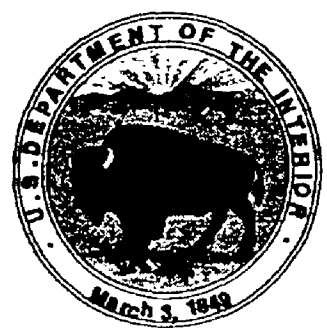
Data on ground-water levels and ground-water/surface-water relations in the Great Miami River and Little Miami River Valleys, Southwestern Ohio

By William P. Yost

U.S. GEOLOGICAL SURVEY
Open-File Report 95-357

Prepared in cooperation with the
U.S. ENVIRONMENTAL PROTECTION AGENCY



Columbus, Ohio
1995

Reprinted September 1995

U.S. DEPARTMENT OF THE INTERIOR
BRUCE BABBITT, Secretary

U.S. GEOLOGICAL SURVEY
Gordon P. Eaton, Director

For additional information write to:

District Chief
U.S. Geological Survey
975 W. Third Ave
Columbus, Ohio 43212-3192

Copies of this report can be purchased from:

U.S. Geological Survey
Earth Science Information Center
Open-File Reports Section
Box 25286, Mail Stop 517
Denver Federal Center
Denver, CO 80225-0425

CONTENTS

FIGURES

TABLES

CONVERSION FACTORS, VERTICAL DATUM, AND ABBREVIATIONS

Multiply	By	To obtain
inch (in.)	25.4	millimeter
foot (ft)	0.3048	meter
mile (mi)	1.609	kilometer
gallon	3.785	liter (L)
foot per second (ft/s)	0.3048	meter per second (m/s)
square mile (mi^2)	2.590	square kilometer
cubic foot per second (ft3/s)	0.02832	cubic meter per second

Temperature is given in degrees Celsius (°C), which can be converted to degrees Fahrenheit (°F) by use of the following equation:

$$°F = 1.8(°C) + 32$$

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 Sea Level Datum of 1929.

Other abbreviations used in this report:

ODNR	Ohio Department of Natural Resources
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
RCRA	Resource Conservation and Recovery Act
USEPA	U.S. Environmental Protection Agency
MCD	Miami Conservancy District
WPAFB	Wright-Patterson Air Force Base
OEPA	Ohio Environmental Protection Agency
NPDES	National Pollution Discharge Elimination System
WWTP	Wastewater Treatment Plant

Data on Ground-Water Levels and Ground-Water/ Surface-Water Relations in the Great Miami River and Little Miami River Valleys, Southwestern Ohio

By **William P. Yost**

Abstract

Hydrogeologic data were collected in September, October, and November 1993 to define the ground-water levels and the ground-water/surface-water relations in the vicinity of Dayton, Ohio. In this report, water levels are listed for 678 wells completed in sand and gravel. Data from 101 streamflow measurements made at selected sites along the Great Miami, Stillwater, Mad, and Little Miami Rivers and their tributaries during a 2-day gain-loss study also are listed. Surface-water altitudes were determined at 11 stream-gaging stations and 39 other streamflow measurement sites. Discharge data for measurements made at 30 storm-sewer outfalls are given. Streamflow and discharge data obtained during the study were used to calculate the gain or loss of streamflow along 16 selected reaches of the Great Miami, Stillwater, Mad, and Little Miami Rivers. Streambed-conductivity data obtained by use of seepage meters at nine different sites also are given.

INTRODUCTION

The city of Dayton and surrounding areas are underlain by extensive sand and gravel deposits that form a buried-valley aquifer. This aquifer, which is nearly 300 ft thick in some locations, is the exclusive source of water for this area of southwestern Ohio. In 1988, it was designated a sole-source aquifer by the U.S. Environmental Protection Agency (1993). The area has numerous sites identified under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the Resource Conservation and Recovery Act (RCRA). The local hydrogeology of many of the CERCLA and RCRA sites has been studied and characterized, but only on a site-specific basis. The regional hydrogeology has not been studied in detail since the mid-1960's (Norris and Spieker, 1966).

The U.S. Geological Survey (USGS), Water Resources Division, performed this study in cooperation with the U.S. Environmental Protection Agency (USEPA), the Miami Conservancy District (MCD), and its cooperators. The USGS, in cooperation with USEPA, MCD, and others, is currently (1995) constructing a ground-water-flow model to help define the ground-water-flow systems in the buried-valley aquifers in the Great Miami and Little Miami River Basins.This model will help place data obtained from existing site-specific studies in the study area into a regional hydrogeologic perspective.

Purpose and Scope

The purpose of this report is to present hydrogeologic data collected in the Great Miami and Little Miami River Valleys during September, October, and November 1993. The ground-water-level survey of 678 wells was completed during the first three weeks of September 1993, at a time of low flow and minimal precipitation. Water-level measurements by the USGS were all made during September 14-16, 1993. Water-level measurements by MCD personnel were all made during September 7-24, 1993. Water levels reported by industries in the study area were measured at various times during September 1-24, 1993, and reported to MCD. Streamflow measurements were made at 101 stream sites, and 30 discharge measurements were made at storm-sewer outfalls for the gain-loss study on September 8-9, 1993. The data collected were used to calculate streamflow gains or losses for 16 reaches on the Great Miami, Stillwater, Mad, and Little Miami

Rivers. Fifty water-surface altitudes were determined during the gain-loss study. Thirteen seepage-meter measurements were completed among nine sites during October and November 1993.

Description of Study Area

The study area (fig. 1) consists of more than 500 mi^2 of rolling hills and river valleys. Most of the study area is in the Great Miami River Basin. The Stillwater River and Mad River drain into the Great Miami River at Dayton. The southeastern corner of the study area is in the Little Miami River Basin.

Data collection was focused on the river valleys because the river valleys overlie the buried-valley aquifer. The valley fill is glacial outwash deposits interbedded with discontinuous till layers. The buried-valley walls and floor are Ordovician shales and interbedded limestones. The shale is considered to be impermeable relative to the sand and gravel fill (Norris and others, 1950). In the uplands, the bedrock is near the surface, where it is overlain by a thin layer of glacial till in most places.

Acknowledgments

The author thanks MCD personnel who helped measure ground-water levels, storm-sewer-outfall discharges and streamflows; the Ohio Department of Natural Resources (ODNR), Division of Water, for providing well-log data; the City of Dayton Water Department personnel for providing water-level data, well locations, and access to Rohrers Island for the gain-loss study; and the City of Oakwood for providing water-level data. The author also thanks the numerous individual well owners who allowed water levels to be measured in their wells, and the industries and municipalities who provided water-level data or allowed access to their wells.

METHODS OF INVESTIGATION

Data on ground-water and surface-water levels, streamflow, storm-sewer-outfall discharge, and streambed permeability were collected by use of methods described in this section. All storm-sewer-outfall discharge measurements were made by MCD personnel.

Ground-Water-Level Survey

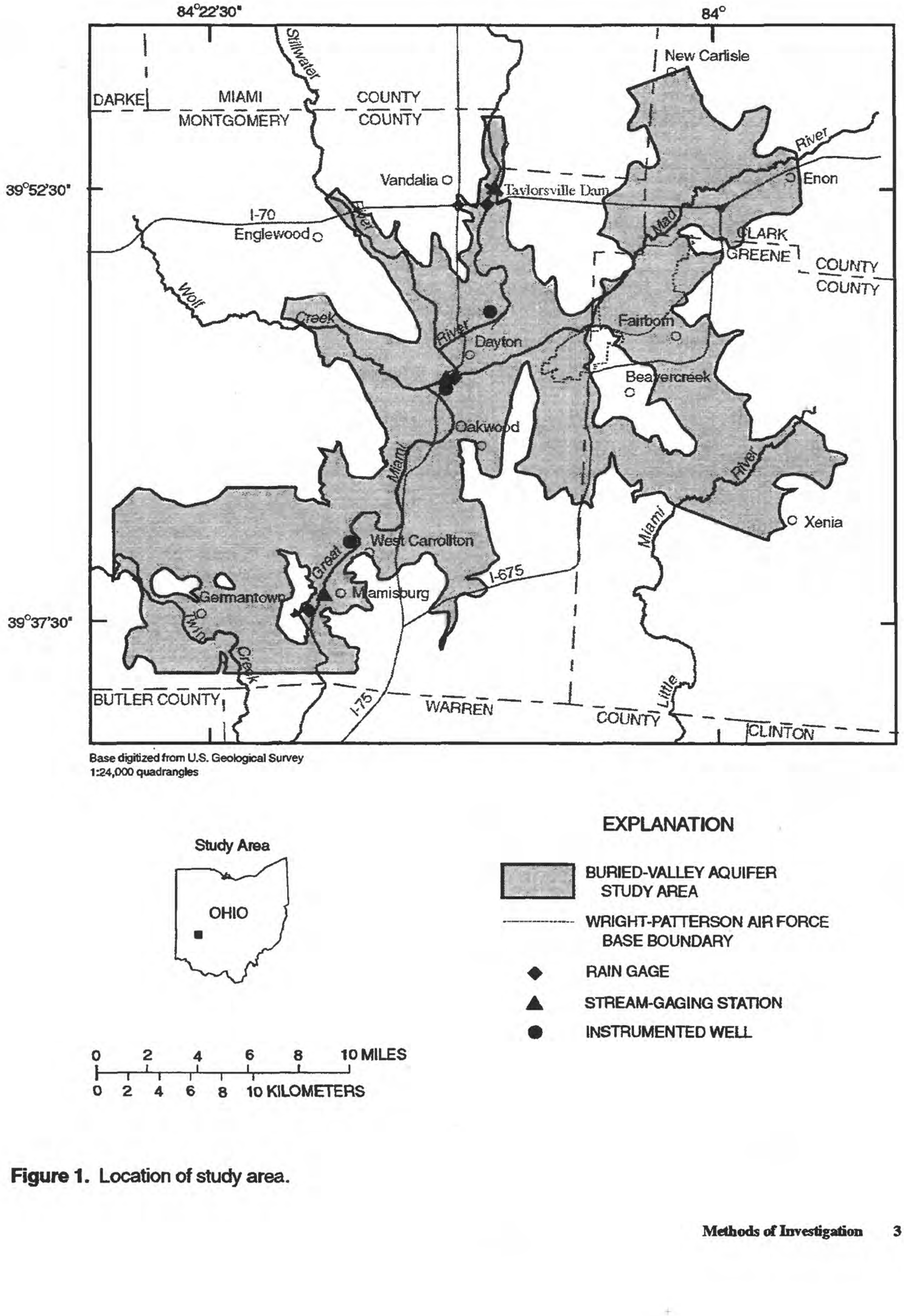
Locations of wells in which water levels were to be measured by MCD and the City of Dayton, in addition to USGS monitoring wells at Wright-Patterson Air Force Base (WPAFB), were plotted on topographic maps. More than 500 well logs were chosen from files at the ODNR, Division of Water, to locate candidate wells that could be used to fill in identified data gaps. The criteria and rationale for choosing the wells represented by these well logs were the following: (1) completion in sand and gravel, to target the aquifer being studied, (2) drilling date after 1970, to limit the number of well logs pulled and to facilitate measurement because the well casing would most likely extend above land surface, and (3) verified location on a reference map or an exact street address, to enable USGS personnel to find the well and measure the water level.

The well logs for each township were divided by section. Because the water levels were to be used in constructing a regional potentiometric map, a target of one water level in each township section of the study area was set. In sections where two adjacent wells were completed at substantially different depths, an attempt was made to measure both to assess the vertical gradient in the aquifer. Density of wells in upland areas was lower than that of wells in buried-valley areas.

Water levels were measured with a chalked steel tape. Measurements are accurate to 0.01 ft. The top of the well casing was used as the measuring point, and a land-surface correction was made to relate water level to land-surface altitude.

The land-surface altitude for most of the private wells measured by the USGS was estimated from topographic maps with 10-ft contour intervals and, therefore, is accurate to 5 ft. The observation wells at WPAFB and 30 domestic wells have been surveyed to National Geodetic Vertical Datum of 1929 (NGVD 1929); for these the land-surface altitude is accurate to 0.01 ft. Three domestic wells in Clark County were surveyed to NGVD 1988. Many of the wells measured by MCD were surveyed to NGVD 1909. The accuracy of the altitude determined by survey is 0.01 ft, but the difference between NGVD 1929 and NGVD 1909 may be +/- 0.4 ft in southwestern Ohio.

USGS personnel measured water levels in 147 domestic water wells, 83 observation and monitoring wells at WPAFB, and 8 test wells in the proposed Clark County well field during September 14-16, 1993. MCD personnel measured water levels in 301 wells during September 7-24, 1993. Data for 139 other wells were reported through MCD by



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

Figure 1. Location of study area.

municipalities and industries participating in this study.

Gain-Loss Study

Streamflow measurements were made at 11 gaging stations in the study area. Other sites on major rivers were chosen to divide the reaches for determination of ground-water discharge or recharge relations between gaging stations. Tributaries were checked to see if they were dry, ponded, or flowing. Streamflow measurements were made on all tributaries whose flow was greater than 0.25 ft^3/s. Streamflow measurements were made on tributaries whose flow was less than 0.25 ft^3/s if the stream cross section at the site of interest was conducive to a streamflow measurement. Otherwise, the streamflow was estimated. Streamflow measurements were made in accordance with established procedures (Rantz and others, 1982). Reference points were marked at most streamflow-measurement sites when the measurements were made. The distance from the reference point down to the water surface was measured and recorded. Of these marked points, 39 were surveyed from established reference points or benchmarks to NGVD 1929. Including those at the gaging stations, a total of 50 surface-water altitudes were determined during the study.

The MCD has identified 284 outfalls, pipes, gates or culverts that empty into the Mad, Stillwater, and Great Miami Rivers, and to Wolf, Holes, Owl, and Sycamore Creeks. In a reconnaissance of these sites in August 1993, MCD investigators identified 69 sites that were potential sites for measurement during the gain-loss measurement period; 30 sites were subsequently measured. The discharge for most of the sites was computed from the measured cross-sectional area and water-velocity measurements made with a Marsh-McBirney[1] velocity meter, which was calibrated to a Price type A current meter. One discharge was calculated by use of a stopwatch and a partially submerged float. All measurements were made during September 8-9, 1993.

Wastewater return flows were determined from daily discharge data filed with the Ohio Environmental Protection Agency (OEPA) on National Pollution Discharge Elimination System (NPDES) permit report forms. NPDES sites were not used if reported discharge was into a storm sewer or was less than 0.25 ft^3/s . The remaining reported sites were plotted on topographic maps to determine whether the permitted outfall was upstream from a streamflow-measurement site and, consequently, whether the wastewater discharge was already included as part of the streamflow at the measurement site. Fifteen NPDES-permitted discharge sites that were determined to have discharged greater than 0.25 ft^3/s were not accounted for during the round of streamflow measurements. Of the 15 sites, 11 are wastewater-treatment plants.

The gain or loss of a particular reach of a river was calculated by making a main-stem streamflow measurement; subtracting out all tributary inputs, reported NPDES discharges, and wastewater treatment plant (WWTP) discharges; and then subtracting the next upstream main-stem streamflow measurement. If the difference was negative, the reach was considered to have lost water. If the difference was positive, the reach was considered to have gained water.

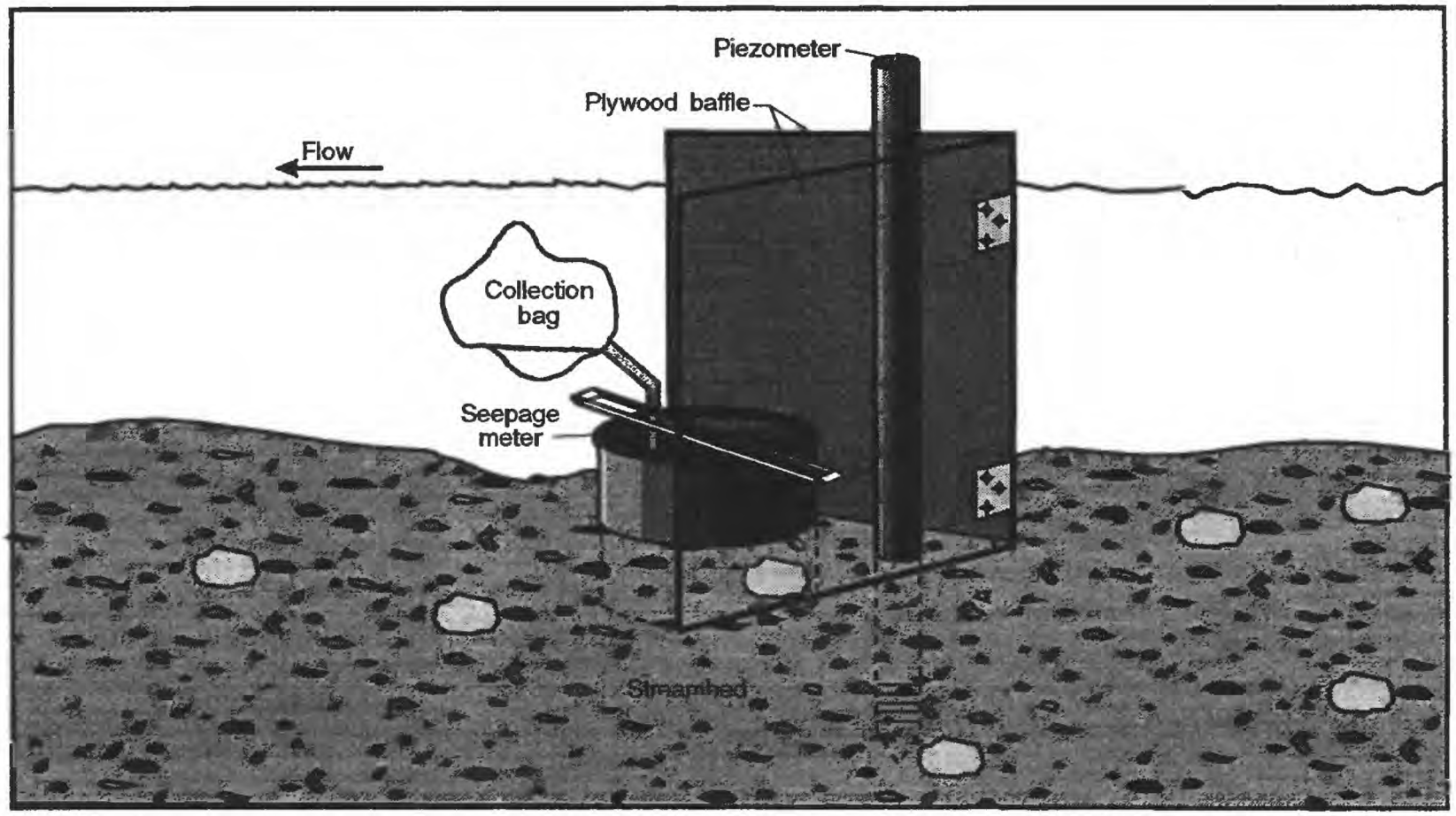
Seepage-Meter Measurements

Seepage-meter measurements were used to determine streambed permeabilities. These meters measure the flux between ground-water and surface-water bodies by isolating a portion of the streambed and measuring the quantity of water that moves into or out of the meter. Criteria for successful use of the meters included site accessibility, suitability of bed material, water depth of less than 2 ft, and water velocity less than 3 ft/s. The bed material had to be mostly sand and silt or clay with some gravel but very few cobbles. Cobbles and boulders interfere with penetration of the seepage meter into the streambed, and the fine materials are needed to form a seal around the piezometer and the meter. Measurements were made on the Great Miami, Stillwater, Mad, and Little Miami Rivers.

Each seepage meter was constructed from the top one-third of a 55-gal steel drum. Handles and reinforcing steel were welded onto this drumtop (fig. 2). A rubber stopper, connected to a sealed plastic bag by tubing, was installed in the bunghole. Meters similar to those used in this study are described by Lee (1977).

Plywood baffles were installed on the upstream side of the meter to simulate the lacustrine environ-

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



Not to scale

Figure 2. Seepage meter and piezometer.

ment for which these meters were originally designed. Creating an "artificial backwater area" helped prevent current-induced measurement errors.

A piezometer was used to determine the hydraulic gradient between the stream and the shallow ground water. At each site, the piezometer was installed by driving it into the streambed so that the midpoint of the screen was approximately 18 in. below the surface of the streambed. To determine the hydraulic gradient, investigators compared the water level inside the piezometer to the water level outside the piezometer. These water levels were measured with a chalked steel tape and are accurate to 0.01 ft. Measurements of the hydraulic gradient were made before, during, and after the seepage-meter measurements. The final measurement of the hydraulic gradient was used in the calculations so that water levels in the piezometer could recover from any changes caused by emplacement and development.

If the water level inside the piezometer was lower than that outside the piezometer, the hydraulic gradient at the site was assumed to be downward and the stream reach to be a losing reach, or an area of ground-water recharge. For seepage-meter measurements in losing reaches, 400 to 600 mL of water was placed into the collection bag before it was attached by tubing to the seepage meter. After a predetermined period of time ranging from 11 minutes to 2 hours (based on the hydraulic gradient), the collection bag was removed from the meter, and the remaining water was measured to determine the volume of water lost. Where the water level inside the piezometer was higher than that outside the piezometer, the hydraulic gradient was assumed to be upward and the stream reach to be a gaining reach, or an area of ground-water discharge. For areas determined to be gaining reaches, only 200 mL of water (just enough to help submerge the bag) was placed in the collection bag before emplacement. After a predetermined time interval, the gain in volume was measured. Measurements were repeated at most sites so that an average could be calculated.

Two procedural sources of error should be noted. Regarding the first source, water volumes placed in the bag or poured out of the bag were measured with a 100-mL graduated cylinder with a toler-

ance of +/- 0.6 mL. During measurement of multiple volumes of water with a graduated cylinder, each cylinder volume introduces some error into the total volume measured. Regarding the second source, the sides of the meter may be deformed during emplacement, possibly changing the area of streambed being isolated by the meter.

The permeability of the streambed was calculated from the data collected by use of Darcy's law:

$$Q = -KA\ dh/dl.$$

Solving for -K, the equation becomes

$$-K = Q/A\ (dh/dl),$$

where
Q is the change in volume of water in the collection bag (discharge or recharge);
K is the hydraulic conductivity, or permeability, of the streambed;
A is the area of the streambed covered by the meter (cross-sectional area); and
dh/dl is the hydraulic gradient between the stream and the aquifer.

At four of these sites, two meters were installed at a selected distance apart so that seepage could be determined under different water-depth and bed-material conditions. Measurements were attempted at additional sites (especially on the Stillwater and Little Miami Rivers); however, the coarseness of the bed materials prevented installation of piezometers and seepage meters. Strong currents commonly wash away silt and clay in such locations, and piezometers cannot be properly installed to measure hydraulic gradient in a streambed that is mostly gravel and cobbles.

GROUND-WATER LEVELS

The geographic distribution of measured wells is shown in figure 3. The water-level data from the 678 wells are given in table 1 (at back of report). Although some rain fell on September 15, the amount was minimal. No rain fell in the study area on September 14 or 16. Rainfall data and well hydrographs for the time period of the study are shown in figures 4 and 5.

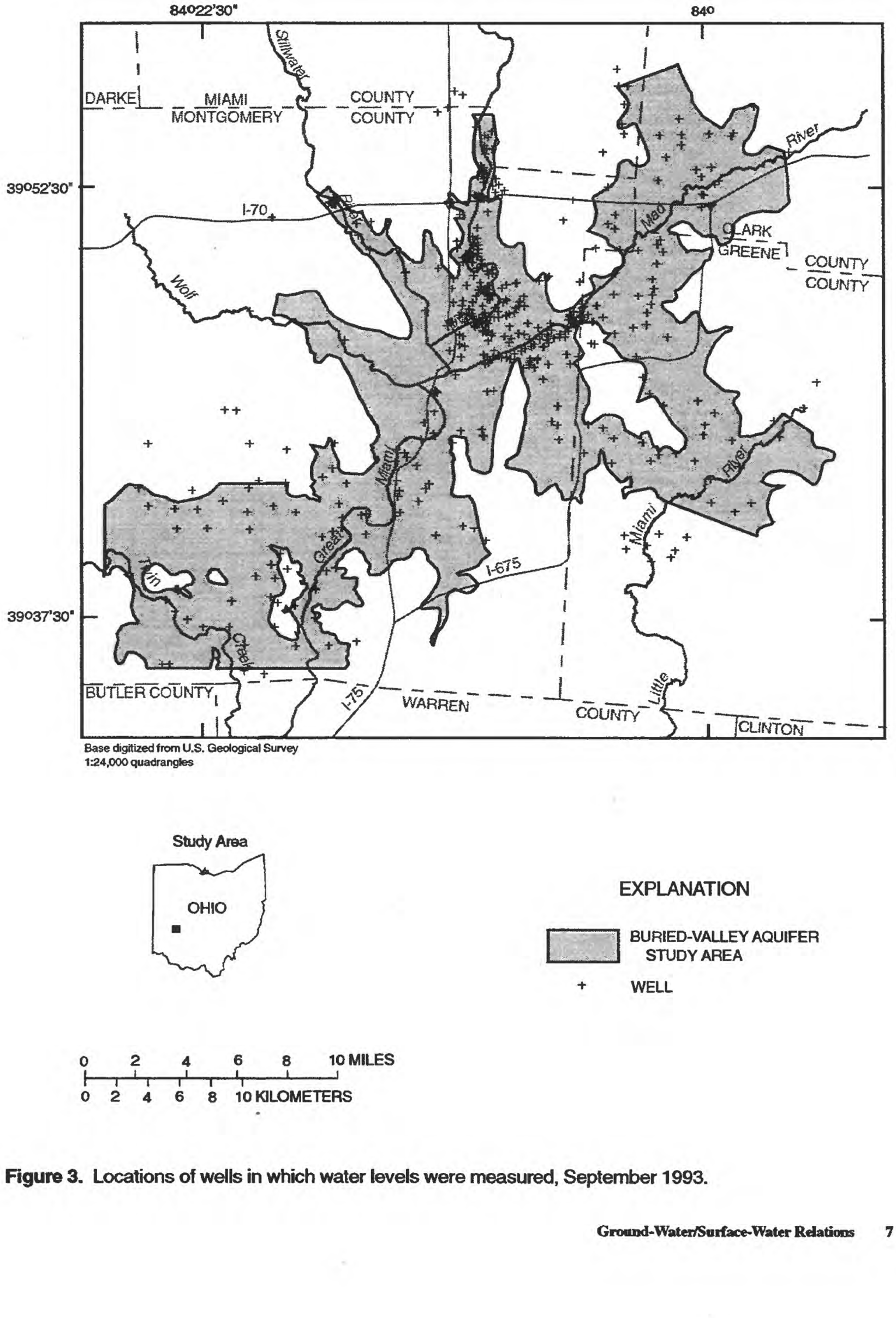
GROUND-WATER/SURFACE-WATER RELATIONS

Ground-water/surface-water relations were investigated by means of the gain-loss study and streambed-permeability measurements. A trace of rain was recorded upstream within the study area on September 8, but no rain occurred on September 9. Flow durations are given below for selected gaging stations where the streamflow measurements were made.

River Name	Station Number	Discharge (cubic feet per second)	Flow duration (percent)
Great Miami River	03263000	190	68
Great Miami River	03270500	630	66
Great Miami River	03271500	738	71
Stillwater River	03266000	77.6	73
Mad River	03269500	386	39
Mad River	03270000	389	51
Wolf Creek	03271000	10.2	70
Holes Creek	03271300	1.75	84
Little Miami River	03240000	22.6	79
Massies Creek	03241500	3.03	96

Streamflow hydrographs for selected gaging stations on the Great Miami River are shown in figure 6. Streamflow-measurement sites are shown in figure 7, and the measured flows are listed in table 2. Site numbers for gaging stations within the study area also are listed in table 2. Sewer-outfall measurement sites and NPDES discharge sites are shown in figure 8, and sewer-outfall discharge measurement data are given in table 3. Table 4 lists each NPDES site, receiving river, river-mile location, and streamflow. Results of gain-loss calculations are listed in table 5. Only the mainstem measurements are given in table 5. The reaches for which calculations were made are shown in figure 9 and listed in table 5.

Locations of seepage-meter measurements are shown in figure 10. The seepage-meter data are presented in table 6 as collected, without explanation for apparent discrepancies between repeat measurements. In some cases, repeat measurements were not made. One common reason was that results from the first measurement indicated that the site was not yielding usable results; for example, if the piezometer indicated a losing reach but the collection bag gained water.



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

Figure 3. Locations of wells in which water levels were measured, September 1993.

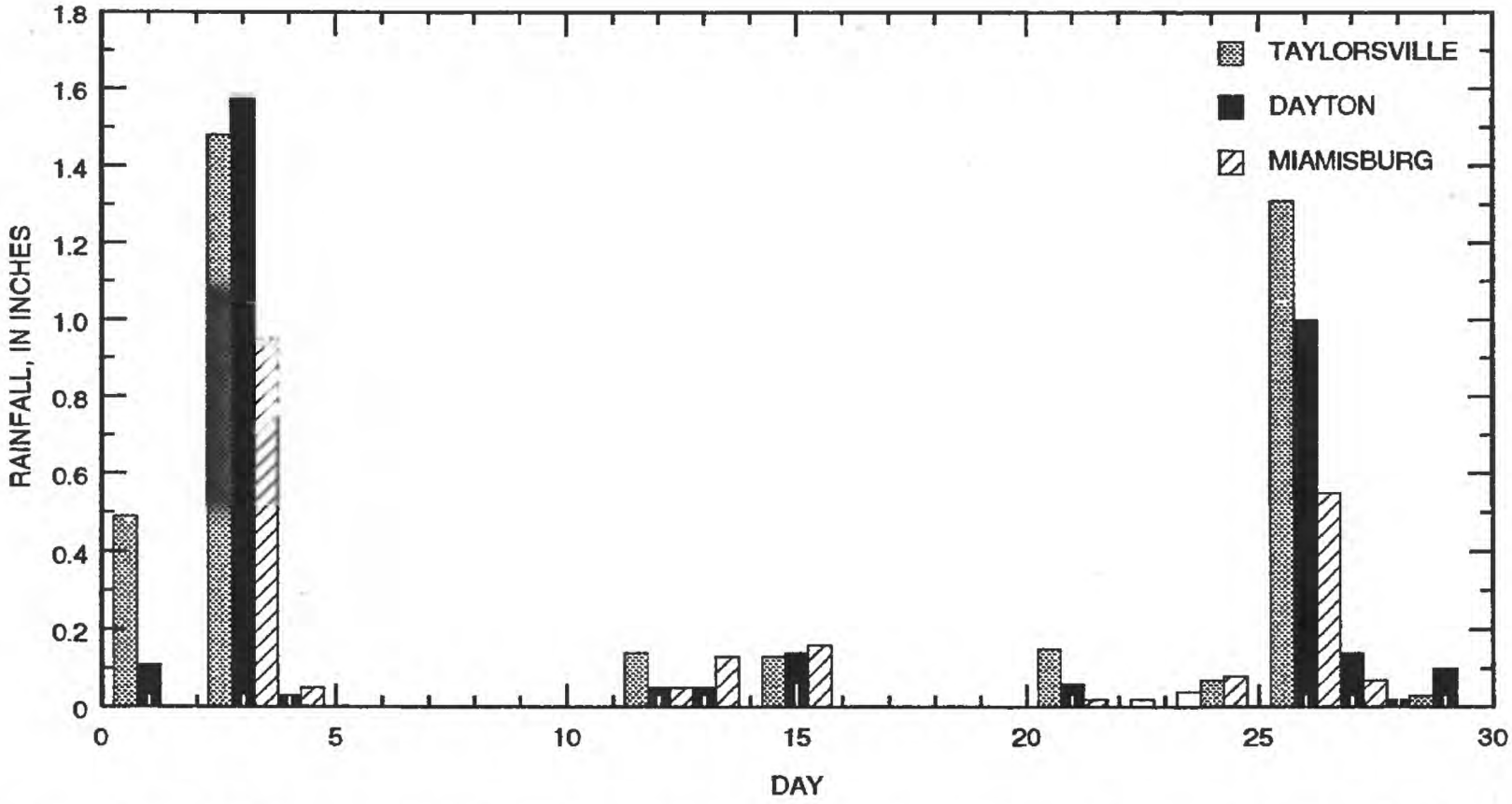


Figure 4. Rainfall recorded at selected precipitation stations in southwestern Ohio, September 1-30, 1993. (Data from the Miami Conservancy District.)

Moreover, if the hydraulic gradient was very small and the change in volume of water in the collection bag was very small, the apparent differences could have been due entirely to measurement error.

SUMMARY

Hydrogeologic data collected in Dayton, Ohio, and the surrounding area during September, October, and November 1993 are presented. Water levels were measured in 678 wells during the period September 1-24. The USGS data were collected in a 3-day period, and the MCD data were collected in a 2-week period. About one-fourth of the water levels were measured and reported by industries and municipalities. All the wells selected for measurement were completed in sand and gravel. The MCD and USGS measured 101 streamflows during September 8-9, 1993. These measurements were made on the Great Miami, Little Miami, Stillwater, and Mad Rivers and their tributaries. Tape-down reference points were surveyed at 39 locations. Together with those at the 11 gaging stations, 50 water-surface altitudes were determined. Seepage meters were used to determine streambed conductivity in the Great Miami, Little Miami, Stillwater, and Mad Rivers. Seepage measurements were made at nine locations. The high proportion of cobbles in some areas prevented measurement with the seepage meters because the meter could not be pushed into the streambed. The seepage-meter measurements were made during late October and early November 1993.

SELECTED REFERENCES

Cunningham, W.L., 1992, Hydrogeology and simulation of ground-water flow at the South Well Field, Columbus, Ohio: Columbus, Ohio, The Ohio State University, Master's thesis, 154 p.

Lee, D.R., 1977, A device for measuring seepage flux in lakes and estuaries: Limnology and Oceanography, v. 22, p. 140-147.

Norris, S.E., Cross, W.P., and Goldthwait, R.P., 1950, The water resources of Greene County, Ohio: Ohio Department of Natural Resources, Division of Water Bulletin 22, 82 p.

Norris, S.E., and Spieker, A. M., 1966, Ground-water resources of the Dayton area, Ohio: U.S. Geological Survey Water-Supply Paper 1808, 167 p.

Ohio Environmental Protection Agency, 1991, Ohio wellhead protection program: Division of Ground Water, 39 p., 5 appends.

Rantz, S.E., and others, 1982, Measurement and computation of streamflow—volume 1, measurement of stage and discharge: U.S. Geological Survey Water-Supply Paper 2175, p. 79-183.

U.S. Environmental Protection Agency, 1993, Designated sole source aquifers nationally: Office of Ground-Water Protection, 12 p.

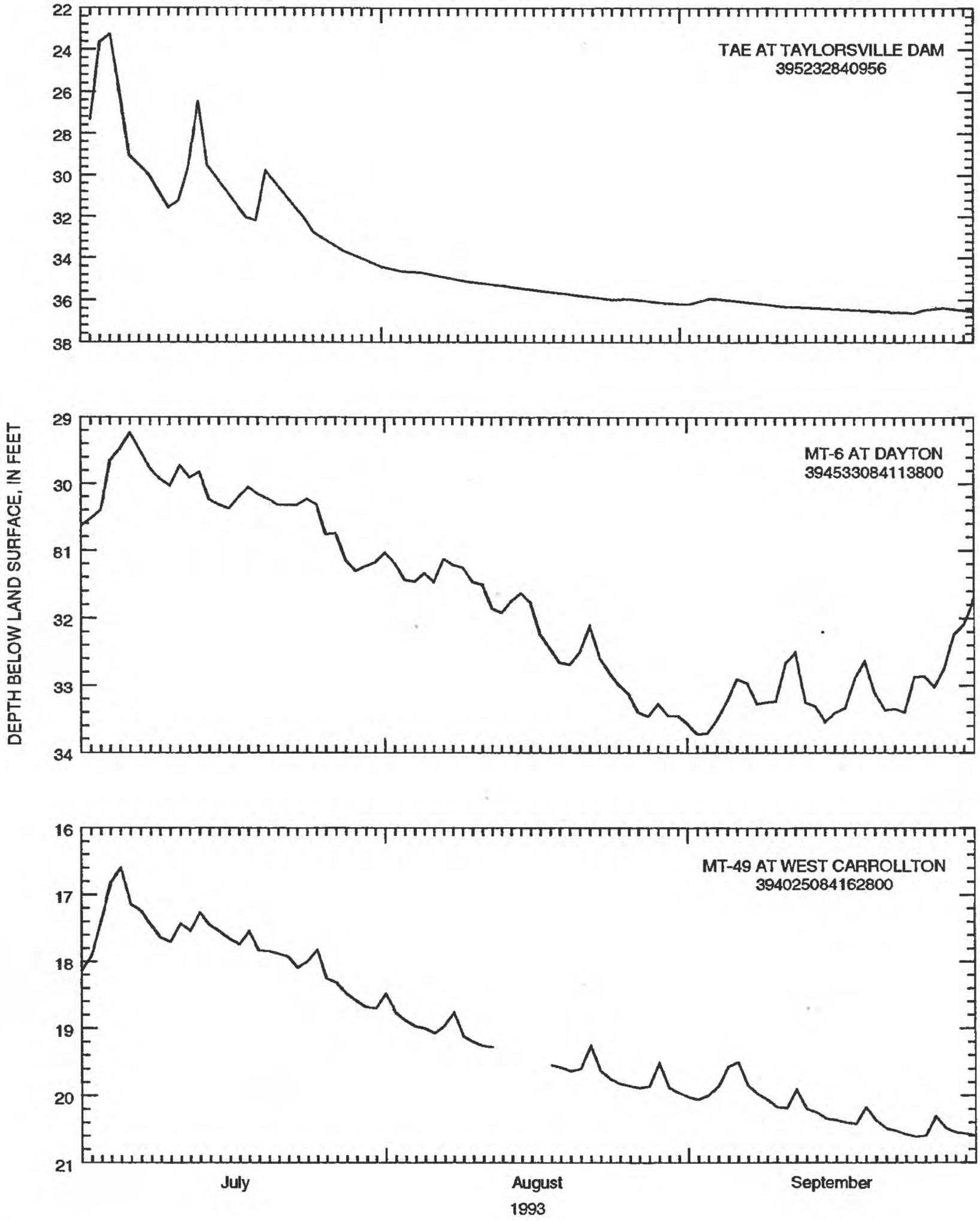


Figure 5. Hydrographs of selected wells in the area of Dayton, Ohio, July 1-September 30, 1993.

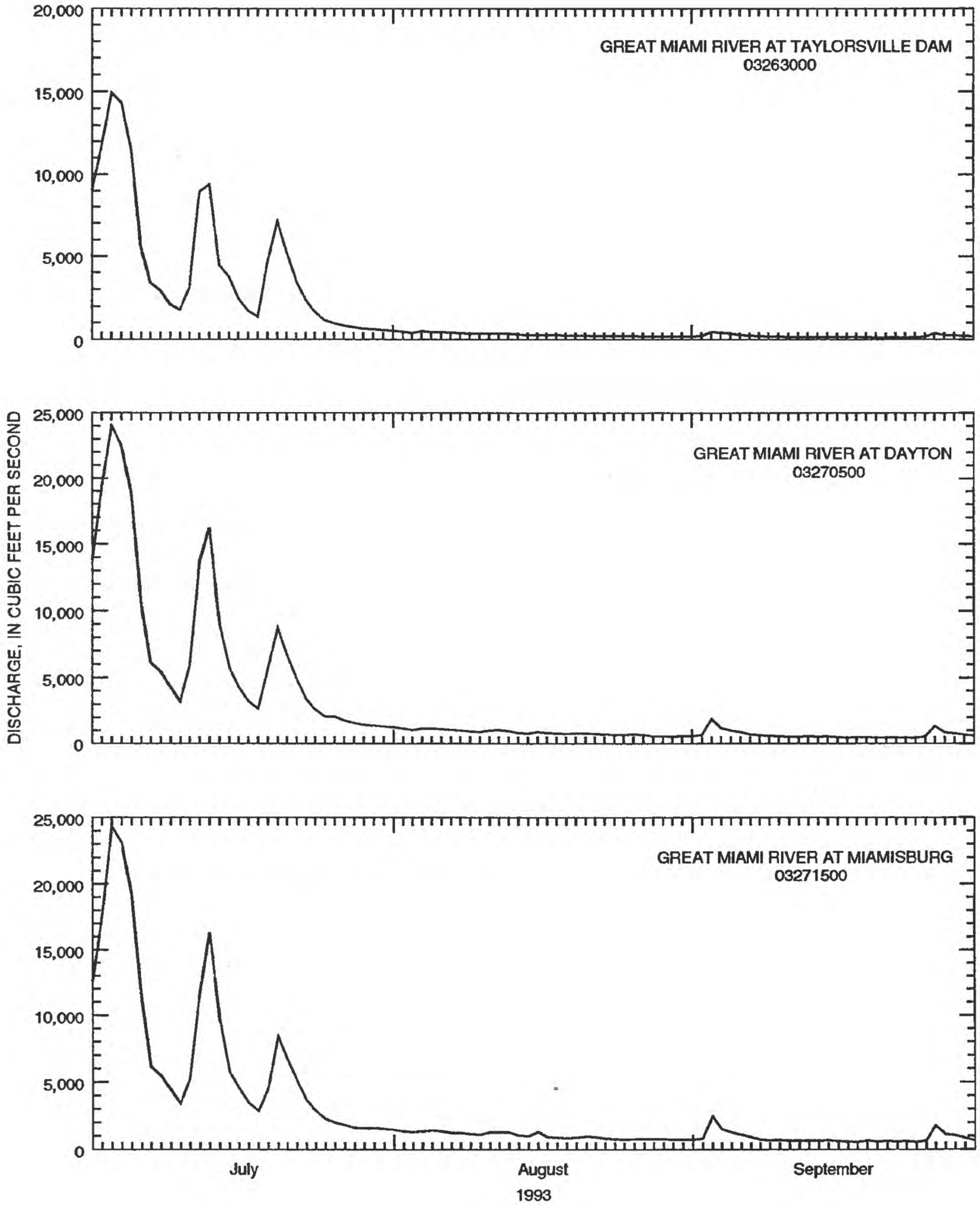
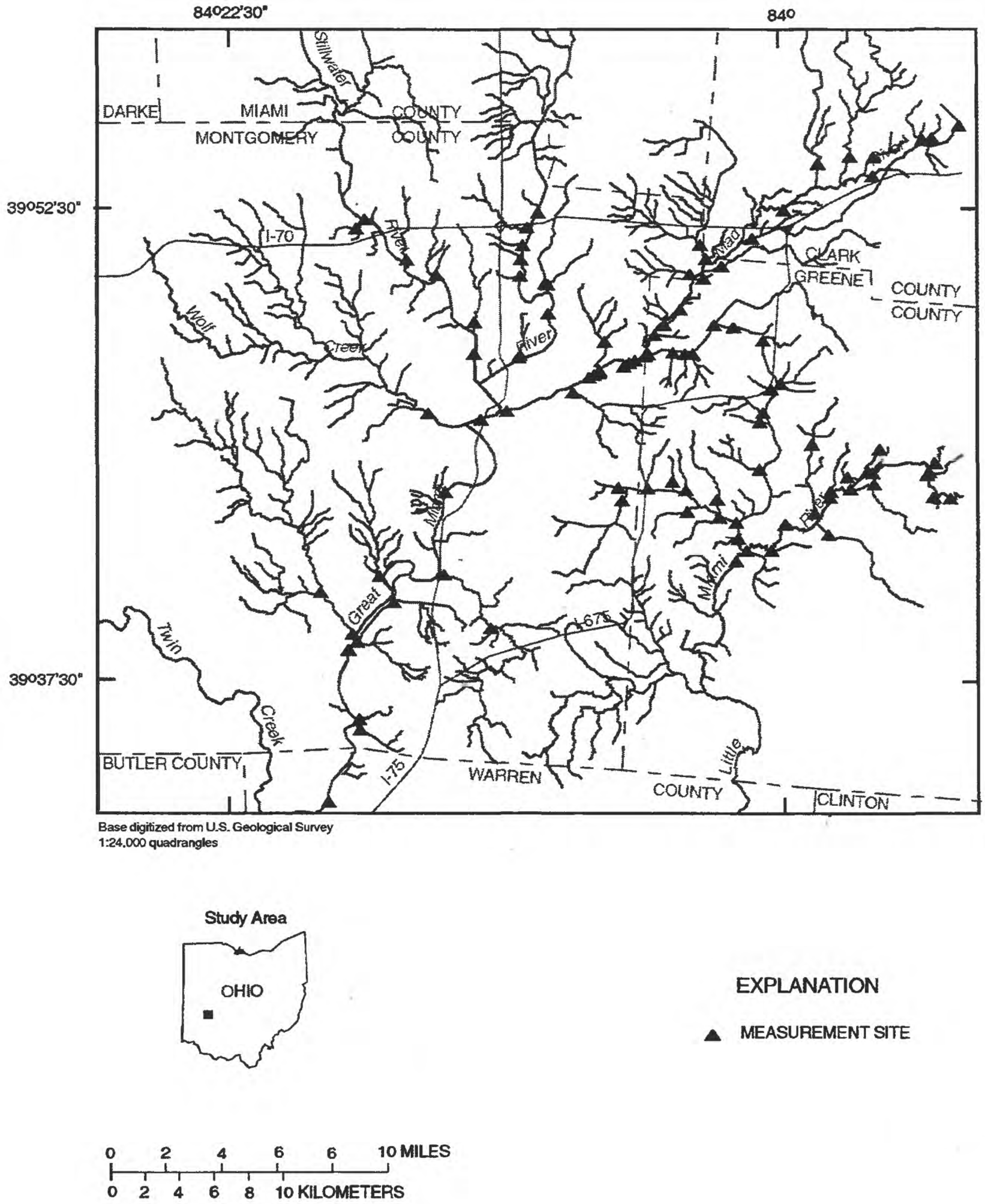


Figure 6. Hydrographs of streamflow at selected stream-gaging stations on the Great Miami River near Dayton, Ohio, July 1-September 30, 1993.



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

Figure 7. Locations of streamflow measurements for gain-loss study, September 8 and 9, 1993.

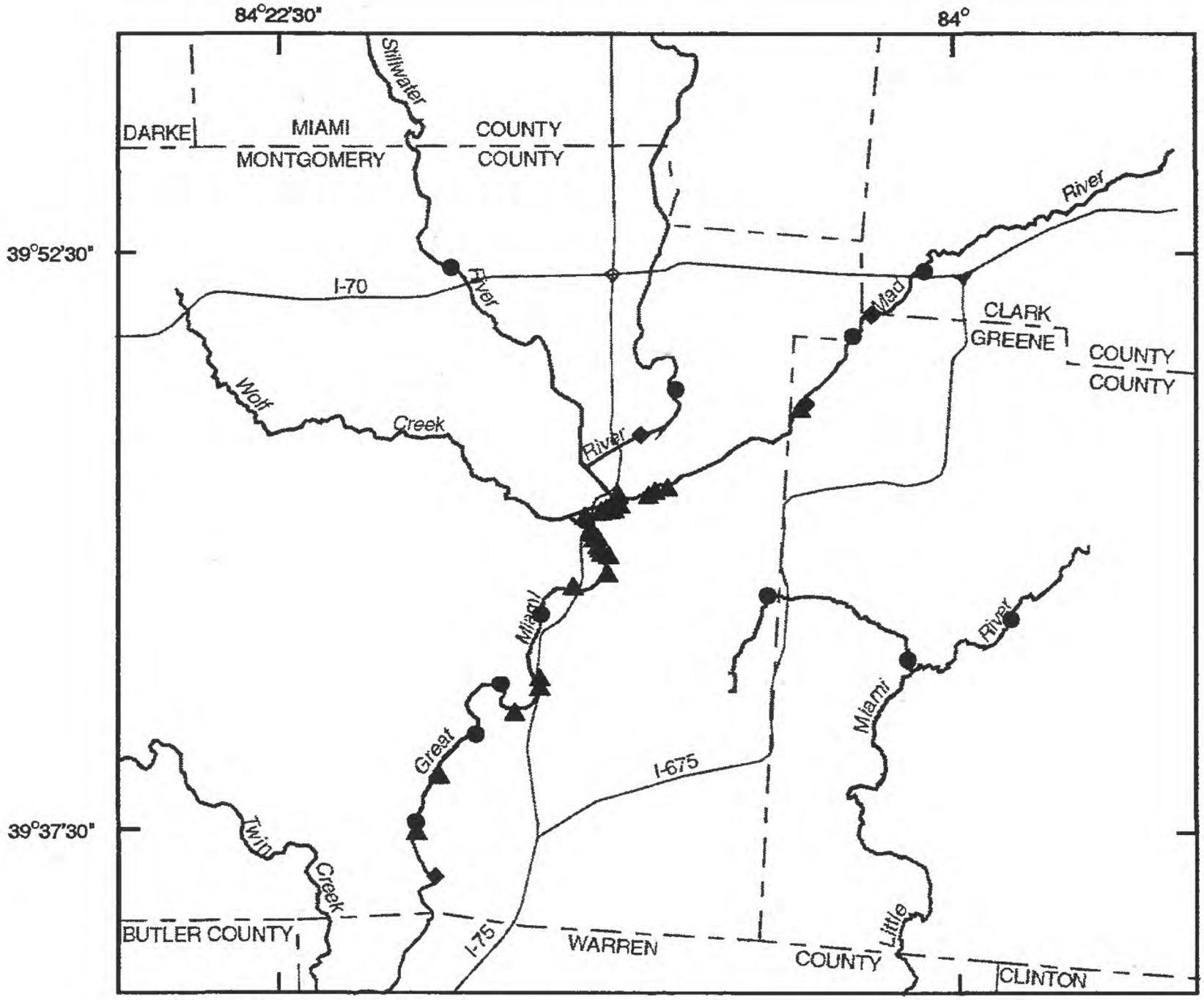
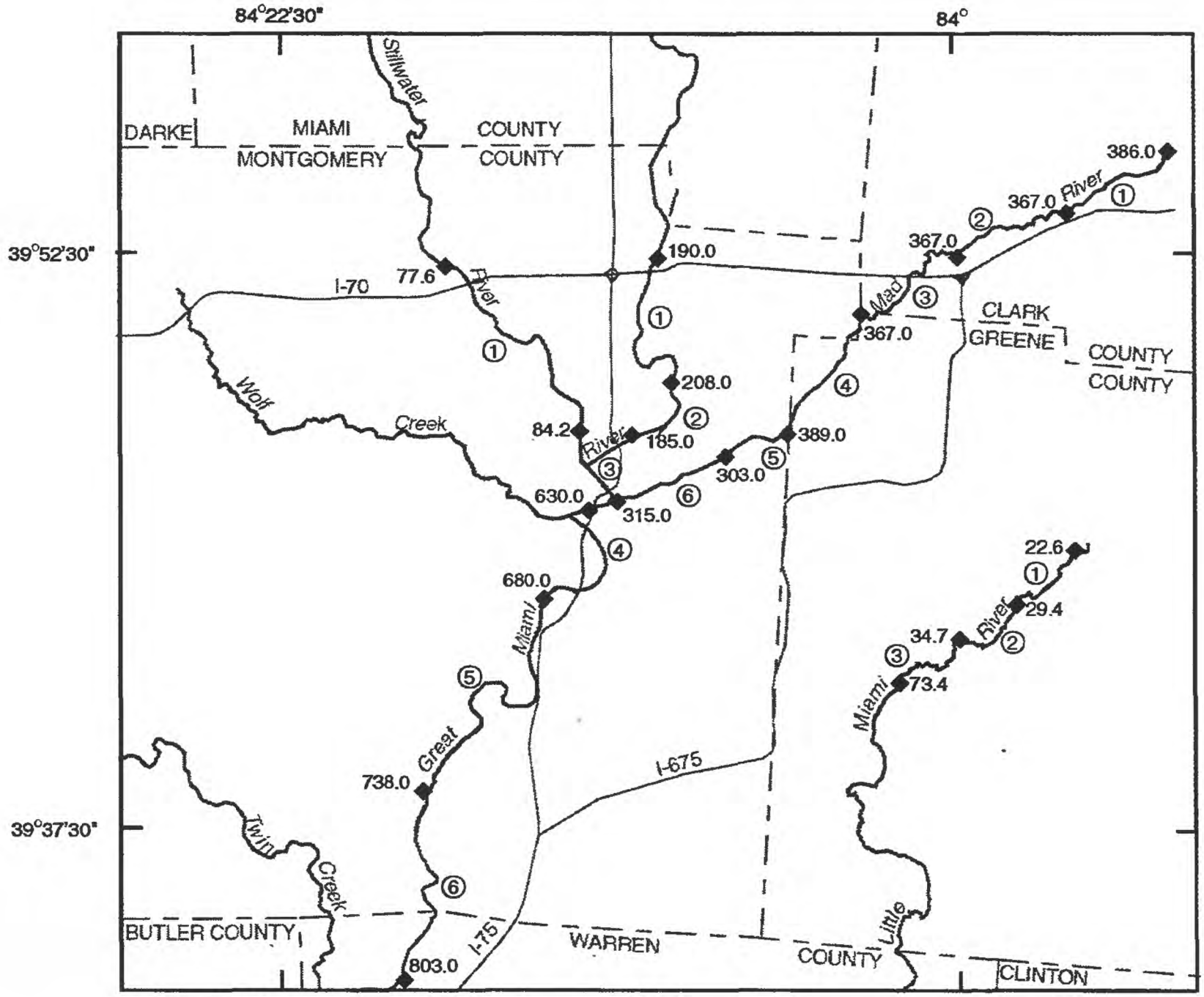


Figure 8. Storm-sewer outfalls and National Pollution Discharge Elimination System outfalls.



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

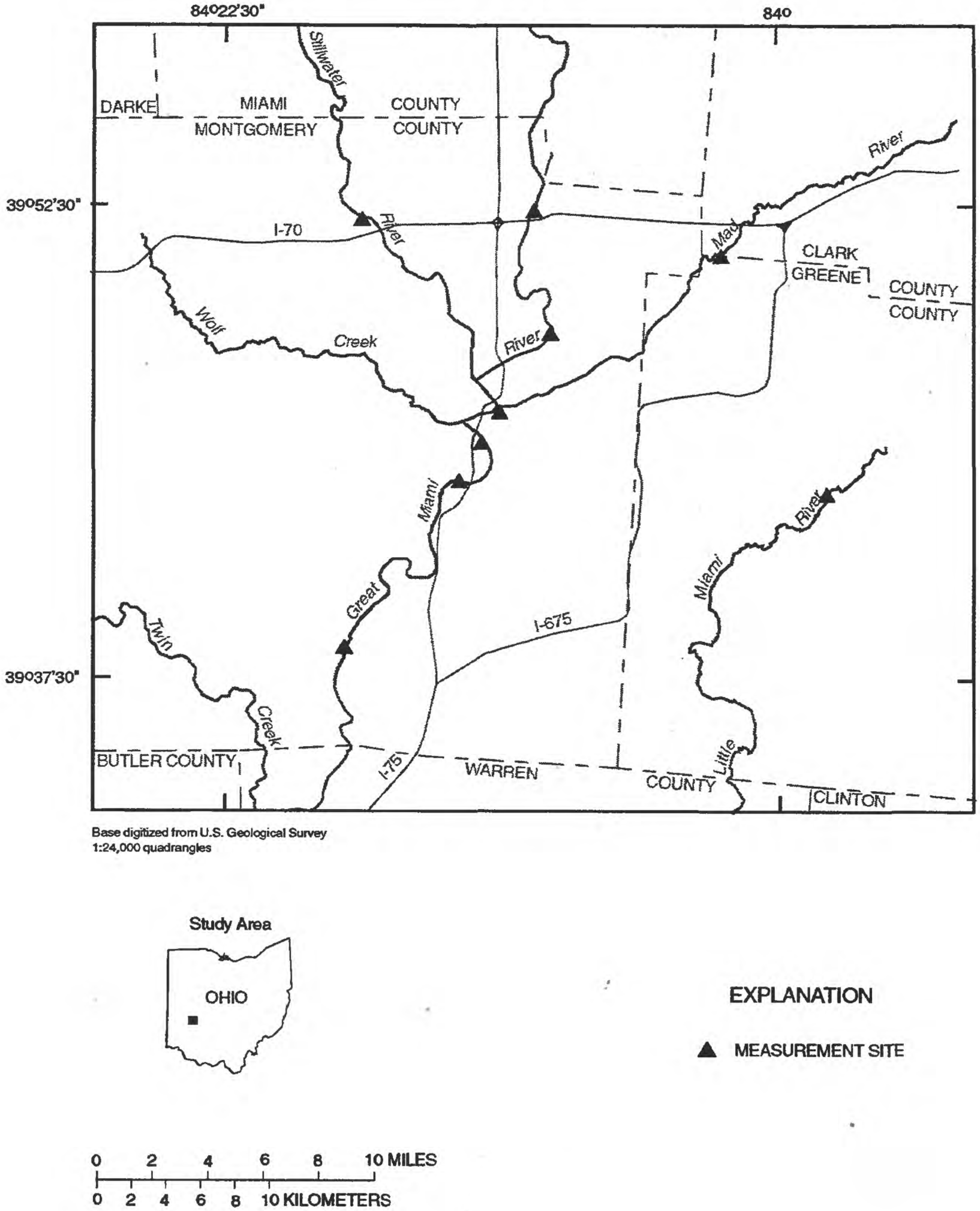
EXPLANATION

◆84.2 MAINSTREAM SITE LOCATION--Number is measured discharge, in cubic feet per second

② REACH NUMBER

0 2 4 6 8 10 MILES
0 2 4 6 8 10 KILOMETERS

Figure 9. Mainstem reaches for gain-loss calculations, September 8 and 9, 1993.



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

Figure 10. Locations of seepage-meter measurement sites.

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993

[Locations of wells are shown in figure 3. Local well names are the identifiers assigned each well by the well owner or agency responsible for providing the water-level data. Some duplication of local well names is possible. Degree, minute, and second symbols are omitted from latitudes and longitudes. Well depths are in feet; altitudes are in feet above National Vertical Geodetic Datum of 1909, 1929, or 1988, or North American Datum of 1983, depending on source of elevation data. Accuracy of land-surface-altitude data indicated by number of decimal places; land-surface altitudes with no decimal places are estimated from U.S. Geological Survey 7.5′ topographic maps to an accuracy of ± 5 feet. Source column indicates source of location, elevation, depth, and water-level data: M, the Miami Conservancy District; D, City of Dayton, Division of Water Treatment and Supply; W, Wright-Patterson Air Force Base monitoring wells, measured by USGS personnel; U, domestic wells measured by USGS personnel; CU, City of Dayton monitoring wells in Clark County measured by USGS personnel; O, City of Oakwood;. ft, feet; --, data not reported or data unavailable]

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
DY 81	394248	841356	41	723.79	13.39	709.01	722.4	09-07-93	1025	M
DY 84	394316	841354	51.5	734.08	23.57	709.18	732.75	09-15-93	1645	M
DY213	394623	840943	74.5	750.25	12.63	734.16	746.79	09-09-93	1211	M
MT-111	394635	840832	54.4	762.91	27.65	732.35	760	09-09-93	1242	M
MT-114	394635	840832	56	761.54	27.67	732.33	760	09-09-93	1245	M
MT-122	394526	840919	60	773.50	28.76	743.24	772	09-09-93	1040	M
MT130	394522	840937	42.8	769.25	17.15	747.10	764.25	09-09-93	1012	M
MT141	394616	840755	122	783.10	23.60	758.40	782	09-16-93	0955	M
MT2044	394453	840617	54.3	921.16	32.61	887.39	920	09-16-93	1058	M
MT2045	394636	840737	37	775.95	17.19	757.81	775	09-16-93	0942	M
69A	394746	841130	26.1	745.73	14.57	737.73	752.3	09-21-93	1418	M
MT2001	394907	841117	66.5	861.90	8.90	852.10	861	09-10-93	1347	M
MT2002	394840	841047	41.5	772.30	33.61	736.39	770	09-10-93	1356	M
MT2003	394836	841114	56.1	821.25	39.19	780.81	820	09-10-93	1403	M
MT2004	394829	841049	36.2	770.93	34.69	735.31	770	09-10-93	1419	M
MT2005	394812	841051	84.3	771.35	39.76	730.24	770	09-10-93	1428	M
MT2006	394809	841056	57.1	773.72	42.67	729.33	772	09-07-93	0850	M
MT2007	394755	841118	37.1	746.43	12.87	734.13	747	09-10-93	1438	M

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
MT2026	394915	841035	76.5	792.10	45.71	744.89	790.6	09-10-93	1334	M
MT2027	394930	841113	33.1	863.90	5.84	856.16	862	09-10-93	1236	M
MT2028	395005	841045	65.8	841.30	21.51	818.49	840	09-10-93	0733	M
MT2029	395010	841037	102	812.10	68.34	741.96	810.3	09-10-93	0741	M
MT2030	395014	841046	89.5	842.20	34.22	811.96	846.18	09-10-93	0824	M
MT2031	395017	841041	88.8	832.80	76.77	754.13	830.9	09-10-93	0958	M
MT2032	395018	841030	82.9	768.17	12.32	754.25	766.57	09-07-93	1533	M
MT2033	395037	841102	24	918.00	16.42	900.58	917	09-10-93	1154	M
MT2034	395052	841104	86.6	910.40	33.05	875.95	909	09-10-93	1225	M
MT2041	395121	841006	46	774.20	17.65	755.85	773.5	09-07-93	1502	M
MT2066	395018	841032	103	768.36	12.41	754.15	766.56	09-07-93	1536	M
MT2067	395024	841022	75	761.00	7.75	752.25	760	09-10-93	1049	M
MT2068	395015	841043	110	837.46	60.85	779.23	840.08	09-10-93	0843	M
MT293	394911	840955	83	777.31	35.05	740.50	775.55	09-07-93	0856	M
MT294	394913	840936	63	766.36	24.84	740.42	765.26	09-07-93	0903	M
MT295	394913	840933	63	764.74	24.52	740.56	765.08	09-07-93	0915	M
MT296	394913	840931	78	765.50	24.55	739.45	764	09-07-93	0918	M
GR 56	394922	840514	54.5	911.59	39.27	870.73	910	09-17-93	1323	M
MT-1022	394753	840743	145	777.11	25.87	753.19	779.06	09-09-93	1512	M
MT2010	394916	840842	124.9	843.41	87.50	754.50	842	09-10-93	1514	M
MT2011	394909	840853	110	827.78	81.19	744.80	826	09-14-93	1048	M
MT2012	394844	840844	138	823.19	87.21	734.79	822	09-14-93	1100	M

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
MT2013	394837	840852	134	813.22	82.28	729.72	812.	09-20-93	1607	M
MT2014	394752	840933	74	780.37	41.53	737.47	779	09-14-93	1001	M
MT2016	394851	840755	130.2	847.80	70.37	776.63	847	09-10-93	1550	M
MT2017	394840	840806	98.1	848.33	52.28	794.72	847	09-14-93	1323	M
MT2018	394839	840807	57.6	848.70	50.02	796.98	847	09-14-93	1336	M
MT2019	394829	840811	65.3	833.41	43.25	788.75	832	09-14-93	1349	M
MT2020	394826	840816	87.2	805.79	55.47	749.53	805	09-20-93	1558	M
MT2021	394812	840834	59.1	792.60	40.04	751.16	791.2	09-10-93	1603	M
MT2023	394746	840834	50.8	782.81	33.31	748.69	782	09-10-93	1631	M
MT2024	394731	840809	41.7	777.83	25.45	751.55	777	09-14-93	1513	M
MT2025	394726	840848	41.4	777.47	26.32	749.13	775.45	09-09-93	1532	M
MT2046	394639	841052	81.8	742.21	15.23	725.77	741	09-13-93	1546	M
MT2047	394724	841047	79	745.89	27.77	728.23	751	09-14-93	0825	M
MT2048	394727	841057	93	748.00	14.61	733.39	748	09-13-93	1555	M
MT2049	394632	840930	--	751.16	14.77	735.23	750	09-16-93	0923	M
MT2051	394640	840921	96	757.21	19.84	736.16	756	09-16-93	0915	M
MT2053	394841	840842	116	820.36	80.93	740.07	821	09-14-93	1116	M
MT2054	394842	840842	165	821.79	81.39	739.61	821	09-14-93	1108	M
MT2055	394744	841012	107.4	761.82	32.24	728.76	761	09-14-93	0901	M
MT2056	394744	841012	100	763.42	31.95	729.05	761	09-14-93	0857	M
MT2057	394807	840843	91	790.38	40.50	748.50	789	09-14-93	1402	M
MT2058	394809	840844	65	790.20	37.10	751.90	789	09-14-93	1405	M
MT2060	394921	840814	131	851.04	80.77	769.23	850	09-14-93	1438	M

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
MT2061	394919	840817	98	850.90	79.72	770.28	850	09-14-93	1136	M
MT2063	394933	840645	--	946.89	40.81	911.19	952	09-17-93	1400	M
MT2065	394935	840642	74	960.00	18.51	941.49	960	09-17-93	1405	M
MT2071	395150	840334	--	836.61	16.98	819.02	836	09-17-93	1001	M
MT2072	395119	840336	34.6	835.10	18.45	815.05	833.5	09-17-93	0938	M
MT2073	395034	840322	60	811.31	6.63	804.37	811	09-17-93	1101	M
MT-211	394703	841040	89	742.76	22.42	730.48	752.9	09-20-93	1434	M
MT-217	394644	840947	141	761.30	8.70	753.30	762	09-15-93	0915	M
MT-224	394706	841056	87	746.25	19.46	733.54	753	09-14-93	0738	M
MT-239[a]	394707	840939	66.1	761.83	27.57	737.13	764.7	09-14-93	1455	M
MT253	394644	840948	86	760.40	33.98	728.02	762	09-20-93	1016	M
MT260	394652	841124	22.1	747.06	17.12	728.68	745.8	09-13-93	0735	M
MT261	394653	841125	24.4	748.26	17.12	728.88	746	09-13-93	0731	M
MT263	394735	840950	60	764.36	35.19	728.80	763.99	09-14-93	0922	M
MT264	394736	840945	66.1	769.79	40.51	728.88	769.39	09-14-93	0930	M
MT265	394744	840942	54.1	767.31	37.26	728.62	765.88	09-14-93	0947	M
MT267	394807	840917	81	773.28	48.73	723.27	772	09-14-93	1033	M
MT268	394817	840905	135	784.29	42.46	740.54	783	09-14-93	1617	M
MT270	394805	840904	90	784.00	44.38	738.62	783	09-14-93	1018	M
MT271	394736	840933	66	789.65	51.00	737.71	788.71	09-14-93	0934	M
MT274	394726	840924	54.8	771.11	35.20	736.02	771.22	09-14-93	1443	M
SGUMC	395139	840601	56.8	979.38	13.44	965.56	979	09-07-93	1422	M
MT2008	394755	841042	108.9	743.00	33.47	708.53	742	09-13-93	0710	M

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Meaeuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
MT-59	394315	841210	39	723.36	8.57	710.94	719.51	--	--	M
MT-360	394441	841207	105.7	734.77	37.20	705.42	742.62	--	--	M
MT-362	394441	841207	76	737.31	34.03	708.28	742.31	--	--	M
MT365	394417	841235	150	742.78	32.22	709.55	741.65	09-16-93	1355	M
EAA	395217	841646	17.3	793.05	14.57	774.87	789.44	09-07-93	0842	M
EAE	395213	841655	49.2	792.38	13.56	775.74	789.3	09-07-93	0903	M
EAH	395221	841647	31.0	802.01	23.78	775.48	799.26	09-07-93	0850	M
EAI	395212	841654	28.3	790.74	14.11	772.78	786.89	09-07-93	0819	M
EAQ	395223	841645	77.1	812.23	33.07	776.40	809.47	09-07-93	0848	M
EAR	395224	841642	45.1	826.18	47.23	776.17	823.4	09-07-93	0846	M
EAS	395220	841647	37.8	800.13	22.38	775.45	797.83	09-07-93	0851	M
ECI	395211	841648	17.5	780.49	6.92	772.17	779.09	09-07-93	0827	M
ECJ	395211	841648	35.4	782.40	7.09	772.11	779.20	09-07-93	0826	M
ECK	395218	841646	30.3	791.92	14.96	774.54	789.50	09-07-93	0841	M
ECL	395218	841646	54.6	793.22	15.29	774.35	789.64	09-07-93	0843	M
ECN	395220	841649	43.5	810.90	33.40	775.29	808.69	09-07-93	0854	M
ECO	395220	841649	59.2	811.05	33.16	775.24	808.40	09-07-93	0855	M
ECP	395220	841649	73.8	811.12	32.90	775.21	808.11	09-07-93	0856	M
ECQ	395225	841652	80.3	823.86	42.73	777.29	820.02	09-07-93	0919	M
EL	395216	841704	49.8	845.21	48.76	793.54	842.3	09-07-93	0914	M
EMPW	395211	841655	36.7	786.69	11.09	772.61	783.7	09-07-93	0818	M
ENGL N3A	395213	841648	20.1	781.68	8.03	772.77	780.8	09-07-93	0829	M
ENGL N4A	395212	841645	97.0	780.43	7.69	772.19	779.88	09-07-93	0832	M

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
EO	395215	841657	47.0	814.16	36.08	775.94	812.02	09-07-93	0900	M
EP	395213	841658	29.4	790.10	13.07	774.15	787.22	09-07-93	0905	M
ER1	395213	841658	28.3	788.26	13.79	774.47	788.26	09-07-93	1022	M
ER10	395216	841654	39.5	792.79	17.14	775.65	792.79	09-07-93	1030	M
ER11	395216	841653	39.1	794.94	19.37	775.57	794.94	09-07-93	1031	M
ER12	395217	841653	40.2	795.20	19.69	775.51	795.2	09-07-93	1032	M
ER13	395217	841652	37.5	793.37	18.06	775.31	793.37	09-07-93	1033	M
ER14	395218	841652	35.1	793.69	18.74	774.95	793.69	09-07-93	1034	M
ER15	395218	841652	38.1	795.56	20.34	775.22	795.56	09-07-93	1035	M
ER16	395218	841651	34.4	797.53	22.35	775.18	797.53	09-07-93	1035	M
ER17	395219	841651	38.1	799.40	24.25	775.15	799.4	09-07-93	1036	M
ER18	395219	841650	38.2	800.73	25.65	775.08	800.73	09-07-93	1037	M
ER2	395213	841658	31.6	787.26	12.72	774.54	787.26	09-07-93	1023	M
ER20	395211	841655	37.43	789.54	13.91	772.63	786.54	09-07-93	1046	M
ER21	395212	841654	47.8	790.06	14.19	772.87	787.06	09-07-93	1045	M
ER22	395212	841653	64.9	789.95	13.82	773.13	786.95	09-07-93	1044	M
ER23	395213	841652	71.9	789.98	13.23	773.75	786.98	09-07-93	1043	M
ER24	395214	841651	69.6	790.52	13.67	773.85	787.52	09-07-93	1042	M
ER25	395214	841650	70.0	791.08	14.15	773.93	788.08	09-07-93	1041	M
ER26	395215	841650	68.4	790.97	13.91	774.06	787.97	09-07-93	1040	M
ER26-2	395215	841650	30.9	788.97	13.75	774.02	787.77	09-07-93	0822	M
ER3	395213	841657	36.7	787.48	12.83	774.65	787.48	09-07-93	1024	M
ER4	395214	841657	38.8	787.43	12.65	774.78	787.43	09-07-93	1025	M

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
ER5	395214	841656	38.6	787.66	12.77	774.89	787.66	09-07-93	1025	M
ER6	395215	841656	38.0	789.14	13.33	775.81	789.14	09-07-93	1026	M
ER7	395215	841655	37.7	789.86	14.05	775.81	789.86	09-07-93	1027	M
ER8	395215	841655	39.4	790.94	15.16	775.78	790.94	09-07-93	1028	M
ER9	395216	841654	39.5	792.88	17.15	775.73	792.88	09-07-93	1029	M
EV	395214	841651	13.9	784.81	8.12	773.58	781.7	09-07-93	0823	M
EW	395215	841656	22.1	792.25	13.36	775.82	789.18	09-07-93	0902	M
EX	395219	841650	14.1	803.73	12.47	787.78	800.25	09-07-93	0858	M
EZ	395212	841654	45.9	790.54	14.10	773.19	787.29	09-07-93	0820	M
GG	393811	842409	33.1	753.07	30.88	719.46	750.34	09-07-93	0815	M
GI	393811	842407	13.3	732.93	10.08	719.32	729.4	09-07-93	0810	M
GN	393807	842409	14.75	747.81	13.16	731.78	744.94	09-07-93	0825	M
GO	393810	842407	14.74	733.12	10.46	719.30	729.76	09-07-93	0800	M
GR 50	394753	840514	49.6	796.87	18.59	774.34	792.93	09-07-93	1449	M
GR 52	394817	840533	31.0	791.73	16.16	773.84	790	09-15-93	0717	M
GR 53	394817	840532	25.45	788.90	14.44	772.56	787	09-15-93	0753	M
H1	394750	840525	56.0	832.86	35.68	794.22	829.9	09-07-93	0944	M
H2	394750	840525	70.4	855.02	53.43	799.62	853.05	09-07-93	0945	M
H3	394749	840526	52.1	833.25	31.76	797.97	829.73	09-07-93	0947	M
H5	394751	840526	58.8	853.20	21.64	828.56	850.2	09-07-93	0951	M
HAA	394759	840536	22.8	789.86	12.61	774.20	786.81	09-07-93	0918	M
HAC	394759	840536	56.5	788.84	14.28	772.06	786.34	09-07-93	0918	M
HAD	394758	840535	22.8	789.64	13.54	773.10	786.64	09-07-93	0915	M

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
HAE	394758	840535	58.5	788.57	13.10	772.97	786.07	09-07-93	0915	M
HAF	394759	840536	61.0	787.29	11.51	773.13	784.64	09-07-93	0923	M
HAG	394759	840536	20.9	787.77	11.58	773.19	784.77	09-07-93	0923	M
HAH	394759	840536	59.0	787.34	12.44	772.60	785.04	09-07-93	0925	M
HAI	394759	840536	17.4	787.86	12.10	772.86	784.96	09-07-93	0925	M
HM	394757	840533	63.1	801.32	25.76	773.00	798.76	09-07-93	0912	M
HN	394802	840537	14.4	788.48	12.94	773.34	786.28	09-07-93	0929	M
HO	394754	840531	19.1	789.25	13.71	772.11	785.82	09-07-93	0908	M
HQ	394806	840538	58.7	832.97	56.49	773.27	829.76	09-07-93	0940	M
HR1	394800	840533	61.9	790.09	13.42	773.27	786.69	09-07-93	0922	M
HR10	394754	840532	62.1	790.29	13.92	772.43	786.35	09-07-93	1146	M
HR11	394755	840532	58.2	790.27	14.98	772.53	787.51	09-07-93	1144	M
HR12	394755	840532	60.9	790.28	14.52	772.58	787.10	09-07-93	1142	M
HR13	394756	840533	64.5	790.28	15.52	772.64	788.16	09-07-93	1140	M
HR14	394756	840533	61.9	790.19	14.49	772.67	787.16	09-07-93	1138	M
HR15	394756	840533	63.7	790.24	15.01	772.76	787.77	09-07-93	1136	M
HR16	394757	840534	62.9	790.24	13.74	772.82	786.56	09-07-93	1134	M
HR17	394757	840534	63.3	790.25	14.76	772.95	787.71	09-07-93	1132	M
HR18	394758	840534	61.9	790.28	13.58	773.02	786.60	09-07-93	1130	M
HR19	394758	840534	58.0	790.21	14.55	773.11	787.66	09-07-93	1128	M
HR2	394751	840529	33.5	797.82	24.05	772.20	796.25	09-07-93	1202	M
HR20	394758	840535	66.9	790.27	13.25	773.27	786.52	09-07-93	1126	M
HR21	394759	840535	66.0	790.18	14.36	773.30	787.66	09-07-93	1124	M

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
HR23	394800	840536	61.1	790.16	14.38	773.34	787.72	09-07-93	1122	M
HR24	394800	840536	62.0	790.28	13.30	773.38	786.68	09-07-93	1120	M
HR25	394801	840536	61.0	790.22	14.48	773.24	787.72	09-07-93	1118	M
HR26	394801	840537	66.4	790.26	13.41	773.32	786.73	09-07-93	1116	M
HR27	394802	840537	63.8	790.25	14.13	773.31	787.44	09-07-93	1114	M
HR28	394802	840537	59.7	790.28	13.02	773.36	786.38	09-07-93	1112	M
HR29	394802	840538	60.9	790.21	13.88	773.31	787.19	09-07-93	1110	M
HR3	394751	840530	54.4	797.78	24.01	772.22	796.23	09-07-93	1200	M
HR30	394803	840538	61.9	790.29	12.68	773.31	785.99	09-07-93	1108	M
HR31	394803	840538	63.5	790.29	14.02	773.29	787.31	09-07-93	1106	M
HR32	394804	840539	65.7	790.25	12.71	773.27	785.98	09-07-93	1104	M
HR33	394804	840539	62.7	790.27	14.10	773.27	787.37	09-07-93	1102	M
HR34	394804	840539	63.0	790.05	12.82	773.27	786.09	09-07-93	1100	M
HR35	394805	840540	60.9	790.26	13.98	773.26	787.24	09-07-93	1058	M
HR36	394805	840540	62.1	790.24	14.00	773.24	787.24	09-07-93	1056	M
HR37	394806	840540	62.8	790.27	14.02	773.23	787.25	09-07-93	1054	M
HR38	394806	840540	66.2	790.22	13.25	773.22	786.47	09-07-93	1052	M
HR39	394807	840541	63.9	790.26	14.3	773.20	787.50	09-07-93	1050	M
HR4	394753	840528	54.5	796.18	22.35	772.16	794.51	09-07-93	1158	M
HR40	394807	840541	63.4	790.23	13.42	773.23	786.65	09-07-93	1048	M
HR41	394808	840541	69.3	790.21	14.27	773.21	787.48	09-07-93	1046	M
HR42	394808	840542	63.5	790.25	13.34	773.23	786.57	09-07-93	1044	M
HR43	394808	840542	60.1	790.20	13.98	773.20	787.18	09-07-93	1042	M

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
HR44	394809	840542	70.6	790.30	13.61	773.18	786.79	09-07-93	1040	M
HR45	394809	840543	61.8	790.17	14.27	773.19	787.46	09-07-93	1038	M
HR46	394810	840543	60.6	790.26	13.76	773.18	786.94	09-07-93	1036	M
HR47	394810	840543	56.3	790.26	14.65	773.20	787.85	09-07-93	1034	M
HR48	394811	840544	59.5	790.26	14.98	773.18	788.16	09-07-93	1032	M
HR49	394811	840544	36.6	790.74	15.04	773.20	788.24	09-07-93	1030	M
HR-5	394752	840530	62.8	791.75	17.76	772.15	789.91	09-07-93	1156	M
HR6	394752	840530	61.3	790.30	15.72	772.04	787.76	09-07-93	1154	M
HR7	394753	840531	66.6	790.34	15.11	771.96	787.07	09-07-93	1152	M
HR8	394753	840531	70.7	790.24	14.28	772.06	786.34	09-07-93	1150	M
HR9	394754	840531	65.2	790.23	15.21	772.23	787.44	09-07-93	1148	M
HS	394810	840543	14.6	790.77	14.20	773.17	787.37	09-07-93	0934	M
HT	394806	840540	14.1	789.94	12.95	773.22	786.17	09-07-93	0932	M
HV	394807	840544	14.9	788.69	12.23	772.99	785.22	09-07-93	0933	M
HW	394758	840538	13.5	788.01	11.85	772.89	784.74	09-07-93	0927	M
HX	394752	840533	19.8	787.63	12.46	772.09	784.55	09-07-93	0905	M
MT-576	394152	841231	113.7	751.53	42.21	707.79	750	09-09-93	1106	M
MT286	395102	841018	37.7	766.60	8.61	756.79	765.40	09-15-93	1303	M
MT289	395042	841018	38.7	765.51	8.16	756.20	764.36	09-15-93	1339	M
MT290	395034	841003	28.2	776.44	19.95	755.44	775.39	09-15-93	1252	M
MT291	395047	841014	25	768.69	11.42	756.40	767.82	09-15-93	1329	M
MT292	395057	841006	42	778.39	19.62	757.57	777.19	09-07-93	1454	M
MSBOB10	393813	841740	82.1	693.53	13.78	679.45	693.23	09-14-93	1543	M

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
MSBOB11	393811	841738	77.8	695.20	12.64	679.70	692.34	09-14-93	1536	M
MT774	393858	841642	122	702.40	14.90	687.10	702	09-13-93	1325	M
MT944	393851	841711	22.4	694.35	8.66	683.79	692.45	09-15-93	1435	M
MT-531	394341	841243	126	728.34	18.62	709.77	728.39	--	--	M
MT-513	394242	841255	110	745.10	34.09	709.31	743.4	09-09-93	1145	M
MT-596	394203	841229	89.4	760.21	46.35	712.83	759.18	09-09-93	1044	M
MT633	394209	841352	56.4	725.35	16.95	707.37	724.32	09-08-93	1625	M
MT655	394301	841326	32.5	725.58	15.3	709.80	725.1	09-07-93	1545	M
MT656	394350	841331	31.9	726.90	17.1	709.50	726.6	09-07-93	1423	M
MT657	394134	841348	99	726.83	22.57	703.63	726.2	09-15-93	1330	M
MT-57	394347	841205	36	723.29	12.26	712.07	724.33	--	--	M
MT-65	394626	840934	212	763.89	24.15	735.83	759.98	09-09-93	1221	M
MT-66	394147	841344	80	730.20	22.36	704.75	727.11	09-07-93	1510	M
MT-70	394340	840614	47.2	870.96	7.29	859.71	867	09-16-93	1034	M
MT-71	394055	841415	76.9	715.65	18.34	695.53	713.87	09-07-93	1355	M
NRSF 3	395307	840944	32.9	787.10	20.18	764.46	784.64	09-07-93	1024	M
MT-49	394025	841628	212	714.61	17.28	694.83	712.11	09-07-93	0800	M
MT-55	394012	841517	98	718.00	27.77	689.90	717.67	09-07-93	1436	M
SCC P4	394527	841204	39.2	734.31	24.61	709.59	734.20	09-21-93	1304	M
SCC P5	394524	841201	6.2	715.70	4.29	710.61	714.9	09-21-93	0904	M
SCC P8	394522	841159	38	732.60	25.09	707.51	732.6	09-21-93	1133	M
SCC PA	394519	841206	65	740.94	30.24	710.26	740.5	09-21-93	1046	M
TAA	395228	840956	57.4	792.62	27.60	762.32	789.92	09-07-93	0742	M

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
TAB	395229	840957	88.4	790.99	25.67	762.32	787.99	09-07-93	0740	M
TAC	395229	840957	56.9	791.52	26.76	762.26	789.02	09-07-93	0739	M
TAD	395228	840958	44.8	778.44	13.66	762.32	775.98	09-07-93	0752	M
TAG1	395226	840947	76.2	788.27	22.02	762.85	784.87	09-07-93	0747	M
TAI1	395231	841008	109.2	795.94	29.69	762.65	792.34	09-07-93	0730	M
TAI2	395231	841008	31.3	793.85	28.79	763.46	792.25	09-07-93	0731	M
TAJ	395233	841013	106.5	816.25	50.08	762.67	812.75	09-07-93	0807	M
TEP	395252	840922	86.4	916.53	38.38	877.52	915.90	09-07-93	0839	M
TK	395230	840954	29.2	817.42	25.81	790.78	816.59	09-07-93	0824	M
TM	395230	841002	33.3	794.47	28.75	762.49	791.24	09-07-93	0733	M
TN	395229	840954	77.0	795.87	29.47	762.37	791.84	09-07-93	0745	M
TP	395227	840956	34.4	779.18	12.88	762.28	775.16	09-07-93	0749	M
TR	395230	841005	15.2	779.53	14.04	762.34	776.38	09-07-93	0756	M
TR 2	395226	840946	54.6	787.98	23.94	762.33	786.27	09-07-93	0900	M
TR 3	395226	840947	63.9	788.66	24.31	762.33	786.64	09-07-93	0902	M
TR 4	395226	840948	73.7	786.89	23.17	762.34	785.51	09-07-93	0904	M
TR 5	395226	840948	82.1	785.66	21.22	762.30	783.52	09-07-93	0906	M
TR 6	395226	840950	96.4	781.84	17.7	762.28	779.98	09-07-93	0909	M
TR 7	395226	840951	97.7	781.46	16.72	762.28	779.00	09-07-93	0912	M
TR 8	395226	840952	88.7	780.74	14.44	762.30	776.74	09-07-93	0914	M
TR 9	395227	840953	80.0	780.64	14.33	762.27	776.60	09-07-93	0917	M
TR1	395229	840957	94.7	791.98	27.59	762.75	790.34	09-07-93	0737	M
TR10	395227	840954	99.6	780.74	14.16	762.28	776.44	09-07-93	0919	M

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
TR11	395227	840956	91.0	780.74	13.78	762.36	776.14	09-07-93	0921	M
TR12	395228	840957	102.8	780.77	14.03	762.32	776.35	09-07-93	0924	M
TR13	395228	840958	93.4	780.75	13.76	762.34	776.10	09-07-93	0926	M
TR14	395228	841000	98.4	780.70	14.13	762.33	776.46	09-07-93	0928	M
TR15	395228	841001	99.6	780.63	14.03	762.37	776.40	09-07-93	0930	M
TR16	395229	841002	99.9	780.79	13.93	762.37	776.30	09-07-93	0932	M
TR17	395229	841003	86.1	780.92	13.99	762.44	776.43	09-07-93	0934	M
TR18	395230	841004	94.5	780.73	15.00	762.46	777.46	09-07-93	0936	M
TR19	395230	841006	84.0	780.88	15.31	762.51	777.82	09-07-93	0938	M
TR20	395230	841007	99.1	781.68	17.39	762.62	780.01	09-07-93	0940	M
TR21	395230	841008	59.9	788.85	23.92	762.58	786.50	09-07-93	0943	M
TS	395228	840959	19.3	777.53	13.67	762.28	775.95	09-07-93	0754	M
TT	395227	841005	14.9	777.52	12.21	762.20	774.41	09-07-93	0758	M
TU	395226	841000	18.3	776.10	11.42	759.21	773.63	09-07-93	0800	M
TV	395225	840957	15.1	773.96	7.07	762.02	769.09	09-07-93	0802	M
TW	395228	840958	63.2	778.64	13.7	762.27	775.97	09-07-93	0751	M
TY	395229	840957	36.8	791.64	27.90	762.04	789.94	09-07-93	0734	M
TZ	395228	840956	90.6	791.51	27.81	762.35	790.16	09-07-93	0743	M
VANGCFH	395314	841005	63	844.29	34.61	808.21	842.82	09-07-93	1258	M
VANPW1	395325	840955	65.7	796.70	25.64	766.15	791.79	09-07-93	1231	M
VANPW2	395326	840951	55.4	825.36	18.83	765.64	784.47	09-07-93	1115	M
VANPW3	395320	840953	65.4	824.77	17.54	765.42	782.96	09-07-93	1055	M
VANSTP1	395337	840955	94.7	791.64	29.62	766.24	795.86	09-07-93	1246	M

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
VANSTP2	395337	840955	88.1	794.02	26.20	766.25	792.45	09-07-93	1239	M
VANTW1	395322	840939	90	784.26	14.68	765.13	779.81	09-07-93	1206	M
VANTW3	395332	840947	238	783.27	12.46	766.01	778.47	09-07-93	1215	M
VANTW4	395324	840953	35	789.79	19.34	765.69	785.03	09-07-93	1101	M
VANTW5	395310	840946	68.8	786.41	18.99	764.49	783.48	09-07-93	1039	M
VANTW6	395320	840953	34.4	785.62	17.31	765.44	782.75	09-07-93	1049	M
MT775	394053	841532	103.4	713.75	16.88	695.11	711.99	09-07-93	1410	M
MT945	393756	841745	52	693.69	12.93	679.67	692.60	09-13-93	1257	M
MT-1146	394151	842600	53	899.75	20.45	878.55	899	09-15-93	1215	U
MT-1125	394420	840634	46	896.07	35.93	859.07	895	09-14-93	1600	U
MT-1154	394942	841329	51	763.71	8.04	754.42	762.46	09-15-93	1200	U
MT-1155	394920	840958	89	774.94	31.80	742.20	774	09-15-93	1200	U
MT-1156	394819	841233	42	764.33	18.48	743.90	762.38	09-15-93	1200	U
MT-1145	394328	842532	90	948.70	39.41	908.59	948	09-15-93	1300	U
MT-1147	394111	842532	186	869.40	73.30	794.70	868	09-15-93	1345	U
MT-1148	394147	842329	93	871.60	5.80	864.20	870	09-15-93	1645	U
MT-1149	394123	842203	69	829.30	9.70	819.30	829	09-15-93	1530	U
MT-1150	394105	842418	102	831.50	42.70	788.30	831	09-15-93	1630	U
MT-1151	394022	842412	95	805.90	43.90	761.10	805	09-15-93	1445	U
MT-1152	394104	842315	58	837.10	33.90	802.10	836	09-15-93	1545	U
MT-1153	394023	842247	117	814.00	46.80	766.20	813	09-15-93	1700	U
MT-1129	394442	842124	167	891.00	56.79	833.21	890	09-14-93	1815	U
MT-1130	394330	842048	51	842.20	26.56	814.44	841	09-14-93	1640	U

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
MT-1131	394317	841902	40	841.00	12.87	827.13	840	09-14-93	1915	U
MT-1132	394331	841648	58	869.45	14.14	853.86	868	09-15-93	1205	U
MT-1133	394208	842022	54	801.70	37.50	762.50	800	09-15-93	1115	U
MT-1134	394217	841721	60	847.30	22.00	824.00	846	09-15-93	1640	U
MT-1135	394236	841654	53	817.80	35.10	780.90	816	09-14-93	1450	U
MT-1136	394152	842050	127	802.00	12.80	789.20	802	09-15-93	1355	U
MT-1137	394204	841906	58	793.15	37.50	754.45	791.95	09-15-93	1200	U
MT-1138	394118	841634	125	790.80	36.55	753.45	790	09-14-93	1120	U
MT-1139	394204	841613	66	802.50	28.94	772.06	801	09-14-93	1410	U
MT-1140	394059	842053	71	789.35	27.40	760.75	788.15	09-15-93	1520	U
MT-1141	394112	841939	71	781.00	38.47	742.53	781	09-15-93	1300	U
MT-1142	394058	841836	70	761.40	33.49	726.51	760	09-14-93	1035	U
MT-1143	394047	841624	170	723.20	26.20	695.80	722	09-14-93	1205	U
MT-1144	394021	842047	52	762.80	12.20	749.80	762	09-15-93	1550	U
MT-1127	394817	842048	85	892.20	30.09	858.91	889	09-15-93	1145	U
MT-1128	394715	841619	88	796.55	12.20	783.65	795.85	09-15-93	1045	U
MT-1120	394925	840710	88	881.84	46.25	833.81	880.06	09-15-93	1200	U
MT-1123	394815	840821	73	795.30	38.03	755.97	794	09-15-93	1200	U
MT-1124	394829	840752	84	846.75	46.16	799.84	846	09-15-93	1200	U
MT-1110	394051	841356	114	725.97	20.42	704.58	725	09-15-93	1532	U
MT-1111	394006	841721	72	712.81	17.46	694.54	712	09-14-93	1322	U
MT-1109	394017	841652	157	721.44	22.11	697.89	720	09-14-93	1155	U
MT-1112	393928	841920	116	824.68	86.75	736.25	823	09-16-93	1110	U

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
MT-1113	393742	841927	70	815.50	12.19	801.81	814	09-14-93	1100	U
MT-1114	393709	841741	57	689.24	12.44	675.56	688	09-14-93	1800	U
MT-1115	393649	841935	55	763.56	19.39	743.35	762.74	09-14-93	1830	U
MT-1117	393608	841835	93	774.21	50.91	722.21	773.12	09-16-93	1045	U
MT-1118	393619	841543	64	908.40	23.35	884.31	907.66	09-14-93	1530	U
MT-1119	393610	841702	64	708.18	13.26	692.36	705.62	09-14-93	1430	U
MT-1101	394332	841116	65	860.00	46.46	813.54	860	09-15-93	1200	U
MT-1100	394031	841046	80	941.96	14.38	925.62	940	09-15-93	1200	U
MT-1106	394009	841202	69	810.78	37.03	772.97	810	09-15-93	1030	U
MT-1107	394025	841015	130	1,003.73	71.72	931.28	1,003	09-15-93	1200	U
MT-1108	393959	840940	54	971.78	6.14	964.86	971	09-15-93	1132	U
MT-1102	395223	840533	68	911.90	2.49	906.51	909	09-14-93	1630	U
MT-1103	395156	840935	40	835.55	24.28	809.97	834.25	09-15-93	1340	U
MT-1104	395130	840354	59	842.80	22.69	819.31	842	09-14-93	1505	U
MT-1105	395043	841002	57	773.00	18.19	753.81	772	09-15-93	1300	U
MT-1171	395104	841541	37	772.95	7.42	764.33	771.75	09-15-93	1430	U
MT-1172	395130	841546	80	822.17	55.62	765.35	820.97	09-15-93	1520	U
MT-1173	395134	841505	71	870.96	31.88	838.12	870	09-15-93	1300	U
MT-1174	395149	841056	38	814.18	12.48	799.79	812.27	09-14-93	1730	U
MT-1158	394600	841108	173	753.09	51.37	699.63	751	09-15-93	1200	U
MT-1159	393839	842029	121	789.07	53.17	734.53	787.70	09-14-93	1453	U
MT-1160	393904	841945	145	825.47	86.81	736.42	823.23	09-14-93	1420	U
MT-1161	393747	842442	53	876.81	21.01	853.99	875	09-15-93	1740	U

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
MT-1162	393745	842137	110	761.47	72.62	687.38	760	09-14-93	1550	U
MT-1164	393754	841946	145	792.97	66.14	726.06	792.20	09-14-93	1508	U
MT-1163	393722	842416	188	865.90	107.30	757.70	865	09-15-93	1530	U
MT-1165	393705	842341	70	811.30	38.15	771.85	810	09-15-93	1550	U
MT-1166	393649	842144	43	716.82	15.09	699.91	715	09-14-93	1622	U
MT-1167	393609	842101	40	701.26	15.63	684.40	700.03	09-15-93	1025	U
MT-1168	393526	842452	130	888.90	89.09	798.91	888	09-15-93	1712	U
GR-602	394422	835608	42	835.90	22.64	812.56	835.20	09-15-93	1215	U
GR-603	394546	835406	60	802.00	16.54	784.46	801	09-15-93	1320	U
GR-604	394450	835443	123	930.90	61.07	868.93	930	09-15-93	1300	U
GR-605	394347	835552	140	876.00	40.79	834.21	875	09-15-93	1135	U
GR-601	394241	835747	45	822.76	12.47	808.19	820.66	09-15-93	1050	U
GR-606	394122	835713	102	936.50	45.00	890.00	935	09-15-93	0950	U
GR-608	394102	835759	96	935.30	58.44	875.56	934	09-15-93	0915	U
W-21	393507	842005	52	695.63	21.01	673.69	694.70	09-14-93	1145	U
W-22	393513	842102	42	701.53	14.56	685.44	700	09-14-93	1233	U
GR-619	395055	840128	51	829.23	16.62	811.38	828	09-14-93	1030	U
GR-618	394723	840108	165	932.80	98.55	833.45	932	09-14-93	1230	U
GR-617	394750	840207	133	888.30	29.38	858.62	888	09-15-93	1130	U
GR-615	394709	840442	65	954.56	27.97	925.59	953.56	09-14-93	1715	U
GR-616	394641	840237	204	926.20	92.05	832.95	925	09-15-93	0930	U
GR-620	394806	840408	63	803.70	7.27	790.73	800	09-15-93	1115	U
GR-609	394405	840409	235	917.50	44.70	870.30	915	09-16-93	1055	U

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
GR-607	394334	840219	146	890.60	55.50	834.50	890	09-15-93	1745	U
GR-612	394344	840340	207	871.00	24.88	845.12	870	09-16-93	1230	U
GR-611	394311	840503	200	861.10	7.62	852.38	860	09-16-93	1130	U
GR-610	394254	840157	227	840.80	46.66	793.34	840	09-15-93	1850	U
GR-613	394214	835908	132	812.81	1.09	809.72	810.81	09-15-93	1120	U
GR-614	394123	835905	102	951.50	88.76	860.24	949	09-15-93	1345	U
CL-246	395546	835703	117	953.05	87.75	864.25	952	09-15-93	1620	U
CL-247	395520	840034	52	895.90	25.45	869.55	895	09-15-93	1600	U
CL-245	395444	840130	81	882.50	27.64	853.36	881	09-14-93	1550	U
CL-244	395445	840027	60	885.80	9.82	875.18	885	09-15-93	1300	U
CL-243	395447	835906	41	886.15	12.08	872.92	885	09-15-93	1745	U
CL-242	395449	835800	110	926.20	38.15	886.30	924.45	09-15-93	1330	U
CL-241	395442	835806	56	915.13	33.11	880.32	913.43	09-15-93	1345	U
CL-240	395408	835522	50	874.83	4.43	869.55	873.98	09-15-93	1430	U
CL-239	395356	840112	50	863.85	22.50	840.50	863	09-14-93	1815	U
CL-238	395423	840027	61	881.10	31.97	848.03	880	09-14-93	1515	U
CL-237	395329	835946	32	859.00	11.21	846.79	858	09-15-93	1530	U
CL-236	395306	840134	50	842.75	15.43	826.57	842	09-14-93	1400	U
MI-1083	395707	840328	70	901.90	41.07	858.93	900	09-14-93	1815	U
MI-1082	395630	840324	119	873.30	49.11	822.89	872	09-14-93	1400	U
MI-1081	395630	840259	53	863.70	10.52	851.48	862	09-14-93	1205	U
MI-1080	395551	840308	60	872.10	28.00	842.00	870	09-14-93	1145	U
MI-1079	395508	840316	70	878.68	27.26	850.32	877.58	09-14-93	1740	U

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
MI-1078	395447	840309	41	871.85	15.04	854.91	869.95	09-14-93	1730	U
MI-1077	395407	840408	53	937.40	24.69	911.31	936	09-14-93	1050	U
MI-1076	395251	840355	75	901.20	21.65	878.35	900	09-14-93	1705	U
GR-629	393940	840305	85	900.74	25.00	874.95	899.95	09-14-93	1040	U
GR-628	394010	840310	65	903.73	21.19	882.04	903.23	09-14-93	1005	U
GR-627	394014	840134	160	894.20	75.24	817.76	893	09-14-93	1420	U
GR-626	394006	840014	190	917.00	77.49	838.51	916	09-14-93	1445	U
GR-625	393938	840048	207	927.00	88.19	836.81	925	09-14-93	1325	U
GR-624	393923	840100	68	922.65	41.24	879.76	921	09-14-93	1300	U
GR-623	393914	840155	66	800.90	36.49	763.51	800	09-14-93	1240	U
GR-622	393948	840207	105	827.80	21.09	803.91	825	09-14-93	1140	U
MT-1181	393834	841934	126	827.32	91.74	734.93	826.67	09-16-93	0945	U
MT-1121	395142	841945	80	957.18	15.04	940.96	956	09-15-93	1545	U
MT-1170	395459	841006	90	811.07	35.75	774.25	810	09-15-93	0930	U
MI-1072	395534	841158	117	946.01	54.75	890.25	945	09-14-93	1600	U
GR-632	394248	840346	127	853.40	23.84	828.16	852	09-16-93	1325	U
GR-633	394307	840134	103	835.70	35.34	799.66	835	09-15-93	1645	U
GR-634	394413	840451	103	924.30	33.07	889.93	923	09-16-93	1005	U
GR-635	394456	840120	264	966.60	119.14	845.86	965	09-14-93	1345	U
GR-637	394520	840200	133	956.40	76.68	878.32	955	09-14-93	1300	U
GR-638	394556	840218	142	946.40	43.40	901.60	945	09-14-93	2015	U
GR-639	394254	835952	75	832.00	29.73	801.27	831	09-15-93	1430	U
GR-641	394439	835856	106	916.50	86.04	828.96	915	--	--	U

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
GR-621	394351	835927	223	911.40	85.50	824.50	910	09-14-93	1845	U
GR-640	394413	835923	75	916.20	52.10	862.90	915	09-14-93	1730	U
GR-642	394508	835943	95	861.00	40.74	819.26	860	--	--	U
MT-1177	394940	840922	107	755.45	8.18	745.82	754	--	--	U
MT-1176	394939	840933	57	758.45	8.59	748.41	757	--	--	U
MT-1175	394952	841157	99	856.85	36.27	819.73	856	--	--	U
MI-1075	395619	841110	82	896.19	39.31	855.69	895	09-14-93	1415	U
MI-1074	395544	841129	87	907.40	25.30	881.70	907	09-14-93	1100	U
MI-1073	395611	841047	60	869.36	27.65	847.35	875	09-14-93	1200	U
MT-1178	394443	842158	25	860.40	17.90	842.10	860	--	--	U
MT-1179	393649	842258	150	746.46	15.46	729.54	745	--	--	U
MT-1180	395037	840429	30	867.00	10.33	856.67	867	09-14-93	1545	U
MT-1122	395033	841508	46	774.53	10.82	762.00	772.82	09-15-93	1745	U
GR-630	394310	840046	103	807.00	55.00	752.00	807	09-15-93	1615	U
MT-1116	393856	841900	118	844.30	32.72	810.28	843	09-14-93	1006	U
MT-1157	394943	841327	40	895.20	11.22	882.87	894.09	09-15-93	1200	U
GR-636	394453	840053	30	831.20	12.40	817.60	830	09-16-93	1455	U
MW-8	395334	835903	31	855.79	8.53	847.26	852.7	09-21-93	--	CU
CT-4-1M	395314	835930	--	847.60	.64	844.46	845.1	09-21-93	--	CU
CT-2	395305	835842	254	853.41	1.73	848.37	850.1	09-21-93	--	CU
PW-1	395256	835854	56	851.21	2.53	847.07	849.6	09-21-93	--	CU
CT-3	395236	835930	215	844.46	.58	841.82	842.4	09-21-93	--	CU
PW-2	395234	835925	56	847.24	2.81	842.19	845.0	09-21-93	--	CU

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Meaeuring-point altitude (ft)	Water level, depth below land eurface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
MW-3	395207	835931	52	844.02	.48	840.72	841.2	09-21-93	--	CU
CT-4	395314	835930	255	848.41	-5.16	850.26	845.1	09-21-93	--	CU
GR-256	395004	840137	75.2	824.16	16.05	806.25	822.3	09-16-93	--	W
GR-257	395004	840137	18.3	824.04	11.17	811.13	822.3	09-16-93	--	W
GR-264	394811	840451	15.0	793.35	6.85	784.35	791.2	09-16-93	--	W
GR-275	395029	840121	106.0	831.15	16.23	812.57	828.8	09-16-93	--	W
GR-283	394625	840542	20.0	827.89	5.96	819.94	825.9	09-16-93	--	W
GR-286	394641	840519	15.4	883.91	4.49	877.51	882.0	09-16-93	--	W
GR-287	394736	840547	28.8	795.35	23.38	770.05	793.43	09-16-93	--	W
GR-288	394907	840146	32.0	835.34	24.62	809.10	833.72	09-16-93	--	W
GR-289	394907	840146	90.4	834.98	26.31	807.38	833.69	09-16-93	--	W
GR-298	394834	840154	41.5	840.05	30.10	808.20	838.3	09-16-93	--	W
GR-299	395030	840119	22.2	831.05	15.91	813.09	829.0	09-16-93	--	W
GR-316	395032	840231	52.8	816.38	8.16	806.40	814.56	09-16-93	--	W
GR-317	395032	840231	131.0	816.37	6.10	808.45	814.55	09-16-93	--	W
GR-318	394929	840150	48.4	823.93	16.30	805.39	821.69	09-16-93	--	W
GR-319	394929	840150	160.0	824.19	19.96	802.06	822.02	09-16-93	--	W
GR-320	394942	840334	21.7	805.36	9.56	793.96	803.52	09-16-93	--	W
GR-321	394855	840339	42.6	800.22	4.12	794.46	798.58	09-16-93	--	W
GR-322	394855	840339	147.0	800.21	3.21	795.47	798.68	09-16-93	--	W
GR-323	394831	840427	50.6	798.47	7.31	789.33	796.65	09-16-93	--	W
GR-324	394831	840427	128.0	798.26	6.72	790.03	796.75	09-16-93	--	W
GR-326	394743	840243	38.6	841.05	29.46	809.41	838.87	09-16-93	--	W

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
GR-327	394743	840245	154.0	840.81	28.84	809.72	838.56	09-16-93	--	W
GR-328	394743	840245	244.0	840.88	32.60	805.83	838.43	09-16-93	--	W
GR-329	394645	840551	55.0	809.33	29.64	777.54	807.18	09-16-93	--	W
GR-330	394816	840206	49.5	841.80	31.29	808.58	839.87	09-16-93	--	W
GR-331	394816	840206	115.0	841.19	31.34	808.59	839.93	09-16-93	--	W
GR-332	394815	840206	195.0	841.56	32.33	807.63	839.96	09-16-93	--	W
GR-333	394852	840231	35.1	814.84	13.17	799.49	812.66	09-16-93	--	W
GR-334	394852	840231	155.0	814.23	13.30	799.47	812.77	09-16-93	--	W
GR-335	394853	840232	234.0	814.77	13.31	799.44	812.75	09-16-93	--	W
GR-401	394707	840433	17.0	905.92	4.36	899.67	904.03	09-16-93	--	W
GR-402	394707	840433	29.4	905.69	2.49	901.19	903.68	09-16-93	--	W
GR-412	394730	840336	80.5	833.86	26.75	804.78	831.53	09-16-93	--	W
GR-413	394731	840336	33.5	834.00	19.27	812.08	831.35	09-16-93	--	W
GR-414	394825	840508	158.3	791.55	6.18	783.75	789.93	09-16-93	--	W
GR-415	394825	840508	110.3	791.68	6.28	783.48	789.76	09-16-93	--	W
GR-416	394825	840508	66.3	791.82	6.71	783.12	789.83	09-16-93	--	W
GR-417	394825	840508	16.3	791.92	7.04	782.52	789.56	09-16-93	--	W
GR-419	394829	840502	129.8	792.08	2.97	785.38	788.35	09-16-93	--	W
GR-420	394829	840502	94.6	791.73	4.68	785.23	789.91	09-16-93	--	W
GR-421	394829	840502	65.1	791.97	6.41	783.77	790.18	09-16-93	--	W
GR-425	395045	840137	80.3	828.20	14.92	810.95	825.87	09-16-93	--	W
GR-426	395045	840137	24.5	827.90	14.75	811.06	825.81	09-16-93	--	W
GR-428	394760	840504	59.3	792.97	14.86	775.92	790.78	09-16-93	--	W

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
GR-429	394759	840504	25.3	793.08	14.95	775.93	790.88	09-16-93	--	W
GR-430	394854	840151	78.3	833.32	23.18	807.81	830.99	09-16-93	--	W
GR-431	394854	840151	30.3	833.30	23.10	807.73	830.83	09-16-93	--	W
GR-433	395004	840117	192.3	828.38	13.45	812.73	826.18	09-16-93	--	W
GR-434	394829	840502	30.3	792.51	6.44	783.71	790.15	09-16-93	--	W
MT-125	394617	840724	27.0	787.70	17.55	768.05	785.6	09-16-93	--	W
MT-126	394622	840739	30.0	782.72	16.98	763.92	780.9	09-16-93	--	W
MT-129	394617	840724	53.8	787.15	17.90	767.60	785.5	09-16-93	--	W
MT-152	394623	840644	36.0	794.41	22.75	769.51	792.26	09-16-93	--	W
MT-153	394623	840644	90.2	794.10	22.61	769.35	791.96	09-16-93	--	W
MT-222	394720	840628	27.0	789.46	17.44	769.46	786.9	09-16-93	--	W
MT-223	394720	840628	35.5	789.38	16.47	770.73	787.2	09-16-93	--	W
MT-224	394720	840629	121.0	789.50	26.60	760.60	787.2	09-16-93	--	W
MT-225	394728	840611	35.0	793.45	22.20	769.50	791.7	09-16-93	--	W
MT-226	394728	840611	44.2	793.76	22.94	768.56	791.5	09-16-93	--	W
MT-227	394728	840610	90.0	793.65	29.10	762.50	791.6	09-16-93	--	W
MT-228	394734	840556	27.3	791.21	21.44	767.36	788.8	09-16-93	--	W
MT-229	394734	840556	35.0	791.20	20.35	768.55	788.9	09-16-93	--	W
MT-230	394734	840555	76.8	791.26	20.69	768.41	789.1	09-16-93	--	W
MT-231	394637	840715	75.0	788.53	24.19	762.03	786.22	09-16-93	--	W
MT-232	394637	840715	34.0	788.15	23.01	762.95	785.96	09-16-93	--	W
MT-234	394632	840735	36.9	787.23	22.83	761.88	784.71	09-16-93	--	W
MT-235	394627	840737	33.4	783.85	19.12	762.65	781.77	09-16-93	--	W

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
MT-237	394627	840737	54.8	784.08	18.88	762.88	781.76	09-16-93	--	W
MT-238	394701	840700	35.0	784.18	18.86	762.63	781.49	09-16-93	--	W
MT-239[a]	394631	840735	215.3	786.93	23.24	761.43	784.67	09-16-93	--	W
MT-240	394631	840735	42.3	786.56	22.68	762.06	784.74	09-16-93	--	W
MT-241	394631	840735	128.8	786.65	22.93	761.90	784.83	09-16-93	--	W
MT-242	394710	840644	75.3	787.77	21.79	763.37	785.16	09-16-93	--	W
MT-243	394710	840644	33.5	787.85	18.52	766.55	785.07	09-16-93	--	W
MT-244	394701	840700	77.3	783.81	20.44	761.46	781.9	09-16-93	--	W
MT-245	394701	840700	187.8	784.39	26.65	755.09	781.74	09-16-93	--	W
MT-246	394701	840700	147.3	784.11	26.87	755.11	781.98	09-16-93	--	W
MT-247	394637	840715	170.3	788.74	28.92	757.09	786.01	09-16-93	--	W
MT-248	394736	840547	45.3	795.50	23.22	769.85	793.07	09-16-93	--	W
MT-249	394553	840659	200.5	802.95	13.20	787.30	800.5	09-16-93	--	W
MT-250	394553	840659	119.5	803.01	23.91	776.86	800.77	09-16-93	--	W
MT-251	394553	840659	85.3	802.86	23.67	776.86	800.53	09-16-93	--	W
MT-252	394553	840659	34.5	802.55	24.13	776.15	800.28	09-16-93	--	W
1A	394359	841052	95	779.45	25.48	755.95	781.43	09-14-93	0900	O
2A	394402	840950	118	869.88	92.27	777.38	869.65	09-14-93	1015	O
5A	394348	840947	70	908.21	33.50	872.71	906.21	09-14-93	1145	O
7A	394348	840950	87	895.09	32.79	861.59	894.38	09-14-93	0935	O
DYMDOB1	394728	840704	67	780.00	15.59	761.60	777.19	09-19-93	--	D
DYMDOB2	394729	840646	51	781.40	12.85	765.60	778.45	09-19-93	--	D
DYMDOB3	394718	840739	113	772.40	31.40	738.10	769.50	09-19-93	--	D

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
DYMIOB1	394843	840929	72	763.70	31.80	728.60	760.40	09-19-93	--	D
DYMIOB2	394806	840928	72	751.00	23.20	723.40	746.60	09-19-93	--	D
DYMIOB3	394812	841022	136	751.30	21.00	725.20	746.20	09-19-93	--	D
DYMW01D	395021	841018	110	765.80	9.80	754.30	764.10	09-19-93	--	D
DYMW01S	395021	841018	52.5	765.78	9.62	754.48	764.10	09-19-93	--	D
DYMW02D	395005	841019	110	763.89	8.21	753.59	761.80	09-19-93	--	D
DYMW02S	395006	841019	47	763.37	8.83	752.87	761.70	09-19-93	--	D
DYMW03D	395002	840951	131.0	761.08	8.22	751.08	759.30	09-19-93	--	D
DYMW03S	395003	840951	53	760.71	8.39	751.11	759.50	09-19-93	--	D
DYMW04D	394955	840950	125	761.72	9.88	750.02	759.90	09-19-93	--	D
DYMW04S	394956	840951	48	760.85	9.35	750.25	759.60	09-19-93	--	D
DYMW05D	394952	841008	100	762.14	10.16	750.04	760.20	09-19-93	--	D
DYMW05S	394952	841007	38.5	763.00	10.80	749.20	760.00	09-19-93	--	D
DYMW06D	394945	840937	143	760.26	11.94	746.76	758.70	09-19-93	--	D
DYMW06S	394945	840937	28.5	762.04	13.26	747.34	760.60	09-19-93	--	D
DYMW07D	394838	841019	137	777.06	45.34	729.86	775.20	09-19-93	--	D
DYMW07S	394837	841019	73	775.74	44.76	729.74	774.50	09-19-93	--	D
DYMW08D	394852	841008	118	777.24	42.16	733.44	775.60	09-19-93	--	D
DYMW08S	394850	841010	62	773.49	41.01	731.29	772.30	09-19-93	--	D
DYMW09D	394904	840956	93	766.20	29.00	735.70	764.70	09-19-93	--	D
DYMW09S	394904	840955	57.8	766.92	29.18	735.62	764.80	09-19-93	--	D
DYMW101D	394639	840936	120	757.15	19.15	735.95	755.10	09-19-93	--	D
DYMW101S	394639	840936	50	756.53	18.97	736.13	755.10	09-19-93	--	D

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
DYMW102D	394653	840917	146	756.75	18.10	736.45	754.55	09-19-93	--	D
DYMW102S	394653	840917	60	756.27	17.33	737.57	754.90	09-19-93	--	D
DYMW103D	394710	840834	149.5	765.58	13.82	750.38	764.20	09-19-93	--	D
DYMW104S	394719	840830	55	772.58	18.12	752.98	771.10	09-19-93	--	D
DYMW105D	394728	840752	139	773.14	32.66	738.54	771.20	09-19-93	--	D
DYMW105S	394728	840752	48.8	773.06	16.84	754.36	771.20	09-19-93	--	D
DYMW106D	394743	840713	117	776.13	41.77	732.53	774.30	09-19-93	--	D
DYMW106S	394743	840713	58	776.48	14.62	759.88	774.50	09-19-93	--	D
DYMW107S	394752	840639	39	780.06	13.64	764.76	778.40	09-19-93	--	D
DYMW108D	394800	840546	151.9	785.05	17.75	765.55	783.30	09-19-93	--	D
DYMW108S	394800	840546	50	784.69	12.61	770.59	783.20	09-19-93	--	D
DYMW109S	394743	840551	50	783.35	14.15	768.05	782.20	09-19-93	--	D
DYMW10D	394905	840936	125	767.65	30.05	735.95	766.00	09-19-93	--	D
DYMW10M	394904	840932	109	767.60	29.60	736.00	765.60	09-19-93	--	D
DYMW10S	394905	840938	49	765.30	27.70	735.40	763.10	09-19-93	--	D
DYMW110S	394722	840556	37	799.10	21.14	776.10	797.24	09-19-93	--	D
DYMW111S	394722	840613	54	791.54	21.76	768.24	790.00	09-19-93	--	D
DYMW112D	394716	840650	132	786.24	25.33	759.57	784.90	09-19-93	--	D
DYMW112S	394716	840650	50	786.68	18.62	766.38	785.00	09-19-93	--	D
DYMW113S	394702	840656	37	785.40	21.78	761.70	783.48	09-19-93	--	D
DYMW114D	394706	840725	125	769.73	21.47	745.93	767.40	09-19-93	--	D
DYMW114S	394706	840725	47	768.78	12.62	754.68	767.30	09-19-93	--	D
DYMW115S	394646	840820	40	761.88	19.32	741.18	760.50	09-19-93	--	D

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
DYMW116D	394638	840842	92	759.37	20.93	736.67	757.60	09-19-93	--	D
DYMW116S	394638	840842	42	759.39	19.41	738.09	757.50	09-19-93	--	D
DYMW117S	394639	840857	80	763.81	24.59	737.11	761.70	09-19-93	--	D
DYMW118D	394627	840932	97	758.79	21.41	735.59	757.00	09-19-93	--	D
DYMW118S	394627	840932	58	759.08	21.12	735.68	756.80	09-19-93	--	D
DYMW119S	394643	840904	94	765.69	27.21	736.59	763.80	09-19-93	--	D
DYMW11D	394852	840935	95	766.08	34.92	728.98	763.90	09-19-93	--	D
DYMW11S	394852	840936	53.8	767.14	36.16	729.14	765.30	09-19-93	--	D
DYMW120D	394738	840636	150	778.70	40.10	737.50	777.60	09-19-93	--	D
DYMW120S	394738	840636	35	779.17	14.73	762.87	777.60	09-19-93	--	D
DYMW121S	394633	840716	38	788.30	22.29	764.10	786.39	09-19-93	--	D
DYMW122S	394657	840750	50	769.01	16.79	749.91	766.70	09-19-93	--	D
DYMW12D	394823	841028	163	770.50	38.20	730.20	768.40	09-19-93	--	D
DYMW12S	394822	841029	63	774.80	40.20	731.70	771.90	09-19-93	--	D
DYMW13D	394757	840956	140	748.45	23.25	723.55	746.80	09-19-93	--	D
DYMW13S	394757	840956	43	748.85	21.05	725.75	746.80	09-19-93	--	D
DYMW14D	394814	840942	145	753.64	24.96	726.04	751.00	09-19-93	--	D
DYMW14S	394814	840944	50.8	752.54	23.96	726.74	750.70	09-19-93	--	D
DYMW15D	394826	840914	150	752.98	26.72	724.28	751.00	09-19-93	--	D
DYMW15S	394825	840914	53.5	752.22	20.58	729.22	749.80	09-19-93	--	D
DYMW16S	394936	841016	52.5	764.42	18.88	743.62	762.50	09-19-93	--	D
DYMW17S	395033	841006	53	774.00	16.60	755.30	771.90	09-19-93	--	D
DYMW18S	394904	841003	68.5	776.90	38.90	736.00	774.90	09-19-93	--	D

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
DYMW19S	394904	840948	52.5	767.95	31.45	734.75	766.20	09-19-93	--	D
DYMW20S	394852	840923	36.5	759.14	19.26	734.14	753.40	09-19-93	--	D
DYMW21S	394830	840950	53	756.83	28.47	726.43	754.90	09-19-93	--	D
DYMW22S	394801	841015	52.5	750.18	20.82	727.68	748.50	09-19-93	--	D
DYMW23S	394807	841019	45.5	749.59	21.81	726.29	748.10	09-19-93	--	D
DYMW24S	394802	841002	48	750.10	22.60	725.60	748.20	09-19-93	--	D
DYMW25S	394810	840951	48	752.63	23.97	726.23	750.20	09-19-93	--	D
DYMW26S	394844	840937	58	768.35	37.65	728.55	766.20	09-19-93	--	D
DYMW27S	394730	840921	75	774.20	34.50	737.80	772.30	09-19-93	--	D
DYMW28S	394750	841000	74	764.49	35.21	727.39	762.60	09-19-93	--	D
DYMW29S	394810	841036	38	744.88	11.82	730.28	742.10	09-19-93	--	D
DYMW103S	394710	840834	40	765.64	12.56	751.54	764.10	09-19-93	--	D
DYMW128S	394836	840510	29.3	790.58	7.52	783.58	791.10	09-19-93	--	D
DYMW129S	394829	840510	39.1	791.45	6.75	781.95	788.70	09-19-93	--	D
DYMW129D	394825	840506	110.3	791.89	2.91	786.39	789.30	09-19-93	--	D
DYMW130S	394818	840513	38.8	792.54	12.06	777.64	789.70	09-19-93	--	D
DYMW130D	394814	840513	190.1	792.21	9.59	780.11	789.70	09-19-93	--	D
DYMW126S	394811	840506	24	791.35	13.35	775.75	789.10	09-19-93	--	D
DYMW131S	394807	840510	32.3	788.31	10.09	775.61	785.70	09-19-93	--	D
DYMW131M	394807	840510	68.3	787.30	10.10	775.60	785.70	09-19-93	--	D
DYMW131D	394807	840510	115.4	788.31	9.59	775.81	785.40	09-19-93	--	D
DYMW127D	394804	840506	107.0	790.12	11.68	775.32	787.00	09-19-93	--	D
DYMW132S	394804	840517	48.5	789.76	13.04	774.86	787.90	09-19-93	--	D

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
DYMW132D	394804	840517	153.5	791.50	13.20	775.20	788.40	09-19-93	--	D
DYMW133S	394800	840510	53.4	789.61	11.89	774.81	786.70	09-19-93	--	D
DYMW133D	394756	840506	69.5	789.18	11.62	774.98	786.60	09-19-93	--	D
DYMW125S	394756	840528	60.1	789.32	14.08	773.12	787.20	09-19-93	--	D
DYMW124M	394652	840759	57.5	763.92	8.58	753.12	761.70	09-19-93	--	D
DYMW124S	394652	840802	32.3	764.05	8.75	753.35	762.10	09-19-93	--	D
DYMW123D	394702	840734	156	767.46	24.34	740.96	765.30	09-19-93	--	D
DYMW123S	394702	840734	50.3	768.03	12.17	753.73	765.90	09-19-93	--	D
DYMW54S	394731	840940	68.1	777.89	39.11	735.39	774.50	09-19-93	--	D
DYMW52S	394735	840943	68.5	781.99	39.71	739.39	779.10	09-19-93	--	D
DYMW53S	394735	840950	77.6	765.77	32.68	729.97	762.65	09-19-93	--	D
DYMW51S	394753	840940	52.1	760.14	27.90	732.54	760.44	09-19-93	--	D
DYMW51D	394753	840940	149.2	759.70	31.95	728.00	759.95	09-19-93	--	D
DYMW50D	394753	840950	94.6	765.96	37.47	729.16	766.63	09-19-93	--	D
DYMW50S	394753	840954	71.9	766.08	35.19	731.48	766.67	09-19-93	--	D
DYMW49S	394749	841008	72.1	758.39	27.86	731.29	759.15	09-19-93	--	D
DYMW48D	394746	841012	100.7	764.11	32.14	729.31	761.45	09-19-93	--	D
DYMW48S	394746	841016	72.8	763.06	30.07	730.36	760.43	09-19-93	--	D
DYMW38M	394854	840925	90	765.21	32.99	729.21	762.20	09-19-93	--	D
DYMW36M	394855	840932	100	769.41	39.79	728.01	767.80	09-19-93	--	D
DYMW37M	394854	840936	95.0	770.90	38.50	730.40	768.90	09-19-93	--	D
DYMW35M	394857	840930	80	766.57	35.93	729.27	765.20	09-19-93	--	D
DYMW34M	394858	840934	80	757.38	24.02	731.78	755.80	09-19-93	--	D

Table 1. Water-level data for selected wells in southwestern Ohio, September 1993 - Continued

Local Well Name	Latitude	Longitude	Well Depth (ft)	Measuring-point altitude (ft)	Water level, depth below land surface (ft)	Water-level altitude (ft)	Land-surface altitude (ft)	Date	Time	Source
DYMW39M	394858	840943	110	769.00	35.60	731.30	766.90	09-19-93	--	D
DYMW32M	394905	840939	100	758.71	29.69	726.21	755.90	09-19-93	--	D
DYMW31S	394951	840920	39	764.47	16.40[b]	748.07	--	09-19-93	--	D
DYMW42S	395002	840954	39.1	761.32	8.38	750.92	759.30	09-19-93	--	D
DYMW42D	394959	840954	121.8	761.78	8.42	750.98	759.40	09-19-93	--	D
DYMW41S	395010	840954	54.6	766.29	12.11	752.29	764.40	09-19-93	--	D
DYMW41D	395010	840954	120	767.25	13.15	751.85	765.00	09-19-93	--	D
DYMW40D	395018	841027	107	767.53	10.42	754.08	764.50	09-19-93	--	D
DYMW40S	395018	841027	49	767.24	10.71	753.79	764.50	09-19-93	--	D
DYMW47D	395017	841005	158.5	765.21	10.39	751.51	761.90	09-19-93	--	D
DYMW47S	395017	841005	39.5	765.97	10.33	751.87	762.20	09-19-93	--	D
DYMW46D	395024	841001	134.4	773.71	17.59	753.31	770.90	09-19-93	--	D
DYMW46S	395024	841005	50.1	773.67	16.73	753.97	770.70	09-19-93	--	D
DYMW43D	395028	841030	92	766.45	9.25	754.65	763.90	09-19-93	--	D
DYMW43S	395031	841026	45.9	766.41	8.69	755.11	763.80	09-19-93	--	D
DYMW45S	395042	841016	25.3	762.89	7.11	755.89	763.00	09-19-93	--	D
DYMW45D	395042	841016	149.5	762.68	7.52	755.58	763.10	09-19-93	--	D

[a] Duplicate well name.
[b] Land surface altitude not reported; depth given is depth below measuring point.

Table 2. Streamflow data for gain-loss study in the Great Miami and Little Miami River Valleys, Ohio, September 8 and 9, 1993

[Degree, minnte and second symbols are omitted from latitudes and longitudes. River mile (RM) is the distance in miles from the mouth of the stream or river to the location where the streamflow measurement was made. Reference number is an arbitrary number assigned to locate the measurement site on a map.Water-surface altitudes are in feet above National Vertical Geodetic Datum (NGVD) of 1929. Measurement rating is an indication of the level of confidence in the reported streamflow value based on flow conditions at the site during the time streamflow was measured; these ratings and the degree of confidence in the measurement, are expressed as a percentage of the streamflow value reported, are excellent (E), +/- 2%; good (G), +/- 5%; fair (F), +/- 8%; or poor (P), >8%; n.d., not determined; n.a., not applicable; n.r., not reported]

Site neme (gaging station number, If applicable)	Latitude	Lcngi-tude	River mile of measure-ment site	Refer-ence number	Stream-flow (cubic feet per seond)	Measure-ment rating	Water-surface altitude (feet above NVGD)	Date	Time
Great Miami River at Taylorsville Dam (03263000)	395223	840947	90.80	31	190	G	761.89	9-8	1615
Poplar Creek at Cassel Road	395154	841016	90.16[b]	38	.38	F	n.d.	9-8	1350
Tributary to Great Miami River, at Little York Road	395122	841026	89.42[b]	43	0	n.a.	n.d.	9-9	1030
Tributary to Great Miami River, at CSX Railroad	395053	841030	88.95[b]	42	.05[a]	P	n.d.	9-8	1540
Tributary to Great Miami River, at CSX Railroad	395020	841037	88.10[b]	41	.01[a]	P	n.d.	9-8	1515
Tributary to Great Miami River, at Powell Road, west branch	395006	840937	87.00[b]	39	.57	G	n.d.	9-8	1435
Tributary to Great Miami River, at Powell Road, east branch	395006	840925	87.00[b]	40	Dry	n.a.	n.d.	9-8	1420
Great Miami River at Needmore Road	394912	840922	86.15	32	208	G	745.20	9-9	0813
Tributary to Great Miami River, at CSX Railroad	394753	841034	83.58	109	Dry	n.a.	n.d.	9-8	n.r.
Great Miami River at CSX Railroad	394746	841037	83.55	33	185	G	736.58	9-8	1258
Stillwater River at Englewood Dam (03266000)	395208	841652	9.00	44	77.6	F	772.06	9-8	0900
Tributary to Stillwater River, at Meeker Road	395053	841511	6.39[b]	45	.04	G	780.33	9-8	0930
Tributary to Stillwater River, at Frederick Pike	395024	841355	4.76[b]	46	Dry	n.a.	n.d.	9-8	1025
Tributary to Stillwater River, at Shoup Mill Road	394854	841225	2.21[b]	47	Dry	n.a.	n.d.	9-8	1040
Stillwater River at Siebenthaler Avenue	394753	841225	1.42	58	84.2	G	n.d.	9-8	1140

Table 2. Streamflow data for gain-loss study in the Great Miami and Little Miami River Valleys, Ohio, September 8 and 9, 1993 - Continued

Site name (gaging station number, if applicable)	Latitude	Longi-tude	River mile of measure-ment site	Refer-ence number	Stream-flow (cubic feet per second)	Measure-ment rating	Water-surface altitude (feet above NVGD)	Date	Time
Tributary to Stillwater River, at Dresden Road at SR-48	395151	841714	8.79	59	<.01[a]	P	n.d.	9-8	1010
Mad River at Springfield (03269500)	395505	835237	24.10	108	386	G	882.84	9-8	0940
Tributary to Mad River, east branch, near Durbin	395443	835342	21.30[b]	107	<.10[a]	P	885.63	9-8	1045
Tributary to Mad River, west branch, near Durbin	395440	835407	21.30[b]	106	<.25[a]	P	881.87	9-8	1050
Mad River at Enon	395331	835610	19.00	117	367	G	863.10	9-8	1140
Minich Ditch at Lower Valley Pike	395407	835606	18.71[b]	105	<.10[a]	P	865.84	9-8	n.r.
Donnells Creek at Lower Valley Pike	395407	835704	17.80[b]	104	.10[a]	P	868.23	9-8	1310
Jackson Creek at Lower Valley Pike	395356	835823	16.20[b]	103	.15[a]	P	856.50	9-8	1321
Mad River at I-675	395226	835946	14.80	27	367	F	839.34	9-8	1332
Smith Ditch, private lane north of Johnson Road	395132	835105	11.91b	24	7.63	F	n.d.	9-8	1635
Mad River at SR-235	395056	840255	9.80	21	387	F	800.45	9-9	0915
Mud Creek at Valley Pike	395122	840311	10.19[b]	23	3.42	F	816.02	9-9	0808
Mud Run at Medway Road	395042	840217	7.40[b]	20	3.07	F	815.08	9-8	1450
Tributary to Mad River near Fairborn wastewater treatment plant at SR-4	395024	840336	9.35[b]	18	Dry	n.a.	n.d.	9-8	n.r.
Tributary to Mad River	395017	840304	9.30[b]	102	Dry	n.a.	n.d.	9-8	n.r.
Tributary to Mad River, Bass Lake drainage	394919	840358	7.85[b]	101	Dry	n.a.	n.d.	9-8	n.r.
Trout Creek at Mad River	394829	840502	6.68[b]	9	6.0	G	783.95	9-8	1152
Hebble Creek at Black Lane	395010	835917	6.43	17	2.51	F	853.33	9-9	1140
Tributary to Hebble Creek	394847	840148	3.00[b]	14	Dry	n.a.	n.d.	9-8	n.r.

Table 2. Streamflow data for gain-loss study in the Great Miami and Little Miami River Valleys, Ohio, September 8 and 9, 1993 - Continued

Site name (gaging station number, if applicable)	Latitude	Longi-tude	River mile of measure-ment site	Refer-ence number	Stream-flow (cubic feet per seond)	Measure-ment rating	Water-surface altitude (feet above NVGD)	Date	Time
Hebble Creek at Wright-Patterson Air Force Base Officer's Club	394850	840235	2.42	12	1.7	G	804.73	9-8	1035
Tributary to Hebble Creek	394753	840329	1.60[c]	6	Dry	n.a.	n.d.	9-8	n.r.
Tributary to Hebble Creek	394756	840347	1.40[c]	8	Dry	n.a.	n.d.	9-8	n.r.
Tributary to Hebble Creek	394756	840416	1.00[c]	29	.3	P	n.d.	9-8	n.r.
Hebble Creek at Mad River	394753	840517	5.87[c]	4	1.7	F	n.d.	9-8	n.r.
Mad River at Huffman Dam (03270000)	394749	840528	5.60	3	389	G	779.73	9-8	1404
Inlet to Eastwood Lake from Mad River	394742	840553	5.40	110	7.1	F	778.73	9-9	0855
Mad River at north end of Rohrers Island	394738	840604	5.10	111	130	F	n.d.	9-9	1245
Tributary to Mad River at Union Schoolhouse Road	394818	840705	n.d.	100	Dry	n.a.	n.d.	9-9	n.r.
Mad River, near Wright Brothers Parkway	394724	840719	3.94	113	145	F	n.d.	9-9	1410
Gates to recharge lagoon at north end of Rohrers Island	394731	840618	5.00	112	79.1	P	778.35	9-9	135
Diversion channel at Mad River at south end of Rohrer's Island	394717	840719	3.0	115	133	G	n.d.	9-9	1500
Rohrer's Island recharge lagoon overflow	394720	840719	3.5	114	6.18	P	n.d.	9-9	1555
Mad River downstream from Harshman Road	394713	840730	3.0	2	303	E	755.19	9-9	1132
Inlet gate to Eastwood Park ponds	394705	840739	3.50	116	8.85	P	762.41	9-9	1015
Tributary to Mad River at Springfield Street	394641	840824	.20	1	Dry	n.a.	n.d.	9-9	n.r.
Mad River at Webster Street	394605	841106	.21	30	315	E	725.98	9-9	0927
Great Miami River at Dayton (03270500)	394550	841207	79.87	34	630	G	725.57	9-8	1502
Wolf Creek at Bridge Street (03271000)	394600	841410	1.85	48	10.2	G	741.85	9-9	0840

Table 2. Streamflow data for gain-loss study in the Great Miami and Little Miami River Valleys, Ohio, September 8 and 9, 1993 - Continued

Site name (gaging station number, if applicable)	Latitude	Longi-tude	River mile of measure-ment site	Refer-ence number	Stream-flow (cubic feet per seond)	Measure-ment rating	Water-surface altitude (feet above NVGD)	Date	Time
Great Miami River at Dayton wastewater treatment plant	394334	841334	79.36	35	680	F	709.43	9-8	1732
Holes Creek (03271300)	393914	841146	3.18	50	1.75	F	787.25	9-8	1040
Holes Creek at Dixie Drive	394059	841337	.20	51	.53	G	708.14	9-8	0940
Opossum Creek at Soldiers Home-West Carrollton Road	394055	841616	.16	52	Dry	n.a.	n.d.	9-8	n.r.
Owl Creek at Central Avenue, West Carrollton	394005	841540	.20	53	6.7	G	694.82	9-8	1205
Bear Creek at Ellerton (03271400)	394023	841840	2.35	54	2.96	G	713.51	9-8	1325
Bear Creek at Great Miami River	393904	841720	.25	54A	3.47	G	685.76	9-8	1405
Sycamore Creek at Dayton-Cincinnati Pike	393849	841710	.16	55	Dry	n.a.	n.d.	9-9	n.r.
Great Miami River at Miamisburg (03271500)	393835	841728	66.45	36	738	F	682.38	9-8	1310
Tributary to Great Miami River at Dayton-Cincinnati Pike	393622	841702	63.35[b]	56	Dry	n.a.	n.d.	9-9	n.r.
Crains Run at Dayton-Cincinnati Pike	393604	841702	63.17[b]	57	Dry	n.a.	n.d.	9-9	n.r.
Great Miami River at Franklin	393347	841818	59.71	37	803	F	n.d.	9-8	1005
Little Miami River at Oldtown (03240000)	394453	835552	78.14	61	22.6	F	817.78	9-8	0940
Massies Creek at Wilberforce (03241500)	394323	835302	4.40	62	3.03	G	867.44	9-9	1010
Tributary to Massies Creek, at Brush Row Road	394323	835342	3.70[b]	63	.25	P	n.d.	9-8	n.r.
Massies Creek, near Stevenson Road	394406	835356	2.77	64	3.39	G	n.d.	9-8	1550
Tributary to Massies Creek, near Stevenson Road	394410	835353	2.70[b]	65	.12a	P	n.d.	9-8	n.r.
Clark Run at Stevenson Road	394428	835338	2.83[b]	66	.48	P	874.10	9-9	0900
Oldtown Creek at Brush Row Road	394348	835606	.47	67	.41	F	n.d.	9-8	1430

Table 2. Streamflow data for gain-loss study in the Great Miami and Little Miami River Valleys, Ohio, September 8 and 9, 1993 - Continued

Site name (gaging station number, if applicable)	Latitude	Longitude	River mile of measurement site	Reference number	Streamflow (cubic feet per second)	Measurement rating	Water-surface altitude (feet above NVGD)	Date	Time
Massies Creek at US-68	394410	835610	2.50	68	4.05	G	814.15	9-8	1510
Tributary to Massies Creek at Xenia waterworks	394413	835624	.25[b]	69	Dry	n.a.	n.d.	9-8	n.r.
Tributary to Little Miami River, at Hilltop Road	394402	835714	76.70[b]	70	Dry	n.a.	n.d.	9-8	n.r.
Tributary to Little Miami River, near Fairground Road	394341	835704	76.28[b]	71	Dry	n.a.	n.d.	9-8	1330
Tributary to Little Miami River, at Fairground Road	394334	835754	75.44[b]	72	.34	P	n.d.	9-8	1100
Little Miami River at Fairground Road	394323	835754	75.43	73	29.4	F	801.44	9-8	1015
Ludlow Creek at Ludlow Road	394504	835837	2.95	83	.93	F	n.d.	9-9	0935
Ludlow Creek at Hilltop Road	394254	835830	.25	74	.85	P	801.08	9-9	1020
Shawnee Creek near KilKare racetrack	394214	835758	.68	75	2.28	F	813.82	9-9	1200
Little Miami River near Dayton-Xenia Road	394232	835946	73.00	76	34.7	G	n.d.	9-9	1150
Tributary to Little Miami River, on Valley Road	394142	840018	72.00[b]	77	1.78	G	n.d.	9-8	1252
Tributary to Little Miami River, at Country Club of the North	394142	840119	70.95[b]	78	.06	F	n.d.	9-8	1626
Beaver Creek, at Regina Drive	394818	840036	9.28	81	0	n.a.	n.d.	9-9	1101
Tributary to Beaver Creek at Dayton-Yellow Springs Road	394659	835953	7.52[b]	82	.20	P	n.d.	9-9	0905
Tributary to Beaver Creek, at Beaver Valley Road	394648	840018	7.27[b]	98	Dry	n.a.	n.d.	--	n.r.
Tributary to Beaver Creek, at New Germany-Trebien Road	394601	840036	6.15[b]	97	.11	F	827.41	9-8	0954
Tributary to Beaver Creek, near Dayton-Yellow Springs Road	394543	840047	7.20[b]	96	Dry	n.a.	n.d.	9-8	n.r.
Tributary to Beaver Creek at Fairground Road,	394417	840047	3.77[b]	93	.19	n.a.	n.d.	9-8	1044

Table 2. Streamflow data for gain-loss study in the Great Miami and Little Miami River Valleys, Ohio, September 8 and 9, 1993 - Continued

Site name (gaging station number, if applicable)	Latitude	Longi-tude	River mile of measure-ment site	Refer-ence number	Stream-flow (cubic feet per seond)	Measure-ment rating	Water-surface altitude (feet above NVGD)	Date	Time
Little Beaver Creek at Research Blvd.	394316	840625	4.95	86	3.04	F	n.d.	9-9	0904
Tributary to Little Beaver Creek, at Founders Drive	394341	840632	.25	85	.68	G	859.89	9-9	0943
Tributary to Little Beaver Creek, at Grange Hall Road, near I-675	394341	840520	3.75[b]	87	.37	G	852.06	9-9	
Tributary to Little Beaver Creek, at Dayton-Xenia Road	394355	840419	2.78[b]	88	.06[a]	P	n.d.	9-8	n.r.
Tributary to Little Beaver Creek, at Dayton-Xenia Road	394337	840347	2.25[b]	89	.22	F	839.87	9-8	1825
Tributary to Little Beaver Creek , at N. Fairfield Road	394258	840343	1.58[b]	90	.40	F	834.37	9-8	1734
Tributary to Little Beaver Creek, at Dayton-Xenia Road	394319	840231	.69[b]	91	.13	F	825.45	9-8	1122
Tributary to Little Beaver Creek, at US-235	394247	840224	.66[b]	92	1.15	F	800.19	9-8	1755
Little Beaver Creek at Factory Road	394236	840144	.05	84	16.1	G	788.31	9-8	1150
Beaver Creek, at wastewater treatment plant	394207	840141	.41	79	21.4	F	n.d.	9-8	1410
Little Miami River at Narrows Park, Greene County	394124	840144	70.42	80	73.4	G	768.44	9-8	1505

[a] Streamflow estimated.
[b] River mile on tributary not determined; location given is mainstream river mile at tributary mouth.
[c] Measurement made at mouth of tributary; location given is mainstream river mile at tributary mouth.

Table 3. Data for selected sewer outfalls discharging to the Great Miami and Mad Rivers, southwestern Ohio, September 9, 1993
[All data from the Miami Conservancy District. MCD, Miami Conservancy District; ft, feet; L, left bank; R, right bank]

Stream and bank	Location description	MCD reference number	River mile	Discharge cubic feet per second
Great Miami River (L)	Dayton, Herman Ave. pump station, in fence	5	80.9	.20
Great Miami River (L)	Dayton, Herman Ave. pump station, at levee	5A2	80.9	4.16
Great Miami River (L)	Dayton, 285 ft downstream from Patterson Riverside	18B	80.5	.17
Great Miami River (L)	Dayton, Jefferson Street at Monument Ave.	20	80.4	.26
Great Miami River (R)	Dayton, Main Street bridge at Riverwalk	22	80.3	1.15
Great Miami River (L)	Dayton, Main Street at Monument Ave.	21	80.3	.93
Great Miami River (L)	Dayton, Wilkinson Street at Riverwalk	24	80.1	3.05
Great Miami River (L)	Dayton, Wilkinson Street at Riverwalk	24A	80.1	.10
Great Miami River (R)	Dayton, 50 ft downstream from 1st Street-Salem Ave. bridge	30D	79.6	.28
Great Miami River (L)	Dayton, 50 ft downstream from I-75 at Robert Blvd.	36A	79.2	1.92
Great Miami River (L)	Dayton, 240 ft upstream from 5th Street bridge at Robert Blvd.	37	79.0	1.39
Great Miami River (L)	Dayton, 100 ft upstream from 5th Street bridge at Robert Blvd.	37C	79.0	3.71
Great Miami River (L)	Dayton, 5th Street bridge at Robert Blvd.	38	78.9	4.53
Great Miami River (L)	Dayton, 450 ft downstream from Durr bridge parking lot	41	78.8	6.01
Great Miami River (R)	Dayton, Cincinnati Street at Aetna Paper	40B	78.9	.27
Great Miami River (R)	Dayton, downstream from US-35 at St. Elizabeth Hospital	42A	78.6	8.92
Great Miami River (R)	Dayton, 650 ft downstream from US-35 at Edwin Moses Blvd.	43A	78.6	2.63
Great Miami River (R)	Dayton, Albany Street at Edwin Moses Blvd.	48B	78.4	1.27
Great Miami River (L)	Dayton, Apple Street at Veterans Parkway	49	78.3	14.33
Great Miami River (L)	Dayton, 840 ft downstream from Stewart Street bridge	53B	77.8	1.39
Great Miami River (R)	Dayton, 130 ft upstream from CCC and St. Louis Railroad bridge	59	76.6	2.18

Table 3. Data for selected sewer outfalls discharging to the Great Miami and Mad Rivers, southwestern Ohio, September 9, 1993-Continued

Stream and bank	Location description	MCD reference number	River mile	Discharge *cubic feet per second*
Great Miami River (L)	Moraine, 75 ft downstream from I-75 south	72A	73.3	2.86
Great Miami River (L)	Moraine, 200 ft upstream from Sellars Road bridge	73	72.9	5.94
Great Miami River (L)	West Carrollton, at bend in Alex Road	81A	71.8	1.24
Great Miami River (L)	Miamisburg, Richard Street extension	1A	66.9	.22
Great Miami River (L)	Miamisburg, behind MCD garage	32A1	65.0	.30
Mad River (L)	Dayton, SE corner, Findlay Street at Monument Ave.	14	1.6	.91
Mad River (R)	Dayton, 480 ft downstream from old M&E aquaduct	12B	1.2	3.76
Mad River (L)	Dayton, 2,000 ft upstream from Keowee Street bridge	16A	.9	.19
Mad River (L)	Dayton, 620 ft downstream from Webster Idlewild pump	18	.1	4.48

Table 4. Data for National Pollution Discharge Elimination System (NPDES) sites within the gain-loss study area, southwestern Ohio

NPDES site name	Receiving river	River mile	Discharge (cubic feet per second)
Ohio Suburban wastewater treatment plant near Needmore Rd.	Great Miami River	85.6	10.4
D.A.P. Janney Rd.	Great Miami River	83.6	1.34
Englewood wastewater treatment plant	Stillwater River	8.7	1.70
Southwest Regional wastewater treatment plant	Mad River	12.8	1.00
American Aggregates Plant #413	Mad River via ditch	10.3	1.70
Fairborn wastewater treatment plant	Mad River	9.3	4.72
Wright-Patterson Air Force Base	Mad River	6.8	1.67
Dayton wastewater treatment plant	Great Miami River	75.2	71.2
Western Regional wastewater treatment plant	Great Miami River	70.7	18.8
West Carrollton wastewater treatment plant	Great Miami River	68.5	2.23
Miamisburg wastewater treatment plant	Great Miami River	65.1	2.79
O.H.Hutchings Station/ Dayton Power and Light	Great Miami River	63.5	2.03
Ford Road wastewater treatment plant	Little Miami River	74.9	2.89
Eastern Regional wastewater treatment plant	Little Beaver Creek	4.5	12.3
Beavercreek wastewater treatment plant	Beaver Creek	.4	6.19

Table 5. Calculated gain-loss data for selected reaches of the Great Miami, Little Miami, Mad and Stillwater Rivers, southwestern Ohio, September 8-9, 1993.

[Positive (+) gain-loss values indicate ground-water discharge into the river; negative (-) gain-loss values indicate recharge of surface water to the glacial aquifer. Gain-loss values are relative to the streamflow value recorded at the upstream main-stem measurement site of the selected reach. Discharges from tributary streams, sewer outfalls and National Pollution Discharge Elimination System sites are included in the reported gain-loss value. Reach numbers associated with each gain-loss value are indicated on the left-hand side of the table. Reaches corresponding to each reach number are shown in figure 9. n..a., not applicable; ft^3/s, cubic feet per second]

Reach number	Main-stem measurement site	River mile (from confluence)	Streamflow (ft^3/s)	Gain or loss over reach (ft^3/s)
1	Great Miami River at Taylorsville Dam (03263000)	90.80	190	n.a.
2	Great Miami River at Needmore Road	86.15	208	+17.2
	Great Miami River at CSX Railroad	83.55	185	-34.7
1	Stillwater River at Englewood Dam (03266000)	9.00	77.6	n.a.
	Stillwater River at Siebenthaler Road	1.42	84.2	-5.32
1	Mad River at Springfield (03269500)	24.10	386	n.a.
2	Mad River at Enon	19.00	367	-19.28
	Mad River at I-675	14.80	367	-.2
3	Mad River at SR-235	9.80	387	+6.25
4	Mad River at Huffman Dam (03270000)	5.60	389	-16.85
5	Mad River downstream from Harshman Road	3.70	303	-86.0
6	Mad River at Webster Street	.21	315	+7.14
4	Great Miami River at Dayton (03270500)	79.87	630	+31.3
	Great Miami River at Dayton WWTP	76.36	680	-9.03
5	Great Miami River at Miamisburg (03271500)	66.45	738	-55.0
6	Great Miami River at Franklin	59.71	803	+59.9
1	Little Miami River at Oldtown (03240000)	78.14	22.6	n.a.
2	Little Miami River at Fairground Road	75.44	29.4	+2.50
	Little Miami River near Dayton-Xenia Road	73.00	34.7	-.72
3	Little Miami River at Narrows Park	70.42	73.4	+15.52

Table 6. Streambed-conductivity data for selected sites in southwestern Ohio

[Degree, minute and second symbols omitted from latitudes and longitudes. (+), upward vertical gradient or increase in water volume; (-), downward vertical gradient or decrease in water volume; mL, milliliters; ft, feet; ft/s, feet per second; s, seconds; yd, yards; n.a., not applicable because streambed conductivity cannot be evaluated for zero volume change. Locations of seepage-meter measurements are indicated by site number in figure 10]

Site number	Site description	Latitude	Longitude	Vertical gradient (ft/ft)	Duration of measurement (s)	Change in water volume (mL)	Streambed conductivity (ft/s)
1	Stillwater River near Englewood Dam	395207	841646	+0.13	1,020	+1,636	2.3×10^{-5}
					660	+1,190	2.6×10^{-5}
2	Stillwater River near Englewood Dam	395207	841648	+.03	1,440	+285	1.3×10^{-4}
					2,340	+18	4.8×10^{-6}
					1,200	+95	5.0×10^{-5}
3	Great Miami River at Taylorsville Dam	395225	840947	+.02	2,760	+2	6.7×10^{-7}
					2,640	-5	1.8×10^{-6}
4	Great Miami River at Taylorsville Dam	395224	840948	+.01	2,160	+26	7.0×10^{-4}
					2,880	-5	1.0×10^{-4}
5	Great Miami River at Kittyhawk Public Golf Course	394833	840903	-.04	2,820	0	n.a.
6	Great Miami River 200 yd upstream from SR-35 bridge	394507	841154	-.52	1,620	-10	2.2×10^{-7}
					3,000	-8	3.0×10^{-8}
7	Great Miami River near Broadway Street bridge	394352	841252	-.01	2,400	-12	9.6×10^{-5}
					1,800	-9	9.6×10^{-6}
8	Great Miami River at Miamisburg	393838	841727	+.01	2,880	+41	2.7×10^{-5}

Table 6. Streambed-conductivity data for selected sites in southwestern Ohio - Continued

[Degree, minute and second symbols omitted from latitudes and longitudes. (+), upward vertical gradient or increase in water volume; (-), downward vertical gradient or decrease in water volume; mL, milliliters; ft, feet; ft/s, feet per second; s, seconds; yd, yards; n.a., not applicable because streambed conductivity cannot be evaluated for zero volume change. Locations of seepage-meter measurements are indicated by site number in figure 10]

Site number	Site description	Latitude	Longitude	Vertical gradient (ft/ft)	Duration of measurement (s)	Change in water volume (mL)	Streambed conductivity (ft/s)
					2,700	+12	8.5×10^{-6}
					2,700	+26	1.8×10^{-5}
9	Mad River at Fairborn well field	395058	840212	-.20	900	-226	2.4×10^{-5}
					1,320	+5	3.5×10^{-7}
					900	+3	3.1×10^{-7}
10	Mad River at Fairborn well field	395058	840210	-.05	840	-180	8.1×10^{-5}
					1,200	0	n.a.
11	Mad River below Webster Street bridge	394602	841111	+.02	2,700	-3	1.0×10^{-6}
					3,060	+1,957	6.0×10^{-4}
					1,800	+1,115	5.8×10^{-4}
12	Little Miami River at Fairground Road	394328	835750	-.01	1,800	-9	9.6×10^{-6}
					7,800	-4	9.8×10^{-7}
13	Little Miami River at Fairground Road	394328	835750	-.01	6,960	-8	2.2×10^{-6}