedar Creek (sites 1, 8, 11, 14, and 18), three tributary sites (sites 21, 23, and 24), the WWTF, and selected storm and combined sewers in Galesburg. At the five main-stem sites and three tributary sites, stage was monitored to determine discharge, and automatic pumping samplers were used to collect water samples there and at the WWTF. Stage was not monitored at the WWTF, but discharge information was obtained from the GSD. Five sewers were chosen based on accessibility and on data gathered by chalking combined-sewer outfalls and weirs. These five sewers were instrumented more completely.

Instrumentation installed at two of the combined-sewer sites (fig. 12) consisted of an ultrasonic ranger to measure and record stage; an automatic pumping sampler activated by a float switch or liquid level actuator to collect water samples; a Mariotte Vessel to provide a reservoir of rhodamine-WT dye at a constant pressure head; and a constant-rate, positive displacement pump activated by a float switch to inject the dye for dye-dilution discharge measurements. Two storm sewers were equipped with the same instruments, except that ultrasonic rangers were not used. Also, water-quality samples were collected from Railroad Creek, a major storm sewer, using an automatic pumping sampler.

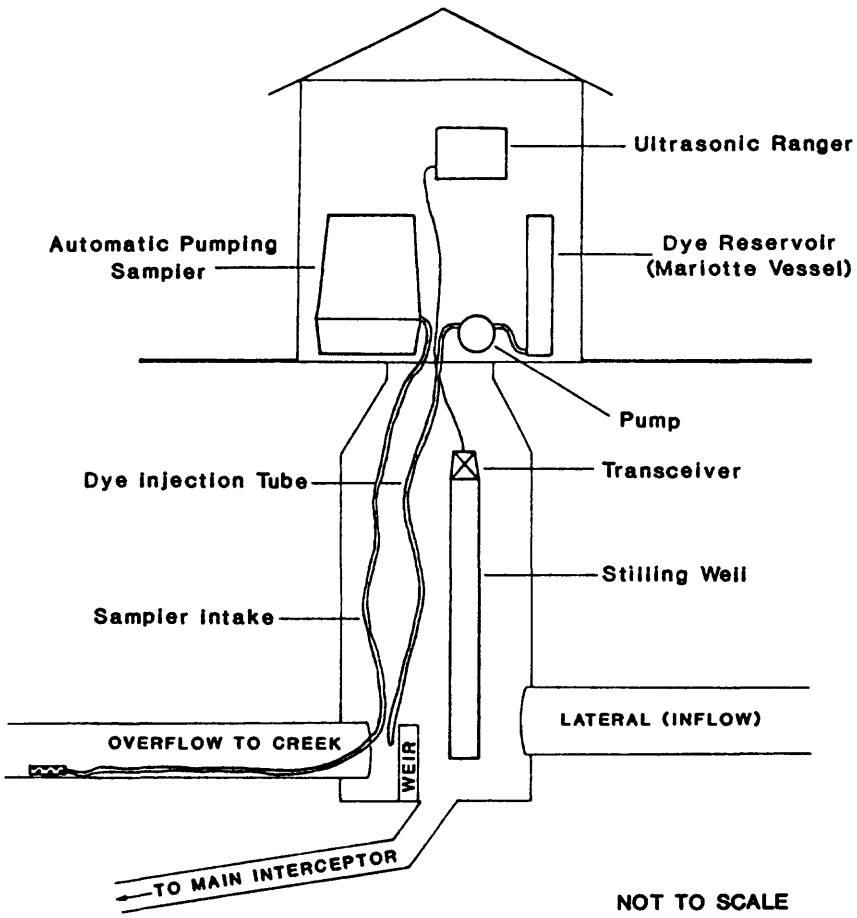


Figure 12.--Combined-sewer instrumentation.

The ultrasonic stage sensors in the two combined-sewer overflows recorded water-surface elevation above the top of the weir. This information is used with an equation to calculate discharge over a sharp-crested weir. Figure 13 shows an example of the results calculated for a storm from one of the combined-sewer overflows.

The sequence of instrument operation during a storm was as follows: When a rising stage wetted a liquid level actuator or activated a float switch, the sampling sequence would be initiated and continued until either the stage dropped below minimum sampling level or the sampler was filled to capacity. At the time sampling was initiated, another float switch activated the dye-injection pump. This pump continued to inject dye until the stage fell below minimum sampling level or the Mariotte Vessel ran out of dye. A microprocessor recorded the time each sample was collected and the time the dye-injection pump started and stopped. From these data, discharge could be determined using dye-dilution methods, and pollutant loads discharged to the stream could be estimated from the discharge and water-quality analyses.

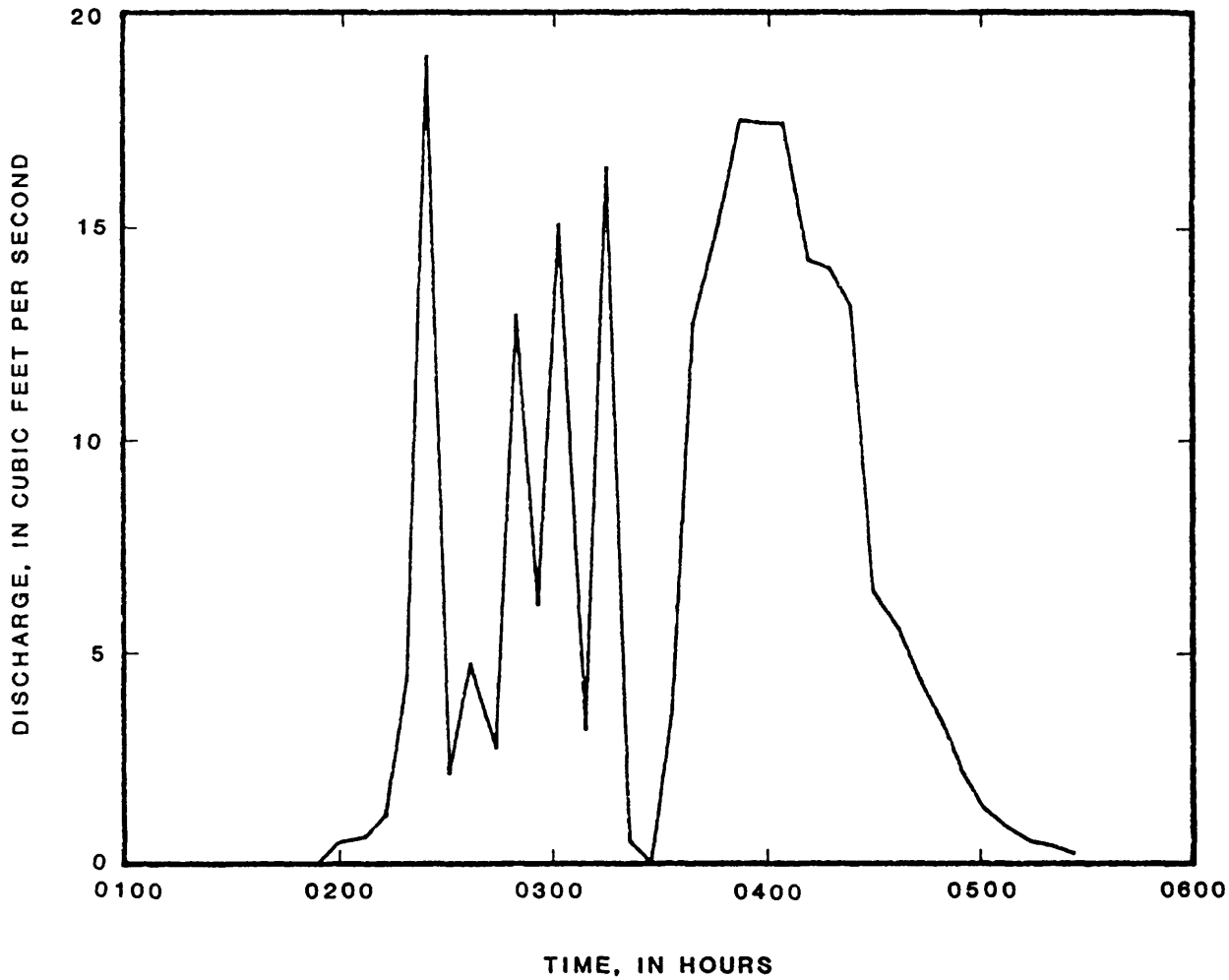


Figure 13.--Combined-sewer overflow discharge as a function of time for combined-sewer C22 on July 31, 1986.

Results of the dye-dilution discharge method were of limited use because of problems with the sampler and pump on/off indicators for the microprocessor. Also, complete mixing of the dye with the storm discharge may not have been achieved.

To obtain water samples from uninstrumented combined sewers and supplemental water samples from instrumented sewers, single-stage samplers (Guy and Norman, 1976) were installed in eight combined sewers (fig. 14). These samplers collected a water sample of the initial overflow due to a storm. When time permitted, grab samples were also collected at various outfalls of uninstrumented sewers or nonfunctioning sewer sites to supplement the automated, water-sample collection.

During each storm, six water samples were collected at every site equipped with an automatic pumping sampler, if the stage remained above the minimum sampling level and no equipment malfunctions occurred. One sample was

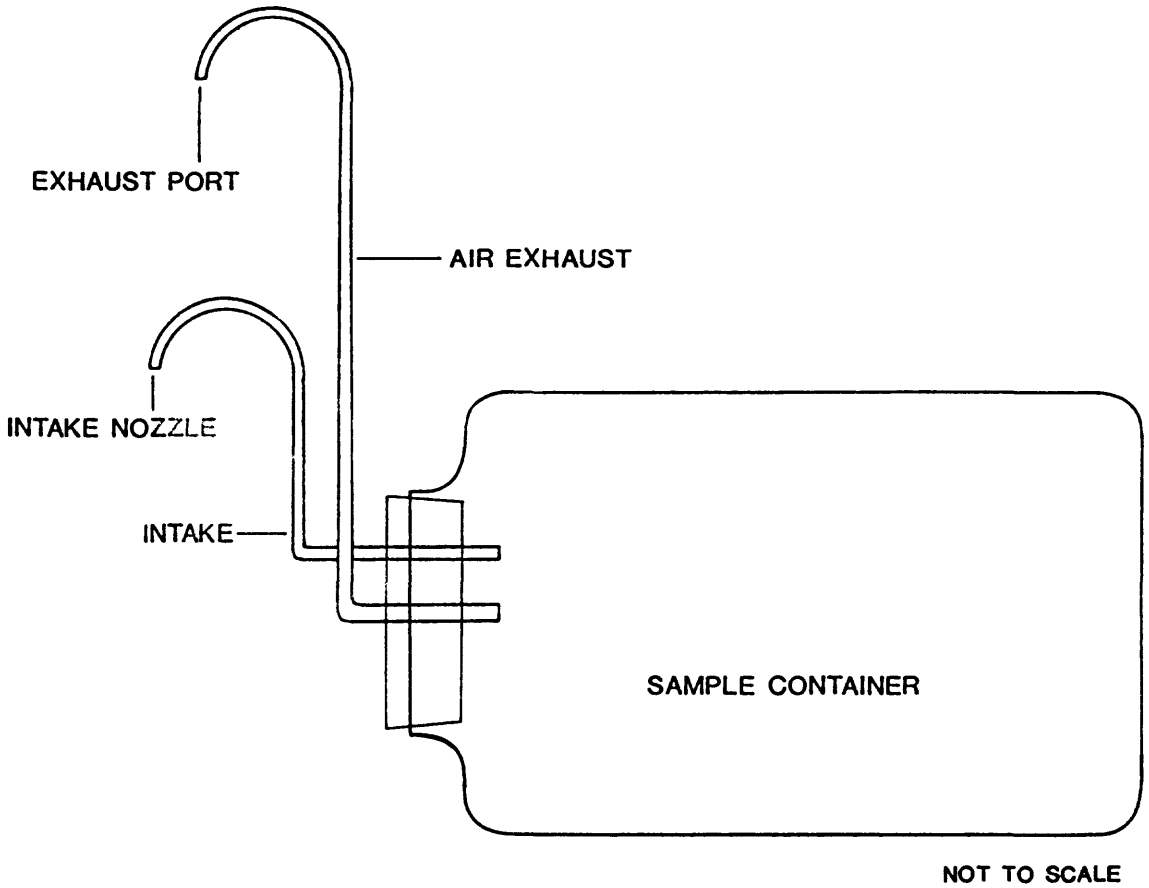


Figure 14.--A single-stage sampler.

collected from each of the eight single-stage samplers, provided sufficient volume was obtained. Two samples per day were collected by the automatic pumping samplers at each of the five main-stem sites for 3 days following the storm.

All samples were chilled with ice, transported to the IEPA laboratory in Champaign, Illinois, usually within 24 hours of being collected, and were analyzed using IEPA laboratory methods (1986). Each water sample was analyzed in the laboratory to determine specific conductance and concentrations of total ammonia nitrogen, total nitrite plus nitrate nitrogen, total organic plus ammonia nitrogen (total kjeldahl nitrogen), total phosphorus, total suspended solids, volatile suspended solids, and total organic carbon.

If sample volume were sufficient, single-stage samples and 50 percent of samples from each automatic sampler were analyzed for chemical oxygen demand; ultimate carbonaceous BOD; arsenic; mercury; fluoride; and total calcium, magnesium, sodium, potassium, barium, boron, beryllium, cadium, chromium, copper, cobalt, iron, lead, manganese, nickel, silver, strontium, vanadium, zinc, and aluminum. If sample volume were insufficient to analyze for the entire group of constituents, analyses for chemical oxygen demand and ultimate carbonaceous BOD were given priority.

One sample was taken from each automatic pumping sampler site (if volume was sufficient) and analyzed for hardness, chloride, sulfate, phenols, total BOD, and dissolved solids. Some of the samples collected during the 3-day period following a storm also were analyzed for chemical oxygen demand and ultimate carbonaceous BOD. Tables 15 through 17 present the results of the water-quality analyses of the samples collected during and just after storms.

SUMMARY

A data-collection network was designed to monitor stage, streamflow, and precipitation on a 26.2-mile reach of Cedar Creek in west-central Illinois. Samples were collected for chemical analyses of water and bottom materials; measurements were made of traveltimes, reaeration rates, and other water-quality data during periods of high and low flow to describe the water quality of Cedar Creek and to calibrate a water-quality model. This report presents the results of field measurements and laboratory analyses of samples collected and describes the methods and instrumentation used.

Stage data were collected to develop stage-discharge relations for modeling purposes, and for determining reaeration rates and traveltimes. Stage was monitored continuously at 4 sites during the first year of the project and 10 sites during the second year. Stage data were collected by using a float in a stilling well, a gas-purge system, or an ultrasonic range-sensing device; the data were recorded using either an analog recorder or a microprocessor. Nonrecording stage measurements were obtained by directly reading the water-surface elevation, in relation of feet above sea level, from staff gages or by measuring from reference points. Peak stages were measured using crest-stage gages installed at 9 open-channel sites and 24 combined-sewer locations.

Discharge data were obtained by use of one of the following four methods: current meter, volumetric, dye-dilution, or indirectly by use of a stage-discharge relation. Theoretical peak discharges were estimated for flow over weirs in the combined sewers.

Precipitation intensity and duration were measured at five locations using tipping-bucket rain gages. The data were recorded at each site by a microprocessor.

Sediment oxygen demand was measured by seating an open-bottomed steel box containing a calibrated DO probe and stirrer on the stream bottom and measuring the change in DO concentration inside the box over a period of time. Sediment-oxygen-demand rates were calculated to determine the effect of bottom sediments on dissolved oxygen concentration. Bottom-material samples were collected for analyses at many of the sites at which SOD measurements were made.

Traveltimes and reaeration rates were measured using a modified tracer technique described by Rathbun (1979). In this technique, a fluorescent water-soluble dye and a low molecular-weight gas were injected into the stream. Samples were collected at two or more sites downstream from the injection site and preserved for analysis.

Three intensive diel (24-hour) low-flow data-collection studies were made to identify subreaches with degraded water quality, to obtain data for modeling, and to describe the enviromental processes involved with water-quality degradation. During each diel sampling period, 20 sites on the main stem of Cedar Creek were each sampled 6 times. Six tributaries, when flowing, also were sampled--once in the early morning and again in the late afternoon. Stage, air and water temperatures, specific conductance, pH, DO, stream discharge, and clarity were measured at each site as part of the diel data collections. Two pure-oxygen stream-aeration devices were monitored during the diel periods with vibration-activated totalizing timers.

Of the 51 combined-sewer overflow structures in the system, two were no longer in use and one was a pump station. The frequency of overflow from the pump station was determined by monitoring the power company's electrical meter connected to the pump. The remaining 48 were painted with a mixture of water and powdered chalk to help indicate how often the combined sewer overflowed and what the peak stage of overflow was; 24 of these were equipped with crest-stage gages to indicate the peak stage of overflow; 23 were equipped with stage-activated timers to try to determine overflow duration; 8 were equipped with single-stage samplers to obtain a sample of the initial overflow; and 2 were instrumented with automatic pumping samplers, ultrasonic rangers, and dye-dilution discharge-measuring equipment. Two storm sewers were instrumented with automatic pumping samplers and dye-dilution discharge-measuring equipment. The Galesburg Sanitary District wastewater treatment facility and Railroad Creek, a major storm sewer, were also sampled using automatic pumping samplers. During storms, stage was monitored and water samples were collected at five main-stem sites and three tributary sites.

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DATA SUMMARY

TABLES 1-17

Table 1.--Stream and precipitation data-collection sites

[Site codes correspond to those in figure 3 of this report; three dashes indicate no data. Footnotes are at end of table.]

Site code	Station downstream order number	River mile above mouth	Drainage area (square miles)	Station name and location (data base site number)	Period of record	Type and frequency of data collected[1]	Type of gage or sampling method
1	05468200	45.2	2.08	Cedar Creek at Farnham Street at Galesburg Lat: 40°58'07" Long: 90°20'42"	June 1985-Nov. 1985	SF - Continuous, 15-min interval	Microprocessor, manometer, and crest-stage gage
					Apr. 1986-Oct. 1986	SF - Continuous, 5-min interval	Same as above
					June 1985-Aug. 1985	WQ - Temperature, specific conductance, pH, and dissolved oxygen; 15-min interval	USGS Mini Monitor
					July 1985-Oct. 1986	WC - At preselected times or stages	Automatic pumping sampler
					July 1985-Aug. 1985	D	Automatic pumping sampler
2	05468205	44.7	2.42	Cedar Creek at Fremont Street at Galesburg Lat: 40°57'44" Long: 90°20'50"	July 1985-Aug. 1985	D	Manually collected
					July 1985	SF - Miscellaneous discharge measurements	Current meter
3	05468210	44.0	2.80	Cedar Creek at Losey Street at Galesburg Lat: 40°57'17" Long: 90°21'12"	July 1985-Aug. 1985	D	Manually collected
					July 1985-	SF - Miscellaneous discharge measurements	Current meter
					Apr. 1986-Oct. 1986	SF - Peak stage	Crest-stage gage

4	05468215	43.5	4.40	Cedar Creek at Chambers Street at Galesburg Lat: 40°57'10" Long: 90°21'44"	July 1985-Aug. 1985	D	Manually collected
					July 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter
A	---	43.2	---	Cedar Creek at Kellogg Street at Galesburg Lat: 40°57'04" Long: 90°21'58"	July 1985-Oct. 1986	SF - Peak stage	Crest-stage gage
B	---	42.7	---	Cedar Creek at Academy Street at Galesburg Lat: 40°56'57" Long: 90°22'33"	July 1985-Oct. 1986	SF - Peak stage	Crest-stage gage
5	05468220	42.2	8.01	Cedar Creek at Henderson Street at Galesburg Lat: 40°56'46" Long: 90°23'01"	July 1985-Aug. 1985	D	Manually collected
					Mar. 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter
					July 1985-Oct. 1986	SF - Peak stage	Crest-stage gage
C	---	---	---	Railroad Creek at Depot Street at Galesburg Lat: 40°56'45" Long: 90°22'52"	May 1986-Oct. 1986	SF - Peak stage	Crest-stage gage
6	05468225	41.6	8.45	Cedar Creek at McClure Street at Galesburg Lat: 40°56'35" Long: 90°23'44"	July 1985-Aug. 1985	D	Manually collected
					July 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter
					Apr. 1986-Oct. 1986	SF - Peak stage	Crest-stage gage
SS34	---	41.1	---	Linwood Street Storm-sewer Outfall at Galesburg Lat: 40°56'33" Long: 90°24'09" (4056330902409)	July 1985-Aug. 1985	D	Automatic pumping sampler

Table 1.--Stream and precipitation data-collection sites--Continued

Site code	Station downstream order number	River mile above mouth	Drainage area (square miles)	Station name and location (data base site number)	Period of record	Type and frequency of data collected[1]	Type of gage or sampling method
7	05468230	41.1	11.2	Cedar Creek at Linwood Street at Galesburg Lat: 40°56'33" Long: 90°24'10"	July 1985-Aug. 1985	D	Automatic pumping sampler
					June 1985-Mar. 1986	SF - Miscellaneous discharge measurements	Current meter
8	05468240	40.8	11.6	Cedar Creek at U.S. Highway 34 at Galesburg Lat: 40°56'31" Long: 90°24'34"	June 1985-Nov. 1985	SF - Continuous, 30-min interval	Microprocessor and pressure transducer Crest-stage gage
					May 1986-Oct. 1986	SF - Continuous, 5-min interval	Same as above
					June 1985-Nov. 1985	WQ - Temperature, specific conductance, pH, and dissolved oxygen; 15-min interval	USGS Mini Monitor
					July 1985-Oct. 1986	WC - At preselected times and stages	Automatic pumping sampler
					July 1985-Aug. 1985	D	Automatic pumping sampler
9	05468245	40.5	13.8	Cedar Creek above Galesburg wastewater treatment facility at Galesburg Lat: 40°56'25" Long: 90°24'47"	July 1985-Aug. 1985	D	Manually collected
					June 1985	SF - Miscellaneous discharge measurement	Current meter
WWTF	---	40.2	---	Galesburg Sanitary District wastewater treatment facility outfall at Galesburg Lat: 40°56'17" Long: 90°25'01" (405617090250 1 and NPDES permit number 042)	July 1985-Aug. 1986	D	Automatic pumping sampler
					May 1986-Oct. 1986	WC - At preselected times or stages	Automatic pumping sampler

10	05468250	39.8	14.8	Cedar Creek at Old Pickard Road near Galesburg Lat: 40°56'01" Long: 90°25'21"	July 1985-Aug. 1985	D	Manually collected
					June 1985-Mar. 1986	SF - Miscellaneous discharge measurements	Current meter
11	05468265	38.1	20.2	Cedar Creek at County Line Road near Galesburg Lat: 40°55'43" Long: 90°26'28"	May 1985-Oct. 1986	SF - Peak stage and miscellaneous discharge measurements	Crest-stage gage and current meter
					Apr. 1986-Oct. 1986	SF - Continuous, 5-min interval	Microprocessor and stilling well
					June 1985-Nov. 1985	WQ - Temperature, specific conductance, pH, and dissolved oxygen; 15-min interval	USGS Mini Monitor
					July 1985-Oct. 1986	WC - At preselected times or stages	Automatic pumping sampler
					July 1985-Aug. 1985	D	Automatic pumping sampler
12	05468300	35.2	34.3	Cedar Creek near Galesburg Lat: 40°55'20" Long: 90°28'09"	June 1985-Mar. 1986	SF - Miscellaneous discharge measurements	Current meter
					July 1985-Aug. 1985	D	Manually collected
13	05468305	33.1	36.4	Cedar Creek at Road 1550E near Coldbrook Lat: 40°55'20" Long: 90°29'11"	July 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter
					July 1985-Aug. 1985	D	Manually collected
14	05468308	31.9	36.9	Cedar Creek at Road 1500E near Coldbrook Lat: 40°55'16" Long: 90°29'53"	June 1985-Dec. 1985 Mar. 1986-Oct. 1986	SF - Continuous, 15-min interval	Water-stage recorder and manometer

Table 1.--Stream and precipitation data-collection sites--Continued

Site code	Station downstream order number	River mile above mouth	Drainage area (square miles)	Station name and location (data base site number)	Period of record	Type and frequency of data collected[1]	Type of gage or sampling method
14 (Cont.)					June 1985-Nov. 1985	WQ - Temperature, specific conductance, pH, and dissolved oxygen; 15-min interval	USGS Mini Monitor
					July 1985-Oct. 1986	WC - At preselected times or stages	Automatic pumping sampler
					July 1985-Aug. 1985	D	Automatic pumping sampler
15	05468325	30.0	45.8	Cedar Creek at Road 1400E near Coldbrook Lat: 40°55'20" Long: 90°31'03"	June 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter
					July 1985-Aug. 1985	D	Manually collected
16	05468333	28.5	46.7	Cedar Creek at Road 1300E near Coldbrook Lat: 40°55'24" Long: 90°32'13"	July 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter
					July 1985-Aug. 1985	D	Manually collected
17	05468349	27.0	50.7	Cedar Creek at Road 1200E near Coldbrook Lat: 40°55'30" Long: 90°33'15"	June 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter
					July 1985-Aug. 1985	D	Manually collected
18	05468367	24.7	60.8	Cedar Creek at Road 1100E near Monmouth Lat: 40°55'50" Long: 90°34'23"	June 1985-Nov. 1985 Mar. 1986-Oct. 1986	SF - Continuous, 15-min interval	Microprocessor and manometer

					June 1985-Nov. 1985	WQ - Temperature, specific conductance, pH, and dissolved oxygen; 15-min interval	USGS Mini Monitor
					July 1986-Oct. 1986	WC - At preselected times and stages	Automatic pumping sampler
					July 1985-Aug. 1985	D	Automatic pumping sampler
19	05468375	22.7	62.0	Cedar Creek at Old Highway 34 near Monmouth Lat: 40°56'25" Long: 90°35'12"	July 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter
					July 1985-Aug. 1985	D	Manually collected
20	05468400	19.0	66.9	Cedar Creek above mouth of Markham Creek near Monmouth Lat: 40°57'27" Long: 90°37'14"	July 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter
					July 1985-Aug. 1985	D	Manually collected
21	05468253	39.3*	3.82	Cedar Creek Tributary No. 1 at Road 1450N at Galesburg Lat: 40°55'29" Long: 90°25'17"	Apr. 1986-Oct. 1986	SF - Continuous, 15-min interval	Water-stage recorder and stilling well
					May 1986-Oct. 1986	WC - At preselected times and stages	Automatic pumping sampler
22	05468260	39.3*	4.64	Cedar Creek Tributary No. 1 at Atchison, Topeka, and Santa Fe Railroad at Galesburg Lat: 40°55'42" Long: 90°25'39"	July 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter
					July 1985-Aug. 1985	D	Manually collected
23	05468280	37.7*	6.98	Cedar Creek Tributary No. 2 at Road 2100N near Galesburg Lat: 40°55'58" Long: 90°26'39"	July 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter and volumetric
					Apr. 1986-Oct. 1986	SF - Continuous, 15-min interval	Water-stage recorder and stilling well

Table 1.--Stream and precipitation data-collection sites--Continued

Site code	Station downstream order number	River mile above mouth	Drainage area (square miles)	Station name and location (data base site number)	Period of record	Type and frequency of data collected[1]	Type of gage or sampling method
23 (Cont.)					May 1986-Oct. 1986	WC - At preselected times and stages	Automatic pumping sampler
					July 1985-Aug. 1985	D	Manually collected
24	05468293	37.0*	4.52	Cedar Creek Tributary No. 3 at Atchison, Topeka, and Santa Fe Railroad near Galesburg Lat: 40°55'18" Long: 90°26'39"	July 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter
					Apr. 1986-Oct. 1986	SF - Continuous, 15-min interval	Water-stage recorder and stilling well
					May 1986-Oct. 1986	WC - At preselected times and stages	Automatic pumping sampler
					July 1985-Aug. 1985	D	Manually collected
25	05468316	31.6*	4.49	Cedar Creek Tributary No. 4 at U.S. Highway 34 near Cameron Lat: 40°55'07" Long: 90°29'57"	July 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter
					July 1985-Aug. 1985	D	Manually collected
26	05468341	27.1*	2.20	Cedar Creek Tributary No. 5 at Road 2040N near Coldbrook Lat: 40°55'32" Long: 90°33'10"	July 1985	SF - Miscellaneous discharge measurements	Current meter
					July 1985	D	Manually collected
27	05468359	25.8*	8.53	Cedar Creek Tributary No. 6 at Road 2000N near Monmouth Lat: 40°55'07" Long: 90°33'50"	July 1985-Aug. 1985	SF - Miscellaneous discharge measurements	Current meter
					July 1985-Aug. 1985	D	Manually collected

PRECIPITATION STATIONS

Site code	Station number	Station name and location	Period of record	Type of gage	Recording frequency
1	05468200	Cedar Creek at Farnham Street at Galesburg Lat: 40°58'07" Long: 90°20'42"	May 1985- Nov. 1985, Mar. 1986- Oct. 1986	Volumetric	5-min interval
RG2	4055440902305	Henderson Street at Galesburg Lat: 40°55'44" Long: 90°23'05"	May 1985- Nov. 1985, Mar. 1986- Oct. 1986	Volumetric	1-min interval
RG3	4052560902942	Road 1750N at Cameron Lat: 40°52'56" Long: 90°29'42"	May 1985- Nov. 1985, Mar. 1986- Oct. 1986	Volumetric	1-min interval
RG4	4057560902627	County Line Road near Galesburg Lat: 40°57'56" Long: 90°26'27"	May 1985- Nov. 1985, Mar. 1986- Oct. 1986	Volumetric	1-min interval
18	05468367	Cedar Creek at Road 1100E near Monmouth Lat: 40°55'50" Long: 90°34'23"	Mar. 1986- Oct. 1986	Volumetric	5-min interval

[1] Explanation of symbols used to define type of data collection:

SF - Streamflow; WQ - Water quality; WC - Water chemistry; D - Diel data

* River miles indicate the location of the mouth of the tributary above the mouth of Cedar Creek.

Table 2.--Monitored storm- and combined-sewer access locations and their physical characteristics

[Storm- and combined-sewer site numbers correspond to those in figures 5 through 8 of this report; NPDES stands for National Pollutant Discharge Elimination System; elevation, in feet, refers to distance above the National Geodetic Vertical Datum of 1929; and dashes indicate no data. Footnotes are at end of table.]

Combined-sewer site number	NPDES permit number	Location (direction of inflow) and site description of combined-sewer overflow structures (data base site number)	Monitoring method[1]	Outfall elevation (feet)	Top of weir elevation (feet)
C1	043	Lincoln Street (from north)--box structure. Overflow appears to enter storm sewer to east, rather than flow down culvert to Cedar Creek.	a	---	762.55
C2	044	Lincoln Street (from south)--box structure. Flow similar to C1.	a	---	---
C3	001	Lincoln Street (from south)--raised pipe structure. At intersection of Lincoln Street and AT&SF railroad. PVC pipe discharges to side channel to Cedar Creek.	b	756.10	---
C4	003	North Pearl Street (from north)--weir structure. North of creek channel on Pearl Street. Overflows directly to Cedar Creek.	a,b,c	750.57	752.75
C5	004	North Pearl Street (from south)--raised pipe structure. South of creek channel on Pearl Street. Overflows directly to Cedar Creek. Weir installed 09/03/86.	a,b,c	751.04	752.18
C6	005	Pine Street (from south)--weir structure. South of creek channel on railroad right-of-way just west of North Pearl Street. Overflows directly to Cedar Creek. (4057100902138)	a,b,c,d,e, f,g	749.87	751.32
C7	007	North Chambers Street (from north)--weir structure. North of creek channel on Chambers Street. Storm sewer flow enters overflow structure downstream of the weir. Overflows directly to Cedar Creek.	a,c,d,e	750.68	752.22
C8	006	North Chambers Street (from south)--weir structure. South of creek channel on Chambers Street. Storm sewer flow enters overflow structure downstream of the weir. Overflows directly to Cedar Creek.	a,c	749.97	751.87
C9	008	North Seminary Street (from north)--weir structure. North of creek channel on Seminary Street. Overflows directly to Cedar Creek. (4057080902151)	a,b,c,d,e,f	748.75	750.61
C10	009	North Seminary Street (from south)--weir structure. South of creek channel on Seminary Street. Overflows directly to Cedar Creek.	a,b,c,d,e	749.33	750.41

C11	010	North Kellogg Street (from north)--weir structure. North of creek channel on Kellogg Street. Overflows directly to Cedar Creek.	a,b,c,d,e	748.22	748.86
C12	011	North Kellogg Street (from south)--weir structure. South of creek channel on Kellogg Street. Overflows directly to Cedar Creek.	a,b,c,d,e	746.96	748.34
C13	012	North Prairie Street (from north)--weir structure. North of creek channel on Prairie Street. Overflows directly to Cedar Creek.	a,b,c,d,e	748.45	749.50
C14	013	North Prairie Street (from south)--weir structure. South of creek channel on Prairie Street. Overflows directly to Cedar Creek.	a,b,c,d,e	746.38	747.54
C15	014	North Cherry Street (from north)--weir structure. North of creek channel on Cherry Street. Overflows directly to Cedar Creek.	a,b,c,d,e	748.84	749.68
C16	015	North Cherry Street (from south)--weir structure. South of creek channel on east side of Cherry Street. Overflows directly to Cedar Creek. (4057010902210)	a,b,c,d,e,f	746.23	747.21
C17	017	North Broad Street (from north)--weir structure. North of creek channel on Broad Street. Overflows directly to Cedar Creek.	a,b,c,d,e	750.15	751.07
C18	016	North Cherry Street (from south)--weir structure. South of creek channel on railroad right of way just west of Cherry Street. Overflows directly to Cedar Creek.	a,b,c,d,e	745.29	745.92
C19	020	North Cedar Street (from north)--weir structure. North of creek channel on Cedar Street. Overflows directly to Cedar Creek.	a,b,c,d,e	744.22	745.64
C20	019	North Broad Street (from south)--weir structure. South of creek channel on east side of Broad Street. Overflows directly to Cedar Creek. (4057000902214)	a,b,c,d,e,f	745.49	746.31
C21	018	North Broad Street (from south)--weir structure. South of creek channel on railroad right of way just west of Broad Street. Overflows directly to Cedar Creek.	a,b,c,d,e	745.11	746.36
C22	021	North Cedar Street (from south)--weir structure. South of creek channel on Cedar Street. Overflows directly to Cedar Creek. Weir raised 09/04/86. (4056590902222)	a,b,c,d,e,g	743.71	744.74 745.21
C23	022	North West Street (from north)--weir structure. North of creek channel on West Street. Overflows directly to Cedar Creek.	a,b,d,e	743.44	745.43
C24	024	North Academy Street (from south)--weir structure. South of creek channel on Academy Street just off road on east side. Overflows directly to Cedar Creek.	a,c,d,e	745.56	746.18
C25	023	North Academy Street (from north)--weir structure. North of creek channel on Academy Street. Overflows directly to Cedar Creek.	a,b,c,d,e	743.08	743.61

Table 2.--Monitored storm- and combined-sewer access locations and their physical characteristics--Continued

Combined-sewer site number	NPDES permit number	Location (direction of inflow) and site description of combined-sewer overflow structures (data base site number)	Monitoring method[1]	Outfall elevation (feet)	Top of weir elevation (feet)
C26	026	East Main Street (from south)--weir structure. South of creek channel near grain elevators just north of railroad right of way, east of Maple Street and north of Main Street. Overflows directly to Cedar Creek.	c	---	741.78
C27	025	Maple Street (from north)--weir structure. North of creek channel on Maple Street. Overflows directly to Cedar Creek.	a,c	---	746.59
C28	027	East Main Street (from north)--weir structure. North of creek channel on Main Street just west of Maple Street. Overflows directly to Cedar Creek. (4056510902245)	a,c,d,e,f	---	746.73
C29	029	South Henderson Street (from north)--weir structure. North of creek channel on Henderson Street near east edge of street. Overflows directly to Cedar Creek. (405647090230101)	a,b,c,d,e,f	739.88	741.54
C30	030	South Henderson Street (from south)--weir structure. South of creek channel on Henderson Street in median. Storm sewers flow into overflow structure downstream of the weir (via large pipes in manhole that discharge just downstream of weir). Overflows directly to Cedar Creek.	a	739.05	742.24
C31	028	South Henderson Street (from north)--weir structure. North of creek channel on Henderson Street in median. Overflows directly to Cedar Creek. (405647090230102)	a,b,c,d,e,f	739.82	741.37
C32	031	South Arthur Avenue (from north)--weir structure. North of creek channel just off end of Arthur Street. Overflows directly to Cedar Creek. (4056430902314)	a,b,c,d,e,f	737.61	741.53
C33	032	McClure Street (from south)--raised pipe structure. South of creek channel just east of McClure Street. Overflows directly to Cedar Creek. (4056350902343)	b	736.32	---
C34	---	Edwards Avenue (from north)--weir structure. North of creek channel about 800 ft west of McClure Street. Outfall pipe is completely silted in so that no combined sewage can flow to Cedar Creek at this time.	None	---	---
C35	034	Railroad Creek 36-in. brick sewer (from east)--weir structure. In a vacant lot near Holton Street and Cross Street approximately 15 feet east of C36. Overflows to Railroad Creek, which flows into Cedar Creek.	a	---	---

C36	002	Railroad Creek 24 in. sewer (from west)--weir structure. In a vacant lot near Holton and Cross Streets approximately 15 feet west of C35. Overflows to Railroad Creek, which flows into Cedar Creek.	a	---	---
C37	035	Holton Street (from west)--raised pipe structure. Located on Holton Street just south of West Tompkins Street. Overflows to Railroad Creek, which flows into Cedar Creek. Weir installed 09/04/86.	a	---	---
C38	---	Monmouth Boulevard--weir structure. This has been blocked and no longer can overflow.	None	---	---
C39	036	West Brooks Street (from west)--weir structure. Located on Brooks Street just west of South Academy Street. Overflows to Railroad Creek, which flows into Cedar Creek.	a	---	---
C40	037	South Academy Street (from east)--weir structure. Located on east edge of Academy Street at intersection with Brooks Street. Overflows to Railroad Creek, which flows into Cedar Creek.	a	---	---
C41	038	West Knox Street (from west)--raised pipe structure. Located at the end of the driveway of the southwest corner house at the intersection of Knox and West Streets. Overflows to Railroad Creek, which flows into Cedar Creek. Weir installed 09/04/86.	a	---	---
C42	039	West First Street (from west)--weir structure. Located at south end of football field just north of railroad right-of-way near First and Broad Streets. Deep manhole carries much of storm drainage from railroad yard via large culvert. Overflows to Railroad Creek, which flows into Cedar Creek.	a	---	---
C43	040	Depot Street (from west)--weir structure. Located south of Depot Street at what would be Cherry Street (if continued on). Large weir across square 36-inch culvert. Often observed with reverse flow across weir into culvert from Railroad Creek. Overflows establish headwaters of Railroad Creek, which flows into Cedar Creek.	a	---	---
C44	041	Depot Street (from east)--weir structure. Located next to C43. Backflow from Railroad Creek is a definite possibility. Overflows to Railroad Creek, which flows into Cedar Creek.	a,d	---	---
C45	053	Ella Street (several inflows)--raised pipe structure. Located in center of Lincoln and Ella Streets intersection. Overflows to Pine Street storm sewer, which flows into Cedar Creek. Weir installed 09/03/86.	c	---	---
C46	045	Cedar Avenue (from north)--raised pipe structure. North of creek channel near south end of Cedar Avenue. Overflows to Cedar Creek.	a,c	---	---

Table 2.--Monitored storm- and combined-sewer access locations and their physical characteristics--Continued

Combined-sewer site number	NPDES permit number	Location (direction of inflow) and site description of combined-sewer overflow structures (data base site number)	Monitoring method[1]	Outfall elevation (feet)	Top of weir elevation (feet)
C47	033	West Main Street (from north)--weir structure. South of Main Street next to driveway east of Edwards Street at 1650 West Main Street. Overflows to storm sewer, which flows into Cedar Creek.	a	---	---
C48	051	Fair Acres Drive (from west)--raised pipe structure. Northwest corner of North West Street at Fair Acres Drive. Overflows to West Street storm sewer, which flows into Cedar Creek.	c	---	---
C49	046	North Broad Street (from west)--raised pipe structure. Located in median of Broad Street just north of Heritage Drive. Overflows to West Street storm sewer, which flows into Cedar Creek.	c	---	---
C50	047	North Broad Street (from east)--raised pipe structure. Located on east side of Broad Street north of Heritage Drive. Overflows to West Street storm sewer, which flows into Cedar Creek.	c	---	---
C51	054	Frank Street pump station--This is an automatic pump that is actuated when stage in a manhole rises to a certain level. The pump then transfers combined sewage to a storm sewer that flows to Cedar Creek. Operation of the pump was monitored by an electric-power meter that indicated if the pump had been running by a change in the meter readings. Located at south side of Frank Street between Anderson Avenue and Lawndale Drive.	---	---	---

Storm-sewer site number	Location and site description of storm-sewer sites (data base site number)	Monitoring method
SS4	North Pearl Street. North of creek channel and west of Pearl Street. Flows directly to Cedar Creek. (4057100902132)	Grab sample
SS7	North Chambers Street. North of creek channel. Flows into C7 below weir. (4057100902143)	Grab sample
SS10	North Seminary Street. South of creek channel and west side of Seminary Street. Flows directly to Cedar Creek. (4057080902152)	Grab sample
SS20	North Broad Street. South of creek channel and west side of Broad Street. Flows directly to Cedar Creek. (4057000902215)	Grab sample

SS24	North Academy Street. South of creek channel on Academy Street in southbound lane approximately 50 ft south of railroad siding tracks. Flows directly to Cedar Creek. (4056540902234)	Automatic pumping sampler, and dye-dilution discharge measurement equipment
SS34*	Linwood Road. South of creek channel and east side of Linwood Street. Flows directly to Cedar Creek. (4056330902409)	Grab sample
SS35	Storm sewer near C35. In a vacant lot approximately 100 ft east of C35 near Holton Street and Cross Street. Flows directly into Cedar Creek. (4056450902251)	Automatic pumping sampler, and dye-dilution discharge measurement equipment
RR1	Railroad Creek. In a vacant lot approximately 30 ft north of C36 near Holton Street and Cross Street. Flows directly to Cedar Creek. (4056450902252)	Automatic pumping sampler

* Refer to figure 3 for location.

[1] Explanation of symbols used to define monitoring method:

a Chalked weir;
b Chalked outfall at creek;
c Chalked outfall at manhole;
d Crest-stage gage;
e Flow timer;
f Single-stage sampler; and
g Ultrasonic stage recorder, automatic pumping sampler, and dye-dilution discharge measurement equipment.

Table 3.--Summary of selected discharge measurements made in the Cedar Creek basin, March 1985 through October 1986

[Site numbers refer to those in figure 3 and table 1; gage height, in feet, refers to distance above the National Geodetic Vertical Datum of 1929; ft^2, square feet; ft^3/s, cubic feet per second; dashes indicate no data]

Site code	Station number	Date	Width (feet)	Cross-sectional area (ft^2)	Gage height (feet)	Discharge (ft^3/s)
1	05468200	06/06/85	4.5	0.99	771.37	0.48
		06/21/85	4.4	1.56	771.13	.36
		07/09/85	2.9	.37	771.06	.15
		08/01/85	.75	.075	770.96	.02
		08/07/85				0
		11/18/85	10.5	11.4	772.26	15
		11/18/85	13.6	16.0	772.58	21
		03/19/86	8.6	6.28	771.61	3.5
		04/24/86	4.9	1.7	771.26	.57
		06/03/86	4.9	1.8	771.29	.94
		09/04/86	.8	.23	771.14	.09
		09/30/86	12.7	14.3	772.81	15
		10/03/86	19.5	58.2	774.74	65
		10/16/86	9.2	3.67	771.80	2.7
2	05468205	07/09/85	4.1	.81	---	.19
3	05468210	07/09/85	3.9	.91	755.86	.19
4	05468215	07/09/85	2.5	.31	746.62	.18
		08/07/85	.8	.04	746.54	.01
5	05468220	03/05/85	23.0	28.3	---	62
		06/27/85	7.6	1.94	734.18	1.5
		07/09/85	5.5	.82	734.13	1.0
		08/07/85	3.2	.44	734.04	.48
		03/19/86	11.6	4.40	734.36	6.2
6	05468225	07/09/85	10.6	2.62	729.77	1.0
		08/07/85	2.5	.50	729.79	.47
		08/27/85	5.6	1.16	729.83	.56
7	05468230	06/27/85	11.6	4.35	728.68	2.1
		07/09/85	9.9	3.03	728.63	1.8
		08/07/85	3.6	1.13	728.54	1.1
		08/28/85	8.0	2.08	728.58	1.2
8	05468240	06/26/85	11.3	3.99	727.89	2.7
		07/10/85	15.4	3.06	728.11	1.9
		07/24/85	6.7	1.82	727.84	1.5

Table 3.--Summary of selected discharge measurements made in the Cedar Creek basin, March 1985 through October 1986--Continued

Site code	Station number	Date	Width (feet)	Cross-sectional area (ft^2)	Gage height (feet)	Discharge (ft^3/s)
8 (Cont.)	05468240	08/07/85	2.95	0.62	---	1.0
		08/27/85	7.3	1.69	727.85	1.4
		09/17/85	30.2	64.3	730.04	71
		09/19/85	7.3	1.37	727.86	1.4
		10/30/85	6.7	1.92	727.99	1.7
		11/20/85	25.6	45.4	729.64	35
		04/24/86	9.1	2.15	727.91	2.0
		06/04/86	11.8	6.51	728.06	5.1
		09/04/86	11.2	5.01	727.90	1.8
		09/24/86	83.0	417	736.64	860
		10/03/86	55.0	241	733.74	260
		10/22/86	11.2	6.14	728.03	4.9
9	05468245	06/26/85	18.7	19.4	---	2.7
10	05468250	06/20/85	17.4	13.6	---	13
		07/01/85	17.3	12.8	---	14
		07/09/85	17.2	6.39	---	12
		07/17/85	18.7	11.6	---	12
		08/07/85	16.5	27.5	---	9.3
		08/27/85	15.4	10.9	---	11
		03/18/86	16.5	18.1	---	30
11	05468265	06/20/85	22.4	26.7	719.00	15
		06/25/85	21.0	26.3	---	14
		07/01/85	24.1	30.4	719.08	17
		07/09/85	13.0	16.7	719.06	15
		07/17/85	20.8	22.5	718.84	9
		07/24/85	21.2	22.8	718.92	11
		07/26/85	21.2	23.0	---	9.6
		07/31/85	23.2	31.9	719.32	21
		08/08/85	23.0	27.0	718.73	3.9
		08/27/85	21.0	19.1	718.76	8.8
		09/17/85	25.2	48.3	719.96	53
		09/17/85	25.6	53.9	720.18	62
		09/17/85	26.2	58.8	720.37	70
		09/19/85	21.0	19.5	718.77	9.0
		10/29/85	22.9	23.9	718.95	13
		11/18/85	27.5	70.4	720.87	110
		03/18/86	22.3	33.2	---	36
		04/23/86	22.2	19.4	718.97	17
		06/04/86	19.8	18.3	718.95	16
		09/04/86	18.6	12.0	718.61	9.4
		09/24/86	31.5	130	722.59	280
		10/16/86	20.0	31.6	718.32	32

Table 3.--Summary of selected discharge measurements made in the Cedar Creek basin, March 1985 through October 1986--Continued

Site code	Station number	Date	Width (feet)	Cross-sectional area (ft^2)	Gage height (feet)	Discharge (ft^3/s)
12	05468300	06/25/85	21.4	30.1	---	20
		07/09/85	19.2	21.4	---	12
		08/07/85	16.8	13.4	---	7.2
		03/18/86	24.1	32.0	---	60
13	05468305	07/09/85	17.5	15.9	---	7.7
		08/07/85	17.4	17.5	---	9.0
14	05468308	06/19/85	27.9	28.9	696.49	22
		07/02/85	29.0	21.8	696.30	14
		07/09/85	19.8	11.1	696.07	8.5
		07/18/85	25.4	16.1	696.04	6.7
		07/24/85	26.7	17.8	696.21	12
		07/31/85	27.8	22.3	696.36	17
		08/07/85	21.4	12.3	696.10	9.1
		08/27/85	25.7	16.4	696.15	10
		09/19/85	26.3	17.5	696.18	12
		10/30/85	26.4	18.8	696.20	12
		11/18/85	21.0	71.8	697.76	98
		11/19/85	21.0	120	700.05	230
		04/23/86	27.0	22.1	696.35	16
		06/03/86	27.4	23.9	696.44	21
		07/31/86	610	700	703.83	920
		09/24/86	29.0	40.1	696.89	41
		10/22/86	29.2	42.6	696.95	40
		10/30/86	29.0	56.0	693.16	66
15	05468325	06/19/85	22.0	28.6	---	25
		07/09/85	22.9	26.8	---	8.4
		07/16/85	21.2	20.3	---	14
		08/07/85	20.7	26.3	---	9.7
16	05468333	07/10/85	19.5	17.7	---	14
		07/16/85	18.0	16.5	---	14
		08/08/85	19.4	15.4	---	11
17	05468349	06/05/85	22.0	53.3	---	28
		07/10/85	19.1	9.84	---	12
		08/08/85	19.0	7.71	---	10
18	05468367	06/05/85	26.0	41.5	670.11	32
		06/05/85	31.0	24.2	670.11	33
		06/18/85	26.9	35.7	669.88	22
		07/03/85	26.5	34.9	669.82	20

Table 3.--Summary of selected discharge measurements made in the Cedar Creek basin, March 1985 through October 1986--Continued

Site code	Station number	Date	Width (feet)	Cross-sectional area (ft^2)	Gage height (feet)	Discharge (ft^3/s)
18 (Cont.)	05468367	07/10/85	16.0	18.5	669.62	15
		07/19/85	25.0	16.7	669.62	13
		07/24/85	24.7	28.0	669.60	13
		07/26/85	27.5	35.0	669.82	22
		07/30/85	24.5	26.8	669.55	11
		07/31/85	25.0	33.4	669.81	22
		08/08/85	15.6	17.0	669.50	11
		08/27/85	23.0	26.4	669.57	13
		09/19/85	22.7	24.8	669.49	11
		10/30/85	22.6	26.1	669.58	14
		11/19/85	44.5	230	674.53	440
		03/19/86	25.2	72.7	671.34	120
		04/23/86	24.6	32.5	669.84	23
		06/03/86	26.7	42.3	669.96	30
		08/01/86	45.5	34.5	677.13	730
		09/24/86	26.8	51.5	670.49	54
		10/22/86	25.8	56.6	670.46	64
		10/22/86	23.9	63.4	671.12	110
19	05468375	07/10/85	43.2	33.6	---	16
		07/15/85	40.0	92.3	---	54
		08/08/85	34.0	21.8	---	10
20	05468400	07/10/85	37.7	59.4	---	17
		07/26/85	33.0	28.4	---	18
		08/08/85	37.4	54.2	---	7.5
21	05468253	04/24/86	5.4	2.30	---	1.1
		05/20/86	8.1	6.46	---	7.0
		06/04/86	7.4	2.71	---	2.0
		07/09/86	7.2	3.44	---	2.8
		07/31/86	20.0	70.0	---	93
		07/31/86	21.0	36.8	---	33
		10/22/86	6.4	5.26	---	3.8
22	05468260	07/10/85	4.3	1.11	---	.66
		08/08/85	1.9	.44	---	.30
		08/28/85	2.2	.49	---	.25
23	05468280	07/10/85	3.9	.64	---	.82
		08/08/85	3.8	.22	---	.11
		08/28/85	(volumetric)		---	.09
		04/23/86	2.6	1.04	---	1.8
		05/20/86	14.9	15.2	---	17

Table 3.--Summary of selected discharge measurements made in the Cedar Creek basin, March 1985 through October 1986--Continued

Site code	Station number	Date	Width (feet)	Cross-sectional area (ft^2)	Gage height (feet)	Discharge (ft^3/s)
23 (Cont.)	05468280	06/04/86	5.3	3.27	---	4.5
		07/31/86	21.7	31.7	---	86
		07/31/86	22.6	28.2	---	43
24	05468293	07/10/85	4.8	1.05	---	.49
		08/08/85	1.6	.17	---	.02
		08/28/85			---	0
		04/24/86	4.2	1.48	---	1.2
		06/03/86	8.1	3.86	---	1.9
		06/30/86	13.9	7.64	---	7.9
		07/10/86	4.0	2.52	---	1.5
		07/31/86	22.0	33.9	---	26
		09/24/86	16.0	39.4	---	74
		09/30/86	18.0	18.0	---	21
		10/16/86	10.4	4.32	---	6.3
25	05468316	07/09/85	3.3	1.08	---	.66
		08/07/85	1.8	.25	---	.06
		08/28/85	0.85	.07	---	.02
26	05468341	07/10/85	.9	.10	---	.08
27	05468359	07/10/85	2.4	.39	---	.49
		08/08/85	1.0	.11	---	.04
		08/28/85	.55	.07	---	.01

Table 4.--Daily discharge records from recording gages on Cedar Creek and its tributaries from June 1985 through October 1986

05468200 Cedar Creek at Farnham Street at Galesburg (site 1)

PERIOD OF RECORD.--June through November 1985 and April through October 1986.
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 770.89 ft above National Geodetic Vertical Datum of 1929.
REMARKS.-- Estimated daily discharges: July 11, 17, Nov. 20-30, 1985, and Apr. 1-23, Aug. 6-10, Sept. 13 to Oct. 2, Oct. 16-31, 1986. Water-discharge records good to fair except those for estimated daily discharges. which are fair to poor.
EXTREMES FOR PERIOD OF RECORD.-- Maximum discharge, 97 ft^3/s, Oct. 3, 1986, gage height, 4.42 ft; minimum daily, no flow for many days in 1985.

	June through November 1985						April through October 1986						
DAY	JUN	JUL	AUG	SEP	OCT	NOV	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	---	.29	.02	---	.00	5.5	1.3	1.4	1.2	1.1	.93	.11	2.8
2	---	.25	.01	---	.00	3.7	1.2	.86	.94	.97	.47	.09	2.0
3	---	.24	.00	---	.00	2.1	1.3	.76	.92	.71	.32	.09	48
4	---	.22	.00	---	---	1.2	1.2	.75	.95	.54	.26	.09	16
5	---	.23	.01	---	---	.79	1.1	.79	1.4	.45	.32	.10	9.9
6	---	.17	.02	---	---	.84	1.1	.77	1.1	.37	1.1	.10	8.1
7	---	.16	.00	---	---	.75	.96	.92	.92	.45	.52	.10	6.4
8	---	.14	.00	---	---	.62	.82	.64	.84	.49	.80	.10	5.6
9	---	.12	.00	---	---	3.9	1.1	.62	.76	1.2	.49	.12	4.8
10	---	.10	---	---	---	7.2	.92	.62	1.3	.99	.39	.12	4.4
11	.42	.15	---	---	---	4.4	.92	.63	.94	1.1	.35	.41	4.0
12	.43	.14	---	---	---	6.5	.92	.63	.82	1.7	.30	.23	4.0
13	.41	.15	---	---	---	5.7	.96	.63	.73	1.0	.29	.14	3.8
14	---	.31	---	---	---	6.3	1.2	.59	.85	.72	.30	.11	3.4
15	---	.18	---	---	---	8.3	1.1	.59	.86	.58	.27	.11	3.1
16	---	.10	---	---	---	8.1	.88	.61	.77	.56	.26	.11	2.9
17	---	.06	---	---	---	5.6	.84	7.0	.67	.51	.56	.11	2.6
18	.43	.04	---	---	---	15	.84	8.7	.57	.40	.44	.12	2.4
19	.43	.04	---	---	---	24	.78	5.2	.57	.35	.31	.39	2.2
20	.36	.04	---	---	---	14	.76	4.2	.52	.31	.25	.34	2.2
21	.38	.06	---	---	---	8.0	.76	3.5	.49	.27	.23	.16	2.1
22	1.3	.04	---	---	---	6.6	.76	3.2	.51	.24	.20	.16	2.0
23	.67	.02	---	---	---	5.8	.70	2.9	.49	.22	.17	.54	2.0
24	.43	.02	---	---	---	5.0	.69	2.5	.52	.24	.16	2.0	1.9
25	.36	.02	---	---	---	4.5	.69	2.3	.53	.22	.15	4.6	3.3
26	.36	.01	---	---	---	4.5	.68	2.1	.43	.23	.24	1.1	8.0
27	.36	.01	---	---	---	3.9	.64	2.0	.72	.19	.14	.80	5.4
28	.33	.01	---	---	---	3.7	.82	1.8	.59	.17	.13	.68	4.5
29	.33	.00	---	---	---	3.2	.67	1.6	.52	.19	.13	1.8	3.9
30	.30	.02	---	---	.25	3.1	1.5	1.5	1.6	.14	.12	4.2	3.3
31	---	.07	---	---	.95	---	---	1.3	---	3.2	.12	---	3.1
MEAN	---	.11	---	---	---	5.76	.94	1.99	.80	.64	.76	.64	5.75
MAX	---	.31	---	---	---	24	1.5	8.7	1.6	3.2	5.4	4.6	48
MIN	---	.00	---	---	---	.62	.64	.59	.43	.14	.12	.09	1.9

Table 4.--Daily discharge records from recording gages on Cedar Creek and its tributaries from June 1985 through October 1986--Continued

05468240 Cedar Creek at U.S. Highway 34 at Galesburg (site 8)

PERIOD OF RECORD.--July through September 1985 and May through September 1986.
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 726.84 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Estimated daily discharges: July 1, 2, 8, Aug. 6, 16-19, 21, Sept. 17-30, 1985, and May 22, 24, May 26 to June 9, June 12, 14, July 8-30, Aug. 5-18, 23, Sept. 20-24, 26-30, 1986. Records fair except those for estimated daily discharges, which are poor.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 890 ft^3/s, July 31, 1986, gage height, 10.85 ft (from high-water mark); minimum daily, 0.42 ft^3/s, Aug. 12, 1985, but may have been less during periods of estimated record.

	July through September 1985			May through September 1986				
DAY	JUL	AUG	SEP	MAY	JUN	JUL	AUG	SEP
1	2.0	1.4	.86	---	2.4	18	10	1.1
2	1.8	1.4	1.2	---	2.3	3.7	3.8	1.6
3	1.7	.91	1.3	---	2.1	2.4	2.5	1.8
4	1.3	.94	1.2	---	2.4	1.6	2.1	2.2
5	2.8	.96	1.0	---	3.0	1.3	2.5	1.4
6	1.2	.75	2.1	---	3.0	1.1	8.8	.98
7	2.0	.66	.88	---	2.9	1.3	4.1	.97
8	1.9	.60	.81	---	2.7	1.4	6.4	1.5
9	1.9	.64	1.3	---	2.4	2.8	3.9	.54
10	2.0	18	.85	---	12	2.2	3.1	1.4
11	2.5	.54	.97	---	4.6	1.9	2.8	32
12	2.3	.42	.85	---	3.0	11	2.4	1.9
13	1.1	5.5	.82	---	2.4	3.1	2.3	.94
14	17	3.6	.57	---	2.4	1.9	2.4	.93
15	2.6	1.2	.51	---	2.3	1.4	2.1	1.3
16	1.2	1.1	.74	---	2.3	1.1	2.1	1.3
17	1.2	1.0	1.3	---	1.8	.80	4.5	1.8
18	1.1	.88	1.3	---	1.7	.72	3.5	1.8
19	1.3	.90	.76	---	1.7	.68	2.9	18
20	1.1	.90	.70	13	1.4	.62	2.4	3.8
21	3.3	.90	1.5	1.0	.92	.60	2.3	1.8
22	1.7	.91	.74	4.6	1.2	.56	2.1	1.8
23	1.9	.93	2.6	4.0	1.0	.50	2.0	6.0
24	1.4	1.0	1.0	3.2	.79	.47	2.0	22
25	3.4	17	.88	2.6	.58	.45	2.5	51
26	1.3	1.8	1.2	3.1	.95	.44	2.9	12
27	.99	.96	.74	3.9	20	.43	2.1	8.8
28	.82	.87	.68	3.5	1.3	.43	1.6	7.2
29	1.1	1.4	.64	3.1	.85	.49	1.6	20
30	2.5	1.0	.96	2.9	47	.43	1.4	46
31	7.4	1.0	---	2.6	---	35	1.3	---
MEAN	2.45	2.26	1.03	---	4.45	3.19	3.11	8.46
MAX	17	18	2.6	---	47	35	10	51
MIN	.82	.42	.51	---	.58	.43	1.3	.54

05468253 Cedar Creek Tributary No. 1 at Road 1450N at Galesburg (site 21)

PERIOD OF RECORD.--April through October 1986.
GAGE.--Water-stage recorder. Elevation of gage is 730 ft above National Geodetic Vertical Datum of 1929, from topographic map.
REMARKS.--Estimated daily discharges: Apr. 1-6, July 8-20, Oct. 29-31, 1986. Water-discharge records good except those for estimated daily discharges and daily discharges below 2.0 ft^3/s, which are fair.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 272 ft^3/s, July 31, 1986, gage height, 6.67 ft; minimum daily, 0.23 ft^3/s, July 30, 1986.

	April through October 1986						
DAY	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	2.1	.80	2.2	2.9	14	.51	19
2	1.9	.65	2.0	2.5	5.8	.47	14
3	2.1	.64	1.8	1.8	3.2	.49	74
4	2.0	.64	1.9	1.5	2.2	.40	30
5	1.9	.65	2.2	1.1	2.5	.39	19
6	1.7	.62	2.1	.92	5.2	.37	14
7	1.6	1.0	2.0	.95	2.8	.42	12
8	1.5	.67	1.8	1.0	3.0	.41	11
9	1.5	.58	1.6	2.2	2.1	.36	9.4
10	1.5	.51	2.7	1.7	1.9	.37	8.7
11	1.5	.47	2.0	1.5	1.5	3.4	7.8
12	1.5	.44	1.8	9.0	1.3	1.9	7.4
13	1.4	.38	1.7	2.5	1.3	1.2	6.9
14	1.6	.39	1.6	1.5	1.4	.81	6.4
15	1.3	.40	1.5	1.1	1.2	.62	5.8
16	1.3	.39	1.4	.86	1.2	.49	5.4
17	1.3	19	1.2	.64	1.2	.53	5.1
18	1.3	20	1.1	.58	.99	.64	4.6
19	1.2	10	.97	.54	.90	3.4	4.3
20	1.2	7.6	.90	.49	.80	2.9	4.2
21	1.1	6.0	.83	.47	.76	1.8	4.0
22	.99	5.0	.86	.44	.69	1.9	3.8
23	1.0	4.4	.81	.38	.65	4.9	3.9
24	1.1	3.9	.82	.37	.61	30	4.4
25	1.0	3.6	.73	.36	.59	25	9.1
26	.97	3.7	.71	.31	1.1	11	16
27	.88	3.6	1.4	.29	.80	7.7	11
28	.96	3.2	1.3	.26	.64	6.0	9.7
29	.67	3.0	.98	.34	.60	28	8.8
30	.95	2.7	4.0	.23	.58	28	7.6
31	---	2.4	---	86	.56	---	7.2
MEAN	1.37	3.46	1.56	4.02	2.00	5.48	11.4
MAX	2.1	20	4.0	86	14	30	74
MIN	.67	.38	.71	.23	.56	.36	3.8

Table 4.--Daily discharge records from recording gages on Cedar Creek and its tributaries from June 1985 through October 1986--Continued

05468265 Cedar Creek at County Line Road at Galesburg (site 11)

PERIOD OF RECORD.--April through October 1986.
GAGE.--Water-stage recorder and crest-stage gage. Datum of gage is 713.37 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Estimated daily discharges: May 18, 19, May 28 to June 3, July 17-27, Aug. 4-17, 26, Sept. 14-23, and Oct. 4-8. Water-discharge records good except those for estimated daily discharges, which are fair.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 677 ft^3/s, July 31, gage height, 11.98 ft; minimum daily, 7.1 ft^3/s, July 6.

	April though October 1986						
DAY	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	26	22	18	31	50	8.8	97
2	24	16	17	20	32	11	67
3	26	13	17	15	26	12	360
4	25	12	20	11	24	12	250
5	23	15	37	9.1	23	11	94
6	21	14	20	7.1	80	10	68
7	19	28	18	17	37	9.3	58
8	17	16	15	15	58	12	50
9	23	14	15	56	35	10	46
10	18	12	34	42	28	10	43
11	18	11	20	27	24	40	40
12	18	13	16	63	20	25	42
13	19	12	15	26	18	15	40
14	24	13	17	23	20	11	38
15	22	12	15	17	17	11	35
16	17	12	15	15	17	11	33
17	16	79	13	13	17	11	32
18	16	180	13	12	19	12	30
19	16	64	13	11	16	38	28
20	15	47	12	10	15	33	29
21	15	34	10	9.4	15	15	28
22	15	31	9.6	9.4	14	15	27
23	14	28	12	9.4	13	50	27
24	14	25	11	8.8	12	140	26
25	14	26	10	9.4	14	160	44
26	13	26	11	8.6	25	52	110
27	12	26	24	7.2	17	39	72
28	22	25	15	7.2	14	36	60
29	16	23	9.9	12	14	172	52
30	32	22	49	8.4	11	207	44
31	---	20	---	170	9.6	---	42
MEAN	19.0	28.7	17.4	22.6	23.7	40.0	64.9
MAX	32	180	49	170	80	207	360
MIN	12	11	9.6	7.1	9.6	8.8	26

05468280 Cedar Creek Tributary No. 2 at Road 2100N near Galesburg (site 23)

PERIOD OF RECORD.--April through October 1986.
GAGE.--Water-stage recorder. Elevation of gage is 720 ft above National Geodetic Vertical Datum of 1929, from topographic map.
REMARKS.--Estimated daily discharges: Apr. 1-6, July 1-15, Oct. 29-31. Water-discharge records good except those for estimated daily discharges, which are fair.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 161 ft^3/s, July 31, gage height, 7.82 ft; minimum daily, 0.15 ft^3/s, Sept. 5.

	April through October 1986						
DAY	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	5.4	2.1	5.2	5.8	18	.19	34
2	4.8	1.7	4.7	5.0	11	.19	29
3	5.4	1.7	4.6	3.6	6.6	.19	94
4	5.0	1.8	4.8	3.0	4.6	.19	53
5	4.7	2.0	6.5	2.2	4.8	.15	3
6	4.4	1.6	5.0	1.8	13	.16	31
7	4.0	2.5	4.9	1.9	8.5	.16	28
8	3.7	1.5	4.3	2.0	8.4	.16	26
9	3.5	1.8	4.0	4.4	6.7	.16	23
10	3.6	1.7	5.8	3.5	5.5	.16	22
11	3.6	1.5	4.7	3.0	4.2	1.4	20
12	3.7	1.7	4.3	17	3.2	.85	20
13	3.4	1.6	3.8	5.0	2.6	.22	19
14	3.9	1.5	3.8	4.5	2.4	.16	18
15	3.5	1.5	4.2	4.1	2.2	.16	17
16	2.9	1.5	3.7	3.8	2.1	.16	16
17	2.7	52	3.2	3.5	2.0	.16	15
18	2.8	34	2.8	2.9	1.8	.22	14
19	2.6	23	2.8	2.6	1.6	1.4	14
20	2.7	18	2.5	2.3	1.3	1.4	13
21	2.6	16	2.2	1.5	1.1	.35	12
22	2.3	14	1.8	1.4	1.0	.40	11
23	2.1	12	2.0	1.3	.89	2.1	11
24	1.9	10	1.9	1.3	.72	31	10
25	1.8	9.5	1.7	.84	.66	35	16
26	1.7	9.1	1.6	.61	.68	24	26
27	1.8	8.2	2.3	.52	.50	19	23
28	2.2	7.2	2.2	.42	.28	17	20
29	1.7	6.7	1.7	.44	.23	38	18
30	2.1	6.2	8.0	.40	.23	44	17
31	---	6.0	---	72	.23	---	17
MEAN	3.22	8.37	3.70	5.25	3.77	7.29	23.3
MAX	5.4	52	8.0	72	18	44	94
MIN	1.7	1.5	1.6	.40	.23	.15	10

Table 4.--Daily discharge records from recording gages on Cedar Creek and its tributaries from June 1985 through October 1986--Continued

05468293 Cedar Creek Tributary No. 3 at Atchison, Topeka, & Santa Fe Railroad near Galesburg (site 24)

PERIOD OF RECORD.--April through November 1986.
GAGE.--Water-stage recorder. Altitude of gage is 720 ft above National Geodetic Vertical Datum of 1929, from topographic map.
REMARKS.--Estimated daily discharges: Apr. 1-14 and May 16 to June 3. Water-discharge records good except those for estimated daily discharges and July 31, which are fair.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, unknown, July 31, gage height, 10.22 ft (backwater from debris jam); minimum daily, 0.18 ft^3/s, Sept. 16.

	April through November 1986							
DAY	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV
1	2.1	.78	1.9	3.0	8.1	.29	15	5.4
2	1.9	.57	1.9	2.4	5.4	.28	12	5.2
3	2.1	.57	1.8	1.4	3.6	.28	59	5.2
4	2.0	.57	1.9	1.3	2.4	.27	25	---
5	1.9	.57	2.0	1.0	4.1	.24	16	---
6	1.7	.57	1.9	.78	8.9	.23	12	---
7	1.6	.63	1.9	.83	5.2	.23	11	---
8	1.5	.54	1.7	.89	5.6	.22	9.3	---
9	1.5	.53	1.5	1.9	3.8	.22	8.2	---
10	1.5	.49	2.5	1.5	2.8	.22	7.8	---
11	1.5	.54	1.9	1.3	2.0	.43	7.3	---
12	1.5	.49	1.8	7.6	1.6	.28	7.0	---
13	1.4	.48	1.7	2.2	1.5	.23	6.6	---
14	1.6	.44	1.7	1.3	1.6	.21	6.5	---
15	1.4	.44	1.7	.98	1.5	.20	6.2	---
16	1.3	.44	1.5	.72	1.2	.18	6.1	---
17	1.3	19	1.2	.53	1.1	.19	5.9	---
18	1.3	13	1.1	.49	.96	.22	5.5	---
19	1.3	8.0	1.1	.45	.74	.87	5.2	---
20	1.3	6.6	.96	.41	.62	.46	5.2	---
21	1.2	5.8	.89	.36	.56	.30	5.2	---
22	1.1	5.0	.87	.35	.52	.47	5.0	---
23	1.1	4.4	.70	.33	.47	2.2	4.8	---
24	.94	3.6	.63	.31	.44	23	4.8	---
25	.94	3.5	.57	.30	.43	17	6.4	---
26	.94	3.3	.55	.28	.45	8.1	9.7	---
27	.94	3.0	.83	.29	.39	6.6	7.9	---
28	1.0	2.6	.85	.27	.35	6.1	6.8	---
29	.79	2.4	.66	.25	.33	22	6.3	---
30	.96	2.3	6.7	.23	.32	22	6.1	---
31	---	2.1	---	53	.30	---	5.9	---
MEAN	1.39	3.01	1.56	2.80	2.17	3.78	9.86	---
MAX	2.1	19	6.7	53	8.9	23	59	---
MIN	.79	.44	.55	.23	.30	.18	4.8	---

05468308 Cedar Creek at Road 1500E near Coldbrook (site 14)

PERIOD OF RECORD.--June through December 1985 and March through October 1986.
GAGE.--Water-stage recorder. Datum of gage is 695.29 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Estimated daily discharges: Apr. 7-9 and Oct. 25-31, 1986. Water-discharge records good.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,200 ft^3/s, Oct. 3, 1986, gage height, 9.15 ft; minimum daily, 6.6 ft^3/s, July 29 and Sept. 15, 1985.

	June through December 1985							March through October 1986							
DAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	---	14	13	6.9	9.6	110	248	---	32	34	27	40	250	9.3	193
2	---	16	9.9	6.7	8.1	67	162	---	29	18	24	39	59	10	144
3	---	18	10	7.6	8.4	34	103	---	32	16	25	23	39	12	768
4	---	16	8.1	9.6	38	26	87	---	30	14	26	19	32	12	538
5	---	16	8.0	9.2	19	22	77	---	28	16	46	16	30	11	203
6	---	16	8.6	11	10	21	65	---	26	16	30	14	108	10	148
7	---	14	8.5	10	8.6	23	60	---	23	30	26	15	50	9.5	123
8	---	14	7.7	7.7	14	18	56	---	20	18	23	27	79	10	108
9	---	16	7.2	7.4	20	34	52	---	28	17	21	62	46	10	95
10	---	15	27	10	39	134	64	---	22	15	45	35	37	9.4	85
11	---	17	9.5	8.6	20	65	57	---	22	13	28	50	30	40	78
12	---	17	6.9	8.5	18	76	49	---	22	14	24	105	26	25	80
13	---	19	17	8.3	13	93	47	---	23	14	22	52	24	14	71
14	---	25	15	9.7	12	99	51	---	30	14	21	35	27	11	67
15	---	26	14	6.6	12	114	52	---	27	14	25	28	23	11	61
16	---	15	9.5	6.9	12	125	38	---	21	13	21	24	22	11	57
17	17	13	8.4	16	11	86	---	46	20	164	19	21	22	11	52
18	19	12	7.2	16	25	140	---	59	20	294	19	19	23	12	48
19	25	12	7.7	9.7	100	257	---	72	19	104	18	17	18	39	45
20	17	12	10	8.9	25	207	---	56	18	76	17	15	17	34	43
21	16	14	7.5	19	20	120	---	50	18	63	16	14	16	16	41
22	69	12	7.5	9.3	17	98	---	47	18	56	14	14	15	16	40
23	28	11	8.1	33	16	84	---	44	17	49	16	14	14	54	40
24	28	11	7.8	13	47	72	---	41	17	44	17	13	13	206	38
25	21	13	8.3	11	22	66	---	41	17	40	15	14	14	469	66
26	20	14	26	15	17	65	---	41	16	45	14	13	25	118	160
27	18	9.3	10	9.4	13	57	---	36	15	42	21	11	17	82	110
28	16	6.8	10	8.7	12	54	---	36	24	36	30	11	14	68	90
29	14	6.6	9.6	6.9	13	48	---	35	18	34	16	16	13	182	78
30	14	8.6	9.8	12	13	46	---	33	24	33	62	11	12	433	66
31	---	24	9.2	---	16	---	---	31	---	29	---	609	11	---	62
MEAN	---	14.6	10.5	10.8	20.3	82.0	---	---	22.5	44.7	24.3	45.0	36.3	65.2	123
MAX	---	26	27	33	100	257	---	---	32	294	62	609	250	469	768
MIN	---	6.6	6.9	6.6	8.1	18	---	---	15	13	14	11	11	9.3	38

Table 4.--Daily discharge records from recording gages on Cedar Creek and its tributaries from June 1985 through October 1986--Continued

05468367 Cedar Creek at Road 1100E near Monmouth (site 18)

PERIOD OF RECORD.--June through November 1985 and April through October 1986.
GAGE.--Water-stage recorder. Datum of gage is 668.92 ft above National Geodetic Vertical Datum of 1929.
REMARKS.--Estimated daily discharges: June 17-19, 22, July 8, 14, 15, 26-29, Aug. 11, 25, 26, Nov. 3, 7, 10, 11, 1985, and Apr. 14-22, June 17-30, July 12, 13, Sept. 23, 24, Oct. 3-5, 8, 9, 16-21, 29-31, 1986. Water-discharge records good except those for estimated daily discharges, which are fair.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,020 ft^3/s, Oct. 3, 1986, gage height, 9.84 ft, from high-water mark; minimum daily, 6.4 ft^3/s, Sept. 15, 1986.

	June through November 1985						April through October 1986							
DAY	JUN	JUL	AUG	SEP	OCT	NOV	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT
1	---	17	17	8.3	9.3	67	---	36	42	30	48	518	9.0	316
2	---	18	12	7.3	8.1	42	---	34	23	27	49	69	8.8	218
3	---	19	11	7.6	8.8	21	---	35	20	26	25	41	10	1000
4	---	17	10	9.7	25	14	---	36	18	27	20	31	9.9	700
5	---	15	9.0	9.0	22	16	---	33	18	44	16	33	9.5	310
6	---	16	10	9.9	9.3	16	---	30	19	34	14	117	9.5	233
7	---	15	10	11	8.4	18	---	28	32	29	13	56	9.0	193
8	---	15	9.7	7.8	9.1	15	---	24	28	25	24	91	7.9	160
9	---	15	8.6	6.6	20	25	---	33	20	22	56	50	8.8	140
10	---	16	23	9.1	26	70	---	27	19	40	31	37	7.0	131
11	---	15	12	9.2	21	48	---	27	17	28	51	29	40	120
12	---	18	12	8.5	16	32	---	27	17	26	110	25	28	126
13	24	18	12	8.6	14	43	---	29	18	23	52	24	11	114
14	22	25	17	9.7	11	23	---	36	17	22	37	26	7.6	112
15	24	26	18	7.6	11	11	---	34	17	26	30	24	6.4	98
16	22	16	12	6.8	10	17	---	25	17	22	25	21	7.1	86
17	21	13	10	9.7	10	67	---	24	146	19	21	23	6.8	80
18	23	12	8.9	20	42	234	---	24	353	19	19	26	7.9	72
19	30	12	8.3	9.9	125	270	---	23	149	18	17	18	24	68
20	22	12	12	9.2	32	---	---	22	89	17	15	17	42	66
21	20	12	9.7	18	20	---	---	22	73	16	13	16	14	66
22	82	14	8.9	11	18	---	---	22	63	15	13	16	11	66
23	36	12	8.9	30	15	---	---	21	56	16	13	14	82	64
24	34	12	8.9	13	43	---	47	20	49	17	12	14	310	62
25	27	12	9.0	11	18	---	50	20	44	15	13	12	689	111
26	24	14	28	14	19	---	49	20	51	14	12	19	215	260
27	23	9.4	12	9.7	14	---	45	19	48	22	11	19	127	180
28	20	7.0	11	9.9	11	---	42	25	41	30	9.2	14	98	148
29	19	6.6	10	8.0	13	---	41	23	37	17	12	12	326	130
30	18	12	11	10	11	---	39	23	36	64	11	11	567	110
31	---	20	9.8	---	17	---	35	---	33	---	501	10	---	100
MEAN	---	14.9	11.9	10.7	20.5	---	---	26.7	51.9	25.0	41.7	46.2	90.1	182
MAX	---	26	28	30	125	---	---	36	353	64	501	518	689	1000
MIN	---	6.6	8.3	6.6	8.1	---	---	19	17	14	9.2	10	6.4	62

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986

[in/hr, inches per hour; dashes indicate no data; refer to table 1 and figure 3 for site descriptions and locations. Footnotes are at end of table.]

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
05468200 Cedar Creek at Farnham Street at Galesburg (site 1)				
08-18-85(0205)-08-19-85(0910)	0.30	0.72	0.16	425
08-25-85(1015)-08-25-85(1810)	.87	1.56	.47	475
08-29-85(1430)-08-29-85(1510)	.07	.48	.07	40
09-06-85(0620)-09-06-85(0630)	.10	.96	.10	10
09-20-85(1620)-09-20-85(2155)	.31	.36	.10	335
09-21-85(1940)-09-21-85(2240)	.07	.12	.04	180
09-22-85(1200)-09-22-85(2025)	.65	.48	.32	505
09-23-85(0525)-09-23-85(1230)	.08	.24	.03	425
09-25-85(1220)-09-25-85(2055)	.20	.24	.08	515
09-29-85(2040)-09-30-85(0310)	.22	.12	.09	390
10-04-85(0025)-10-04-85(1830)	1.00	.60	.24	1,085
10-08-85(0350)-10-08-85(0440)	.18	.84	.18	50
10-08-85(1545)-10-09-85(0905)	.30	.24	.12	1,040

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
05468200 Cedar Creek at Farnham Street at Galesburg (site 1)--Continued				
10-09-85(1415)-10-09-85(1650)	0.20	0.24	0.12	155
10-10-85(0035)-10-10-85(0750)	.28	.48	.15	435
10-11-85(1230)-10-12-85(0125)	.14	.12	.04	775
10-18-85(1050)-10-18-85(2000)	1.82	3.12	1.08	550
10-23-85(2005)-10-23-85(2030)	.35	1.44	.35	25
10-31-85(1145)-11-01-85(1855)	1.90	.36	.17	1,870
11-06-85(1350)-11-06-85(1805)	.13	.12	.04	255
11-09-85(0525)-11-09-85(0655)	.16	.36	.11	90
11-09-85(0920)-11-09-85(2245)	.92	.72	.19	805
11-10-85(0250)-11-10-85(0700)	.38	.36	.21	250
11-12-85(0955)-11-12-85(1325)	.59	1.20	.44	210
11-13-85(1730)-11-13-85(2120)	.38	1.20	.22	230
11-15-85(0125)-11-15-85(2315)	.61	.24	.20	1,310

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
05468200 Cedar Creek at Farnham Street at Galesburg (site 1)--Continued				
11-18-85(0335)-11-18-85(1645)	1.20	1.08	0.27	790
05-16-86(2110)-05-16-86(2125)	.09	.48	.09	15
05-17-86(0200)-05-17-86(1910)	2.25	1.20	.54	1,030
05-25-86(1500)-05-25-86(1705)	.26	.84	.19	125
05-26-86(0220)-05-26-86(0445)	.08	.12	.05	145
05-26-86(1510)-05-26-86(2345)	.11	.12	.05	515
06-04-86(2245)-06-05-86(0010)	.36	.60	.30	85
06-05-86(1030)-06-05-86(1050)	.09	.36	.09	20
06-09-86(2240)-06-10-86(0740)	.77	1.32	.33	540
06-11-86(1430)-06-11-86(2020)	.09	.72	.06	350
06-14-86(1040)-06-14-86(1645)	.23	.48	.13	365
06-27-86(1340)-06-27-86(1545)	.53	1.44	.50	125
06-30-86(0035)-06-30-86(0435)	.93	3.72	.72	240

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
05358200 Cedar Creek at Farnham Street at Galesburg (site 1)--Continued				
07-01-86(1215)-07-01-86(1500)	0.37	0.36	0.21	165
07-07-86(1710)-07-07-86(1930)	.23	1.44	.22	140
07-08-86(2235)-07-09-86(0415)	.90	2.40	.49	340
07-10-86(0530)-07-10-86(0655)	.18	.24	.15	85
07-10-86(1525)-07-10-86(1535)	.40	2.16	.40	10
07-10-86(2115)-07-10-86(2230)	.09	.24	.07	75
07-12-86(0425)-07-12-86(0725)	.58	1.32	.45	180
07-14-86(0040)-07-14-86(0545)	.12	.12	.05	305
07-29-86(0105)-07-29-86(0235)	.20	.24	.16	90
07-31-86(0115)-07-31-86(0415)	3.24	3.00	1.87	180
08-05-86(1635)-08-06-86(0025)	.74	.72	.23	470
08-13-86(2310)-08-14-86(0240)	.14	.24	.10	210
08-17-86(1225)-08-17-86(1330)	.49	2.88	.47	65

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
05468200 Cedar Creek at Farnham Street at Galesburg (site 1)--Continued				
08-26-86(0440)-08-26-86(0820)	0.44	1.80	0.34	220
09-06-86(1625)-09-06-86(1905)	.06	.12	.02	160
09-11-86(0305)-09-11-86(0655)	.92	2.04	.73	230
09-11-86(1410)-09-11-86(1600)	.11	.36	.10	110
09-17-86(1215)-09-17-86(1415)	.07	.12	.04	120
09-19-86(1155)-09-19-86(1240)	.48	2.16	.48	45
09-19-86(1840)-09-19-86(1955)	.10	.84	.08	75
09-22-86(2020)-09-22-86(2200)	.74	1.68	.61	100
09-24-86(0320)-09-24-86(1230)	.62	.36	.20	540
09-24-86(1515)-09-24-86(1610)	1.90	5.40	1.90	55
09-28-86(0835)-09-28-86(0925)	.18	1.20	.18	50
09-29-86(0525)-09-29-86(1505)	1.79	2.04	.57	580
09-30-86(2325)-10-01-86(0245)	.09	.36	.07	200

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
05468200 Cedar Creek at Farnham Street at Galesburg (site 1)--Continued				
10-02-86(2030)-10-03-86(0615)	1.84	1.32	0.68	585
10-11-86(2125)-10-11-86(2220)	.05	.12	.05	55
10-12-86(0345)-10-12-86(0540)	.09	.24	.07	115
10-13-86(1240)-10-13-86(1340)	.08	.12	.08	60
10-24-86(0805)-10-24-86(1415)	.20	.12	.05	370
10-25-86(0435)-10-25-86(2330)	.79	.36	.10	1,135
Henderson Street at Galesburg (RG2)				
08-19-85(0357)-08-19-85(1042)	0.15	0.84	0.07	405
08-25-85(1045)-08-25-85(1813)	.45	1.80	.24	448
08-29-85(1423)-08-29-85(1520)	.03	.12	.02	57
09-06-85(0500)-09-06-85(0502)	.06	.72	.06	2
09-17-85(0852)-09-17-85(1528)	.59	.96	.25	396
09-20-85(1623)-09-20-85(2100)	.48	.72	.23	277
09-21-85(1945)-09-21-85(2157)	.06	.12	.02	132

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
Henderson Street at Galesburg (RG2)--Continued				
09-22-85(0653)-09-22-85(2025)	0.74	0.48	0.34	812
09-23-85(0649)-09-23-85(1226)	.05	.12	.03	337
09-25-85(1219)-09-25-85(1824)	.19	.24	.07	365
09-29-85(2043)-09-29-85(2256)	.19	.24	.10	133
10-04-85(0020)-10-04-85(2000)	.90	.84	.19	1,180
10-08-85(0349)-10-08-85(0445)	.18	.48	.18	56
10-08-85(1449)-10-09-85(0914)	.35	.48	.12	1,105
10-09-85(1408)-10-09-85(2026)	.24	.48	.12	378
10-10-85(0017)-10-10-85(1014)	.36	.48	.17	597
10-11-85(1302)-10-12-85(0224)	.15	.24	.06	802
10-18-85(1042)-10-18-85(1913)	1.41	1.80	.59	511
10-23-85(2003)-10-23-85(2025)	.88	3.84	.88	22
10-31-85(1241)-11-01-85(1903)	1.93	.36	.18	1,822

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
Henderson Street at Galesburg (RG2)--Continued				
11-06-85(1427)-11-06-85(1840)	0.14	0.12	0.06	253
11-09-85(0526)-11-09-85(0641)	.12	.36	.10	75
11-09-85(1016)-11-09-85(2239)	.79	1.44	.27	743
11-10-85(0238)-11-10-85(0714)	.51	.48	.24	276
11-12-85(1206)-11-12-85(1326)	.51	1.32	.44	80
11-13-85(1716)-11-13-85(2116)	.25	.36	.10	240
11-15-85(0111)-11-15-85(2303)	.78	.36	.23	1,312
11-18-85(0350)-11-18-85(1642)	1.21	.60	.24	772
05-16-86(2004)-05-16-86(2017)	.15	1.08	.15	13
05-17-86(0057)-05-17-86(2256)	3.04	2.52	.83	1,319
05-25-86(1359)-05-25-86(1615)	.21	.60	.13	136
05-26-86(0129)-05-26-86(0314)	.06	.12	.05	105
05-26-86(1223)-05-26-86(1409)	.08	.24	.06	106

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
Henderson Street at Galesburg (RG2)--Continued				
06-06-86(2010)-06-07-86(0212)	0.06	0.24	0.04	362
06-13-86(1426)-06-13-86(1746)	.33	.84	.22	200
06-14-86(1445)-06-14-86(1546)	.20	.72	.19	61
06-27-86(1342)-06-27-86(1554)	.40	1.92	.37	132
06-30-86(0103)-06-30-86(0451)	.89	1.32	.73	228
07-01-86(1241)-07-01-86(1442)	.34	.36	.26	121
07-07-86(1713)-07-07-86(1731)	.07	.60	.07	18
07-08-86(2232)-07-09-86(0359)	.94	2.40	.63	327
07-10-86(0531)-07-10-86(0640)	.16	.24	.14	69
07-10-86(1528)-07-10-86(2235)	.39	1.32	.32	427
07-12-86(0515)-07-12-86(0740)	.73	1.20	.56	145
07-29-86(0111)-07-29-86(0327)	.22	.24	.18	136
07-31-86(0112)-07-31-86(0542)	4.16	5.52	1.97	270

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
Henderson Street at Galesburg (RG2)--Continued				
08-05-86(1649)-08-06-86(0027)	0.79	0.84	0.23	458
08-07-86(2323)-08-08-86(0001)	.25	1.20	.25	38
08-10-86(0202)-08-10-86(0719)	.11	.24	.06	317
08-13-86(2310)-08-14-86(0241)	.13	.24	.07	211
08-17-86(1239)-08-17-86(1343)	.22	1.68	.21	64
08-26-86(0435)-08-26-86(0745)	.31	.96	.28	190
09-10-86(2253)-09-10-86(2313)	.09	.72	.09	20
09-11-86(0304)-09-11-86(0900)	.91	2.40	.68	356
09-11-86(1413)-09-11-86(1614)	.15	1.08	.14	121
09-17-86(1216)-09-17-86(1428)	.06	.24	.03	132
09-19-86(0407) 09-19-86(0611)	.36	1.08	.29	124
09-19-86(1157)-09-19-86(1318)	.53	2.88	.52	81
09-19-86(1857)-09-19-86(2238)	.12	.48	.07	221

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
Henderson Street at Galesburg (RG2)--Continued				
09-22-86(2041)-09-22-86(2215)	0.75	2.88	0.67	94
09-24-86(0324)-09-24-86(1231)	.68	.36	.18	547
09-24-86(1537)-09-24-86(1614)	1.55	5.64	1.55	37
09-28-86(0742)-09-28-86(0933)	.10	.84	.09	111
09-29-86(0529)-09-29-86(1539)	2.02	2.04	.56	610
10-01-86(0054)-10-01-86(0255)	.12	.72	.11	121
10-02-86(2103)-10-03-86(0822)	2.25	2.64	.76	679
10-08-86(1514)-10-08-86(1524)	.05	.48	.05	10
10-12-86(0356)-10-12-86(0604)	.12	.36	.09	128
10-13-86(1051)-10-13-86(1351)	.11	.12	.08	180
10-24-86(0750)-10-24-86(2345)	.43	.24	.09	955
10-25-86(0238)-10-26-86(1141)	1.29	.72	.19	1,983

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
	Road 1400N at Cameron (RG3)			
08/19/85(0357)-08/19/85(1105)	0.19	0.12	0.07	428
08/25/85(1106)-08/25/85(1841)	.38	1.20	.20	455
08/29/85(1508)-08/29/85(1512)	.04	.48	.04	4
09/17/85(0831)-09/17/85(1515)	.72	1.08	.28	404
09/20/85(1614)-09/20/85(2125)	.54	.60	.16	311
09/21/85(1329)-09/21/85(2229)	.13	.12	.05	540
09/22/85(0611)-09/23/85(0113)	.85	.60	.36	1,142
09/23/85(0912)-09/23/85(1000)	.05	.12	.05	48
09/25/85(1225)-09/25/85(1807)	.23	.24	.08	342
09-29-85(2041)-09-30-85(0110)	.23	.24	.12	269
10-03-85(2354)-10-04-85(2032)	.99	1.20	.25	1,238
10-08-85(0347)-10-08-85(0433)	.15	.60	.15	46
10-08-85(1552)-10-08-85(1604)	.06	.36	.06	12

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
Road 1400N at Cameron (RG3)--Continued				
10-10-85(0219)-10-10-85(0539)	0.10	0.24	0.05	200
10-10-85(1804)-10-10-85(2204)	.30	.24	.12	240
10-11-85(0343)-10-11-85(1843)	.43	.60	.19	900
10-12-85(1616)-10-13-85(0458)	.13	.24	.03	762
10-19-85(1431)-10-19-85(2309)	1.50	1.68	.52	518
10-24-85(1155)-10-24-85(1214)	.71	3.48	.71	19
11-01-85(0417)-11-01-85(2123)	1.64	.24	.18	1,026
11-02-85(0410)-11-02-85(1052)	.24	.12	.06	402
11-06-85(1412)-11-06-85(1806)	.15	.12	.06	234
11-09-85(0546)-11-09-85(0632)	.08	.24	.08	46
11-09-85(1010)-11-09-85(2235)	.65	1.08	.25	745
11-10-85(0218)-11-10-85(0713)	.57	.48	.25	295
11-12-85(1207)-11-12-85(1320)	.50	1.92	.46	73

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
Road 1400N at Cameron (RG3)--Continued				
11-13-85(1735)-11-13-85(2119)	0.29	0.48	0.13	224
11-15-85(0126)-11-15-85(2235)	.76	.48	.19	1,269
11-18-85(0341)-11-18-85(1715)	1.12	.96	.19	754
05-09-86(1018)-05-09-86(1146)	.29	1.56	.26	88
05-16-85(1459)-05-16-86(2048)	.27	1.56	.22	349
05-17-86(0052)-05-17-86(1809)	2.33	2.04	.51	1,037
05-25-86(1345)-05-25-86(1632)	.33	.72	.16	167
05-26-86(0050)-05-26-86(0329)	.17	.24	.09	159
05-26-86(1023)-05-26-86(1339)	.20	.24	.12	196
06-04-86(0625)-06-04-86(0819)	.11	.24	.08	114
06-04-86(2246)-06-05-86(0413)	.19	.60	.15	327
06-09-86(2213)-06-10-86(0737)	1.05	1.92	.46	564
06-14-86(1033)-06-14-86(1121)	.09	.12	.09	48

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
Road 1400N at Cameron (RG3)--Continued				
06-22-86(0857)-06-22-86(0935)	0.08	0.24	0.08	38
06-27-86(1329)-06-27-86(1424)	.87	5.40	.87	55
06-30-86(0016)-06-30-86(0438)	1.42	---	1.34	262
07-01-86(1219)-07-01-86(1445)	.80	1.80	.66	146
07-07-86(0351)-07-07-86(0401)	.13	1.32	.13	10
07-08-86(2222)-07-09-86(0354)	1.01	2.28	.64	332
07-10-86(0459)-07-10-86(0643)	.24	.36	.18	104
07-10-86(2118)-07-10-86(2208)	.06	.24	.07	50
07-12-86(0454)-07-12-86(0724)	1.53	---	1.05	150
07-14-86(0050)-07-14-86(0625)	.23	.24	.12	335
07-29-86(0100)-07-29-86(0237)	.27	.48	.23	97
07-31-86(0112)-07-31-86(0531)	3.42	---	1.90	259
08-05-86(1605)-08-05-86(2357)	1.01	1.32	.34	472

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
Road 1400N at Cameron (RG3)--Continued				
08-07-86(2330)-08-07-86(2352)	0.50	2.52	0.50	22
08-10-86(0143)-08-10-86(0503)	.11	.36	.07	200
08-13-86(2305)-08-14-86(0220)	.28	.36	.10	195
08-17-86(1328)-08-17-86(1510)	.55	1.92	.53	102
08-26-86(0430)-08-26-86(0810)	.18	.60	.14	220
09-10-86(2253)-09-10-86(2308)	.04	.24	.04	15
09-11-86(0257)-09-11-86(0926)	.86	1.44	.56	389
09-11-86(1410)-09-11-86(1619)	.22	1.44	.19	129
09-17-86(1140)-09-17-86(1407)	.11	.24	.08	147
09-19-86(0354)-09-19-86(0618)	.56	3.12	.53	144
09-19-86(1150)-09-19-86(1240)	.52	2.88	.52	50
09-19-86(1859)-09-19-86(2155)	.06	.48	.05	176
09-22-86(2025)-09-22-86(2157)	.52	2.04	.42	92

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
Road 1400N at Cameron (RG3)--Continued				
09-24-86(0303)-09-24-86(1235)	0.81	0.48	0.22	773
09-24-86(1537)-09-24-86(1556)	1.49	---	1.49	19
09-29-86(0518)-09-29-86(1532)	2.17	2.16	.58	614
09-30-86(2310)-10-01-86(0359)	.19	1.08	.16	289
10-02-86(1929)-10-03-86(0757)	2.26	1.92	.51	748
10-08-86(1514)-10-08-86(1524)	.05	.48	.05	10
10-12-86(0337)-10-12-86(0553)	.20	.48	.14	136
10-13-86(1040)-10-13-86(1337)	.12	.12	.09	177
10-24-86(0827)-10-24-86(2311)	.34	.12	.05	884
10-25-86(0208)-10-26-86(1123)	1.26	.72	.19	1,995
County Line Road at Galesburg (RG4)				
08-19-85(0202)-08-19-85(1053)	0.17	0.36	0.07	531
08-25-85(1050)-08-25-85(1901)	.15	.48	.07	491

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
County Line Road at Galesburg (RG4)--Continued				
08-29-85(1428)-08-29-85(1516)	0.04	0.24	0.04	48
09-17-85(0857)-09-17-85(1535)	.47	.60	.21	398
09-20-85(1632)-09-20-85(2201)	.43	.48	.20	329
09-21-85(1346)-09-21-85(2154)	.13	.12	.05	488
09-22-85(0612)-09-22-85(2208)	.70	.48	.27	956
09-23-85(0715)-09-23-85(1216)	.04	.12	.03	301
09-25-85(1226)-09-25-85(1841)	.20	.24	.07	375
09-29-85(2044)-09-30-85(0056)	.24	.24	.12	252
10-04-85(0016)-10-04-85(2138)	.81	.72	.24	1,282
10-08-85(0408)-10-08-85(0745)	.04	.12	.02	217
10-18-85(2055)-10-19-85(2323)	2.13	.24	.28	1,588
11-05-85(0945)-11-05-85(1141)	.46	.36	.23	116
11-06-85(1424)-11-06-85(1812)	.14	.12	.06	228

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
County Line Road at Galesburg (RG4)--Continued				
11-09-85(0528)-11-09-85(0641)	0.13	0.24	0.11	73
11-09-85(0907)-11-10-85(1218)	1.86	.24	.20	1,631
11-12-85(0750)-11-13-85(0857)	.72	.12	.05	1,507
11-15-85(0612)-11-17-85(0408)	.21	.12	.02	2,756
11-17-85(0805)-11-17-85(1014)	.37	.24	.24	129
11-18-85(0347)-11-18-85(1641)	.97	.36	.19	774
06-10-86(0046)-06-10-86(0705)	.04	.12	.02	379
06-22-86(0842)-06-22-86(1055)	.05	.12	.03	133
06-23-86(2225)-06-23-86(2355)	.07	.12	.05	90
06-27-86(1330)-06-27-86(2217)	.34	.24	.10	527
07-25-86(0438)-07-25-86(0503)	.19	1.32	.19	25
07-29-86(0108)-07-29-86(0236)	.22	.24	.19	88
07-31-86(0108)-07-31-86(0448)	3.91	3.60	1.91	220

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
County Line Road at Galesburg (RG4)--Continued				
08-05-86(1620)-08-06-86(0022)	1.13	1.44	0.41	482
08-07-86(2315)-08-07-86(2357)	.52	2.40	.52	42
08-10-86(0232)-08-10-86(0510)	.09	.24	.08	158
08-13-86(2305)-08-14-86(0239)	.12	.24	.09	214
08-17-86(1230)-08-17-86(1506)	.43	1.92	.24	156
08-26-86(0432)-08-26-86(0723)	.44	1.44	.40	171
09-10-86(2204)-09-10-86(2255)	.05	.48	.05	51
09-11-86(0310)-09-11-86(0927)	1.03	1.44	.43	377
09-11-86(1413)-09-11-86(1612)	.19	1.32	.16	119
09-17-86(1211)-09-17-86(1351)	.08	.24	.07	100
09-19-86(0404)-09-19-86(0617)	.26	1.08	.25	133
09-19-86(1200)-09-19-86(1248)	.59	3.72	.59	48
09-19-86(1848)-09-19-86(2138)	.09	.60	.06	170

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
County Line Road at Galesburg (RG4)--Continued				
09-22-86(2021)-09-22-86(2214)	0.56	1.44	0.45	113
09-24-86(0320)-09-24-86(1240)	.66	.36	.17	560
09-24-86(1520)-09-24-86(1604)	1.65	5.40	1.65	44
09-29-86(0709)-09-29-86(1530)	1.98	2.16	.59	501
10-02-86(2057)-10-03-86(0751)	1.78	2.04	.48	654
10-11-86(2133)-10-11-86(2251)	.08	.12	.06	78
10-12-86(0215)-10-12-86(0556)	.31	.72	.22	221
10-13-86(1104)-10-13-86(1356)	.11	.12	.08	172
10-24-86(0929)-10-24-86(2254)	.33	.12	.08	805
10-25-86(0307)-10-26-86(1208)	1.05	1.08	.18	541
05468367 Cedar Creek at Road 1100E near Monmouth (site 18)				
05-09-86(1115)-05-09-86(1125)	0.10	0.60	0.10	10
05-16-86(1415)-05-16-86(1600)	.18	1.44	.14	105

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
05468367 Cedar Creek at Road 1100E near Monmouth (site 18)--Continued				
05-17-86(0140)-05-17-86(1850)	2.37	2.40	0.68	1,030
05-25-86(1510)-05-25-86(1755)	.37	1.32	.28	165
05-26-86(0140)-05-26-86(0520)	.16	.24	.08	220
05-26-86(1255)-05-26-86(2150)	.22	.36	.13	535
06-04-86(0615)-06-04-86(0825)	.12	.24	.09	130
06-04-86(1445)-06-04-86(1450)	.13	.84	.13	5
06-04-86(2150)-06-04-86(2315)	.32	1.44	.31	85
06-05-86(0835)-06-05-86(1205)	.08	.36	.04	210
06-07-86(0310)-06-07-86(0415)	.08	.48	.07	65
06-09-86(2250)-06-10-86(0715)	.40	.72	.16	505
06-14-86(1015)-06-14-86(1640)	.40	1.56	.19	385
07-01-86(1215)-07-01-86(1440)	1.20	1.56	.90	145
07-07-86(1650)-07-07-86(2200)	.04	.12	.02	310

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
05468367 Cedar Creek at Road 1100E near Monmouth (site 18)--Continued				
07-08-86(2220)-07-09-86(0355)	1.00	1.92	0.65	335
07-10-86(0515)-07-10-86(0820)	.16	.24	.13	185
07-10-86(2055)-07-10-86(2230)	.12	.24	.07	95
07-12-86(0345)-07-12-86(0650)	1.23	5.04	1.02	185
07-25-86(0415)-07-25-86(0455)	.37	2.64	.37	40
07-29-86(0105)-07-29-86(0225)	.22	.36	.18	80
07-31-86(0055)-07-31-86(0200)	1.90	4.44	1.89	65
08-05-86(1550)-08-06-86(0015)	1.30	2.52	.85	505
08-07-86(2320)-08-07-86(2345)	.51	2.88	.51	25
08-10-86(0150)-08-10-86(0500)	.09	.12	.04	190
08-13-86(2255)-08-14-86(0230)	.14	.24	.07	215
08-17-86(1335)-08-17-86(1455)	.41	1.68	.34	80
08-26-86(0420)-08-26-86(0705)	.57	2.04	.52	165

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
05468367 Cedar Creek at Road 1100E near Monmouth (site 18)--Continued				
09-06-86(1610)-09-06-86(1900)	0.05	0.12	0.03	170
09-10-86(2150)-09-10-86(2250)	.33	2.16	.33	60
09-11-86(0335)-09-11-86(0725)	.54	.84	.24	230
09-17-86(1140)-09-17-86(1325)	.14	.36	.12	105
09-19-86(0345)-09-19-86(0530)	.38	1.20	.36	105
09-19-86(1110)-09-19-86(1305)	.46	2.88	.44	115
09-19-86(1840)-09-19-86(2120)	.06	.24	.04	160
09-22-86(2015)-09-22-86(2210)	.71	1.80	.61	115
09-24-86(0310)-09-24-86(0825)	.47	.24	.14	315
09-24-86(1115)-09-24-86(1220)	.14	.24	.12	65
09-24-86(1515)-09-24-86(1550)	1.61	5.16	1.61	35
09-28-86(0820)-09-28-86(0935)	.06	.24	.03	75
09-29-86(0700)-09-29-86(1535)	1.78	1.08	.51	515

Table 5.--Precipitation characteristics for selected storms, August through November 1985 and May through October 1986--Continued

Period of precipitation[1]	Total precipitation (inches)	Maximum 5-minute rainfall intensity (in/hr)	Maximum hourly rainfall intensity (in/hr)	Storm duration (minutes)
05468367 Cedar Creek at Road 1100E near Monmouth (site 18)--Continued				
10-01-86(0055)-10-01-86(0115)	0.09	0.60	0.09	20
10-02-86(1930)-10-03-86(0615)	1.89	1.44	.61	645
10-03-86(1735)-10-03-86(2250)	.35	.48	.12	315
10-11-86(2040)-10-11-86(2320)	.09	.12	.05	160
10-12-86(0335)-10-12-86(0540)	.42	.60	.27	125
10-13-86(1010)-10-13-86(1330)	.13	.24	.09	200
10-24-86(0820)-10-24-86(2235)	.29	.12	.06	855
10-25-86(0430)-10-25-86(2005)	.71	.24	.12	935
10-25-86(2330)-10-26-86(0050)	.19	.48	.16	80

[1] Format for this heading is starting month-day-year(time)-ending month-day-year(time). Time is in hours.

Table 6.--Computed sediment-oxygen-demand rates for selected sites on Cedar Creek and its tributaries

[Site numbers correspond to those in figures 9 and 10 of this report; $(g/m^2)/d$, grams per square meter per day; dashes indicate no data]

Site number	Data base identification number	Site location	Date (month/day/year)	Time	Sediment oxygen demand rate $[(g/m^2)/d]$
1-1	405807090204201	Cedar Creek at Farnham Street at Galesburg			
		(20 ft downstream from culverts)	06/26/86		--
2-1	405744090205001	Cedar Creek at Fremont Street at Galesburg			
		(7 ft upstream from culverts)	07/22/85		1.5
		(10 ft upstream from culverts)	10/23/85		--
		(50 ft upstream from culverts)	06/17/86	1000	3.3
		(50 ft upstream from culverts)	06/17/86	1100	2.2
5-1	405641090232101	Cedar Creek at Dietrich Street at Galesburg			
		(25 ft upstream from bridge)	07/22/85		3.3
		(25 ft upstream from bridge)	10/23/85		--
5-2	405638090233301	Cedar Creek near Dietrich Street at Galesburg			
		(midway between Dietrich and McClure Streets)	06/26/86		4.7
6-1	405635090234401	Cedar Creek at McClure Street at Galesburg			
		(15 ft upstream from bridge)	07/22/85		2.2
		(10 ft downstream from bridge)	10/23/85		--
		(30 ft downstream from bridge)	06/16/86	1000	--
		(30 ft downstream from bridge)	06/16/86	1100	2.7
6-2	405637090235501	Cedar Creek near McClure Street at Galesburg			
		(midway between McClure and Linwood Streets)	06/25/86	1000	--
		(midway between McClure and Linwood Streets)	06/25/86	1100	1.1
7-1	405633090241001	Cedar Creek at Linwood Street at Galesburg			
		(upstream side of bridge)	06/27/85		1.0
		(upstream side of bridge)	10/23/85		--
		(upstream side of bridge)	08/29/86	1000	--
		(upstream side of bridge)	08/29/86	1100	--
7-2	405632090242301	Cedar Creek near Linwood Street at Galesburg			
		(750 ft downstream from bridge)	06/27/86	1100	--
8-1	405632090243301	Cedar Creek near U.S. Highway 34 at Galesburg			
		(200 ft upstream from northbound bridge)	06/27/86	1000	--
		(200 ft upstream from northbound bridge)	08/21/86	1000	--
		(200 ft upstream from northbound bridge)	08/21/86	1100	--

8-2	405631090243401	Cedar Creek at U.S. Highway 34 at Galesburg			
		(under northbound bridge)	06/26/85		2.3
		(100 ft upstream from northbound bridge)	07/25/85	1000	1.7
		(50 ft upstream from northbound bridge)	07/25/85	1100	4.0
		(under northbound bridge)	07/25/85	1200	1.7
		(50 ft upstream from northbound bridge)	10/23/85		--
		(5 ft downstream from southbound bridge)	07/17/86		1.8
		(50 ft upstream from northbound bridge)	08/19/86		--
9-1	405625090244701	Cedar Creek upstream Galesburg wastewater treatment facility at Galesburg			
		(upstream from facility's bridge)	06/26/85	1000	9.1
		(downstream from facility's bridge)	06/26/85	1100	7.5
		(under facility's bridge)	10/23/85		--
		(30 ft upstream from bridge)	06/19/86	1000	2.7
		(30 ft upstream from bridge)	06/19/86	1100	4.9
		(30 ft upstream from bridge)	08/12/86		--
		(30 ft upstream from bridge)	08/14/86	1000	1.4
		(30 ft upstream from bridge)	08/14/86	1100	1.0
WWTF-1	405617090250101	Cedar Creek at Galesburg wastewater treatment facility outfall at Galesburg			
		(10 ft downstream from outfall)	10/23/85		--
		(100 ft downstream from outfall)	08/08/86	1000	2.9
		(100 ft downstream from outfall)	08/08/86	1100	--
10-1	405601090252101	Cedar Creek at Old Pickard Road near Galesburg			
		(5 ft upstream from culverts)	10/23/85		--
		(10 ft downstream from culverts)	06/18/86	1000	--
		(10 ft downstream from culverts)	06/18/86	1100	--
		(100 ft upstream from culverts)	08/30/86	1000	5.7
		(100 ft upstream from culverts)	08/30/86	1100	--
10-2	405558090252401	Cedar Creek near Old Pickard Road near Galesburg			
		(500 ft downstream from culverts)	07/17/85		2.6
		(500 ft downstream from culverts)	09/02/86	1000	4.6
		(500 ft downstream from culverts)	09/02/86	1100	--
10-3	405554090252901	Cedar Creek upstream from high-flow diversion near Galesburg	10/23/85		--
			06/25/86		5.0
			07/22/86	1000	--
			07/22/86	1100	6.6
			08/12/86		--
10-4	405543090253901	Cedar Creek upstream from mouth of Tributary No. 1 near Galesburg	07/30/86		--
			10/08/86	1000	3.5
			10/08/86	1100	--
10-5	405542090254601	Cedar Creek downstream from mouth Tributary No. 1 near Galesburg	10/08/86	1000	--
			10/08/86	1100	--

Table 6.--Computed sediment-oxygen-demand rates for selected sites on Cedar Creek and its tributaries--Continued

Site number	Data base identification number	Site location	Date (month/ day/ year)	Time	Sediment oxygen demand rate [(g/m^2)/d]
10-6	405550090254601	Cedar Creek downstream from high-flow diversion near Galesburg	09/04/86	1000	--
			09/04/86	1100	6.6
11-1	405543090262801	Cedar Creek at County Line Road near Galesburg			
		(55 ft upstream from bridge)	06/20/85	1000	4.4
		(5 ft downstream from bridge)	06/20/85	1100	3.9
		(30 ft upstream from bridge)	07/17/85		4.0
		(30 ft downstream from bridge)	10/23/85	1000	--
		(5 ft upstream from bridge)	10/23/85	1100	--
		(5 ft upstream from bridge)	06/20/86	1000	1.3
		(15 ft upstream from bridge)	06/20/86	1100	2.0
		(55 ft upstream from bridge)	08/19/86	1000	6.7
		(45 ft upstream from bridge)	08/19/86	1100	2.6
11-2	405542090263001	Cedar Creek near County Line Road near Galesburg			
		(150 ft downstream from bridge)	06/21/85	1000	3.5
		(150 ft downstream from bridge)	06/21/85	1100	2.7
11-3	405528090270401	Cedar Creek upstream from mouth of Tributary No. 3 near Galesburg			
		(1,500 ft upstream from mouth)	07/28/86	1000	3.1
		(1,500 ft upstream from mouth)	07/28/86	1100	3.6
		(1,500 ft upstream from mouth)	08/12/86		--
11-4	405519090271501	Cedar Creek downstream from mouth of Tributary No. 3 near Galesburg			
		(1,200 ft downstream from mouth)	07/28/86	1000	2.9
		(1,200 ft downstream from mouth)	07/28/86	1100	4.4
		(1,200 ft downstream from mouth)	08/12/86		--
12-1	405528090274401	Cedar Creek upstream from Road 1650E near Coldbrook			
		(3/4 mile upstream from bridge)	07/29/86	1000	8.2
		(3/4 mile upstream from bridge)	07/29/86	1100	3.3
		(3/4 mile upstream from bridge)	08/12/86		--
12-2	405526090275901	Cedar Creek near Road 1650E near Coldbrook			
		(1/2 mile upstream bridge)	08/15/86	1000	1.9
		(1/2 mile upstream bridge)	08/15/86	1100	--

12-3	405520090280901	Cedar Creek at Road 1650E near Coldbrook			
		(upstream side of bridge)	06/25/85	1000	1.6
		(15 ft downstream from bridge)	06/25/85	1100	1.3
		(upstream side of bridge)	10/23/85		--
		(downstream side of bridge)	08/15/86	1000	--
		(downstream side of bridge)	08/15/86	1100	--
12-4	405516090283101	Cedar Creek downstream from Road 1650E near Coldbrook			
		(300 ft downstream)	07/29/86	1000	--
		(300 ft downstream)	07/29/86	1100	--
		(300 ft downstream)	08/12/86		--
13-1	405520090291101	Cedar Creek at Road 1550E near Coldbrook			
		(upstream bridge)	10/23/85		--
		(upstream bridge)	07/24/85		1.5
		(downstream bridge)	06/24/86	1000	--
		(downstream bridge)	06/24/86	1100	--
14-1	405516090295301	Cedar Creek at Road 1500E near Coldbrook			
		(30 ft downstream from bridge)	06/19/85		3.9
		(30 ft downstream from bridge)	07/24/85		1.7
		(30 ft downstream from bridge)	10/23/85		--
15-1	405522090305401	Cedar Creek upstream from Road 1400E near Coldbrook			
		(1/4 mile upstream from bridge)	07/16/86		2.3
		(1/4 mile upstream from bridge)	08/12/86		--
15-2	405520090310301	Cedar Creek at Road 1400E near Coldbrook			
		(upstream bridge)	07/16/85		2.1
		(upstream bridge)	10/23/85		--
16-1	405524090321301	Cedar Creek at Road 1300E near Coldbrook			
		(downstream bridge)	07/16/85		.4
		(downstream bridge)	10/23/85		--
16-2	405521090321801	Cedar Creek near Road 1300E near Coldbrook			
		(400 ft downstream from bridge)	07/30/86	1000	.6
		(400 ft downstream from bridge)	07/30/86	1100	1.4
17-1	405520090325801	Cedar Creek upstream from Road 1200E near Coldbrook			
		(1,500 ft upstream from bridge)	06/18/85		4.6
17-2	405530090331501	Cedar Creek at Road 1200E near Coldbrook			
		(20 ft downstream from bridge)	06/17/85	1000	.4
		(10 ft downstream from bridge)	06/17/85	1100	3.8
		(10 ft downstream from bridge)	10/23/85		--
		(10 ft downstream from bridge)	08/08/86	1000	2.4
		(20 ft downstream from bridge)	08/08/86	1100	2.2
18-1	405550090342301	Cedar Creek at Road 1100E near Monmouth			
		(60 ft upstream from bridge)	06/17/85		1.3
		(60 ft upstream from bridge)	10/22/85		--

Table 6.--Computed sediment-oxygen-demand rates for selected sites on Cedar Creek and its tributaries--Continued

Site number	Data base identification number	Site location	Date (month/ day/ year)	Time	Sediment oxygen demand rate [(g/m^2)/d]
19-1	405625090351201	Cedar Creek at Old Highway 34 near Monmouth			
		(upstream bridge)	07/15/85		1.8
		(upstream bridge)	07/29/85		1.0
		(upstream bridge)	10/23/85		--
19-2	405627090351701	Cedar Creek at U.S. Highway 34 near Monmouth			
		(600 ft downstream from old Highway 34 bridge)	10/23/85		--
20-1	405727090371401	Cedar Creek upstream from confluence with Markham Creek near Monmouth (upstream confluence)	07/15/85		1.9
21-1	405529090251701	Cedar Creek Tributary No. 1 at Road 1450N at Galesburg			
		(under bridge)	09/03/86		2.9
22-1	405542090253901	Cedar Creek Tributary No. 1 at Atchison, Topeka, and Santa Fe Railroad at Galesburg			
		(upstream bridge)	07/23/85		1.6
		(upstream bridge)	10/31/85		--
23-1	405558090263901	Cedar Creek Tributary No. 2 at Road 2100N near Galesburg			
		(20 ft downstream from culverts)	07/23/85		3.7
		(upstream culverts)	10/31/85		--
		(15 ft upstream from culverts)	09/05/86	1000	1.5
		(5 ft upstream from culverts)	09/05/86	1100	1.1
24-1	405518090263901	Cedar Creek Tributary No. 3 at Atchison, Topeka, and Santa Fe Railroad near Galesburg			
		(downstream railroad bridge)	07/23/85		1.9
		(downstream railroad bridge)	10/31/85		--
25-1	405507090295701	Cedar Creek Tributary No. 4 at U.S. Highway 34 near Cameron			
		(30 ft upstream from Road 1500E culvert)	07/24/85		2.2
		(upstream from Road 1500E culvert)	10/31/85		--
26-1	405532090331001	Cedar Creek Tributary No.5 at Road 2040N near Coldbrook			
		(upstream bridge)	10/31/85		--
27-1	405507090335001	Cedar Creek Tributary No.6 at Road 2000N near Monmouth			
		(downstream bridge)	10/31/85		--

Table 7.--Sediment-oxygen-demand data for the measurement made August 19, 1986, at Cedar Creek at County Line Road near Galesburg (site 11-1)

[mg/L, milligrams per liter]

Time	Elapsed time (minutes)	Dissolved oxygen concentration (mg/L)	Dissolved oxygen consumed (mg/L)
1000	0	13.13	0.00
1010	10	12.74	0.39
1020	20	11.60	1.53
1030	30	10.86	2.27
1040	40	10.44	2.69
1050	50	10.16	2.97
1100	60	9.83	3.30
1110	70	9.66	3.47
1120	80	9.34	3.79
1130	90	8.77	4.36
1140	100	8.37	4.76
1150	110	7.99	5.14
1200	120	7.67	5.46
1210	130	7.35	5.78
1220	140	6.97	6.16
1230	150	6.63	6.50
1240	160	6.38	6.75
1250	170	6.09	7.04
1300	180	5.77	7.36
1310	190	5.47	7.66
1320	200	5.18	7.95
1330	210	4.93	8.20
1340	220	4.57	8.56
1350	230	4.33	8.80
1400	240	4.04	9.09
1410	250	3.90	9.23
1420	260	3.62	9.51
1430	270	3.27	9.86
1440	280	2.99	10.14
1450	290	2.47	10.66
1500	300	2.48	10.65
1510	310	2.16	10.97
1520	320	1.87	11.26
1530	330	1.79	11.34
1540	340	1.63	11.50
1550	350	1.45	11.68
1600	360	1.23	11.90

Table 8.--Selected constituent concentrations of bottom materials collected from Cedar Creek and its tributaries

[Site numbers correspond to those in figures 9 and 10 of this report; mg/Kg, milligrams per kilogram; COD, chemical oxygen demand; <, less than; dashes indicate no data. Footnotes are at end of table.]

Site number	Date (month-day-year)	Time (hours)	Percent solids, volatile	Nitrogen, NH_4 + org. tot in bot mat (mg/Kg as N)	COD total in bottom material (mg/Kg)	Arsenic total in bottom material (mg/Kg as As)	Cadmium recov. fm bottom material (mg/Kg as Cd)	Chromium, recov. fm bottom material (mg/Kg)	Copper, recov. fm bottom material (mg/Kg as Cu)	Iron, recov. fm bottom material (mg/Kg as Fe)	Lead, recov. fm bottom material (mg/Kg as Pb)	Manganese, recov. fm bottom material (mg/Kg)	Mercury recov. fm bottom material (mg/Kg as Hg)	Zinc, recov. fm bottom material (mg/Kg as Zn)
1-1	06-26-86	1000	[1]9	1,600	64,000	6	<1	14	20	18,000	20	1,300	0.07	70
2-1	10-23-85	1000	7	1,300	48,000	--	<.01	11	20	[1]23,000	30	[1]2,400	.02	90
	06-17-86	1000	5	1,700	55,000	3	<1	11	20	16,000	30	470	[2].18	80
	06-17-86	1100	6	2,300	61,000	4	<1	12	20	16,000	30	430	[2].22	90
5-1	10-23-85	1000	[1]11	[1]3,400	[1]150,000	--	[2]4	[2]47	[1]90	20,000	[3]390	520	[3].79	[3]440
5-2	06-26-86	1000	[1]12	1,100	42,000	4	[2]3	15	30	14,000	[3]200	430	.05	[2]290
6-1	10-23-85	1000	[1]10	390	34,000	--	[1]1	[2]45	20	9,500	[3]210	330	[2].21	[1]140
	06-16-86	1000	[2]15	1,000	63,000	5	[2]3	21	[1]60	14,000	[3]240	510	[3].49	[3]350
	06-16-86	1100	[2]13	1,300	110,000	6	[2]2	19	50	16,000	[3]190	490	[3].43	[2]230
6-2	06-25-86	1000	0.5	210	8,500	3	<1	11	20	7,700	[1]40	180	.08	[1]100
	06-25-86	1100	5	1,000	48,000	6	[2]3	[1]26	[1]70	17,000	[3]120	1,100	[3].7	[2]200
7-1	10-23-85	1000	3	130	21,000	--	[2]3	7	40	6,600	[2]60	160	.04	[1]120
	08-29-86	1000	6	1,500	52,000	5	[1]1	20	30	13,000	[3]110	520	[3].77	[2]210
	08-29-86	1100	8	2,100	74,000	7	[1]1	[1]36	30	19,000	[2]60	670	[3].6	[1]150
7-2	06-27-86	1000	6	960	67,000	8	[2]5	[1]29	[1]60	18,000	[3]200	720	[3]2.6	[2]280
8-1	10-23-85	1000	3	790	20,000	--	[1]1	19	20	21,000	20	460	.04	80
	06-27-86	1000	[1]9	490	26,000	5	[2]3	21	[1]80	13,000	[3]150	470	[3].42	[2]170
	08-21-86	1000	3	280	15,000	4	[2]4	15	20	13,000	[1]40	380	[3]1.2	[2]270
	08-21-86	1100	2	250	9,900	4	[2]2	10	40	9,700	[2]70	890	[3].41	80
8-2	07-17-86	1000	8	1,500	100,000	8	[2]4	[2]44	[1]80	19,000	[3]260	500	[3]1.5	[3]400
	08-19-86	1000	5	660	35,000	5	[2]3	14	[1]80	13,000	[2]90	490	[3].84	[2]230
9-1	10-23-85	1000	7	2,100	100,000	--	[2]12	[3]67	[1]70	19,000	[3]190	360	[3].66	[3]430
	06-19-86	1000	6	860	43,000	4	<1	16	20	13,000	[1]50	400	[3]1.0	[1]100
	06-19-86	1100	6	1,200	61,000	4	[2]2	[1]28	30	16,000	[2]70	480	[2].21	[1]120
	08-12-86	1000	6	870	39,000	7	[2]3	[1]31	[1]70	10,000	[2]80	520	[3]1.1	[2]210
	08-14-86	1000	7	710	31,000	5	[2]3	17	20	17,000	[1]50	920	[3].59	[3]840

10-1	10-23-85	1000	7	1,000	88,000	--	$^{2}12$	$^{2}48$	$^{1}60$	9,800	$^{2}90$	390	$^{2}0.22$	$^{1}150$
	06-18-86	1000	7	1,400	92,000	8	$^{2}3$	21	$^{1}60$	21,000	$^{3}120$	740	$^{3}1.5$	$^{2}290$
	06-18-86	1100	$^{1}12$	2,100	120,000	4	$^{2}12$	$^{3}70$	$^{1}80$	16,000	$^{3}130$	670	$^{3}.95$	$^{2}240$
10-2	09-02-86	1000	6	1,500	42,000	3	<1	13	20	14,000	20	640	$^{3}.53$	70
	09-02-86	1100	8	1,200	55,000	5	$^{2}2$	11	40	16,000	$^{2}70$	640	$^{3}1.2$	$^{2}260$
10-3	10-23-85	1000	$^{3}22$	$^{2}5,100$	$^{1}200,000$	--	$^{2}16$	$^{3}240$	$^{2}170$	21,000	$^{3}250$	510	$^{3}.8$	$^{3}370$
	06-25-86	1000	$^{1}12$	1,900	99,000	6	$^{2}10$	$^{2}45$	50	$^{2}33,000$	$^{3}140$	470	$^{3}.69$	$^{2}190$
	07-22-86	1000	$^{2}14$	$^{1}3,400$	$^{1}160,000$	5	$^{2}8$	$^{3}100$	10	$^{1}26,000$	$^{3}250$	640	$^{3}.54$	$^{3}380$
	07-22-86	1100	$^{1}9$	$^{1}3,600$	$^{1}150,000$	5	$^{2}7$	$^{3}92$	10	21,000	$^{3}250$	640	$^{3}.93$	$^{3}360$
	08-12-86	1100	$^{1}10$	$^{1}3,600$	$^{1}160,000$	5	$^{2}14$	$^{3}130$	$^{2}110$	21,000	$^{3}200$	210	$^{3}2.3$	$^{2}270$
10-4	07-30-86	1000	8	2,600	110,000	4	$^{3}28$	$^{3}130$	$^{2}130$	20,000	$^{3}190$	450	$^{3}1.7$	$^{3}300$
	10-08-86	1000	8	2,300	65,000	10	$^{2}3$	$^{1}30$	30	22,000	$^{1}50$	380	$^{2}.26$	$^{1}150$
	10-08-86	1100	8	2,700	73,000	9	$^{2}14$	$^{3}80$	$^{1}70$	22,000	$^{2}90$	400	$^{3}.4$	$^{2}180$
10-5	09-04-86	1000	2	170	7,900	1	$^{2}4$	13	20	4,300	20	250	$^{3}.62$	50
	09-04-86	1100	$^{1}9$	2,500	89,000	4	$^{3}23$	$^{3}120$	$^{2}100$	18,000	$^{3}140$	590	$^{3}1.1$	$^{2}260$
10-6	10-08-86	1000	$^{2}13$	$^{1}3,600$	$^{1}170,000$	10	$^{3}52$	$^{3}290$	$^{2}150$	$^{1}24,000$	$^{3}410$	99	$^{3}1.5$	$^{3}480$
	10-08-86	1100	7	1,700	68,000	7	$^{2}13$	$^{2}57$	50	17,000	$^{2}60$	480	$^{3}.31$	$^{1}140$
11-1	10-23-85	1000	1	420	9,100	--	$^{2}6$	$^{1}23$	20	8,400	30	570	$^{1}.13$	70
	10-23-85	1100	4	1,400	47,000	--	$^{3}29$	$^{3}130$	40	15,000	$^{2}70$	570	$^{3}.41$	$^{2}180$
	06-20-86	1000	8	1,400	65,000	7	$^{2}13$	$^{2}54$	50	22,000	7	960	$^{3}.71$	$^{2}200$
	06-20-86	1100	3	650	35,000	4	$^{2}10$	$^{2}39$	30	15,000	$^{2}60$	710	$^{3}.76$	$^{1}130$
11-3	07-28-86	1000	$^{2}15$	1,500	60,000	4	$^{3}21$	$^{3}75$	40	19,000	$^{2}70$	920	$^{3}.94$	$^{2}190$
	07-28-86	1100	$^{2}13$	2,100	110,000	6	$^{2}19$	$^{3}81$	50	17,000	$^{3}100$	640	$^{3}.94$	$^{2}220$
	08-12-86	1000	$^{1}11$	2,400	92,000	6	$^{3}26$	$^{3}130$	$^{1}60$	17,000	$^{3}130$	880	$^{3}2.0$	$^{2}270$
11-4	07-28-86	1000	6	1,900	70,000	4	$^{3}26$	$^{3}93$	$^{1}80$	14,000	$^{2}90$	470	$^{3}.99$	$^{2}200$
	07-28-86	1100	6	1,900	69,000	4	$^{3}44$	$^{3}110$	40	14,000	$^{3}110$	600	$^{3}1.1$	$^{2}210$
	08-12-86	1000	6	2,000	71,000	5	$^{2}14$	$^{3}64$	$^{1}70$	18,000	$^{2}90$	500	$^{3}.9$	$^{2}190$
12-1	07-29-86	1000	7	2,200	75,000	4	$^{2}19$	$^{3}79$	$^{1}70$	14,000	$^{2}90$	560	.02	$^{2}190$
	07-29-86	1100	6	1,600	65,000	4	$^{2}19$	$^{2}52$	50	14,000	$^{2}60$	660	$^{3}.88$	$^{1}160$
	08-12-86	1000	6	1,700	61,000	4	$^{2}17$	$^{3}64$	$^{1}60$	14,000	$^{2}80$	600	$^{3}1.8$	$^{2}180$
12-2	08-15-86	1000	2	260	10,000	6	$^{2}7$	$^{1}33$	20	22,000	$^{1}40$	$^{1}2,600$	$^{3}0.43$	90
	08-15-86	1100	2	500	10,000	3	$^{2}8$	$^{1}27$	10	14,000	20	1,200	$^{3}.56$	70
12-3	10-23-85	1000	7	2,000	75,000	--	$^{3}37$	$^{3}98$	50	18,000	$^{2}90$	500	$^{3}.4$	$^{2}170$
	08-15-86	1000	6	1,100	31,000	4	$^{2}9$	$^{2}41$	20	16,000	30	1,000	$^{3}.65$	90
	08-15-86	1100	5	980	30,000	5	$^{2}15$	$^{3}70$	30	$^{1}26,000$	$^{1}50$	1,100	$^{3}.76$	$^{1}160$
12-4	07-29-86	1000	2	270	3,200	$^{1}15$	$^{1}1$	13	20	$^{3}92,000$	20	$^{3}11,000$	$^{3}.81$	$^{1}140$
	07-29-86	1100	3	570	20,000	6	$^{2}7$	$^{1}28$	20	14,000	$^{1}40$	1,600	$^{3}.49$	$^{1}100$
	08-12-86	1000	7	1,100	35,000	5	$^{2}18$	$^{3}85$	50	19,000	$^{2}80$	1,000	.05	$^{2}180$

Table 8.--Selected constituent concentrations of bottom materials collected from Cedar Creek and its tributaries--Continued

Site number	Date (month-day-year)	Time (hours)	Percent solids, volatile	Nitrogen, NH_4 + org. tot in bot mat (mg/Kg as N)	COD total in bottom material (mg/Kg)	Arsenic total in bottom material (mg/Kg as As)	Cadmium recov. fm bottom material (mg/Kg as Cd)	Chromium, recov. fm bottom material (mg/Kg)	Copper, recov. fm bottom material (mg/Kg as Cu)	Iron, recov. fm bottom material (mg/Kg as Fe)	Lead, recov. fm bottom material (mg/Kg as Pb)	Manganese, recov. fm bottom material (mg/Kg)	Mercury recov. fm bottom material (mg/Kg as Hg)	Zinc, recov. fm bottom material (mg/Kg as Zn)
13-1	10-23-85	1000	5	1,500	46,000	--	[2]2	18	20	16,000	30	620	[1].15	[1]100
	06-24-86	1000	3	680	21,000	3	[2]7	20	20	12,000	30	610	[3].38	80
	06-24-86	1100	6	1,300	44,000	6	[2]3	[1]27	30	20,000	[1]40	910	[2].17	[1]100
14-1	10-23-85	1000	5	1,500	49,000	--	[2]2	[1]31	30	15,000	[1]40	490	[1].16	[1]130
15-1	07-16-86	1000	1	250	3,500	2	<1	14	10	17,000	10	200	[3]1.5	40
	08-12-86	1000	2	260	10,000	7	<1	12	8	14,000	20	1,300	.09	50
15-2	10-23-85	1000	2	470	4,100	--	[2]2	12	10	19,000	10	740	.02	50
16-1	10-22-85	1000	[1]11	3,000	92,000	--	[2]8	[2]42	40	[1]25,000	[1]40	560	[2].17	[1]130
16-2	07-30-86	1000	4	1,100	35,000	4	<1	16	20	13,000	20	560	[3].82	80
	07-30-86	1100	4	1,000	28,000	3	[1]1	16	20	13,000	20	290	[3].5	60
17-2	10-23-85	1000	5	1,500	34,000	--	[2]6	19	20	15,000	20	650	.08	80
	08-08-86	1000	5	1,300	41,000	4	[2]3	[1]24	20	14,000	20	600	[3].77	90
	08-08-86	1100	4	1,400	43,000	4	[2]6	[1]32	30	17,000	30	600	[1].11	[1]120
18-1	10-22-85	1000	2	160	2,200	--	[1]1	7	4	12,000	7	630	.02	30
19-1	10-23-85	1000	6	1,700	47,000	--	[2]17	[1]33	30	15,000	20	620	[1].1	[1]100
19-2	10-23-85	1000	4	1,300	28,000	--	[2]3	19	20	17,000	20	510	.06	80
21-2	09-03-86	1000	8	1,900	69,000	6	<1	8	20	14,000	20	430	[3].43	90
22-1	10-31-85	1000	7	2,000	68,000	6	[1]1	19	20	16,000	30	620	[2]0.22	[1]110
	08-19-86	1000	7	1,100	49,000	4	[3]27	[3]130	[1]70	18,000	[3]130	570	[3]1.1	[2]260
	08-19-86	1100	[1]10	1,200	92,000	3	[2]11	[2]47	30	11,000	[1]50	460	[3].94	[1]130
23-1	10-31-85	1000	6	1,500	44,000	5	<.01	11	10	16,000	10	670	.05	90
	09-05-86	1000	7	1,900	51,000	5	<1	13	20	15,000	20	460	.06	60
	09-05-86	1100	5	1,500	45,000	4	<1	10	10	11,000	10	380	.03	50
	08-30-86	1000	6	950	59,000	4	[2]15	[3]61	[1]70	18,000	[3]160	590	[3]1.1	[2]280
	08-30-86	1100	[1]9	2,500	85,000	3	[2]12	[3]66	[1]90	13,000	[3]100	510	[3]13	[2]180
24-1	10-31-85	1000	3	1,000	32,000	9	<.01	4	8	12,000	10	990	.09	10

25-1	10-31-85	1000	4	800	22,000	5	.1	11	10	16,000	10	490	.03	20
26-1	10-31-85	1000	5	1,000	35,000	6	<.01	9	10	14,000	9	890	.01	20
27-1	10-31-85	1000	6	1,400	35,000	7	.1	9	10	18,000	20	710	.04	80
WWTF-1	10-23-85	1000	2	390	10,000	--	[1]1	12	10	18,000	9	100	.02	50
	08-08-86	1000	3	570	14,000	3	<1	15	20	14,000	10	960	.02	80
	08-08-86	1100	3	560	17,000	5	[2]2	[1]23	20	21,000	30	250	.04	90
	08-14-86	1100	7	660	28,000	5	[2]2	19	20	14,000	[3]100	510	[3]1.0	[2]230

Constituent classifications are described by Kelly and Hite, 1984, p. 4-5.

[1] Elevated.

[2] Highly elevated.

[3] Extreme.

Table 9.--Summary of field and computed data for traveltimes and reaeration rates in selected subreaches of Cedar Creek

[Subreaches are defined in this table as the subreach of Cedar Creek bounded by successive sampling sites during each data collection; site numbers correspond to those in figure 3 of this report; ft^3/s, cubic feet per second; µg/L, micrograms per liter; °C, degrees Celsius; dashes indicate no data]

Site number	River mile	Date (month-day-year)	Discharge (ft^3/s)	Time of dye centroid	Peak dye concentration (µg/L)	Peak gas concentration (µg/L)	Subreach results: Traveltime (hours)	Computed reaeration rate per day	Average subreach water temperature (°C)	Reaeration rate adjusted to 20°C per day
14	31.9	06-19-85	22	1146	27.3	36.65	3.82	-4.8	18.8	[1]-4.8
15	30.0	06-19-85	25	1535	12.0	28.28				
11	38.1	06-25-85	14	1330	16.9	35.64	9.75	5.93	24.4	5.33
12	35.2	06-25-85	20	2315	4.48	1.813				
8	40.8	06-26-85	2.7	1135	44.3	99.16	1.22	8.86	24.1	8.04
9	40.5	06-26-85	2.7	1248	30.9	59.91				
--	43.9	06-27-85	.54	1049	288	281.5	3.28	23.2	24.7	20.8
5	42.2	06-27-85	1.5	1400	50.8	5.87	7.90	9.19	23.6	8.45
7	41.1	06-27-85	2.1	2216	12.2	.247				
15	30.0	07-16-85	14	1134	56.4	53.84	4.53	3.43	24.3	3.10
16	28.5	07-16-85	14	1606	34.3	20.58				
10	39.8	07-17-85	12	1042	31.7	79.00	6.68	6.58	23.0	6.12
11	38.1	07-17-85	9.0	1723	10.0	13.96				

1	45.2	03-18-86	3.5	0950	752	---	3.17	---	---	---
3	44.0	03-18-86	---	1300	69.2	---	1.75	---	---	---
5	42.2	03-18-86	6.2	1445	40.1	---	5.92	---	---	---
8	40.8	03-18-86	6.7	2040	14.4	---	.833	---	---	---
9	40.5	03-18-86	---	2130	10.3	---				
WWTF	40.2	03-18-86	---	0900	---	---	.933	---	---	---
10	39.8	03-18-86	30	0956	182	---	3.32	---	---	---
11	38.1	03-18-86	36	1315	52.8	---	4.08	---	---	---
12	35.2	03-18-86	60	1720	46.6	---	19.4	---	---	---
20	19.0	03-19-86	[2]120	1245	5.66	---				

[1] Reaeration rate of -4.8 was not used in regression calculations.
[2] Measured at site 18.

97 to follow

Table 10.--Selected constituent concentrations determined from composite samples collected prior to the diel data collections, July 5-8, August 3-6, and August 24-27, 1985

[Site numbers correspond to those in figure 3 and table 1 of this report; mg/L, milligrams per liter; dashes indicate no data]

Site number	Date (month/day)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, organic plus ammonia total (mg/L as N)	Phosphorus, total (mg/L as P)	Nitrogen, ammonia dissolved (mg/L as N)	Nitrogen, NO_2+NO_3 dissolved (mg/L as N)	Phosphorus, dissolved (mg/L as P)	Solids, total suspended (mg/L)	Oxygen demand, biochemical carbonaceous ultimate (mg/L)
SS34	07/05	0.02	0.52	1.0	0.01	<0.01	0.50	<0.01	2	11
	07/06	.02	.62	.6	.08	.02	.64	.02	1	8
	07/07	<.01	.63	.7	<.01	.02	.62	<.01	1	15
	07/08	.03	.53	2.2	.02	<.01	.52	<.01	4	34
	08/04	<.1	.65	.6	.04	<.1	.65	.02	3	14
	08/05	<.1	.76	1.0	.04	<.1	.76	.03	5	6
	08/06	.11	1.1	1.9	.04	<.1	1.1	.02	6	9
	08/24	1.6	14	5.1	5.4	1.5	14	5.3	2	7
	08/25	2.2	11	4.9	4.6	1.6	11	4.3	3	5
	08/26	<.1	.66	1.8	.02	<.1	.63	.01	3	7
	08/27	<.1	.50	1.6	.01	<.1	.50	<.01	4	8
WWTF	07/05	.55	13	4.2	4.4	.53	13	3.9	8	26
	07/06	.66	13	4.8	5.1	.41	12	5.1	6	28
	07/07	.51	14	3.7	4.9	.55	14	4.5	6	--
	07/08	.59	10	4.0	5.1	.50	10	4.8	10	50
	08/03	.89	10	5.4	6.7	.87	10	6.5	10	43
	08/04	1.2	12	4.0	5.8	1.3	13	5.7	8	34
	08/05	.29	6.0	4.5	5.0	.31	6.2	4.8	15	53
	08/06	1.1	5.1	5.3	4.8	1.1	4.8	4.5	11	45
	08/24	<.1	.69	.4	<.01	<.1	.70	<.01	4	33
	08/25	.17	.85	.7	.02	<.1	.86	.01	12	33
	08/26	.95	12	6.0	4.5	.89	12	4.4	6	42
	08/27	1.2	10	9.1	5.0	1.1	9.9	4.6	5	41

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries

[Site numbers correspond to those in figure 3 and table 1 of this report; °C, degrees Celsius; µS/cm, microsiemens per centimeter at 25°C; mg/L, milligrams per liter; µg/L, micrograms per liter; <, less than; >, greater than; dashes indicate no data. Footnotes are at end of table.]

Site number	Date (month/day)	Time (hours)	Temperature, water (°C)	Temperature, air (°C)	Transparency, secchi disc (inch)	Specific conductance (uS/cm)	Oxygen, dissolved (mg/L)	pH (units)	Solids, residue at 105°C, suspended total (mg/L)
1	07/09	1851	26.5	31.0	--	702	6.5	8.1	24
		2204	24.0	29.0	--	781	[2]4.0	7.8	23
	07/10	0215	21.5	25.5	--	778	[2]4.9	7.7	25
		0643	19.5	23.0	--	749	6.1	7.8	27
		1042	22.0	28.5	[1]3	758	10.7	8.3	26
		1345	25.5	29.0	--	709	12.2	8.4	22
2	07/09	1745	25.5	31.0	--	777	6.5	7.5	270
		1955	26.5	30.0	--	728	6.0	7.8	--
		2212	25.5	29.0	--	743	5.3	7.7	25
		2213	--	--	--	--	--	--	38
	07/10	0006	25.0	27.0	--	767	[2]3.8	7.0	--
		0216	23.5	23.0	--	747	[2]3.7	7.3	29
		0330	23.0	23.0	--	744	[2]3.8	7.2	--
		0615	22.0	21.0	--	737	[2]4.2	7.0	32
		0616	--	--	--	--	--	--	45
		0945	22.0	26.0	12	782	[2]4.9	7.2	27
		1210	24.0	26.0	--	773	7.4	7.5	--
		1400	24.5	28.0	--	750	10.5	7.7	12
		1610	25.0	29.0	--	741	10.4	7.9	--
3	07/09	1830	28.0	31.0	--	699	8.2	7.8	87
		2000	27.0	29.0	--	734	6.0	7.6	--
		2240	25.5	27.0	--	770	[2]4.0	7.4	12
	07/10	0016	24.5	25.0	--	783	--	6.6	--
		0232	23.0	23.0	--	781	[2]4.0	6.8	14
		0336	22.5	23.0	--	782	[2]3.2	6.8	--
		0635	21.0	20.0	--	766	5.1	7.4	4
		1010	23.0	27.0	[1]3	735	10.7	7.8	44
		1225	27.0	28.0	--	688	13.5	8.1	--
		1430	29.0	29.0	--	614	13.8	8.1	5
		1620	29.0	29.0	--	635	12.2	8.1	--

	08/07	1751	22.5	30.0	--	842	7.1	7.5	9
		1752	--	--	--	--	--	--	9
		2100	22.0	22.0	--	844	6.0	6.4	--
		2218	20.0	19.0	--	542	[2]4.2	7.7	62
	08/08	0010	19.0	15.0	--	531	[2]4.7	7.3	--
		0210	18.5	14.0	--	558	[2]4.5	7.2	190
		0345	18.0	14.0	--	552	5.2	7.8	--
		0620	17.0	16.0	--	899	5.6	7.3	26
		0626	--	--	--	--	--	--	21
		1035	19.5	27.0	--	948	5.2	7.1	46
		1415	22.5	32.0	--	921	8.0	7.5	--
		1425	--	--	--	--	--	--	182
		1705	22.0	31.0	--	878	7.7	7.5	--
4	07/09	1900	28.5	30.0	--	670	9.0	7.8	11
		2022	26.5	29.0	--	726	[2]4.8	7.6	--
		2300	25.5	27.0	--	751	[2]4.6	7.3	3
	07/10	0040	23.5	26.0	--	702	[2]4.4	7.2	--
		0300	22.0	26.0	--	753	5.2	7.3	2
		0356	21.5	22.0	--	770	5.0	7.3	--
		0710	21.0	21.0	[1]2	747	10.8	7.5	--
		1040	27.0	27.0	--	689	18.7	8.1	3
		1235	30.5	27.0	--	650	18.7	8.2	--
		1500	32.0	28.0	--	592	19.9	8.4	5
		1630	31.5	28.0	--	577	17.4	8.4	--
5	07/09	1924	24.0	30.0	--	858	6.2	6.9	4
		2051	23.0	29.0	--	341	[2]3.8	6.7	--
		2312	21.5	27.0	--	919	[2]3.6	6.7	5
	07/10	0100	20.0	26.0	--	907	[2]2.9	6.9	--
		0315	19.5	26.0	--	880	[2]4.0	6.5	3
		0408	19.0	21.0	[1]4	892	[2]3.6	6.5	--
		0805	20.0	25.0	--	911	9.8	6.9	2
		1115	26.5	28.0	--	901	7.8	7.1	68
		1255	27.0	30.0	--	830	8.8	7.1	--
		1530	27.5	32.0	--	829	9.1	7.1	24
		1645	26.5	28.0	--	835	9.2	7.1	--
	08/07	1832	23.0	29.0	--	1,130	10.5	6.9	9
		2127	19.5	21.0	--	726	[2]3.6	7.0	--
		2236	18.5	20.0	--	741	[2]3.6	6.5	6
	08/08	0021	18.0	15.0	--	700	[2]4.1	4.7	--
		0231	17.0	14.0	--	736	[2]4.5	6.6	8
		0400	16.5	14.0	--	765	[2]4.4	5.3	--
		0725	16.5	17.0	--	1,120	9.2	6.8	--
		0745	--	--	--	--	--	--	6
		1120	23.5	31.0	--	1,100	15.9	6.5	18
		1510	28.0	31.0	--	1,060	18.8	7.1	20
		1530	25.0	28.0	--	1,050	16.2	6.9	--

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, ammonia dissolved (mg/L as N)	Nitrogen, ammonia + organic total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, NO_2+NO_3 dissolved (mg/L as N)	Phosphorus, total (mg/L as P)	Phosphorus, dissolved (mg/L as P)	Oxygen demand, biochemical carbonaceous ultimate (mg/L)	Chlorophyll a phytoplankton acid m. (µg/L)
1	07/09	<0.10	<0.10	1.1	7.40	7.30	0.17	0.13	12	--
		.19	.18	1.0	6.80	6.80	.18	.15	--	--
	07/10	.97	<.10	1.1	6.70	6.70	.14	.12	13	1.62
		<.10	<.10	.9	7.00	7.00	.13	.11	--	--
		<.10	<.10	.5	7.30	7.30	.12	.10	7.5	--
		<.10	<.10	1.2	7.20	7.20	.14	.12	--	1.94
2	07/09	<.10	<.10	1.8	7.50	7.30	.36	.12	5.5	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	.6	7.30	7.30	.16	.12	--	--
		<.10	<.10	1.4	7.40	7.20	.17	.12	--	--
	07/10	--	--	--	--	--	--	--	--	--
		<.10	<.10	.7	7.00	7.00	.16	.12	5.0	1.10
		--	--	--	--	--	--	--	--	--
		<.10	<.10	.7	6.70	6.60	.17	.13	--	--
		<.10	<.10	.7	6.60	6.60	.18	.13	--	--
		<.10	<.10	.7	7.00	6.90	.16	.14	4.3	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	0.5	7.10	7.10	.15	.12	--	1.65
		--	--	--	--	--	--	--	--	--
3	07/09	<.10	<.10	1.7	5.00	5.00	.15	.12	6.4	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	.9	4.60	4.60	.14	.13	--	--
	07/10	--	--	--	--	--	--	--	--	--
		<.10	<.10	.6	4.30	4.30	.15	.13	4.9	0.0
		--	--	--	--	--	--	--	--	--
		<.10	<.10	.9	4.30	4.30	.14	.13	--	--
		<.10	<.10	.9	4.60	4.50	.16	.12	4.1	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.2	4.50	4.50	.14	.12	--	1.36
		--	--	--	--	--	--	--	--	--

	08/07	<.10	<.10	1.0	.22	.25	.33	.29	5.2	--
		<.10	<.10	1.0	.22	.22	.31	.28	6.0	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.3	.24	.23	.37	.30	--	--
	08/08	--	--	--	--	--	--	--	--	--
		.11	<.10	.7	.30	.22	.41	.32	9.4	9.88
		--	--	--	--	--	--	--	--	--
		.12	.11	.8	.11	.13	.39	.29	--	--
		.15	.12	.8	0.13	.11	3.90	3.00	--	--
		.15	.10	.8	.10	<.10	.36	.30	7.3	--
		--	--	--	--	--	--	--	--	--
		.11	<.10	1.0	<.10	<.10	.36	.24	--	8.99
		--	--	--	--	--	--	--	--	--
4	07/09	<.10	<.10	.7	3.90	3.90	.08	.06	9.7	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.0	3.80	3.70	.12	.11	--	--
	07/10	--	--	--	--	--	--	--	--	--
		<.10	<.10	.8	3.20	3.20	.12	.11	4.7	1.16
		--	--	--	--	--	--	--	--	--
		<.10	<.10	.4	3.00	3.00	.12	.10	--	--
		<.10	.10	.5	2.90	2.90	.10	.08	4.8	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	.6	2.90	2.90	.08	.06	--	3.76
		--	--	--	--	--	--	--	--	--
5	07/09	<.10	<.10	.7	1.00	1.00	.10	.04	5.3	--
		--	--	--	--	--	--	--	--	--
		.21	.14	1.2	.98	.95	.12	.06	--	--
	07/10	--	--	--	--	--	--	--	--	--
		.14	.21	.4	.95	.93	.10	.82	5.5	1.70
		--	--	--	--	--	--	--	--	--
		<.10	<.10	.4	.92	.91	.11	.03	--	--
		.24	.34	6.0	.68	.70	.11	.05	37	--
		--	--	--	--	--	--	--	--	--
		.36	.28	1.0	.76	.76	.19	.05	--	36.4
		--	--	--	--	--	--	--	--	--
	08/07	.19	.18	1.2	.98	.99	.15	.03	8.9	--
		--	--	--	--	--	--	--	--	--
		.33	.32	1.9	.76	.76	.20	.09	--	--
	08/08	--	--	--	--	--	--	--	--	--
		.34	.31	.6	.74	.76	.09	.06	4.9	2.45
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		.26	.27	1.1	.88	.89	.10	.04	--	--
		.16	.13	.9	.36	.35	.12	.03	5.7	--
		.13	<.10	1.1	.32	.32	.10	.04	--	13.4
		--	--	--	--	--	--	--	--	--

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Time (hours)	Temperature, water (°C)	Temperature, air (°C)	Transparency, secchi disc (inch)	Specific conductance (uS/cm)	Oxygen, dissolved (mg/L)	pH (units)	Solids, residue at 105°C, suspended total (mg/L)
6	07/09	1810	32.0	34.0	--	858	11.7	7.7	10
		1830	32.0	34.0	--	857	11.7	7.7	--
		1831	--	--	--	--	--	--	7
		2015	27.0	28.0	--	840	[2]4.5	7.2	6
	07/10	0130	23.5	24.0	--	880	[2]2.0	6.9	--
		0225	22.5	24.0	--	849	[2]1.1	6.9	11
		0455	21.0	24.0	--	901	[2]2.8	6.7	--
		0710	20.5	22.0	[1]4	897	11.5	6.5	8
		1035	24.0	28.0	--	876	9.7	7.6	6
		1330	30.0	29.0	--	812	16.6	7.9	--
		1425	31.5	29.0	--	785	17.6	8.0	8
		1730	32.0	34.0	--	731	15.1	8.4	--
	08/07	1850	31.0	29.0	--	940	18.8	7.8	8
		2147	26.5	20.0	--	607	7.6	7.6	--
		2250	25.0	19.0	--	628	5.9	7.0	12
	08/08	0032	23.0	15.0	--	894	[2]3.7	7.2	--
		0257	20.0	14.0	--	691	[2]2.5	7.4	9
		0406	19.0	14.0	--	737	[2]2.2	6.7	--
		0815	17.5	22.0	--	1,110	[2]3.3	7.1	--
		0820	--	--	--	--	--	--	5
		1150	24.0	30.0	--	1,140	15.6	7.3	6
		1520	31.0	28.0	--	914	23.0	7.8	--
		1530	30.5	31.0	--	1,000	21.6	7.7	7
	08/27	2045	25.5	21.0	--	1,160	6.5	7.8	35
		2334	22.5	20.0	--	1,090	[2]4.6	7.8	--
	08/28	0301	20.0	17.5	--	1,040	[2]3.5	7.7	8
		0530	18.5	17.0	--	935	[2]3.3	7.8	--
		0838	17.5	21.5	--	1,080	[2]4.6	7.6	10
		1138	22.5	29.5	--	1,100	8.4	7.6	--
		1404	--	--	--	--	--	--	8
		1407	26.5	27.5	--	1,070	10.6	7.8	--
		1643	27.5	29.0	--	1,020	13.4	8.0	--

7	07/09	1845	26.5	35.0	--	749	7.6	7.6	31
		2315	27.0	25.0	--	670	6.2	7.2	10
	07/10	0140	24.5	24.0	--	711	6.1	6.2	--
		0300	24.5	24.0	--	720	5.4	6.2	13
		0502	22.5	--	--	747	[2]4.8	6.7	--
		0750	20.5	22.5	[1]6	690	[2]4.4	--	2
		1055	22.0	26.0	--	720	5.4	--	--
		1116	--	--	--	--	--	--	6
		1350	23.0	29.0	--	765	6.2	--	--
		1515	24.5	28.0	--	715	7.3	--	8
		1735	25.5	30.0	--	800	8.0	--	--
	08/07	1914	23.5	25.0	--	917	7.9	7.2	8
		2200	23.0	19.0	--	869	7.3	7.8	--
		2310	23.0	15.0	--	862	5.9	7.6	9
	08/08	0044	22.5	14.0	--	840	5.9	7.3	--
		0309	21.5	14.0	--	817	6.3	7.5	10
		0415	21.0	14.0	--	521	6.1	7.7	--
		0855	20.0	23.0	--	851	[2]4.6	7.2	--
		0905	--	--	--	--	--	--	4
		1030	--	--	--	--	--	--	5
		1225	21.0	30.0	--	914	[2]4.6	6.6	--
		1605	22.5	30.0	--	845	6.8	7.1	3
		1755	22.5	27.0	--	858	8.2	7.3	--
8	07/09	1813	25.0	--	--	786	6.1	7.8	--
		1823	--	--	--	--	--	--	9
		2245	25.5	--	--	727	5.4	7.9	12
	07/10	0257	24.0	--	--	701	[2]4.3	7.5	16
		0728	22.0	23.0	[1]24	703	[2]4.6	7.6	14
		1111	21.5	27.0	--	746	5.9	7.7	5
		1443	23.0	29.5	--	741	7.6	7.7	5
	08/07	1750	24.0	31.0	--	984	7.2	7.2	--
		1800	--	--	--	--	--	--	9
		2155	22.0	23.0	--	832	5.8	7.4	6
	08/08	0152	20.5	15.5	--	863	5.8	7.3	16
		0632	19.0	12.0	21	793	--	--	6
		1040	20.5	30.5	--	801	5.2	6.9	7
		1405	23.0	31.0	--	806	7.7	6.9	4
	08/27	1920	--	--	--	--	--	--	4
	08/28	0120	--	--	--	--	--	--	4
		0720	--	--	--	--	--	--	7
		1122	19.5	31.5	--	776	6.5	7.7	--
		1320	--	--	--	--	--	--	5
		1634	21.5	31.5	--	749	5.9	7.8	--

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, ammonia dissolved (mg/L as N)	Nitrogen, ammonia + organic total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, NO_2+NO_3 dissolved (mg/L as N)	Phosphorus, total (mg/L as P)	Phosphorus, dissolved (mg/L as P)	Oxygen demand, biochemical carbonaceous ultimate (mg/L)	Chlorophyll a phytoplankton acid m. (µg/L)
6	07/09	0.15	0.14	1.1	0.11	0.11	0.12	0.06	7.9	--
		--	--	--	--	--	--	--	--	--
		.13	.11	.9	.10	.10	.11	.09	6.4	--
		.25	.35	1.4	.31	.33	.14	.08	--	--
	07/10	--	--	--	--	--	--	--	--	--
		.28	.28	1.1	.42	.42	.15	.08	4.6	2.14
		--	--	--	--	--	--	--	--	--
		.14	.13	1.0	.44	.45	.11	.06	--	--
		<.10	<.10	.6	.38	.39	.10	.05	4.1	--
		--	--	--	--	--	--	--	--	--
		.12	.12	.6	.04	.07	.12	.06	--	4.03
		--	--	--	--	--	--	--	--	--
	08/07	.10	<.10	1.2	.16	.16	.12	.04	8.9	--
		--	--	--	--	--	--	--	--	--
		.12	.10	1.2	.17	.17	.13	.06	--	--
	08/08	--	--	--	--	--	--	--	--	--
		.20	.15	.6	.26	.27	.09	.06	9.4	2.76
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	.6	.25	.25	.10	.05	--	--
		<.10	<.10	.9	.16	.16	.08	.05	6.4	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	.9	.13	.12	.08	.04	--	3.97
	08/27	.32	.47	1.0	.37	.37	.18	.08	5.9	--
		--	--	--	--	--	--	--	--	--
	08/28	.43	.39	1.9	.41	.41	.14	.06	--	3.34
		--	--	--	--	--	--	--	--	--
		.42	.29	2.1	.58	.59	.14	.07	2.7	--
		--	--	--	--	--	--	--	--	--
		.26	.26	1.2	.52	.52	.14	.06	--	1.62
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--

7	07/09	.14	.11	1.2	.34	.42	.22	.10	9.2	--
		.14	.17	1.2	.28	.28	.13	.09	--	--
	07/10	--	--	--	--	--	--	--	--	--
		.26	.41	1.7	.39	.38	.17	.10	5.0	4.03
		--	--	--	--	--	--	--	--	--
		.19	.20	1.1	.37	.37	.15	.10	--	-
		--	--	--	--	--	--	--	--	--
		.19	.18	.7	.43	.43	.14	.09	4.0	--
		--	--	--	--	--	--	--	--	--
		.13	.13	.5	.41	.49	.14	.09	--	1.34
		--	--	--	--	--	--	--	--	--
	08/07	.20	.22	.6	.43	.44	.17	.12	4.5	--
		--	--	--	--	--	--	--	--	--
		.16	.18	.9	.43	.43	.18	.11	--	--
	08/08	--	--	--	--	--	--	--	--	--
		.21	.19	.8	.33	.33	.14	.08	12	1.69
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		.23	.24	.7	.28	.27	.16	.09	--	--
		.22	.24	1.2	.28	.27	.16	.09	10	--
		--	--	--	--	--	--	--	--	--
		.15	<.10	.5	.30	.31	.12	.08	--	1.63
		--	--	--	--	--	--	--	--	--
8	07/09	--	--	--	--	--	--	--	--	--
		.14	<.10	1.5	.61	.58	.13	.12	6.1	--
		.17	.15	.7	.44	.46	.16	.09	--	--
	07/10	.18	.15	.8	.36	.36	.16	.10	7.0	1.61
		.21	.18	.6	.45	.43	.17	.12	--	--
		.20	.20	1.5	.47	.48	.15	.11	6.5	--
		.15	.12	.6	.52	.53	.14	.09	--	0
	08/07	--	--	--	--	--	--	--	--	--
		.56	.43	1.4	.45	.48	.23	.16	10	--
		.26	.24	.8	.52	.53	.20	.15	--	--
	08/08	.25	.25	.7	.64	.56	.15	.10	11	1.60
		.23	.20	.8	.57	1.10	.14	.10	--	--
		.23	.19	.8	.51	.84	.16	.10	7.2	--
		.20	.17	.9	.51	.45	.16	.45	--	1.60
	08/27	.24	.20	1.5	.58	.56	.12	.03	7.3	--
	08/28	.28	.27	1.5	.52	.52	.13	.09	--	.66
		.29	.27	1.7	.44	.44	.14	.09	3.8	--
		--	--	--	--	--	--	--	--	--
		.35	.30	1.4	.44	.45	.14	.09	--	2.81
		--	--	--	--	--	--	--	--	--

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Time (hours)	Temperature, water (°C)	Temperature, air (°C)	Transparency, secchi disc (inch)	Specific conductance (uS/cm)	Oxygen, dissolved (mg/L)	pH (units)	Solids, residue at 105°C, suspended total (mg/L)
9	07/09	2000	25.0	30.0	--	772	5.4	7.4	9
		2345	25.0	23.0	--	732	[2]4.4	7.1	12
	07/10	0200	24.0	24.0	--	704	[2]4.3	7.2	--
		0400	23.5	--	--	696	[2]4.2	7.2	21
		0515	22.5	--	--	525	[2]4.1	7.0	--
		0854	22.5	25.0	[1]12	726	5.5	8.5	4
		1135	24.0	29.0	--	727	8.5	7.6	8
		1136	--	--	--	--	--	--	6
		1405	26.0	31.0	--	713	9.9	7.7	--
		1610	25.5	32.0	--	686	8.9	7.8	3
		1745	24.5	35.0	--	723	7.2	7.9	--
	08/07	1815	25.0	29.5	--	928	6.1	7.8	78
		1816	--	--	--	--	--	--	28
		2000	23.5	24.5	--	940	5.8	7.8	--
		2200	22.0	16.0	--	885	5.1	8.0	45
	08/08	0005	20.5	17.0	--	831	[2]4.0	7.7	--
		0230	19.5	13.5	--	893	[2]4.7	7.8	14
		0420	19.0	16.0	--	854	[2]4.5	7.6	--
		0630	18.5	16.0	[1]12	814	5.2	7.6	10
		1000	20.5	27.0	--	790	8.3	7.8	--
		1059	21.5	28.0	--	788	9.3	7.9	9
		1300	24.5	29.0	--	794	11.6	8.0	--
		1404	26.0	29.0	--	800	12.3	8.1	6
		1700	25.5	29.0	--	825	9.9	8.1	--
10	07/09	2030	24.5	26.0	--	910	10.0	8.4	8
		2355	23.5	23.0	--	900	10.1	6.9	8
	07/10	0211	23.0	23.0	--	894	10.1	6.9	--
		0430	22.0	20.0	--	883	10.2	6.5	9
		0522	22.5	20.0	[1]16	842	10.4	6.7	--
		0920	23.0	26.0	--	821	11.5	7.3	6
		1205	24.5	29.0	--	786	10.7	--	8
		1415	25.0	32.0	--	732	11.7	7.4	--
		1700	25.5	32.0	--	811	13.1	7.9	9
		1755	25.0	34.0	--	826	13.6	7.5	--

	08/07	1830	24.0	29.5	--	956	10.8	7.5	12
		2010	23.5	23.5	--	976	10.9	7.6	--
		2220	23.0	18.0	--	1,000	9.9	7.4	11
	08/08	0015	22.5	17.0	--	1,030	11.0	7.4	--
		0245	22.0	14.0	--	1,030	11.1	7.4	11
		0430	21.5	16.0	--	1,020	11.6	7.4	--
		0700	20.5	16.0	[1]22	996	11.8	7.3	14
		0701	--	--	--	--	--	--	11
		1010	22.0	27.0	--	989	12.6	7.4	--
		1112	23.0	28.0	--	992	12.0	7.4	11
		1311	24.5	29.0	--	996	11.9	7.5	--
		1431	25.0	29.0	--	986	11.7	7.5	7
		1706	24.5	29.0	--	977	12.3	7.6	--
	08/27	2030	22.0	21.0	--	1,140	11.6	7.8	--
		2319	21.5	19.5	--	1,070	11.0	7.7	--
	08/28	0226	21.5	20.0	--	1,020	11.3	7.8	--
		0516	21.5	18.0	--	1,000	10.8	7.7	--
		0825	20.0	25.0	--	965	13.0	7.5	--
		1107	22.0	28.5	--	987	13.8	7.4	--
		1348	23.0	29.5	--	928	11.3	7.6	--
		1625	23.0	29.0	--	899	11.4	7.7	--
11	07/09	1931	26.5	30.0	--	967	7.2	7.7	12
		2320	25.5	28.5	--	933	5.7	7.8	18
	07/10	0351	23.5	--	--	903	5.3	7.4	12
		0830	22.0	23.0	30	857	6.1	7.5	8
		1201	23.5	27.0	--	855	7.0	7.6	10
		1555	26.5	29.5	--	812	8.7	7.6	11
	08/07	1912	26.0	27.0	--	960	6.2	7.0	18
		2247	24.5	19.0	--	895	5.3	7.1	14
	08/08	0254	21.5	15.5	--	966	[2]4.6	7.1	17
		0806	20.0	17.0	[1]28	984	[2]4.7	7.3	11
		1121	22.0	--	--	990	6.3	7.1	11
		1510	25.0	32.5	--	965	8.8	6.7	11
	08/27	1800	--	--	--	--	--	--	13
		2400	--	--	--	--	--	--	21
	08/28	0600	--	--	--	--	--	--	21
		1045	20.5	27.5	--	1,020	8.0	7.5	--
		1200	--	--	--	--	--	--	15
		1615	24.0	27.5	--	927	9.4	7.7	--
12	07/09	1810	27.0	32.0	--	884	7.8	7.0	--
		1820	--	--	--	--	--	--	28
		1826	--	--	--	--	--	--	32
		2030	26.5	28.5	--	876	7.8	7.1	--
		2155	26.5	27.5	--	868	6.7	7.0	--
		2200	--	--	--	--	--	--	6

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, ammonia dissolved (mg/L as N)	Nitrogen, ammonia + organic total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, NO_2+NO_3 dissolved (mg/L as N)	Phosphorus, total (mg/L as P)	Phosphorus, dissolved (mg/L as P)	Oxygen demand, biochemical carbonaceous ultimate (mg/L)	Chlorophyll a phytoplankton acid m. (µg/L)
9	07/09	--	<0.10	--	--	1.40	--	0.09	5.4	--
		0.17	.13	1.1	1.20	1.20	0.16	.09	--	--
	07/10	--	--	--	--	--	--	--	--	--
		.18	.20	.7	1.30	1.30	.16	.10	5.1	1.87
		--	--	--	--	--	--	--	--	--
		.23	.16	1.3	1.10	1.10	.16	.10	--	--
		.16	.15	.6	1.20	1.20	.15	.10	6.4	--
		.15	.15	.6	1.30	1.30	.14	.10	6.0	--
		--	--	--	--	--	--	--	--	--
		.10	<.10	.5	.95	1.00	.14	.09	--	43.7
		--	--	--	--	--	--	--	--	--
	08/07	.23	.20	.9	.54	.54	.20	.10	16	--
		.25	.21	.9	.56	.56	.16	.10	9.5	--
		--	--	--	--	--	--	--	--	--
		.21	.22	.7	.60	.61	.17	.08	--	--
	08/08	--	--	--	--	--	--	--	--	--
		.18	.14	.9	.55	.54	.14	.09	7.9	2.93
		--	--	--	--	--	--	--	--	--
		.21	.20	.7	.57	.58	.15	.09	--	--
		--	--	--	--	--	--	--	--	--
		.18	.18	.7	.38	.39	.16	.09	8.6	--
		--	--	--	--	--	--	--	--	--
		.14	<.10	.8	.34	.34	.16	.09	--	8.13
		--	--	--	--	--	--	--	--	--
10	07/09	--	.47	--	--	7.90	--	3.60	27	--
		.46	.46	3.9	8.10	8.10	3.80	3.60	--	--
	07/10	--	--	--	--	--	--	--	--	--
		.34	.31	3.6	8.90	8.80	4.20	4.10	32	2.42
		--	--	--	--	--	--	--	--	--
		.32	.30	3.1	7.60	7.60	3.80	3.70	--	--
		.34	.33	2.4	8.50	8.50	4.30	4.10	28	--
		--	--	--	--	--	--	--	--	--
		.27	.27	2.9	8.40	8.40	4.00	3.90	--	2.18
		--	--	--	--	--	--	--	--	--

	08/07	1.30	1.20	5.0	6.20	6.20	4.10	3.90	57	--
		--	--	--	--	--	--	--	--	--
		1.40	1.40	4.9	7.00	7.00	4.20	4.00	--	--
	08/08	--	--	--	--	--	--	--	--	--
		1.40	1.20	4.8	6.90	6.90	4.10	4.00	57	3.37
		--	--	--	--	--	--	--	--	--
		1.20	1.20	4.3	6.40	6.40	4.00	3.80	--	--
		1.40	1.30	4.4	6.20	6.20	4.00	3.80	--	--
		--	--	--	--	--	--	--	--	--
		1.60	1.60	5.6	6.70	6.70	4.60	4.50	35	--
		--	--	--	--	--	--	--	--	--
		1.80	1.70	7.1	6.70	6.70	4.70	4.60	--	2.70
		--	--	--	--	--	--	--	--	--
	08/27	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
	08/28	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
11	07/09	.26	.28	3.2	7.00	6.90	3.70	3.40	28	--
		.30	.28	3.3	7.30	7.20	3.90	3.70	--	--
	07/10	.41	.39	2.5	7.00	7.00	3.40	3.20	21	1.60
		.37	.40	2.8	7.50	7.60	3.40	3.30	--	--
		.35	.29	2.5	8.00	8.10	3.70	3.60	19	--
		.27	.25	2.3	7.20	7.20	3.30	3.20	--	2.42
	08/07	1.10	1.00	4.1	4.70	4.70	3.90	3.60	52	--
		1.10	1.10	4.5	5.40	5.40	4.10	3.90	--	--
	08/08	1.20	1.20	4.6	5.90	5.90	4.00	3.80	28	4.15
		1.30	1.30	4.6	7.20	13.0	3.90	3.70	--	--
		1.40	1.30	4.5	6.20	5.90	3.90	3.60	30	--
		1.10	.96	3.7	5.80	5.90	3.50	3.40	--	5.90
	08/27	.92	.92	5.5	8.20	8.20	3.80	3.60	25	--
		.79	.74	5.0	7.50	7.50	3.50	3.30	22	1.91
	08/28	.95	.89	6.2	8.20	8.20	3.70	3.50	24	--
		--	--	--	--	--	--	--	--	--
		.85	.83	6.4	8.20	8.30	3.80	3.60	17	5.90
		--	--	--	--	--	--	--	--	--
12	07/09	--	--	--	--	--	--	--	--	--
		.30	.28	2.3	8.90	8.80	2.80	2.60	14	--
		.29	.26	3.4	8.60	8.60	2.80	1.90	18	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		.22	.20	3.1	7.80	7.70	2.80	2.50	--	--

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Time (hours)	Temperature, water (°C)	Temperature, air (°C)	Transparency, secchi disc (inch)	Specific conductance (uS/cm)	Oxygen, dissolved (mg/L)	pH (units)	Solids, residue at 105°C, suspended total (mg/L)
12 (Cont.)	07/10	0105	26.0	23.5	--	840	5.4	7.2	--
		0210	25.5	22.5	--	835	[2]4.8	7.1	47
		0410	25.0	22.0	--	868	[2]4.3	7.0	--
		0630	24.5	19.5	--	960	[2]3.9	6.9	--
		0635	--	--	--	--	--	--	50
		0850	24.5	25.0	([1])	910	[2]4.5	6.7	--
		1020	25.0	23.0	--	897	[2]4.8	6.9	41
		1026	--	--	--	--	--	--	41
		1210	26.0	28.0	--	889	5.4	7.1	--
		1400	27.0	29.0	--	882	6.5	7.2	40
		1610	27.5	29.0	--	872	7.2	7.2	--
	08/07	1900	26.5	29.5	--	1,020	[2]4.6	7.5	65
		2025	26.0	25.0	--	1,010	[2]4.7	7.5	--
		2250	24.5	20.0	--	1,000	5.3	7.5	43
	08/08	0030	24.0	17.0	--	985	5.4	7.6	--
		0310	23.0	17.0	--	958	[2]4.5	7.4	61
		0445	22.5	16.0	--	955	[2]4.7	7.4	--
		0730	21.5	17.0	[1]13	942	[2]3.6	7.3	20
		1023	23.0	27.0	--	913	[2]4.5	7.3	--
		1133	23.5	28.0	--	911	[2]4.7	7.3	46
		1329	25.5	29.0	--	921	5.9	7.5	--
		1508	27.0	29.0	--	930	7.0	7.5	36
		1722	26.5	29.0	--	947	7.0	7.5	--
	08/27	2002	22.0	23.0	--	852	6.4	7.6	128
		2258	22.0	22.5	--	880	6.0	7.6	--
	08/28	0200	21.5	18.5	--	935	5.8	7.8	69
		0454	21.0	17.5	--	1,030	5.1	7.6	--
		0810	20.0	21.0	--	1,100	6.3	7.5	60
		1032	21.0	23.5	--	1,140	6.7	7.5	--
		1322	--	--	--	--	--	--	28
		1328	23.5	29.0	--	1,110	6.8	7.6	--
		1602	24.5	29.5	--	1,080	6.8	7.6	--
13	07/09	1900	27.5	31.0	--	813	[2]4.6	7.0	78
		2050	26.5	27.5	--	828	[2]4.3	7.0	--
		2220	26.5	27.0	--	839	[2]4.4	7.0	40

	07/10	0120	26.0	23.0	--	861	5.1	7.1	--
		0240	25.5	22.0	--	864	[2]4.9	7.2	76
		0420	25.0	20.0	--	857	5.1	7.1	--
		0655	24.5	20.0	--	858	5.0	7.1	69
		0905	24.5	23.0	([1])	852	5.0	7.0	--
		1045	25.0	25.5	--	852	5.0	7.1	64
		1225	26.0	29.0	--	881	5.2	7.2	--
		1435	27.5	28.5	--	930	5.6	7.2	34
		1620	27.0	29.0	--	932	[2]4.6	7.2	--
	08/07	1915	25.5	29.0	--	914	[2]4.5	7.6	39
		2035	25.0	25.5	--	935	[2]4.3	7.6	--
		2315	25.0	19.0	--	1,000	[2]4.2	7.6	43
	08/08	0045	24.5	17.0	--	1,030	[2]3.9	7.5	--
		0330	24.0	17.0	--	1,030	[2]4.0	7.5	59
		0500	23.0	16.0	--	1,020	[2]4.2	7.5	--
		0803	22.0	17.0	12	993	[2]4.4	7.5	20
		1035	23.0	27.0	--	968	5.3	7.5	--
		1200	24.5	28.0	--	952	5.6	7.6	44
		1337	25.5	29.0	--	949	6.3	7.7	--
		1542	25.5	29.0	--	944	6.2	7.6	37
		1733	25.0	28.0	--	945	5.5	7.6	--
	08/27	1946	23.0	20.0	--	686	5.6	7.7	--
		2241	22.5	19.5	--	755	5.4	7.7	--
	08/28	0146	21.0	19.0	--	810	5.2	7.8	--
		0752	19.5	21.5	--	883	5.8	7.6	--
		1017	20.5	29.5	--	948	6.4	7.6	--
		1315	23.0	29.0	--	1,010	6.7	7.7	--
		1548	23.0	28.5	--	1,050	6.6	7.7	--
14	07/09	1955	27.5	29.5	--	832	5.3	7.8	251
	07/10	0022	26.0	26.5	--	822	[2]4.1	7.8	77
		0502	25.0	--	--	870	[2]4.6	7.6	100
		0900	24.5	22.0	18	832	5.7	7.7	71
		1222	25.5	28.0	--	846	6.0	7.8	52
		1630	27.5	27.0	--	865	6.1	7.8	52
	08/07	2005	25.5	23.5	--	893	5.6	7.3	27
		2356	23.5	20.5	--	904	[2]4.8	7.6	31
	08/08	0413	--	--	--	--	--	--	54
		0414	22.5	16.0	18	1,010	[2]4.6	7.6	--
		0912	22.0	--	--	992	5.2	7.2	55
		1242	24.0	30.0	--	975	5.8	6.9	38
		1648	26.0	32.0	--	769	7.0	7.0	23
	08/27	1800	--	--	--	--	--	--	19
		2400	--	--	--	--	--	--	67
	08/28	0434	20.5	17.5	--	774	5.2	7.7	--
		0600	--	--	--	--	--	--	61
		1200	--	--	--	--	--	--	32
		1537	23.5	28.0	--	963	6.9	7.8	--

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, ammonia dissolved (mg/L as N)	Nitrogen, ammonia + organic total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, NO_2+NO_3 dissolved (mg/L as N)	Phosphorus, total (mg/L as P)	Phosphorus, dissolved (mg/L as P)	Oxygen demand, biochemical carbonaceous ultimate (mg/L)	Chlorophyll a phytoplankton acid m. (µg/L)
12	07/10	--	--	--	--	--	--	--	--	--
(Cont.)		0.19	0.21	2.2	6.70	6.70	2.80	2.60	19	1.10
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		.30	.29	2.6	7.00	7.00	3.10	2.90	--	--
		--	--	--	--	--	--	--	--	--
		.26	.22	3.0	7.00	6.60	3.00	2.70	14	--
		.25	.22	2.0	7.00	7.00	3.10	2.80	21	--
		--	--	--	--	--	--	--	--	--
		.32	.19	2.5	7.00	6.90	2.80	2.50	--	1.61
		--	--	--	--	--	--	--	--	--
	08/07	.58	.50	3.0	3.30	3.30	3.50	3.20	39	--
		--	--	--	--	--	--	--	--	--
		.51	.50	2.7	3.60	3.60	3.50	3.30	--	--
	08/08	--	--	--	--	--	--	--	--	--
		.57	.29	2.9	4.00	3.10	3.30	3.00	38	3.12
		--	--	--	--	--	--	--	--	--
		.92	.82	4.0	4.70	4.70	3.80	3.60	--	--
		--	--	--	--	--	--	--	--	--
		.91	.81	4.2	5.00	5.10	3.60	3.40	21	--
		--	--	--	--	--	--	--	--	--
		.87	.77	3.2	5.30	5.30	3.50	3.20	--	11.2
		--	--	--	--	--	--	--	--	--
	08/27	.80	.48	6.5	9.20	9.10	3.20	2.90	20	--
		--	--	--	--	--	--	--	--	--
	08/28	.65	.61	5.9	7.30	7.10	3.00	2.60	--	3.24
		--	--	--	--	--	--	--	--	--
		.69	.64	6.6	6.70	6.90	3.30	3.10	20	--
		--	--	--	--	--	--	--	--	--
		.67	.67	4.9	7.40	7.40	3.20	3.10	--	3.00
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
13	07/09	.20	.18	2.5	9.40	9.20	2.60	2.30	14	--
		--	--	--	--	--	--	--	--	--
		.32	.29	2.6	9.20	9.20	2.30	2.00	--	--

	07/10	--	--	--	--	--	--	--	--	--
		.19	.17	2.7	8.40	8.50	2.60	2.40	15	3.17
		--	--	--	--	--	--	--	--	--
		.15	.12	2.2	7.40	7.50	2.60	2.40	--	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	2.1	6.90	6.70	2.60	2.30	18	--
		--	--	--	--	--	--	--	--	--
		.18	.16	1.9	6.80	6.70	2.70	2.50	--	3.24
		--	--	--	--	--	--	--	--	--
	08/07	.30	.24	2.4	2.70	2.60	3.50	3.20	27	--
		--	--	--	--	--	--	--	--	--
		.27	.28	2.4	2.60	2.60	3.30	3.10	--	--
	08/08	--	--	--	--	--	--	--	--	--
		.35	.57	2.7	3.00	4.00	3.20	3.10	23	2.68
		--	--	--	--	--	--	--	--	--
		.38	.39	2.8	3.50	3.50	3.30	3.10	--	--
		--	--	--	--	--	--	--	--	--
		.38	.36	2.7	3.70	3.70	3.10	2.90	17	--
		--	--	--	--	--	--	--	--	--
		.40	.41	3.2	4.20	4.20	3.20	3.20	--	8.81
		--	--	--	--	--	--	--	--	--
	08/27	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
	08/28	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
14	07/09	.14	.11	2.5	9.20	9.20	3.00	2.40	14	--
	07/10	.14	.12	3.3	9.50	9.40	2.60	2.30	--	--
		.25	.20	2.4	8.60	8.90	2.20	2.00	15	2.40
		.14	.11	3.2	8.40	8.50	2.60	2.40	--	--
		.12	.10	2.0	7.50	7.60	2.50	2.30	15	--
		.17	<.10	1.7	6.50	3.40	2.60	1.20	--	4.05
	08/07	.16	.13	3.1	3.50	3.40	3.10	2.90	23	--
		.16	.16	3.2	2.80	2.80	3.40	3.20	--	--
	08/08	.25	.26	2.8	6.30	3.00	3.40	3.20	25	3.47
		--	--	--	--	--	--	--	--	--
		.24	.23	2.4	2.80	3.40	3.10	2.80	--	--
		.30	.27	2.6	3.40	3.30	3.20	3.00	20	--
		.20	.22	2.2	4.20	4.10	3.00	2.80	--	8.54
	08/27	.17	.15	4.3	6.80	6.80	2.90	1.90	11	--
		.23	.23	2.0	9.40	9.10	2.50	2.20	--	1.24
	08/28	--	--	--	--	--	--	--	--	--
		.32	.31	3.3	8.90	8.60	2.70	2.40	23	--
		.32	.33	4.9	7.40	7.50	2.70	2.50	--	4.68
		--	--	--	--	--	--	--	--	--

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Time (hours)	Temperature, water (°C)	Temperature, air (°C)	Transparency, secchi disc (inch)	Specific conductance (uS/cm)	Oxygen, dissolved (mg/L)	pH (units)	Solids, residue at 105°C, suspended total (mg/L)
15	07/09	1930	29.0	31.5	--	833	8.0	7.4	94
		2105	27.5	28.0	--	828	6.2	7.2	--
		2245	27.0	27.0	--	834	5.5	7.2	76
	07/10	0135	26.0	23.5	--	797	5.0	7.2	--
		0305	25.5	23.0	--	795	[2]4.5	7.2	115
		0435	24.5	20.0	--	794	[2]4.5	7.1	--
		0750	24.0	21.0	--	846	[2]4.8	7.2	--
		0755	--	--	10	--	--	--	84
		0915	24.0	24.0	--	859	5.1	7.0	--
		1105	25.0	27.0	--	864	5.5	7.1	133
		1237	27.0	29.5	--	850	6.9	7.4	--
		1505	29.0	30.0	--	840	8.4	7.5	62
		1640	29.0	31.0	--	836	8.2	7.6	--
	08/07	1940	27.0	27.0	--	869	8.4	8.0	--
		1945	--	--	--	--	--	--	60
		2050	26.0	25.0	--	873	7.2	7.9	--
		2340	24.0	20.5	--	880	5.0	7.8	85
	08/08	0110	23.0	17.0	--	884	[2]4.3	7.7	--
		0400	21.5	17.0	--	897	[2]4.3	7.6	126
		0515	21.0	--	--	906	[2]4.1	7.6	--
		0830	20.5	21.0	8	970	[2]4.2	7.6	71
	08/08	1045	22.5	27.0	--	1,010	5.2	7.6	--
		1222	24.5	28.0	--	1,010	7.2	7.8	111
		1350	27.0	29.0	--	1,010	9.1	7.9	--
		1610	28.5	29.0	--	994	10.6	8.1	32
		1750	27.5	28.0	--	987	10.3	8.1	--
	08/27	1925	23.5	23.0	--	534	7.6	7.8	66
		2222	22.0	21.5	--	579	6.0	7.8	--
	08/28	0125	21.0	20.0	--	627	5.3	7.9	100
		0417	20.5	18.0	--	685	5.2	7.7	--
		0726	--	--	--	--	--	--	113
		0735	19.5	17.5	--	755	5.6	7.7	--
		1005	20.0	25.5	--	804	6.0	7.6	--
		1257	--	--	--	--	--	--	82
		1258	23.0	26.5	--	827	8.2	7.9	--
		1527	25.0	29.0	--	844	9.4	8.0	--

16	07/09	2000	28.5	29.0	--	853	6.5	7.1	52
		2120	28.5	26.5	--	847	6.3	7.3	--
		2315	28.0	26.0	--	831	6.6	7.3	64
	07/10	0150	26.5	22.0	--	814	5.2	7.1	--
		0335	25.5	21.5	--	819	5.2	7.1	95
		0455	25.5	20.0	--	812	[2]4.8	7.2	--
		0725	24.0	20.0	--	803	[2]4.7	7.1	105
		0935	24.0	22.0	11	817	5.0	7.1	--
		1125	24.0	27.0	--	827	[2]4.9	7.0	97
		1250	25.0	28.0	--	841	5.2	7.2	--
		1530	26.5	27.5	--	855	5.6	7.3	62
		1700	27.0	28.0	--	847	6.1	7.4	--
	08/07	1835	26.5	27.0	--	863	6.6	7.1	45
		2118	26.5	20.0	--	871	6.7	7.5	--
		2230	26.0	18.0	--	878	6.5	7.6	56
	08/08	0045	25.0	16.0	--	867	7.8	7.4	--
		0215	24.0	17.0	--	870	6.0	7.6	58
		0400	23.0	14.5	--	874	5.4	7.4	--
		0600	--	--	--	--	--	--	88
		0605	21.5	15.5	10	863	5.0	7.5	--
		0845	20.5	20.5	--	869	[2]4.7	7.5	--
		1000	20.5	25.5	--	864	[2]4.7	7.6	207
		1300	22.5	31.0	--	947	5.4	7.4	--
		1400	23.0	30.0	--	982	5.7	7.6	66
		1600	24.5	32.0	--	1,010	6.1	7.7	--
	08/27	1822	22.5	25.0	--	510	--	7.4	--
		2159	22.5	19.5	--	510	5.5	7.8	--
	08/28	0058	22.0	18.0	--	519	5.9	7.8	--
		0357	20.5	16.5	--	595	5.5	7.8	--
		0713	19.0	18.0	--	650	5.9	7.8	--
		0950	19.5	22.5	--	706	6.1	7.7	--
		1245	20.5	25.5	--	741	6.0	7.8	--
		1515	22.0	28.5	--	779	6.3	7.8	--
17	07/09	1816	27.5	35.5	--	873	5.7	7.5	43
		2043	27.0	26.5	--	863	--	7.7	--
		2254	27.5	25.0	--	883	[2]4.3	7.9	57
	07/10	0134	27.5	23.0	--	845	5.2	8.1	--
		0415	27.0	21.5	--	731	[2]4.9	8.1	119
		0455	26.5	22.0	--	854	5.2	8.7	--
		0625	25.5	20.0	--	844	[2]4.8	7.7	--
		0630	--	--	--	--	--	--	117
		0915	25.0	24.0	6	832	[2]4.6	7.7	--
		1000	--	--	--	--	--	--	93
		1020	25.5	25.0	--	811	5.0	7.8	--
		1230	26.0	29.0	--	800	5.2	8.0	--
		1400	--	--	--	--	--	--	78
		1401	--	--	--	--	--	--	101
		1430	27.0	29.0	--	832	5.5	7.8	--
		1600	27.0	29.0	--	838	5.6	7.8	--

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, ammonia dissolved (mg/L as N)	Nitrogen, ammonia + organic total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, NO_2+NO_3 dissolved (mg/L as N)	Phosphorus, total (mg/L as P)	Phosphorus, dissolved (mg/L as P)	Oxygen demand, biochemical carbonaceous ultimate (mg/L)	Chlorophyll a phytoplankton acid m. (µg/L)
15	07/09	0.10	<0.10	2.3	8.90	8.90	2.40	2.10	11	--
		--	--	--	--	--	--	--	--	--
		.12	<.10	2.5	9.40	9.40	2.70	2.40	--	--
	07/10	--	--	--	--	--	--	--	--	--
		.25	.22	1.6	9.00	8.90	2.40	2.00	13	4.22
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		.24	.19	3.2	8.80	8.20	2.30	1.80	--	--
		--	--	--	--	--	--	--	--	--
		.17	.30	2.5	8.50	8.60	2.40	2.00	13	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.7	7.50	7.30	2.20	2.00	--	7.01
		--	--	--	--	--	--	--	--	--
	08/07	--	--	--	--	--	--	--	--	--
		<.10	<.10	2.0	4.50	4.50	3.00	2.70	19	--
		--	--	--	--	--	--	--	--	--
		.15	.18	2.0	3.30	3.30	3.00	2.80	--	--
	08/08	--	--	--	--	--	--	--	--	--
		.22	.18	2.4	2.60	2.50	3.20	2.90	29	2.91
		--	--	--	--	--	--	--	--	--
		.38	.20	2.6	2.60	2.60	3.30	2.90	--	--
		--	--	--	--	--	--	--	--	--
		.21	.18	2.5	2.70	2.70	2.90	2.60	16	--
		--	--	--	--	--	--	--	--	--
		.11	<.10	2.3	3.10	3.20	2.80	2.60	--	11.8
		--	--	--	--	--	--	--	--	--
	08/27	.20	.23	2.3	5.80	5.60	1.90	1.70	13	--
		--	--	--	--	--	--	--	--	--
	08/28	.25	.22	3.6	8.10	7.80	2.50	2.20	--	3.24
		--	--	--	--	--	--	--	--	--
		.27	.25	4.4	8.60	8.70	2.50	2.20	12	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		.25	.24	5.1	8.60	8.40	2.80	2.50	--	8.34
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--

16	07/09	<.10	<.10	1.6	9.40	9.30	2.30	2.20	14	--
		--	--	--	--	--	--	--	--	--
		.10	<.10	2.4	8.80	8.90	2.40	2.10	--	--
	07/10	--	--	--	--	--	--	--	--	--
		.14	.14	34	9.20	9.20	2.60	2.30	6.8	5.02
		--	--	--	--	--	--	--	--	--
		.19	.16	2.9	9.20	9.00	2.40	2.00	--	--
		--	--	--	--	--	--	--	--	--
		.23	.19	2.6	8.90	8.60	2.10	1.80	8.7	--
		--	--	--	--	--	--	--	--	--
		.17	.15	1.8	8.50	8.60	2.30	2.00	--	6.98
		--	--	--	--	--	--	--	--	--
	08/07	<.10	<.10	2.3	7.40	7.50	3.00	2.80	13	--
		--	--	--	--	--	--	--	--	--
		.11	.30	2.0	5.50	5.40	2.90	2.60	--	--
	08/08	--	--	--	--	--	--	--	--	--
		.12	.10	1.7	4.40	4.40	2.80	2.60	15	3.20
		--	--	--	--	--	--	--	--	--
		.15	.10	2.2	3.20	3.20	2.90	2.60	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		.21	.22	2.1	2.50	2.50	3.10	2.80	15	--
		--	--	--	--	--	--	--	--	--
		.52	.53	2.3	2.60	2.50	3.00	2.80	--	16.3
		--	--	--	--	--	--	--	--	--
	08/27	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
	08/28	--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
17	07/09	.12	.11	2.3	9.00	9.10	2.30	2.10	14	--
		--	--	--	--	--	--	--	--	--
		.15	.12	2.0	9.50	9.40	2.30	2.10	--	--
	07/10	--	--	--	--	--	--	--	--	--
		.15	.11	2.3	8.70	8.80	2.20	2.00	9.9	4.54
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		.12	.16	2.7	8.80	8.80	2.40	2.20	--	--
		--	--	--	--	--	--	--	--	--
		.15	.13	2.0	9.20	9.20	2.50	2.30	5.7	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		.21	.15	1.7	9.00	9.00	2.20	1.90	--	6.15
		.19	.17	2.1	9.00	9.00	2.20	1.90	9.3	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Time (hours)	Temperature, water (°C)	Temperature, air (°C)	Transparency, secchi disc (inch)	Specific conductance (uS/cm)	Oxygen, dissolved (mg/L)	pH (units)	Solids, residue at 105°C, suspended total (mg/L)
17 (Cont.)	08/07	1850	--	--	--	--	--	--	76
		1855	25.0	26.5	--	859	6.6	7.1	--
		2134	24.5	21.0	--	866	5.7	7.4	--
		2250	--	--	--	--	--	--	58
		2252	24.0	17.0	--	861	5.6	7.4	--
	08/08	0108	23.5	15.5	--	858	8.0	7.4	--
		0235	--	--	--	--	--	--	81
		0236	23.5	14.5	--	860	6.6	7.5	--
		0410	23.0	13.0	--	862	5.4	7.5	--
		0630	22.0	15.0	11	872	5.5	7.4	133
		0631	--	--	--	--	--	--	117
		0855	21.5	23.5	--	866	5.5	7.4	--
		1015	22.0	28.5	--	868	5.3	7.6	--
		1030	--	--	--	--	--	--	130
		1305	23.5	32.0	--	883	6.3	7.4	--
		1430	24.5	36.0	--	897	6.6	7.7	97
		1620	24.5	34.0	--	918	6.7	7.5	--
18	07/09	2022	27.5	30.0	--	870	6.2	7.9	53
		2350	26.5	27.5	--	878	5.3	8.1	53
	07/10	0428	25.0	--	--	858	5.2	7.8	69
		0930	25.5	25.5	12	804	6.6	8.0	42
		1248	27.5	28.0	--	816	8.0	8.1	68
		1718	27.5	29.0	--	805	8.1	8.0	50
	08/07	1940	25.5	27.0	--	879	7.0	7.5	54
		2324	24.0	20.5	--	861	6.2	7.5	37
	08/08	0337	22.0	17.5	--	854	5.6	7.7	58
		0841	21.0	32.0	13	830	6.2	7.7	63
		1209	24.0	30.5	--	857	7.0	6.9	70
		1600	26.0	29.0	--	857	8.6	7.4	53
	08/27	1800	--	--	--	--	--	--	59
		2142	21.0	21.0	--	391	7.8	6.0	--
		2400	--	--	--	--	--	--	74
	08/28	0600	--	--	--	--	--	--	88
		1200	--	--	--	--	--	--	72
		1500	23.5	31.0	--	557	7.3	7.6	--

19	07/09	1833	29.0	29.5	--	806	8.0	7.8	28
		2117	28.5	27.0	--	814	6.8	7.9	--
		2325	28.0	24.5	--	833	[2]4.5	8.2	39
	07/10	0117	27.0	23.0	--	818	[2]4.4	8.3	--
		0338	26.5	21.5	--	860	[2]4.0	8.1	55
		0438	26.0	21.0	--	876	[2]4.0	8.1	--
		0700	25.0	20.0	--	880	[2]4.8	7.9	74
		0925	25.0	24.0	12	868	[2]4.9	7.8	--
		1030	25.0	28.0	--	857	5.6	8.0	54
		1245	26.0	31.0	--	846	6.4	8.0	--
		1445	--	--	--	--	--	--	27
		1455	27.0	29.0	--	844	7.6	8.1	--
		1615	28.0	29.0	--	844	8.4	8.2	--
	08/07	1907	--	--	--	--	--	--	31
		1910	26.0	26.0	--	891	7.9	7.2	--
		2310	25.5	17.5	--	883	6.8	7.6	--
		2311	--	--	--	--	--	--	50
		2314	--	--	--	--	--	--	40
	08/08	0122	24.0	16.0	--	874	6.4	7.5	--
		0255	23.5	14.5	--	868	8.2	7.6	53
		0425	23.0	14.0	--	872	5.6	7.6	--
		0700	21.5	15.0	11	867	5.5	7.5	59
		0905	21.0	23.0	--	859	5.4	7.6	--
		1035	21.5	28.0	--	860	5.5	7.7	--
		1100	--	--	--	--	--	--	56
		1330	23.0	33.0	--	857	6.6	7.6	--
		1500	--	--	--	--	--	--	39
		1505	24.0	36.5	--	862	6.8	7.8	--
		1630	23.5	34.0	--	787	7.5	7.5	--
	08/27	1750	22.0	29.0	--	457	--	7.5	48
		2121	22.0	24.0	--	422	6.0	7.8	--
	08/28	0034	21.5	20.0	--	408	5.7	7.6	62
		0336	20.5	17.0	--	395	5.7	7.8	--
		0630	--	--	--	--	--	--	87
		0646	--	--	--	--	--	--	84
		0654	19.0	13.5	--	401	6.8	7.7	--
		0935	19.0	23.0	--	405	6.7	7.7	--
		1215	--	--	--	--	--	--	60
		1228	20.0	30.0	--	424	6.9	7.6	--
		1450	21.0	31.5	--	459	7.1	7.8	--
20	07/09	1908	27.5	29.5	--	776	--	8.4	30
		2130	26.0	26.5	--	778	--	--	--
		2350	26.0	24.5	--	803	5.9	8.2	28
	07/10	0054	26.0	22.5	--	805	5.4	8.2	--
		0230	25.5	22.0	--	799	5.4	8.2	62
		0231	--	--	--	--	--	--	50
		0320	25.5	21.0	--	803	5.4	8.2	--

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, ammonia dissolved (mg/L as N)	Nitrogen, ammonia + organic total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, NO_2+NO_3 dissolved (mg/L as N)	Phosphorus, total (mg/L as P)	Phosphorus, dissolved (mg/L as P)	Oxygen demand, biochemical carbonaceous ultimate (mg/L)	Chlorophyll a phytoplankton acid m. (µg/L)
17 (Cont.)	08/07	0.10	<0.10	2.7	9.40	9.40	3.10	2.80	18	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.7	7.70	7.40	3.00	2.70	--	--
		--	--	--	--	--	--	--	--	--
	08/08	--	--	--	--	--	--	--	--	--
		.10	<.10	2.6	6.20	6.10	2.80	2.60	16	3.77
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	2.1	4.60	4.70	2.80	2.50	--	--
		.11	.10	2.2	4.70	4.60	2.80	2.50	18	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		.12	.12	2.1	3.30	3.30	2.70	2.40	15	--
		--	--	--	--	--	--	--	--	--
		.17	.17	2.7	2.60	2.60	3.00	2.70	--	9.08
		--	--	--	--	--	--	--	--	--
18	07/09	<.10	<.10	1.5	8.00	8.10	2.20	2.00	11	--
		<.10	<.10	1.7	8.60	8.60	2.20	2.00	--	--
	07/10	<.10	<.10	1.4	8.60	8.60	2.10	1.90	11	4.01
		<.10	<.10	2.0	8.90	8.90	2.20	2.00	--	--
		<.10	<.10	2.4	8.50	8.50	2.00	1.90	9.5	--
		<.10	<.10	2.3	9.10	9.10	2.22	2.10	--	11.1
	08/07	<.10	<.10	2.5	8.10	8.10	2.80	2.60	14	--
		<.10	<.10	2.1	8.50	8.60	2.90	2.70	--	--
	08/08	<.10	<.10	1.8	9.40	9.70	3.00	2.80	17	5.82
		<.10	<.10	2.0	8.90	9.40	2.90	2.70	--	--
		<.10	<.10	2.0	7.50	7.60	2.80	2.60	14	--
		<.10	<.10	2.0	4.80	4.60	2.60	2.40	--	9.52
	08/27	.22	.19	2.4	3.20	3.10	1.20	1.00	8.8	--
		--	--	--	--	--	--	--	--	--
		.22	.29	2.5	3.00	3.00	1.20	.96	--	1.89
	08/28	.26	.24	1.4	4.20	4.10	1.40	1.20	9.6	--
		.13	.12	2.5	5.50	5.40	1.80	1.50	--	3.78
		--	--	--	--	--	--	--	--	--

19	07/09	<.10	<.10	1.2	7.90	8.00	1.70	1.60	8.1	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.3	7.70	7.70	1.90	1.70	--	--
	07/10	--	--	--	--	--	--	--	--	--
		.10	<.10	1.9	8.00	8.10	2.00	1.90	8.7	8.86
		--	--	--	--	--	--	--	--	--
		.11	<.10	2.2	8.00	7.80	2.00	1.80	--	--
		--	--	--	--	--	--	--	--	--
		.12	.14	1.5	8.50	8.60	2.00	1.90	6.8	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.5	9.00	9.00	2.00	1.80	--	12.9
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
	08/07	<.10	<.10	2.6	7.50	7.50	2.80	2.60	12	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.3	7.30	7.30	2.40	2.60	17	--
		<.10	.10	1.8	7.30	7.30	2.60	2.50	--	--
	08/08	--	--	--	--	--	--	--	--	
		<.10	<.10	1.6	7.60	7.60	2.50	2.40	17	5.02
		--	--	--	--	--	--	--	--	--
		.10	<.10	2.5	7.70	7.70	2.60	2.40	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	2.1	8.20	8.20	2.70	2.50	8.0	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.4	9.10	9.30	2.80	2.60	--	6.56
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
	08/27	.32	.33	2.8	3.70	3.60	1.30	1.20	6.0	--
		--	--	--	--	--	--	--	--	--
	08/28	.25	.22	2.3	3.40	3.30	1.20	1.00	--	1.34
		--	--	--	--	--	--	--	--	--
		.20	.20	1.6	2.90	2.90	1.10	.98	8.3	--
		.19	.18	1.7	2.90	2.80	1.10	.98	10	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		.14	.13	3.8	3.20	3.20	1.20	.98	--	4.50
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
20	07/09	<.10	<.10	1.2	7.20	7.50	1.30	1.20	4.9	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.4	7.50	7.60	1.40	1.30	--	--
	07/10	--	--	--	--	--	--	--	--	--
		<.10	<.10	1.8	7.70	7.60	1.50	1.30	6.0	6.41
		<.10	<.10	2.0	7.60	7.60	1.50	1.40	6.9	--
		--	--	--	--	--	--	--	--	--

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/ day)	Time (hours)	Temperature, water (°C)	Temperature, air (°C)	Transparency, secchi disc (inch)	Specific conductance (uS/cm)	Oxygen, dissolved (mg/L)	pH (units)	Solids, residue at 105°C, suspended total (mg/L)
20 (Cont.)	07/10 (Cont.)	0755	24.5	22.0	[1]12	794	5.4	7.8	--
		0800	--	--	--	--	--	--	39
		0945	25.5	24.0	--	797	6.2	8.0	--
		1055	26.5	26.0	--	779	7.9	8.1	--
		1100	--	--	--	--	--	--	27
		1300	28.0	32.0	--	776	9.2	8.2	--
		1515	29.5	30.0	--	798	9.5	8.3	--
		1537	--	--	--	--	--	--	22
		1630	29.5	29.0	--	792	9.2	8.3	--
	08/07	1933	26.5	24.0	--	806	8.7	7.2	24
		2335	23.0	17.0	--	851	7.1	7.6	46
	08/08	0137	22.5	16.0	--	844	6.0	7.5	--
		0320	22.0	15.5	--	846	6.1	7.5	45
		0442	21.5	14.5	--	857	6.1	7.6	--
		0725	20.5	17.0	12	856	6.1	7.5	--
		0730	--	--	--	--	--	--	44
		0925	21.0	24.0	--	877	6.5	7.7	--
		1100	22.5	28.0	--	890	7.7	7.8	--
		1130	--	--	--	--	--	--	24
		1330	25.5	34.0	--	923	10.0	8.1	--
		1530	27.0	37.5	--	930	10.9	8.3	17
		1645	27.5	32.0	--	931	10.9	8.3	--
22	07/09	0520	20.0	26.5	--	759	7.8	8.0	--
		0528	--	--	--	--	--	--	109
	07/10	1903	26.0	30.5	--	764	7.2	7.4	436
	08/07	0550	18.5	--	--	723	--	8.3	34
	08/08	1521	28.5	--	--	828	8.3	8.3	13
	08/28	1022	--	--	--	--	--	--	29
23	07/09	0351	22.5	25.5	--	714	6.1	7.8	--
		0356	--	--	--	--	--	--	95
	07/10	1717	26.5	29.0	--	685	6.6	7.7	58

	08/07	0405	21.0	--	--	301	5.8	8.1	72
	08/08	1403	27.5	35.5	--	605	9.1	8.3	32
	08/28	1201	--	--	--	--	--	--	29
24	07/09	0420	21.5	24.5	--	650	7.4	7.9	--
		0430	--	--	--	--	--	--	108
	07/10	1748	28.5	30.5	--	626	6.9	7.4	60
	08/07	0500	21.0	--	--	568	5.2	8.0	99
	08/08	1431	25.0	--	--	720	[2]4.2	7.9	108
25	07/09	0315	22.0	27.5	--	655	7.6	8.1	--
		0320	--	--	--	--	--	--	24
	07/10	1636	26.5	29.5	--	600	11.5	7.8	33
	08/07	0335	20.5	--	--	561	7.0	8.3	36
	08/08	1333	25.0	33.5	--	--	11.4	8.5	267
	08/28	0844	--	--	--	--	--	--	30
26	07/09	0205	23.0	24.5	--	685	7.9	8.2	--
		0213	--	--	--	--	--	--	112
	07/10	1550	26.0	38.5	--	696	9.0	7.7	91
27	07/09	0245	22.5	27.0	--	677	7.3	8.1	44
	07/10	1423	25.0	27.5	--	677	7.6	8.4	18
	08/07	0310	27.0	--	--	584	6.2	8.3	78
	08/08	1303	23.0	27.0	--	--	8.4	8.1	35
	08/28	0808	--	--	--	--	--	--	46
WWTF	07/09	2054	23.1	--	--	947	6.6	7.4	12
	07/10	0105	22.9	29.0	--	898	6.6	7.6	10
		0321	22.7	--	--	877	6.9	7.6	8
		0800	22.5	23.2	--	831	7.7	7.5	11
		1132	23.0	23.5	--	831	7.4	7.6	8
		1515	22.8	25.5	--	833	8.6	7.7	5
	08/07	1851	23.2	29.5	--	1,010	6.8	7.1	11
		2225	22.8	20.0	--	1,030	7.1	7.2	13
	08/08	0233	22.4	17.0	--	1,040	6.2	7.3	12
		0655	21.9	16.0	--	1,000	--	--	8
		0726	21.9	--	--	1,000	--	--	--
		0740	21.8	--	--	--	--	--	--
		1100	22.6	28.5	--	991	5.8	6.9	9
		1441	22.7	32.9	--	970	7.5	4.5	6

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, ammonia dissolved (mg/L as N)	Nitrogen, ammonia + organic total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, NO_2+NO_3 dissolved (mg/L as N)	Phosphorus, total (mg/L as P)	Phosphorus, dissolved (mg/L as P)	Oxygen demand, biochemical carbonaceous ultimate (mg/L)	Chlorophyll a phytoplankton acid m. (µg/L)
20	07/10	--	--	--	--	--	--	--	--	--
(Cont.)	(Cont.)	<0.10	<0.10	1.5	7.70	7.70	1.60	1.50	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.4	7.90	7.90	1.60	1.50	8.8	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.6	8.00	8.00	1.50	1.50	--	23.2
		--	--	--	--	--	--	--	--	--
	08/07	<.10	<.10	2.5	5.10	4.90	2.00	1.80	16	--
		<.10	<.10	1.3	5.10	5.10	2.30	2.10	--	--
	08/08	--	--	--	--	--	--	--	--	--
		<.10	<.10	1.3	5.30	5.10	2.40	2.20	12	8.46
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.4	5.30	5.40	2.50	2.40	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.7	5.30	5.30	2.50	2.50	7.6	--
		--	--	--	--	--	--	--	--	--
		<.10	<.10	1.7	5.60	5.60	2.50	2.40	--	18.5
		--	--	--	--	--	--	--	--	--
22	07/09	--	--	--	--	--	--	--	--	--
		.18	.15	1.5	8.10	8.20	.22	.09	6.9	3.20
	07/10	<.10	<.10	1.0	6.80	6.70	.15	.10	3.3	5.07
	08/07	.11	.10	.6	2.30	2.30	.14	.08	5.9	3.24
	08/08	.23	<.10	.7	2.40	2.50	.13	.10	3.2	5.02
	08/28	.10	<.10	2.1	2.80	2.80	.23	.17	5.4	--
23	07/09	--	--	--	--	--	--	--	--	--
		.21	.18	1.4	12.0	12.0	.19	.08	3.9	1.95
	07/10	.15	.13	1.0	12.0	12.0	.17	.09	--	1.32

	08/07	.14	.12	.9	3.50	3.70	.16	.08	6.7	2.14
	08/08	.10	<.10	.9	3.00	3.00	.14	.08	6.4	3.81
	08/28	.22	.10	2.0	1.80	1.80	.14	.09	4.0	--
24	07/09	--	--	--	--	--	--	--	--	--
		.20	.21	.9	14.0	14.0	.25	.09	5.2	1.38
	07/10	.15	.15	1.1	14.0	14.0	.28	.14	--	4.95
	08/07	.91	.89	3.0	6.70	6.80	.29	.11	11	2.72
	08/08	1.80	1.60	15	4.40	4.40	.65	.36	43	18.5
25	07/09	--	--	--	--	--	--	--	--	--
		<.10	<.10	.6	12.0	12.0	.08	.05	4.2	0.83
	07/10	<.10	<.10	1.2	12.0	12.0	.08	.05	--	7.14
	08/07	<.10	<.10	.8	6.30	6.20	.07	.06	7.5	1.93
	08/08	<.10	<.10	1.1	6.90	6.80	.07	.04	6.0	4.52
	08/28	<.10	<.10	1.3	2.00	2.10	.07	.04	3.6	--
26	07/09	--	--	--	--	--	--	--	--	--
		<.10	<.10	1.1	7.80	7.60	.31	.12	8.6	.54
	07/10	<.10	<.10	1.0	8.70	8.70	.20	.12	--	2.43
27	07/09	<.10	<.10	1.0	8.50	8.30	.15	.08	4.4	2.30
	07/10	.20	.22	.9	8.30	8.50	.15	.11	--	2.64
	08/07	<.10	.18	.9	1.80	1.90	.13	.08	4.7	4.38
	08/08	<.10	<.10	.9	1.80	2.00	.10	.09	4.6	8.63
	08/28	.11	<.10	1.5	.50	.51	.15	.07	6.0	--
WWTF	07/09	.65	.60	4.1	9.10	9.0	4.4	4.1	40	--
	07/10	.55	.54	4.2	10.0	10	4.7	4.5	--	--
		.37	.32	3.2	10.0	10	5.0	4.8	39	3.01
		.27	.28	2.5	9.10	9.5	4.6	4.5	--	--
		.41	.40	4.1	10.0	9.9	5.2	5.0	24	--
		.33	.31	2.6	10.0	9.9	4.9	4.7	--	3.26
	08/07	1.80	1.60	6.6	7.50	7.5	4.5	4.3	51	--
		1.70	1.70	5.2	8.10	8.1	4.7	4.6	--	--
	08/08	1.90	2.00	6.1	8.00	8.1	5.0	4.8	67	3.49
		1.70	1.70	5.3	7.90	8.1	5.1	4.9	--	--
		--	--	--	--	--	--	--	--	--
		--	--	--	--	--	--	--	--	--
		2.30	2.10	6.8	7.50	8.4	5.4	5.2	40	--
		1.20	1.10	5.2	8.70	8.3	5.1	4.9	--	3.20

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/ day)	Time (hours)	Temperature, water (°C)	Temperature, air (°C)	Transparency, secchi disc (inch)	Specific conductance (uS/cm)	Oxygen, dissolved (mg/L)	pH (units)	Solids, residue at 105°C, suspended total (mg/L)
SS34	07/09	1925	--	--	--	--	--	--	6
		2300	--	--	--	--	--	--	3
	07/10	0310	--	--	--	--	--	--	2
		0750	--	--	--	--	--	--	3
		1116	--	--	--	--	--	--	3
		1515	--	--	--	--	--	--	10
	08/07	1914	--	--	--	--	--	--	2
		2310	--	--	--	--	--	--	2
	08/08	0309	--	--	--	--	--	--	2
		0910	--	--	--	--	--	--	3
		1035	--	--	--	--	--	--	2
		1620	--	--	--	--	--	--	2

Table 11.--Constituent concentrations determined from samples collected routinely during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, ammonia dissolved (mg/L as N)	Nitrogen, ammonia + organic total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, NO_2+NO_3 dissolved (mg/L as N)	Phosphorus, total (mg/L as P)	Phosphorus, dissolved (mg/L as P)	Oxygen demand, biochemical carbonaceous ultimate (mg/L)	Chlorophyll a phytoplankton acid m. (µg/L)
SS34	07/09	<0.10	<0.10	2.5	0.37	0.36	0.02	0.02	49	--
		<.10	<.10	2.8	.31	.31	.04	<.01	--	--
	07/10	<.10	<.10	2.3	.30	.30	.03	<.01	46	0
		<.10	<.10	2.3	.33	.34	.02	<.01	--	--
		<.10	<.10	2.0	.39	.40	.03	.03	53	--
		.21	.20	2.3	.38	.62	.05	.02	--	0
	08/07	<.10	<.10	1.2	.72	.72	.05	.03	3.6	--
		<.10	<.10	1.5	.73	.71	.03	.02	--	--
	08/08	.10	<.10	.9	.67	.68	.02	.02	5.8	.29
		.18	.15	1.5	.63	.62	.04	.01	6.1	--
		<.10	<.10	1.0	.57	.58	.03	.02	2.5	--
		.17	.16	1.0	.62	.62	.06	.02	--	1.24

[1] Indicates the secchi disc was visible at the maximum depth of the stream at the sampling site.
[2] Indicates constituent concentrations that do not meet Illinois State general use water-quality standards (Illinois Pollution Control Board, 1984).

Table 12.--Selected constituent concentrations determined from samples collected during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries

[Site numbers correspond to those in figure 3 and table 1 of this report; NTU, nephelometric turbidity units; mg/L, milligrams per liter; µg/L, micrograms per liter; $CaCO_3$, calcium carbonate; <, less than; dashes indicate no data. Footnotes are at end of table.]

Site number	Date (month/day)	Time (hours)	Turbidity (NTU)	Oxygen demand, chemical (low level) (mg/L)	Alkalinity total (mg/L as $CaCO_3$)	Acidity total (mg/L as $CaCO_3$)	Solids, volatile, suspended (mg/L)	Cyanide total (mg/L as CN)	Hardness (mg/L as $CaCO_3$)	Calcium dissolved (mg/L as Ca)	Calcium total recoverable (mg/L as Ca)	Magnesium, dissolved (mg/L as Mg)
1	07-10-85	1345	8.1	10	231	<1.0	3	<0.01	370	81	82	40
2	07-10-85	1400	6.4	12	257	<1.0	2	<.01	390	87	88	42
3	07-10-85	1430	4.7	14	211	<1.0	1	<.01	330	69	68	39
	08-08-85	1425	25	21	293	<1.0	29	<.01	430	92	96	48
4	07-10-85	1500	2.7	15	174	<1.0	1	<.01	290	54	55	38
5	07-10-85	1530	8.0	17	233	<1.0	6	<.01	370	89	95	36
	08-08-85	1510	4.5	18	278	<1.0	7	<.01	480	110	120	47
6	07-10-85	1425	4.6	13	224	<1.0	1	<.01	360	81	84	38
	08-08-85	1530	3.5	12	241	<1.0	2	<.01	450	100	100	49
7	07-10-85	1515	4.8	12	252	<1.0	1	<.01	360	88	89	33
	08-08-85	1605	3.2	12	279	<1.0	1	<.01	400	98	100	37
8	07-10-85	1443	3.3	12	245	<1.0	1	<.01	340	85	86	32
	08-08-85	1405	3.8	12	254	<1.0	1	<.01	390	93	95	38
9	07-10-85	1610	4.1	16	245	<1.0	<1	<.01	340	82	83	32
	08-08-85	1404	4.5	12	230	<1.0	3	<.01	360	83	83	36
10	07-10-85	1700	5.5	31	202	<1.0	3	<.01	280	69	69	26
	08-08-85	1431	5.0	53	236	<1.0	5	<.01	280	66	65	27
11	07-10-85	1555	5.3	38	205	<1.0	3	<.01	290	70	70	28
	08-08-85	1510	5.2	44	237	<1.0	5	<.01	290	71	72	28
12	07-10-85	1400	6.2	30	216	<1.0	6	<.01	300	74	77	29
	08-08-85	1508	11	41	234	<1.0	10	<.01	280	68	69	27
13	07-10-85	1435	12	31	224	<1.0	5	<.01	300	73	79	29
	08-08-85	1542	12	36	244	<1.0	10	<.01	300	72	74	28
14	07-10-85	1630	17	34	224	<1.0	7	<.01	300	73	75	29
	08-08-85	1648	7.4	35	243	<1.0	5	<.01	290	71	71	28
15	07-10-85	1505	21	28	222	<1.0	7	<.01	300	72	76	29
	08-08-85	1610	17	34	240	<1.0	8	<.01	300	73	74	28
16	07-10-85	1530	9.2	27	218	<1.0	6	<.01	320	76	76	31
	08-08-85	1400	26	35	245	<1.0	10	<.01	300	72	73	28
17	07-10-85	1400	38	29	217	<1.0	8	<.01	300	72	73	29

	08-08-85	1430	36	39	246	<1.0	13	<.01	300	72	76	28
18	07-10-85	1718	22	25	216	<1.0	6	<.01	290	70	72	29
	08-08-85	1600	11	32	231	<1.0	8	<.01	290	70	71	27
19	07-10-85	1445	12	23	222	<1.0	2	<.01	320	77	75	31
	08-08-85	1500	13	25	219	<1.0	7	<.01	290	70	74	28
20	07-10-85	1537	13	23	225	<1.0	3	<.01	310	74	74	30
	08-08-85	1530	8.3	19	229	<1.0	5	<.01	300	73	72	29
22	07-10-85	1903	16	14	228	<1.0	24	<.01	360	83	83	38
	08-08-85	1521	2.1	14	267	<1.0	1	<.01	390	92	92	40
23	07-10-85	1717	32	18	230	<1.0	8	<.01	360	83	85	37
	08-08-85	1403	9.6	11	215	<1.0	6	.02	300	68	69	32
24	07-10-85	1748	24	17	203	<1.0	8	<.01	320	71	73	35
	08-08-85	1431	37	78	302	<1.0	28	<.01	350	75	77	39
25	07-10-85	1636	32	12	196	<1.0	5	<.01	310	68	69	35
	08-08-85	1333	47	12	242	<1.0	24	<.01	350	74	75	41
26	07-10-85	1550	24	16	253	<1.0	6	<.01	380	86	87	39
27	07-10-85	1423	13	14	252	<1.0	3	<.01	360	81	81	38
	08-08-85	1303	14	15	301	<1.0	7	<.01	390	86	87	42
WWTF	07-10-85	1515	5.8	46	185	<1.0	4	<.01	249	65	66	24
	08-08-85	1441	4.6	60	227	<1.0	5	<.01	260	64	66	26
SS34	07-10-85	1515	17	73	206	<1.0	<1	.06	230	62	61	22
	08-08-85	1625	--	13	222	<1.0	1	<.01	243	62	62	24

Table 12.--Selected constituent concentrations determined from samples collected during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Magnesium, total recoverable (mg/L as Mg)	Sodium, total recoverable (mg/L as Na)	Sodium, dissolved (mg/L as Na)	Potassium, dissolved (mg/L as K)	Potassium, total recoverable (mg/L as K)	Chloride dissolved (mg/L as Cl)	Sulfate dissolved (mg/L as SO_4)	Fluoride, total (mg/L as F)	Arsenic total (µg/L as As)	Barium, dissolved (µg/L as Ba)	Barium, total recoverable (µg/L as Ba)
1	07-10-85	41	17	18	0.55	0.7	41	52	0.3	2	93	100
2	07-10-85	42	16	16	.71	.8	39	56	.3	2	110	100
3	07-10-85	39	17	18	1.1	1.1	40	56	.3	3	88	90
	08-08-85	49	32	32	3.7	4.1	56	98	.3	7	91	100
4	07-10-85	38	20	20	1.5	1.5	41	63	.4	2	66	70
5	07-10-85	38	31	30	1.9	2.0	48	110	.6	2	55	60
	08-08-85	50	51	48	3.6	3.8	73	180	.5	4	56	60
6	07-10-85	39	37	37	1.8	1.8	52	120	.6	2	53	60
	08-08-85	49	52	52	3.1	3.1	76	180	.4	2	40	40
7	07-10-85	33	29	28	1.8	1.7	38	80	.7	2	65	70
	08-08-85	37	33	33	3.0	3.0	50	100	.6	1	68	70
8	07-10-85	33	29	29	1.8	1.8	41	81	.7	2	69	70
	08-08-85	39	39	38	3.9	4.1	55	120	.6	2	72	80
9	07-10-85	32	29	29	1.8	1.8	39	75	.7	2	70	70
	08-08-85	36	38	38	4.4	4.5	55	110	.6	2	70	70
10	07-10-85	26	68	69	6.4	6.3	79	59	.9	2	34	40
	08-08-85	26	97	99	17	17	120	54	1.0	1	39	40
11	07-10-85	28	64	63	5.7	5.7	74	62	.9	2	49	50
	08-08-85	28	91	91	16	16	110	62	.9	2	60	60
12	07-10-85	30	71	70	5.7	5.8	93	57	.8	3	68	80
	08-08-85	27	84	84	15	15	100	58	.9	3	61	80
13	07-10-85	31	80	75	5.7	6.3	100	58	.8	3	75	100
	08-08-85	29	88	87	13	13	100	63	.9	4	67	90
14	07-10-85	30	69	68	5.6	5.8	84	60	.8	4	75	100
	08-08-85	28	89	89	12	13	110	62	.9	4	68	80
15	07-10-85	31	64	61	5.1	5.5	78	58	.8	5	75	90
	08-08-85	29	97	97	13	13	120	59	.9	4	68	80
16	07-10-85	30	61	64	5.7	5.4	83	55	.7	4	85	100
	08-08-85	28	90	89	10	10	120	57	.8	4	73	90
17	07-10-85	29	60	61	5.9	5.9	73	58	.7	4	84	100

	08-08-85	30	81	78	9.2	10	97	59	.9	5	74	100
18	07-10-85	29	57	58	5.5	5.6	70	57	.7	3	79	100
	08-08-85	28	77	77	8.5	8.5	87	60	.8	5	68	90
19	07-10-85	31	60	61	5.5	5.4	79	60	.6	4	87	100
	08-08-85	29	74	71	7.4	7.8	81	58	.8	5	69	90
20	07-10-85	31	55	54	5.0	5.0	64	53	.6	5	86	90
	08-08-85	28	90	93	8.0	7.8	110	56	.8	5	75	80
22	07-10-85	39	29	29	2.3	2.3	36	95	.3	2	110	100
	08-08-85	40	43	43	5.0	5.1	48	120	.3	5	120	100
23	07-10-85	37	22	21	1.0	1.2	44	45	.3	2	150	200
	08-08-85	33	18	18	1.3	1.3	37	41	.3	4	120	100
24	07-10-85	36	9.5	9.4	1.1	1.2	19	41	.3	3	130	200
	08-08-85	40	11	11	15	16	27	42	.3	6	240	300
25	07-10-85	36	8.8	8.8	.96	1.1	23	34	.3	2	110	100
	08-08-85	41	14	14	2.2	2.2	27	53	.3	2	130	100
26	07-10-85	39	10	10	1.4	1.7	31	36	.3	2	120	100
27	07-10-85	38	13	13	2.5	2.6	24	42	.3	1	120	100
	08-08-85	42	15	16	2.9	2.9	21	52	.3	2	130	100
WWTF	07-10-85	41	78	77	7.3	7.4	85	55	1.0	<1	28	33
	08-08-85	26	103	101	18.0	18.0	121	47	1.0	1	37	42
SS34	07-10-85	22	37	41	2.0	1.6	40	29	.9	<1	50	49
	08-08-85	24	31	31	1.6	1.6	36	33	.9	<1	57	80

Table 12.--Selected constituent concentrations determined from samples collected during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Beryllium, dissolved (µg/L as Be)	Beryllium, total (µg/L as Be)	Boron, dissolved (µg/L as B)	Boron, total recoverable (µg/L as B)	Cadmium dissolved (µg/L as Cd)	Cadmium total recoverable (µg/L as Cd)	Chromium, dissolved (µg/L as Cr)	Chromium, total recoverable (µg/L as Cr)	Cobalt, dissolved (µg/L as Co)	Cobalt, total recoverable (µg/L as Co)	Copper, dissolved (µg/L as Cu)
1	07-10-85	<0.5	<0.5	50	50	<3	<3	<5	<5	<5	<5	<5
2	07-10-85	<.5	<.5	50	60	<3	<3	<5	7	<5	<5	<5
3	07-10-85	<.5	<.5	60	60	<3	<3	<5	<5	6	<5	21
	08-08-85	<.5	<.5	160	180	<3	<3	<5	<5	<5	7	<5
4	07-10-85	<.5	<.5	100	100	<3	<3	<5	<5	<5	<5	<5
5	07-10-85	<.5	<.5	150	160	<3	<3	<5	7	<5	<5	<5
	08-08-85	<.5	<.5	260	280	<3	<3	<5	5	<5	<5	6
6	07-10-85	<.5	<.5	180	180	<3	<3	<5	6	<5	<5	<5
	08-08-85	<.5	<.5	300	300	<3	<3	<5	5	<5	<5	<5
7	07-10-85	<.5	<.5	130	130	<3	<3	<5	<5	<5	<5	7
	08-08-85	<.5	<.5	180	190	<3	<3	<5	<5	<5	<5	<5
8	07-10-85	<.5	<.5	130	130	<3	<3	<5	<5	<5	<5	6
	08-08-85	<.5	<.5	190	200	<3	<3	<5	<5	<5	<5	20
9	07-10-85	<.5	<.5	130	130	<3	<3	<5	<5	<5	<5	<5
	08-08-85	<.5	<.5	180	180	<3	<3	<5	<5	<5	<5	6
10	07-10-85	<.5	<.5	310	310	<3	<3	<5	<5	<5	<5	18
	08-08-85	<.5	<.5	330	320	<3	<3	7	9	<5	<5	20
11	07-10-85	<.5	<.5	330	320	<3	<3	<5	<5	<5	<5	15
	08-08-85	<.5	<.5	320	310	<3	<3	<5	<5	<5	<5	15
12	07-10-85	<.5	<.5	320	330	<3	<3	<5	<5	<5	<5	6
	08-08-85	<.5	<.5	300	290	<3	<3	<5	8	<5	<5	7
13	07-10-85	<.5	<.5	330	340	<3	<3	<5	<5	<5	<5	<5
	08-08-85	<.5	<.5	310	310	<3	<3	<5	6	<5	<5	5
14	07-10-85	<.5	<.5	330	340	<3	<3	<5	<5	<5	<5	7
	08-08-85	<.5	<.5	300	300	<3	<3	<5	<5	<5	<5	<5
15	07-10-85	<.5	<.5	280	290	<3	<3	<5	<5	<5	<5	<5
	08-08-85	<.5	<.5	300	300	<3	<3	<5	<5	<5	<5	5
16	07-10-85	<.5	<.5	250	260	<3	<3	<5	<5	<5	5	6
	08-08-85	<.5	<.5	290	280	<3	<3	<5	<5	<5	<5	5
17	07-10-85	<.5	<.5	210	210	<3	<3	<5	<5	<5	<5	<5

	08-08-85	<.5	<.5	300	320	<3	<3	<5	<5	<5	<5	5
18	07-10-85	<.5	<.5	190	190	<3	<3	<5	6	<5	<5	<5
	08-08-85	<.5	<.5	270	270	<3	<3	<5	<5	<5	<5	10
19	07-10-85	<.5	<.5	200	180	<3	<3	<5	<5	<5	<5	7
	08-08-85	<.5	<.5	270	280	<3	<3	<5	<5	<5	<5	<5
20	07-10-85	<.5	<.5	180	180	<3	<3	<5	<5	<5	<5	6
	08-08-85	<.5	<.5	290	290	<3	<3	<5	<5	<5	<5	<5
22	07-10-85	<.5	<1.0	380	380	<3	<3	<5	<5	<5	<5	<5
	08-08-85	<.5	<1.0	590	580	<3	<3	<5	<5	<5	<5	<5
23	07-10-85	<.5	<.5	<50	50	<3	<3	<5	<5	<5	<5	<5
	08-08-85	<.5	<1.0	<50	<50	<3	<3	<5	<5	<5	<5	<5
24	07-10-85	<.5	<.5	<50	<50	<3	<3	<5	<5	<5	<5	<5
	08-08-85	<.5	<.5	60	60	<3	<3	<5	<5	<5	<5	<5
25	07-10-85	<.5	<.5	<50	<50	<3	<3	<5	<5	<5	<5	<5
	08-08-85	<.5	<.5	70	70	<3	<3	<5	<5	<5	<5	<5
26	07-10-85	<.5	<.5	<50	<50	<3	<3	<5	<5	<5	<5	<5
27	07-10-85	<.5	<.5	<50	<50	<3	<3	<5	<5	<5	<5	<5
	08-08-85	<.5	<.5	50	50	<3	<3	<5	<5	<5	<5	13
WWTF	07-10-85	<.5	<.5	350	349	<3	<3	<5	<5	<5	<5	23
	08-08-85	<.5	<.5	329	330	<3	<3	11	11	<5	<5	23
SS34	07-10-85	<.5	<.5	107	108	<3	<3	<5	<5	<5	<5	46
	08-08-85	<.5	<.5	76	79	<3	<3	<5	<5	<5	<5	12

Table 12.--Selected constituent concentrations determined from samples collected during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Copper, total recoverable (µg/L as Cu)	Iron, total recoverable (µg/L as Fe)	Iron, dissolved (µg/L as Fe)	Lead, total recoverable (µg/L as Pb)	Lead, dissolved (µg/L as Pb)	Manganese, total recoverable (µg/L as Mn)	Manganese, dissolved (µg/L as Mn)	Nickel, dissolved (µg/L as Ni)	Nickel, total recoverable (µg/L as Ni)	Silver, dissolved (µg/L as Ag)	Silver, total recoverable (µg/L as Ag)
1	07-10-85	<5	500	<50	<50	<50	59	33	<5	<5	<3	<3
2	07-10-85	<5	400	<50	<50	<50	47	33	<5	12	<3	<3
3	07-10-85	<5	250	<50	<50	<50	46	36	9	<5	<3	<3
	08-08-85	7	[1]2,700	<50	<50	<50	860	680	5	13	<3	3
4	07-10-85	<5	90	<50	<50	<50	12	6	<5	<5	<3	<3
5	07-10-85	5	[1]1,200	<50	<50	<50	210	150	<5	<5	<3	<3
	08-08-85	7	1,000	92	<50	<50	150	140	5	<5	<3	<3
6	07-10-85	<5	660	<50	<50	<50	40	30	<5	<5	<3	<3
	08-08-85	<5	520	<50	<50	<50	41	35	<5	<5	<3	<3
7	07-10-85	9	530	<50	<50	<50	130	120	<5	<5	<3	<3
	08-08-85	6	450	<50	<50	<50	210	210	<5	<5	<3	<3
8	07-10-85	8	400	<50	<50	<50	180	170	<5	<5	<3	<3
	08-08-85	<5	490	<50	<50	<50	160	150	<5	<5	<3	<3
9	07-10-85	7	410	<50	<50	<50	160	150	<5	<5	<3	<3
	08-08-85	<5	460	<50	<50	<50	130	110	9	7	<3	<3
10	07-10-85	[1]23	290	54	<50	<50	48	43	<5	<5	<3	<3
	08-08-85	[1]22	240	64	<50	<50	57	24	<5	<5	<3	<3
11	07-10-85	16	400	64	<50	<50	75	69	<5	<5	<3	<3
	08-08-85	14	380	63	<50	<50	83	62	<5	<5	<3	<3
12	07-10-85	11	970	63	<50	<50	150	130	<5	6	<3	<3
	08-08-85	13	920	63	<50	<50	120	100	<5	<5	<3	<3
13	07-10-85	12	1,000	84	<50	<50	160	130	<5	<5	<3	<3
	08-08-85	[1]23	1,000	51	<50	<50	130	98	<5	6	<3	<3
14	07-10-85	8	[1]1,200	77	<50	<50	140	100	<5	<5	<3	<3
	08-08-85	6	640	110	<50	<50	100	74	<5	<5	<3	<3
15	07-10-85	7	[1]1,100	52	<50	<50	140	99	<5	<5	<3	<3
	08-08-85	10	930	<50	<50	<50	120	77	<5	10	<3	<3
16	07-10-85	9	[1]1,500	81	<50	<50	180	140	<5	10	<3	<3
	08-08-85	8	[1]1,400	68	<50	<50	170	110	7	8	<3	<3
17	07-10-85	6	[1]2,300	160	<50	<50	210	150	<5	<5	<3	<3

	08-08-85	[1]21	[1]2,600	65	<50	<50	230	140	6	12	<3	<3
18	07-10-85	9	[1]1,500	<50	<50	<50	150	97	<5	<5	<3	<3
	08-08-85	9	[1]1,400	55	<50	<50	170	66	9	9	<3	<3
19	07-10-85	<5	970	130	<50	<50	120	90	<5	<5	<3	<3
	08-08-85	<5	[1]1,100	<50	<50	<50	180	41	<5	6	<3	<3
20	07-10-85	<5	750	120	<50	<50	120	38	<5	<5	<3	<3
	08-08-85	6	420	<50	<50	<50	120	57	<5	<5	<3	<3
22	07-10-85	<5	860	54	<50	<50	93	79	<5	<5	<3	<3
	08-08-85	<5	280	<50	<50	<50	85	81	<5	<5	<3	<3
23	07-10-85	<5	[1]2,000	140	<50	<50	490	410	<5	<5	<3	<3
	08-08-85	<5	[1]1,400	180	<50	<50	300	230	<5	<5	<3	<3
24	07-10-85	7	[1]2,500	270	<50	<50	170	97	<5	7	<3	<3
	08-08-85	<5	[1]3,700	1,000	<50	<50	[1]1,100	970	8	7	<3	<3
25	07-10-85	<5	[1]2,000	160	<50	<50	69	10	8	8	<3	<3
	08-08-85	<5	830	140	<50	<50	58	36	<5	6	<3	<3
26	07-10-85	<5	[1]1,700	52	<50	<50	170	77	8	<5	<3	<3
27	07-10-85	<5	670	<50	<50	<50	50	20	<5	<5	<3	<3
	08-08-85	<5	[1]1,200	100	<50	<50	300	230	8	7	<3	<3
WWTF	07-10-85	27	232	94	<50	<50	24	24	<5	<5	<3	<3
	08-08-85	27	207	114	<50	<50	26	26	8	<5	<3	<3
SS34	07-10-85	49	67	<50	<50	<50	22	22	<5	<5	<3	<3
	08-08-85	22	76	<50	<50	<50	24	24	<5	<5	<3	<3

Table 12.--Selected constituent concentrations determined from samples collected during diel data collections on July 9-10, August 7-8, and August 27-28, 1985, from Cedar Creek and its tributaries--Continued

Site number	Date (month/day)	Strontium, dissolved (µg/L as Sr)	Strontium, total recoverable (µg/L as Sr)	Vanadium, dissolved (µg/L as V)	Vanadium, total (µg/L as V)	Zinc, dissolved (µg/L as Zn)	Zinc, total (µg/L as Zn)	Aluminum, total recoverable (µg/L as Al)	Aluminum, dissolved (µg/L as Al)	Phenols total (µg/L)	Solids, residue at 180 deg. C dissolved (mg/L)	Mercury total recoverable (µg/L as Hg)
1	07-10-85	150	150	<5	<5	<50	<50	450	<50	<5	483	<0.1
2	07-10-85	150	150	<5	<5	<50	<50	310	<50	<5	534	<.1
3	07-10-85	130	130	7	5	<50	<50	210	<50	<5	429	<.1
	08-08-85	160	160	<5	11	<50	<50	2,000	<50	<5	800	<.1
4	07-10-85	120	120	<5	<5	<50	<50	80	<50	<5	411	<.1
5	07-10-85	150	150	<5	<5	<50	<50	190	<50	<5	535	<.1
	08-08-85	210	230	<5	<5	<50	<50	150	120	<5	[1]1,120	<.1
6	07-10-85	160	160	<5	<5	<50	<50	310	<50	<5	519	<.1
	08-08-85	220	220	<5	<5	<50	<50	80	<50	<5	[1]1,010	<.1
7	07-10-85	150	150	<5	<5	<50	<50	450	80	10	452	<.1
	08-08-85	180	180	<5	<5	<50	<50	90	<50	<5	795	<.1
8	07-10-85	150	150	<5	<5	<50	<50	100	<50	10	507	<.1
	08-08-85	190	190	<5	<5	<50	<50	580	<50	10	842	<.1
9	07-10-85	140	150	<5	<5	<50	<50	120	<50	<5	468	<.1
	08-08-85	180	180	<5	<5	<50	<50	100	<50	<5	754	<.1
10	07-10-85	110	110	<5	<5	<50	<50	90	<50	10	512	<.1
	08-08-85	120	120	<5	<5	<50	<50	<50	<50	10	952	.1
11	07-10-85	120	120	<5	<5	<50	<50	150	<50	30	551	<.1
	08-08-85	130	140	<5	<5	<50	<50	170	<50	--	691	<.1
12	07-10-85	130	130	<5	<5	<50	<50	580	220	<5	600	<.1
	08-08-85	120	130	<5	<5	<50	<50	590	<50	5	810	.06
13	07-10-85	130	140	<5	<5	<50	<50	2,000	<50	<5	669	<.1
	08-08-85	130	130	<5	<5	<50	<50	700	<50	5	793	<.1
14	07-10-85	130	130	<5	<5	<50	<50	760	<50	10	611	.07
	08-08-85	130	130	<5	<5	<50	<50	340	<50	<5	734	<.1
15	07-10-85	130	140	<5	<5	<50	<50	1,100	<50	<5	605	<.1
	08-08-85	130	130	<5	5	<50	<50	600	<50	10	818	.06
16	07-10-85	130	130	5	9	<50	<50	960	220	5	609	.07
	08-08-85	130	130	<5	6	<50	<50	1,000	<50	10	871	<.1
17	07-10-85	130	130	<5	6	<50	<50	1,600	90	<5	519	.07

	08-08-85	130	140	<5	9	<50	<50	2,100	<50	5	780	<.1
18	07-10-85	130	130	<5	10	<50	<50	980	<50	40	518	.09
	08-08-85	130	130	9	10	<50	<50	1,100	<50	20	695	<.1
19	07-10-85	140	130	7	<5	<50	<50	1,300	90	<5	448	<.1
	08-08-85	130	140	<5	8	<50	<50	1,000	70	5	845	<.1
20	07-10-85	130	130	6	6	<50	<50	570	340	<5	485	<.1
	08-08-85	130	130	7	9	<50	<50	380	<50	5	875	<.1
22	07-10-85	160	170	<5	<5	<50	<50	600	110	5	506	<.1
	08-08-85	200	200	<5	<5	<50	<50	160	<50	<5	788	<.1
23	07-10-85	150	150	5	9	<50	<50	1,600	160	<5	476	.31
	08-08-85	130	130	7	9	<50	<50	1,200	150	<5	500	<.1
24	07-10-85	140	140	5	10	<50	<50	1,700	210	5	424	.42
	08-08-85	160	170	8	11	<50	<50	2,100	610	[1]310	547	<.1
25	07-10-85	140	140	5	6	<50	<50	1,300	120	<5	401	.21
	08-08-85	170	170	<5	6	<100	<100	690	100	5	680	<.1
26	07-10-85	160	170	7	8	<50	<50	1,300	90	<5	448	<.1
27	07-10-85	170	170	<5	6	<50	<50	490	<50	<5	440	<.1
	08-08-85	190	190	<5	6	<50	<50	900	120	<5	613	<.1
WWTF	07-10-85	104	106	<5	<5	<50	<50	<50	<50	10	533	<.01
	08-08-85	113	117	<5	<5	<50	<50	190	<50	<5	810	.06
SS34	07-10-85	92	91	<5	<5	107	<100	<50	<50	115	386	<.01
	08-08-85	103	103	<5	<5	<50	<50	<50	<50	<5	491	<.01

[1] Indicate constituent concentrations that do not meet Illinois State general use water-quality standards (Illinois Pollution Control Board, 1984).

Table 13.--Summary of selected peaks recorded by crest-stage gages located on Cedar Creek in Galesburg

[Site numbers refer to those in figure 3 and table 1 of this report; peak stage, in feet, refers to distance above the National Geodetic Vertical Datum of 1929; dashes indicate no peak was recorded or no data; >, greater than]

Date (month/ day/ year)	Site code 3 Peak stage (feet)	A Peak stage (feet)	B Peak stage (feet)	5 Peak stage (feet)	6 Peak stage (feet)
05/08/86	---	---	---	---	733.10
05/20/86	757.64	745.14	---	736.82	735.72
06/11/86	756.80	---	---	---	732.77
07/02/86	757.53	745.72	---	737.19	---
07/15/86	757.27	---	---	---	734.92
08/01/86	759.17	748.31	744.62	[1]743.51	>737
08/08/86	757.14	746.24	---	737.57	735.50
09/12/86	756.97	745.61	---	[1]738.36	735.20
09/25/86	759.49	748.01	744.19	742.89	740.41
10/09/86	759.46	746.12	741.84	739.20	>737

[1] Indicates a questionable elevation.

Table 14.--Overflow occurrence and peak stage elevations in combined sewers for selected storm events in Galesburg

[Site codes correspond to those in figures 5 through 8 and table 2; elevation, in feet, refers to the distance above the National Geodetic Vertical Datum of 1929; >, greater than; dashes indicate no data. Footnotes are at end of table.]

Site code	August 14, 1985		August 19, 1985		August 26, 1985		September 11, 1985	
	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation
C1	---	---	---	---	---	---	---	---
C2	---	---	---	---	---	---	---	---
C3	Q	---	N	---	N	---	N	---
C4	N	---	N	---	Y	---	N	---
C5	N	---	N	---	N	---	N	---
C6	N	---	N	---	Y	---	Y	---
C7	---	---	---	---	---	---	---	---
C8	---	---	---	---	---	---	---	---
C9	N	---	Y	---	Y	---	N	---
C10	N	---	N	---	Y	---	Q	---
C11	N	---	Q	---	Y	---	Y	---
C12	N	---	Y	---	Y	---	N	---
C13	N	---	Y	---	Q	---	N	---
C14	N	---	N	---	Q	---	N	---
C15	N	---	N	---	Y	---	Y	---
C16	N	---	N	---	Y	---	N	---
C17	N	---	Q	---	Y	---	Y	---
C18	N	---	Y	---	N	---	---	---
C19	N	---	N	---	Y	---	Y	---
C20	N	---	Q	---	Q	---	Y	---
C21	N	---	Q	---	Y	---	N	---
C22	Q	---	N	---	Q	---	N	---
C23	Q	---	Q	---	N	---	N	---
C24	---	---	---	---	---	---	---	---
C25	N	---	N	---	Y	---	Y	---
C26	---	---	N	---	Y	---	Q	---
C27	---	---	---	---	---	---	---	---
C28	---	---	---	---	---	---	---	---
C29	Y	---	Y	---	Y	---	Q	---
C30	---	---	---	---	---	---	---	---
C31	---	---	N	---	Y	---	N	---
C32	---	---	Q	---	---	---	Y	---
C33	---	---	N	---	---	---	N	---
C34	---	---	---	---	---	---	---	---
C35	---	---	---	---	---	---	---	---
C36	---	---	---	---	---	---	---	---
C37	---	---	---	---	---	---	---	---
C38	---	---	---	---	---	---	---	---
C39	---	---	---	---	---	---	---	---
C40	---	---	---	---	---	---	---	---
C41	---	---	---	---	---	---	---	---
C42	---	---	---	---	---	---	---	---
C43	---	---	---	---	---	---	---	---
C44	---	---	---	---	---	---	---	---
C45	---	---	---	---	---	---	---	---
C46	---	---	---	---	---	---	---	---
C47	---	---	---	---	---	---	---	---
C48	---	---	---	---	---	---	---	---
C49	---	---	---	---	---	---	---	---
C50	---	---	---	---	---	---	---	---
C51	---	---	---	---	---	---	---	---

Table 14.--Overflow occurrence and peak stage elevations in combined sewers for selected storm events in Galesburg--Continued

Site code	September 18, 1985		September 23, 1985		October 1, 1985		October 6, 1985	
	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation
C1	N	---	---	---	---	---	---	---
C2	N	---	---	---	---	---	---	---
C3	N	---	Y	---	N	---	N	---
C4	N	---	Y	---	Y	---	N	---
C5	N	---	Y	---	Y	---	Y	---
C6	N	---	Y	---	N	---	N	---
C7	Q	---	---	---	N	---	---	---
C8	Q	---	---	---	Y	---	---	---
C9	N	---	Q	---	N	---	Y	---
C10	Y	---	Y	---	Y	---	Y	---
C11	Y	---	Y	---	Y	---	Y	---
C12	Q	---	Y	---	N	---	N	---
C13	Y	---	Y	---	Y	---	Y	---
C14	Y	---	N	---	N	---	N	---
C15	Y	---	N	---	N	---	Y	---
C16	Y	---	Y	---	Y	---	Y	---
C17	N	---	Q	---	N	---	N	---
C18	Y	---	Y	---	Y	---	---	---
C19	Y	---	Y	---	Y	---	Y	---
C20	Y	---	Y	---	N	---	Y	---
C21	Y	---	Y	---	Y	---	Y	---
C22	N	---	Q	---	N	---	Y	---
C23	N	---	Y	---	N	---	N	---
C24	N	---	---	---	Y	---	---	---
C25	Y	---	Q	---	Y	---	Y	---
C26	Q	---	Y	---	N	---	Y	---
C27	N	---	---	---	N	---	---	---
C28	Y	---	---	---	Y	---	---	---
C29	Y	---	Y	---	Y	---	Y	---
C30	Q	---	---	---	Y	---	---	---
C31	Y	---	Y	---	N	---	Y	---
C32	N	---	Q	---	N	---	Y	---
C33	N	---	Q	---	N	---	Y	---
C34	---	---	---	---	---	---	---	---
C35	---	---	---	---	---	---	---	---
C36	---	---	---	---	---	---	---	---
C37	N	---	---	---	Y	---	---	---
C38	Y	---	---	---	Y	---	---	---
C39	Q	---	---	---	N	---	---	---
C40	Q	---	---	---	Q	---	---	---
C41	---	---	---	---	---	---	---	---
C42	N	---	---	---	N	---	---	---
C43	Y	---	---	---	Y	---	---	---
C44	Y	---	---	---	Q	---	---	---
C45	---	---	---	---	---	---	---	---
C46	---	---	---	---	---	---	---	---
C47	---	---	---	---	---	---	---	---
C48	---	---	---	---	---	---	---	---
C49	---	---	---	---	---	---	---	---
C50	---	---	---	---	---	---	---	---
C51	---	---	---	---	---	---	---	---

Table 14.--Overflow occurrence and peak stage elevations in combined sewers for selected storm events in Galesburg--Continued

Site code	October 8, 1985		October 10, 1985		October 16, 1985		October 20, 1985	
	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation
C1	Y	---	---	---	N	---	---	---
C2	Y	---	---	---	N	---	---	---
C3	N	---	---	---	---	---	Y	---
C4	N	---	N	---	---	---	Y	---
C5	N	---	N	---	---	---	Y	---
C6	N	---	N	---	---	---	Y	---
C7	Q	---	Y	---	N	---	---	---
C8	Y	---	N	---	Q	---	---	---
C9	N	---	N	---	---	---	Y	---
C10	Y	---	N	---	---	---	Y	---
C11	N	---	N	---	---	---	Y	---
C12	N	---	Q	---	Y	---	Y	---
C13	Y	---	Y	---	---	---	Y	---
C14	N	---	N	---	---	---	Y	---
C15	N	---	N	---	---	---	Y	---
C16	Y	---	Y	---	---	---	Y	---
C17	N	---	N	---	---	---	Y	---
C18	N	---	Y	---	---	---	Y	---
C19	N	---	N	---	---	---	Y	---
C20	N	---	Y	---	---	---	Y	---
C21	Y	---	Y	---	Y	---	Y	---
C22	Y	---	Y	---	---	---	Y	---
C23	N	---	N	---	N	---	Y	---
C24	Y	---	Q	---	N	---	---	---
C25	Y	---	Q	---	Y	---	Y	---
C26	N	---	---	---	---	---	Y	---
C27	Q	---	N	---	Y	---	---	---
C28	Y	---	Y	---	Q	---	---	---
C29	---	---	Y	---	---	---	Y	---
C30	Y	---	N	---	Y	---	---	---
C31	Y	---	Y	---	Y	---	Y	---
C32	---	---	---	---	---	---	Y	---
C33	---	---	---	---	---	---	---	---
C34	---	---	---	---	---	---	---	---
C35	---	---	---	---	---	---	---	---
C36	---	---	---	---	---	---	---	---
C37	N	---	N	---	N	---	---	---
C38	N	---	---	---	N	---	---	---
C39	N	---	N	---	N	---	---	---
C40	Y	---	N	---	N	---	---	---
C41	---	---	---	---	---	---	---	---
C42	Y	---	N	---	N	---	---	---
C43	Y	---	Y	---	Y	---	---	---
C44	Y	---	Q	---	Y	---	---	---
C45	---	---	---	---	---	---	---	---
C46	---	---	---	---	---	---	---	---
C47	---	---	---	---	---	---	---	---
C48	---	---	---	---	---	---	---	---
C49	---	---	---	---	---	---	---	---
C50	---	---	---	---	---	---	---	---
C51	---	---	---	---	---	---	---	---

Table 14.--Overflow occurrence and peak stage elevations in combined sewers for selected storm events in Galesburg--Continued

Site code	October 22, 1985		October 28, 1985		November 5, 1985		November 13, 1985	
	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation
C1	N	---	---	---	N	---	N	---
C2	N	---	---	---	N	---	N	---
C3	N	---	Y	---	N	---	N	---
C4	N	---	N	---	N	---	N	---
C5	N	---	N	---	N	---	N	---
C6	Y	---	Y	---	N	---	Y	---
C7	Y	---	N	---	N	---	Q	---
C8	Y	---	Y	---	N	---	Y	---
C9	N	---	Y	---	Y	---	Y	---
C10	Y	---	Y	---	N	---	Y	---
C11	N	---	Y	---	N	---	Y	---
C12	Y	---	Y	---	Y	---	N	---
C13	N	---	N	---	N	---	Y	---
C14	N	---	Y	---	N	---	Y	---
C15	N	---	Y	---	N	---	Y	---
C16	N	---	Y	---	Y	---	Y	---
C17	N	---	Y	---	N	---	Y	---
C18	N	---	Y	---	N	---	N	---
C19	N	---	N	---	N	---	Y	---
C20	N	---	Y	---	N	---	Y	---
C21	Y	---	Y	---	N	---	Y	---
C22	N	---	Y	---	Y	---	Y	---
C23	Y	---	N	---	N	---	Y	---
C24	Y	---	Y	---	Q	---	Y	---
C25	Y	---	Y	---	Y	---	Y	---
C26	N	---	Y	---	---	---	Y	---
C27	N	---	N	---	Y	---	N	---
C28	Y	---	Y	---	Y	---	Y	---
C29	N	---	Y	---	Y	---	Y	---
C30	Y	---	Y	---	Y	---	Y	---
C31	Y	---	Y	---	Y	---	Y	---
C32	N	---	Y	---	N	---	Y	---
C33	Y	---	Y	---	N	---	Y	---
C34	---	---	---	---	---	---	---	---
C35	---	---	---	---	---	---	---	---
C36	---	---	---	---	---	---	---	---
C37	N	---	N	---	N	---	N	---
C38	N	---	N	---	Y	---	N	---
C39	Q	---	N	---	N	---	N	---
C40	Y	---	N	---	N	---	Q	---
C41	---	---	---	---	N	---	Y	---
C42	N	---	N	---	N	---	N	---
C43	Y	---	Y	---	Y	---	Y	---
C44	Y	---	Y	---	Y	---	Y	---
C45	---	---	---	---	---	---	---	---
C46	---	---	---	---	---	---	---	---
C47	---	---	---	---	---	---	---	---
C48	---	---	---	---	---	---	---	---
C49	---	---	---	---	---	---	---	---
C50	---	---	---	---	---	---	---	---
C51	---	---	---	---	N	---	N	---

Table 14.--Overflow occurrence and peak stage elevations in combined sewers for selected storm events in Galesburg--Continued

Site code	November 19, 1985		May 20, 1986		May 28, 1986		June 5, 1986	
	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation
C1	N	---	N	---	N	---	N	---
C2	N	---	N	---	N	---	N	---
C3	Y	---	Y	---	N	---	N	---
C4	Y	---	Y	---	N	---	N	---
C5	Y	---	Y	---	N	---	Q	---
C6	Y	---	Y	751.65	Q	---	N	---
C7	Y	---	Q	---	N	---	N	---
C8	Y	---	Y	---	Y	---	Q	---
C9	Y	---	Y	750.74	N	---	N	---
C10	Y	---	Y	750.78	N	---	Y	750.55
C11	Y	---	Y	749.04	Y	746.91	N	---
C12	Y	---	Y	748.55	N	---	N	---
C13	Y	---	N	---	N	---	N	---
C14	N	---	Y	747.61	N	---	N	---
C15	Y	---	Y	750.20	N	---	N	---
C16	Y	---	Y	747.57	N	---	Y	747.33
C17	Q	---	Y	751.45	N	---	N	---
C18	Y	---	Y	746.12	N	---	N	---
C19	Q	---	Y	746.21	N	---	Q	---
C20	Y	---	Y	746.76	N	---	Y	746.49
C21	Y	---	Y	746.87	N	---	Y	746.43
C22	Y	---	Y	745.88	N	---	Y	744.87
C23	Y	---	Y	746.20	N	---	N	---
C24	Y	---	Y	746.46	N	---	Y	746.24
C25	Y	---	Y	744.27	Q	---	Q	---
C26	Y	---	Y	---	Y	---	N	---
C27	N	---	N	---	N	---	N	---
C28	Y	---	Y	747.29	N	---	Q	---
C29	Y	---	Y	742.26	N	---	Y	741.86
C30	Y	---	Y	---	N	---	Y	---
C31	Y	---	Y	741.84	N	---	Y	---
C32	Y	---	Y	741.74	N	---	N	---
C33	Y	---	Y	---	N	---	N	---
C34	---	---	---	---	---	---	---	---
C35	---	---	Y	---	N	---	N	---
C36	---	---	Q	---	N	---	N	---
C37	N	---	N	---	N	---	N	---
C38	N	---	---	---	---	---	---	---
C39	N	---	N	---	N	---	Q	---
C40	N	---	N	---	N	---	N	---
C41	Y	---	Y	---	N	---	Y	---
C42	N	---	N	---	N	---	N	---
C43	Y	---	Y	---	N	---	[2]Y	---
C44	Y	---	[2]Y	---	N	---	[2]Y	---
C45	---	---	N	---	N	---	N	---
C46	---	---	Y	---	N	---	N	---
C47	---	---	Y	---	N	---	N	---
C48	---	---	N	---	N	---	N	---
C49	---	---	N	---	N	---	N	---
C50	---	---	N	---	N	---	N	---
C51	N	---	N	---	N	---	N	---

Table 14.--Overflow occurrence and peak stage elevations in combined sewers for selected storm events in Galesburg--Continued

Site code	July 2, 1986		July 10, 1986		July 14, 1986		August 1, 1986	
	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation
C1	Y	---	N	---	N	---	Y	---
C2	Y	---	N	---	N	---	Y	---
C3	Y	---	Y	---	Y	---	Y	---
C4	Y	---	Y	---	Y	---	Y	---
C5	Y	---	N	---	Q	---	Y	---
C6	Y	---	Y	---	Y	751.35	Y	---
C7	Y	752.90	Y	752.31	Y	752.50	Y	---
C8	Y	---	Y	---	Y	---	Y	---
C9	Y	750.88	Q	---	Y	750.66	Y	751.39
C10	Y	750.75	Y	---	Y	750.55	Y	751.71
C11	Y	749.09	Y	748.98	Y	749.23	Y	750.21
C12	Y	---	Q	---	Q	---	Y	748.43
C13	N	---	Y	749.52	Y	749.54	Y	749.66
C14	Y	747.91	Q	---	Y	748.00	Y	749.18
C15	Y	749.92	Y	750.01	Y	750.38	Y	753.13
C16	Y	747.58	Y	747.49	Y	747.60	Y	748.37
C17	Y	751.50	Y	---	Y	---	Y	751.74
C18	Y	---	Q	---	Y	---	Y	746.31
C19	Y	747.22	Y	745.81	Y	746.22	Y	746.22
C20	Y	746.98	Y	746.74	Y	747.03	Y	748.06
C21	Y	747.05	Y	---	Y	---	Y	747.49
C22	Y	---	Q	---	Q	---	Y	746.79
C23	Y	---	N	---	Y	745.46	Y	>747.43
C24	Y	746.43	Q	746.26	Y	746.43	Y	746.31
C25	Y	743.85	Y	---	Q	---	Y	---
C26	Y	---	Y	---	Y	---	Y	---
C27	Q	---	Q	---	Y	---	Q	---
C28	Y	747.38	Y	747.59	Y	748.52	Y	748.63
C29	Y	741.94	Y	741.92	Y	741.99	Y	>743.55
C30	N	---	Y	---	Y	---	Y	---
C31	Y	---	Y	---	Y	742.36	Y	>743.87
C32	Q	---	Y	---	Y	741.71	Y	>744.03
C33	Y	---	---	---	Y	---	Y	---
C34	---	---	---	---	---	---	---	---
C35	Y	---	---	---	Y	---	Y	---
C36	Q	---	---	---	Y	---	Y	---
C37	Q	---	N	---	N	---	Y	---
C38	---	---	---	---	---	---	---	---
C39	Q	---	Y	---	Y	---	Y	---
C40	Y	---	Y	---	Y	---	Y	---
C41	Q	---	---	---	Y	---	Y	---
C42	Q	---	N	---	N	---	Q	---
C43	[2]Y	---	Y	---	[2]Y	---	[2]Y	---
C44	[2]Y	---	Y	---	[2]Y	---	[2]Y	---
C45	N	---	N	---	N	---	Y	---
C46	Y	---	N	---	N	---	Y	---
C47	Y	---	---	---	Y	---	Y	---
C48	Q	---	---	---	N	---	Y	---
C49	Q	---	---	---	N	---	Y	---
C50	N	---	---	---	N	---	Y	---
C51	N	---	N	---	N	---	Y	---

Table 14.--Overflow occurrence and peak stage elevations in combined sewers for selected storm events in Galesburg--Continued

Site code	August 6, 1986		August 8, 1986		August 12, 1986		August 18, 1986	
	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation
C1	Q	---	Q	---	N	---	Q	---
C2	Q	---	Q	---	N	---	Q	---
C3	Y	---	Y	---	N	---	N	---
C4	N	---	Y	---	N	---	N	---
C5	N	---	Q	---	N	---	N	---
C6	N	---	Y	---	N	---	N	---
C7	N	---	Y	752.68	N	---	N	---
C8	N	---	Y	---	N	---	N	---
C9	N	---	Y	---	N	---	N	---
C10	N	---	Y	750.97	N	---	N	---
C11	Y	749.08	Y	749.18	Y	749.18	Y	---
C12	Q	---	Y	748.97	N	---	N	---
C13	N	---	Y	749.51	N	---	N	---
C14	N	---	Y	748.04	N	---	N	---
C15	N	---	Y	---	N	---	N	---
C16	Y	747.28	Y	747.66	N	---	N	---
C17	N	---	Y	---	N	---	N	---
C18	N	---	Y	745.99	N	---	N	---
C19	N	---	Y	---	N	---	N	---
C20	Y	746.36	Y	747.16	N	---	N	---
C21	Y	---	Y	746.86	N	---	N	---
C22	Q	---	Y	745.71	N	---	N	---
C23	N	---	Y	745.93	N	---	N	---
C24	Y	746.36	Y	---	N	---	N	---
C25	Y	---	Y	744.11	N	---	N	---
C26	N	---	Y	---	N	---	N	---
C27	N	---	Y	---	N	---	N	---
C28	Y	---	Y	747.35	N	---	N	---
C29	N	---	Y	741.82	N	---	N	---
C30	Y	---	Y	---	N	---	N	---
C31	Y	741.87	Y	742.23	N	---	Y	---
C32	Y	741.67	Y	741.83	N	---	N	---
C33	Q	---	Y	---	N	---	N	---
C34	---	---	---	---	---	---	---	---
C35	Y	---	---	---	[3]Y	---	Y	---
C36	Y	---	---	---	N	---	N	---
C37	N	---	---	---	N	---	N	---
C38	---	---	---	---	---	---	---	---
C39	N	---	---	---	N	---	N	---
C40	Y	---	---	---	N	---	N	---
C41	Y	---	---	---	[3]Y	---	N	---
C42	N	---	---	---	N	---	N	---
C43	N	---	---	---	N	---	N	---
C44	Q	---	---	---	N	---	N	---
C45	N	---	N	---	N	---	N	---
C46	N	---	N	---	N	---	N	---
C47	Y	---	---	---	[3]Y	---	Y	---
C48	---	---	---	---	N	---	N	---
C49	N	---	---	---	N	---	N	---
C50	N	---	---	---	N	---	N	---
C51	N	---	N	---	N	---	N	---

Table 14.--Overflow occurrence and peak stage elevations in combined sewers for selected storm events in Galesburg--Continued

Site code	August 27, 1986		September 12, 1986		September 25, 1986		October 1, 1986	
	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation
C1	N	---	Y	---	Y	---	N	---
C2	Q	---	Y	---	Y	---	N	---
C3	N	---	N	---	Y	---	Y	---
C4	N	---	N	---	Y	---	Y	---
C5	N	---	N	---	Y	---	Y	---
C6	N	---	Y	---	Y	753.51	Y	751.99
C7	N	---	Y	752.32	Y	756.23	Y	752.45
C8	Y	---	Y	---	Y	---	Y	---
C9	N	---	Y	---	Y	751.30	Y	750.93
C10	N	---	Y	750.85	Y	751.63	Y	751.18
C11	N	---	Y	749.19	Y	749.43	Y	749.09
C12	N	---	Y	748.83	Y	748.60	Y	748.72
C13	N	---	N	---	Y	749.69	Y	---
C14	N	---	Y	---	Y	748.48	Y	747.91
C15	N	---	Y	750.01	Y	752.06	Y	750.02
C16	Y	---	Y	747.54	Y	---	Y	748.57
C17	N	---	Y	751.44	Y	751.64	Y	751.45
C18	N	---	Y	---	Y	746.41	Q	---
C19	N	---	Y	745.70	Y	>751.00	Y	>746.20
C20	Y	746.56	Y	746.89	Y	748.19	Y	>746.75
C21	Y	---	Y	746.84	Y	747.55	Y	746.80
C22	Y	744.91	Y	---	Y	747.09	Y	745.31
C23	N	---	N	---	Y	>748.43	Y	>747.44
C24	Y	---	Y	746.39	Y	746.44	Y	746.45
C25	Y	743.72	Y	743.95	Y	744.22	Y	743.98
C26	N	---	Y	---	Y	---	Y	---
C27	N	---	Q	---	Y	---	Y	---
C28	Y	---	Y	747.35	Y	747.67	Y	747.29
C29	N	---	Y	---	Y	742.49	Y	>742.02
C30	Q	---	Y	---	Y	---	Y	---
C31	Y	741.47	Y	741.92	Y	---	Y	>741.98
C32	N	---	Y	---	Y	742.55	Y	741.85
C33	N	---	Y	---	Y	---	Y	---
C34	---	---	---	---	---	---	---	---
C35	N	---	Y	---	Y	---	Y	---
C36	N	---	Y	---	Y	---	Y	---
C37	N	---	N	---	Y	---	Y	---
C38	---	---	---	---	---	---	---	---
C39	N	---	N	---	Q	---	Q	---
C40	N	---	Y	---	Y	---	Q	---
C41	Y	---	Q	---	Y	---	Y	---
C42	N	---	N	---	N	---	N	---
C43	Q	---	Y	---	[2]Y	---	[2]Y	---
C44	Y	---	[2]Y	---	[2]Y	---	[2]Y	---
C45	N	---	N	---	N	---	N	---
C46	N	---	N	---	Y	---	Y	---
C47	N	---	N	---	Y	---	Y	---
C48	N	---	N	---	Y	---	Y	---
C49	N	---	N	---	Y	---	Y	---
C50	N	---	N	---	N	---	N	---
C51	N	---	N	---	Y	---	Y	---

Table 14.--Overflow occurrence and peak stage elevations in combined sewers for selected storm events in Galesburg--Continued

Site code	October 8, 1986		October 15, 1986		October 29, 1986	
	Flow[1]	Elevation	Flow[1]	Elevation	Flow[1]	Elevation
C1	Q	---	N	---	N	---
C2	Q	---	N	---	N	---
C3	Y	---	N	---	N	---
C4	Y	---	N	---	N	---
C5	Y	---	N	---	N	---
C6	Y	752.69	N	---	N	---
C7	Y	752.63	N	---	N	---
C8	Y	---	N	---	N	---
C9	Y	751.06	N	---	N	---
C10	Y	750.93	N	---	N	---
C11	Y	749.17	N	---	N	---
C12	Y	748.85	N	---	N	---
C13	Y	749.72	N	---	N	---
C14	Y	747.97	N	---	N	---
C15	Y	750.16	N	---	N	---
C16	Y	747.55	N	---	Y	747.55
C17	Y	751.42	N	---	N	---
C18	Y	746.17	N	---	N	---
C19	Y	746.44	N	---	N	---
C20	Y	746.96	N	---	N	---
C21	Y	746.85	N	---	N	---
C22	Y	---	Q	---	N	---
C23	Y	>747.44	N	---	N	---
C24	Y	746.49	N	---	N	---
C25	Y	744.17	N	---	N	---
C26	Y	---	N	---	N	---
C27	Y	---	N	---	N	---
C28	Y	747.41	Y	746.91	N	---
C29	Y	742.16	N	---	N	---
C30	Y	---	N	---	N	---
C31	Y	742.31	N	---	N	---
C32	Y	741.93	N	---	N	---
C33	Y	---	N	---	N	---
C34	---	---	---	---	---	---
C35	Y	---	N	---	Y	---
C36	Y	---	N	---	N	---
C37	N	---	N	---	N	---
C38	---	---	---	---	---	---
C39	Q	---	N	---	N	---
C40	N	---	N	---	N	---
C41	Y	---	N	---	N	---
C42	N	---	N	---	N	---
C43	[2]Y	---	N	---	N	---
C44	[2]Y	---	N	---	Q	---
C45	N	---	N	---	N	---
C46	Y	---	N	---	N	---
C47	Y	---	N	---	N	---
C48	Y	---	N	---	N	---
C49	Y	---	N	---	N	---
C50	Y	---	N	---	N	---
C51	Y	---	N	---	N	---

[1] Explanation of symbols used to describe flow:
N - no flow; Y - flow occurred; Q - questionable flow
[2] Indicates a possible backwater condition.
[3] Indicates flow occurred during previous storm event.

Table 15.--Constituent concentrations determined from samples collected routinely during storm events between May and September 1986

[Site codes correspond to those in figures 3 and 5-8 and tables 1 and 2 of this report; mg/L, milligrams per liter; deg. C, degrees Celsius; µS/cm, microsiemens per centimeter at 25°C; <, less than; dashes indicate no data. Footnotes are at end of table.]

Site code	Date (month-day-year)	Time (hours)	Specific conductance (µS/cm)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, ammonia + organic total (mg/L as N)	Phosphorus, total (mg/L as P)	Solids, residue at 105 deg. C suspended (mg/L)	Solids, volatile, suspended (mg/L)	Carbon, organic total (mg/L as C)
1	05-17-86	[1]1200	470	1.50	2.20	22	6.90	600	130	71
	05-17-86	[1]1355	400	.41	8.70	5.2	1.20	950	185	--
	05-17-86	[1]1525	460	.23	9.40	4.7	.93	685	120	13
	05-17-86	[1]1645	450	.23	5.70	6.7	1.20	1,420	150	10
	05-17-86	[1]1805	440	.17	6.70	3.8	.89	910	125	11
	05-17-86	[1]1925	460	.15	6.70	4.7	.90	1,070	130	11
	05-19-86	1045	660	<.10	12.0	1.5	.20	82	10	2.8
	05-19-86	2235	670	<.10	.12	1.1	.17	70	9	3.0
	05-20-86	1315	690	<.10	12.0	.6	.14	57	5	3.5
	05-21-86	1430	700	<.10	12.0	.4	.11	61	5	2.8
	07-08-86	2240	260	<.10	2.70	2.5	.41	566	56	8.2
	07-31-86	0150	150	.25	1.10	3.2	.72	1,020	204	9.0
	07-31-86	0220	220	.24	1.70	3.8	1.10	1,150	165	13
	07-31-86	0325	90	.29	.67	3.2	.73	652	64	7.1
	07-31-86	0340	120	.27	.93	2.1	.69	596	88	7.7
	07-31-86	0400	140	.41	1.40	5.0	2.00	1,160	210	16
	07-31-86	0420	190	.37	1.60	4.5	1.60	1,080	180	--
	07-31-86	1237	490	.15	2.80	1.6	.73	174	40	11
	08-01-86	0040	710	<.10	4.90	<.1	.21	206	30	7.3
	08-01-86	1240	750	<.10	5.30	.6	.16	63	11	4.2
	08-02-86	0040	760	<.10	6.20	3.1	.59	169	30	3.7
	08-02-86	1240	790	<.10	6.10	1.0	.18	43	12	3.7
	08-03-86	0040	800	<.10	6.30	1.6	.26	56	12	4.3
	08-03-86	1240	810	<.10	6.30	.7	.12	27	6	2.4
	08-04-86	0040	550	<.10	3.30	1.2	.31	165	27	6.9
	08-04-86	1240	820	<.10	6.40	1.0	.17	117	20	2.9
	09-11-86	0450	130	.10	.45	1.3	.46	556	62	7.2
	09-11-86	1215	480	.12	1.20	1.6	.56	324	54	12
	09-12-86	0815	800	<.10	2.20	1.0	.28	197	31	3.9
8	05-16-86	[1]1140	600	.10	1.80	1.6	.14	62	16	6.3

	05-16-86	2245	510	.11	1.60	1.7	.30	202	33	9.5
	05-16-86	2315	680	.25	1.90	1.9	.41	303	50	5.7
	05-16-86	2335	690	.27	2.00	1.8	.34	213	43	6.1
	05-16-86	2355	670	.26	2.00	1.9	.29	157	38	6.9
	05-17-86	0015	630	.30	2.10	1.9	.27	130	33	8.2
	05-17-86	0035	560	.26	2.00	2.0	.25	108	27	8.8
	05-20-86	1745	750	.16	7.70	.7	.12	19	3	3.2
	05-21-86	1405	780	.10	7.70	.5	.10	13	2	3.8
	07-31-86	[1]0215	240	.15	.65	4.6	1.50	2,750	300	17
	07-31-86	[1]0245	350	.20	.59	7.5	2.20	3,380	430	26
	07-31-86	[1]0305	270	.24	.66	8.2	2.30	4,090	540	32
	07-31-86	[1]0325	180	.36	.69	6.6	1.40	1,730	270	18
	07-31-86	[1]0345	140	.24	.68	4.5	.98	888	120	13
	07-31-86	[1]0405	130	.18	.68	3.5	.89	884	132	11
	07-31-86	2000	690	.23	3.00	1.2	.36	83	18	6.7
	08-01-86	0826	760	.22	2.60	1.1	.16	8	4	4.0
	08-01-86	2026	790	.53	2.60	1.1	.15	14	6	5.1
	08-02-86	0826	840	.26	2.40	.9	.14	5	3	4.2
	08-02-86	2026	860	.28	3.80	.9	.13	5	4	4.6
	08-03-86	0826	860	.19	2.20	.8	.13	4	2	4.3
	08-03-86	2026	740	.15	3.10	1.1	.18	86	16	4.8
	08-04-86	0826	890	.21	2.10	.7	.12	15	4	4.1
	08-26-86	1721	340	.13	.88	1.0	.26	16	6	14
	08-27-86	1415	--	.29	.59	.8	1.70	8	4	3.3
	09-11-86	1250	230	.11	1.10	.9	.28	56	16	10
	09-11-86	1700	260	<.10	.88	1.5	.45	337	47	7.9
	09-12-86	0100	330	<.10	.71	1.5	.28	74	12	8.6
	09-12-86	0900	310	<.10	.58	1.0	.27	48	8	9.1
	09-13-86	0447	760	.23	.58	.7	.15	16	4	4.2
11	05-17-86	0405	750	.54	6.10	6.4	3.80	954	142	10
	05-17-86	0420	740	.82	4.30	6.4	3.60	1,580	240	10
	05-17-86	0440	560	1.10	3.10	11	5.60	2,130	256	12
	05-17-86	0500	400	1.10	1.70	10	3.80	2,410	340	15
	05-17-86	0520	330	.96	1.50	7.6	2.90	1,490	236	9.7
	05-17-86	0540	300	.85	1.60	7.3	2.50	1,150	200	9.9
	05-19-86	1145	720	.22	8.50	1.4	.74	62	9	5.7
	05-19-86	2400	760	.43	8.10	2.1	1.10	97	20	7.8
	05-20-86	1200	770	.54	8.10	1.5	1.00	38	7	6.4
	05-21-86	1350	830	.54	7.70	2.5	1.40	27	7	8.4
	07-07-86	2015	860	.52	9.00	4.8	4.20	484	50	17
	07-07-86	2045	880	.56	9.40	5.3	4.80	708	80	19
	07-09-86	0040	820	.45	9.00	5.3	3.50	772	72	13
	07-09-86	0055	800	.63	8.50	6.4	3.90	1,340	132	14
	07-09-86	0115	690	.51	6.60	7.1	3.40	1,060	120	15
	07-09-86	0135	500	.50	3.70	5.7	2.30	1,140	140	18

Table 15.--Constituent concentrations determined from samples collected routinely during storm events between May and September 1986--Continued

Site code	Date (month-day-year)	Time (hours)	Specific conductance (µS/cm)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, ammonia + organic total (mg/L as N)	Phosphorus, total (mg/L as P)	Solids, residue at 105 deg. C suspended (mg/L)	Solids, volatile, suspended (mg/L)	Carbon, organic total (mg/L as C)
11	07-09-86	0155	380	0.46	2.40	4.3	1.60	778	98	15
(Cont.)	07-09-86	0215	310	.42	2.00	4.0	1.30	592	72	12
	07-31-86	0300	670	.36	3.30	5.2	2.90	131	16	17
	07-31-86	0325	540	.37	2.60	7.1	3.60	206	27	22
	07-31-86	0335	530	.49	2.40	9.1	5.00	5,120	500	26
	07-31-86	0345	560	.52	2.60	8.6	5.10	2,300	230	26
	07-31-86	0355	510	.49	2.30	8.1	3.70	2,860	330	32
	07-31-86	0415	340	.47	1.50	10	3.00	4,420	470	33
	07-31-86	1705	400	.37	3.30	1.9	.58	100	18	8.6
	08-01-86	0520	730	.80	5.00	2.1	.77	23	8	7.9
	08-01-86	1720	700	.34	5.00	1.6	.93	16	6	7.4
	08-02-86	0520	800	.36	6.10	1.6	1.10	10	4	7.5
	08-02-86	1720	800	.31	6.40	1.8	1.40	23	8	8.4
	08-03-86	0520	840	.43	6.60	2.3	1.60	14	5	8.6
	08-03-86	1720	600	.40	4.10	1.9	.74	282	47	8.4
	08-04-86	0520	830	.28	6.80	1.8	1.60	36	9	7.8
	08-26-86	[1]0500	850	.24	5.20	2.9	3.60	306	45	14
	08-26-86	[1]0530	840	.32	5.00	3.4	3.80	359	53	12
	08-26-86	[1]0600	750	.29	3.70	2.2	2.60	237	40	10
	08-26-86	[1]0630	740	.23	3.20	2.0	2.20	210	30	9.5
	08-26-86	[1]0700	740	.23	3.00	2.1	1.90	111	17	11
	08-26-86	[1]0730	680	.31	3.00	2.5	1.80	97	19	13
	08-26-86	1405	520	.28	2.60	2.1	1.70	43	12	16
	08-27-86	1355	--	.52	4.40	2.3	2.90	17	6	10
	09-11-86	1538	410	.63	2.10	2.1	1.20	404	60	14
	09-12-86	[1]0420	510	.64	2.30	2.2	1.40	43	7	11
	09-12-86	1620	690	.77	5.70	3.2	2.70	9	2	12
	09-13-86	0930	870	.70	7.60	2.9	3.00	9	3	12
14	05-17-86	0715	780	.24	8.30	4.0	2.70	350	50	11
	05-17-86	0800	780	.26	9.20	3.8	3.00	524	72	8.8
	05-17-86	0830	780	.27	9.20	4.7	3.20	734	90	10
	05-17-86	0900	770	.34	9.00	5.4	3.50	1,920	228	10
	05-17-86	0930	740	.78	8.40	9.8	4.00	1,180	148	15
	05-17-86	1000	720	.66	7.00	8.3	4.10	1,750	180	9.9
	05-19-86	1755	680	.18	11.0	1.6	.56	158	18	4.0

	05-20-86	0600	720	.30	11.0	1.6	.69	111	13	6.1
	05-21-86	1335	750	.36	11.0	1.8	.72	76	8	6.3
	07-08-86	0130	830	.19	8.80	2.9	2.60	460	40	11
	07-08-86	0215	830	.25	8.80	2.9	2.70	680	80	11
	07-08-86	0245	820	.30	8.50	3.1	2.70	592	48	10
	07-08-86	0315	820	3.33	7.90	3.2	2.70	564	52	13
	07-08-86	0345	820	.76	8.40	4.4	2.90	432	40	11
	07-08-86	0415	820	.59	8.50	4.0	3.00	80	10	12
	07-09-86	0445	620	.27	5.70	2.8	2.10	285	28	10
	07-09-86	0530	660	.29	6.50	3.8	2.50	504	64	11
	07-09-86	0600	660	.34	6.50	4.4	2.70	900	92	12
	07-09-86	0630	690	.33	6.90	4.2	2.80	--	--	14
	07-09-86	0700	750	.59	7.90	6.3	3.20	1,010	120	17
	07-09-86	0730	750	.47	7.70	5.4	3.00	1,290	180	17
	07-31-86	0230	530	.18	3.40	5.7	2.50	1,690	185	25
	07-31-86	0300	610	.24	4.20	5.9	3.10	24	6	24
	07-31-86	0330	340	.30	2.20	12	3.10	3,130	325	48
	07-31-86	0345	400	.23	2.50	10	2.90	2,150	235	39
	07-31-86	0415	370	.22	2.10	9.6	3.10	2,980	280	40
	07-31-86	0445	260	.25	1.40	12	3.20	2,540	295	48
	07-31-86	1430	140	.49	1.20	3.5	1.00	615	90	19
	08-01-86	0238	670	.28	6.00	1.6	.69	116	16	7.2
	08-01-86	[1]1438	750	.26	7.20	1.5	.87	40	8	5.4
	08-03-86	[1]0238	780	.20	7.40	1.3	.94	122	21	5.5
	08-03-86	[1]1438	370	.22	3.20	1.8	.56	151	23	9.4
	08-04-86	[1]0238	780	.28	7.40	1.8	.94	65	11	54
	08-26-86	1234	800	.11	8.00	3.2	2.70	30	6	14
	08-27-86	1335	--	.49	3.60	1.5	1.60	21	5	7.5
	09-11-86	1215	860	1.20	6.70	3.4	4.00	580	56	13
	09-11-86	1245	800	1.00	6.50	3.0	3.80	748	80	14
	09-11-86	1315	850	.95	6.90	3.6	3.90	672	72	14
	09-11-86	1345	880	.90	6.90	4.3	3.80	640	68	14
	09-11-86	1415	860	1.00	6.40	4.1	3.50	680	76	15
	09-11-86	1445	670	.83	3.80	3.9	2.40	478	60	13
	09-11-86	1726	380	.58	2.00	1.7	1.40	384	62	9.8
	09-11-86	2335	410	.32	2.00	2.1	1.20	40	6	8.1
	09-12-86	0535	500	.61	3.00	2.2	1.40	100	16	8.8
	09-12-86	2335	520	.44	2.40	1.7	1.20	20	3	8.2
	09-13-86	0400	630	.48	3.50	1.8	1.60	36	7	8.4
18	05-17-86	1045	680	.46	5.60	10	4.40	3,200	280	21
	05-17-86	1130	650	.52	5.30	11	3.80	3,230	300	14
	05-17-86	1215	590	.55	5.60	8.5	3.40	2,180	200	19
	05-17-86	1245	570	.48	5.40	8.6	3.20	2,350	200	21
	05-17-86	1315	530	.61	5.10	11	4.20	3,370	300	12
	05-17-86	1345	540	.46	5.00	9.8	4.00	3,700	320	22

Table 15.--Constituent concentrations determined from samples collected routinely during storm events between May and September 1986--Continued

Site code	Date (month-day-year)	Time (hours)	Specific conductance (µS/cm)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, ammonia + organic total (mg/L as N)	Phosphorus, total (mg/L as P)	Solids, residue at 105 deg. C suspended (mg/L)	Solids, volatile, suspended (mg/L)	Carbon, organic total (mg/L as C)
18 (Cont.)	05-19-86	1615	640	0.22	9.80	2.8	1.10	137	9	8.1
	05-20-86	0425	680	.20	11.0	1.6	.76	852	56	5.9
	05-21-86	1320	730	.30	9.90	3.1	1.00	792	42	6.6
	07-08-86	0715	780	.14	8.60	2.7	1.90	424	40	11
	07-08-86	0800	790	.13	8.50	2.6	2.00	390	26	10
	07-08-86	0845	800	.15	8.90	2.8	2.20	488	40	11
	07-08-86	0915	810	.12	8.30	2.8	2.10	532	60	9.0
	07-08-86	0945	820	.14	9.00	3.0	2.20	468	60	11
	07-08-86	1015	830	.15	8.70	3.3	2.20	520	48	11
	07-08-86	1115	830	.11	8.90	3.4	2.30	460	80	9.2
	07-08-86	1200	820	.12	8.80	3.3	2.30	452	72	8.5
	07-08-86	1245	820	.13	8.60	3.1	2.20	312	60	7.1
	07-08-86	1330	810	.31	8.70	2.8	2.20	328	60	6.7
	07-09-86	0415	470	.17	5.00	3.3	2.80	468	72	10
	07-09-86	0500	460	.12	4.00	3.3	1.30	300	48	9.7
	07-31-86	0130	380	.65	1.40	19	5.60	6,690	630	96
	07-31-86	0145	310	.88	1.20	8.6	4.00	7,180	670	72
	07-31-86	[1]0200	270	.56	1.50	10	3.20	4,510	420	40
	07-31-86	[1]0230	310	.11	1.50	5.4	2.20	3,910	390	37
	07-31-86	[1]0300	290	.16	1.50	9.6	2.90	5,020	500	38
	07-31-86	[1]0330	240	.23	1.20	6.3	2.80	4,410	370	38
	07-31-86	1245	180	.31	1.30	5.8	1.70	2,050	250	26
	08-01-86	0100	530	.21	4.60	2.1	.68	414	54	8.5
	08-01-86	1300	630	.31	5.50	2.0	.62	222	40	7.2
	08-02-86	0100	660	.18	5.80	1.8	.62	165	27	6.1
	08-02-86	1300	690	.19	6.50	1.5	.55	86	12	7.1
	08-03-86	0100	720	.13	6.50	1.3	.64	120	20	4.7
	08-03-86	1300	730	.16	6.70	1.5	.72	57	8	4.9
	08-04-86	0100	160	.20	1.20	2.6	.86	592	62	13
	08-04-86	1300	720	.10	6.80	1.3	.72	95	14	5.3
	08-26-86	1156	760	<.10	7.90	2.7	2.00	103	13	8.3
	08-27-86	1310	--	<.10	3.60	1.2	1.70	89	15	5.5
	09-11-86	[1]0930	960	.42	3.00	2.9	3.00	70	17	17
	09-11-86	[1]1030	950	.51	3.00	2.4	3.00	18	5	13
	09-11-86	[1]1130	950	.42	5.20	2.5	2.60	16	4	11

	09-11-86	[1]1230	940	.44	5.20	2.5	2.70	26	5	10
	09-11-86	[1]1330	930	.96	5.40	2.4	2.90	42	7	10
	09-11-86	1845	610	.36	3.70	3.6	2.50	1,930	200	19
	09-12-86	0045	400	.39	2.00	2.3	1.40	316	29	10
	09-12-86	0645	430	.30	2.00	2.1	1.30	174	18	9.0
	09-12-86	1245	440	.23	2.10	1.6	1.10	115	14	7.7
	09-13-86	0300	530	.22	2.50	1.5	1.10	83	10	7.6
21	07-09-86	0115	650	.11	4.40	2.5	.72	460	68	11
	07-09-86	0130	490	<.10	4.20	3.0	.87	872	112	12
	07-09-86	0200	720	3.50	16.0	8.1	2.00	812	112	16
	07-09-86	0230	430	.53	4.60	3.8	1.00	508	64	14
	07-09-86	0300	380	.38	2.90	2.4	.78	500	60	11
	07-09-86	0330	390	.30	4.50	2.2	.60	288	40	8.6
	07-09-86	1015	580	.19	4.20	1.6	.37	288	36	6.4
	08-26-86	1658	570	<.10	3.40	.7	.16	10	3	5.8
	09-11-86	[1]0715	870	<.10	2.00	1.8	.82	648	54	12
	09-11-86	[1]0745	850	<.10	2.20	1.9	.68	432	54	16
	09-11-86	[1]0815	610	<.10	1.70	2.1	.72	506	64	14
	09-11-86	[1]0845	450	<.10	1.30	1.0	.71	534	68	13
	09-11-86	[1]0915	530	.22	1.40	1.7	.60	462	60	12
	09-11-86	[1]0945	390	.22	1.00	1.8	.57	288	38	10
	09-11-86	1359	440	<.10	<1.00	1.0	.29	90	16	7.5
23	05-17-86	[1]0600	480	.25	5.20	6.1	1.60	970	150	11
	05-17-86	[1]0630	560	.20	5.80	5.2	1.10	1,200	170	12
	05-17-86	[1]0700	560	.46	6.00	7.1	1.60	1,480	190	16
	05-17-86	[1]0730	620	.44	6.10	5.9	1.30	1,720	200	12
	05-17-86	[1]0800	680	.31	5.80	3.6	.82	1,060	100	8.1
	05-17-86	[1]0830	720	.19	5.70	3.9	.89	860	92	7.6
	08-26-86	1256	560	.30	4.00	1.1	.23	13	2	5.5
	09-11-86	1625	630	<.10	3.20	1.2	.31	53	12	9.0
24	05-17-86	[1]1300	240	1.20	1.60	33	9.40	2,750	370	58
	05-17-86	[1]1330	280	.92	3.80	10	5.30	4,840	560	--
	05-17-86	[1]1400	230	.97	3.10	20	5.70	1,990	190	53
	05-17-86	[1]1430	140	.58	2.20	14	3.70	2,220	270	100
	05-17-86	[1]1500	160	.73	2.50	18	4.00	2,330	330	100
	05-17-86	[1]1530	160	.96	3.20	14	3.50	4,550	500	81
	07-31-86	0130	280	.16	3.80	10	1.70	1,940	235	32
	07-31-86	0200	220	.71	3.00	25	4.60	3,470	420	96
	07-31-86	0230	190	.64	2.20	19	3.20	8,570	720	73
	07-31-86	0300	180	.50	1.70	16	2.90	1,880	230	56
	07-31-86	0330	170	.54	2.20	15	3.10	2,610	250	53
	07-31-86	0400	150	.36	1.40	13	2.50	1,280	150	54
	08-16-86	[1]1545	620	<.10	13.0	.6	.18	120	19	2.0
	08-16-86	[1]1615	620	<.10	13.0	.6	.15	85	14	2.0
	08-16-86	[1]1630	620	<.10	13.0	.8	.18	91	15	1.9

Table 15.--Constituent concentrations determined from samples collected routinely during storm events between May and September 1986--Continued

Site code	Date (month-day-year)	Time (hours)	Specific conductance (µS/cm)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, ammonia + organic total (mg/L as N)	Phosphorus, total (mg/L as P)	Solids, residue at 105 deg. C suspended (mg/L)	Solids, volatile, suspended (mg/L)	Carbon, organic total (mg/L as C)
24	08-24-86	[1]1530	620	<0.10	13.0	0.3	0.18	91	16	2.8
(Cont.)	08-24-86	[1]1545	620	<.10	13.0	.4	.16	92	15	1.7
	08-25-86	[1]1200	620	<.10	13.0	1.0	.23	176	27	2.0
	08-26-86	1405	620	<.10	13.0	.7	.19	43	6	5.4
WWTF	07-07-86	2000	820	<.10	9.74	2.3	4.10	27	13	16
	07-07-86	2030	790	<.10	10.0	2.0	4.10	16	10	17
	07-07-86	2100	820	<.10	10.0	1.6	10.0	15	11	12
	07-07-86	2130	870	<.10	11.0	2.0	4.20	11	7	11
	07-07-86	2200	940	.19	11.0	2.4	4.10	14	9	13
	07-07-86	2230	950	<.10	11.0	4.8	4.20	18	10	11
	07-08-86	[1]2330	1,040	.61	14.0	4.1	4.50	13	9	12
	07-09-86	[1]0000	1,050	.47	14.0	4.1	4.50	10	6	13
	07-09-86	[1]0030	1,010	.47	14.0	3.6	4.60	13	9	16
	07-09-86	[1]0100	1,020	.49	14.0	4.1	4.60	11	8	14
	07-09-86	[1]0130	1,000	.47	14.0	2.4	4.80	10	6	13
	07-09-86	[1]0200	950	.45	13.0	2.3	4.80	15	11	14
	09-11-86	1200	660	2.00	4.30	6.6	3.60	78*	51	22
	09-11-86	1600	750	2.30	5.80	5.6	3.60	17	7	20
	09-11-86	2000	750	2.10	4.90	5.1	3.50	18	8	19
	09-11-86	2400	740	1.60	7.00	4.6	3.30	16	8	17
	09-12-86	0400	770	2.30	6.40	4.9	3.70	9	5	18
	09-12-86	0800	770	1.50	7.00	4.6	3.90	9	5	17
	09-12-86	1200	760	1.00	8.90	3.9	4.00	9	4	15
C6	05-17-86	[1]0300	340	6.20	.11	20	5.20	900*	310	41
	05-17-86	[1]0315	310	5.80	.10	32	6.40	1,670*	660	33
	05-17-86	[1]0330	320	5.00	.10	33	6.70	1,340*	500	52
	05-17-86	[1]0345	330	4.30	.10	23	5.40	1,350*	500	32
	05-17-86	[1]0400	350	3.60	.14	12	2.80	226*	90	24
	05-17-86	[1]0415	380	3.90	.18	9.3	2.00	102*	54	20
	07-31-86	0150	520	6.80	1.10	48	7.30	2,380*	850	160
	07-31-86	0205	300	2.50	<.10	28	3.80	1,360*	490	70
	07-31-86	[1]0220	320	3.50	<.10	29	5.40	1,640*	700	91
	07-31-86	[1]0235	360	5.10	<.10	41	5.80	1,890*	860	91
	07-31-86	[1]0250	270	.80	<.10	38	5.40	1,740*	700	98
	07-31-86	[1]0305	230	2.80	<.10	27	4.90	1,290*	450	54

C9	[2]07-31-86	[1]0200	600	.69	2.50	5.6	.84	360*	130	26
C16	[2]07-08-86	[1]2300	--	.14	.11	31	5.30	--	--	63
	[2]09-11-86	[1]0600	270	3.10	.35	14	2.80	1,330*	440	46
C20	[2]05-17-86	[1]0200	140	.48	.64	1.4	.14	584*	108	6.6
	[2]07-08-86	[1]2300	110	.37	.32	1.4	.18	170*	44	8.9
	[2]07-31-86	[1]0200	260	.96	.37	8.6	1.30	312*	108	16
C22	05-17-86	0214	130	<.10	.44	1.4	.34	342*	76	11
	05-17-86	0229	130	<.10	.27	1.6	.32	400*	114	5.7
	07-08-86	[1]0015	140	.37	.21	4.8	.82	620*	100	35
	07-08-86	[1]0030	150	.20	.51	3.0	.81	202*	32	17
	07-08-86	[1]2300	110	<.10	.41	3.1	.54	422*	62	14
	07-08-86	[1]2315	90	<.10	.48	1.7	.23	71	12	7.7
	07-08-86	[1]2330	120	.37	.23	8.5	1.30	390*	196	46
	07-08-86	[1]2345	130	.20	.41	2.7	.37	76*	32	8.3
	07-08-86	[1]2400	90	<.10	.37	1.4	.11	26	5	4.6
	07-09-86	[1]0015	100	<.10	.38	1.4	.11	20	5	3.6
	07-31-86	[1]0115	140	.67	.86	4.3	.75	504*	116	32
	07-31-86	[1]0130	120	.31	.88	2.1	.55	232*	64	13
	07-31-86	[1]0145	100	.27	.60	1.5	.38	--	--	8.0
	07-31-86	[1]0200	100	.41	.62	1.5	.39	153*	40	8.2
	07-31-86	[1]0215	80	.27	.53	1.8	.30	145*	32	5.9
	07-31-86	[1]0230	90	.26	.62	.9	.22	71	18	6.1
	08-26-86	0500	200	1.80	.81	10	2.70	508*	132	79
	08-26-86	0515	110	.45	.66	3.7	.81	472*	114	27
	08-26-86	0530	110	.33	.69	2.4	.73	90*	25	20
	09-11-86	0439	90	.22	.22	2.0	.60	208*	45	12
	09-11-86	0454	70	.21	.22	1.7	.55	276*	38	7.4
	09-11-86	0509	80	.35	.23	1.3	.34	113*	16	4.8
	09-11-86	0524	90	.41	.27	1.3	.33	56	15	5.6
	09-11-86	[1]0539	120	.13	.40	1.0	.24	36	8	6.9
C28	[2]05-17-86	[1]0100	160	.22	.37	3.5	.75	1,080*	130	8.0
	[2]07-08-86	[1]2300	140	.10	.69	4.0	.62	600*	120	15
	[2]07-31-86	[1]0200	130	.75	.73	15	.81	411*	65	12
	[2]09-11-86	[1]0600	100	.19	.31	1.8	.58	574*	84	15
C29	[2]05-17-86	[1]0100	530	5.10	.56	13	2.40	470*	150	22
	[2]07-08-86	[1]2400	180	.88	.46	5.2	.95	835*	145	16
	[2]07-31-86	[1]0200	140	.49	.63	4.7	.99	790*	160	17
	[2]09-11-86	[1]0600	120	.68	.35	3.5	.89	454*	92	15
C31	[2]05-17-86	[1]0100	350	.80	<.10	5.6	1.00	754*	138	12
	[2]07-07-86	[1]2200	170	1.10	.46	3.3	.90	472*	80	.0
	[2]07-08-86	[1]2400	110	<.10	.39	2.0	.28	354*	74	8.5
	[2]07-31-86	[1]0200	220	.42	.38	3.0	.57	527*	153	14
	[2]09-11-86	[1]0600	370	.23	<.10	6.1	1.70	632*	144	30
C33	07-08-86	2345	350	.43	1.10	1.8	2.10	100*	30	8.4
SS4	07-08-86	2315	70	.23	.55	1.0	.23	77*	18	2.7

Table 15.--Constituent concentrations determined from samples collected routinely during storm events between May and September 1986--Continued

Site code	Date (month-day-year)	Time (hours)	Specific conductance (µS/cm)	Nitrogen, ammonia total (mg/L as N)	Nitrogen, NO_2+NO_3 total (mg/L as N)	Nitrogen, ammonia + organic total (mg/L as N)	Phosphorus, total (mg/L as P)	Solids, residue at 105 deg. C suspended (mg/L)	Solids, volatile, suspended (mg/L)	Carbon, organic total (mg/L as C)
SS7	07-08-86	2330	100	0.22	0.73	1.2	0.30	38	8	4.8
SS24	05-16-86	[1]2200	1,010	1.20	.10	6.0	1.30	150*	68	54
	05-16-86	[1]2230	810	1.00	.11	6.9	.99	120*	60	63
	05-16-86	[1]2300	790	.92	.10	5.0	.65	100*	48	58
	05-16-86	[1]2330	640	2.10	.11	5.9	.74	88*	32	--
	05-16-86	[1]2400	660	3.70	1.30	10	.66	86*	36	46
	05-17-86	[1]0030	440	4.30	.16	8.2	.57	58	26	44
	07-07-86	[1]1930	280	.12	<.10	6.3	1.40	1,620*	220	70
	07-07-86	[1]2000	140	<.10	.65	2.6	.44	270*	44	16
	07-07-86	[1]2036	190	<.10	1.10	2.1	.47	164*	32	12
	07-07-86	[1]2100	240	<.10	1.40	1.7	.33	58	18	11
	07-31-86	[1]0115	1,380	<.10	5.20	.4	.03	4	2	2.4
	07-31-86	[1]0145	1,410	<.10	5.30	.3	.02	4	3	2.2
	07-31-86	[1]0215	1,400	<.10	5.30	1.0	.05	6	3	2.1
	07-31-86	[1]0245	1,410	<.10	5.70	1.0	.04	2	2	4.3
	07-31-86	[1]0315	1,410	<.10	5.40	.4	.03	3	2	2.6
	07-31-86	[1]0345	1,410	<.10	5.50	.7	.05	2	<1	3.9
	08-26-86	0450	580	.63	2.80	5.1	.80	380*	90	65
	08-26-86	0520	140	.36	1.10	3.1	.36	152*	44	14
	08-26-86	0550	220	.23	1.60	1.3	.34	37	11	11
	08-26-86	0706	370	<.10	1.80	2.0	.38	194*	54	19
	08-26-86	1432	270	.15	1.40	1.9	.31	136*	40	19
	08-26-86	1502	250	.11	1.40	1.8	.26	108*	36	17
	09-11-86	[1]0530	1,140	<.10	3.70	1.9	.28	34	12	25
	09-11-86	[1]0600	470	.11	2.40	4.8	.81	266*	104	67
	09-11-86	[1]0630	340	.15	1.20	4.6	.65	222*	74	68
	09-11-86	[1]0700	920	<.10	3.30	1.9	.41	275*	57	21
	09-11-86	[1]0730	1,140	<.10	4.00	1.3	.18	30	10	11
	09-11-86	[1]0800	240	<.10	.92	2.3	.48	79*	33	37
	09-11-86	1450	110	.10	.54	1.0	.24	83*	17	11
	09-11-86	1555	130	<.10	.61	1.1	.25	99*	19	9.5
	09-11-86	1655	220	<.10	.97	1.1	.22	123*	31	10
	09-11-86	1755	170	<.10	.83	.9	.20	97*	24	10
	09-11-86	1855	270	<.10	1.20	.9	.23	81*	24	11
	09-11-86	1955	380	<.10	1.50	1.1	.24	114*	32	12

	09-11-86	2055	340	<.10	1.40	1.3	.27	148*	48	14
SS34	07-08-86	2355	170	.19	.79	1.4	.20	230*	23	3.8
	07-09-86	0138	190	.12	.83	.5	.10	21	7	5.0
SS35	05-16-86	[1]2135	590	.34	.92	4.3	.70	318*	80	17
	05-16-86	[1]2205	450	.68	.74	7.2	1.20	872*	212	16
	05-16-86	[1]2235	300	.54	.24	8.1	1.10	720*	168	29
	05-16-86	[1]2305	390	2.20	.43	25	4.50	2,930*	615	10
	05-16-86	[1]2335	300	2.20	<.10	16	2.60	1,620*	375	2.4
	05-17-86	[1]0005	320	1.70	<.10	22	2.50	3,200*	640	35
	07-31-86	[1]0115	300	.11	1.60	2.6	.44	418*	102	16
	07-31-86	[1]0145	240	.24	.88	4.6	.88	420*	100	18
	08-26-86	0508	370	.58	2.00	6.4	1.20	240*	78	70
	08-26-86	0542	210	.45	1.40	14	1.90	246*	128	53
	08-26-86	0556	210	.46	1.70	10	1.00	170*	110	45
	09-10-86	2353	820	1.30	2.00	5.3	2.10	140*	46	29
	09-11-86	0431	980	4.70	.87	7.1	1.80	120*	44	20
	09-11-86	0445	750	5.10	<.10	11	1.60	240*	90	44
	09-11-86	[1]0500	350	.52	.16	5.5	.81	133*	52	51
	09-11-86	[1]1619	190	.15	.36	3.5	.90	535*	150	33
	09-11-86	[1]1634	140	<.10	1.40	4.9	1.10	900*	225	35
	09-11-86	1640	200	.15	.95	2.2	.45	46	16	20
RR1	05-16-86	[1]2300	310	.35	.33	5.0	1.20	510*	140	15
	05-16-86	[1]2330	300	.37	.98	2.6	.51	226*	44	10
	05-16-86	[1]2400	310	.50	1.10	2.3	.39	126*	44	8.5
	05-17-86	[1]0030	310	.27	1.20	1.8	.30	78*	30	7.0
	05-17-86	[1]0100	390	.24	1.20	1.6	.23	38	17	7.2
	07-07-86	[1]2000	190	.10	.91	4.2	1.20	620*	92	23
	07-08-86	[1]2300	270	<.10	.82	3.3	.69	640*	104	10
	07-08-86	[1]2330	210	.20	1.10	2.4	.63	140*	36	9.9
	07-08-86	[1]2400	270	.27	1.50	1.6	.33	66	20	7.6
	07-09-86	[1]0030	270	<.10	1.60	.9	.21	36	16	7.6
	07-09-86	[1]0100	170	<.10	.87	.8	.24	70	20	6.1
	07-09-86	[1]0130	180	<.10	.86	1.3	.19	43	13	4.2
	09-11-86	[1]0630	290	<.10	.84	2.4	.93	304*	64	23
	09-11-86	[1]0700	170	.15	.61	3.7	1.30	688*	122	19
	09-11-86	1555	230	.23	.52	1.0	.33	170*	46	13

* Indicates constituent concentrations that do not meet Illinois State general use or effluent water-quality standards for stream sites and point sources, respectively (Illinois Pollution Control Board, 1984).

[1] Indicates sample times are estimated.

[2] Indicates a sample collected from a single-stage sampler.

Table 16.--Constituent concentrations determined from approximately 50 percent of the samples collected during storm events between May and September 1986

[Site numbers correspond to those in figures 3 and 5-8 and tables 1 and 2 of this report; mg/L, milligrams per liter; µg/L, micrograms per liter; <, less than; dashes indicate no data. Footnotes are at end of table.]

Site code	Date (month-day-year)	Time (hours)	Oxygen demand, chemical (low (level (mg/L)	Oxygen demand, biochemical ultimate carbonaceous (mg/L)	Arsenic total (µg/L as As)	Mercury total recoverable (µg/L as Hg)	Fluoride, total (mg/L as F)	Calcium total recoverable (mg/L as Ca)	Magnesium, total recoverable (mg/L as Mg)	Sodium, total recoverable (mg/L as Na)
1	05-17-86	[1]1355	75	25	7	0.05	0.2	58	21	14
	05-17-86	[1]1645	150	21	5	<.01	.2	57	19	24
	05-17-86	[1]1925	70	17	5	<.01	.1	50	18	24
	07-08-86	2240	51	11	1	.02	<.1	55	15	9.4
	07-31-86	0150	76	14	3	.05	<.1	78	15	2.7
	07-31-86	0325	65	9.7	3	<.01	<.1	66	13	1.2
	07-31-86	0400	130	14	5	.11	<.1	24	7.4	2.0
	07-31-86	0420	120	14	--	--	--	--	--	--
	07-31-86	1237	35	11	--	--	--	--	--	--
	08-01-86	0040	19	2.9	--	--	--	--	--	--
	08-01-86	1240	11	1.8	--	--	--	--	--	--
	08-02-86	0040	56	3.3	--	--	--	--	--	--
	08-02-86	1240	7	2.1	--	--	--	--	--	--
	08-04-86	0040	22	4.9	--	--	--	--	--	--
	09-11-86	0450	39	13	1	<.05	<.1	32	7.6	3.3
	09-11-86	1215	44	8.7	--	--	--	--	--	--
	09-12-86	0815	21	2.3	--	--	--	--	--	--
8	05-16-86	[1]1140	30	19	2	.05	.3	61	26	26
	05-16-86	2315	42	--	3	.05	.3	82	36	26
	05-16-86	2355	37	18	2	.09	.2	72	31	28
	07-31-86	[1]0215	150	13	7	<.01	.2	86	22	7.3
	07-31-86	[1]0245	290	23	--	--	--	--	--	--
	07-31-86	[1]0305	360	37	5	.05	.1	180	31	9.5
	07-31-86	[1]0345	150	21	12	<.01	<.1	88	14	3.5
	07-31-86	2000	28	8.7	--	--	--	--	--	--
	08-01-86	0826	11	2.9	--	--	--	--	--	--
	08-01-86	2026	12	3.8	--	--	--	--	--	--
	08-02-86	0826	7	3.4	--	--	--	--	--	--
	08-02-86	2026	6	2.0	--	--	--	--	--	--
	08-03-86	2026	11	2.4	--	--	--	--	--	--

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	08-26-86	1721	42	14	--	--	--	--	--	--
	08-27-86	1415	12	5.5	--	--	--	--	--	--
	09-11-86	1250	35	15	1	--	.1	32	7.0	7.1
	09-11-86	1700	39	6.6	--	--	--	--	--	--
	09-12-86	0100	34	9.8	--	--	--	--	--	--
	09-12-86	0900	34	12	--	--	--	--	--	--
	09-13-86	0447	13	5.4	--	--	--	--	--	--
11	05-17-86	0420	180	54	8	.02	.5	100	34	47
	05-17-86	0500	320	72	12	.38	.3	140	26	26
	05-17-86	0540	230	35	8	.01	.2	91	16	19
	07-07-86	2015	77	32	3	.03	.3	84	31	74
	07-07-86	2045	120	23	3	.02	.3	89	32	76
	07-09-86	0055	120	33	7	<.01	.3	92	30	70
	07-09-86	0155	120	31	4	<.01	.2	71	16	24
	07-09-86	0215	96	25	4	.05	.1	55	12	19
	07-31-86	0300	130	18	6	.17	.6	64	22	59
	07-31-86	0335	300	25	11	.08	.5	97	26	41
	07-31-86	0415	230	20	11	<.01	.3	90	21	19
	07-31-86	1705	28	7.7	--	--	--	--	--	--
	08-01-86	0520	15	4.2	--	--	--	--	--	--
	08-01-86	1720	18	5.1	--	--	--	--	--	--
	08-02-86	0520	14	8.2	--	--	--	--	--	--
	08-02-86	1720	17	5.7	--	--	--	--	--	--
	08-03-86	1720	23	6.6	--	--	--	--	--	--
	08-26-86	[1]0530	59	20	2	.14	.7	81	31	66
	08-26-86	[1]0630	44	15	2	.14	.6	77	30	48
	08-26-86	[1]0730	51	23	3	.07	.6	70	27	43
	08-26-86	1405	51	24	--	--	--	--	--	--
	08-27-86	1355	39	21	--	--	--	--	--	--
	09-11-86	1538	38	19	3	.07	.3	40	11	27
	09-12-86	1620	36	19	--	--	--	--	--	--
	09-13-86	0930	34	20	--	--	--	--	--	--
14	05-17-86	0800	69	20	4	.05	.6	71	28	52
	05-17-86	0900	110	24	5	.1	.6	76	29	52
	05-17-86	1000	170	32	6	.01	.5	82	30	48
	07-08-86	0130	52	17	3	.07	.3	80	31	61
	07-08-86	0245	52	23	4	.03	.3	80	32	60
	07-08-86	0345	55	27	4	.02	.3	80	32	60
	07-09-86	0530	58	17	4	<.01	.3	66	26	46
	07-09-86	0630	92	19	5	.05	.3	73	28	48
	07-09-86	0730	110	33	5	.02	.3	74	27	71
	07-31-86	0230	120	16	8	.23	.5	67	25	38
	07-31-86	0330	280	22	6	.11	.3	58	20	21
	07-31-86	0415	220	15	9	.11	.3	56	22	23
	07-31-86	1430	75	12	--	--	--	--	--	--

Table 16.--Constituent concentrations determined from approximately 50 percent of the samples collected during storm events between May and September 1986--Continued

Site code	Date (month-day-year)	Potassium, total recoverable (mg/L as K)	Barium, total recoverable (µg/L as Ba)	Boron, total recoverable (µg/L as B)	Beryllium, total recoverable (µg/L as Be)	Cadmium total recoverable (µg/L as Cd)	Chromium, total recoverable (µg/L as Cr)	Copper, total recoverable (µg/L as Cu)	Cobalt, total recoverable (µg/L as Co)	Iron, total recoverable (µg/L as Fe)
1	05-17-86	5.2	200	<50	<2.0	4	13	17	10	9,800*
	05-17-86	3.8	300	<50	<1.0	<3	11	21*	10	11,000*
	05-17-86	3.8	200	<50	<2.0	5	11	14	10	7,900*
	07-08-86	1.6	100	50	4.0	<3	<5	15	<5	4,700*
	07-31-86	2.1	200	<50	<.5	5	6	21*	10	8,500*
	07-31-86	2.0	100	<50	<.5	<3	5	22*	7	9,700*
	07-31-86	7.6	200	<50	<2.0	<3	<5	21*	6	9,400*
	07-31-86	--	--	--	--	--	--	--	--	--
	07-31-86	--	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--	--
	08-04-86	--	--	--	--	--	--	--	--	--
	09-11-86	1.3	100	<50	<.5	<3	<5	15	<5	5,300*
	09-11-86	--	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--	--
8	05-16-86	2.5	70	110	<1.0	<3	7	10	<5	1,000
	05-16-86	2.0	100	130	<1.0	4	12	33*	6	4,600*
	05-16-86	2.4	100	120	<1.0	<3	7	12	<5	2,200*
	07-31-86	5.1	700	130	2.0	15	30	70*	20	42,000*
	07-31-86	--	--	--	--	--	--	--	--	--
	07-31-86	4.9	600	140	<.5	16	42	87*	20	36,000*
	07-31-86	2.9	200	70	<.5	10	28	65*	10	15,000*
	07-31-86	--	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--	--
	08-03-86	--	--	--	--	--	--	--	--	--

	08-26-86	--	--	--	--	--	--	--	--	--
	08-27-86	--	--	--	--	--	--	--	--	--
	09-11-86	2.2	40	<50	<.5	6	8	27	<5	1,000
	09-11-86	--	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--	--
	09-13-86	--	--	--	--	--	--	--	--	--
11	05-17-86	6.2	500	200	<1.0	46	170	220*	10	19,000*
	05-17-86	5.5	600	110	2.0	30	120	200*	20	24,000*
	05-17-86	4.2	300	80	<1.0	17	79	120*	10	14,000*
	07-07-86	6.2	200	260	4.0	18	43	83*	<5	6,800*
	07-07-86	6.6	300	260	3.0	25	64	110*	<5	9,400*
	07-09-86	6.5	300	260	7.0	30	84	110*	10	14,000*
	07-09-86	3.5	200	130	6.0	14	40	72*	<5	11,000*
	07-09-86	2.9	200	120	7.0	9	28	57*	<5	7,600*
	07-31-86	9.7	400	240	<2.0	16	83	62*	10	18,000*
	07-31-86	9.0	800	230	<2.0	63*	100	180*	30	26,000*
	07-31-86	6.5	700	160	<2.0	37	69	120*	20	27,000*
	07-31-86	--	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--	--
	08-03-86	--	--	--	--	--	--	--	--	--
	08-26-86	9.2	200	270	<.5	11	39	53*	<5	4,600*
	08-26-86	7.4	100	240	3.0	7	30	33*	8	3,700*
	08-26-86	7.2	100	240	<2.0	5	25	28*	7	2,700*
	08-26-86	--	--	--	--	--	--	--	--	--
	08-27-86	--	--	--	--	--	--	--	--	--
	09-11-86	4.1	70	120	<2.0	3	<5	23*	<10	2,000*
	09-12-86	--	--	--	--	--	--	--	--	--
	09-13-86	--	--	--	--	--	--	--	--	--
14	05-17-86	6.9	200	220	<.5	6	27	34*	<5	8,000*
	05-17-86	7.4	300	220	<.5	13	53	64*	9	16,000*
	05-17-86	8.0	500	190	<2.0	25	100	130*	10	26,000*
	07-08-86	5.4	200	220	2.0	8	12	41*	<5	6,600*
	07-08-86	5.3	200	230	2.0	11	19	330*	<5	7,700*
	07-08-86	6.0	200	230	2.0	10	21	45*	<5	7,100*
	07-09-86	5.7	200	240	<2.0	9	35	44*	<5	10,000*
	07-09-86	5.8	300	210	<1.0	15	52	61*	<5	14,000*
	07-09-86	6.5	300	220	2.0	17	53	71*	<5	14,000*
	07-31-86	9.5	500	270	2.0	11	47	63*	10	51,000*
	07-31-86	8.9	800	210	4.0	17	29	76*	30	37,000*
	07-31-86	9.4	800	240	4.0	21	51	91*	20	48,000*
	07-31-86	--	--	--	--	--	--	--	--	--

Table 16.--Constituent concentrations determined from approximately 50 percent of the samples collected during storm events between May and September 1986--Continued

Site code	Date (month-day-year)	Lead, total recoverable (µg/L as Pb)	Manganese, total recoverable (µg/L as Mn)	Nickel, total recoverable (µg/L as Ni)	Silver, total recoverable (µg/L as Ag)	Strontium, total recoverable (µg/L as Sr)	Vanadium, total (µg/L as V	Zinc, total recoverable (µg/L as Zn)	Aluminum, total recoverable (µg/L as Al)
1	05-17-86	<50	560	15	<3	100	20	110	7,200
	05-17-86	<50	1,100*	16	<3	100	26	130	8,600
	05-17-86	<50	540	13	<3	100	19	<100	6,200
	07-08-86	50	350	<5	<3	70	<5	110	3,100
	07-31-86	<100	900	12	<3	50	15	130	5,300
	07-31-86	<100	750	11	<3	40	15	120	5,600
	07-31-86	<100	620	10	<3	40	20	130	7,300
	07-31-86	--	--	--	--	--	--	--	--
	07-31-86	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--
	08-04-86	--	--	--	--	--	--	--	--
	09-11-86	<50	380	<5	<3	30	10	<100	3,600
	09-11-86	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--
8	05-16-86	<50	97	<5	<3	130	<5	<100	440
	05-16-86	<100	360	10	<3	160	8	150	2,200
	05-16-86	<50	230	7	<3	150	<5	<100	980
	07-31-86	210*	1,900*	48	3	130	70	360	26,000
	07-31-86	--	--	--	--	--	--	--	--
	07-31-86	380*	2,300*	60	5	180	51	730	18,000
	07-31-86	310*	710	25	<3	70	20	390	7,300
	07-31-86	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--
	08-03-86	--	--	--	--	--	--	--	--

	08-26-86	--	--	--	--	--	--	--	--
	08-27-86	--	--	--	--	--	--	--	--
	09-11-86	<50	100	<5	<3	60	<5	<100	540
	09-11-86	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--
	09-13-86	--	--	--	--	--	--	--	--
11	05-17-86	240*	1,200*	34	6*	180	26	450	10,000
	05-17-86	450*	1,500*	43	<3	160	36	730	12,000
	05-17-86	290*	750	31	<3	90	23	440	7,600
	07-07-86	<100	300	<5	<3	150	6	210	4,000
	07-07-86	110*	380	11	<3	150	11	300	5,200
	07-09-86	200*	650	45	8*	150	26	310	8,300
	07-09-86	170*	570	8	<3	100	14	310	6,300
	07-09-86	140*	390	<5	<3	80	9	250	4,200
	07-31-86	110*	860	23	<3	130	34	180	13,000
	07-31-86	290*	1,900*	52	4	170	47	540	16,000
	07-31-86	320*	1,900*	49	4	140	49	510	17,000
	07-31-86	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--
	08-03-86	--	--	--	--	--	--	--	--
	08-26-86	<100	250	12	<3	150	7	120	3,000
	08-26-86	<100	220	11	<3	150	12	100	3,200
	08-26-86	<50	200	11	<3	140	<10	<100	2,300
	08-26-86	--	--	--	--	--	--	--	--
	08-27-86	--	--	--	--	--	--	--	--
	09-11-86	<50	130	<5	<3	80	<5	<100	1,300
	09-12-86	--	--	--	--	--	--	--	--
	09-13-86	--	--	--	--	--	--	--	--
14	05-17-86	<50	430	10	<3	140	13	120	5,200
	05-17-86	<100	770	20	<3	150	26	180	11,000
	05-17-86	150*	1,200*	32	5	160	39	310	17,000
	07-08-86	<50	300	<5	<3	150	9	160	4,100
	07-08-86	<50	330	<5	<3	150	11	150	4,800
	07-08-86	<50	320	<5	<3	150	13	140	4,500
	07-09-86	<50	400	10	<3	130	20	150	8,500
	07-09-86	<100	550	13	<3	140	21	180	9,300
	07-09-86	<100	570	8	<3	140	19	230	9,600
	07-31-86	160*	1,300*	35	<3	140	70	280	31,000
	07-31-86	170*	3,000*	45	<3	140	62	290	23,000
	07-31-86	240*	2,300*	52	6*	140	78	310	30,000
	07-31-86	--	--	--	--	--	--	--	--

Table 16.--Constituent concentrations determined from approximately 50 percent of the samples collected during storm events between May and September 1986--Continued

Site code	Date (month-day-year)	Time (hours)	Oxygen demand, chemical (low level (mg/L)	Oxygen demand, biochemical ultimate carbonaceous (mg/L)	Arsenic total (µg/L as As)	Mercury total recoverable (µg/L as Hg)	Fluoride, total (mg/L as F)	Calcium total recoverable (mg/L as Ca)	Magnesium, total recoverable (mg/L as Mg)	Sodium, total recoverable (mg/L as Na)
14	08-01-86	0238	24	2.9	--	--	--	--	--	--
(Cont.)	08-01-86	[1]1438	12	4.6	--	--	--	--	--	--
	08-03-86	[1]0238	12	5.8	--	--	--	--	--	--
	08-03-86	[1]1438	28	4.4	--	--	--	--	--	--
	08-26-86	1234	47	14	--	--	--	--	--	--
	08-27-86	1335	29	13	--	--	--	--	--	--
	09-11-86	1215	61	21	3	0.19	0.9	75	30	75
	09-11-86	1315	63	22	4	<.05	.9	73	28	73
	09-11-86	1445	60	15	4	<.05	.7	63	23	51
	09-11-86	1726	44	17	--	.14	--	--	--	--
	09-11-86	2335	33	11	--	--	--	--	--	--
	09-12-86	0535	33	12	--	--	--	--	--	--
	09-12-86	2335	27	--	--	--	--	--	--	--
	09-13-86	0400	27	10	--	--	--	--	--	--
18	05-17-86	1130	230	26	8	<.01	.5	88	35	34
	05-17-86	1245	180	25	6	<.01	.4	79	31	26
	05-17-86	1345	210	23	8	<.01	.4	88	30	25
	07-08-86	0715	41	--	4	.05	.3	80	32	52
	07-08-86	0845	44	14	5	.02	.3	79	32	56
	07-08-86	0945	44	12	4	<.01	.3	80	32	58
	07-08-86	1200	48	13	4	.05	.3	79	32	61
	07-08-86	1330	37	12	4	.14	.3	77	32	58
	07-09-86	0500	50	11	4	.05	.2	52	20	23
	07-31-86	0130	600	29	10	<.01	.3	120	41	18
	07-31-86	[1]0200	260	24	12	.11	.2	58	20	12
	07-31-86	[1]0300	250	20	6	.08	.3	73	23	12
	07-31-86	1245	170	13	--	--	--	--	--	--
	08-01-86	0100	32	4.9	--	--	--	--	--	--
	08-01-86	1300	24	5.2	--	--	--	--	--	--
	08-02-86	0100	20	4.0	--	--	--	--	--	--
	08-02-86	1300	12	5.0	--	--	--	--	--	--
	08-04-86	0100	46	4.2	--	--	--	--	--	--
	08-26-86	1156	31	12	--	--	--	--	--	--
	08-27-86	1310	24	8.6	--	--	--	--	--	--
	09-11-86	[1]1030	44	14	2	<.05	.9	81	33	86

	09-11-86	[1]1230	26	12	2	<.05	.8	81	33	79
	09-11-86	[1]1330	29	15	2	<.05	.9	78	31	81
	09-11-86	1845	71	17	--	--	--	--	--	--
	09-12-86	0045	42	14	--	--	--	--	--	--
	09-12-86	0645	36	11	--	--	--	--	--	--
	09-12-86	1245	30	8.9	--	--	--	--	--	--
	09-13-86	0300	26	10	--	--	--	--	--	--
21	07-09-86	0130	92	14	11	<.01	.2	73	23	26
	07-09-86	0230	88	18	13	.01	.2	60	20	20
	07-09-86	0330	77	13	31	<.01	.1	54	16	14
	08-26-86	1658	18	4.1	--	--	--	--	--	--
	09-11-86	[1]0715	50	11	7	.07	.3	110	44	44
	09-11-86	[1]0815	55	16	8	<.05	.2	73	27	27
	09-11-86	[1]0915	48	14	7	<.05	.2	60	22	23
	09-11-86	1359	23	10	--	--	--	--	--	--
23	05-17-86	[1]0600	130	12	6	<.01	.2	57	26	15
	05-17-86	[1]0700	140	24	8	<.01	.3	72	29	19
	05-17-86	[1]0800	63	13	6	.01	.3	79	33	26
	08-26-86	1256	21	6.0	--	--	--	--	--	--
	09-11-86	1625	24	--	1	<.05	.3	76	32	14
24	05-17-86	[1]1330	550	31	10	.2	.2	74	20	4.4
	05-17-86	[1]1430	530	25	14	<.01	.3	52	16	2.1
	05-17-86	[1]1530	250	22	8	<.01	.2	49	15	2.2
	07-31-86	0130	210	24	13	.05	.1	49	19	3.9
	07-31-86	0230	410	26	7	<.01	.1	73	17	2.7
	07-31-86	0330	330	17	10	<.01	.2	52	14	2.1
	08-16-86	[1]1615	13	--	1	.04	.3	83	38	11
	08-24-86	[1]1530	19	3.3	2	.12	.3	86	40	12
	08-25-86	[1]1200	13	4.4	2	.04	.3	80	37	11
	08-26-86	1405	14	4.8	--	--	--	--	--	--
WWTF	07-07-86	2000	29	19	<1	1.0	.9	70	25	80
	07-07-86	2100	27	13	1	.7	.9	72	26	84
	07-07-86	2200	28	18	<1	.61	.9	73	26	92
	07-08-86	[1]2400	50	35	<1	.14	.3	73	27	110
	07-09-86	[1]0100	46	36	<1	.25	.4	72	27	110
	07-09-86	[1]0200	51	44	<1	.11	.4	70	25	100
	09-11-86	1200	120	51	1	.14	.7	55	19	62
	09-11-86	1600	61	37	1	<.05	.8	54	19	66
	09-11-86	2400	52	35	<1	<.05	.9	56	20	64
	09-12-86	0800	51	37	<1	<.05	.9	59	21	65
C6	05-17-86	[1]0300	420	39	--	--	--	--	--	--
	05-17-86	[1]0315	950	943	18	<.01	.2	98	22	12
	05-17-86	[1]0415	130	77	--	--	.3	--	--	--
	07-31-86	0150	1,300	18	20	<.01	.3	300	46	32
	07-31-86	[1]0220	1,300	35	14	.08	.2	170	33	10

Table 16.--Constituent concentrations determined from approximately 50 percent of the samples collected during storm events between May and September 1986--Continued

Site code	Date (month-day-year)	Potassium, total recoverable (mg/L as K)	Barium, total recoverable (µg/L as Ba)	Boron, total recoverable (µg/L as B)	Beryllium, total recoverable (µg/L as Be)	Cadmium total recoverable (µg/L as Cd)	Chromium, total recoverable (µg/L as Cr)	Copper, total recoverable (µg/L as Cu)	Cobalt, total recoverable (µg/L as Co)	Iron, total recoverable (µg/L as Fe)
14	08-01-86	--	--	--	--	--	--	--	--	--
(Cont.)	08-01-86	--	--	--	--	--	--	--	--	--
	08-03-86	--	--	--	--	--	--	--	--	--
	08-03-86	--	--	--	--	--	--	--	--	--
	08-26-86	--	--	--	--	--	--	--	--	--
	08-27-86	--	--	--	--	--	--	--	--	--
	09-11-86	12	200	260	<5.0	6	16	35*	<5	6,600*
	09-11-86	11	200	250	<.5	9	30	39*	<5	8,600*
	09-11-86	8.3	200	200	<.5	7	22	34*	<5	7,000*
	09-11-86	--	--	--	--	--	--	--	--	--
	09-11-86	--	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--	--
	09-13-86	--	--	--	--	--	--	--	--	--
18	05-17-86	9.7	700	120	2.0	8	36	66*	20	40,000*
	05-17-86	8.1	600	90	<2.0	8	33	54*	20	32,000*
	05-17-86	6.8	700	110	2.0	10	24	60*	30	21,000*
	07-08-86	5.2	200	200	<2.0	4	7	22*	<5	6,200*
	07-08-86	5.2	200	200	<2.0	4	8	50*	<5	8,300*
	07-08-86	5.1	200	200	<2.0	6	7	32*	<5	8,200*
	07-08-86	5.5	200	210	<2.0	4	13	33*	<5	7,800*
	07-08-86	5.3	200	210	<2.0	3	9	70*	<5	5,200*
	07-09-86	4.8	200	120	2.0	<3	16	27*	<5	9,800*
	07-31-86	12	1,700	220	6.0	16	22	130*	70	81,000*
	07-31-86	8.9	900	150	3.0	11	21	70*	30	40,000*
	07-31-86	7.9	800	150	3.0	14	30	77*	30	44,000*
	07-31-86	--	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--	--
	08-04-86	--	--	--	--	--	--	--	--	--
	08-26-86	--	--	--	--	--	--	--	--	--
	08-27-86	--	--	--	--	--	--	--	--	--
	09-11-86	11	100	290	<.5	<3	12	35*	9	1,300*

	09-11-86	9.9	90	260	<.5	<3	9	30*	7	810
	09-11-86	11	90	270	<.5	<3	8	18	<5	1,100*
	09-11-86	--	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--	--
	09-13-86	--	--	--	--	--	--	--	--	--
21	07-09-86	5.5	200	290	<2.0	<3	15	28*	7	11,000*
	07-09-86	6.1	200	250	<2.0	<3	17	26*	5	13,000*
	07-09-86	4.9	100	180	<.5	<3	12	27*	<5	8,500*
	08-26-86	--	--	--	--	--	--	--	--	--
	09-11-86	6.2	200	630	4.0	<3	<5	57*	7	6,700*
	09-11-86	5.7	100	380	<.5	<3	<5	18	<5	4,900*
	09-11-86	5.4	100	320	<.5	<3	<5	20	<5	5,500*
	09-11-86	--	--	--	--	--	--	--	--	--
23	05-17-86	6.8	300	170	<2.0	<3	23	29*	10	24,000*
	05-17-86	7.0	400	230	<2.0	<3	18	29*	10	22,000*
	05-17-86	5.8	200	320	<.5	<3	13	17	8	13,000*
	08-26-86	--	--	--	--	--	--	--	--	--
	09-11-86	4.4	100	<50	3.0	<3	<5	7	<5	950
24	05-17-86	10	1,100	50	4.0	4	22	68*	40	32,000*
	05-17-86	8.0	1,200	<50	5.0	3	29	66*	30	44,000*
	05-17-86	7.9	1,000	<50	5.0	<3	27	58*	30	35,000*
	07-31-86	4.8	500	80	<2.0	5	12	33*	20	17,000*
	07-31-86	10	1,200	110	4.0	6	16	70*	40	35,000*
	07-31-86	9.9	900	100	4.0	6	18	67*	30	37,000*
	08-16-86	1.7	200	50	<.5	<3	9	9	7	2,900*
	08-24-86	1.9	200	50	<.5	<3	12	9	<5	3,900*
	08-25-86	2.0	200	50	<.5	<3	12	9	<5	5,800*
	08-26-86	--	--	--	--	--	--	--	--	--
WWTF	07-07-86	9.2	40	310	4.0	<3	16	33	<5	270
	07-07-86	9.2	40	320	4.0	<3	16	100	<5	240
	07-07-86	9.5	40	340	3.0	<3	20	42	6	230
	07-08-86	7.9	50	290	<.5	<3	13	44	<5	290
	07-09-86	7.8	50	300	<.5	<3	11	400*	<5	250
	07-09-86	7.5	50	290	2.0	<3	12	42	<5	320
	09-11-86	9.1	60	170	<5.0	<3	26	100	<5	1,000
	09-11-86	9.3	40	230	2.0	<3	8	40	<5	390
	09-11-86	8.6	40	250	3.0	3	<5	41	<5	210
	09-12-86	7.7	40	270	5.0	<3	<5	29	<5	200
C6	05-17-86	--	--	--	--	--	--	--	--	--
	05-17-86	3.7	700	120	<.5	13	30	690*	10	18,000*
	05-17-86	--	--	--	--	--	--	--	--	--
	07-31-86	8.8	800	270	<.5	21	30	620*	20	23,000*
	07-31-86	5.0	600	160	<.5	18	26	750*	20	21,000*

Table 16.--Constituent concentrations determined from approximately 50 percent of the samples collected during storm events between May and September 1986--Continued

Site code	Date (month-day-year)	Lead, total recoverable (µg/L as Pb)	Manganese, total recoverable (µg/L as Mn)	Nickel, total recoverable (µg/L as Ni)	Silver, total recoverable (µg/L as Ag)	Strontium, total recoverable (µg/L as Sr)	Vanadium, total (µg/L as V	Zinc, total recoverable (µg/L as Zn)	Aluminum, total recoverable (µg/L as Al)
14	08-01-86	--	--	--	--	--	--	--	--
(Cont.)	08-01-86	--	--	--	--	--	--	--	--
	08-03-86	--	--	--	--	--	--	--	--
	08-03-86	--	--	--	--	--	--	--	--
	08-26-86	--	--	--	--	--	--	--	--
	08-27-86	--	--	--	--	--	--	--	--
	09-11-86	<50	400	15	<3	150	10	110	4,000
	09-11-86	<50	530	16	<3	150	15	110	5,600
	09-11-86	<50	480	<5	<3	130	10	110	4,500
	09-11-86	--	--	--	--	--	--	--	--
	09-11-86	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--
	09-13-86	--	--	--	--	--	--	--	--
18	05-17-86	<100	2,300*	51	<3	190	68	<100	23,000
	05-17-86	<100	2,100*	42	4	170	58	2,900*	20,000
	05-17-86	<100	2,800*	43	<3	180	55	2,800*	15,000
	07-08-86	<50	330	<5	<3	160	15	210	3,800
	07-08-86	<50	420	<5	<3	150	16	120	5,100
	07-08-86	<50	430	<5	<3	160	13	100	5,000
	07-08-86	<50	390	<5	<3	150	11	120	5,200
	07-08-86	<50	300	<5	<3	150	10	<100	3,600
	07-09-86	<50	430	<5	<3	110	17	120	6,600
	07-31-86	220*	8,000*	100	7*	240	150	530	41,000
	07-31-86	130*	3,700*	50	4	130	84	270	23,000
	07-31-86	140*	3,500*	51	5	140	82	290	27,000
	07-31-86	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--
	08-01-86	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--
	08-02-86	--	--	--	--	--	--	--	--
	08-04-86	--	--	--	--	--	--	--	--
	08-26-86	--	--	--	--	--	--	--	--
	08-27-86	--	--	--	--	--	--	--	--
	09-11-86	<50	180	13	<3	160	--	<50	630

	09-11-86	<50	130	14	<3	160	5	50	410
	09-11-86	<50	150	12	<3	160	5	<50	650
	09-11-86	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--
	09-12-86	--	--	--	--	--	--	--	--
	09-13-86	--	--	--	--	--	--	--	--
21	07-09-86	<100	540	14	<3	130	21	180	6,900
	07-09-86	<100	550	12	<3	120	20	200	7,900
	07-09-86	<50	380	5	<3	120	11	170	4,000
	08-26-86	--	--	--	--	--	--	--	--
	09-11-86	<50	400	10	<3	240	13	<100	4,500
	09-11-86	<50	310	13	<3	150	14	<100	3,000
	09-11-86	<50	390	9	<3	130	13	<100	3,500
	09-11-86	--	--	--	--	--	--	--	--
23	05-17-86	<50	750	24	<3	130	45	180	17,000
	05-17-86	<50	1,000	17	<3	150	42	160	16,000
	05-17-86	<50	670	13	<3	170	26	<100	8,400
	08-26-86	--	--	--	--	--	--	--	--
	09-11-86	<50	130	<5	<3	160	<5	<50	660
24	05-17-86	<100	3,200*	42	<3	170	86	320	29,000
	05-17-86	<100	3,200*	49	<3	140	91	250	36,000
	05-17-86	<100	2,700*	43	3	120	81	220	30,000
	07-31-86	100	1,600*	25	<3	110	40	180	12,000
	07-31-86	190*	3,500*	45	<3	150	88	310	28,000
	07-31-86	160*	2,600*	32	<3	120	77	250	29,000
	08-16-86	<50	150	10	<3	170	15	<100	3,000
	08-24-86	<50	240	9	<3	180	16	120	5,000
	08-25-86	<50	280	7	<3	170	19	<100	5,600
	08-26-86	--	--	--	--	--	--	--	--
WWTF	07-07-86	<50	60	<5	<3	120	<5	<100	<50
	07-07-86	50	46	<5	<3	120	<5	<100	<50
	07-07-86	<50	41	14	3	120	<5	<100	<50
	07-08-86	<50	52	<5	<3	130	<5	<100	50
	07-09-86	<50	40	<5	<3	130	<5	<100	<50
	07-09-86	<50	48	<5	<3	120	<5	<100	90
	09-11-86	<50	130	<5	<3	100	<5	100	210
	09-11-86	<50	36	<5	<3	100	<5	<100	130
	09-11-86	<50	25	10	<3	110	<5	<100	90
	09-12-86	<50	28	<10	<10	110	<5	<50	70
C6	05-17-86	--	--	--	--	--	--	--	--
	05-17-86	540*	360	36	4	120	27	1,200	8,600
	05-17-86	--	--	--	--	--	--	--	--
	07-31-86	640*	830	42	3	430	35	7,800*	22,000
	07-31-86	590*	720	42	7	290	31	1,500	11,000

Table 16.--Constituent concentrations determined from approximately 50 percent of the samples collected during storm events between May and September 1986--Continued

Site code	Date (month-day-year)	Time (hours)	Oxygen demand, chemical (low level (mg/L)	Oxygen demand, biochemical ultimate carbonaceous (mg/L)	Arsenic total (µg/L as As)	Mercury total recoverable (µg/L as Hg)	Fluoride, total (mg/L as F)	Calcium total recoverable (mg/L as Ca)	Magnesium, total recoverable (mg/L as Mg)	Sodium, total recoverable (mg/L as Na)
C6 (Cont.)	07-31-86	[1]0250	1,300	30	16	0.11	0.2	120	23	11
C16	[2]09-11-86	[1]0600	400	207	--	--	--	--	--	--
C20	[2]05-17-86	[1]0200	25	23	2	.05	<.1	27	5.8	4.0
	[2]07-08-86	[1]2300	28	15	2	<.01	<.1	38	11	5.8
C22	05-17-86	0214	60	63	3	<.01	<.1	44	5.4	2.2
	07-08-86	[1]0015	240	64	24	<.01	<.1	98	21	4.2
	07-08-86	[1]2315	33	17	5	<.01	<.1	18	1.8	3.9
	07-08-86	[1]2345	60	36	5	<.01	<.1	18	2.2	7.1
	07-09-86	[1]0015	15	--	3	<.01	<.1	14	1.5	5.7
	07-31-86	[1]0115	250	66	660	.05	<.1	62	12	3.7
	07-31-86	[1]0145	47	14	500	<.01	--	43	5.7	2.0
	07-31-86	[1]0215	38	11	420	<.01	<.1	30	4.7	2.0
	08-26-86	0515	120	31	6	<.01	<.1	41	7.6	3.9
	09-11-86	0454	69	15	6	<.05	<.1	56	7.4	2.1
	09-11-86	0524	24	10	1	<.05	<.1	16	2.6	3.3
C28	[2]07-31-86	[1]0200	130	25	--	--	--	--	--	--
	[2]09-11-86	[1]0600	73	40	--	--	--	--	--	--
C29	[2]07-31-86	[1]0200	160	43	--	--	--	--	--	--
	[2]09-11-86	[1]0600	130	48	--	--	--	--	--	--
C31	[2]05-17-86	[1]0100	180	--	3	.33	<.1	110	21	25
	[2]07-07-86	[1]2200	56	50	<1	<.01	<.1	27	4.8	14
	[2]07-08-86	[1]2400	59	24	2	.05	<.1	100	23	7.7
	[2]07-31-86	[1]0200	--	31	--	--	--	--	--	--
	[2]09-11-86	[1]0600	200	118	--	--	--	--	--	--
C33	07-08-86	2345	42	27	<1	<.01	.2	47	13	18
SS4	07-08-86	2315	25	11	1	.03	<.1	12	1.2	1.8
SS7	07-08-86	2330	28	14	2	.16	<.1	15	1.3	5.0
SS24	05-16-86	[1]2230	260	46	2	.11	.2	70	22	49
	05-16-86	[1]2330	200	54	2	.13	.2	62	17	46
	05-17-86	[1]0030	180	55	2	.28	.1	43	7.3	24
	07-07-86	[1]1930	360	79	26	.11	.1	220	42	18
	07-07-86	[1]2036	80	18	1	.05	<.1	47	5.4	8.4
	07-31-86	[1]0115	3	2.6	2	.14	.2	--	--	--
	07-31-86	[1]0215	4	3.1	<1	.05	.2	140	62	82
	07-31-86	[1]0315	4	3.0	<1	<.01	.2	140	63	83

	T08-26-86	0520	56	19	5	<.01	<.1	34	4.9	5.5
	08-26-86	0706	130	23	5	.12	.1	49	15	22
	08-26-86	1502	96	22	1	.01	<.1	34	9.1	14
	09-11-86	[1]0600	320	100	5	.32	.2	67	14	47
	09-11-86	[1]0700	100	27	3	<.05	.2	99	40	50
	09-11-86	[1]0800	180	43	3	<.05	.2	36	7.6	13
	09-11-86	1450	51	18	--	--	--	--	--	--
	09-11-86	1555	50	12	3	<.05	<.1	30	4.0	6.5
	09-11-86	1755	45	10	3	<.05	<.1	25	5.0	6.8
	09-11-86	1955	55	13	4	<.05	<.1	43	13	19
SS34	07-08-86	2355	32	10	1	<.01	<.1	34	5.4	14
	07-09-86	0138	20	9.4	<1	<.01	.1	24	5.4	8.6
SS35	05-16-86	[1]2205	230	27	10	<.01	<.1	80	14	8.4
	05-16-86	[1]2305	960	40	30	<.01	.1	290	57	15
	05-17-86	[1]0005	510	66	21	<.01	<.1	180	29	11
	07-31-86	[1]0115	77	40	--	--	--	80	12	10
	07-31-86	[1]0145	180	36	--	--	<.1	--	--	--
	08-26-86	0542	320	--	4	<.01	<.1	54	7.6	5.9
	09-11-86	0431	100	33	6	<.05	.3	120	50	36
	09-11-86	0500	170	82	2	.07	.1	50	12	13
	09-11-86	[1]1634	260	70	4	<.05	<.1	71	11	6.8
	09-11-86	1640	62	27	--	--	--	--	--	--
RR1	05-16-86	[1]2300	190	61	19	<.01	.2	79	14	13
	05-16-86	[1]2400	51	15	12	<.01	.2	41	8.3	12
	05-17-86	[1]0100	31	13	10	<.01	.2	40	8.8	13
	07-07-86	[1]2000	160	33	3	.05	<.1	100	11	5.8
	07-08-86	[1]2330	110	32	36	<.01	<.1	60	7.2	9.1
	07-09-86	[1]0030	34	14	15	.05	<.1	35	5.9	11
	07-09-86	[1]0130	27	9.3	20	<.01	<.1	30	4.5	7.0
	09-11-86	[1]0630	160	35	11	--	.2	74	16	11
	09-11-86	1555	68	13	--	--	--	--	--	--

Table 16.--Constituent concentrations determined from approximately 50 percent of the samples collected during storm events between May and September 1986--Continued

Site code	Date (month-day-year)	Potassium, total recoverable (mg/L as K)	Barium, total recoverable (µg/L as Ba)	Boron, total recoverable (µg/L as B)	Beryllium, total recoverable (µg/L as Be)	Cadmium total recoverable (µg/L as Cd)	Chromium, total recoverable (µg/L as Cr)	Copper, total recoverable (µg/L as Cu)	Cobalt, total recoverable (µg/L as Co)	Iron, total recoverable (µg/L as Fe)
C6 (Cont.)	07-31-86	3.8	600	130	<0.5	13	30	740*	20	19,000*
C16	09-11-86	--	--	--	--	--	--	--	--	--
C20	05-17-86	.5	30	<50	<1.0	<3	12	22	7	1,500
	07-08-86	.9	60	<50	<2.0	<3	13	93	<5	3,600
C22	05-17-86	1.3	100	<50	<.5	27	11	55	<5	4,200
	07-08-86	2.3	200	70	<.5	11	16	170*	<5	9,000*
	07-08-86	.7	20	<50	4.0	<3	<5	28	<5	1,100
	07-08-86	1.3	40	70	6.0	<3	<5	59	<5	860
	07-09-86	.9	20	<50	5.0	<3	10	14	8	400
	07-31-86	2.4	100	70	<.5	13	17	130*	<5	7,100*
	07-31-86	1.3	60	<50	<.5	4	6	72	<5	4,100
	07-31-86	1.0	40	<50	<.5	3	9	45	<5	2,900
	08-26-86	2.5	80	80	<.5	<3	12	71	<5	5,400*
	09-11-86	.6	70	<50	2.0	4	<5	73	<5	4,900
	09-11-86	.7	20	<50	<2.0	<3	<5	18	<5	840
C28	07-31-86	--	--	--	--	--	--	--	--	--
	09-11-86	--	--	--	--	--	--	--	--	--
C29	07-31-86	--	--	--	--	--	--	--	--	--
	09-11-86	--	--	--	--	--	--	--	--	--
C31	05-17-86	2.4	90	<50	<1.0	<3	17	47	5	7,200*
	07-07-86	2.1	30	170	<.5	<3	<5	33	<5	1,800
	07-08-86	1.8	90	60	<.5	<3	21	46	<5	8,000*
	07-31-86	--	--	--	--	--	--	--	--	--
	09-11-86	--	--	--	--	--	--	--	--	--
C33	07-08-86	1.3	60	100	<.5	<3	11	38	<5	2,000
SS4	07-08-86	1.4	20	<50	<.5	<3	<5	8	<5	790
SS7	07-08-86	2.3	20	<50	<.5	<3	<5	<5	<5	810
SS24	05-16-86	13	50	210	<.5	<3	11	49	<5	1,700
	05-16-86	8.1	50	170	<.5	<3	12	35	<5	1,700
	05-17-86	5.5	40	120	<.5	3	15	130*	<5	1,100
	07-07-86	8.0	500	170	<2.0	25	99	730*	<5	26,000*
	07-07-86	1.8	50	<50	<.5	<3	11	250*	<5	2,600
	07-31-86	--	--	--	--	--	--	--	--	--
	07-31-86	1.4	40	460	<.5	3	110	8	6	70
	07-31-86	1.4	40	470	<5.0	<3	70	8	<5	<50

	08-26-86	2.4	40	<50	2.0	<3	32	46	<5	2,300
	08-26-86	3.2	90	130	4.0	4	320	110*	6	5,800
	08-26-86	2.5	40	90	3.0	3	150	25	7	2,500
	09-11-86	6.0	80	130	2.0	<3	88	78	7	3,300
	09-11-86	3.3	90	240	<1.0	4	9	180*	7	3,700
	09-11-86	3.2	40	70	.5	<3	37	44	<5	1,700
	09-11-86	--	--	--	--	--	--	--	--	--
	09-11-86	1.1	40	60	5.0	<3	6	19	5	2,500
	09-11-86	1.4	30	<50	<5.0	<3	24	51	<5	2,000
	09-11-86	1.9	50	100	<5.0	<3	46	31	<5	2,800
SS34	07-08-86	.7	50	90	<.5	<3	<5	11	<5	2,600
	07-09-86	.6	30	120	<.5	<3	<5	<5	<5	430
SS35	05-16-86	5.4	200	50	<.5	3	13	48	6	13,000*
	05-16-86	10	1,000	190	7.0	19	37	290*	30	58,000*
	05-17-86	10	400	110	<2.0	8	27	120*	10	26,000*
	07-31-86	4.5	70	130	<.5	8	13	23	7	4,000
	07-31-86	--	--	--	--	--	--	--	--	--
	08-26-86	9.1	50	80	<2.0	<3	<5	90	<5	4,000
	09-11-86	6.2	100	470	<.5	<3	9	11	<5	6,500*
	09-11-86	9.4	60	170	<.5	<3	<5	21	<5	2,000
	09-11-86	4.1	100	60	<2.0	<3	12	31	<5	7,400*
	09-11-86	--	--	--	--	--	--	--	--	--
RR1	05-16-86	4.2	100	120	<2.0	8	18	63	10	7,200*
	05-16-86	3.6	60	90	<.5	<3	5	18	<5	1,700
	05-17-86	3.2	40	120	<.5	<3	<5	13	<5	1,400
	07-07-86	4.7	100	70	<.5	<3	<5	28	<5	6,300*
	07-08-86	3.2	80	80	<.5	<3	20	57	<5	4,600
	07-09-86	2.6	40	100	<.5	<3	14	17	<5	980
	07-09-86	1.7	30	60	<.5	<3	13	18	<5	1,500
	09-11-86	4.7	100	130	.5	<3	13	120*	<5	7,000*
	09-11-86	--	--	--	--	--	--	--	--	--

Table 16.--Constituent concentrations determined from approximately 50 percent of the samples collected during storm events between May and September 1986--Continued

Site code	Date (month-day-year)	Lead, total recoverable (µg/L as Pb)	Manganese, total recoverable (µg/L as Mn)	Nickel, total recoverable (µg/L as Ni)	Silver, total recoverable (µg/L as Ag)	Strontium, total recoverable (µg/L as Sr)	Vanadium, total (µg/L as V	Zinc, total recoverable (µg/L as Zn)	Aluminum, total recoverable (µg/L as Al)
C6 (Cont.)	07-31-86	610*	430	43	8	180	26	1,400	9,300
C16	09-11-86	--	--	--	--	--	--	--	--
C20	05-17-86	120	88	6	14	30	5	180	800
	07-08-86	200	180	<5	140*	30	<5	310	1,600
C22	05-17-86	190	220	8	4	40	9	300	1,800
	07-08-86	450	570	8	<3	70	10	900	4,100
	07-08-86	<100	74	<20	<3	20	<5	180	520
	07-08-86	<100	54	<5	<3	30	<3	190	440
	07-09-86	<100	41	13	<3	20	<5	120	190
	07-31-86	280	370	12	<3	50	10	860	3,300
	07-31-86	160	230	7	<3	30	<5	390	1,600
	07-31-86	140	170	7	<3	20	<5	260	1,200
	08-26-86	170	220	8	<3	40	7	420	2,200
	09-11-86	220	240	<5	<3	30	<5	440	1,900
	09-11-86	<50	56	<5	<3	20	<5	100	390
C28	07-31-86	--	--	--	--	--	--	--	--
	09-11-86	--	--	--	--	--	--	--	--
C29	07-31-86	--	--	--	--	--	--	--	--
	09-11-86	--	--	--	--	--	--	--	--
C31	05-17-86	320	430	<5	<3	70	9	380	2,300
	07-07-86	<50	130	<5	<3	30	<5	220	500
	07-08-86	430	490	<5	<3	50	7	420	3,100
	07-31-86	--	--	--	--	--	--	--	--
	09-11-86	--	--	--	--	--	--	--	--
C33	07-08-86	<50	92	<5	<3	70	<5	150	390
SS4	07-08-86	<50	54	<5	<3	10	<5	<100	500
SS7	07-08-86	<50	51	<5	<3	20	<5	<100	460
SS24	05-16-86	110	170	17	<3	110	6	200	740
	05-16-86	<100	160	31	4	130	8	190	710
	05-17-86	<100	140	19	<3	80	<5	260	460
	07-07-86	2,900*	2,000	48	<3	160	34	2,100	12,000
	07-07-86	100	190	<5	<3	50	<5	200	1,100
	07-31-86	--	--	--	--	--	--	--	--
	07-31-86	<50	13	12	<3	170	<5	<50	<50
	07-31-86	<50	7	<5	<3	170	<5	<50	<50

	08-26-86	<100	150	<5	<3	30	<5	170	1,400
	08-26-86	290	240	11	<3	70	11	310	4,000
	08-26-86	120	120	9	3	40	7	180	1,800
	09-11-86	210	460	16	<3	90	7	440	1,400
	09-11-86	280	200	12	<3	130	10	280	2,100
	09-11-86	120	160	11	<3	50	5	230	800
	09-11-86	--	--	--	--	--	--	--	--
	09-11-86	110	130	<5	<3	30	<5	150	1,400
	09-11-86	<100	90	11	<3	30	<5	110	1,100
	09-11-86	<100	110	12	<3	60	<5	210	1,700
SS34	07-08-86	<50	170	<5	<3	40	<5	160	1,400
	07-09-86	<50	33	<5	<3	50	<5	160	240
SS35	05-16-86	350	1,000	17	<3	70	21	440	6,700
	05-16-86	1,500*	3,900	71	<3	240	100	2,500	33,000
	05-17-86	650*	1,400	34	<3	120	45	1,100	14,000
	07-31-86	140	370	14	3	70	9	150	1,700
	07-31-86	--	--	--	--	--	--	--	--
	08-26-86	<50	290	<5	<3	40	<5	230	2,000
	09-11-86	<50	2,300	10	<3	170	<5	110	520
	09-11-86	<50	370	<5	<3	60	<5	140	760
	09-11-86	240	970	7	<3	50	7	310	2,500
	09-11-86	--	--	--	--	--	--	--	--
RR1	05-16-86	210	400	12	<3	90	11	420	3,100
	05-16-86	<100	95	6	<3	70	<5	100	640
	05-17-86	<50	64	<5	<3	80	<5	<100	470
	07-07-86	210	550	<5	<3	70	9	340	3,000
	07-08-86	110	--	260	<3	60	6	300	1,700
	07-09-86	<50	59	<5	<3	70	<5	<100	440
	07-09-86	<50	82	<5	<3	50	<5	<100	530
	09-11-86	200	1,000	10	<3	90	9	270	2,600
	09-11-86	--	--	--	--	--	--	--	--

* Indicates constituent concentrations that do not meet Illinois State general use or effluent water-quality standards for stream sites and point sources, respectively (Illinois Pollution Control Board, 1986).

[1] Indicates sample times are estimated.

[2] Indicates a sample collected from a single-stage sampler.

Table 17.--Constituent concentrations determined from samples collected once during each sampled storm event between May and September 1986

[Site numbers correspond to those in figures 3 and 5-8 and tables 1 and 2 of this report; mg/L, milligrams per liter; µg/L, micrograms per liter; $CaCO_3$, calcium carbonate; <, less than; dashes indicate no data. Footnotes are at end of table.]

Site code	Date (month-day-year)	Time (hours)	Hardness (mg/L as $CaCO_3$)	Chloride, dissolved (mg/L as Cl)	Sulfate dissolved (mg/L as SO_4)	Phenols total (µg/L)	Solids, residue at 180 deg. C dissolved (mg/L)
1	05-17-86	[1]1355	230	38	24	10	385
	07-08-86	2240	200	15	20	10	160
	07-31-86	0325	220	2.2	<10	10	80
8	05-16-86	2315	350	53	86	10	439
	07-31-86	[1]0245	160	22	38	--	161
	09-11-86	1250	110	9.4	21	15	156
11	05-17-86	0420	400	68	68	5	464
	07-09-86	0215	180	28	27	<5	193
	07-31-86	0335	350	59	38	5	310
	08-26-86	[1]0530	330	90	62	15	549
	09-11-86	1538	150	37	34	10	259
14	05-17-86	0800	290	72	49	5	485
	07-08-86	0245	330	83	68	5	5,420*
	07-09-86	0730	290	84	54	5	464
	07-31-86	0330	230	36	33	10	242
	09-11-86	1315	300	95	58	5	525
18	05-17-86	1130	360	58	50	15	426
	07-08-86	0845	330	78	60	15	535
	07-31-86	[1]0200	230	22	26	20	147
	09-11-86	[1]1230	340	110	60	15	601
21	07-09-86	0230	230	24	47	10	306
	09-11-86	[1]0715	450	48	130	10	574
23	05-17-86	[1]0630	230	31	50	5	360
	09-11-86	1625	320	34	33	5	427
24	05-17-86	[1]1330	270	21	42	20	222
	07-31-86	0230	250	13	26	10	137
	08-16-86	[1]1615	360	20	38	<5	401
WWTF	07-07-86	2100	290	110	68	<5	580
	07-09-86	[1]0100	290	140	61	15	623
	09-11-86	1200	210	83	33	35	359

Table 17.--Constituent concentrations determined from samples collected once during each sampled storm event between May and September 1986--Continued

Site code	Date (month-day-year)	Time (hours)	Hardness (mg/L as $CaCO_3$)	Chloride, dissolved (mg/L as Cl)	Sulfate dissolved (mg/L as SO_4)	Phenols total (µg/L)	Solids, residue at 180 deg. C dissolved (mg/L)
	09-11-86	2400	220	80	40	15	446
C6	05-17-86	[1]0315	340	15	16	60	205
	07-31-86	[1]0220	570	24	20	25	238
C22	05-17-86	0214	140	4.0	<10	5	103
	07-09-86	[1]0015	40	6.1	<10	<5	75
	07-31-86	[1]0145	130	--	11	5	--
	08-26-86	0515	130	4.4	14	15	117
	09-11-86	0524	51	2.8	<10	10	63
C33	07-08-86	2345	170	20	27	10	255
SS4	07-08-86	2315	34	2.1	<10	<5	83
SS7	07-08-86	2330	42	6.4	<10	10	103
SS24	05-16-86	[1]2230	270	91	100	35	535
	07-07-86	[1]2036	140	11	23	10	155
	07-31-86	[1]0215	590	140	240	<5	897
	08-26-86	0520	100	6.3	16	10	266
	09-11-86	[1]0700	410	91	130	10	662
	09-11-86	1755	81	9.3	20	5	117
SS34	07-08-86	2355	110	22	<10	<5	170
SS35	05-16-86	[1]2205	260	55	32	20	304
	07-31-86	[1]0115	250	16	40	--	211
	08-26-86	0542	170	8.3	20	35	181
	09-11-86	[1]0500	170	18	40	--	273
RR1	05-16-86	[1]2400	130	17	34	--	225
	07-07-86	[1]2000	310	7.8	27	40	171
	07-09-86	[1]0030	110	16	39	5	180
	09-11-86	[1]0630	250	13	27	15	215

* Indicates constituent concentrations that do not meet Illinois State general use or effluent water-quality standards for stream sites and point sources, respectively (Illinois Pollution Control Board, 1986).

[1] Indicates sample times are estimated.